

U. professor: Shorter car trips key to reducing carbon footprint

By Paul Koepp

Deseret News - Published: Sunday, June 13, 2010 11:47 p.m. MDT

SALT LAKE CITY — Reduced reliance on automobiles is the focus of city planners, who are looking to the future and thinking of carbon footprint reduction by encouraging walkable communities and mass transit.

But to make the best designs, they will need numbers at their fingertips that point out which approaches are most effective. Many of those stats may come from a new "meta-analysis" — a study of studies — co-authored by Reid Ewing, professor of city and metropolitan planning at the University of Utah's College of Architecture.

Ewing has scrutinized data from dozens of other studies to determine which factors have the greatest impact on vehicle miles traveled. Cars account for about 90 percent of total trips and will continue to dominate how people travel. The key, according to Ewing, is to make those trips shorter and more direct.

"Even if you greatly expand transit, the biggest change will come from shorter auto trips," he said.

Not surprisingly, Ewing found that people living in the center of metropolitan areas drive the least. Other factors less obvious than location, such as street connectivity and block size, also play a large role in cutting trip lengths. For example, studies show that the possibility of encountering more intersections makes walking more attractive.

The top consideration in Ewing's study is destination accessibility, a measure of how close people live to the places they most frequently go. Of similar importance, he found, is that density is less important than many have long thought.

City planners will have plenty of opportunities to use this data. Ewing estimates that two-thirds of all development in place in 2050 will be built between now and then, either through new growth or reworking old commercial and industrial areas.

"From the standpoint of climate change, we're not planning for 2020. We're planning for 2050 or the end of the century," he said. "We've been talking about mixed use now for 40 years. Now we have a way of evaluating just how much mixed use will reduce vehicle trips."

To achieve "smart growth," new development could benefit from an examination of how well different designs are currently working.

Drawing from the study and his personal experience of living in Utah for more than a year, Ewing provided the Deseret News with an informal carbon-footprint grade of several areas — and future developments — in the Salt Lake Valley.

The grades are based on how well vehicle miles traveled can be limited based on five Ds: density, destination accessibility, diversity of land use, design of streets and distance to transit.

City Creek: A

The \$1.5 billion, 23-acre, mixed-use downtown development of The Church of Jesus Christ of Latter-Day Saints has high-density residential towers in proximity to jobs in Salt Lake City's central business district, shopping and a plethora of transit options.

The Gateway: A-

The development has slightly lower residential density than City Creek but still ranks high in destination accessibility and mass transit availability. Ewing calls it the "ultimate in mixed use."

The Avenues: A-

This area is very different from the downtown developments but has several factors limiting vehicle miles traveled. The tight grid of streets "eliminates the possibility of congestion" and encourages walking, Ewing said. The neighborhood offers a variety of uses that are easily accessible.

Sugar House: B+

The community's larger blocks are somewhat less navigable for pedestrians, but there are many uses in close proximity, and destination accessibility is still decent.

Northwest Quadrant: B

Any development here is still a long way off, but TRAX access and the short distance to downtown and the airport should mean low vehicle miles traveled.

Daybreak: B-

The massive planned community in South Jordan has high residential density, interconnected streets and mass transit options. But with many commuters driving to jobs and other attractions in Salt Lake City, destination accessibility is not as good.

Sandy: C-

Ewing said the south end of Salt Lake County is poorly set up to limit vehicle miles traveled. Winding streets arranged in complicated, branching networks of arterial roads and cul-de-sacs make car trips less convenient and also discourage walking. Many residential areas are single use, without jobs or shopping nearby.

Draper: D+

This city faces many similar problems as Sandy, but Sandy has TRAX.

Ewing is quick to point out that these grades do not reflect quality of life. He chose to live in the Avenues because he felt it would be more enjoyable than downtown — and he has not been disappointed. The neighborhood is perfect for walking his dogs, and parks, coffee shops and grocery stores are within easy reach.

Even though he drives to work at the U. and to the grocery store, Ewing said his personal carbon footprint is "a small fraction of what it was before" when he lived in Florida.

And some advantages of cutting the number and length of car trips are clear in any locale: less pollution, a decreased reliance on foreign oil, fewer traffic fatalities and the health benefits of walking more.

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