



The Next Century of Sustainable Communities Will Be Organized Around Transportation

The Great Recession has fundamentally changed the trajectory of both real estate and transportation in the United States. For the past century, our nation's economy revolved around the production of vehicles, highways, sprawl, and more vehicles. Transportation policy emphasized a supply-side approach of building highways to increase the speed and mobility of our nation's vehicular-based mobility system. However, in the 21st century, transportation's focus will shift to a sustainable transport paradigm of managing existing infrastructure (as opposed to building new roads) and improving accessibility. This will be enhanced through transit-oriented development and "networked livable communities."

As their name suggests, networked livable communities are networked into both the Internet and multi-modal transportation systems. They're also also networked into the professional economy: they are hubs and corridors of cafes, boutiques, restaurants, bars, and shared-office settings. They include art, live music, and animated street life. These communities are emerging in former warehouse and industrial districts, downtowns, historic districts, inner-suburbs, TODs, college-towns, and artistic communities that have bucked national trends over the past five years of decline and eroding land values. As the saying goes, "being in the right place at the right time" is important to source opportunities. Networked

livable communities are the post-recession "right places." Residents there network for jobs, business financing, new partnerships, and overall professional connectivity.

Several interrelated events have set the stage for sustainable transport and the rise of networked livable communities over the next several decades. During the first decade of the 21st century, America's total vehicle miles traveled peaked. Since our transportation system is funded from the gas tax, the peaking of VMT means that we no longer have a growing source of federal funds to expand highways. The Great Recession also reduced suburban sprawl, which has lost favor with many Americans now looking to live, work, and play in denser, mixed-use areas. [A recent study](#) reported that close proximity to shopping and transit was important to the majority of Americans.

There is a pent-up demand for TOD, which is an important element for the success of networked livable communities. As a nation, we have built more than 4,500 fixed transit stations, most of which are rail. However, only 38 percent of these station areas achieve a minimum gross density of eight residential units per acre within a half-mile of the station — the level of density identified by researchers as needed to support transit usage. Density is also vital for business establishments to survive.

A study that I [authored last year](#) with Reid Ewing reveals that TOD station areas have outperformed low-density [transit adjacent developments](#) (TADs) significantly in terms of sustainable commuting. TADs are the opposite of TODs; they are low-density, auto-oriented communities around rail stations which do not facilitate walking or transit ridership other than via car access. In 2010, nearly 53 percent of commuters in TODs traveled by transit, walking, or bicycling as compared to less than 16 percent living in low-density TAD station areas.

Perhaps surprising, TADs in the U.S. are wealthier on average than TODs, earning \$68,409 in household income compared with \$51,335. However, TOD residents only spent 37 percent of their income on the combined cost

of housing plus transportation compared to TAD residents, who spent about half their income. In other words, the location efficiency afforded to TOD households yielded them significantly more in disposable income than TAD households for the year. On average, TOD residents earn less but have about the same disposable income in comparison to their wealthier counterparts in TADs, who drive for most of their commute trips.

Given these findings, it's no surprise that over time TOD home values have significantly outperformed the national market, including TADs. The [TOD Index](#) reveals that from 1996 to 2013, homes in over 449 TODs across the United States appreciated 325 percent, as compared with homes in 817 TAD station areas, which appreciated about 200 percent — same as the overall national market.

In sum, homes in TODs are worth more, which generates more local property taxes for cities. Residents spend less on housing and transportation costs, which means they have more money for other purchases from local businesses. The higher densities and higher share of non-car commuters means that transit agencies can earn more revenue by expanding TODs around vacant stations.

As Americans demand more networked livable communities, cities can begin with increasing densities around empty rail stations and incentivizing more TODs. Metro areas that build at 8 units per acre (4,000 residential units or 10,000 people per station area) around all empty stations could accommodate 26.4 million of the next 100 million Americans by 2050 in such locations. Much of the transportation infrastructure is already there, but local investments are needed around stations to unlock their potential. Local zoning reform is also paramount. Adding this density would go a long way to enabling networked travel including walking, bicycling, and other modes to increase overall accessibility towards a sustainable transport system.

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