

Can We Build Ourselves Out of Congestion?

by David Levinson, AICP, Ph.D. candidate in Transportation Engineering at U.C. Berkeley

Compact, mixed-use developments centered around stations on a passenger rail line between Healdsburg and Larkspur have been proposed as a means of reducing congestion in the 101 Corridor. Will this work?

Who will move into that new development? If the new development simply replaces development elsewhere in the North Bay, it may reduce the use of transportation. However, if it leads to more housing and jobs than are currently planned, it will add more trips. Proponents correctly argue that adding more trips does not necessarily worsen congestion if more trips are by transit, occur in the off-peak direction, or are shorter than average.

How many of the new trips will via transit, walking or biking? How many existing trips will switch to transit, walking or biking? A transportation link between only two points, and not connected to any others, will only serve the relatively small number of people going between those two points, whereas a link that is connected to a regional network expands its usefulness geometrically. This “law of the network” applies to every mode of transportation: buses, rail, roads, and air. The proposed train from Larkspur north is an isolated link serving a limited market, the proportion of trips using it is likely to be very small. Low levels of use will lead to infrequent service, making it even less likely to be used.

Walking and biking are another story. Integrating homes and shops in the proposed compact, mixed-use developments will surely enable more walking and bike trips to stores than if the homes and shops are isolated from each other. Still, more people means more trips, both by walking and biking and by car. Furthermore, people will not limit their shopping to those stores which are within walking distance.

Will the new trips occur in the less traveled off-peak (reverse) direction of traffic? Building offices amidst fields of housing, or houses in a forest of offices, both encourage reverse commuting and serve to remedy existing job and housing imbalances. But development which has equal numbers of jobs and employed workers will do nothing to rectify regional imbalances.

The Association of Bay Area Government estimated that in 1995, Marin County had 21,000 more employed residents than jobs, indicating that the county exports workers to places such as San Francisco with more jobs than employed residences (as can be seen every day on Route 101 and the Golden Gate Bridge). Improving this trade deficit requires more jobs in Marin (and more employed residents elsewhere). Over the past few decades, land markets have been alleviating these deficits, and mitigating (though surely not eliminating) the congestion consequences of new growth as jobs follow workers into the suburbs. In short, new jobs would have far less traffic impact than new houses both because of reverse commuting and shorter average trip lengths.

Will compact, mixed-use development reduce average trip lengths? Work trip lengths depend on how far a resident needs to commute to find a satisfactory job (or how far out a worker must live to find satisfactory housing). The better the balance between jobs and employed residents, the shorter

the work trips. Similarly, the more integration of houses and shops, the shorter the shopping trips. But if the mixed-use developments do not remedy regional imbalances, they will not reduce average work trip lengths.

In summary, the proposed passenger train's transportation impact is at best marginal, because it does not connect major residential and employment centers, nor does it connect to the regional rail system (BART or Caltrain). Residents can decide if this disconnected system is a worthwhile expenditure. Only if the mixed-use developments reduce the county's job deficit can they be expected to result in shorter work trips. Similarly, unless they change the overall balance between jobs and houses, they will fail to take advantage of underutilized roadways in the off-peak direction. Compact, mixed-use development will surely result in more traffic than doing nothing. Whether it is better than the alternatives depends on what those alternatives do to the balance between jobs and employed residents.