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Case Studies of Freeway Removal

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As our road infrastructure ages, more cities will be faced with the decision of what to do with freeways within their urban core. With local budgets tightening, more cities will begin considering the removal of these roads as a way to save on maintenance and rebuilding costs. In many cases, however, people fear that reducing road capacity will cause traffic gridlock or adversely affect the economy of a city. Limited empirical evidence exists to explain how removing a freeway link affects travel behavior. Understanding how people adjust their transportation choices when faced with the removal of a high capacity link is critical to planning efforts for future projects. In this study we examine three case studies of urban freeway removal: two within San Francisco and one in Milwaukee.

Removing a freeway results in a redistribution of traffic between the new boulevard, the surrounding street network and the adjacent freeways. In the case studies, we found that the new boulevard carried anywhere between 35% and 70% of the freeway volume. The surrounding street network saw a redistribution of traffic among the local roads, though the extent of the redistribution varied greatly. This analysis showed numbers ranging from a decrease in ADT of 17% to an increase of 44%.

As mentioned earlier, some roads within the network saw substantial increases in traffic volume which was a driving force behind the question of overcrowding on adjacent streets. The data suggests that the level of overcrowding is likely dependent upon the design of the boulevard. Boulevards that are designed to function similar to freeways, like Octavia Boulevard, are likely to see traffic distributions in the area remain the same as they were when the freeway was in operation. Whereas boulevards that are well integrated into the street network and function similar to other roads, such as the Embarcadero, are likely to see traffic distributions

become more balanced throughout the area.

In San Francisco it was seen that there was some change in mode choice. The BART saw increases in use of roughly 4% in both the Embarcadero and Central cases. Even though it is unlikely that the freeway removal was the only reason for the increase, it suggests that the removal may have played a part as it was a significant event in both areas. Assuming that other modes of transportation (i.e. walking, biking, bus, etc) followed similar paths, it would be safe to assume that some users would shift to other modes. However, the numbers would likely be less than 10%. For Milwaukee, which has a less developed mass transit system, changes in mode choice were not able to be verified based on a lack of data. Although it is likely that the changes for a city that is fairly car dependent, such as Milwaukee, would be less than that in San Francisco.

The city-wide cordon analysis was limited in scope, but the results suggest that large scale negative changes in travel behavior did not occur. People still traveled into the area suggesting that, when coupled with the results of Cervero's work, the economy did not suffer because of the removal.

With the limited data that was available for analysis, it is difficult to account precisely for all the changes that may have occurred as a result of the removal of these freeways. However, certain overarching conclusions could be drawn which can help to guide those interested in pursuing other freeway removal projects. The evidence presented in this analysis suggests that many of the fears involved with removing freeways are unwarranted and that overall the changes seem to be beneficial to the city.