

## Chapter 10

### Conclusion, Policy Recommendations and Future Research Needs

The sprawl of U.S. cities has attracted criticism from many sources in recent years. Among the greatest of the cited harms of sprawl is the alleged travel time burden that it imposes on its residents. Previous research has tested the relationship between the sprawl of business activity and travel times by examining only its effects on commuting times and has concluded that people do not choose housing and work locations to minimize commutes. Given the variety of reasons that people travel that result is not surprising. People, however, should be expected to make reasonable and logical choices to reduce time spent in travel. This research takes a more comprehensive approach by analyzing the relationship between household travel times and sprawl by testing the relationship between access to economic centers and daily household travel time. The relatively minor increase in household travel times with decrease in access to economic centers shows that people logically reduce trips to centers when choosing housing locations with less access to centers. The ability of people to make these reductions in travel is clearly increased by the dispersal of activity from the central business district and other centers. The results reveal that the sprawl of businesses has reduced household travel time.

### The Sprawl of Economic Activity, Housing Prices and the Household Travel Times

Comparison of predicted household travel times with an estimated rent gradient showed that the increase in housing prices with improved access to subcenters is far less than would be expected given the predicted household travel times. These findings contradict the relationship between household travel time and housing prices embodied in central place theory and suggest that people have found ways to save on household travel time that are not reflected in housing prices. The most plausible explanation for the result is that households have found locations outside of centers from which to obtain the employment, goods and services that they desire. The sprawl of business activity outside of identifiable centers is common in many metropolitan areas and is clearly evident in the Washington, D.C. metropolitan area. This dispersal of economic activity has provided households with a variety of noncentral locations in which to access the goods, services

and employment they desire. The estimated housing prices show that households value access to the central business district that is not reflected in travel time. In short, the results reveal that people do value access to the central business district. Yet, the sprawl of economic activity from the central business to the suburbs (both in and out of identifiable subcenters) has allowed people that wish to trade poorer access to the central business district for a lower housing price to make that trade off at a cost of less travel time. These households instead sacrifice only access to the amenities found only in the central business district for substitutes that they find closer to their homes in the suburbs. This benefit of the dispersal of economic activity should not be neglected or impeded by policy. Policies should instead be tailored to help people realize their housing preferences with the least added travel burden. Interestingly, the benefits of the dispersal of economic activity from the central business district and other economic centers does not extend to partially developed rural areas at the fringe of the metropolitan area. These findings suggest that development of economic activity should be channeled to areas already developed as residential suburbs, rather than at the fringe.

The results suggest that those opposed to sprawl should rethink their approach to redressing its harms. The concentration of economic activity in the central business district (and a few large subcenters) alone would increase time spent in travel for most suburban households. If household travel time reductions are important, the dispersal of economic activity to the suburbs (both in and outside of subcenters) should be facilitated. Economic theorists have embraced polycentric theory because of the advantages of the move of activity outside the traditional central business district overcomes some of the externalities of congestion that occur when all economic activity is concentrated in a single center. The extension of that theory to the dispersal of economic activity outside of subcenters should also be embraced since it allows people to have more choice of housing and lower cost housing with little added transportation cost.

#### *Auto Use and Household Travel Time*

Without question auto use is more polluting than alternative modes. Yet, the results suggest that auto use enables households throughout the metropolitan area to reduce travel time. Given this benefit we should carefully consider initiatives used to

reduce the negative externalities of car use as they may obviate the potential benefits of cars.

The policy implications of the results are even stronger when considered in conjunction with the relationship between the dispersal of business activity beyond the central business district and subcenters. The car has greater flexibility and speed than other modes, particularly in areas of lower density and congestion. The dispersal of economic activity is typically seen as a direct response to the congestion found in areas of high density economic activity. Auto travel in the less dense environment of the suburbs has helped people to choose housing that they prefer at lower prices with less added transportation cost. This in conjunction with the move of business activity to areas outside of identifiable economic centers has enabled households with residences in suburban areas to reduce time spent in travel. As long as car use helps to reduce travel times and people perceive that they spend too much time in travel, it will remain unreasonable to expect people to leave their cars for other modes of transportation. We, therefore, should work to develop cities in a manner that accommodate cars, but, minimizes the externalities of their use. Within developed areas auto use should be facilitated. Rather than stopping road construction altogether as is often advocated, we should focus our road construction efforts on easing passage through already developed areas. If we are able to speed the passage of auto traffic in these areas, the increased pollution caused by autos idling in stopped traffic will be reduced. This includes encouraging and permitting businesses to move to areas with significant suburban populations and developing the road system to facilitate access to those businesses.

Efforts to make cars cleaner should be continued, as it is likely that people will continue to make extensive use of them. Reducing emissions while at the same time easing traffic flows by bringing auto accessible businesses closer to suburban populations may help avert the negative externalities. The incentives arising from the flexibility and time savings realized with car use should not be neglected or ignored in setting policies. We should instead concentrate our efforts on minimizing auto externalities accepting that their use will continue. This means we should attempt to make their use cleaner, more energy efficient and take steps to reduce congestion found in densely developed areas.

*The Disparate Impact of Transportation Burdens on Minorities and Low Income Households*

Although the dispersal of economic activity has helped lower the increase in household travel travel times for households with less access to economic centers the benefits of that reduction appear to be realized primarily by residents of neighborhoods with few minority and lower income households. Efforts should be made to assure that low income and minority households have the opportunity to share in the reduction of travel time burdens resulting from the dispersal of economic development. Doing so will require making neighborhoods with many low income and minority households more accessible. Since many of these travel time benefits appear to be related to or arise from car use, we need to assure that households unable to afford a car have good alternative means of travel available. This may slow the dispersal of economic activity but that is a decision that may be necessary to assure that low income and minority households have reasonably good access to the jobs, goods and services that they require.

*Need for Further Research*

The research suggests several areas in need of further research that are related to the relationship between sprawl and household travel time. By examining changes in household travel times over time may develop a better understanding of the relationship between sprawl and household travel time. Time series analysis of metropolitan areas may provide greater insight into how the dispersal of housing and economic activity interact and how that interaction influences the time that households devote to travel.

Continuing to develop our understanding of the relationship between the automobile and any travel time advantages of the sprawl of business development will help us to make the best of those advantages. This may mean that auto use is curtailed in some dense part of metropolitan areas and that in other, less dense areas auto use is encouraged. We need to better learn how density and auto use interact in order to take advantage of the benefits of auto use with the least external cost.

A better understanding of the affect of low density settlements and the sprawl of economic activity on the opportunities and travel time costs to minority and low income residents must also be developed. This will assure that we channel business development

in a manner that allows all to share in the benefits and does not inhibit the opportunities to low income and minority households.

### Summary of the Conclusions

As the suburban populations grew to a level able to support economic activity that activity followed these populations to the suburbs. The response has proven logical as travel through less congested suburbs appears to have effectively reduced transportation burdens of suburban residents. Economists observing this dispersal of economic activity have suggested that business has concentrated in a limited number of subcenters outside of the city. By concentrating in subcenters those business are able to take advantage of agglomeration economies, but avoid the congestion found in a single, dense central business district. This limited polycentricity has clearly helped reduce the burden of travel of metropolitan area residents. Given that the dispersal of economic activity to subcenters has reduced household travel times, savings in household travel time by the dispersal of economic activity outside of those subcenters may also occur. With the drastic improvements in transportation and communications, agglomeration economies are likely to be less important to businesses. In an urban form more disperse than a limited polycentric form with a limited number of subcenters the higher speeds and greater flexibility of the automobile on a comprehensive road system is expected. The advantages of these higher speeds and more flexible travel are often neglected by those who argue that travel times rise with sprawl. Opponents of sprawl also neglect the limits on housing choice that come with densely concentrated business activity. A densely concentrated, mixed use city save slightly on travel time costs, but will also severely limit the variety of housing available to people within reasonable travel time of the goods, services and employment that they desire.

Dispersing economic activity to subcenters outside the central business district and even beyond those subcenters appears to facilitate greater travel flexibility that reduces the travel time burdens of households. Polycentric development is though to have occurred in response to rise in travel times caused by congestion of centralizing economic activity in a single central business district. In today's cities with the availability of the car and an extensive road network, the realization of further travel time

gains by the dispersal of economic activity outside of subcenters and the central business district is not surprising.

Taken as a whole, this research reveals that sprawl does have travel time benefits. The dispersal of business from identifiable economic centers has reduced household travel time for those living in suburban areas. The results suggest that those opposed to sprawl should rethink their approach to combating its shortcomings. The travel time savings and flexibility that are provided by the dispersal of economic activity have allowed people to choosing housing that they prefer at lower prices with little added transportation cost. Given this benefit we should carefully consider the manner and method we choose to reduce any negative consequences of sprawl.