PETER NEWMAN *and* JEFFREY KENWORTHY

THE END *of* AUTOMOBILE DEPENDENCE

*How Cities are Moving
Beyond Car-Based Planning*

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Beyond Car-Based Planning**

Peter Newman and Jeffrey Kenworthy

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To my family—Jan, Christy, Renee, and Sam—who have come along with me on this 40-year journey to understand cities and their transport . . . and helped beyond their imagining. And to our grandchildren—Josie, Lilah, and Arish—who will be in their forties in 2050.

—*Peter Newman*

This book is dedicated to my mother, Roma Marjorie Hayward (nee Walker), whose strong emphasis on education, hard work, and conscientiousness has allowed me to focus on what is important in the world and hopefully to contribute something to it. Thank you for your undying support, self-sacrifice, and belief in me. And thank you especially for giving me the opportunity to have the education and the life that, as an intelligent and talented young girl growing up in Australia in the 1930s and '40s, you were never able to have. Whatever good a book such as this may do, you are part of that.

—*Jeff Kenworthy*

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Preface: The Trilogy

In 1989, we published *Cities and Automobile Dependence*, which was based on a decade of data collection and a short lifetime of urban experiences. We had both lived in a city based upon the car, and we had glimpsed that perhaps it was not as edifying as cities could be. Twenty-five years later we are convinced. But now we have an army of supporters, and cities everywhere are showing that it is a mistake to give over cities to the car. We all know that cars are useful, but when cities are built to depend on them it becomes clear that cars are good servants but bad masters.

Perhaps more importantly, in 1989 we also published “Gasoline Consumption and Cities” in the *Journal of the American Planning Association* (Newman & Kenworthy 1989a). This had been rejected when it was first submitted, but a new editor had found it in the files and she was immediately intrigued by the data showing the large differences among the world’s cities in their degree of automobile dependence. The publication released a storm of outrage. How could we attack the American shibboleth of a car-based culture? We suggested that cities were not so much automobile dependent because they were wealthy and could afford it, but because they had prioritized the car in every aspect of their physical development, in particular through urban sprawl, the development of urban freeways, and ignoring walking, cycling, and urban transit. They therefore needed to reorient their transportation priorities and to “re-urbanize” rather than suburbanize.

The emotional reaction was something to behold when, in the next issue of *JAPA*, we were rocked by the rhetoric of Gordon and Richardson (1989):

The idea of planners turning our world upside down in pursuit of a single-minded goal is as horrible as it is alien. NK’s world is the Kafkaesque nightmare that Hayek (1945) always dreaded, a world in which consumers have no voice, relative prices have no rule, and planners are tyrants. . . . NK have written a troubling paper. Their

distortions are not innocent, because the uninformed may use them as ammunition to support expensive plans for central-city revitalization and rail-transit projects or stringent land-use controls in a futile attempt to enforce urban compactness. . . . Perhaps Newman and Kenworthy would be well advised to seek out another planet, preferably unpopulated, where they can build their compact cities from scratch with solar-powered transit. (p. 342, 344, 345)

Although we were severely taken aback by such responses, we slowly realized that underlying the critique there was a lot at stake in the politics of land development and transportation priorities. Indeed, the horrible nightmare future they railed against seemed pretty good to us—and to an increasing group of urban dwellers worldwide. Wherever we went in automobile-dependent cities there were NGOs and local governments using our book and papers to show why and how they must build rail projects and revitalize central cities. The talks we gave to the people we met throughout North America, Australia, Asia, and Europe revealed a mounting tsunami of dissatisfaction with the shortcomings of cities built predominantly around the automobile. It gradually became clearer that the vision we had put forward was not as alien as Gordon and Richardson had attempted to cast it, not even in the United States. Thus we continued to gather data, life experiences, and a lot of telling visual evidence about how cities could deal with automobile dependence.

This second stage in our work culminated in 1999 with the publication of *Sustainability and Cities: Overcoming Automobile Dependence*, which was launched at the White House (Newman and Kenworthy 1999a). There were many stories of hope from cities around the world seeking to modify their automobile dependence. The book has helped to set the agenda for city planning ever since (Banister 2006).

A lot of changes took place in automobile-dependent cities in Australia and Canada as we began to look more to Europe than the United States for our urban models. The United States also began to change, however; for example, New Urbanism, Smart Growth, and the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) all came to the fore as part of a major urban reform movement designed to produce the more compact, transit-oriented development patterns and provide funding for the more extensive rail-based transit systems that we had spoken about in our original book and article. Nations and cities everywhere began competing to reduce their automobile-dependence in central-city revitalization, new transit projects, and associated transit-oriented developments (TODs). The transition away from automobile dependence was under way

This book, *The End of Automobile Dependence*, is now the third stage in the trilogy.

We are witnessing a new phenomenon where cities are showing “peak car use,” urban rail is thriving, suburban sprawl is reversing, and central cities have revitalized and are attracting young people to live, work, and play. Many cities (including Vancouver, Los Angeles, and Washington) have become more polycentric, with significant sub-centers based around rail-transit systems built in the last 30 years or so. Cities such as San Francisco, Paris, and Seoul are even studying how urban rail, in conjunction with the tearing down of major freeway infrastructure, can help to revitalize urban environments. Walking and cycling are again on the increase in many cities, as are ubiquitous bike-sharing schemes, which have led to central cities like Melbourne, Seattle, Chicago, and New York having new investment and vitality. Electrically assisted bicycles (pedelecs), which greatly extend the comfortable range of a normal pushbike, are growing in popularity among both private owners and, increasingly, in bike-sharing schemes. Smart-city technology is enabling sustainable transport modes to become more competitive.

We are thus in a new era that has come much faster than we had predicted: the end of automobile dependence. The planning paradigm that enabled cities to be built around the car is now virtually dead; a different kind of city can now be envisaged and each day sees more evidence of its reality being implemented for economic, environmental, and social reasons. Perhaps the only horror from Gordon and Richardson not to happen is the “stringent land-use controls in a futile attempt to enforce urban compactness”; instead it is the opposite, as well-located suburbs enforce low-density controls in a desperate fight to stop market forces from redeveloping at higher densities. There isn’t much “solar-powered transit” either (yet), just a few examples like Calgary, with its light-rail system running on wind energy (Ride the Wind), and several Indian rail projects that are to be solar powered.

So this is the third book in the Trilogy on Automobile Dependence. As in all good trilogies, we have seen the rise of an empire (in this case, that of the automobile) and the peak of its power, and now we are seeing the decline of that empire.

We have called this the “end” of automobile dependence rather than just the “decline” for several reasons. We should emphasize that we are not claiming the end of the “automobile,” only the elimination of *dependence* on it. This is a very big difference. Most developed cities are showing a decline in vehicle-kilometers traveled (VKT) per capita and even total automobile travel, but they are still dominated by the car; in these cities there is still no real option other than a car in most parts of the city. We believe that all cities, if they are to be competitive, viable, and sustainable, will need to go beyond automobile dependence to a future where the vast majority of urban areas have options by which people will not have to use a car

for all journeys. In other words, they will no longer be *dependent* on the car. When this happens in a city there are still a lot of cars around—but the character of the city has changed.

Already we are seeing that some parts of cities—the old walking and transit city areas—are having a revival as they have become the site of all the knowledge-economy jobs that require highly efficient land use and highly intensive modes servicing them: rail, bikes, and walking. Those areas of the city where cars predominate tend to have an economy that is mostly oriented to consumption rather than to creative, innovative jobs and services; it is to the latter realm that young people are flocking to live, work, and play. With such economic drivers in place, the end of automobile dependence is not likely to reverse.

It will take considerable analysis to show what we mean, but most people can tell when they go to a city where automobile dependence is not built into its very fabric. It is different in quality. Although there will likely still be a lot of cars in all future cities, they are likely to be carbon-free and, in our view, they will be part of a mobility system that enables freedom and connection—not dependence. This is the end of automobile dependence, and most of all it means an end to the twentieth-century planning paradigm that assumes car dependence in all of its rules, planning tools, and visions for urban development. This book will therefore set out to show how cities are rapidly moving beyond automobile-dependent planning, and it will present a few ideas on how we can keep the momentum going.

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departments worldwide it is simply impossible to assemble the data we have put together for this book. This is because so many of the items are just not available on websites or in standard publications, but must be sought from those whose day-to-day work revolves around, for example, running and managing traffic models in cities. To these countless people we say thank you for your patience and goodwill, and we hope that in some small way your efforts are rewarded by the value we hope we have added to your data in bringing so many cities together in one place and in a standardized way.

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