Chapter 44

Who Wants an Automated Vehicle?

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ABSTRACT

New advancements in vehicle automation, electrification, data connectivity, and digital methods of sharing—known collectively as New Mobility—are poised to revolutionize transportation as it is known today. Exactly what results this disruption will lead to, however, remains unknown, as indeed the technologies and their uses are still taking shape amidst myriad interests. The impacts of this shift to New Mobility could be enormous, shaping economies, cities, and the lives of people in them. It is therefore vitally important for public interests to play a strong role in the development and deployment of these technologies. With the current trajectory of these technologies warning of the potential for increased energy use, environmental costs, and social inequity, interests at the community level need to be included and influential as soon as possible.

INTRODUCTION

Driverless cars, it has been widely predicted, are on their way. With advancements in what planners call New Mobility, transportation as it is known today is on the verge of a revolution. While this term has lacked until now a precise industry meaning, it can be best defined as the combination of collective advancements in vehicle automation, electrification, data connectivity, and digital methods of sharing. These advancements have the potential to change how people travel, how businesses operate, and even how cities are developed or reshaped (UITP, 2017). Urban, suburban, and rural communities alike could see their options for mobility improve in a variety of ways, from cost to connections to comfort. With automated vehicles (AVs), we are promised great benefits: an end to traffic gridlock, relaxing free time while traveling, and roads so safe as to render future generations amazed at the thought that humans

were ever allowed to drive. At the same time, however, it has become clear that all visions of how such a transportation utopia should work are not necessarily aligned.

Competing versions of New Mobility's future abound. Will people own their own AVs and send them to park themselves, or will they buy rides in automated robotaxis? Will public transit start to offer door-to-door service with municipally-owned driverless vehicles, or will private companies or even co-ops of private AV owners assemble and manage such fleets? If vehicles are connected, what will they be connected to, and who will own the data that flows between them? The key to answering these questions lies in understanding that the results we get will be determined not only by engineering advances, but by the work of various social groups that hold interests in shaping the technologies' uses and outcomes. As this chapter will discuss, who these social groups are, the results they are advocating for, and the potential impacts of their efforts to shape the future of transportation suggest both appealing and alarming possibilities.

New Mobility represents a dramatic and important set of new risks and opportunities, with not only billions of dollars of commercial value at stake, but also the power to dramatically influence the future of jobs, land use, environmental impacts, and human interaction on a grand scale – as well as the safety of millions of human lives (Henaghan, 2018; Lipson and Kurman, 2016). Even if all the engineering challenges are overcome, positive outcomes are not guaranteed, nor is it known what unintended negative effects might result. The implications of new inventions generally require a considerable period of time to be understood (Wiener, 1954), but our experience since the arrival and proliferation of the automobile a century ago assures us that changes in transportation can have far-reaching impacts (Norton, 2011). With so much at stake, it cannot be overstated that transportation stands today at a critical crossroads – the likes of which has not been seen since the original introduction of the automobile.

Given the magnitude of this situation, the current trajectory of New Mobility technologies moving rapidly toward the goals of certain social groups invested in their development demands scrutiny. In this brief window of opportunity before the technologies become established, it is vitally important to carefully examine the imagined futures being presented, the potential broader impacts their realization could bring, and the need for the public to engage and put forth its own ideas for the New Mobility revolution at both the individual and community levels. In this way, without seeking to analyze the viability of vehicle automation or other new transportation technologies, this chapter will explore these issues of impact and engagement through the lens of sociological and scientific research, first by considering the role of social groups in shaping any new technology, then by looking at several examples of groups currently involved in shaping the technologies of New Mobility specifically. These examples will lead into an examination of how certain uses of New Mobility technologies could potentially impact communities. Finally, these concerns will be brought together as an argument for the importance of balancing individual and community perspectives, and for the role communities can and must play in setting their own goals for the future of transportation and advocating for their own interests.

HOW TECHNOLOGIES ARE SHAPED

Seeing the capabilities of mankind advance, many people assume technology is the natural result of human learning – in science, engineering, or math, for example – and that the forms it takes in technological artifacts are for the most part inevitable. From this point of view, technology is seen as always progressing, filling the needs of humans, and in the process shaping society with unstoppable and natural

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