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Transit's e-commerce revolution can advance mobility for *all* riders

Electronic fare systems and micromobility have the potential to put transit within reach of every population segment.

The rise of autonomous vehicles has seized the media spotlight and for good reason: this technology will radically transform mobility in the coming decades. Yet another, quieter revolution also is underway in the transportation space as innovative transit agencies embrace advanced technology tools for delivering safe, cost-effective services to their communities.

For many agencies, even those in mid-sized cities, electronic fare collection has been a major focus for investment. Not only do these tailored e-commerce technologies increase the efficiency and security of fare collection, but they also facilitate the movement of passengers on and off vehicles. These passengers enjoy the fluidity of their experience — wave a card or smartphone and keep moving — especially when the fare system works across multiple modes. But implementation of these systems comes with a renewed responsibility to ensure this upgraded passenger experience doesn't inadvertently alienate or exclude some segments of the community.

No doubt, transit agencies are extremely conscientious about meeting the Federal Transit Administration's Title VI requirements related to how service and fare changes impact minority and low-income populations. On the surface, these populations appear to possess the personal technology necessary for electronic fare systems. In 2018, 67 percent of those earning under $30,000 annually — and even higher percentages among minority populations — owned a smartphone, according to the Pew Research Center.

Unfortunately, those smartphones aren't always connected to digital sources of money. Millions of Americans have no bank account. And even if people have both a smartphone and bank account there is a significant learning curve — involving apps, bank verification processes and other steps — that can discourage people of all ages and backgrounds.

These realities reinforce how critical it is that transit agencies understand — deeply, intimately — who lives in their service areas and what their mobility needs are. Part of this involves gaining on-the-ground insights, learning about the destinations that matter most to people, whether that's a major entertainment or commercial center, or a discount store or hair salon. Such fact-finding can contribute greatly to an overall strategy for building a significant storehouse of data with which to derive insights and make decisions.

Smartphones and other e-commerce tools are critical to transit agencies collecting payments and communicating with riders. Agencies just need to find ways to connect with all population segments, even those without access to technology.

Collaborating for data — and much more
Few transit agencies have the funding to unilaterally amass this data through traditional means such as surveys and interviews. This is where creativity and partnerships come into play. For example, cities can work closely with school districts to understand more about the households in a

metropolitan service area. Student records represent a gold mine of information about a child's household size, ethnicity or language, income level (from program eligibility factors) and other insights vital to understanding their mobility needs. Transit officials can get this information through an open records request, with no risk to student privacy since no names are linked to the data.

Social services agencies — health clinics, counseling services, food pantries and others — also collect a large body of data that can inform transit agencies' efforts to move their e-commerce strategies forward in the most inclusive ways. But an equally compelling reason to collaborate with these agencies is because there can be interesting synergies between their missions and those of transit agencies, particularly relating to paratransit.

For example, social services organizations often provide transportation services to people of limited means and with special needs that can hinder their use of traditional buses or trains.

It's not uncommon for these organizations to spend $100 per passenger trip using their own or contracted vans.* By contrast, on-demand paratransit services offered by transit agencies can provide trips for roughly $25. Even if a collaboration were to result in $50-per-trip costs, it still theoretically would save the social services organization 50 percent, a major benefit for a cash-strapped nonprofit. This is why a partnership between transit agencies and social service organizations could be mutually beneficial.

The new Micro world

Transit agencies nationally have been implementing microtransit in the form of small vans for a long time, gleaning value from the ability to serve more people who are beyond the reach of fixed-route bus or train services. Over time, transit hubs made significant investments (in racks, crossing improvements, etc.) to accommodate bicyclists who were providing their own first/last-mile solutions. But now we are experiencing an even more "micro" form of micromobility that represents both a blessing and a curse to transit leaders — the electric scooter.

In just a few short years, the electric scooter has evolved from a novelty item to a national transportation phenomenon. Today, about four out of 10 of America's largest cities have e-scooter rental services, according to the National Association of City Transportation Officials. There is a huge appetite for these scooters. According to a 2018 report by mobility research firm Populus, a majority of people (70 percent) in major U.S. cities view electric scooters positively, both because they present an alternative to cars or ride-sharing, and because they are a complement to public transit. What's more, renting an e-scooter is convenient and inexpensive. In many cities, e-scooters can be found near the most popular commercial hotspots or transit stations, and a renter can unlock one for about a dollar and pay only 15 cents a minute after that.

The blessing of these scooters is that they offer (able-bodied) individuals a new way to travel short distances to get from one transit mode to another. The curse, for transit agencies and pedestrians, is that the proliferation of e-scooters is raising safety concerns at stations and hubs as well as creating (in some cities) another layer of congestion, with scooters zipping around many jockeying taxis, ride-hailing cars, bikes, other vehicles and pedestrians. Many cities have developed strategies to bring order to the chaos of the e-scooter phenomenon, but transit agencies will have to create their own policies and infrastructure to get the most value from e-scooters. By proactively engaging with e-scooter rental companies, agencies can find ways to enhance their facilities to safely accommodate scooters by providing incentives for the orderly use and storage of scooters around busy transit hubs — while ensuring that rental companies play ball, too.

All of these exciting public and private collaborations — and the technologies that underpin them — will make the concept of "mobility as a service" much more attainable in the years to come. Transit agencies are well positioned to play the lead role in ensuring their assets, intertwined with the assets of others, can provide safe, accessible, reliable and affordable mobility options to everyone in their service areas.

Additionally, they must ensure that they calibrate pricing carefully to ensure that economic vitality is preserved or enhanced in the community. Varying the cost of fares based on demand can help to spread usage more effectively across modes and times of day. But, if fare prices get too high, usage can decline and businesses in key locations can be hurt. In other words, congestion on some routes and vehicles is inevitable — the goal is to manage it effectively while preserving volume and ensuring affordable prices throughout the day.

The technology tools available for striking such a balance are getting better every day and transportation players are multiplying every year. This means that, with the right strategies, the opportunities to take transit to the next level of performance have never been richer.

* All costs in this example are estimates based on operational experience.

About the Author

Kimberly Slaughter is national transit/rail market sector leader and senior vice president for HNTB Corporation. With more than 30 years of comprehensive experience in transportation and public transit, her role includes collaborating with HNTB's regional and office leadership on strategic planning and implementation, industry representation, business development, service delivery and client satisfaction.

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