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PUTTING RESIDENTS AT THE HEART OF URBAN MOBILITY PLANNING

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CITIES HAVE LONG SEEN the happiness of their residents as a byproduct of big-picture urban-planning initiatives that yield success on some measure: a strong economy, a pleasant environment, a high-profile infrastructure change. This has not typically involved listening to what residents really want, though, and it doesn't necessarily mean that residents are happy in the cities they call home.

That doesn't seem like successful urban planning to us. We propose an inverse approach: resident centricity, which begins with exploring inhabitants' needs, roles, and everyday experiences and—ideally—ends with successful, customized solutions to the perennial problems cities face. It suggests that happy residents should be the basis, not the byproduct, of urban planning.

Mobility stands out as an area of challenge, and opportunity, for cities. It affects every urban resident, often profoundly. It's expensive—the largest or second largest area of capital spending for most cities. And it has become a focus of innovation and entrepreneurship, with ride-hailing and micromobility companies operating around the world, autonomous-driving pilots underway, and city-led mobility-as-a-service (MaaS) platforms being pioneered in Berlin and Helsinki and developed in other urban areas.

BCG has taken a close look at life in cities around the world. We believe that the well-being of cities is defined by the well-being of their residents. With that in mind, we have conducted the Urban Experience Survey, involving 25,000 residents of some 70 of the world's largest cities, to understand how satisfied people are with various aspects of urban living, including commuting access, time, convenience, and cost. We see that cities whose residents are happy and satisfied are better able to address challenges. Here, we focus on how a resident-centric approach can be applied to issues related to urban mobility.

Rethinking Approaches to Urban Mobility

Cities are growing. Today, they account for

approximately 55% of the world's population and about 80% of global GDP. These numbers are likely to increase to 70% and 90%, respectively, by 2050.

That growth exacerbates all kinds of challenges, including those related to mobility, with more people on the road (often commuting on their own in a vehicle) and crowded onto trains and buses. The result is gridlock, congestion, pollution, and overall inconvenience. In 2019 in the US alone, congestion cost commuters 99 hours of time and $88 billion. (Some estimates put the cost as high as $305 billion in 2017.) Despite innovative alternatives, commuting issues are only getting worse: congestion is growing in most developed cities (as shown by the 15% to 20% increase from 2008 through 2016), and transit options remain inequitable, leaving city residents with unequal access to economic opportunities. That means residents from the poorest neighborhoods are locked into poverty traps largely because of the lack of an efficient transportation network. And new mobility services (especially ride hailing) compete with public transit and thus contribute to increased congestion and pollution.

Our survey found that even in cities that consistently rank high on overall livability, mobility remains an issue. For instance, some 20% of surveyed residents of Melbourne and Toronto report that their commutes from home to work or school are neither easy nor efficient.

The mobility landscape has changed over the past ten years with the emergence of new modalities and service providers; consequently, transportation systems are more modular and less coordinated, presenting new problems. For example:

- The goals of private and public mobility stakeholders are misaligned. Private operators aim to maximize their revenues, and asset proliferation (more cars, more rides, more bikes, and so on) is the way to do this. Public players seek to improve life in cities by alleviating congestion and pollution; they want to see fewer vehicles on the road.
- Transportation networks are growing more complex and fragmented, so it is increasingly difficult to achieve the optimal solution in terms of traffic flow, asset volume, and utilization.
- The growing number of service providers focus on their own offerings and the customer experience only as it pertains to their interests. This creates bottlenecks, a lack of coordinated services and schedules between different modes, and "white spaces" where services aren't available, such as in getting to and from a train station
- As cities grow, residents must increasingly rely on sprawling mobility networks and endure long, costly, and inconvenient travel to meet their needs.
- The pandemic has accelerated the transition toward a "blended" city, where work, education, and shopping sometimes occur in person and sometimes in a virtual and delocalized way. When residents' activity is more widely distributed, transit patterns and bottlenecks change: weekend traffic around a mall might come to feature fewer traffic jams, for example, but the transport of scooters from a fulfillment center could introduce slowdowns in new areas.

In the long term, cities need to address another issue that's relevant to mobility and all other areas: traditional city management models struggle to keep pace with residents' preferences. These models have aimed to identify and resolve mobility bottlenecks from a bird's-eye, rather than an on-the-ground, view. This lens yields long-term, big-picture options that can take too long and be more expansive than necessary. Significant risks ensue: Absent direct attention to residents' needs and experiences, some projects might not win approval (they can face resistance from people who take a "not in my backyard" stance if the benefits to them aren't addressed or clear). And even if ambitious, seemingly logical projects are completed, they might not prove relevant to residents' initial problems at all because they've empha-

sized big-picture solutions over bottom-up needs.

We propose putting resident centricity at the core of urban-planning efforts to establish consistent, logical, and inclusive approaches and solutions. We've found that resident-centric approaches can be implemented quickly, simply, and with little investment. If residents of a certain neighborhood are forced into frequent long trips to reach a grocery store, for instance, the city might facilitate a grocer's efforts to open a store in that area. If people are commuting long distances to a major employer, perhaps the city could incentivize the creation of a new local satellite office or community workspace to alleviate the burden on residents and roadways. The resident-centric lens can reveal otherwise unforeseen or even seemingly counterintuitive solutions that can solve problems with relative ease.

This type of intervention does not replace large infrastructure projects. Avoiding such undertakings entirely in big cities is improbable. However, these projects should be considered *after* a resident-centric lens has been applied and related opportunities for smaller-scale change have been exhausted.

Urban-mobility planning, like all of a city's endeavors, should follow the core resident-centricity principle: the ultimate purpose of a city is to maximize the well-being of its residents by addressing their needs holistically in their multiple roles as citizens, consumers, entrepreneurs, employees, and family members.

The Resident Advocacy Index

To assess the well-being of residents of particular cities, we constructed a new way to measure a city's performance: the Resident Advocacy Index. This tool signals residents' short- and long-term satisfaction with the city they live in. Though simple, it is a useful indicator of sustainable city development on multiple fronts. It is linked to behavioral and economic patterns like fertility, higher inflow of skilled residents, entrepreneurial activity, and overall higher economic growth and thus serves as a powerful KPI for city management.

To measure resident advocacy, we asked inhabitants of specific cities five questions as part of our survey:

- Are you satisfied living in [city]?
- How likely are you to recommend [city] as a place to live and work?
- Have you recommended or criticized [city] as a place to live and work in the past 12 months?
- Do you see your children living in [city] 20 years from now?
- Do you believe [city] will prosper in the future?

In addition, our survey included specific questions about safety, education, job opportunities, public space, and commuting and transportation. While residents' perspectives regarding these issues certainly help define city advocacy, we found that a more telling factor was the end-to-end life experiences of residents—what we call resident journeys. Some are recurring journeys, like buying everyday goods. Some are less frequent, such as finding and moving to a new living space.

Of the approximately 20 resident journeys we identified, one of the most significant was the end-to-end commuting experience, from planning a trip to completing the last mile of it. The impact of this particular resident journey isn't surprising: commuting is an important part of people's lives on its own, and it directly affects many other resident journeys, making it one of the key contributors to quality of life in a city.

It's increasingly clear that residents' satisfaction is becoming a prerequisite for a city's success rather than an outcome of it. Therefore, city authorities should focus on improving the end-to-end experience for residents engaged in key journeys, including commuting, rather than improving individual verticals (like the bus system) in iso-

lation or optimizing parameters that are less relevant for the user (such as operating costs).

With such a holistic view of key journeys, cities can undertake three broad initiatives:

- **Optimization of Existing Solutions and Processes.** Focus on the interfaces between adjacent steps and service providers to remove pain points and ensure a seamless experience. Often, this can significantly improve the experience without a large investment. For instance, universal transport passes (such as Oyster in London, Charlie in Boston, and Octopus in Hong Kong), MaaS apps (like Jelbi in Berlin), and contactless fare payments (pioneered by London, among others, and now expanding to more than 500 cities including Brussels, Hong Kong, and Sydney) have eliminated wasted time, reduced the cost of ticketing, and smoothed transitions between transport modes.

- **Focused Investments.** Find ways to improve residents' mobility experiences with limited investment. These efforts are likely to address the white spaces and bottlenecks in service offerings.

- **Large Structural Investments.** According to the resident journey logic, megaprojects should be considered only when all other options are exhausted and the journey experience cannot be improved further without removing a constraint imposed by legacy infrastructure. This type of solution should improve several journeys at once by eliminating key pain points such as interchanges or unpredictable traffic jams. One of the most prominent examples of a megaproject aimed at overcoming legacy limitations is London's Crossrail, which at more than £18 billion is considered the largest construction project in Europe. The initiative is designed to connect two disjointed railway systems, slashing travel times, inconvenience, and crowding in the city's substantial east-west travel.

Applying Resident Centricity to Urban Mobility Issues

A resident-centric, end-to-end approach to mobility requires shifts in the way cities measure success and manage mobility. Instead of capacity-related or technical KPIs, like reducing the number of cars on the road or increasing the number of free-floating bikes available, cities need resident-centric KPIs that directly affect satisfaction with the end-to-end commuting journey: total travel time including the first and last mile, convenience, and total trip cost. (To understand the importance of the right KPIs, consider the example of Paris. The city focused on reducing the number of cars on the road. It succeeded on that measure, with an 8% reduction in 2019, but failed to overcome the real problem: congestion. Given infrastructure changes and rush-hour challenges, congestion increased by 3% in 2019, and commutes consequently take longer.)

And instead of optimizing each service and mode separately, cities should optimize the end-to-end experience. That is, rather than just improving public transit or just regulating ride-hailing operators, they should figure out how to synchronize all commuting options by identifying and addressing pain points and white spaces.

To fight congestion and pollution and improve travel in terms of time, convenience, and cost—in ways that are both resident centric and focused on the end-to-end journey—cities can explore a variety of innovative solutions:

- **Embracing Hybrid Models.** When people can work, shop, and access entertainment and government services from home (at least part of the time), congestion and pollution are naturally alleviated. This requires seamless digital access and digital-first government services.

- **Creating Hyperlocal Neighborhoods.** The hyperlocal, or "15-minute," neighborhood is one where travel for work, shopping, and more is quick and convenient. This type of environment

reduces vehicle traffic and congestion because destinations can be accessed easily without lengthy travel. Cities can encourage these sorts of areas by ensuring safe and convenient pedestrian access, providing local workspace options (such as neighborhood coworking locations), helping merchants and other vendors ensure that residents have access to the stores and services they need, and collaborating with mobility companies to position micromobility options like free-floating bicycles or electric scooters.

- **Optimizing First- and Last-Mile Options.** One of the big challenges in mobility is residents' ability to reach the public-transit options available to them. When they can't easily do so, they are likely to rely on private cars or ride-hailing services. To address this issue, cities can assess commuting patterns to ensure that shared modes of transit—robotaxis for multiple riders, carpooling services, bicycles, or scooters—are available where and when they are needed. They can also increase the number of parking options for cars and bicycles at public-transit stations to encourage intermodal trips that reduce congestion.

- **Adjusting Timetables.** Examining timetables can reveal opportunities to ease congestion. This could involve changing the availability of public transportation to match commuting patterns or working with major employers to stagger working hours in order to spread the demand for transportation and thereby make trips quicker and easier.

- **Implementing MaaS Options.** With MaaS platforms in place, commuters will easily be able to plan a trip, compare options, book transport, and pay for their journey. This will create a truly end-to-end mobility option.

- **Taking an Ecosystem Approach**. Any highly modular system needs to be carefully coordinated, and that is best accomplished with an ecosystem model. Urban mobility is such a system, and city authorities, public transport operators, and private mobility companies must cooperate to enable a resident-centric, end-to-end ecosystem. These joint contributions need an orchestrator, and city managers are best suited to the role because they can optimize systemic, resident-centric KPIs and connect them across resident journeys. This will ensure, for example, that the mobility journey dovetails with other journeys, like buying everyday goods and obtaining outpatient medical services.

A few cities have undertaken mobility or transportation projects that stand out because of their mindfulness of the resident journey, their openness to novel modes of transportation, and their cooperation with new stakeholders.

In 2019, for example, the Los Angeles County Metropolitan Transportation Authority (also known as Metro) was able to increase public transit ridership in specific city areas by looking at the issue from an end-to-end-journey perspective. Commuters were choosing individual cars over public transit because of first- and last-mile challenges; they had no good way to bridge the gap between home and the public transit network. Metro launched a pilot program with the public-mobility startup Via to provide an on-demand transit service in the form of pooled vans integrated with the public-transit system in specific areas of Los Angeles. Residents of these neighborhoods are now able to book a ride between their home and the nearest Metro station. This service has increased public transit ridership and exceeded its key goals in terms of rides per week, rides per driver hour, and customer satisfaction.

In Copenhagen, too, public authorities designed and implemented an urban transportation strategy with a clear end-to-end-journey approach. To increase bicycle usage, they aimed to resolve pain points by redesigning road infrastructure to incorporate dedicated bike lanes and investing

heavily in bike-parking spots. Further, the city helped found the Cycling Embassy of Denmark, whose goal is to provide technical information about cycling and to promote cycling culture. Today, Copenhagen is considered one of the most bicycle-friendly cities in the world: 41% of its residents use bikes to commute, versus 5% to 10% in large European cities like Paris and London and just 1% to 2% in large US cities.

Although no city has yet developed a comprehensive and deliberate resident-centric strategy when approaching mobility or transportation projects, these are encouraging examples. In the future, widely effective solutions to urban mobility problems will encompass infrastructure, regulations, communications, and more. But when the focus is consistently trained on city residents and the problems they face, solutions will be practical and effective.

Simply put: sometimes adding a broadband line instead of a bus line is an easier, cheaper, better way to address congestion.

Mobility is just one example of how the resident-centric approach can help build better-performing cities. In future publications, we will explore the relevance of resident centricity in other domains: how to implement it and how to derive value from it.

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