



CULTIVATING SUSTAINABLE TRANSPORT SYSTEMS

Essentials for Long-term Positive Outcomes

Big cities and smaller communities have a lot to think about when it comes to providing transport for diverse users, both now and into the future. The pandemic has added to existing transport challenges, drawn attention to the role of public transport in everyday life and opened opportunity to reimagine mobility landscapes.

We spoke with Kit Chiu, Advanced Mobility Systems Planner, United States, WSP, to explore current challenges and how to shape sustainable transport systems during and beyond these trying times.



What are the defining characteristics of sustainable transport systems?

Kit Chiu: For transport systems to be sustainable, they must consistently enable meaningful mobility choices for a diversity of users. Transport options should be accessible, inclusive, fairly priced, convenient and easy to use. System components—infrastructure, vehicles and technology—should, of course, be designed to have the lowest possible environmental impact.

Considering the current environment, what are the major challenges in addressing sustainable transport futures?

Kit Chiu: A big challenge with the pandemic right now is that public transport—what has been a key tool in shaping sustainable transport futures—has faced one of the biggest disruptions in a very long time. Collective understanding of the medium- and long-term impacts from COVID-19 is still developing, and a lot of uncertainty remains. As cities start to re-open and people begin to travel more again, it's unclear what their mobility choices will look like. Some cities have already observed a much faster resurgence in demand for vehicular travel than for public transport. Increased reliance on personal vehicles in the long term, above or even near pre-pandemic levels, would undoubtedly have negative effects.

A key issue that many across the transportation industry, and within WSP, are trying to contend with is how to provide for passenger health and safety, as well as restore passenger confidence in public transport services. Over the long term, public transport services will continue to be a key driver of human connectivity within and between communities; however, what is considered to fall within the realm of public transport will need to evolve as the pandemic has expedited changes to the way people live and work.

The pandemic has also emphasized that sustainable transport systems require incorporation of diverse transport modes so that systems work for everyone; these options should be the cornerstones of our plans and policies

rather than nice-to-have embellishments on top of systems that still prioritize non-environmental-friendly modes.

How has the pandemic underscored the importance of public transport in everyday life?

Kit Chiu: The pandemic has really shined a light on the vulnerabilities and inequities in our society, including challenges around access to healthcare and food resources in communities. It has underscored the critical role that public transport has played in bridging gaps, as reduction of service has exposed the challenges many people have in accessing the services and resources that are fundamental to everyday life.

Planners need to think more broadly about the role we play and break out of the confines of the isolated land-use and transportation siloes that dominate the industry; we need to consider the impacts our work can have on the well-being of people and communities; we need to ensure that our cities are planned to provide people with workable solutions to get to where they need to go and to access the things they need to live every day.

This may sound like a tall order, but if we look around the world, there are many examples where sustainable transport systems already exist. Consider how in Copenhagen it is often faster and easier to hop on a bike to go somewhere than it is to navigate streets by car, or how in Singapore the public transport system is able to move people from one area to another at a relatively low cost. The integration of land use and transportation decision-making is certainly a big reason behind the success of these systems. However, many of our cities have not been built on this foundation.

What transport developments during the pandemic can help shape sustainable mobility futures?

Kit Chiu: During the pandemic, some cities have seen an increased reliance on active transport and micromobility options, which are perceived to have a lower risk of transmitting COVID-19. Many of these cities have been swift to adapt by converting existing infrastructure into additional space for walking, cycling and micromobility, including e-scooters and e-bikes. Microtransit services have also received renewed interest at this time as a way to fill gaps in service created by decreased public transport and to provide flexible and right-sized service that is adaptable to evolving demand.

Goods delivery has also played a major part during the pandemic in maintaining access to resources, such as food and household cleaning supplies, but has largely been reserved for those who can afford private services, raising concerns about exacerbation of inequities. Bringing goods and services to people over the last mile broadens access to address critical needs; though this role may seem outside of the box relative to conventional public transport, which has primarily focused on the movement of people, consider that many partnerships have sprung up between public transport agencies, non-profits and other service providers to bring goods to those in need during this pandemic.¹

Up until the pandemic, the biggest disruption to public transport was the emergence of New Mobility services that were establishing an increased presence in cities. This development presented the prospect of automated mobility services competing with public transport for ridership and revenues. However, the pandemic brought to attention the potential positive role of

¹ Amy Moreno, "King County Access bus drivers help with food deliveries during coronavirus crisis," April 11, 2020, <https://www.king5.com>

automated transport services. If the technology, business models, supporting frameworks and systems had reached maturity ahead of this time, automated public transport could have been helpful in minimizing service reductions and maintaining access for many communities. Though the conditions did not manifest in time for automated transport to help in the current pandemic, use cases that have come to light could be helpful in guiding future developments and encourage cities to consider how to progress automated transport in preparation for the next challenge.

Integrating mobility in many other forms—including electric, automated, connected, and shared services—could help to support sustainable transport systems and broader societal goals. The challenge for cities and planners will be how to capture the benefits from emergent transport developments to create sustained positive change. We need to find ways to make these trends viable over the long run and to manage any potential unintended consequences—such as increased vehicular traffic and congestion from both people and goods movement, and evolving demands on curb-space usage.

How can planners best use this period of uncertainty to develop sustainable transport landscapes?

Kit Chiu: Planners can take this time of uncertainty to test out new ways to provide sustainable transport options and identify the approaches that will best serve the needs of all travellers moving into the future. For example, seasonal changes in some cities, both intense winter cold and summer heat, may pose challenges for those travellers relying on active transport year-round. If we want to turn the current increase in active transport usage into sustained change, planners, and all those who bring about change within cities, will need to

consider how to continue to make active transport and micromobility options workable under these conditions, not just for the most experienced users but for all who want to use them. This requires thinking about the design of the actual infrastructure, the design of the surrounding environment, the planning of amenities—including rest stops, lighting, and bike-fixing stations—and the way we operate and maintain our infrastructure, such as winter snow removal. Creating a culture for year-round active transport use will require greater attention to the design and planning of these facilities to the same extent we afford attention to facilities for automobiles.

With mobility options like microtransit services, cities and planners need to consider how the services can be scaled and adapted to work in coordination with public transport as travel demand ramps up again. Enabling and incentivizing transition of microtransit and other New Mobility fleets to electric can contribute to decreasing the environmental impact of these modes as cities look toward electrification of their established transport systems.

As communities begin to transform with evolving work patterns and shifts in where people choose to live, planners need to consider how to address more dispersed transportation needs in lower-density areas. Leveraging automation could potentially help to meet these evolving needs.

How can collaboration help develop sustainable transport systems?

Kit Chiu: Closer collaboration between New Mobility providers, planners and governments could help create a better understanding of shifting customer attitudes and help implement practices that will rebuild public confidence for resuming travel using a combination of different transport modes.

It is difficult to tell at this point what travel demand will look like beyond the pandemic. However, testing different approaches against plausible alternative futures through scenario planning can help inform collaborative decision-making and create a flexible system that provides choices to all users. One thing is certain—our future transport systems will need to rely on a combination of different mobility options, and our major public transport corridors will need to continue to play a crucial part in moving people quickly and effectively within and between our cities. A collaborative approach will focus diverse thinking on how to best integrate existing and emerging modes into a transportation system that serves all people within communities throughout the world.

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