



Getting back on the horse

Public transport must be a critical part of our economic recovery from COVID-19

The concern is large-scale use of public transport might trigger a second wave of COVID-19 infections. But do we have the balance right? Recent second-wave infections were not triggered by public transport, but have been tracked to activities that have been going on the whole time. Public transport remains constrained, and yet if the past few months have proven anything, it is the pivotal role transport plays in the economy.

By Tony Canavan, EY Global Transport Leader, Government and Public Sector

The economic devastation wrought by COVID-19 is now well documented. Comparisons to the Great Depression at first seemed dramatic, but are now playing out as the statistical record catches up with the grim reality of millions of unemployed workers, insolvent small businesses, abandoned investments and shrinking wealth.

Data from mobility service provider Moovit¹ (Figure 1) shows a sharp decline in public transport ridership in multiple cities across the world between January and April 2020 as lockdowns took effect. It is consistent with the 90% patronage reductions reported across Europe by UITP² and transit agencies across the globe.

This steep reduction was caused by a combination of a reduction in the demand for overall mobility (due to office and shop closures, work-from-home arrangements, border closures and so on), as well as a reduction in the demand for public transport specifically (due to public health concerns, public messaging, capacity constraints and so on).

Now, as governments begin the process of reopening economies, a delicate balance has commenced about how to restart economic activities without triggering a new wave of COVID-19 infections.

For the most part, that has meant phasing the reopening process so that only sections of the economy or only some school classes can return to a form of normality. Phasing in activities makes sense because it enables governments to monitor infection rates, as well as perform contact tracing and tracking, and allows the health system to keep coping as social interactions increase, before increasing the levels of activity further.

¹ "Moovit Public Transport Index," Moovit website, https://moovitapp.com/insights/en/Moovit_Insights_Public_Transit_Index-countries, 2020.

² Union Internationale des Transports Publics, Open Letter to the European Commission, May 2020.

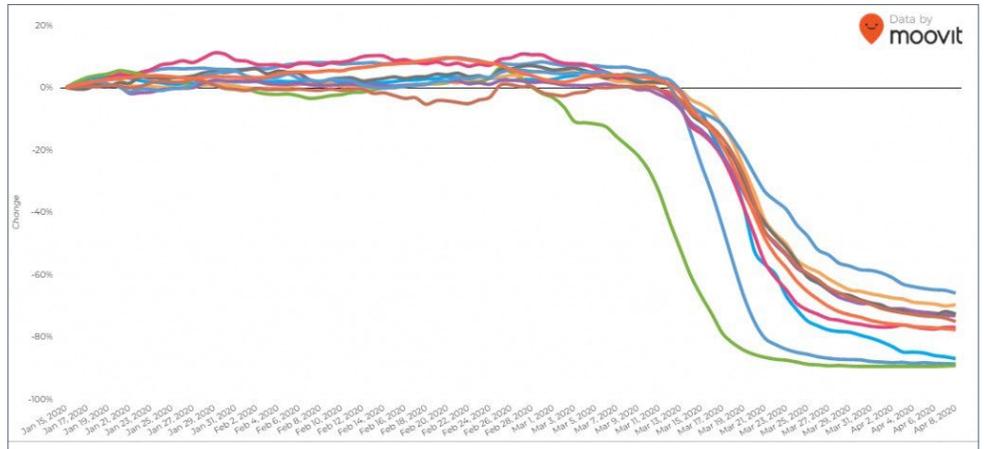
But governments also have had to make choices about which sectors should return first. For the most part, those who can work from home are being encouraged to continue doing so; activities that draw crowds have been deferred (such as mall shopping, and art gallery and sporting events); and intimate social venues also have been asked to wait or open with strict constraints (e.g., restaurants, bars, nightclubs), along with a range of other business types.

It is proving to be a very delicate balancing act. So-called “second-wave” infections emerged in places such as Beijing, Seoul and Tokyo in late June 2020, from widely different sources, including a fresh-food market, a cargo ship and the nightclub district. Such diverse sources make reopening decisions even more difficult.

In deciding which sectors to get moving quickly, authorities’ focus is rightly on those that can generate jobs and put money into people’s pockets. Housing construction is one. Infrastructure projects are another.

But, in all of the talk of economic revival, the intrinsic role that mobility *itself* plays is strangely absent. Given that the combined effects of forced business closures and strict limits on movement largely precipitated the economic slump, it seems illogical that getting people and goods moving again isn’t central to many economic revival strategies. Instead, the transport policy settings in place in many countries might actually undermine the very economic recovery we are all seeking.

Figure 1: Moovit Public Transport Index



To explore this further, let’s take a step back.

For years, transport planners and economists have sought to explain and measure the vital role that mobility plays in society and in the economy.

So far, we have employed abstract models and simulations to provide that explanation, and the answer has always been emphatic: we place enormous value on mobility. Why else make incredible investments in roads, railway lines, metro systems, motor vehicles, aviation and shipping?

Now, the unwelcome arrival of the COVID-19 pandemic has presented us with a glimpse of a world without mobility – or at least one with vastly reduced mobility.

No longer in need of those abstract models and far-fetched simulations, we can see what a world of minimal mobility looks like. At various points throughout March and April 2020, approximately

3 billion people across the globe were living under some form of restriction on their movement – a colossal social experiment in standing still.



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There's an argument to be made about cause and effect: governments actively shut down certain businesses, which made many trips unnecessary as well as specifically restricting movement itself; however, the effect on our economy and quality of life is blindingly obvious. Trillions of dollars in business value were lost across the globe as demand evaporated, and supply lines broke across virtually every sector of the economy.

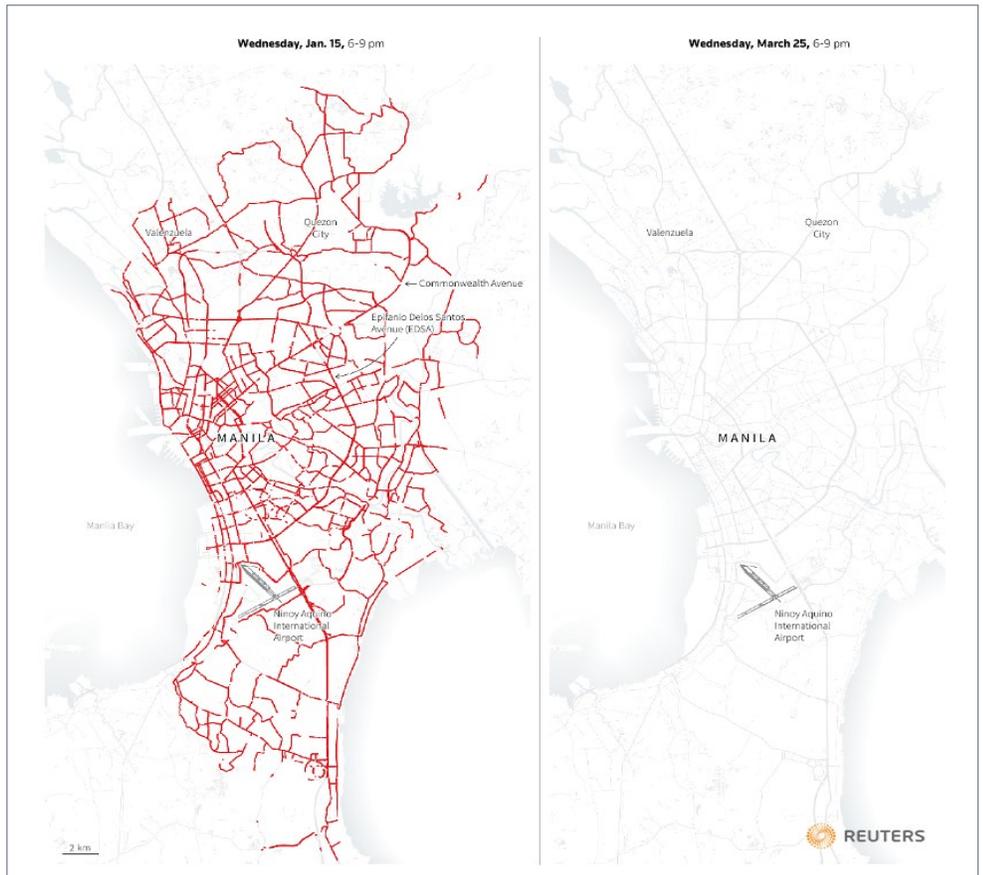
Dire predictions of a depression and the destruction of wealth give us a jolting reminder that the so-called digital age cannot escape the realities of the physical world that still must underpin most economic activity. What use is a clever rideshare platform if there is nowhere to go?

So the jury is in: transport and mobility are an intrinsic part of economic activity. While the digital revolution may be reducing the intensity of that relationship (we can now do so much more from our computers), without goods and people moving around, the economy falters.

However, back in the pre-pandemic days, our transport systems weren't exactly perfect. Road congestion was estimated in 2018 as costing the US economy some US\$87 billion each year in lost productivity.³ That is typical of many large cities across Asia and Europe as well. Because of that, most governments have been, for the past two decades or so, on a campaign to shift travel from private motor vehicles to public transport.

The reasons for this are self-evident. The efficiency of movement gained by sharing as many of our journeys as possible with other people is enormous when compared to personalized mobility – at least when those journeys are similar in origin and destination.

Figure 2: Manila, Philippines: road congestion before and during the COVID-19 lockdown.⁵



Indeed, the very functioning of our cities – where most of the world's economic wealth is created – isn't possible without public transport. The physical density of cities such as New York, Shanghai and Hong Kong wouldn't be possible without mass transit systems to enable the sheer number of journeys required each day.

Only public transport in these urbanized settings can enable the heightened connectivity needed in the services economy. The UITP has said that "the economic benefits of public transport are five times greater than the money invested in it."⁴ And there are also huge environmental benefits.

This brings us to the question of economic revival. A successful economic revival requires the return of mobility of people and goods. But, sustainable, ongoing and strong economic revival will also depend on **how well mobility is executed**.

We are now beginning to see a pattern of new waves of infection sparking new lockdowns in a kind of stop-start attempt at economic revival. Often there are calls to limit public transport as part of that response, reinforcing the view that a safe recovery cannot include public transport. If we're not careful, a message such as this may see a return to bad travel habits that may undermine the very economic recovery we are trying to achieve.

³ "INRIX: Congestion Costs Each American 97 hours, \$1,348 A Year," INRIX website, <https://inrix.com/press-releases/scorecard-2018-us/>, February 2019.

⁴ Union Internationale des Transports Publics, Open Letter to the European Commission, May 2020.

⁵ Image from Channel News Asia, using data from Grab ride-hailing firm, May 2020.

The typical current government position on public transport

By far, the most significant characteristic in the public transport response of many countries has been the vastly reduced system capacity resulting from compliance with social-distancing requirements.

Transit agencies across the world are reporting current capacity as low as 20% of the capacity before the lockdown began. The capacity constraints are the result of many factors: minimum spacing requirements for onboard vehicles, fixed number caps on vehicles, limits on rail platforms, weekend timetables, reduced bus routes, staffing shortages and additional checking of in-and-out procedures.

Overall, this limits public transport's capacity to maintain public health for those using the service.

In the meantime, the demand for mobility is beginning to rise, and the capacity constraints, combined with consternation about the infection risks on public transport, are seeing people return to their cars or, if they are lucky to live close enough, riding their bikes or walking. Countries are reporting huge increases in cycling and walking and are responding by expanding dedicated lanes as a temporary measure. But, while this is welcome, transit system constraints will force people into their cars if cycling and walking are not an option.

This may be workable in the very short term. Changes in work habits, border closures and high unemployment have reduced the demand for mobility for now. In a place like Hawaii, where the absence of a daily influx of tourists

makes a palpable difference to traffic levels, motorists are reporting better traffic conditions compared to the usual snarls.

But let's not forget the obvious: the factors reducing demand for mobility are largely not welcome. We can take no solace from reduced demand because people no longer have jobs to go to and border closures have curtailed tourism. Demand for mobility is a good thing because, as we have stressed above, it represents economic activity, which is the very thing we are trying to achieve.



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Essentially, the current position of many governments is to divert people into cars by constraining public transport demand through reduced capacity and through public messaging while also urging people to keep mobility overall to a minimum, despite it being central to economic recovery.

This is unsustainable. Here's why:

- ▶ No one knows when a widely available and effective vaccine for COVID-19 will be available, so we need transport policy settings that can see us through all phases of economic recovery, not just the short term.

- ▶ If public transport capacity remains as low as 20%, overall mobility in major cities can never approach the levels needed to underpin economic recovery.
- ▶ Every journey that would have been made on public transport but is diverted to a motor vehicle will quickly become inefficient as congestion rises, dragging on productivity and damaging the environment.
- ▶ Every time the public hears a message urging them to avoid public transport, this reinforces their concerns that public transport is not safe when, in fact, it is safe because all services are being run in compliance with public health guidelines.
- ▶ Every day that public messaging urges people away from public transport increases the difficulty of reversing that message, and it is increasingly challenging to pinpoint the set of circumstances that will justify reversing the message.
- ▶ As congestion rises, but public transport cannot take up new journeys due to capacity constraints, more and more journeys will not occur at all, which comes at an economic cost.
- ▶ As congestion rises, the revolution in last-mile parcel delivery will be undermined as cars clog up local streets.

Perhaps the early examples of second-wave infections in places that had been successful in flattening the COVID-19 curve provide a glimpse of a sustainable position: sporadic surges caused by activities that really can't be avoided, especially while the virus continues to spread globally.

Under any reopening scenario, cargo ships will continue to visit ports with crews, food markets will stay open, and citizens will continue to return home from overseas – the major causes of second-wave infections so far. This emphasizes the need for reopening strategies that coexist with COVID-19, as opposed to waiting for its eradication or assuming it can be contained behind a wall of restricted or low-risk activities.

Until a vaccine is available, society will continue to endure outbreaks that must be rapidly dealt with so that infection rates remain manageable. Realistically, maintaining a constant state of zero infections appears impossible or comes at too high an economic cost.

Governments should therefore adjust their public transport protocols now to a more sustainable posture that can underpin economic recovery through all of the phases of reopening while setting up urban transport for a smarter long-term future as well.

But how can they do this if we need to limit public transport for public health reasons?

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Lessons from the lockdown

There have been many advancements from the COVID-19 lockdowns: the work-from-home revolution, the rapid transformation of millions of brick-and-mortar businesses and the widespread use of telemedicine, remote learning and online shopping.

None of us know how many of these changes will be permanent, but there's a strong sense that things won't return to how they were before.

However, there were other revelations related more specifically to the world of transport.

The first has already been discussed: the obvious, but stark, reminder that the movement of people and goods is fundamental to the economy. When businesses closed and movement restrictions were imposed, a significant amount of economic activity stopped.

But not everything stopped. The lockdown triggered a kind of distillation of activity to its purest form. We saw exposed for the first time the true foundational economy represented by those functions without which modern life cannot continue: emergency services, health care, policing, firefighting, utilities and, yes, transport. Transit workers globally were on the front line, performing daily heroics to keep the foundational economy moving.

As they went about their tasks, another revelation emerged: the hidden, untapped capacity of the road network.

When the San Francisco Municipal Transportation Agency moved from scheduled bus services to headway or frequency-based services as part of its COVID-19 response, it noticed something: journey times improved by 40%, and when they increased frequency of services to

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take advantage of the faster journey times, they measured an overall 25% increase in capacity **even with social-distancing requirements in place.**

Why were journey times 40% faster? Because there were far fewer cars on the road.

It is an obvious revelation, but one typically hidden by densely packed traffic filling every available inch of road space for much of the day. When allocated to public transport, road space increases the capacity of the public transport system. Even with social distancing in place, in San Francisco, that capacity increase equated to 25%.

When we reflect on the current approach to reopening the economy, governments are doing the opposite. Instead of looking to find ways to increase capacity for sustainable and efficient journeys as the economy grows, we are suppressing that capacity and urging people away through public messaging.



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It also means another great opportunity is in our grasp — the end of peak hours.

At the same time, due to those other revelations (working from home, telemedicine, etc.), there is significant evidence that demand for mobility has genuinely changed, not in a way that will detract from economic activity, but in ways that will potentially **increase** productivity and productive capacity.

If remote work from home can be performed as productively as work in the office, and it makes balancing work and life easier, then there could be huge economic benefits from increased participation among the

workforce: reduction in time wasted while commuting, less fuel consumption and improved mental health.

If telemedicine takes hold, access to medical services will rise, and doctors will be more productive, among other benefits.

For transport planners, all of this means it is very likely that the daily demand for journeys that our public transport system is designed to meet. It's possible that our system no longer has the same capacity needs as before because travel habits have changed.

It also means another great opportunity is within our grasp: the end of peak hours. “Flattening the curve” is now part of the vernacular, but it doesn't apply to just infection rates. The daily tidal flows that characterize the travel patterns of so many cities occur only because so much of modern human activity has been designated to start and end at the same time. Transport planners have measured

time and again how the smallest adjustment to peak demand can make substantial differences to the capacity of the transport system to cope.

Like the electricity grid, our transport system is designed for peak loading and spends much of its time with spare capacity. Coordinated policies to stagger work shifts and school hours, and increase remote work, along with other adjustments, would have the effect of radically increasing the ability of the public transport system to handle the busiest hours of the day, reducing the need to nudge people back into their motor vehicles.

All of this creates more scope for governments to act more confidently right now.

Getting back on the horse – embracing public transport again

There is no denying or wishing away the public health concerns that currently exist about public transport. After learning so much about how viruses spread, people are naturally concerned about the social interaction inherent in public transport. But, knowledge is power, and we have also learned much about what constitutes perfectly reasonable, low-risk behavior; as economies reopen, we are all becoming better informed and used to taking responsibility for moving about safely.

The risks of getting the transport and mobility from both approach wrong are severe from both a public health and an economic perspective. What we need is an approach that balances both.

Here is what we should do:

Rapidly measure the new normal. If travel behaviors have indeed altered, especially the time of day of travel, then the way in which we have designed our public transport system and services may no longer be relevant. It might be that we don't need the same capacity we had before the pandemic to meet unconstrained public transport demand. Until we measure and come to grips with that change, we don't know what challenges we are facing, which means we might be pushing people away from public transport unnecessarily.

Increase public transport system capacity by reallocating road space. Twenty percent system capacity is too low. Cities have already expanded lanes for cycling and walking. Why not buses? Why default to a squeeze on public transport when a squeeze on motor vehicles is better aligned to economic, social and environmental outcomes,

and will drive more efficient mobility to strengthen the economic recovery? As San Francisco discovered, there is a lot of hidden capacity.

Make the cycling revolution permanent and embrace micro-mobility. It is fortunate that so many people have purchased new bikes or dusted off their old ones during the lockdowns. But, apart from the desire to avoid public transport, the lack of cars on the road has also acted as a major incentive for safety-conscious cyclists. Keep them on their bikes by promoting the reduced traffic they have enjoyed so their newfound habit becomes permanent. However, that still leaves the



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“last-mile” disincentive so often cited as the reason that people don't use public transport. If we are expanding lanes, then let's expand them for e-scooters as well. As noted below, the new smart mobility players have a role in this too.

Keep monitoring social-distancing rules and wear masks. Many countries are now asking their citizens to wear masks on public transport, and it seems an obvious way to allow some easing of the spacing constraints that come with vehicles. But, without such a step, problems will quickly emerge. Singapore

has already removed the seating and floor stickers it had installed to keep people apart because this will simply become unenforceable. On the London tube, those who had no car or walking option had little choice but to crowd back on to the tube. England has now announced that masks must be worn on public transport, as has the Netherlands. The Metropolitan Transportation Authority in New York is investigating ventilation and increased air flows to enable safer travel. The question should be: are there measures we can take that achieve just as safe an environment as social distancing, but with less impact on system capacity?

Consider ending peak hours. The period during lockdown and now reopening has shown a willingness by the public to embrace change when we can see a clear link to the greater good. Transport planners have always wanted to have demand levers to pull – now may be the time. As the economy reopens, different countries are considering protocols such as delayed shopping hours, staggered office shifts, different school hours and more working from home. Even a small change to peak hours can make a material difference to transport. Some of these changes need not come at the expense of the economy and may even boost productivity.

Make use of other mobility platforms. Transport planners have always known the huge benefits gained when journeys are shared. That is most true of mass transit, but it's also true for motor vehicles. Average vehicle occupancy rates have generally been dropping across Europe and the US over the past two or three decades for reasons not fully understood, but sometimes described as “increased individualism.”

A small increase in vehicle occupancy rates makes a huge difference to road capacity. Fewer vehicles on the road to move a given number of people means an increase in capacity. This is where many new mobility platforms can help. The algorithms in many such platforms do an extraordinary job of matching compatible journeys in real time, enabling vehicle sharing. The Grab ride-hailing firm in Singapore says that there are always two people within 300 meters of one another in Singapore who want to make the same journey at any given moment in daylight hours.⁶

While social distancing has meant a ban on carpooling in many places right now, with compulsory masks and a limit of two passengers, these platforms should be an important part of the armory.

Change the message. Start encouraging people to return to public transport and start reinforcing the safety of the system from a public health perspective. The sooner the better, before unwelcome travel habits are formed and before it is too late to reverse poor perceptions of public transport.



In conclusion

The unwelcome COVID-19 lockdowns have inflicted enormous economic pain on virtually every country in the world. At the heart of that economic pain have been business closures and limitations on mobility. Now, as governments look to reopen economies, it is vital that a strong and sustainable approach to how mobility restarts and grows be a central plank of the recovery strategy. The second-wave outbreaks in late June 2020 show us that recovery must occur alongside COVID-19, not after its eradication.

Right now, the positioning of public transport as something to avoid and

constrain will inevitably hurt the economic recovery by bringing on road congestion and stopping many journeys completely at great economic cost. It will be a hand brake on the revival.

We need to switch our position to one where we encourage public transport use again and actively look for ways to increase its capacity without compromising public health.

If we do that, mobility will help drive recovery through all phases of the reopening, and we will set ourselves up for the long term by instilling efficient and sustainable travel habits.

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