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# Bay Area mass transit could start to resemble Uber or Lyft

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Dr. Susan Shaheen, professor of civil and environmental engineering, and director of at UC Berkeley, at the Orinda BART station in Orinda, Calif., on Monday, August 17, 2020. Dr. Shaheen also co-directs the Transportation Sustainability Research Center (TSRC) of the Institute of Transportation Studies at Berkeley. Photo: Carlos Avila Gonzalez, The Chronicle





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Soon after mass transit in the Bay Area was all but shut down by the coronavirus, Susan Shaheen was hit by a thunderbolt: a national study was needed to chart the future of public transportation, and she would be the one to launch it. So the professor of transportation engineering at UC Berkeley went to her smartphone to begin texting and calling her contacts, enlisting 40 top experts from all aspects of industry and the economy to contribute to an academic research project titled “Scenario Planning Study: The Future of Public Transit and Shared Mobility.”

The project is co-sponsored by the UC Institute of Transportation Studies and the National Transportation Research Board, with additional funding by the ClimateWorks Foundation of San Francisco. Results are due this fall, to be accompanied by webinars and a summarizing document that will be made public. It will describe the impact of COVID-19 on public transit and shared mobility in three time frames — 12 months, up to three years and up to six years. A range of policy options will be developed.

Shaheen serves four UC campuses — Berkeley, Davis, Irvine and Los Angeles — as director of the UC Institute of Transportation Studies’ Resilient and Innovative Mobility Initiative. She has been studying transit since completing her doctoral dissertation on Bay Area car-sharing in the 1990s, and offered a glimpse of how our daily commutes might look as the pandemic continues to redefine much of our lives.

**Q: How do you see Bay Area mass transit as it stands now?**

**A:** By the week of July 30, Bay Area public transit ridership had shown a 70% ridership decline. Muni (San Francisco Municipal Railway) is carrying about 160,000 passengers a day, down from 700,000. The riders tend to be essential workers and lower-income riders. They don't have access to cars.

**Q: With Muni and other systems dropping lines, will it create an incentive for private industry to enter mass transit?**

**A:** There is the opportunity for new business models to support public transportation. The Cares Act (Coronavirus Aid, Relief and Economic Security) gave \$32 billion for public transit and more is needed. The experts are envisioning new business models that are more flexible in terms of more public/private partnerships.

**Q: How do you see these hybrid systems working?**

**A:** There are micro transit services that are right-sized for a specific population. It might be a van or a sedan instead of a big bus that is empty. You customize the vehicle for the size of the population it is serving. It could be like Uber or Lyft. The difference is that it will be part of the public transportation system. These services would potentially be subsidized based on need.

An example is bike sharing. It would be an extension of the public transit system supported by both the government and user fees, deployed and managed by a third party. We are talking about something that is very dynamic, algorithm- and data-driven.

**Q: How do we solve the social distancing requirements on a system that wants crowded buses and trains?**

**A:** Research indicates that transportation itself is not a vector for COVID-19 transmission. From a physical standpoint, we can add plastic partitions and provide guidance on seating. Down the road, we can provide an opportunity to reserve your seat, knowing that it reflects capacity planning. There could be passive temperature checks at the turnstile, which is being done in some airports. You don't know that they have taken your temperature. There are UV (ultraviolet light) devices being used to clean the trains in New York. This is similar to what you would use to sanitize a hospital room.

**Q: Part of the virus safety equation is the amount of time people spend in confined areas, so how do we make it so people spend less time on buses and trains?**

**A:** If you have more algorithms and data reflecting supply and demand, you could get more precise travel time information and better routing. You are not taking a bus down a fixed route, you are developing a more flexible demand-responsive service. If the demand is smaller, the vehicle size is

demand responsive service. If the demand is smaller, the vehicle size is smaller. Routing and scheduling is based on efficiency and it is likely that the travel time will reflect that. Instead of a fixed-route bus service that goes from point A to point B, you are traveling your own A to B on a public transport service. It is blurring the lines between what is public and what is private.

**Q: How long will it take until we see substantial changes to the way we use mass transit in the Bay Area?**

**A:** Some of these changes are happening in the form of pilot programs across the country today. The question is how to scale these and make them sustainable. How do you take something that is serving 100 people and scale it to an entire region and make it financially sustainable? That's the challenge. The scenario we are talking about is four to six years from now. In two or three years, we could see small vehicles that could transport one or two people. It is like a small pod with a protective bubble over it that one could access for a short trip.

**Q: What is the best-case scenario?**

**A:** We'll have a platform of choices — from bike sharing to scooter sharing to micro-transit options to bus and rail — all on the same platform with seamless routing, booking and payment all through a mobility wallet. It is like a cell phone plan.



## Q: What is the worst-case scenario?

**A:** Private vehicle travel continues to go up even though people are teleworking. That won't be good for air quality, congestion or climate change. If people are flocking to their cars, public transit ridership continues to go down and there is less fare-box revenues to support it.

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