

Vehicle Design & Amenities



Port Authority's Values:

Ridership, Accessible, Connective

Overview

Vehicle design and amenities can influence ridership by making transit more attractive to the public. According to Data USA, in 2018 about 9% of households in Allegheny County use public transportation to commute to work. Having bus and rail vehicle amenities can help to improve existing riders' quality of life and attract new riders by improving their comfort, convenience, and ability to better utilize their time, whether for a daily commute or for non-work trips such as shopping, day care, or accessing inter-city travel facilities.

Analysis

Vehicle design and amenities can enhance passengers' ride experiences and satisfaction, therefor influencing ridership. Vehicle design options include kneeling buses and plastic seats. Kneeling buses decrease the height of the passenger's step up onto the bus from the curb by about 8 inches. These can assist elderly, persons with disabilities, children, and passengers carrying objects in both hands get onto the bus safely. Some may kneel in the front right corner and some may kneel in the rear. Plastic seats have begun to replace cloth seats in some transit agencies. The change is being implemented inside some Blue Line light rail vehicles, to generate customer feedback. The swap is expected to save about 1,600 hours and \$200,000 in maintenance a year.

Vehicle amenities such as free Wi-Fi, USB ports, and power outlets can increase rider satisfaction. Having Wi-Fi on public transit is attractive to potential passengers as it increases internet accessibility. Access to Wi-Fi can

increase commuters' quality of life by allowing them to effectively their time on public transit. In 2017, MTA New York City Transit added a total of 83 new buses, as well as retrofitting their current fleet, with Wi-Fi and USB charging ports throughout the vehicles.

Some public transit requires a stroller to folder up prior to boarding and the passenger must keep the stroller with them, out of the aisle, once aboard. According to the 2011 report "Strollers, Carts, and Other Large Items on Buses and Trains," Scandinavian cities have begun to remove poles in their trains to create space for twin strollers, while Copenhagen's trains have designated areas for strollers and buses allow for unfolded strollers.

Storage space and luggage racks can be helpful to those travelling with kids, running errands, or travelling to and from the Pittsburgh International Airport. Luggage racks offer an out-of-the-aisle storage option for either luggage or large items. This helps to keep the aisles clear and from riders blocking the doors.

Peer Examples

Minneapolis-Saint Paul's Metro Transit

After testing plastic seats on a handful of cars in 2019, Metro Transit announced in 2020 that they would be replacing more than 13,000 cloth seats and bottoms with new, custom-designed plastic seats by spring 2021.

According to Metro's Customer Relations Manager, customers would frequently suggest plastic seats. In total, 91 light rail vehicles are being retrofitted. The change was made in consideration of the cost and time of maintaining and cleaning the current cloth seats and customer feedback, in addition to the additional cleaning requirements brought on by the COVID-19 pandemic.

Los Angeles's Metro

Metro's fuzzy fabric seats are rare among U.S. transit systems and have caused years of complaints as well as large dry-cleaning bills. Red and Purple subway lines were upgraded in 2018 from wool and nylon to vinyl seating with a drainage hole. The change was one of the strategies Metro is pursued to improve increase ridership and improve riders' experiences. Past riders had experienced lice and bed bugs, or have sat in mustard blended into the upholstery, causing some to not even directly sit on the seats.

New York City's MTA

In 2017, in efforts to revitalize MTA's bus operations, New York City added 86 new buses to their Select Bus Service in Brooklyn and 79 arrived in Manhattan. These buses replaced nearly 40% of MTA's current fleet and represent a \$1.3 billion investment of Capital Program resources. This was part of a 2016 initiative that planned to add more than 2,042 state-of-the-art new buses to the fleet over the course of five years. The buses are equipped with Wi-Fi service and USB charging ports throughout the vehicles. In 2020, announced they would be deploying 9,000 new digital screens across the system over the next year. These screens will be located in stations, on platforms, and subway cars. This allows for passengers to have up-to-the-minute travel and station information.

Level of Effort for Implementation: Low

- o Would require new buses and/or retrofitting current fleet

Resources

[U.S Department of Transportation, Federal Highway Administration](#)
[Parents Magazine](#)
[Busbud.com](#)
[Metro Transit of Minneapolis/St. Paul](#)
[Los Angeles Times](#)
[Metropolitan Transit Authority of New York City](#)