Universal Design & Accessible Transit Systems:

FACTS TO CONSIDER WHEN UPDATING OR EXPANDING YOUR TRANSIT SYSTEM

When making purchasing decisions for transportation infrastructure and equipment capital investment purchases, here are some accessibility features and concepts to consider.

Consider Universal Design (UD) – it benefits everyone.

Universal Design (UD) extends the benefits of accessible design (as defined by the Americans with Disabilities Act- ADA) to all riders. The goal of UD is to make environments, products and systems safer, healthier, and more usable for everyone. Universal design addresses accessibility across the built environment and on to vehicles.

Implementing Universal Design has many benefits and research has demonstrated: [6]

- UD provides a business advantage to organizations by:
  - Increasing consumer base and customer loyalty,
  - Reducing operating and renovation costs,
  - Increasing productivity and operating efficiency,
  - Reducing specialty maintenance costs, and
  - Expanding the labor pool.

Here are some Universal Design Features to consider before finalizing plans for capital improvement projects:

When designing transit stops:

- Add features that protect riders against climate extremes (i.e., cold, wind, heat).[9]
- Make sure bus shelters have adequate internal clearances for mobility aid users and that there are clear sight lines so they can see approaching buses.[10]
- Consider placing designated paratransit stops at frequently used locations in large buildings, such as malls, stadiums, arenas, and medical centers.

When purchasing transit vehicles or adding new equipment:

- Install lifts and/or ramps on every vehicle. Avoid ramp slopes steeper than 1:12 wherever possible. Maximum ramp slopes should be 1:8 to make it easier for people to use them and improve safety.[12]
- Investigate the use of smaller vehicles that can be operated effectively in suburban and urban areas, and get closer to people's homes. [13]
- Install automated bridge plates to eliminate the gaps between trains and boarding surfaces. [14]
- Install onboard annunciators and variable message signs to announce upcoming stops and to reduce the burden on transit drivers. [14]
- If installing automatic vehicle location equipment/software, also provide audible and visual real-time arrival time information to riders. Accessible web sites, mobile internet, and automated phone systems are good choices.[15,16]

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- Implement training programs to educate drivers/operators, conductors, operators, station attendants, and other personnel on any new features and how they increase access for riders.[17]

When installing new fare stations and turnstiles:[18]

- When wider [accessible] fare gates are available, riders use them more frequently than the narrow standard gates. In new projects consider making all turnstiles accessible so that all riders can benefit from the wider clearances.
- Simplify fare reduction programs to reduce confusion for riders.
- Consider contactless fare-payment methods and regional universal fare cards.
- Increase the time both between fare payment and opening of turnstiles and between opening and closing of turnstiles.

When renovating or building new transit stations:

- Provide real-time information at transit stations in both audible and visual formats.[15,16]
- Increase the number of elevators in a station from the required minimum of one to at least two. Single elevators at stations are not ideal because when one is out of service, the station is inaccessible. Multiple elevators will accommodate a larger number of riders and serve as a safety measure in case an elevator malfunctions.
- Design multi-modal terminals to simplify and facilitate transfers.[19]
- Foster public/private partnerships to establish Transit Improvement Districts around major stations, even in the suburbs, to provide incentives for transit-oriented development and increase access for everyone.[20]

When purchasing accessible taxis:[21]

- Consider vehicles that have low floors, high ceilings, and wide door openings for easy entering and exiting.
- Consider in-taxi audible information systems for riders who have difficulty hearing.

When designing pedestrian traffic signals:[22]

- Ensure that they have both visual and audible signals.
- Make sure that a signal indicating forward movement is safe holds long enough so people who cannot move fast have enough time to cross the street.

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