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January 20, 2009

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Office of Technical and Information Services  
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**VIA ELECTRONIC MAIL**

**Re: Docket #2007-1; RIN #3014-AA38 (Transportation Vehicle Specifications)**

Dear Mr. Cannon:

Thank you for the opportunity to provide comment on the second issuance of proposed revisions to The Americans with Disabilities Act (ADA) Accessibility Guidelines (ADAAG) for Transportation Vehicles (Buses, Vans and Similar Vehicles), which the Access Board announced November 19, 2008 in the Federal Register. As the fifth-largest transit agency in the US, the Southeastern Pennsylvania Transportation Authority (SEPTA) has first-hand experience with accessibility issues and is committed to successfully addressing them. The Board's proposals have profound consequences for SEPTA's bus design and deployment, and for the customers we serve. After careful review, SEPTA continues to believe that the operational, vehicle design, and cost impacts of this second round of proposals demand extensive technical research and analysis, and consultation with other standards-setting bodies, before abandoning present provisions.

Since ADA's passage, SEPTA has committed over a billion dollars to an ongoing, intensive, system-wide initiative to make the Authority's services, vehicles and facilities accessible. This is no small task. As one of the few truly multi-modal systems in the country, SEPTA's historic network includes 143 bus, subway, light and rapid rail, and commuter rail lines, and paratransit services. In FY08 our 2,661 vehicles provided more than 340 million fixed-route passenger trips throughout a five-county, 2,200 sq. mi. service area, and another 1.7 million passenger trips using a fleet of 450 paratransit vehicles. SEPTA's operating environment includes the 325 year old city of Philadelphia and surrounding towns, with inherited routes, stations, and operational infrastructure (tracks, bridges, tunnels, overhead structures, etc.) often over 100 years old. Bus, trolley, streetcar and paratransit operators routinely encounter narrow streets and sidewalks, varying curb heights, and illegal parking. These conditions significantly impact how the Board's proposals might be implemented using existing vehicle engineering and in a real-world transit environment.

**General Comments:**

1. *The existing Common Wheelchair standard—a universal design standard—should be retained.*

The reason for creating a national design standard such as the Common Wheelchair is to establish the dimensions of the devices that shall be carried on public transit vehicles. In doing so, it minimizes any confusion as to what size devices consumers should purchase if they intend to use public transportation. It defies logic to invest billions nationwide in facilities and vehicles to accommodate the Common Wheelchair standard, and then, without rigorous examination, render these facilities and vehicles non-accessible by changing or abandoning standards before it has been determined that the existing standards are unworkable and the new standards are technically and operationally feasible. SEPTA strongly urges that all proposed changes remain at the draft stage until solid technical studies have determined that inability to accommodate the existing Common Wheelchair using existing vehicles and low-floor bus ramps does in fact represent a major national problem, sufficient to warrant changing the national design standard. In addition an engineering study is needed to examine wheelchair volumes and shapes to determine if, and how, volumes larger than 30" x 48" can be accommodated within low-floor buses with their existing doors, fare boxes and wheel wells. Finally, a nationwide impact analysis is recommended to determine the cost of implementing the proposed changes.

2. *SEPTA opposes the Access Board's attempts in these proposed standards to apply its own facilities requirements to transit vehicles. This premise does not take into account the reality that, unlike built structures, transit vehicles are not readily expandable.*

Vehicles' width, length, height, weight and interior layout are constrained by the infrastructure within/on which they operate (city streets, roadways, bridges, tunnels, tracks), their means of propulsion, and available technology. On any transit vehicle, every inch is at a premium. Each component is complex and interrelated. Often one can increase a building's size to meet new needs; for a transit vehicle, this may be impossible to achieve, even with today's advances in miniaturization. This fact cannot be overcome. In SEPTA's case, because a shift to a wider transit bus is not possible, further increases to the dimensions of vehicle accessibility elements will require that we abandon front-door wheelchair-accessible low-floor buses and revert (in fact, regress) to rear-door entry for wheelchair access. This alternative is unacceptable to SEPTA and its regional disability community.

3. *Operating on our existing roadways, the proposed ramp slope and wheelchair clearance standards are unachievable using SEPTA's present vehicle designs.*

The proposed vehicle accessibility requirements will compel the Authority to abandon low-floor, ramp-equipped buses and revert to rear-door wheelchair access, which the disability community would strongly oppose. What technical studies support these proposals? What evidence is there that large numbers of individuals are being denied the use of public transportation due to the size of their mobility devices? How many individuals? What dimensions are involved? On what basis are dimensions being increased?

Vehicles and facilities purchased, built or modified, or on order, that comply with current regulatory standards under the present Common Wheelchair definition do not conform to this new standard. During a 12 year transition period (useful life period for buses on order and in use), this 'dual universe' will create confusion for bus customers and operators as some vehicles accommodate extra-large mobility devices and others, not. How will riders keep track of which facilities and buses they can access, to avoid traveling to a facility they cannot enter, or waiting for a late-evening bus that cannot accommodate them? At SEPTA, having attained 100% bus accessibility we are unwilling to return to partial accessibility.

Fundamentally, we question why transit vehicles should be regarded as infinitely expandable to accommodate ever-larger mobility devices. Advances in miniaturization mean that even very sophisticated new technologies can now be accommodated in devices meeting the Common Wheelchair footprint (stair-climbing wheelchairs, for example). The answer is to educate consumers regarding which devices are transit-usable nationwide, and to encourage new technologies, not to keep expanding transit vehicles with cascading negative consequences for costs and service for all passengers.

**Particular Comments:**

T303.8: Proposed new ramp slope requirements

SEPTA is committed to low-floor technology and to supporting and enhancing customers with disabilities' access to public transportation. Low-floor buses and trackless trolleys have been strongly championed by the regional disability community and SEPTA's policy is that whenever possible new vehicles will continue to be low-floor rather than lift-equipped. For SEPTA, low-floor buses have substantially increased the number and speed of wheelchair boards while negating the possibility of lift failure, at the same time affording mobility-impaired riders a new security of service. Riders using wheelchairs know they will always be able to board and exit vehicles without incident, in the same way as everyone else. Unfortunately, the proposed new 1:6 ramp slope requirement, which is unachievable on most Philadelphia streets, will force the Authority to abandon low-floor, ramp-equipped buses and return to lift-equipped vehicles. This step, which triggers major cost, service and security impacts and carries a high potential for route delays, will negate the significant gains of recent years.

T303.8.1 requires a maximum slope of 1:6 in all cases, including when deployed to the roadway. The Board's commentary states without qualification that new ramp-equipped buses make this possible. However, SEPTA does not believe this slope is achievable in a real-life transit environment, even using accordion ramps. **Ricon, the sole manufacturer currently producing longer ramps, does not offer ramps of sufficient length to achieve the required slope when deployed to the roadway in an urban environment.**

Curb heights vary greatly in Philadelphia due to its old streets, road surface buildup, and depressed curbs. SEPTA requires bus operators to assist customers using wheelchairs in boarding or exiting when the ramp slope becomes difficult. This assistance is usually sufficient and when it is not, the operator is instructed to move the bus to a nearby location for boarding. These operational measures were instituted specifically to compensate for difficult ramp boardings and exits. SEPTA strongly urges that the present ramp standards be retained. The following table shows why.

	<i>OPTIMUM conditions (sidewalk boarding) in Philadelphia</i>	<i>Whenever bus must board/discharge riders in road, driveway, non-standard curb or curb cut, or with no sidewalk</i>
Bus height from roadway (hybrids)	15"	15"
Less 3" for kneeling feature (must be activated before ramp can deploy; current bus designs do not permit kneeling lower than 3" without bottoming out)	12"	12"
Less 6" curb	6"	n/a; see above
<i>Ramp length required to achieve new 1:6 standard</i>	<i>36" (3 ft.)</i>	<i>72" (6 ft.)</i>
<i>Ramp length now used on SEPTA low-floor buses</i>	<i>44.51" (3 ft. 8 in.)</i>	<i>44.51" (3 ft. 8 in.)</i>
<i>Ramp length, Ricon BiFold (longest ramp in design or production)</i>	<i>58.4"</i>	<i>58.4"</i>
<i>Overage/shortfall using Ricon BiFold</i>	<i>22" overage</i>	<i>14" SHORTFALL</i>

SEPTA low-floor buses feature a 44.5" ramp, which exceeds the ramp length currently required when the ramp is deployed to the curb. SEPTA requires bus operators to board/discharge passengers to the curb whenever possible. If the curb is obstructed due to parked vehicles (as is often the case) or snow/ice accumulations, as previously noted, operators are required to move the vehicle to an accessible spot nearby. As shown in the above table, the new maximum ramp slope requirement of 1:6 to the ground will require a 72" ramp to cover all contingencies. We are not aware of any ramp in design or production that can achieve a length greater than the BiFold, which is

demonstrably shorter than is required. And despite the Board's blanket statement that buses now being produced can meet this slope requirement, at this moment, Ricon's BiFold ramp does not show the proposed length, weight capacity, or clear ramp width necessary to meet the Board's proposed standards.

It is also important to note that state and federal procurement regulations preclude the sole-source procurement which the Board's proposed ramp slope standard manifestly would entail.

Many urban bus routes operate on one-lane streets with densely built environments. All ramps in planning or production are designed to be deployed to their full extent, regardless of the length actually required—that is, they cannot be partially deployed. In view of these facts, it is important to acknowledge the reality that ramps 72" long will present significant operational and safety challenges if used on urban streets. Also, employing a ramp 6 ft. in length could make it inaccessible to riders using mobility devices due to a lack of sufficient clearance from adjacent structures. Further, municipal traffic management policies would prohibit blocking the cross street to deploy the ramp there due to the required dwell time.

Using a ramp 72" long in urban street environments where the rise can be expected to be 6" or greater recalls ADAAG facility specifications, which require that ramp runs with a rise greater than 6 inches shall have ADAAG-compliant handrails. Moreover, a ramp of this extreme length may not be deployable in many locations even when the bus is at the curb, as it may exceed the width of the sidewalk or boarding area, particularly in historic areas, driveways, or when the bus is boarding passengers from a traffic island (where SEPTA has already had difficulty meeting the requirement of a 60" turning area for wheelchairs). In these instances, the bus would have to be positioned far enough from the curb or island so that the ramp could be fully extended. As a result, any ambulatory passengers would have to board or exit in the street. The only other option would be to double-stop, which would negatively impact on-time performance. As a tripping hazard, deployment of an extra-long ramp represents a safety concern for passersby and other riders waiting at the stop.

Thus, the proposed change in ramp slope from 1:4 to 1:6 adds a burden that does not result in a reasonable benefit. Imposition of the proposed ramp slope requirement will have the practical effect of forcing SEPTA to revert to lift-equipped buses. This would be strongly opposed by our disability community, which enjoys the convenience and reliability of front entry using ramps. The proposed ramp slope requirement, therefore, raises many concerns.

T203.3 – T203.6: Circulation Path

Discarding the concept of a Common Wheelchair design standard, the Board requires a 34" accessible path to securement locations. We recommend that, instead, consideration be focused on *what can be achieved*. SEPTA low-floor buses already achieve, with great difficulty, a 32" accessible path from inside the door to the wheelchair areas. SEPTA believes the proposed new 34" accessible path standard cannot consistently be attained when including tolerances using 102' low-floor buses, with their unavoidable spatial constraints, unless major modifications can be made to the bus width, or the wheelchair entry is relocated to the rear door. Meeting the proposed new standards would require the following actions:

**Further Constrict Driver's Space:** New technologies have already required further incursions into the operator's space. The next step would be to restrict operator height and weight, a step labor agreements do not permit and we are unwilling to take.

**Shrink or Remount Fare Box Assembly:** Hopefully new technologies and miniaturization can shift this unit further out of the path of travel. Its bulk, however, is unavoidable. Like many transit properties, SEPTA still collects tokens and cash fares and thus its fare boxes must include a removable fare vault, which eliminates the possibility of an "arm" mounting rather than a pedestal, because clearance must be provided for the fare extraction system mechanism. The Board is also aware that because the fare box must meet ADAAG reach standards for riders in wheelchairs, it cannot be moved completely out of the way.

**Use Wider Buses:** Providing a consistent 34" accessible path, including tolerances, on buses requires increasing the space between the wheel wells. This might be achievable using a 120"-wide bus (with mirrors, occupying 144"—12'-- of roadway) instead of the current 102". However, using wider buses is not possible. A number of factors (lane width restrictions, narrow streets, turning radius, wide load constraints) make 120" buses unsuitable and infeasible for use in older cities. Within much of Philadelphia, a majority of streets are less than 20' wide. External constraints such as lane width restrictions prevent use of buses wider than 102" (with mirrors, 126") in most urban and suburban settings. In Philadelphia, 102" is the maximum width of bus SEPTA is permitted to operate, and only on specified major streets. SEPTA buses now find it difficult to make certain turns onto some city streets. Using wider buses will increase the turning radius, further restricting the streets on which we can schedule service. In some regions (MN, CA, for example), 120" constitutes a wide load, which is then subject to local and state clearance limits. A permit is required for travel, pilot cars may be required at times, bridge and tunnel access may be restricted, and hours of travel are limited—no wide load movement is permitted within certain cities during rush hours.

SEPTA first began buying low-floor vehicles, and provides front-door bus entry for riders using wheelchairs, at the request of our regional disability community. Rear-door entry is detested by many disability advocates, who regard it as conveying second-class citizenship. Reverting to rear-door entry using lift-equipped vehicles would negate all the gains of a low-floor fleet, while also requiring redesigning the rear door to make it wider, removing seats at the rear door to create wheelchair areas, and continuing to provide priority seating up front. SEPTA's experience is that forcing passengers using wheelchairs to enter at the rear bus door creates security and fare collection problems, significantly slows service, and amplifies difficulties of curbing vehicles on city streets by requiring that not just the front door but also the rear door be close to the curb, which can be almost impossible to achieve. In addition, environmental barriers at rear doors (signage, newspaper boxes, parked vehicles) present daily challenges for bus operators and customers—problems SEPTA has no power to change, as we own or control only a handful of our more than 15,000 bus stops.

#### T1: Definitions Of Terms

*"Fixed route system"*: The definition found in the Americans with Disabilities Act (Sec. 221, (3): *Fixed route system.--The term "fixed route system" means a system of providing designated public transportation on which a vehicle is operated along a prescribed route according to a fixed schedule*) is brief and straightforward, and should be retained. SEPTA believes the Board's proposed wording relates to service provision, not vehicle design standards, and does not belong here. An introductory statement that rapid rail and light rail systems do not have "fixed" schedules is incorrect. All SEPTA's 15 rail transit routes operate on fixed schedules.

#### T201: Remanufactured Vehicles

This section's wording should be revised to reflect the fact that the routine mid-life overhauls which are performed by most transit properties do not constitute remanufacturing.

#### T302.2 and T303.2 Lift and Ramp Design Loads

How was a new lift, ramp and bridgeplate standard of 660 lbs. determined? (perhaps simply because it equals 300 KG?) Why and on what basis was a structurally questionable decision made to specify structural strength of 330 lbs. for short ramps?

#### T802.2 Slip Resistance

Instead of the present generalization that ramp, lift and bridgeplate surfaces must be "slip-resistant", SEPTA again strongly recommends that for all vehicles, the Access Board specify the coefficient of friction and that this be at least 1.4 dry and 1.1 wet for surfaces such as bus ramps and bridgeplates that are exposed to wet weather. SEPTA recruited members of the SEPTA Advisory Committee for Accessible Transportation to field-test wet and dry bus ramp surfaces in on-street conditions, using manual and motorized wheelchairs equipped with new and older tires, and then increased the slip resistance requirement for its bus ramps to these standards. Because wheelchair tires may not always be brand-new, wet conditions can promote wheel-spinning and sliding, and low-floor bus ramp slopes in urban settings are not always optimal, requiring substantial slip resistance enhances rider safety and facilitates bus ramp use at all times, but especially when ramps must be deployed to the roadway. We believe the existing standard is inadequate in real-life transit environments, particularly given the Board's concerns about ramp slope.

#### T303.4: Requirement For Manual Operation Of Ramps/Bridgeplates

SEPTA's low-floor buses all feature ramps that can be flipped open manually as well as operated mechanically. We have no objection to this proposal. Nonetheless, it should be recognized that the significantly longer ramps of required structural strength specified in these proposals will weigh more, thereby threatening manual operation and possibly involving operator injuries and/or individual collective bargaining agreements.

#### T203.10.1: Priority Seats

This proposal does not differentiate between fixed-route and demand-response vehicles. On paratransit vehicles, all seating is priority seating. No such designation or signage should be required for paratransit vehicles.

#### T704, T705: Route Identification and Stop Announcement Systems

SEPTA has no objection to the requirement that buses more than 22' long be equipped with automated audio and visual stop announcement systems. Our vehicles already comply. However, the proposed requirements must provide the option to revert to operator (spoken) announcements in the event of system failure, or route diversions, special revenue routes, or emergencies for which GPS-controlled stops were not programmed, so that, whether electronic or spoken, announcements continue to be made. SEPTA recognizes, however, that this provision will be costly and entail a considerable transition period for some smaller systems to implement. If a small agency can demonstrate that it can provide the required service without resorting to costly automation, this should be permitted.

T218, T810: Updated Facility Guidelines

SEPTA supports these proposals. It is essential that all bus and BRT stops, stations and terminals conform to the same ADAAG requirements. Unfortunately, nonetheless, because SEPTA does not own or control most of our more than 15,000 bus stops in the five counties of southeastern Pennsylvania, we cannot always enforce their accessibility. Equally, SEPTA has no control over curb heights, or even whether curbs and sidewalks are present, except at its own facilities.

Conclusion

It seems disingenuous for the Board to argue that its Guidelines do not have the force of regulation and that therefore its standards should not be viewed as regulatory. Obviously, by statute the Board is not a regulatory body. Rather, it is the Board's statutory and legal responsibility to develop and issue design standards that when adopted through Rule Makings by departments and regulatory agencies, become regulations. Again in this second draft the Access Board claims that because the Common Wheelchair design standard has allegedly been misused to deny transit service to eligible individuals, the Access Board should abandon this universal standard. Improper application of a design standard to a service provision issue is an issue for USDOT, not the Access Board, to address. As the nation's accessible design standards board, it is essential that the Access Board continue to maintain this iconic design standard around which all public services and facilities, building design and engineering, public road design, telecommunications and banking facilities, in addition to transportation facilities and vehicles, are designed and built. This is the Access Board's statutory responsibility.

It is also understood that the Access Board has no statutory authority to regulate wheelchairs or mobility aids. Nonetheless, the Board and its members do exert considerable influence. We strongly urge the Access Board to apply this influence to open a dialogue among advocates, transit, individuals who use wheelchairs, and the mobility aid industry about the desirability of designating as "transit-accessible" those mobility aids that meet the standards for use on transit; publicizing availability of securement kits for ready installation where the product otherwise lacks built-in securements; and designating "not for public transportation use" those devices which are not usable on public transit.

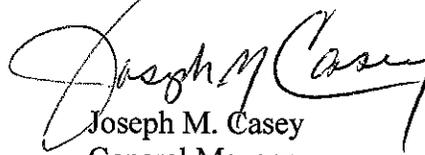
Transit vehicle specifications must be solidly grounded in the realities of basic vehicle design and engineering, federal procurement regulations, everyday transit operations, and research and standard-setting activities taking place today within the transit industry. Among the latter are efforts by Easter Seals - Project Action, APTA, TRB and TCRP, the Access Board's own working group on Public Rights of Way, and various university and private entities, as well as the U.S. Department of Justice's recently proposed updates to facilities standards. Of concern is the fact that the Board's current

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proposals do not always reflect these, as evidenced by the proposed requirement to use a bus ramp of a size not presently manufactured; reliance on single-source procurement for another brand-specified bus ramp (a procedure which would violate existing state and federal regulations governing purchases using public funds); apparent unfamiliarity with the challenges of deploying a 72" bus ramp in older cities or in hilly environments found in locales such as Seattle or San Francisco; and an incorrect statement that rapid rail and light rail systems do not have "fixed" schedules. However, SEPTA recognizes that the proposed specifications are proposals. And we welcome the Board's openness to comments and suggestions, and the new streamlined format and clearer language which make these proposals much easier to use. We believe the importance of our collective responsibility--to make public transportation accessible to and usable by all our riders--amply justifies the Board's, and transit's, continuing efforts in this lengthy regulatory initiative.

Given these concerns, SEPTA believes issuance of these proposed standards remains premature and should be deferred pending both thorough technical research into the significant unresolved vehicle engineering questions raised, and coordination with rules and standards being developed by the Public Rights of Way Commission and the U.S. Department of Justice. We appreciate this opportunity to take part in the public comment process that the Board has made central to this undertaking. If you have any questions or need further information, please do not hesitate to contact my office.

Sincerely,



Joseph M. Casey  
General Manager

cc: L. Diggs, D. Casper, J. Foley, M. Liberi, R. Hanratty, J. Gottlieb  
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