

# Safety and Liability

by Ned Einstein



## A Paradigm Shift in Motorcoach Accessibility Part 1: The MCI D45 CRT LE Commuter Coach

As an urban planner by background, there are certain clichés I have grown to loath. Among my least favorite is the phrase “paradigm shift.” This is because few things in the transportation field ever comprise a paradigm shift. Among the true exceptions were the 45-foot-long coach, the proliferation of double-deckers, Megabus pricing and the advances in super-clean diesel engines. Autonomous coaches seem decades away (even while exploding on the scene in Europe). Otherwise, nothing else close to a paradigm shift in this traditional industry comes to mind.

Yet for every rule there is an exception, if only occasionally. I came upon one recently when, the afternoon before it was unveiled on the first morning of the recent APTA trade show, the MCI D45 CRT LE was introduced to members of the APTA Access Committee, the ADA-oriented committee focusing almost exclusively on fixed route transit and paratransit services. I believe the last time a motorcoach discussion came up at an Access Committee meeting was in 2001, when the ADA's requirement for accessible vehicles was extended to motorcoaches. I doubt this issue received two minutes of discussion.

On October 7, 2017, when the principal speaker at the Access Committee meeting began talking about the D45 CRT LE, I wondered what he was even doing there, much less what he would be talking about. But I soon found out.

### Slugs and Laggards

Every new motorcoach since 2001 was supposed to be wheelchair accessible. While compliance may have materialized, ridership levels hardly seemed to justify the requirement. For eight years now, I have ridden on an MCI motorcoach twice a week, between my Manhattan office and my weekend “country home/office” in the Lower Hudson Valley. During these nearly 800 trips, I have never once seen a wheelchair user on board. I attributed this vacancy mostly to the loading and unloading time of a typical motorcoach with a rear, “passive” lift. Before the lift could even be deployed, multiple passengers would have to change



seats, fold-down seats would have to be folded up, the lift platform would have to be unstowed and lowered, the wheelchair and its occupant would have to be placed on the platform and raised to the floor level, the chair would have to be pulled onto the floor surface and positioned in the securement area, and finally some driver who may have performed this procedure once in a blue moon would have to secure the chair at four wheel positions and attach a three-point securement system to its occupant, among other subtleties. By the time this marathon was over, even the most liberal-minded of the coach's harried commuters would be restless, if not resentful. The poor wheelchair occupant would feel like a pariah, perhaps feeling some need to apologize for his or her intrusion.

With this level of usage in mind, my first thought was, “What can MCI possibly be thinking about?” I later learned that MCI has been thinking a lot. This coach reflected four years of development. Imagine the investment. Why would a conventional company in a traditional market spend its time and money on this? With its Buy-America monopoly with federally-funded transit agencies, why would a company which already owned most of the commuter/express market make such a decision?

During an extended discussion with MCI representatives at the following day's trade show, I learned that the MCI D45 CRT LE was actually designed specifically for the commuter/express sector of the market. I also learned that all those wheelchair users I never saw aboard a motorcoach were not bedridden or phantoms. They were whom the transit folk used to refer to as “latent demand.” In effect, the difficulty and time-consuming act of boarding and alighting, the infrequency of usage (even while the securement area was covered with fully-usable fold-down seats), and what I will coin as the “pariah effect” likely suppressed what was otherwise a viable market.

Despite almost four decades dealing with disabled public transportation services, I had barely given this a thought. Fortunately for these individuals, and for the industry as a whole, plenty of folks at MCI had apparently given these issues a great deal of thought. That they did something breathtaking as a consequence is what makes this story so appealing, and MCI's contribution to the industry so significant.

I was also reminded that the elderly population – already 60 percent of most motorcoach passengers (although these figures are heavily affected by ridership on charter and tour services) – in this coun-

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try is exploding. Clearly the percentage of disabled individuals increases significantly as they age. I did not need any prodding to also grasp that the distribution of wealth in the U.S. is making the bulk of our population poorer and poorer. I did not require reminding to recognize that disabled individuals are among the poorest of these poor, not to mention the least able to travel, much less independently. As a forensic expert, many of the 90+ wheelchair tipover cases I have served on have involved Medicaid-funded trips. Whether slyly market-driven or philanthropically – likely a mix of the two, among other factors – the creation and development of the D45 CRT LE actually made a lot of sense.

## Equivalency and Superiority

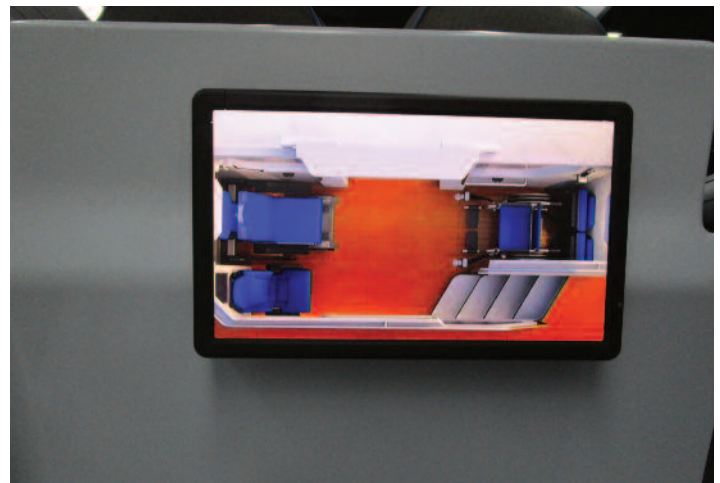
In Part 2 of this short series of installments, I will describe the configuration and features of this wildly-innovative creature in considerable detail. For introductory purpose, the wheelchair entry did not even involve a lift. Passengers were loaded via a ramp. (Truthfully, this vehicle should have been named the CRT RE.) Not just any ramp: A ramp with a gentle slope of 1:6

(whereas the ADA requires a much steeper slope of only 1:4). Plus the ramp was stowed below the vehicle's floor. Instead of riding at the floor level with the rest of the non-wheelchair-using passengers, the vehicle's wheelchair users would ride on a platform not much higher than the front step – with an odd, polygonal stepwell up to the regular floor level for companions and other ambulatory riders. Even more interesting, this section of the coach accommodated not the usual two wheelchairs, but five of them.

Even more fascinating were the variations of convertibility. The compartment could be configured to carry only two wheelchairs (rear-facing), while the forward-facing section designed to accommodate three additional chairs could convert to a luxurious seat, and the other end, configured to accommodate two additional, regular seated passengers. It could be configured to carry no wheelchairs and three ambulatory passengers. In other words, with no wheelchairs on board at all, this chameleon of a coach would, at worse, lose two of its 54 seats. This loss does not factor in something not initially obvious: It provides an enormous envelope

of opportunities for using this huge space for additional and /or other purposes – opportunities that may be on MCI's drawing board, or perhaps just in the minds of its engineers. (Many, including some important ones, are in mine).

For some people, some things are never enough. One member of the Access Committee commented that this coach's wheelchair users would not get to ride with the rest of the passengers. This obscure notion (with some faint leakage into the spirit of the ADA weaker than the similar limits of complementary paratransit or special education service) had little merit in my mind. Far more important to me was the fact that, riding so much lower in the coach than the other passengers, the wheelchair users in this compartment received a far smoother ride. The lower the center-of-gravity, the lesser the lateral sway. While the ADA's institutional objective of "separate but equal" appears to have been violated, it was not genuinely violated. At least in terms of ride quality, the service received by this vehicle's wheelchair users was "separate but better."



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Frankly, no one conceived of such a concept during the creation of the ADA. Yet MCI managed to create it. Otherwise, so much about this vehicle was new, it was hard to even grasp it in one sitting, despite the one-on-one orientation I was given by a senior MCI engineer during the trade show. The handful of photos surrounding this text barely scratches the surface. One must spend some time inside this module to grasp not only its extraordinary ingenuity, but a conceptual use of space, mechanics, movement and convertibility I had never before seen in any public transportation vehicle in my entire career. Yet from the outside, the coach was almost indistinguishable from any other coach on the landscape.

As NATIONAL BUS TRADER readers of my last 19 years of monthly installments well know, I rarely name names. Both my distaste or appreciation for one vehicle over another has been deliberately muted. That suppression must be disregarded in a discussion of the extraordinary shift in thinking that this particular model represents.

### Shattering Tradition

Were I a betting man, the last place I would have looked for innovation would

have been MCI. A traditional backbone OEM, MCIs were known and valued mostly by their legendary durability. With a couple of engine changes, and top-notch maintenance, one could squeeze a couple million miles out of one of these workhorses. Stylistically, I considered some of their extraneous features – the rock-climbing-oriented handrails, the J4500's spiral stepwell and trapezoidal step treads (which the D45 CRT LE also has) almost frivolous. In contrast, the D45 CRT LE represents an explosion of new thought, the solution to a capacity issue that had previously stumped the industry (solvable only with a coach that would seem to take forever to load a wheelchair user onto), a breakthrough in the ability to capture a huge and growing, untapped market, and a vehicle capable of blasting away the last frontier of travel inequality for a deserving portion of our population whose travel by motorcoach had thus far been marginalized by a profound lack of innovation, if not an almost total absence of interest.

Most impressive to me – a veteran of European bus design decades ago – the most impressive aspect of the D45 CRT LE is not even its accomplishments. What I saw in the prototype was only a starting

point. The potential for using this huge space capable of carrying five wheelchair users in enormous comfort was so stunning that it interfered with my appreciation for what has already been accomplished. The vast size of this compartment (albeit an avoidable tradeoff for some luggage capacity) lends itself to a parade of other usages that seem almost endless.

I have no intention of volunteering design improvements and visions of further adaptability to this OEM or any other. Facing what has already been accomplished, such a notion may even seem pompous. One way or another, I do not think we have seen the full potential of what MCI has unleashed into our sector of the industry. In the next installment, I will try my best to merely define the features of this inaugural unveiling. □

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## From the December 2017 issue of **National Bus Trader**

*Serving the bus industry since 1977*



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