I. Introduction

In conjunction with its Portland-Milwaukie and Columbia River Crossing light rail projects, TriMet submits this request for a determination of equivalent facilitation pursuant to 49 CFR 37.7. This determination would allow TriMet to utilize an alternate method of compliance related to light rail vehicle bridge plate requirements under 49 CFR 38.83(c)(4). 49 CFR 38.83(c)(4) states that “each side of the ramp or bridge plate shall have barriers at least 2 inches high to prevent mobility aid wheels from slipping off.” For the reasons set out below, TriMet requests a finding that low floor light rail vehicles which are equipped with a bridge plate to provide level boarding but do not include side barriers are equivalent and “will provide substantially equivalent or greater access to and usability of the vehicle,” as required by 49 CFR 38.2.

II. Entity Information

A. Requesting Party - Tri-County Metropolitan Transportation District of Oregon (TriMet)

B. Address – 710 NE Holladay Street, Portland, OR 97232

C. Contact Person – Claudia Steinberg

D. Contact Phone Number – (503) 962-2154

III. Specific Provision of Part 38 Concerning Which TriMet Is Seeking a Determination of Equivalent Facilitation

A. 49 CFR 38.83(C)(4)

IV. Alternate Method of Compliance

A. Background and Prior Determination of Equivalent Facilitation
TriMet’s light rail system opened for revenue service in 1986. At that time, TriMet procured 26 first-generation light rail vehicles (LRVs) with an interior floor height of 40 inches above top of rail. Four steps must be negotiated to enter these cars. Accessibility for wheeled mobility devices was provided via wayside lifts.

Since then, TriMet has continually expanded its light rail system. In 1997, the first low floor vehicles in the United States entered revenue service on TriMet’s light rail system. These LRVs provided level boarding on all trains using bridge plates designed and constructed without side barriers. TriMet requested and the FTA made a determination of equivalent facilitation for this design in 1994, finding that, because TriMet’s LRVs will provide a full door-width ramp, “a ramp edge is not necessary because the increased width of the ramp reduces the danger of a user accidentally stepping or rolling off the edge of the ramp. Furthermore, only the first 30 cm (12 inches) of the ramp is unconstrained and would require an edge barrier.”

TriMet’s present system includes 55 miles of track with four intersecting lines; all 84 stations have platforms built at a height of 10 inches above top of rail. TriMet operates 127 light rail cars. The 26 first-generation cars are operated only when coupled to an accessible low floor car. The remaining 101 cars (80% of TriMet’s fleet) have an interior floor height of only 14 inches above top of rail. These low floor cars require no steps for boarding and are fully accessible via a bridge plate without side barriers.

Service experience with TriMet’s existing bridge plates demonstrates that the proposed design, which is the same general design TriMet has been utilizing since 1997, provides more than adequate protection to “prevent mobility aid wheels from slipping off.” In fact, in thirteen years of operation, with approximately 5 million bridge plate cycles and 600,000 mobility device boardings, TriMet has received no reports of a mobility device wheel slipping off the side of the bridge plate.

B. New Light Rail Projects

The Portland-Milwaukie Light Rail (PMLR) project will add a 7.3 mile extension to the existing system. The project includes the procurement of
approximately 18 new LRVs. The project received its Record of Decision in December 2010, and will enter Final Design in Spring 2011.

The Columbia River Crossing (CRC) project will add a 2.9 mile extension to the light rail system, and includes the procurement of approximately 19 new LRVs. The project is presently in the Preliminary Engineering phase.

New LRVs procured for either project will operate on the existing system as well as on the new extensions. Any of TriMet’s existing LRVs will also operate on the new lines.

For full system compatibility, platforms on the PMLR and CRC extensions will be built at the TriMet standard height of 10 inches above top of rail. New LRVs will be of the low floor type, similar to the majority of TriMet’s existing cars. They will be approximately 95 feet long and have four sets of doors per side, eight total. Like the existing cars, the four center doors will be equipped with bridge plates. Bridge plates will be the same general design as those used on TriMet’s existing cars and are proposed to have no side barriers.

C. Design Detail

The new cars will be fully compliant with 49 CFR subpart D, except that bridge plates will not have side barriers required by 38.83(c)(4).

Vehicle floor height will be 12 to 14 inch above top of rail, depending on passenger load and wheel wear. The vertical gap between the light rail platform and the LRV floor will be two to four inches. Bridge plate slope will be 1:6 or less, at 50% passenger load, in compliance with 49 CFR 38.83(c)(5).

To minimize the horizontal extension of the bridge plate, a portion of the car floor will be hinged. When the bridge plate is fully deployed, the extended portion and the hinged portion will form a continuous slope, approximately 23 inches in length. The pictures from TriMet’s existing Type 3 vehicles presented here illustrate this concept. As noted above, the bridge plate for the new PMLR and CRC vehicles will be of similar design and dimensions.
Clear door opening will be approximately 48 inches and the bridge plate width will span the full clear door opening. When deployed, the bridge plate extends approximately 8 - 9 inches onto the platform. The greatest possible drop-off to the platform at the side of the bridge plate is less than 2 inches.

Important dimensions are summarized below
49 CFR 38.83(c)(2) requires that bridge plates have a minimum width of 30 inches. Both the existing and the proposed TriMet bridge plates are substantially wider than the required minimum. By making the bridge plate the full width of the clear door opening and by limiting the horizontal extension onto the platform, the risk of a mobility device wheel slipping off the side is substantially reduced.

The difference between TriMet’s existing and proposed design without side barriers and a bridge plate with side barriers is illustrated below.
As illustrated above and below, TriMet believes that side barriers would provide an additional tripping hazard for boarding or de-boarding passengers. Pedestrians tend to move to the left or right when boarding or de-boarding, particularly when a person in a mobility device is waiting to use the bridge plate.
Side barriers are required by the regulations specifically to prevent mobility aid wheels from slipping off. As mentioned above, TriMet’s experience with its existing bridge plate design demonstrates that because of its other features, TriMet’s bridge plates provide excellent protection against mobility device wheels slipping off the bridge plate. The fact that TriMet has received no reports of a mobility device wheel slipping off the side of the bridge plate in thirteen years of operation, with approximately 5 million bridge plate cycles and 600,000 mobility device boardings, confirms the safety of this design.

D. Conclusion

Bridge plates without side barriers have a long and successful history on TriMet’s light rail system. TriMet requests a determination of equivalent facilitation in order to continue its proven practice and procure light rail vehicles without bridge plate side barriers. As discussed above, TriMet believes that its proposed design will provide substantially equivalent or greater access to and usability of the vehicle than the bridge plate requirements of 49 CFR 38.83(c)(4) for the following reasons:

- The vertical height difference between the side of the extended bridge plate and the platform is less than two inches at the highest point.

- The drop-off potential is further reduced because the bridge plate spans the full width of the doorway

- Bridge plates with side barriers would create a tripping hazard when the bridge plates are extended

- Side barriers would present an additional barrier for people using mobility devices.

- Vertical side barriers would increase the mechanical complexity of the bridge plate, reducing its reliability and availability.
- TriMet has 13 years of successful experience of the proposed design with no reported incidents of mobility aid wheels slipping off a bridge plate.

Therefore, TriMet requests a determination of equivalent facilitation for the proposed alternate method of compliance not including side barriers.

V. Public Participation

A. Contact Individuals with Disabilities and Groups Representing Them in the Community.

TriMet’s Committee on Accessible Transportation (CAT) advises the TriMet Board of Directors and TriMet staff on issues related to TriMet’s transportation plans, policies and programs for persons with disabilities, as well as the elderly. The CAT is comprised of 15 members of the community, including eight members at large who are persons with disabilities or senior citizens who use or are familiar with TriMet’s public transportation services; six members representing persons with disabilities and senior citizens who typically have direct affiliations with agencies and organizations providing service or advocacy; and one member of the TriMet Board of Directors.

TriMet consulted with the CAT regarding TriMet’s proposal to request a determination of equivalent facilitation for the proposed bridge plate design, and this request was discussed at the CAT Work Session meeting on January 4, 2011. Public notice of this meeting was provided by mail to approximately 200 individuals and organizations serving people with disabilities and senior citizens.

At the January 4 CAT Work Session, the committee passed a recommendation that TriMet proceed with the request for a determination of equivalent facilitation and that the CAT would give their executive committee the authority to make such a recommendation to the TriMet Board of Directors and staff as appropriate.

C-TRAN provides bus service in the Vancouver and Clark County, Washington area, and is a partner with TriMet on the Columbia River
Crossing Project. C-TRAN’s Citizen Advisory Committee (CCAC) are volunteer members that act as a liaison between the community and the C-TRAN Board of Directors and staff. The CCAC meets monthly to advise the C-TRAN Board and C-TRAN staff members on transit and paratransit policies, programs, plans, and other related issues. Members represent a broad spectrum of C-TRAN riders and stakeholders, including persons with disabilities and senior citizens. On January 4, members of the CCAC were advised of TriMet’s request for a determination of equivalent facilitation. Members received information about the request as well as notification of the January 19 presentation and public hearing.

B. Make this Request Available for Public Comment Before the Request Is Made Final or Transmitted To DOT.

TriMet posted the draft Request on its website on January 14, 2011, and provided email notification to approximately 4,500 individuals who were registered to receive updates on the Portland-Milwaukie Light Rail Project and those registered to receive updates regarding accessibility issues. This email also noted that the draft Request was available in a hardcopy version upon request.

At its January 19, 2011 CAT Business meeting, the committee will further review and discuss the draft Request for Finding of Equivalent Facilitation – Bridge Plate Side Barriers. Public notice of this meeting was provided by mail to approximately 200 individuals and organizations serving people with disabilities and senior citizens.

At the January 27 CCAC meeting, TriMet’s Systems Engineering Manager will make a presentation on the bridge plates and will discuss the draft Request for Finding of Equivalent Facilitation – Bridge Plate Side Barriers.

The CRC project posted the draft Request on its website on January 14, 2011, as well as the January 19 hearing notice and notice of the January 27 CCAC meeting.

C. Sponsor at Least One Public Hearing on the Request and Provide Adequate Notice of the Hearing
In addition to the CAT and CACC meetings, TriMet will hold a public hearing on January 19, 2011 to take comment on the draft Request. Public notice for the hearing was provided using the following methods: 1) a mailing to approximately 355 individuals and organizations which provide services to people with disabilities and senior citizens; 2) publication on TriMet’s website; 3) publication in the The Oregonian, Asian Reporter, Skanner, El Hispanic News and Columbian newspapers, and 4) a direct email contact to approximately 4,500 individuals and organizations who registered to receive email updates from TriMet related to the PMLR and CRC projects and accessibility issues.

The public notice for the hearing also indicated that the document was available in alternate formats upon request and that written comment would also be accepted. Hard copies of the document were provided at the hearing. The hearing was attended by approximately ____ individuals, and public comment was received.

On January 21, 2011 TriMet will consult with the Portland to Milwaukie Light Rail Citizen’s Advisory (CAC). Public notice of this meeting was sent by email to approximately 50 people. The meeting was also posted on the PMLR project website. The CAC is charged with advising and providing input to PMLR project staff and jurisdictional partners during Preliminary and Final Engineering phase of the light rail project. The committee consists of 24 members representing neighborhoods, businesses and people with disabilities living along the alignment.