
Subject: Re: Station borders

Posted by [Thomas Nygreen](#) on Wed, 04 Mar 2020 15:37:39 GMT

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Dear Thomas,
Dear Christian,

Christian is correct that all three are already possible, although I interpreted (3) as something else than the currently available topology aggregation, and more like <propEquipment> in railML2. I fully agree that we need to limit the number of ways to model the same infrastructure.

To me, topology and functional infrastructure are separate. An <operationalPoint> of type "stoppingPoint" does not change the topology, and therefore it is not natural to me that it should have its own <netElement>. We could require it, but it would have to be through a semantic constraint, and that constraint would have to be worded to cope with differing station border definitions, including networks that do not have them.

Trouble with 2 and 3: As Dirk has pointed out a couple of times, station borders may be direction-dependent.[1][2]

What is the purpose of defining station borders in the railML infrastructure? How will the information be used? Maybe the candidates serve different, (mainly) disjunct purposes?

One possibility is to narrow down the use of each of the existing possibilities, to try to make them fully disjunct, e.g.:

(1) Borders mark a point in the infrastructure that is relevant for operations, and should be used where needed by operational rules but not to model the station area.

Pros: Allows direction-dependent borders. Avoids graph traversal to determine station area. A missing border does not affect station area.

(2) AreaLocation should be used to define the station area.

Pros: Builds upon topology but does not need to be 1:1. Defined directly as a child of <operationalPoint> (as opposed to multiple borders). <operationalPoint>s inside another <operationalPoint> clearly defined.

Question: Should SpotLocation also be accepted, when there is no need to define an area? Should we rule out LinearLocation for <operationalPoint>?

(3) NetElements model the underlying topology and should not be used to model station areas (or other areas).

Pros: Purpose separated from AreaLocation. Does not require multiple meso aggregation levels for <operationalPoint>s inside another <operationalPoint> or splitting <netElement>s at stopping points.

[1] https://www.railml.org/forum/index.php?t=msg&th=482&goto=1476#msg_1476

[2] https://www.railml.org/forum/index.php?t=msg&goto=1990#msg_1990

Best regards,

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