
Subject: Modelling transition bends

Posted by [Christian Rahmig](#) on Mon, 01 Sep 2014 09:46:40 GMT

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Dear railML users,

with the ticket #251 (cf. [1]) we re-opened the topic of modelling transition bends, which was already "discussed" here in the forum some years ago (cp. [2]).

Within railML 3 we want to define a solid solution for this problem since transition bends cannot be modelled with the existing infrastructure schema 2.2.

Therefore: If you have any comments on the usage of transitions bends in your applications and data models, feel free to post them here in order not to forget about them and add them to the ticket.

[1] <http://trac.railml.org/ticket/251>

[2] <http://www.railml.org/forum/ro/index.php?group=1&id=37>

Best regards

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Christian Rahmig
railML.infrastructure coordinator

Subject: Re: Modelling transition bends

Posted by [Christian Rahmig](#) on Mon, 01 Dec 2014 21:11:14 GMT

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Dear everyone,

Am 01.09.2014 11:46, schrieb Christian Rahmig:

> Dear railML users,

>

> with the ticket #251 (cf. [1]) we re-opened the topic of modelling

> transition bends, which was already "discussed" here in the forum some

> years ago (cp. [2]).

>

> [...]

at the last railML.org conference in Paris on 07.10.2014, I presented a solution for the transition curve problem, which is applicable to railML 2.2 (see [1]).

In particular, there are two possible approaches based on <radiusChange>

element (see [2]):

(1) add further description of the radiusChange using the description attribute. Thus, the type of the curve can be described. If not empty, possible values can be:

- * UA_cubicParabola
- * UA_parabola4
- * UA_clothoide
- * UA_WienerBogen
- * UA_BlossBogen
- * UA_Sinusoide
- * UA_Cosinusoide
- * UA_other
- * UE, which marks the end of the transition curve.

(2) model the length of a transition curve between two other elements using a new optional parameter named transitionLength:

- * transitionLength = 0 is a direct connection between straight lines and circular arcs
- * transitionLength > 0 is a connection with a transition bend of a certain length

Alternatively to (1), it could be also possible to put the name of the transition curve element in a new optional parameter geometryElementName, which would specify the linear track geometry element starting at the marked point (radiusChange).

Any comments appreciated...

[1]

http://documents.railml.org/events/slides/2014-10-08_rahmig-railmltransitionbends.pdf

[2] <https://trac.railml.org/ticket/251>

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Christian Rahmig
railML.infrastructure coordinator

Subject: Re: Modelling transition bends

Posted by [Christian Rahmig](#) on Wed, 03 Dec 2014 07:59:44 GMT

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Dear everyone,

Am 01.12.2014 22:11, schrieb Christian Rahmig:

> [...]

>
> at the last railML.org conference in Paris on 07.10.2014, I presented a
> solution for the transition curve problem, which is applicable to railML
> 2.2 (see [1]).
>
> In particular, there are two possible approaches based on <radiusChange>
> element (see [2]):
>
> (1) add further description of the radiusChange using the description
> attribute. Thus, the type of the curve can be described. If not empty,
> possible values can be:
>
> * UA_cubicParabola
> * UA_parabola4
> * UA_clothoide
> * UA_WienerBogen
> * UA_BlossBogen
> * UA_Sinusoid
> * UA_Cosinusoid
> * UA_other
> * UE, which marks the end of the transition curve.
>
> [...]

> [1]
> http://documents.railml.org/events/slides/2014-10-08_rahmig-railmltransitionbends.pdf
>
> [2] <https://trac.railml.org/ticket/251>

Instead of the abbreviations 'UA' and 'UE' that are derived from the German terms "Übergangsbogenanfang" and "Übergangsbogenende", it is suggested to use the English driven abbreviations 'TS' (Tangent - Spiral) and 'SC' (Spiral - Curve).

<http://docs.autodesk.com/CIVIL/2010/ENU/AutoCAD%20Civil%202010%20User%20Documentation/index.html?url=WSfacf1429558a55de6812d1041fa83470-7288.htm,topicNumber=d0e117613>

Best regards

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Christian Rahmig
railML.infrastructure coordinator

Subject: Re: Modelling transition bends

Dear railML IS users,

Am 03.12.2014 08:59, schrieb Christian Rahmig:

```
> [...]
>>
>> (1) add further description of the radiusChange using the description
>> attribute. Thus, the type of the curve can be described. If not empty,
>> possible values can be:
>>
>> * UA_cubicParabola
>> * UA_parabola4
>> * UA_clothoide
>> * UA_WienerBogen
>> * UA_BlossBogen
>> * UA_Sinusoide
>> * UA_Cosinusoide
>> * UA_other
>> * UE, which marks the end of the transition curve.
>>
>> [...]
>
> Instead of the abbreviations 'UA' and 'UE' that are derived from the
> German terms "Übergangsbogenanfang" and "Übergangsbogenende", it is
> suggested to use the English driven abbreviations 'TS' (Tangent -
> Spiral) and 'SC' (Spiral - Curve).
>
> [...]
>
```

here comes the proposed solution for the transition curve problem:

A new attribute named "geometryElementDescription" has been added to the element <radiusChange>. It is an enumeration parameter, which provides the following entries that enable a more detailed description of transition curves:

- * TS_cubicParabola
- * TS_parabola4
- * TS_clothoide
- * TS_WienerBogen
- * TS_BlossBogen
- * TS_Sinusoide
- * TS_Cosinusoide
- * SC
- * (any other)

As already mentioned, the abbreviations TS (Tangent - Spiral) and SC

(Spiral - Curve) describe the points at the beginning and at the end of the transition curve.

The modifications have been implemented for railML 2.3 with SVN revision 616. For more details, see the Trac ticket [1].

[1] <http://trac.railml.org/ticket/251>

Best regards

--

Christian Rahmig
railML.infrastructure coordinator
