## Subject: How to model transitions bends in railML 2.0?
Posted by Christian Rahmig on Mon, 31 Jan 2011 19:34:08 GMT
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Hello everybody,

my name is Christian Rahmig and I am currently working on a
railML2.0-based representation of a geometrical map of a railway
network, where I am facing a problem regarding transition bends.

A transition bend is the connecting geometric component between a
straight line (with infinite radius) and circular arc (with constant
radius > 0) and two circular arcs with different radii respectively. It
is characterised by a (usually linear) change of the track's curvature
and superelevation over the distance (cf. further information
http://en.wikipedia.org/wiki/Track_transition_curve)

The radiusChange element, which is usually used for geometric modelling
of the track, is not able to transport all the information defining a
transition bend. Since there are different options to handle this
problem - with and without modifying the infrastructure scheme - I want
to ask everybody in this forum first:

1. Who else deals with the task of modelling transition bends in railML 2.0?
2. If any, what different approaches for transition bend modelling have
been developed so far?

Any comments would be appreciated.

Kind regards
Christian Rahmig

## Subject: Re: How to model transitions bends in railML 2.0?
Posted by Joachim Rubröder railML   on Mon, 07 Feb 2011 10:43:06 GMT
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Hello Christian,

Christian Rahmig wrote:

> and I am currently working on a
> railML2.0-based representation of a geometrical map of a railway
> network, where I am facing a problem regarding transition bends.

Nice. Who wants to use this map? Does it point to some phase of
construction plans?

> The radiusChange element, which is usually used for geometric modelling
> of the track, is not able to transport all the information defining a
> transition bend. Since there are different options to handle this
> problem - with and without modifying the infrastructure scheme - I want
> to ask everybody in this forum first:
>
> 1. Who else deals with the task of modelling transition bends in railML 2.0?

I must admit, there is currently no possibility to fully define the
cant/superelevation profile in railML. There aren't any transition bends
in railML (despite of the fixed superelevation in arcs).

> 2. If any, what different approaches for transition bend modelling have
> been developed so far?

You can mix railML with LandXML elements. LandXML offers all types of
transition bends, like clothoids, BLOSS and others.

I append a quick and dirty hack, that doesn't fully meat the LandXML
requirements, it lacks the definition of units of measurement at the start
of the file. :-(

You have to correct the XSD pathes in lines 7 and 9 to get it validated.

```xml
<?xml version="1.0" encoding="UTF-8"?>
<rail:railml
  xmlns:rail="http://www.railml.org/schemas/2009"
  xmlns:land="http://www.landxml.org/schema/LandXML-1.2"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.railml.org/schemas/2009
  ../schema/railML.xsd
  http://www.landxml.org/schema/LandXML-1.2
  ../LandXML/LandXML-1.2.xsd ">
  <rail:infrastructure id="i1">
   <rail:tracks>
    <rail:track id="t1">
     <rail:trackTopology>
       <rail:trackBegin pos="0" id="tb1">
         <rail:openEnd id="oe1"/>
       </rail:trackBegin>
       <rail:trackEnd pos="2000" id="te1">
         <rail:openEnd id="oe2"/>
       </rail:trackEnd>
     </rail:trackTopology>
     <land:CantStation station="1234.56" appliedCant="10"
       transitionType="clothoid" curvature="cw"/>
    </rail:track>
   </rail:tracks>
```

```
  </rail:infrastructure>
</rail:railml>
```

Please, let us know, if this approach fulfils your requirements.

Which other approaches did you find out?

Any comments are appreciated.

Kind regards...
Susanne

PS: Couldn't we listen to your project at the next meeting in Innsbruck?
I'm very interested in your work and hope my idea helps out.

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Susanne Wunsch
Schema Coordinator: railML.common

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----== posted via PHP Headliner ==----