

Hi,

"Susanne Wunsch" <coord@common.railml.org> schrieb im Newsbeitrag
news:bb2ty3ztd6e.fsf@remi.heep.sax.de...

> Hi,

>

> The current thread evolves to some really fundamental discussion about
> future infrastructure (track layout) definitions in railML.

>

> Anybody who already uses railML infrastructure or plans to implement
> it, please feel personally invited for taking part in this
> discussion. Any questions, comments, opinions are highly appreciated.

>

It seems to be a dialque and not a discussion. :/

> "Carsten Weber" <weber@irfp.de> writes:

>> "Susanne Wunsch" <coord@common.railml.org> schrieb im Newsbeitrag
>> news:bb28vlg7rym.fsf@remi.heep.sax.de...

>>> Hi Carsten, and all who are interested,

>>>

>>> "Carsten Weber" <weber@irfp.de> writes:

>>>> "Susanne Wunsch" <coord@common.railml.org> schrieb im Newsbeitrag
>>>> news:bb2ty4a74xn.fsf@remi.heep.sax.de...

>>>> > "Carsten Weber" <weber@irfp.de> writes:

>>>>

>>>> If your track may be operated in both directions - yes. I try to put a
>>>> small example here, hope it helps.

>>>>

>>>> <speedChange pos="10" dir="up" vMax="40"/>
>>>> <speedChange pos="10" dir="down" vMax="60"/>
>>>> <speedChange pos="200" dir="both" vMax="80"/>

>>>>

>>>> pos	10		200	
>>>> track dir	----- >			
>>>> vMax ->	40->		80->	
>>>> vMax <-	<-?		<-60	<-80

>>>>

>>>> The <speedChange> information defines the maximum speed aspect for the
>>>> next track section, means up to the next <speedChange> element in the
>>>> track definition direction. A <speedChange> for both directions means,
>>>> that the speed aspect at the next track section is the same for both
>>>> train running directions. It is not meant to be the same speed aspect
>>>> from this point in both directions - that is really misleading!

>>>>

>> So it becomes tricky to use this structure.

>

> Yes. That may be current practice.

>

> Nevertheless I asked some current railML IS user for their current practice and opinion about the above issue. Most of them appreciated a clearer structure without the possibility to define speed aspects for both directions changing at a certain "point". That's really too much confusing.

>

> If nobody disagrees with good reasons I would file a Track ticket for "deprecating" the "both" enumeration value from the "dir" attribute in all "*Change" elements.

>

> New or already used practice is to define separate elements for each running direction. The above example would be:

>

> <speedChange pos="10" dir="up" vMax="40"/>

> <speedChange pos="200" dir="up" vMax="80"/>

> <speedChange pos="2xx" dir="down" vMax="80"/>

> <speedChange pos="200" dir="down" vMax="60"/>

>

> That means that the semantic for the same XML content changes. That is a very hard cut that can't be recognized by any parser!

>

It is a question of your position. Do I have to combine two speed restrictions which are shown at the same position to different directions into one element? I do not think so. So I can keep both of them in two elements and do not do any mistake in RailML-usage. So for me the cut looks not so heavy.

[...]

>>> If you have a speed restriction along a bridge, you may define different <speedChange> elements in each direction referring to the same speed profile with different speed aspects. The <speedChange> elements already need the direction attribute. Why do we need to duplicate it?

>>>

>>

>> Because of more clearance.

>> In my sight a speedChange should be a child of a speedProfile.

>> <speedProfile direction="up" ...>

>> <speedChange position="0" speed="60" .../>

>> <speedChange position="5" speed="120" .../>

>> <speedChange position="123" speed="100" .../>

>> <.../>

>> </speedProfile>

>>

>> So you can see: the speedChanges if you run the track in one direction in
>> a
>> line.
>> But this structure requires a break in downward compatibility which is
>> not
>> leagl at the moment.

>
> The compatibility break is only one side effect of the above mentioned
> example. Another aspect is that speed profiles are much more general
> definitions than the detailed speed changes along the tracks.

>
> You may define some speed profiles for different axle weights that are
> referenced at multiple tracks. If you would define these speed profiles
> at each track you get heavy redundancies and may "lose track of the big
> picture".

>
> What's the difference between these two approaches from the timetable
> point of view?

>
> Let's define a train (part sequence) that goes along three tracks
> deploying two speed profiles.

>
> (pos) 0 150 345 468 768 1035
> track t1-> t2-> t3->
> vMax sp1 80-> 80-> 80->
> vMax sp2 40-> 40-> 40-> end

>
> That means the train (part sequence) deploying both speed profiles is
> restricted to the following speed profile:

>
> (pos) 0 150 345 468 768 1035
> vMax 80->40-> 40-> 40-> 80->

>
> Now let's have a look at your approach (how I understood):

>
> <track id="t1">
> <trackTopology>...(pos=0..345)
> <trackElements>
> <speedProfile id="sp1" description="Default" dir="up"
> influence="increasing">
> <speedChange id="sc1" pos="0" vMax="80"/>
> </speedProfile>
> <speedProfile id="sp2" description="temporary restriction" dir="up"
> influence="reducing">
> <speedChange id="sc2" pos="150" vMax="40"/>
> </speedProfile>
> </trackElements>
> </track>

```

> <track id="t2">
>   <trackTopology>...(pos=0..123)
>   <trackElements>
>     <speedProfile id="sp3" description="Default" dir="up"
>       influence="increasing">
>       <speedChange id="sc3" pos="0" vMax="80"/>
>     </speedProfile>
>     <speedProfile id="sp4" description="temporary restriction" dir="up"
>       influence="reducing">
>       <speedChange id="sc4" pos="0" vMax="40"/>
>     </speedProfile>
>   </trackElements>
> </track>
> <track id="t3">
>   <trackTopology>...(pos="0..567)
>   <trackElements>
>     <speedProfile id="sp5" description="Default" dir="up"
>       influence="increasing">
>       <speedChange id="sc5" pos="0" vMax="80"/>
>     </speedProfile>
>     <speedProfile id="sp6" description="temporary restriction" dir="up"
>       influence="reducing">
>       <speedChange id="sc6" pos="0" vMax="40"/>
>       <speedChange id="sc7" pos="300" vMax="end"/>
>     </speedProfile>
>   </trackElements>
> </track>
>
> Reference from within the timetable:
>
> <trainPartSequence>
>   <trainPartRef ref="tp1"/>
>   <trainPartRef ref="tp2"/>
>   <trainPartRef ref="tp3"/>
>   <speedProfileRef ref="sp1"/>
>   <speedProfileRef ref="sp2"/>
>   <speedProfileRef ref="sp3"/>
>   <speedProfileRef ref="sp4"/>
>   <speedProfileRef ref="sp5"/>
>   <speedProfileRef ref="sp6"/>
> </trainPartSequence>
>
> <trainPart id="tp1">
>   ...
>   <sectionTT>
>     <trackRef ref="t1" dir="up"/>
>     ...
> </trainPart id="tp2">

```

```

> ...
> <sectionTT>
>   <trackRef ref="t2" dir="up"/>
> ...
> <trainPart id="tp3">
> ...
>   <sectionTT>
>     <trackRef ref="t3" dir="up"/>
>
> Now let's have a look at my approach:
>
> <speedProfile id="sp1" description="Default" influence="increasing"/>
> <speedProfile id="sp2" description="temporary restriction"
>           influence="reducing"/>
> ...
> <track id="t1">
>   <trackTopology>...(pos=0..345)
>   <trackElements>
>     <speedChange id="sc1" pos="0" dir="up" profileRef="sp1" vMax="80"/>
>     <speedChange id="sc2" pos="150" dir="up" profileRef="sp2" vMax="40"/>
>   </trackElements>
> </track>
> <track id="t2">
>   <trackTopology>...(pos=0..123)
>   <trackElements>
>     <speedChange id="sc3" pos="0" dir="up" profileRef="sp1" vMax="80"/>
>     <speedChange id="sc4" pos="0" dir="up" profileRef="sp2" vMax="40"/>
>   </trackElements>
> </track>
> <track id="t3">
>   <trackTopology>...(pos="0..567)
>   <trackElements>
>     <speedChange id="sc5" pos="0" dir="up" profileRef="sp1" vMax="80"/>
>     <speedChange id="sc6" pos="0" dir="up" profileRef="sp2" vMax="40"/>
>     <speedChange id="sc7" pos="300" dir="up" profileRef="sp2"
> vMax="end"/>
>   </trackElements>
> </track>
>
> Suppose the following reference from within the timetable.
>
> <trainPartSequence>
>   <trainPartRef ref="tp1"/>
>   <trainPartRef ref="tp2"/>
>   <trainPartRef ref="tp3"/>
>   <speedProfileRef ref="sp1"/>
>   <speedProfileRef ref="sp2"/>
> </trainPartSequence>

```

>
> The <trainPart>... definitions are the same as in your approach.

>
Ok. Now I understand. Your approach looks quite heavy. So the exclusion of common information is quite good if you have a lot of information the exclude but I think this does not appear in this situation.

[...]

>>>
>> Yes. So you would have to define 3 different speed profiles. A speed
>> profile
>> without any data to tilting or a tilting angle of "0", a second one with

>
> If that definition satisfies all needs of railML users - let's do it this
> way. Prior to fixing this issue to your clarification I would like to
> ask for some Swiss, Austrian... experiences with tilting speed profiles.
>
Ok. Let me know the answer(s).

```
>>>> >> <xs:element name="tiltingSpeed" minOccurs="0" maxOccurs="1">  
>>>> >> <xs:annotation>  
>>>> >> <xs:documentation>Tilting parameters for which this speed  
>>>> >> profile  
>>>> >> is  
>>>> >> calculated.</xs:documentation>  
>>>> >> </xs:annotation>  
>>>> >> </xs:element>
```

```
>>>> >  
>>>> > The terminus "speed" may be a bit misleading. I suppose, that is not  
>>>> > related to the "train speed" but to the "rate/speed of tilting", that  
>>>> > means the value of tilting degrees per second. I would call this  
>>>> > attribute "rate". Are there any other ideas?
```

```
>>>> >  
>>>> > This attribute may be bound to the railML type  
>>>> > "tSpeedDegreesPerSecond".
```

```
>>>> >  
>>>> > There is another kind of information related to the tilting that comes  
>>>> > to my mind: the method of tilting. It could go into an attribute  
>>>> > "method" that is bound to an enumeration of "active", "passive",  
>>>> > "rollCompensation", "unknown", "other:anything".
```

```
>>>> >  
>>>> > I know this. But is it really important here? Do I need to know which
```

>>>> way
>>>> the vehicle tilts?
>>>
>>> I thought that it is another type of speed restriction. If you go with
>>> "roll compensation" you may increase your speed, if you support "active
>>> tilting", you have to switch the system off and go with default speed
>>> aspect. This may be a Swiss use case, I mean.
>>>

>> something like that) and you may have a second one for higher tilting

>> only run the "slow" profile. The way you reach the tilting angle is not
>> really important. It is more a question of the tilting speed but it is
>> also
>> not important there.
>
> Are there any different speed profiles for the same tilting angle
> depending on the tilting method?
>
I do not think so. But maybe anybody else has an opposite example.

>>>> By the way: We need to define an "endOfSpeedList". So for example if
>>>> you
>>>> have to run slow with a train e.g. above a bridge the allowed speed
>>>> goes
>>>> back to track speed after you left the bridge. So you need an option to
>>>> say:
>>>> the speed profile ends here. Other speed profiles are now in progress.
>>>> So
>>>> you can use speed profiles along the whole train run but they have one
>>>> one
>>>> speed limitation at a short bridge or something like this.
>>>
>>> No, that use case is covered by allowing multiple speed profiles that
>>> overlap each other. The software export has to ensure that there are
>>> valid speed definitions for all sections of the track.
>>>
>> This maybe a misunderstanding.
>> For example the bridge with there speed limit. So you define a
>> speedProfile
>> for a high axleLoad or something like this and say at the beginning of
>> the
>> bridge: maxSpeed="60". So what do you write at the end of the bridge
>> where
>> the speed raises up to a minimum of all the other speedProfiles?
>
> +1
>

> I really missed this issue. We need some "end of speed restriction"
> indication. That may be defined as additional fixed string allowed for
> the "vMax" attribute, e.g.
>
> <speedChange id="sc7" pos="300" dir="up" profileRef="sp2" vMax="end"/>
>
Yes, something like this.
So it can be mixed up with another speed information.

When will the preview be available?

Best regards.
