

# *Science history*



Even if you already have heard this story, I will give you proof that the modern aspects of our life are conditioned by the past



When we look at a space vector we identify the two side auxiliary tanks





They are made in Utah by Thiokol.

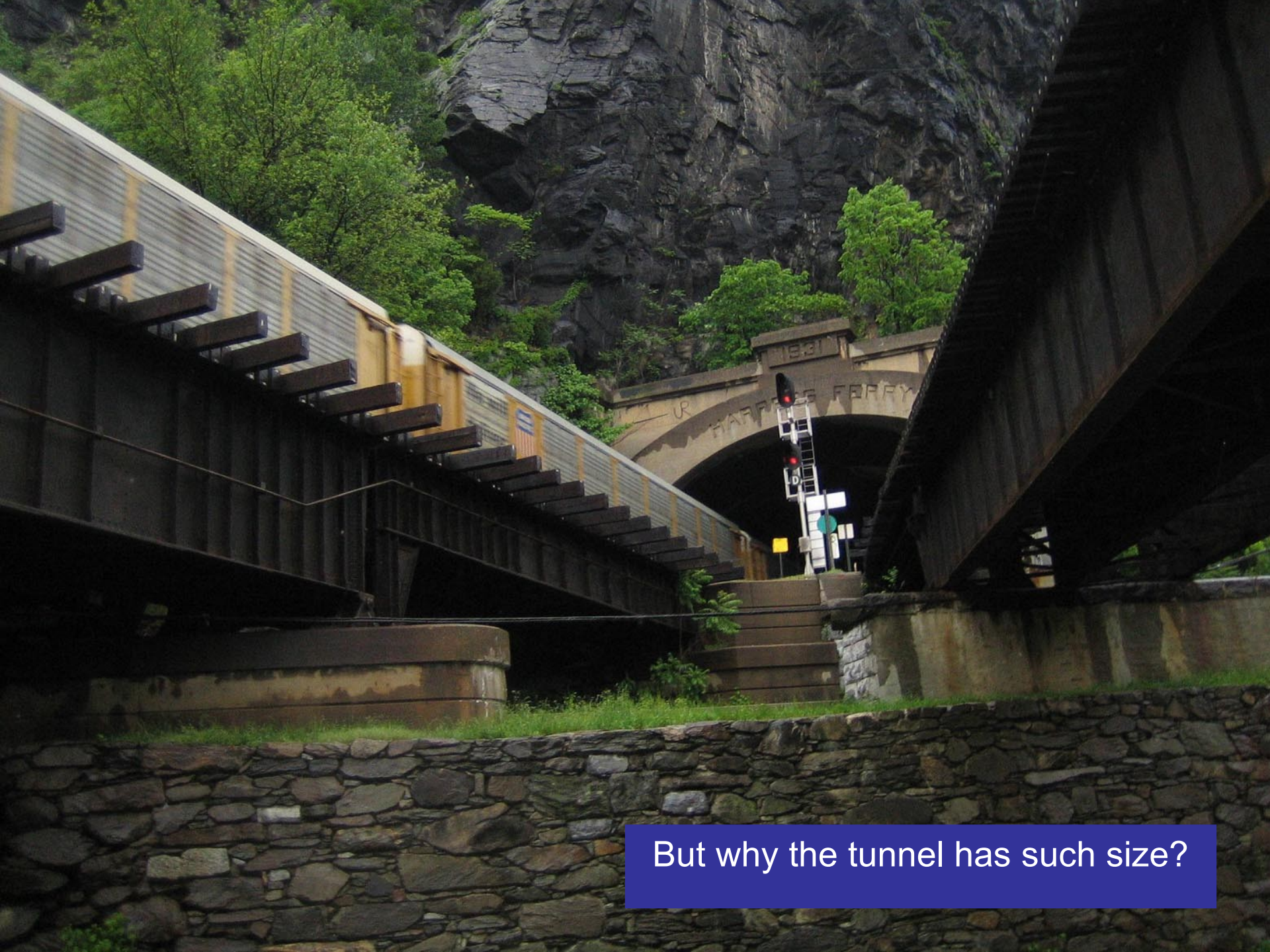
The engineers wanted them bigger but they had to be transported by train till the launch base





The railway line between the factory and Cape Canaveral is crossing the Rocky Mountains with a tunnel that doesn't allow bigger tanks



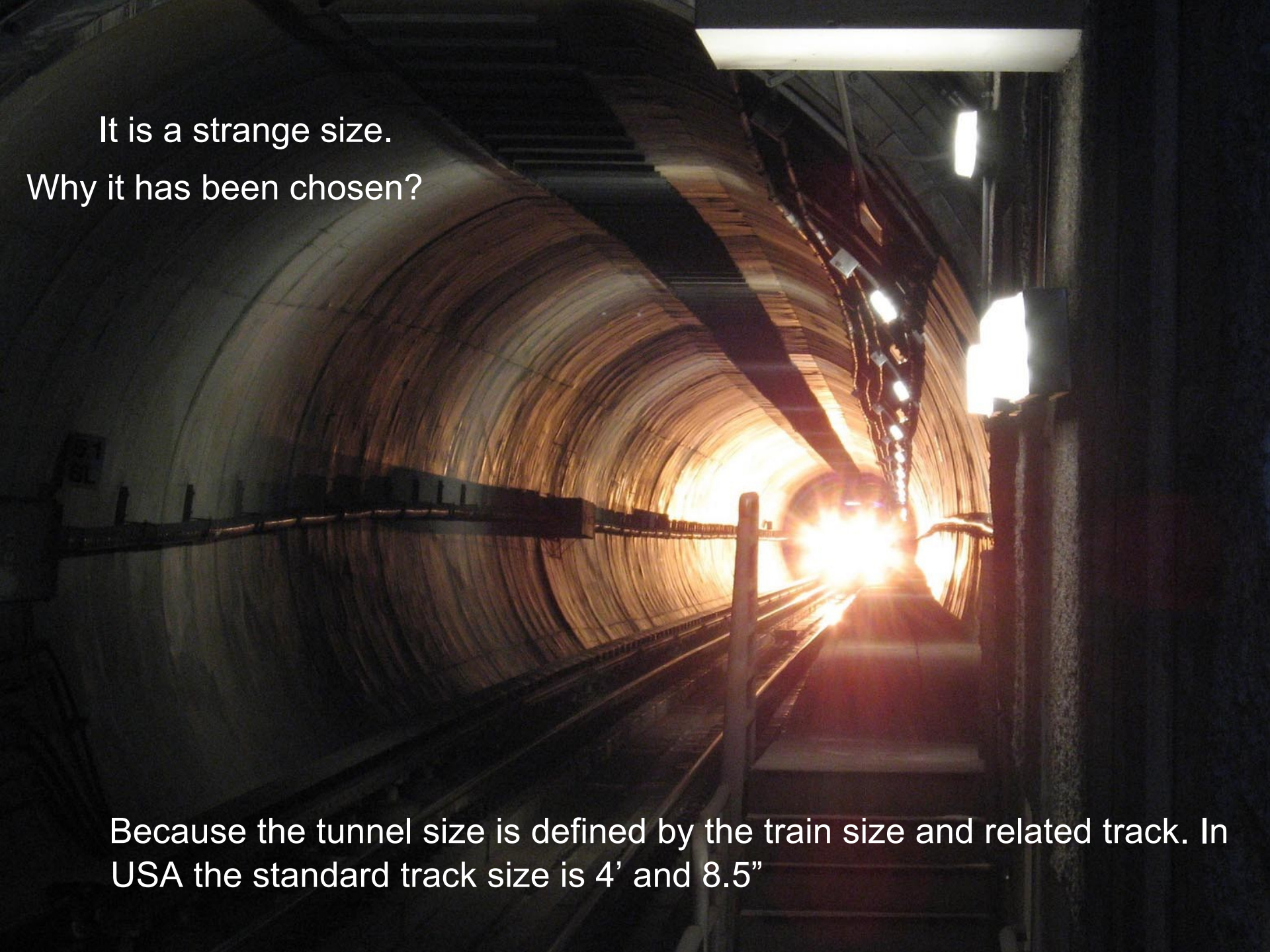


But why the tunnel has such size?

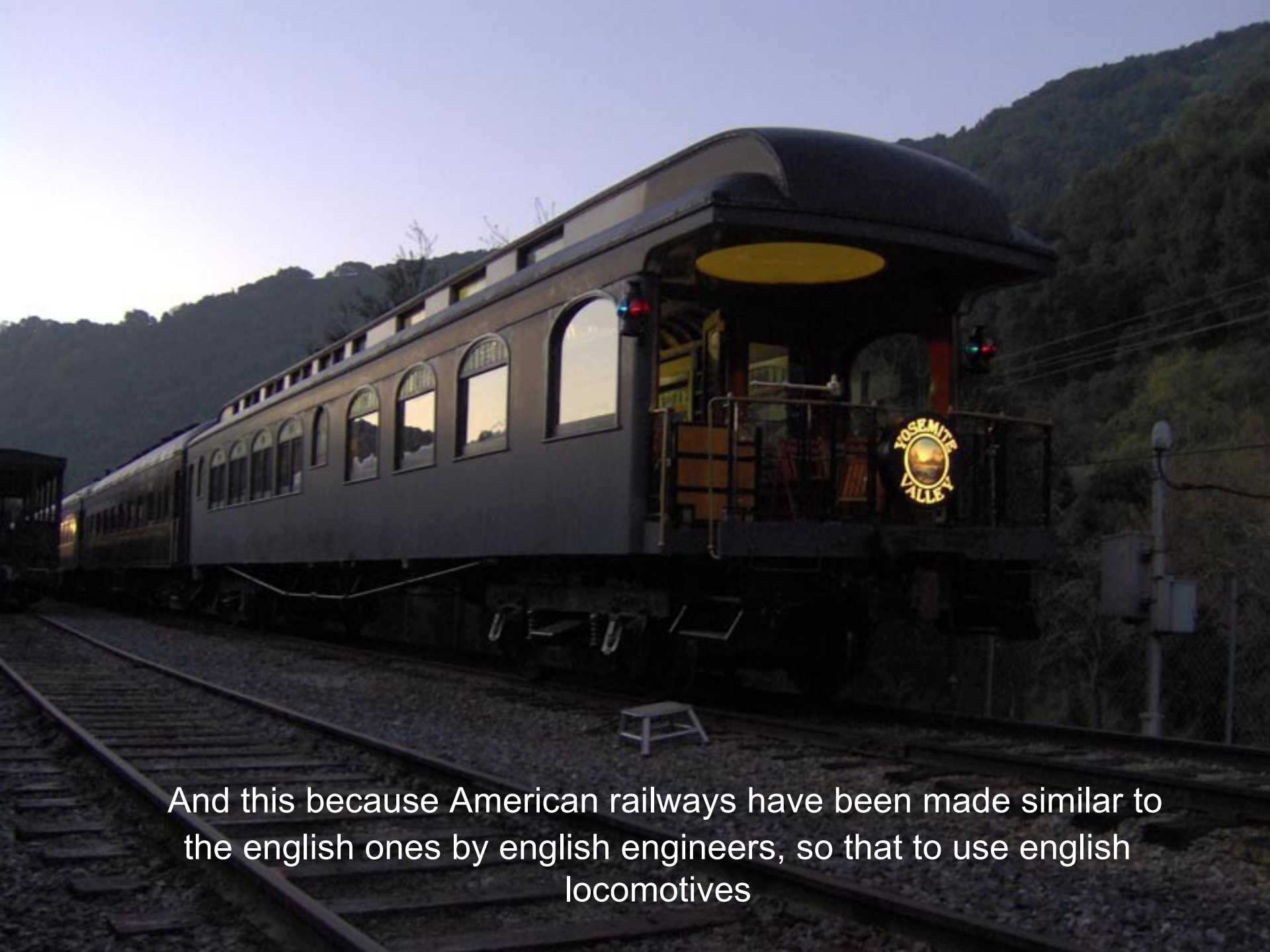


It is a strange size.  
Why it has been chosen?

Because the tunnel size is defined by the train size and related track. In USA the standard track size is 4' and 8.5"







And this because American railways have been made similar to the english ones by english engineers, so that to use english locomotives



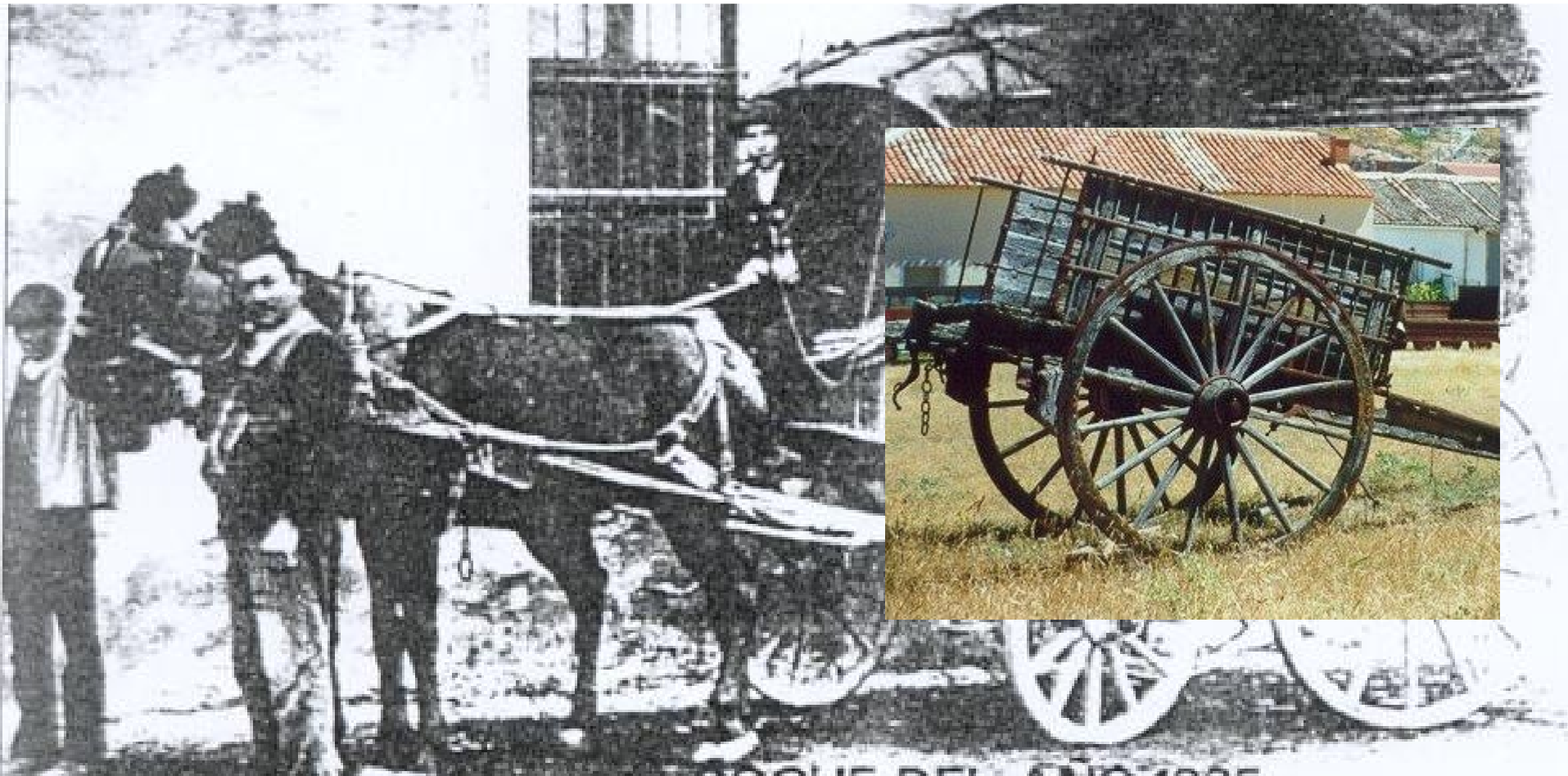
Well, but why the english made them in such a way?





Because the first railway lines were designed by the same engineers who built the tramways, with the same sizes

# Why such dimensions?



Because the tramway builders were the same that previously were manufacturing the horse carts, using same methods and same work equipmen



So why horse carts had these standards?

Because in Europe the wheel ruts were already existing and any other size could have damaged the cart axles.

Well, but why the ruts had this spacing?

Because the roads were built by ancient Romans to ease the legions displacement

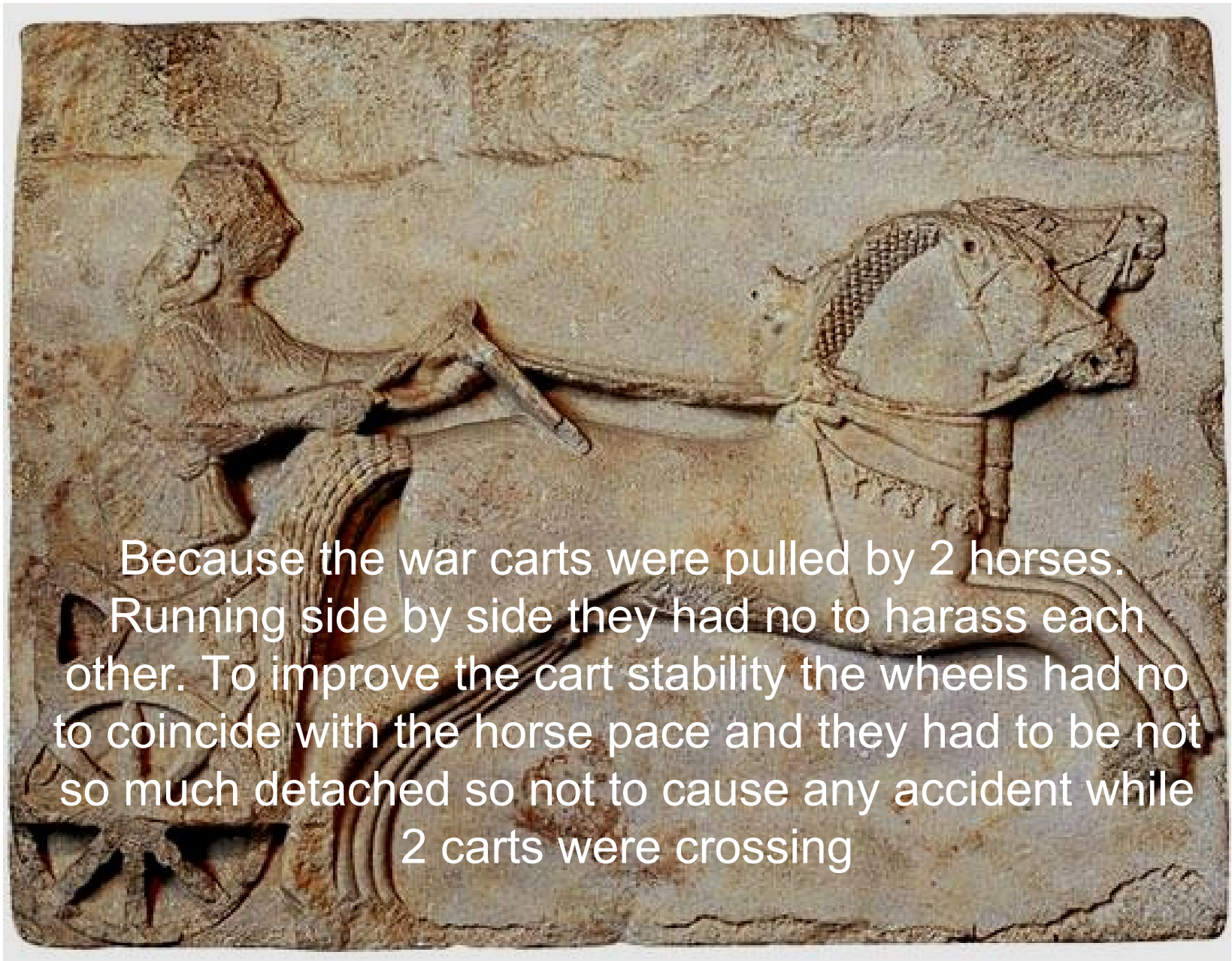






... but why the Romans adopted such a size ?





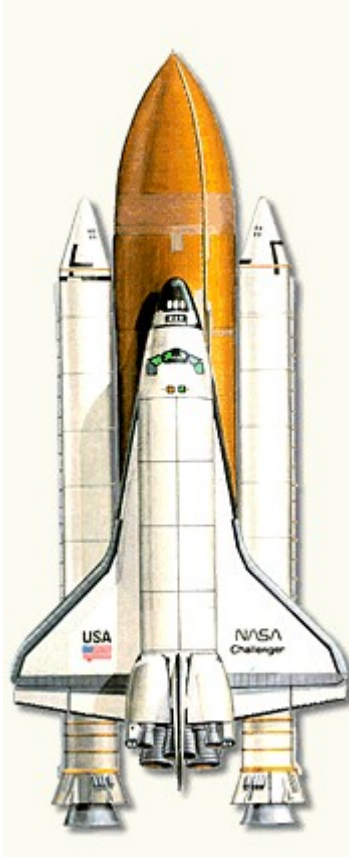
Because the war carts were pulled by 2 horses. Running side by side they had no to harass each other. To improve the cart stability the wheels had no to coincide with the horse pace and they had to be not so much detached so not to cause any accident while 2 carts were crossing



So, we found the answer to our first question : the C/L distance of USA railway track is so determined because 2200 years ago the Romans war carts were manufactured accord to the size of the horse ass



# First conclusion



A restriction in the design of a space vector, one of a most sophisticated transport means of the world, is determined by the size of the horse ass.

The background of the slide is a technical drawing or blueprint. It features a large, circular, metallic-looking component in the center, possibly a valve or a part of a machine. The drawing includes various lines, curves, and a grid pattern, typical of engineering schematics. The overall color scheme is light beige or cream, with the technical lines in dark grey or black.

## **Second conclusion**

Next time we find tech specs and we ask if they are made “with ass”, the answer is “yes”.

**As many other th**