Visualising Trip Durations by Rail   
throughout Europe and France with Tempograpic Maps

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Abstract

**Trip durations are not proportional to the distances one can read on a map. As a result, the visualisation of temporal relationships between objects on a map could be invaluable, for e.g. a tourist wanting to visit another city without travelling too long. We hereby propose some designs suggestions for a soon to be created online project we call “The Tempographic Europe”. We conceive two different tempographic maps, of France and Europe respectively, in which distances between main cities can be distorted to make visible the train trip durations between them. The design shall provide the user with information about the cities he is interested in as well. This kind of work has, to our best knowledge, never be done on a dynamic set, nor on a full European map.**

**Keywords**: Tempographic maps, time-space maps, DataViz, rail network.

**Index Terms**: K.6.1 [Management of Computing and Information Systems]: Project and People Management—Life Cycle; K.7.m [The Computing Profession]: Miscellaneous—Ethics

# Introduction

Since the first so-called “bullet train” in 1964 in Japan, high-speed trains spread throughout the world and deeply changed the conception we have of space. Destinations that were virtually inaccessible previously stands now reachable in a couple of hours. The world, and within it Europe, is said to be “shrinking” as trip durations shorten. But it is common knowledge that trip times are not always, if not never, proportional to the distance travelled. This is due to an uneven rail network in term of speed and frequency, and to various geographical constraints (e.g. a lake to circumvent). As a result, one can observe that it is hard with common static maps to really evaluate how fast a city can be accessed from another one. A map where the time component of train trips is visualised could thus be invaluable. A use case could be: a Canadian globe-trotter wants to establish for one year in a major European capital city, and search for a place from which many other important cities could be accessible easily.

# RELATED WORKS

The concept of visualising time on a two-dimensional map is quite old, but most work that can be found deals with the representation of event that occurs through time, instead of the representation of time relationships between objects with a geometric position.

Ex :

High speed train -> deformer statiquement l’espace

Rapprocher les villes (a été fait France

Citer l’article, quelques travaux précédents…

Idée d’interpolation…

## Subsection One

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1. A tempographic map in XYZ.

## Subsection Two

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# DESIGN SUGGESTION

## Subsection One

## Subsection Two

# Conclusion

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