Pro and Cons of Marey’s Graph

Pros:

1. Conceptually and effectively convey different aspects of schedules.
2. Transportation experts use it (found in Marvel).

Cons:

1. Not effective for the analysis of real service data (real timeliness).
2. Transportation experts use it (found in Marvel).
3. Courser challenge is interactive access.
4. These large data sets also lack scalability — too many lines used in NYC. Visually dense, thus hiding the structure of underlying patterns.

Methods/ TR-EX

TR-EX is a visual analytics system for detection, inspection and comparison of space-temporal patterns in transportation services. TR-EX may be used in a variety of contexts, such as...
speed

An Overview of TR-EX Interface

comments/critiques

1. In order to build the real-service dataset, we need to use real-time data provided by the transportation systems. Once, we capture control signals and train movement can fail.
2. It is good to validate design decisions by interviewing with a transportation expert and doing case studies.
3. It's useful to limit if a map view is incorporated into TR-EX system.
4. A number of features could be added that step by step see the most delays.
5. A web-based approach is quite difficult to get consistent UI interaction and design for different browsers.
6. As stated in the interview with a transportation expert KDE might be confusing to its target users.
7. Computing and displaying the differences directly instead of looking at two different visualizations present side by side is easier. (A) shows the differences between planned and actual wait times can be much better.
8. TR-EX can be applied to other areas like buses and trains.

Reliability

CV = \frac{\text{standard deviation}}{\text{mean actual wait time}}

Reliability visualization of weekdays trips for subway line 1 toward Van Cortlandt Park 242nd Street. Region B confirms the hypothesis that stations with low demand are more reliable, and region C shows that peak hours cause considerable perturbations in wait time due to higher frequency of vehicles.

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