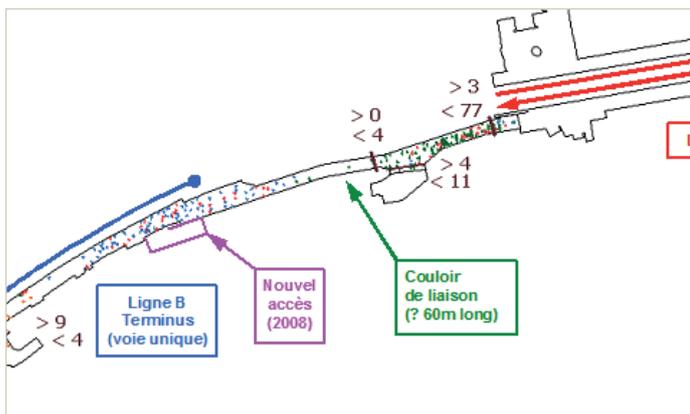


# Metro Underground Station. Safety Simulation in Lyon, France.

Lyon's underground station at Charpennes (Charles Hernu square) is served by 2 lines: line A (La Soie Perrache) and line B (terminus at Gerland Stadium). Passengers transfer between the two lines using a connecting underground passageway. The simultaneous arrival of trains can generate important passenger densities in this passageway.

Egis Rail has presented to Lyon's transport authority (SYTRAL) the results of dynamic simulations of passenger flows inside Charpennes station, between lines A and B, using this passageway. The simulations were undertaken using SimWalk software. The objective of the study has been to analyze the impacts of these alterations and the projected flows on the movement of passengers in Charpennes station, particularly their comfort and security.



The results indicated that the new access would improve overall passenger exchanges in the underground corridor, but only in the short term and in unequal manner: 1) Temporarily for the eastern part of the corridor, 2) More perennial for the western part of the corridor.

By 2013, this improvement will have reached a limit. Regulating some of the passenger flows on line A could bring the corridor back to the present situation.

However, implementing this pedestrian management will be complicated and only provide temporary relief. The increase in passenger flows will begin to create some congestion effects in the eastern part of the corridor, reducing the efficiency of the connection. This will require further measures.

Present thinking is currently orientated towards widening the corridor or providing a second passageway

## Summary

Egis Rail, France, conducted a pedestrian simulation study in Lyon for a passageway at Charpennes metro station. The study revealed that the access would improve passenger exchanges only in the short term and reach soon its limits. Widening the corridor or providing a second passageway were two possible solutions.



adapted to the future passenger volumes. The search for practical solutions will not be easy, because of the proximity of supporting structures.

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