INTRODUCTION
Engineers have sought to analyze pedestrian movement at transit stations for over half a century. The deterministic models developed in the mid-twentieth century eventually led to standards and codes to guide transit station design. As modern computing allowed for more complex computations, stochastic microsimulation models were developed that allowed for more detailed analysis and visualization of pedestrian movement.

AIM
To determine how standards and codes, deterministic analysis, and microsimulation interact in the practice of planning for pedestrian flows at transit stations.

• Do standards and codes complement or supplant analysis?
• Does microsimulation complement or supplant deterministic analysis?

METHODS
Expert interviews: We conducted in-depth, semi-structured interviews with 15 experts in transit station design, including architects, engineers, and transit planners. Experts included consultants as well as agency staff, and many had worked in both contexts.

Operator survey: We identified recurring themes in transit station planning for pedestrians, and prepared an online survey to be completed by planners, designers, engineers, or managers of 16 transit agencies in the United States and Canada that have below-grade rail transit stations.

RESULTS
Experts indicated that published standards often obviated the need for detailed analysis, since standards incorporate conservative assumptions, resulting in a generous safety factor. However, survey results indicate that when standards and codes are used, designers are actually more likely to apply microsimulation analysis, either together with deterministic analysis or alone. They are more likely to use deterministic analysis alone when standards and codes are not applied.

Experts also indicated that deterministic analysis is generally adequate for most design tasks. They also expressed concern about the danger of becoming too reliant on sophisticated “black box” microsimulation models. Operators reported being as likely or more likely to use microsimulation than deterministic analysis for most design tasks. They are also as likely to use both together as either alone.

CONCLUSIONS
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