# Modelling Safe Routes to School Framework

Mohammad Lutfur Rahman, Antoni Moore, Melody Smith, John Lieswyn, Sandra Mandic

# 

|  |
| --- |
| Active transport to or from school presents an opportunity for adolescents to engage in daily physical activity. Multiple factors influence whether adolescents actively travel to/from school. Creating safe walking and cycling routes to school is a promising strategy to increase rates of active transport. This article presents a comprehensive conceptual framework for modelling safe walking and cycling routes to high schools. The framework has been developed based on several existing relevant frameworks including a) ecological models; b) the Five Es framework of transport planning; and c) a travel mode choice framework for school travel. Those three frameworks were chosen as together they integrate: a) individual, social, environment, and policy factors that correlate with active transport to/from school in adolescents (ecological models), b) engineering, education, enforcement, encouragement and evaluation components used to design safe routes to school interventions to promote active transport to/from school among children (Five Es framework), and c) urban form and mediating and moderating factors widely used to explore children’s school travel behaviour (Travel Mode Choice framework). The proposed framework identifies built environment features (land use mix, pedestrian/cycling infrastructure, neighbourhood aesthetics, and accessibility to local facilities) and traffic safety factors (traffic volume and speed, safe road crossings, and quality of path surface) to be considered when modelling safe walking/cycling routes to high schools. Future research should test this framework using real-world data, in different geographical settings and with a combination of tools for assessment of both macro-scale and micro-scale built environment features. |