

An environmental scan of child pedestrian injury hotspots in Cluj-Napoca, Romania

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Conclusions

- The study can contribute to the development of targeted prevention program in the area by indicating child pedestrian high incidence locations and associated risk factors.
- More research should be conducted on the effectiveness of modifying the built environment to reduce child pedestrian injuries.

Background

- Many traffic injuries result from the interaction of modifiable environmental factors (design of intersections, presence of crosswalks, parking facilities, traffic signs or road attractions).
- GIS is a useful method in representing clusters of road crashes and detecting areas with high levels of risk and severity of road traffic injuries.

Objective

- To identify high incidence locations (hotspots) for child pedestrian injuries in Cluj-Napoca.
- To determine built environment related factors that may contribute to increased risk of child pedestrian injuries.

Methods: Identification of hotspots

Three-year Cluj-Napoca Police database (2011-2013) containing casualties of child pedestrian aged 0 to 19:

- preliminary analysis: circumstances of crash occurrence, victim involvement, demographics and medical condition,
- temporal analysis: identify peak hours,
- mapping crash locations using ArcGIS 9.1
 - geocoding crashes using GPS Garmin eTrex 10

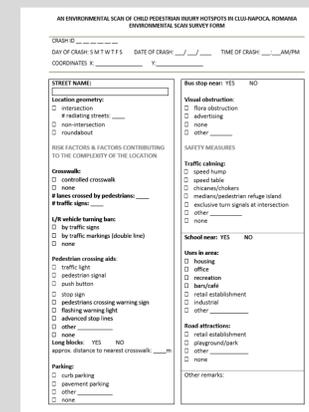


Methods: Environmental scan

- The surveys at each hotspot location were conducted by a team of two researchers.
- The hotspot scan was conducted between 10 am and 3 pm, to avoid the high traffic volume and associated congestion

Data collection instrument:

- risk factors
- protective factors
- factors contributing to the complexity of the hotspot locations



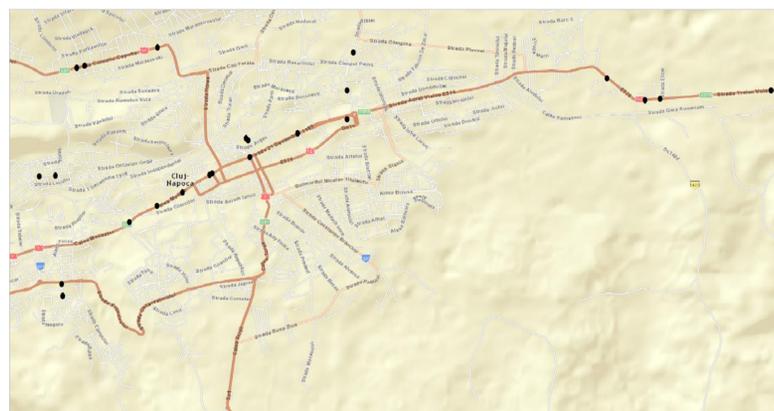
Results

Child pedestrian injuries in Cluj-Napoca, Romania 2011-2013

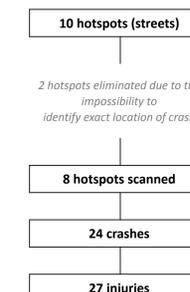
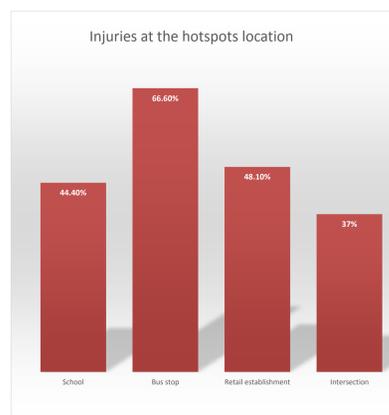
Total	N (%)
Sex	96 (32.3%)
Male	48 (50%)
Female	48 (50%)
Age	
Preschool (0-5 years)	13 (13.5%)
Children (6-12 years)	43 (44.8%)
Adolescents (13-19 years)	40 (41.6%)
Guilt	
Not guilty	39 (40.6%)
Main culprit	56 (58.3%)
Second culprit	1 (1.04%)
Medical condition	
Slightly injured	67 (69.8%)
Severely injured	29 (30.2%)

Age category	Peak hours	N (%) of total no. of child pedestrians
Preschool (0-5 years)	3:00 pm – 8:00 pm	9 (69.2%)
Children (6-12 years)	12:00 pm – 3:00 pm	27 (62.8%)
Adolescents (13-19 years)	12:00 pm – 3:00 pm	22 (55%)

Child pedestrian hotspots



Environmental scan



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