Authors and title	Location	Sample size and period	Factors	Models and techniques
Bus routes with and without bus priority				
Goh et al. (2014). Bus accident analysis of routes with/without bus priority	Melbourne, Australia	1099 incidents along 99 bus service routes. 2009 to 2011	Services per week, AADT, route section length, stop density, bus priority	Mixed-effects Negative Binomial regression and Back-propagation Neural Network
Public transport buses without special infrastructure				
Feng et al. (2016). Risk factors affecting fatal bus accident severity: Their impact on different types of bus drivers	USA	Buses Involved in Fatal Accidents database (BIFA). 2006 to 2010	Season, day of the week, time, number of vehicles involved, land use, collision manner, speed limit, driver's age and gender, risky behaviors, restraint system. Factors influence the "young and elder drivers with history of traffic violations": section type, number of lanes per direction, roadway profile, wet road surface, cyclist–bus crash	Ordered Logistic Model
Truong and Currie (2019). Macroscopic road safety impacts of public transport: A case study of Melbourne, Australia	Melbourne, Australia	88 road segments and 309 statistical areas. 2014 to 2018	Log of population, proportion of people aged 0-14, number of signalized intersections, number of public transport stops/stations, % of roads with a speed limit > 100 km/h, % of industrial area, land use mix - entropy measure, % of commuting by train (origin), % of commuting by tram (origin), % of commuting by bus (origin), % of commuting by walking (origin), % of commuting by motorbike (origin), % of commuting by train (destination), % of commuting by motorbike (destination)	Random Effect Negative Binomial, and Conditional Autoregressive
Song et al. (2021). Safety Evaluation of Transit Signal Priority with Bus Speed Volatility as a Surrogate Measure: Case Study in Minnesota	Minneapolis, Minnesota, USA	Minneapolis-Saint Paul Metro Transit Bus Route 5, 30 intersections. April-June periods of 2018 and 2019	One-way street, nearside bus stop No. of lanes (segment), left-turn lane, right-turn lane, bulb-out, road-side parking, right-side bike lane, curb cut (driveway)	Linear regression
Chen et al. (2022). A resampling approach to disaggregate analysis of bus-involved crashes using panel data with excessive zeros	Hong Kong	5632 (i.e., 88 road segments × 4 years ×16 h). 2014 to 2017	Evening peak, hourly traffic flow, average lane width, road length, bus stop density, % of bus in the traffic flow	Synthetic Minority Over-Sampling for panel data combined with the Random Under-sampling of the Majority Class, Cluster-Based Under-Sampling, and mixed resampling for data balancing performance and Random effect Poisson models based on synthetic data and random effect zero-inflated Poisson
BRT				
Duduta et al. (2012). Understanding Road Safety Impact of High-Performance Bus Rapid Transit and Busway Design Features	Nine cities	216, 183 and 164 observations, respectively. 3 to 7 years, depending on the city	In vehicle collision and pedestrian crashes: number of legs, number of lanes per leg, left turns per approach, counterflow bus lane, central median, curbside bus lane. In vehicle collision only: big box retail, major T junction, cross street is through street. In pedestrian crashes only: market area, maximum pedestrian crossing distance, poor lane alignment	Accident frequency modeling: comparison of means T-tests, a Negative Binomial Model, road safety inspections, and interviews
Bocarejo et al. (2012). Impact of Bus Rapid Transit Systems on Road Safety Lessons from Bogotá, Colombia	Bogotá, Colombia	Two BRT corridors. 1998 to 2008	Changes in land use, busiest stations	Geographic Information System techniques
Duduta et al. (2013). Using empirical Bayes to estimate the safety impact of transit improvements in Latin America	Guadalajara, Mexico	BRT network. 3 years	Intersection size, traffic volumes	Empirical Bayes

Goh et al. (2013). Road Safety Benefits from Bus Priority: An Empirical Study	Melbourne, Australia	Three years of before data and at least 1 year of after data were extracted for the analysis at 56 locations along the BRT routes. 4 consecutive years minimum	Pedestrian road-crossing distance, traffic signal priority measures	Empirical Bayes (before-after) and Negative Binomial
Tse, Hung and Sumalee (2014). Bus lane safety implications: A case study in Hong Kong	Hong Kong	Seven bus lanes. 1989 to 2004	Bus exclusive lanes, physical barriers	Odds ratio technique based on accident count
Duduta et al. (2014). Traffic Safety on Bus Priority Systems	Bogotá, Colombia	BRT network. 2005 to 2011	Pedestrians jaywalking across the bus lanes, mix traffic left turn, conflicts between buses, pedestrian overcrowding on the median and on refuge islands	Road Safety Audit
Gómez and Bocarejo (2015). Accident prediction models for bus rapid transit systems: Generalized linear models compared with a neural network	Bogotá, Colombia	104 accidents that occurred over a one-year period in a regular BRT station. 2010	Bus flow (per minute), passenger entries, a.m. peak hour, population density (people per square kilometer), number of accesses, proximity to main road, to at-grade vehicular intersection, to institutional–recreational land use, to industrial land use, to residential land use, to zones with Socioeconomic Strata 5, to zones with Socioeconomic Strata 1	Poisson and Negative Binomial
Vergel-Tovar et al. (2018). The Political Economy of Road Safety: Case Study of Bogotá	Bogotá, Colombia	10 BRT corridors. 2007 to 2016	Pedestrian bridges, bicycle lanes on sidewalks reducing space for pedestrians, working pressure on BRT drivers, integration of BRT buses and mixed traffic	Generalized ordered logit model and geographical hotspot analysis
Rodríguez and Henao (2019). Safety performance functions in Dedicated Bus Lane of BRT on Caracas Avenue Corridor at Bogotá city	Bogotá, Colombia	BRT corridor (segments including stations; intersections). 2012 to 2017	At segments and intersections: AADT (BRT), AADT (mixed traffic), number of lanes, number routes that arrive at the station, bus station length, demand of passengers, number departures from the station, number of vehicular accesses at secondary roads, number of obstacles, number traffic lights, median width. At segments: length. At intersections: ADDT of the secondary road, Intersection type, number of approaches with exclusive left-turn lane, type of left-turn signal phasing, number lanes with exclusive right turn, number of approaches with right-turn-on-red operation prohibited, presence of schools within 300 m (1000 ft), number of alcohol sales establishments within 300 m (1000 ft)	Negative Binomial
Bulla-Cruz (2020) and Bulla-Cruz et al. (2023). Methodology for event-based traffic risk assessment of Bus Rapid Transit systems and its simulation. Microscopic traffic risk assessment at signalised intersections of a Bus Rapid Transit system	Bogotá, Colombia	Three BRT intersections. 61 h of video data during working days in October of 2018	Insufficient traffic light clearance-time, pedestrian distraction or disobedience to traffic lights, BRT turning vehicles that surprise disobedient pedestrians, land use, security perception, informal invasion of sidewalks and medians	Microscopic study, based on traffic conflicts and encounters
Izadi et al. (2020). Accident analysis of bus rapid transit system: Before and after construction	Rasht, Iran	BRT corridor. 2016 to 2018	BRT separator fence, intersections, collision with pedestrian	Friedman, Factor analysis, and Logit
Bia and Ferenchak (2022). Impact of Bus Rapid Transit Construction and Infrastructure on Traffic Safety: A Case Study from Albuquerque, New Mexico	Albuquerque, New Mexico, USA	11 segments of a BRT corridor. Before period of January 2014 until July 2016 (31months). During period of August 2016 until May 2018 (22 months).	Number of lanes per leg	Traffic and collision counts

		After period of June 2018 until November 2019 (18 months)		
Kitali et al. (2023). Safety Evaluation of the First Bus Rapid Transit System in Tanzania	Dar es Salaam, Tanzania	BRT network. 2016 to 2020	BRT buses colliding with motorcycles, business area	Accident hotspot analysis, text mining approach for key themes from crash narratives and Bayesian network
Ramezani-Khansari et al. (2024). Structural Modelling of Crashes in Signalized Intersections	Tehran, Iran	45 four-leg signalized intersections. 2017 to 2018	Number of BRT lines per intersection	Structural Equation Modelling
BHLS				
Goh et al. (2014). Experimental Microsimulation Modeling of Road Safety Impacts of Bus Priority	Melbourne, Australia	Typical corridor, allowing a comparative evaluation of three traffic configurations. Peak hour	Limited capacity, conflicts between buses and turning traffic, changing lane to overtake	Traffic simulation modeling approach using AIMSUN
Otero Niño et al. (2019). Road safety assessment in preferential bus lanes through field analysis and microsimulation of traffic conflicts	Bogotá, Colombia	Critical BHSL corridor, allowing three scenarios of operational changes. Hour with the highest number of traffic conflicts observed. 12 continuous hours of observation	Stopping time and stopping zones of private vehicles and taxis, bus lane change	Traffic conflict study using the Swedish Traffic Conflict Technique on video and simulation using VISSIM and SSAM
Barrier-separated central (bus overtaking invading the opposite direction), BRT, and BHLS				
Gitelman and Doveh (2023). A comparative evaluation of the safety performance of bus priority route configurations	Haifa, Israel	356 road sections, 519 intersections. Vehicle and bus traffic volumes per 14 h of day. 2010 to 2013	At road sections: type of area, number of lanes for general traffic. At intersections: accident type, type of bus priority route configuration (combined with a bus-overtaking), interaction of accident type and BPR configuration, vehicle traffic on minor roads, year, bus traffic level	Poisson regression and Negative Binomial