Risk factors for vehicular collisions include driver error and inattention, sleep deficit/drowsy driving, speeding, traffic law violations and substance use. Little research has explored the complex interplay among these risk factors and no research has explored conduct disorder as a potential risk factor for risky driving. Data from 328 patients (ages 18–44) from an urban emergency department and meeting criteria for problematic drinking and risky driving were used to test a theoretical model whereby sleep deficit and conduct disorder (before and after age 15) served as predictors of risky driving and problematic alcohol use. Constructs of problematic alcohol use, sleep deficit, conduct disorder, hostile driving, reckless driving, drinking and driving and marijuana use and driving were validated using confirmatory factor analytic methods (CFI =0.97, Tucker-Lewis Index (TLI)=0.98, root mean square error of approximation (RMSEA)=0.04). A structural equation model was tested where sleep deficit, conduct disorder both before and after age 15, current age, and sex predicted risky driving and problematic alcohol (CFI=0.90, TLI=0.93, RMSEA =0.06). Results suggested conduct disorder before age 15 predicted problematic drinking, and drinking and driving. Conduct disorder after age 15 predicted hostile driving, reckless driving and marijuana use while driving. Sleep deficit predicted problematic drinking, marijuana and driving, reckless driving and hostile driving. Younger males were more likely to be reckless and hostile drivers as well as smoke marijuana and drive. Prevention and intervention programs should focus on increasing positive sleep behaviour and early intervention for conduct disorder.