To:	Transport & Health Policy Makers, & Practitioners
From:	Prof Adrian Davis, TRI, Edinburgh Napier University
Date:	14th February 2022
Subject:	Essential Evidence 4 Scotland No.48 Sports Utility Vehicles – more dangerous for other road users

Top Line: Drivers of Sport Utility Vehicles are more likely to commit traffic law offences than those driving normal cars.

Involvement of sport utility vehicles (SUV) in crashes, especially with children, is of increasing importance. Studies have indicated more risky behaviour in SUV drivers. As predicted by physics, increased weight increases risk of death and fuel consumption. Previous research has shown that increased vehicle size reduces risk of death to occupants. Conversely, the increased risk to vehicle drivers of reduced vehicle weight is more than offset by the reduced risk to other road users.[1] Regarding SUVs and road safety, more risky traffic behaviour has been observed, maybe due to the elevated sitting position and greater sense of security these vehicles provide in urban driving.[2] On the other hand, it cannot be ruled out that individuals with a habit to take risks are more likely to drive a SUV.

Researchers conducted an observational study focusing on traffic violations, car type, and the gender of the driver in Vienna.[3] The study was conducted on five weekdays at the beginning of school term. Three busy intersections were selected. Altogether 48,821 vehicles were counted, of which 11.6% (*n* = 5653) were SUVs. This including 126 SUVs per hour. The percentage of female drivers among SUV drivers was 27% and close to the fraction of female drivers of other passenger vehicles (28%). For all drivers together, 13.8% were not wearing seatbelts, 3.1% were using a handheld mobile phone while driving, and 2.5% violated traffic lights. Traffic light violations were observed more frequently at the main arterial road site, while driving unbelted and using a mobile phone occurred less frequently at this site. All violations were significantly more frequent in SUV drivers. Male drivers were more likely to break traffic laws (16.1% driving unbelted, 3.1% using a mobile phone, 2.7% violating the traffic light) than female drivers (8.0% driving unbelted, 3.0% using a mobile phone, 1.9% violating the traffic light).

The comparison between SUVs and normal cars with respect to driver behaviour shows clearly that drivers of SUVs were more likely to commit traffic law offences. The "SUV effect" was highest for mobile phone use (for both women and men), followed by driving unbelted and violating traffic lights. The SUV effect in women was most pronounced for unbelted driving (in this case the effect was even stronger in women than in men). The results – level of noncompliance regarding driving unbelted, mobile phone use – were comparable with those from London. In this observational study, drivers of four wheel-drive vehicles were less likely to comply with the laws on using handheld mobile phones and on seat belts.[4]

1 Robertson, L. 2006 Blood and Oil: Vehicle Characteristics in Relation to Fatality Risk and Fuel Economy, *American Journal of Public Health*, 96(11): 1906-1909.

[2] Ulfarsson GF, Mannering F. 2004 Differences in male and female injury severities in sport-utility vehicle, minivan, pickup and passenger car accidents. *Accident Analysis and Prevention*, 36:135–47.

3 Wallner, P., Wanka, A., Hutter, H 2017 SUV driving "masculinizes" risk behaviour in females: a public health challenge, *Wiener klinische Wochenschrift,* 129, 625-629. Open Access.

[4] Walker, L., Williams, J., Jamrozik, K. 2006 Unsafe driving behaviour and four wheel drive vehicles: observational study. *British Medical Journal*, 333: 71–3.