

## **Analysis of Cross Border Drinking Behavior during the Summers, 1997 through 2000**

Mark Johnson

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Analysis was conducted on pedestrian and driver traffic returning from Tijuana through San Ysidro. Data was collected during the summer months (June, July and August) between 1997 and 2000 between midnight and 4 A.M. [no data was collected during July in 1997]. The sample consisted of 6276 participants (55.6% pedestrians; 74.0% male). The average age was 29.3.

All analyses were conducted using SUDAAN software [7.5.2]. This analysis procedure accounts for our complicated sampling design and allows us to generalize to summer days other than those on which we collected data.

The first analysis focused on estimated counts of DUI violations on Friday and Saturday nights. The estimated average number of DUI violations on Friday and Saturday nights during the summers of 1997 through 2000 are provided in **Figure 1**. Note that the estimated average for Fridays in 1997 are inaccurately low [due to sampling problems].

**Figure 2** details the percentage of returning border crossers with BACs at or above .08 who intend to drive after entering San Diego. There is no evidence that these percentages vary significantly over time, ( $p < .19$ ).

The next analysis focused on estimated average BACs of drivers and pedestrians over time. **Figure 3** reveals these trends. Data for pedestrians suggest that estimated average BACs has significantly decreased during the last two years [ $F(3,6) = 27.2, p < .01$ ]. This trend was statistically significant for drivers as well [ $F(1,6) = 7.1, p < .04$ ].

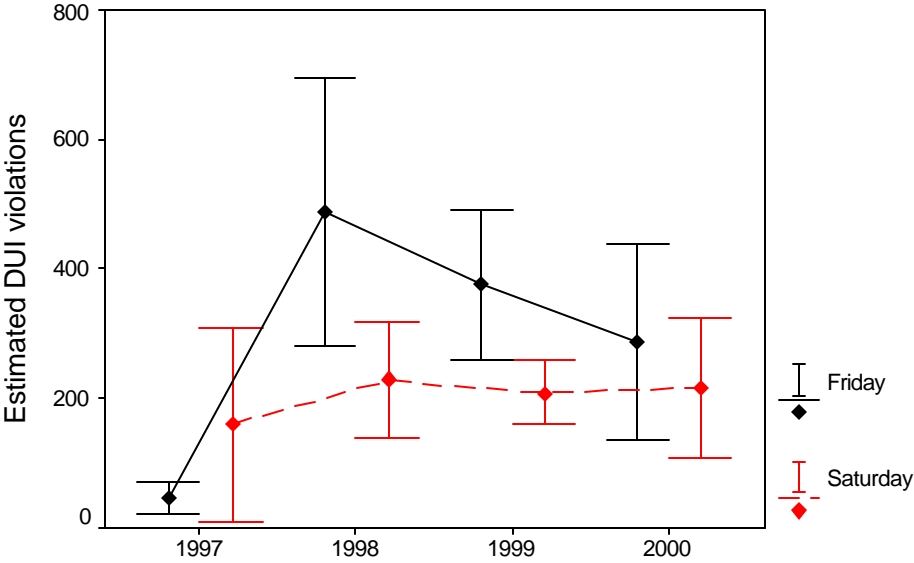
Change over time in the percentage of returning drivers and pedestrians with non-zero BACs is presented in **Figure 4**. The trends suggest a decline in the percentage of returning crossers who consumed alcohol while in Tijuana. Analysis reveals that the differences among years are statistically significant for both pedestrians [ $X^2(3) = 30.5, p < .01$ ] and for drivers [ $X^2(3) = 20.3, p < .03$ ]. The pattern of results in both cases indicates a decrease in percentage of crossers who consume alcohol in Tijuana.

**Figure 5** depicts BACs for drivers and pedestrians who returned with non-zero BACs. Analysis reveals no statistically significant differences for drivers' BACs across year ( $p < .43$ ). Mean BACs for pedestrians did not differ according to year ( $p < .14$ ).

**Figure 6** presents the percentage of drivers who are under 21 years old across years. Analysis reveals that the percentage of drivers who are under 21 did not differ significantly among years ( $p < .11$ ). Estimated mean BACs for under 21 year old drivers and pedestrians are presented in **Figure 7**. Neither BACs for pedestrians [ $p < .17$ ] nor BACs for drivers [ $p < .59$ ] differed according to year.

Analysis of BACs for different vocational association has revealed some changes over time. BACs for both pedestrian university students and pedestrians workers decreased significantly over time [ $F(1, 6) = 10.43, p < .02$ ;  $F(1, 6) = 11.27, p < .01$ ]. **Figures 8** and **9** depict estimated mean BACs for students and workers, respectively. No statistically significant trends were detected for other vocational associations.

Figure 1. Estimated average counts of DUI violations



Note: Analysis procedures required exclusion of some Friday, 1997 drivers. The estimated DUI count for Fridays, 1997 is inaccurately low

Figure 2. Percent of returning crossers estimated to drive with BACs at or above .08

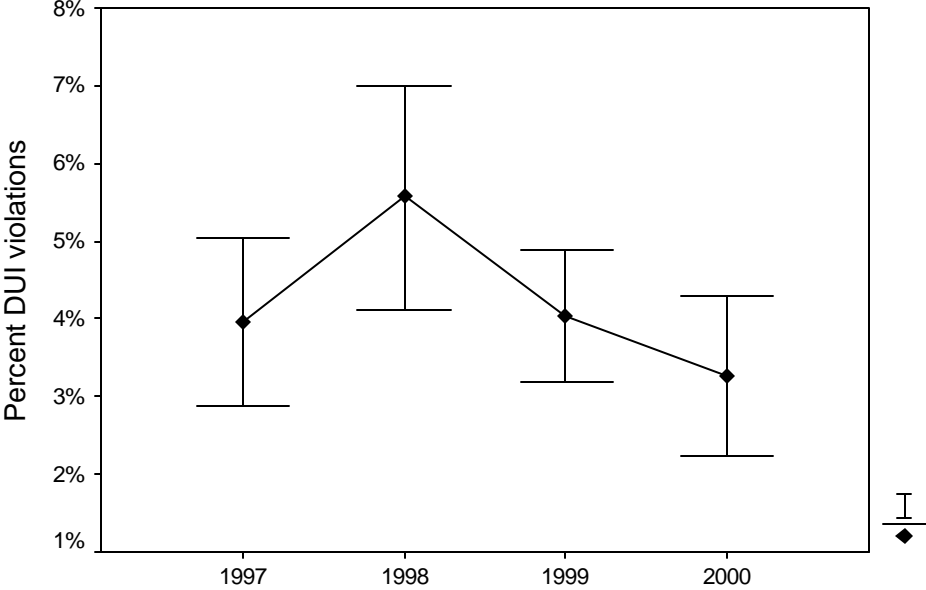


Figure 3. Estimated mean BACs

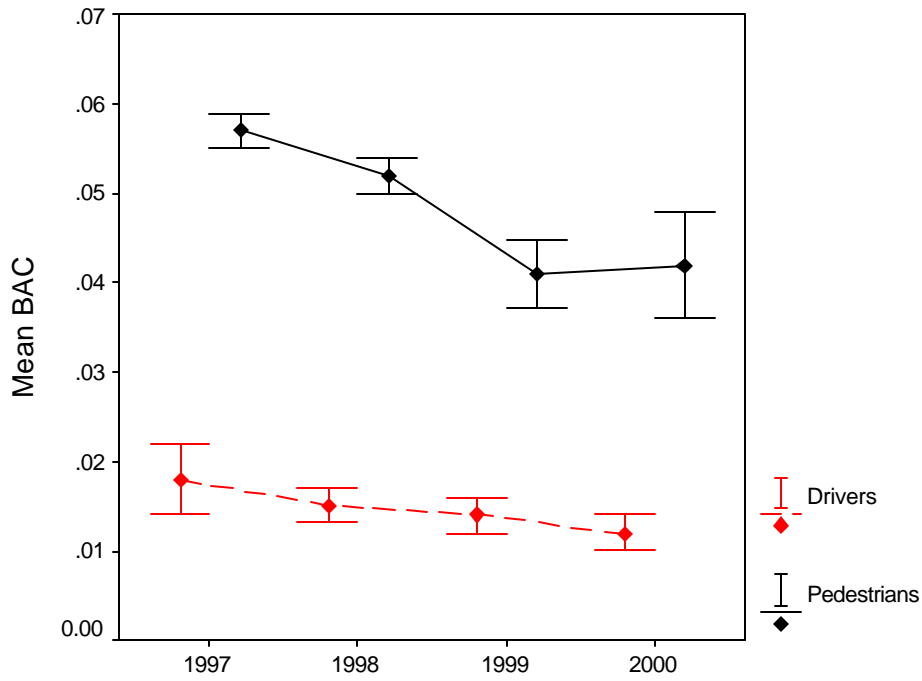


Figure 4. Estimated percentages of drivers and pedestrians returning with non-zero BACs

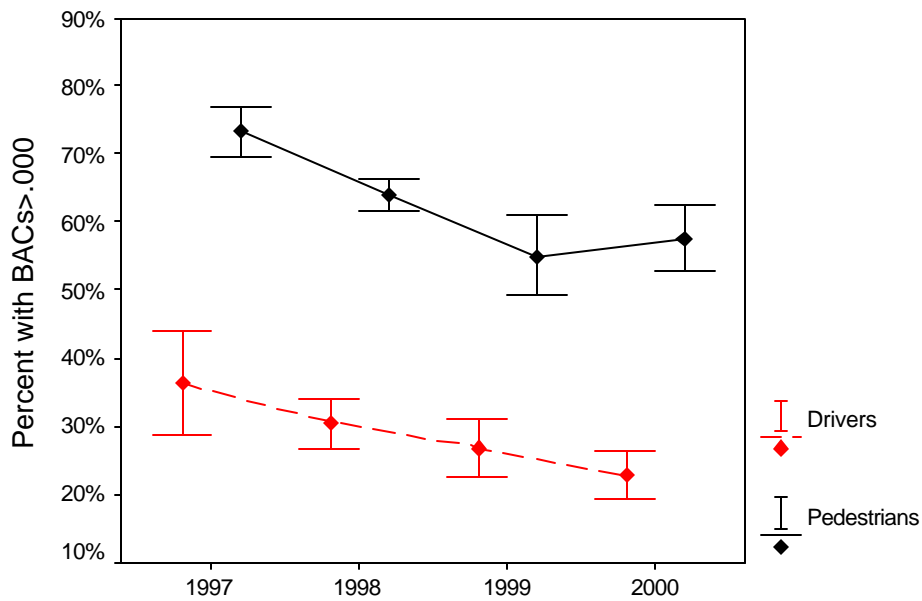


Figure 5. Estimated mean BACs for participants returning with non-zero BACs

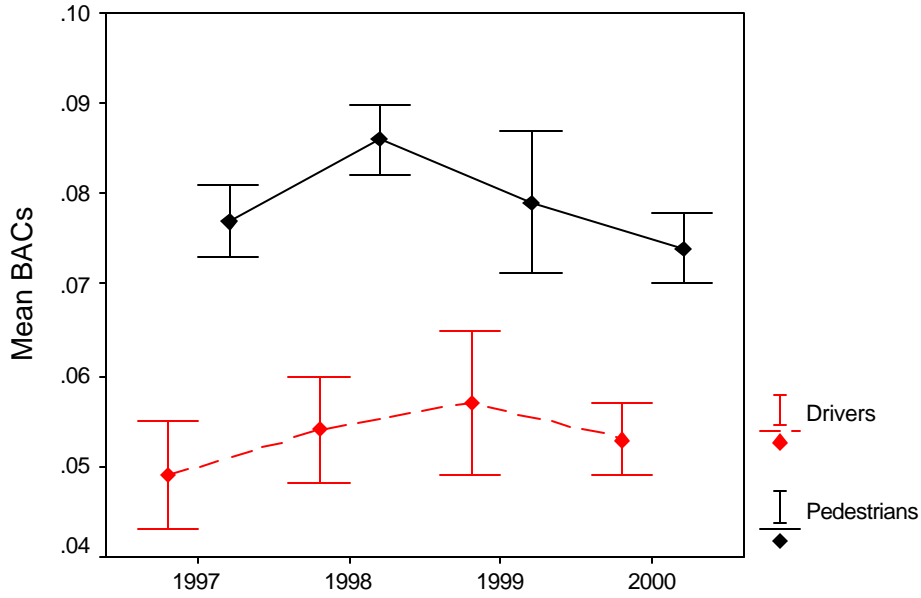


Figure 6. Percentage of drivers under 21

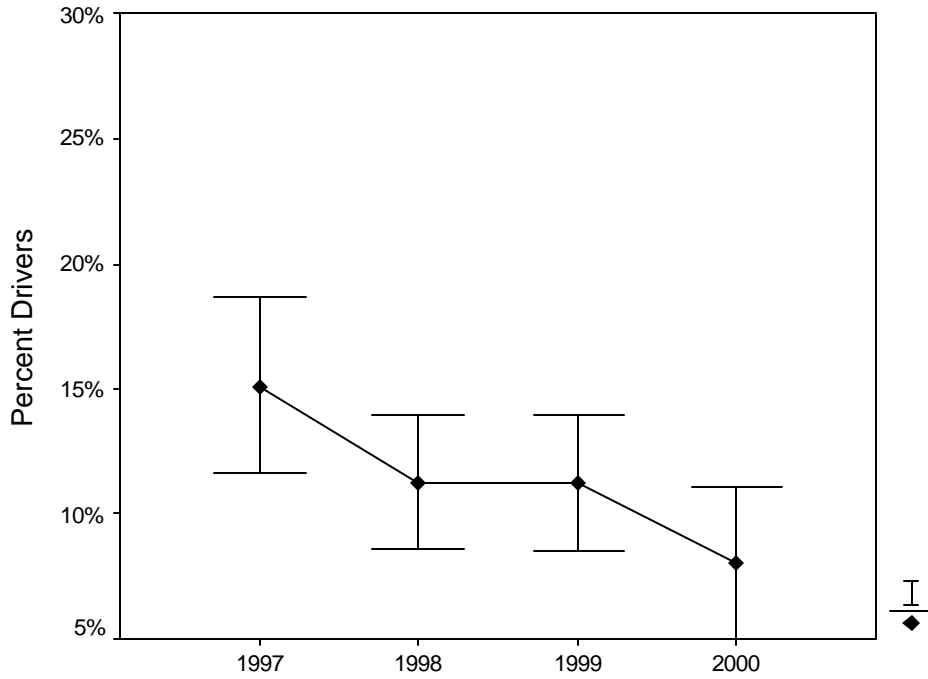


Figure 7. Estimated BACs for under year old 21 pedestrians and drivers

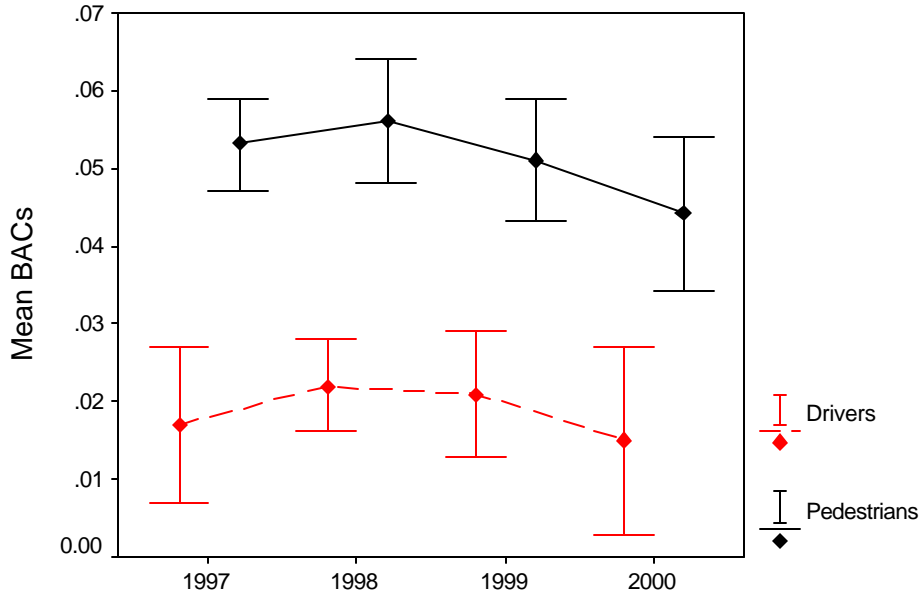


Figure 8. Estimated mean BACs for University students

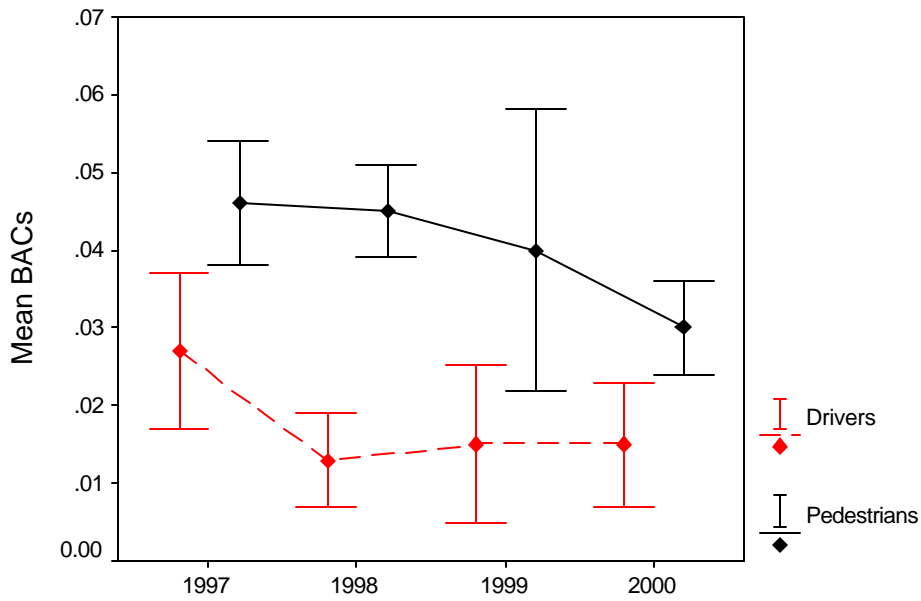


Figure 9. Estimated mean BACs for workers

