

Table 3. Average and maximum velocities collected by the CarChip versus GPS in the parking lot and on the road course. In all cases average and maximum velocities measured by the CarChip were not significantly different ($p > 0.05$) than with GPS.

	CarChip Mean \pm SD	GPS Mean \pm SD	CV (%)
Average velocity parking lot (km/h)	17.7 \pm 2.1	16.6 \pm 2.2	10.6
Average velocity road course (km/h)	45.2 \pm 2.5	44.1 \pm 2.8	1.9
Maximum velocity parking lot (km/h)	35.5 \pm 4.2	35.6 \pm 3.9	1.5
Maximum velocity road course (km/h)	103.6 \pm 4.2	104.3 \pm 5.1	0.9

Table 4. Maximum velocities collected by the CarChip versus GPS data on ten roadways. In all cases maximum velocities measured by the CarChip were significantly lower ($p < 0.05$) than with GPS.

Maximum velocity (speed limit)	CarChip Mean \pm SD	GPS Mean \pm SD	CV (%)
Freedman Crescent (50 km/h)	43.3 \pm 4.0	44.9 \pm 4.3	1.7
Grierson Avenue (50 km/h)	40.6 \pm 6.2	42.2 \pm 6.3	1.7
Laval Drive (50 km/h)	39.2 \pm 4.8	40.4 \pm 4.4	4.7
Dalhousie (50 km/h)	55.2 \pm 4.5	56.5 \pm 4.7	1.3
The Perimeter Highway between Pembina Highway and St Mary's Road (100 km/h)	99.4 \pm 4.7	100.6 \pm 5.4	0.9
St Anne's Road (70 km/h)	69.6 \pm 5.4	71.2 \pm 4.1	1.1
River Road between St Mary's Road and Minnetonka Street (50 km/h)	51.2 \pm 3.7	52.6 \pm 4.4	1.8
River Road between Woodlawn Avenue and Harry Collins Avenue (50 km/h)	42.4 \pm 2.1	44.4 \pm 2.5	1.6
Bishop Grandin Boulevard (80 km/h)	86.3 \pm 5.1	87.4 \pm 6.0	1.5
Chancellor Matheson Road (70 km/h)	67.0 \pm 4.0	68.2 \pm 4.3	1.1

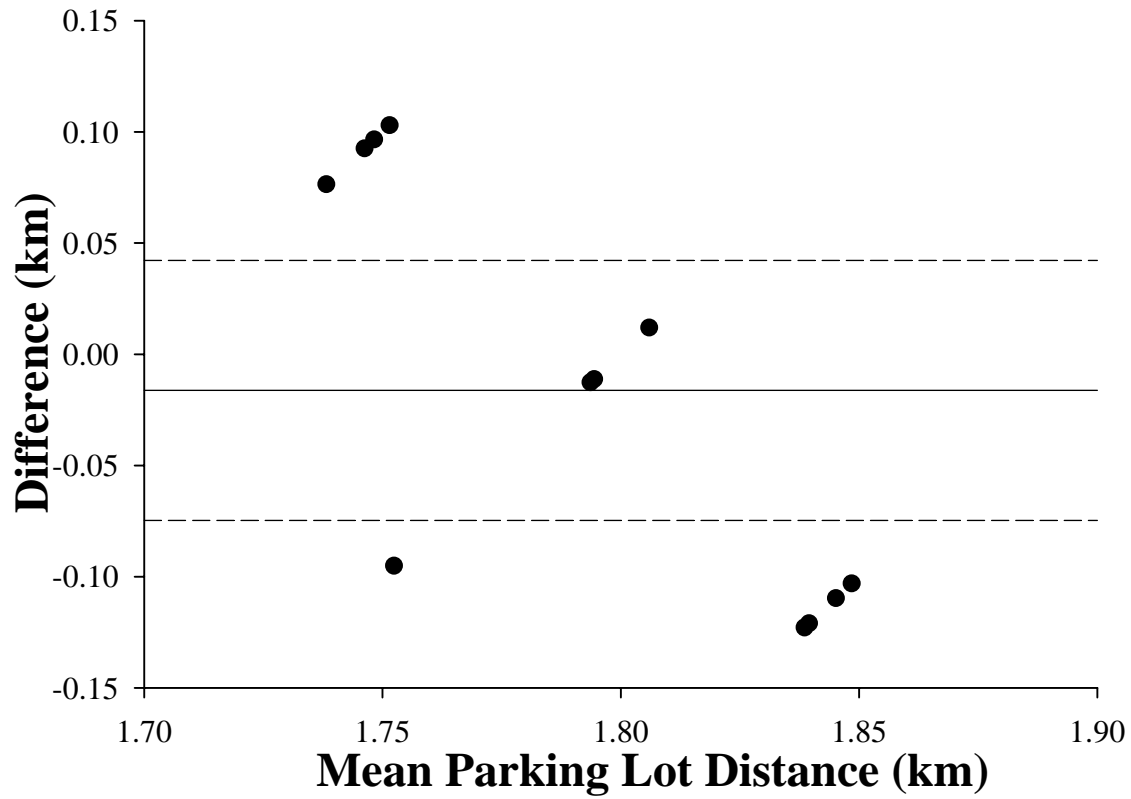


Figure 1. Bland Altman Plot of CarChip and GPS distances driven in the parking lot. The solid line indicates the mean, and the two dashed lines represent a 95% confidence interval.

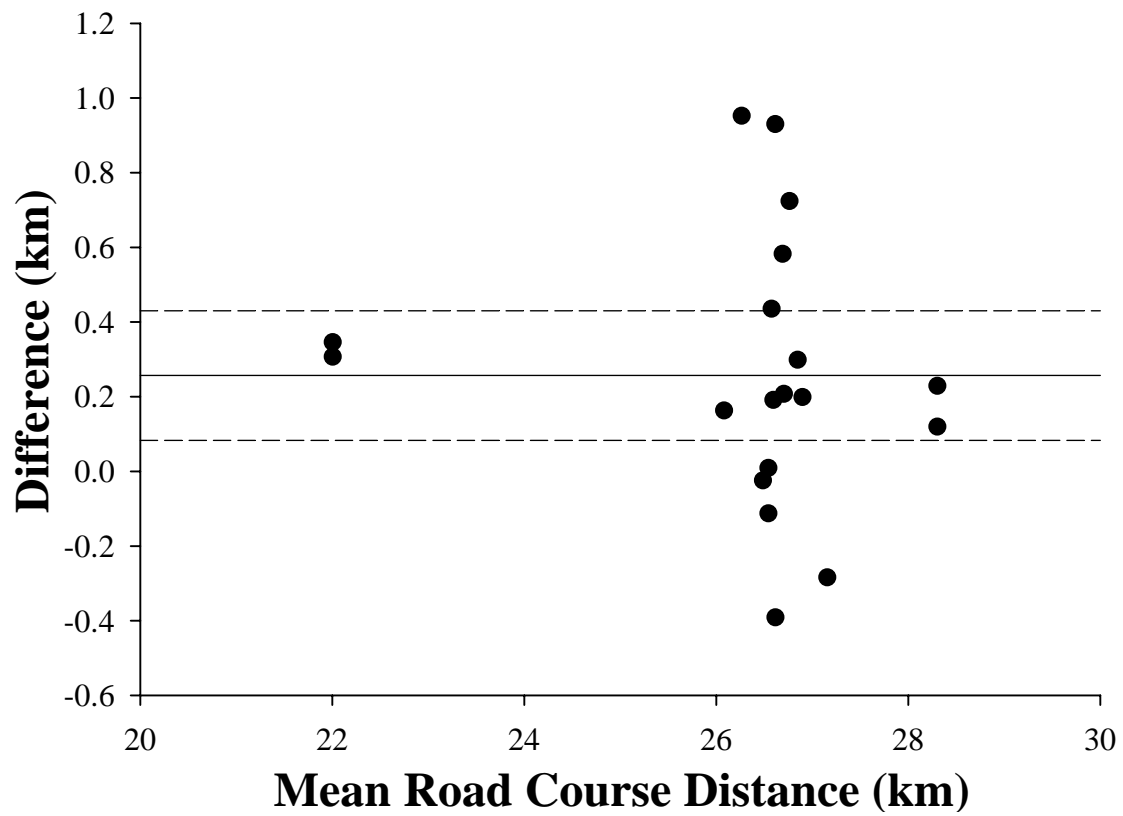


Figure 2. Bland Altman Plot of CarChip and GPS distances driven on the road course. The solid line indicates the mean, and the two dashed lines represent a 95% confidence interval.

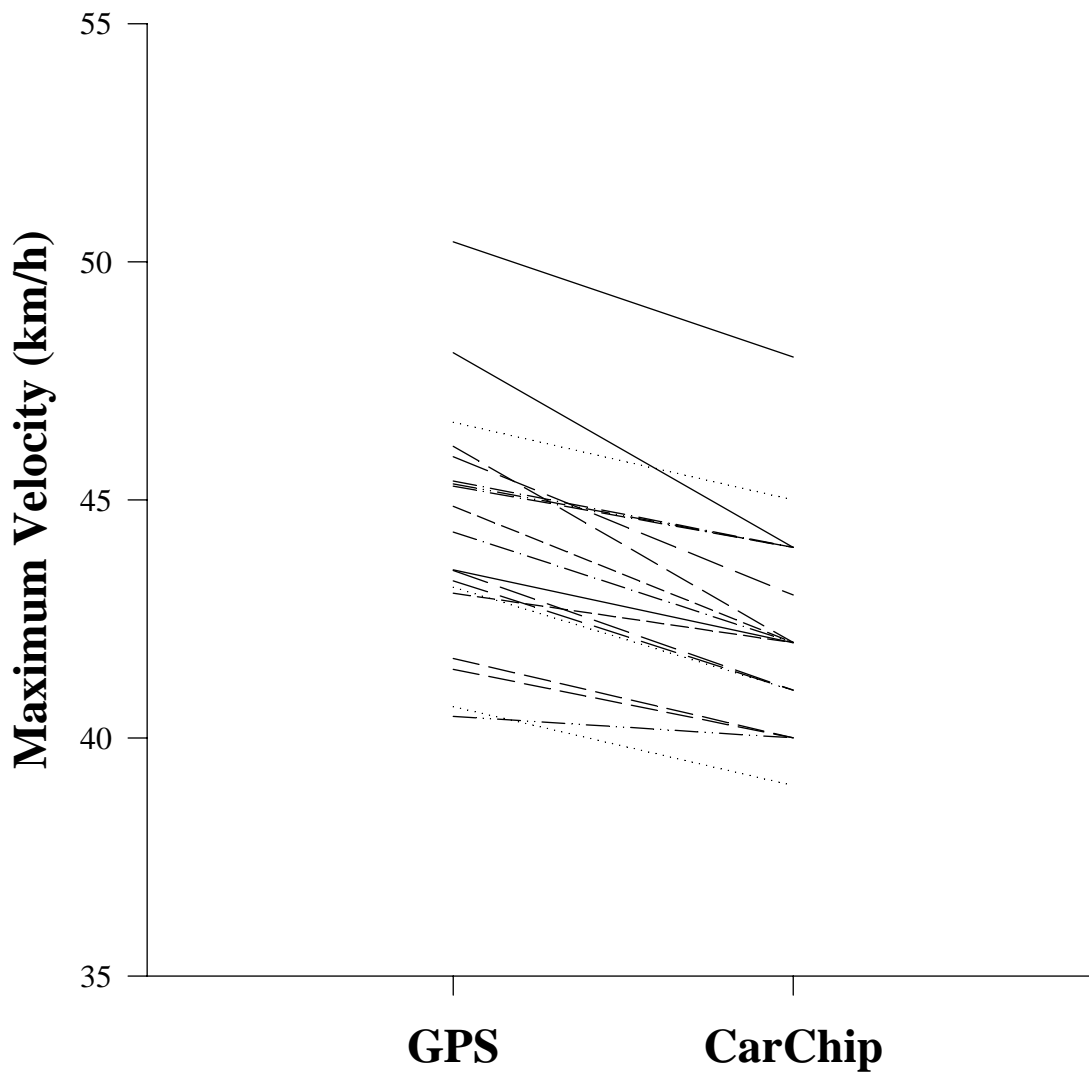


Figure 3. CarChip and GPS maximum velocities on River Road between Woodlawn Avenue and Harry Collins Avenue (Speed limit = 50 km/h). As can be seen, for all subjects the maximum velocity on this road segment was higher as measured by the GPS receiver than the CarChip.

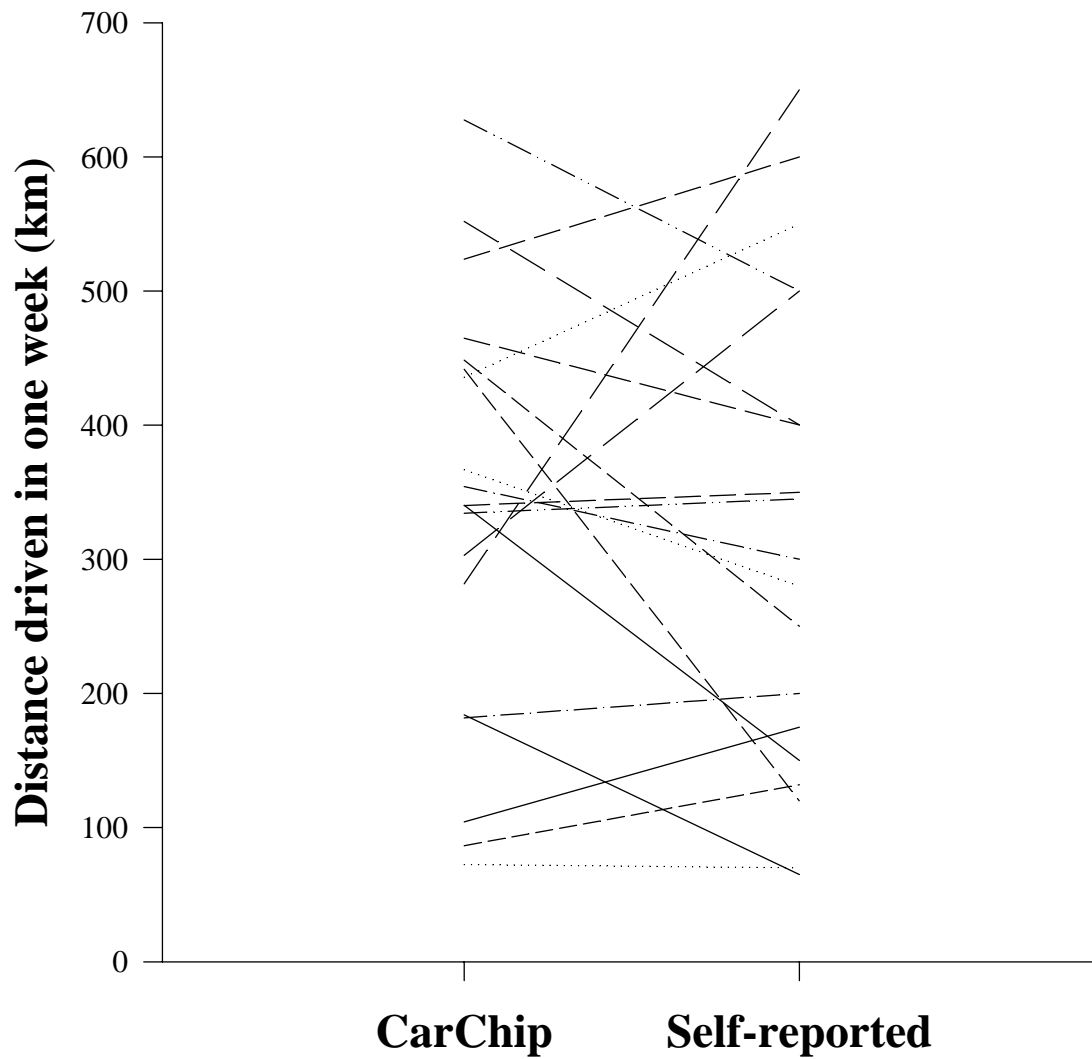


Figure 6. Total distance traveled over one week as measured by the CarChip compared to self-reported data.