The Hall coefficient $R_H$ of ferromagnetic UCo$_{0.5}$Sb$_2$ ($T_C = 74.5$ K) has been measured on a single crystal in the temperature range 2 - 300 K and in magnetic fields up to 7 T. The values of the normal $R_0$ and anomalous $R_s$ coefficients were estimated by comparing the $R_H(B)$ with magnetization $M(B)$ data. Both $-R_0$ and $R_s$ show a maximum near $T_C$ and a minimum at $T_{min} \approx 20$ K. Below $T_{min}$, $R_0$ and $R_s$ tend to a saturation. The ratio $R_s/R_0$ reaches a value of $\sim 1000$ for $T \leq T_C$ and of $\sim 21000$ at higher temperatures, implying that $R_H$ is dominated by $R_s$. The negative sign of $R_0$ is found to be unchanged down to 2 K, which is indicative of electron-type carriers. The carrier concentration $n_e = |1/eR_0|$ is found to decrease rapidly when the system undergoes the ferromagnetic ordered state, i.e., it varies from 0.785 e/f.u in the paramagnetic state to about 0.024 e/f.u at 2 K. The charge mobility $\mu_e$ was evaluated from the $R_H(1T)$ and electrical resistivity $\rho$ values. $\mu_e = R_H(1T)/\rho$, passes over a maximum ($\approx 450$ cm$^2$/Vs) at $T_{min}$ and falls down by as many as two orders of magnitude for $T = 2$ K ($\approx 3.7$ cm$^2$/Vs). Since the effective mass $m^* = 3\gamma h^2/(3\pi^2n_e)^{1/3}k_B^2$ shows weak temperature dependence (from 53.8 $m_e$ at $T_{min}$ to 69.5 $m_e$ at 2 K), the decline in $\mu_e$ with decreasing temperature seems to be associated with an enormous decrease of the carrier collision time.