A new mechanism of strong laser field induced ionization of an atom is identified which employs recollisions under the tunneling barrier. Within the strong field approximation a new quantum orbit is revealed which undergoes recollision during tunneling dynamics through the barrier formed by the laser field and the atomic potential. The interference of the direct and the under-the-barrier recolliding quantum orbits are shown to induce a measurable shift of the peak of the photoelectron momentum distribution. The scaling of the momentum shift is derived, which appeared to fit the scaling of the momentum shift due to the tunneling delay time according to the Wigner concept. This allows an alternative description of the tunneling delay time in strong field ionization. Moreover, with the proposed description the concept of the tunneling delay time can be generalized from the quasistatic into the nonadiabatic regime.