A closer look at the force-displacement problem of a simple beam shows that the displacement of the beam is not necessarily at the applied force direction even if the force is applied through shear center of the beam section. Assuming seismic-resistant vertical elements in a solid diaphragm building as cantilever beams in which at least for one of them principal axes directions are different than others, the floor will have two-way deflection and twist for a horizontal force. This paper studies the effect of these deflections and twist in traditional method for horizontal distribution of force in the story of the structure.