

ABSTRACT

A vehicle-road collaboration system, comprising: a roadside facility (10), a vehicle (20) on a road, and a vehicle-mounted map server (30), wherein a roadside map unit (11) is deployed in the roadside facility (10), and according to surrounding road network information of the roadside facility (10), the roadside map unit (11) converts absolute elevation information of a surrounding road of the roadside facility (10) into a roadside map-based relative elevation representation; a vehicle-mounted map unit (21) is deployed in the vehicle (20), and according to surrounding road network information of the vehicle (20), the vehicle-mounted map unit (21) converts absolute elevation information of a surrounding road of the vehicle (20) into a vehicle-mounted map-based relative elevation representation; the vehicle-mounted map server (30) separately communicates with the roadside map unit (11) and the vehicle-mounted map unit (21), and update and maintain a conversion relationship between the roadside map-based relative elevation representation and the vehicle-mounted map-based relative elevation representation for the same road, so that the updated conversion relationship is synchronized to the vehicle-mounted map unit (21).