

## UC2: “Route guidance”

- *Context of use.* The user (driver or company) provides the intended destination, makes a request to the system for route-guidance and the system provides the route guidance to the user taking into consideration real-time traffic and weather data (through UC9), feasibility of passage through infrastructures, etc. and finally estimating by default the “safest” solution (by calculating the associated level of risk). Other criteria may be also given as input to the system by the user for the route planning, like the “shortest” route, the “fastest” route, etc. They should be taken into account, but by inferior weights to the “safest” route criterion.
- *Primary actor.* Driver or company.
- *Input (trigger).* The user (driver or company) provides vehicle, cargo and route criteria (origin-default: current location, destination, intended time or arrival to destination, type of route i.e. shortest, etc.) data to the system and makes a request for route guidance.
- *Output.* The system takes into consideration the given criteria and provides the determined route to the user.
- *Main success scenario(s).*
  - ⇒ **Step 1:** The user makes request for route guidance. Vehicle, load and route info and criteria are provided to the system in the context of the request.
  - ⇒ **Step 2:** The system provides the estimated route within a time horizon of 5 minutes from the time of request.
- *Connected UCs and extensions.* During the route planning and if the time interval is sufficient, the system may also process, without further request by the user, with automatic booking of passage through the applicable infrastructure at the estimated time of arrival there and provides the receipt of booking to the driver (see UC1). With regard to key info communication, UC9 is related.
- *Indicative scenarios of use.*
  - ⇒ “Vehicle X<sup>1</sup> (if the user is the company) or I (if the user is the vehicle) need/s to reach to Y destination until today evening around 20:00pm”.
  - ⇒ “Vehicle X (if the user is the company) or I (if the user is the vehicle) need/s to reach the Y destination today the soonest possible”.
  - ⇒ “Vehicle X (if the user is the company) or I (if the user is the vehicle) need/s to reach the Y destination by today noon in the less expensive way”.
  - ⇒ “Vehicle X (if the user is the company) or I (if the user is the vehicle) is/am lost and I need to be in Y destination by today 21:00 am at latest”.
  - ⇒ “Vehicle X (if the user is the company) or I (if the user is the vehicle) is/am running out of fuel”.

**“Vehicle X (if the user is the company) or I (if the user is the vehicle) is/am need to stop unexpectedly for the night”.**

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<sup>1</sup> X refers to the ID of the vehicle and the load.