radio beacons 6 of FIG. 1 are "tolling" radio beacons (tolling roadside units, T-RSUs) that are set up in a geographically distributed manner along the road 2. With the aid of periodically broadcast wireless polls 11, the tolling radio beacons 6 request all passing OBUs 5 to establish radio communication 8, as is illustrated based on the exemplary response 12. So as not to "miss" any passing OBU 5 due to the potentially high speed of the vehicle 1, the wireless polls 11 of the tolling radio beacons 6 are broadcast at relatively short intervals, for example every 100 ms. For the wireless polls 11, for example, so-called wave service announcement (WSA) messages are used in the WAVE standard, and so-called beacon service table (BST) messages are used in the CEN-DSRC standard.

Successful radio communication 8 with a passing OBU 5 substantiates that the OBU 5 is located in the locally delimited radio coverage range 9 of the tolling beacon 6, whereby a fee ("toll") can be charged for usage of the location of the tolling radio beacon 6. For example, the tolled location usage can be the driving on a road section, the entering of a particular territory ("city toll") or the like.

In contrast, "parking" radio beacons (parking roadside units, P-RSUs) 7 are employed in the parking scenario of FIG. 2, which use a wireless poll 11, for example a WSA or BST message, to request all the OBUs 5 located in the radio coverage range 10 to provide response messages 12 so as to charge a fee for the usage of the parking spaces 4, as will be described in greater detail hereafter. To this end, a parking radio beacon 7 may be in charge of one or more parking spaces 4, which together form a parking area P.

Because parked vehicles 1 are stopped, a parking radio beacon 7 can broadcast the wireless polls 11 thereof at considerably longer time intervals ΔT than the tolling radio beacon 6 of FIG. 1, for example every 10 minutes, which also defines the time resolution of the parking time billing.

minutes~~, preferably 5 to 20 minutes, and particularly preferably 10 minutes~~.

7. The method according to claim 6, characterized in that the predetermined time period is 5 to 20 minutes.

8. The method according to claim 7, characterized in that the predetermined time period is 10 minutes.

~~7~~9. A radio beacon for generating a parking fee transaction for a vehicle, which comprises an onboard unit having an identifier, wherein the radio beacon has a radio coverage range covering at least one parking space and is configured

to wirelessly poll the identifier of an onboard unit located in the radio coverage range as a current identifier;

to generate a parking fee transaction for the current identifier if the current identifier is identical to a stored old identifier;

to store the current identifier as the old identifier; and

to repeat these steps after a predetermined time period.

~~8~~10. The radio beacon according to claim ~~7~~ 9, characterized by the radio beacon being configured to also wirelessly poll a position of the onboard unit together with the identifier and to generate the parking fee transaction only if, in addition to said current and old identifiers being identical, the position is located in a predetermined area.

~~9~~11. The radio beacon according to claim ~~7~~ 9 or ~~8~~ 10, characterized by the radio beacon being configured to also wirelessly poll a status of the onboard unit together with the identifier and to generate the parking fee transaction only if, in addition to said current and old identifiers being identical, the status is also identical to a predetermined value.

~~10~~12. The radio beacon according to any one of claims ~~7~~ 9 to ~~9~~ 11, characterized by the radio beacon having a radio coverage range that covers at least two parking spaces and being configured

to wirelessly poll the identifiers of all onboard units located in the radio coverage range as current identifiers;

to generate a parking fee transaction for any current identifier that is identical to a stored old identifier;

to store the current identifiers as old identifiers; and

to repeat these steps after the predetermined time period.

~~11~~13. The radio beacon according to claim ~~10~~ 12, characterized by the radio beacon calculating a parking space occupancy status based on a comparison of the number of current identifiers to the number of parking spaces in the radio coverage range.

~~12~~14. An onboard unit for a vehicle, having a unique identifier and a stored modifiable status and comprising a transceiver for transmitting the identifier and the status in response to a wireless poll of a radio beacon,

wherein the onboard unit has a first operating mode and a second operating mode, between which the unit can be switched by way of a switch, and is configured to respond in the second operating mode to wireless polls of a radio beacon ~~that is configured~~ according to any one of claims ~~7~~ 9 to ~~11~~ 13, and

wherein the status indicates the respective operating mode of the onboard unit.

~~13~~15. The onboard unit according to claim ~~12~~ 14, characterized by being equipped with a position determination device for determining the current position of the unit and being configured to transmit the position thereof in response to a wireless poll of the radio beacon.

~~14~~16. The onboard unit according to claim ~~12~~ 14 or ~~13~~ 15, characterized by being equipped with a movement sensor, which switches the onboard unit to the first operating mode when a movement thereof exceeds a threshold value.

~~15~~17. The onboard unit according to any one of claims ~~12~~ 14 to ~~14~~ 16, characterized by being equipped with a movement sensor, which switches the onboard unit to the second operating

mode when no movement thereof is detected for a period that exceeds a minimum time period.

~~16~~18. The onboard unit according to any one of claims ~~12~~ 14 to ~~15~~ 17, characterized by being configured to transmit a parking fee transaction received from a radio beacon in the second operating mode to a further radio beacon in the first operating mode.

~~17~~19. The onboard unit according to any one of claims ~~12~~ 14 to ~~16~~ 18, characterized by having a power-saving third operating mode, which it temporarily enters from the second operating mode after receiving a wireless poll or parking fee transaction.