CLAIMS

~~**What is claimed is:**~~

1.——A method for wireless communication, comprising:

~~identifying~~ determining, by a ~~transmitter~~first transceiver, a configuration for transmitting ranging signals~~-~~, the ranging signals transmitted in one or more channels of a plurality of channels in a vehicle-based communication system, the configuration identifying ~~a~~one or more ranging signals, the plurality of channels to be used for ~~the ranging signals~~ transmitting at least one ranging signal of the one or more ranging signals, a data sequence included in each of the ranging signals, a transmitter identifier associated with the first transceiver, and timing for the ~~ranging signals;~~one or more ranging signals, wherein the plurality of channels, the data sequence, the transmitter identifier, and ~~transmitting~~ the timing are used to identify the one or more ranging signals identified in the configuration ~~to a receiver~~as ranging signals; and transmitting a configuration transmission including the configuration to a second transceiver of a vehicle.

2.——The method of claim 1, further comprising:

transmitting the one or more ranging signals on the plurality of channels based at least in part on the configuration.

3.——The method of claim 2, ~~further comprising:~~

wherein transmitting the one or more ranging signals comprises: transmitting the one or more ranging signals simultaneously on the plurality of channels based at least in part on the configuration.

4.——The method of claim 3, ~~further comprising:~~

wherein transmitting the one or more ranging signals simultaneously comprises: transmitting the one or more ranging signals simultaneously on the plurality of channels comprises using carrier aggregation.

5.——The method of claim 2, ~~further comprising:~~

wherein transmitting the one or more ranging signals comprises: transmitting the one or more ranging signals on the plurality of channels during a transmission interval based at least in part on the configuration, each of the ranging signals being transmitted during a different time period during the transmission interval.

6.——The method of claim 2, further comprising:

receiving, from the ~~receiver,~~second transceiver, information comprising an indication of a time elapsed between transmission and receipt of the one or more ranging signals, an indication of an arrival time of the one or more ranging signals, or a combination thereof.

7.——The method of claim 6, further comprising:

updating a positioning information based at least in part on the information received from the ~~receiver~~second transceiver.

8. The method of claim 1, wherein~~:~~

transmitting the configuration transmission to the ~~receiver~~second transceiver comprises: transmitting the configuration to the ~~receiver~~second transceiver in a broadcast message.

9. The method of claim 1, wherein~~:~~

transmitting the configuration transmission to the ~~receiver~~second transceiver comprises: transmitting the configuration to the ~~receiver~~second transceiver in a dedicated message addressed to the ~~receiver~~second transceiver.

10. The method of claim 1, wherein:

the configuration comprises a ~~transmitter~~transceiver identifier corresponding to the ~~transmitter~~first transceiver, an identification of a channel ~~for each of the ranging signals, a data sequence~~ for each of the ranging signals, a time schedule for the ranging signals, or a combination thereof.

11. The method of claim 10, further comprising:

transmitting each of the ranging signals on the channel identified in the configuration.

12. The method of claim 10, further comprising:

transmitting ~~the~~one or more data ~~sequence~~sequences on each of the plurality of channels.

13. The method of claim 10, further comprising:

transmitting the one or more ranging signals according to the time schedule.

14. The method of claim 1, further comprising:

transmitting offset information to the ~~receiver~~second transceiver, the offset information comprising phase offset information for the one or more ~~of the~~ ranging signals, time offset information for the one or more ~~of the~~ ranging signals, or a combination thereof.

15. The method of claim 14, wherein:

the offset information is transmitted with the configuration.

16. The method of claim 1, wherein:

a road side unit comprises the ~~transmitter~~ first transceiver and a motor vehicle comprises the ~~receiver~~second transceiver.

17. The method of claim 1, wherein:

a first motor vehicle comprises the ~~transmitter~~ first transceiver and a second motor vehicle comprises the ~~receiver~~second transceiver.

18. The method of claim ~~1~~16, wherein:

the ~~transmitter~~first transceiver comprises a base station or network entity.

19.—— A method for wireless communication, comprising:

receiving from a transceiver, at a wireless device~~,~~ of a vehicle, a configuration transmission including signaling identifying a configuration for receiving ranging signals in a vehicle-based communication system, the configuration identifying one or more ranging signals, a plurality of channels to be used for receiving at least one ranging signal of the one or more ranging signals, a data sequence included in each of the ranging signals, a transmitter identifier associated with the transceiver, and timing for the ~~ranging signals;~~one or more ranging signals, wherein the plurality of channels, the data sequence, the transmitter identifier, and

~~receiving~~ the timing are used to identify the one or more ranging signals identified in the configuration as ranging signals; and receiving from the transceiver, based at least in part on the configuration, ~~the~~one or more ranging signal transmissions including the one or more ranging signals on the plurality of channels according to the configuration.

20.—— The method of claim 19, ~~further comprising:~~

wherein receiving the one or more ranging signals comprises: receiving the one or more ranging signals simultaneously on the plurality of channels based at least in part on the configuration.

21.—— The method of claim 19, ~~further comprising:~~

wherein receiving the one or more ranging signals comprises: receiving the one or more ranging signals on the plurality of channels during a reception interval based at least in part on the configuration, each of the ranging signals being received during a different time period during the reception interval.

22.—— The method of claim 19, further comprising:

identifying the one or more ranging signals based at least in part on the configuration.

23.—— The method of claim 22, wherein:

the configuration comprises a ~~transmitter~~transceiver identifier corresponding to the ~~transmitter~~transceiver, an identification of a channel ~~for each of the ranging signals, a data sequence~~ for each of the ranging signals, a time schedule for the ranging signals, or a combination thereof.

24.—— The method of claim 23, wherein~~:~~

identifying the one or more ranging signals comprises: identifying the one or more ranging signals based at least in part on the ~~transmitter~~transceiver identifier included in the one or more ranging signals.

25.—— The method of claim 23, wherein~~:~~

identifying the one or more ranging signals comprises: identifying the one or more ranging signals based at least in part on the channel identified in the configuration for each of the ranging signals.

26. The method of claim 23, wherein:

identifying the one or more ranging signals comprises: identifying ~~the~~one or more ranging signals based at least in part on the data ~~sequence~~sequences included in each of the identified ranging signals.

27. The method of claim 23, wherein:

identifying the one or more ranging signals comprises: identifying the one or more ranging signals based at least in part on the time schedule for the ranging signals.

28. The method of claim 19, further comprising:

determining, based at least in part on the one or more ranging signals, a distance between the wireless device and ~~a transmitter~~the transceiver.

29. The method of claim 28, wherein:

determining the distance comprises: determining a transmission time for the one or more ranging signals based at least in part on the configuration, the ranging signals, or a combination thereof~~;~~, the method further comprising: determining an arrival time for the one or more ranging signals; and determining the distance between the wireless device and the transceiver based at least in part on a difference between the transmission time and the arrival time.

~~the method further comprising determining an arrival time for the ranging signals; and~~

~~determining the distance between the wireless device and the transmitter based at least in part on a difference between the transmission time and the arrival time.~~

30. The method of claim 29, wherein:

determining the arrival time comprises: determining a channel frequency response for each of the plurality of channels~~;~~

, the method further comprising: determining, based at least in part on the channel frequency response for each of the plurality of channels, a combined channel frequency response for the plurality of channels; and determining the arrival time based at least in part on the combined channel frequency response.

~~determining the arrival time based at least in part on the combined channel frequency response.~~

31. The method of claim 19, further comprising:

updating positioning information based at least in part on ~~the~~a distance between the wireless device and the ~~transmitter~~transceiver.

32. The method of claim 19, wherein:

a motor vehicle comprises the wireless device and a road side unit comprises the ~~transmitter~~transceiver.

33. The method of claim 19, further comprising:

operating a first motor vehicle based at least in part on ~~the~~a distance between the wireless device and the ~~transmitter~~transceiver.

34. The method of claim 19, wherein:

a first motor vehicle comprises the wireless device and a second motor vehicle comprises the ~~transmitter~~transceiver.

35. The method of claim 19, further comprising:

receiving offset information, the offset information comprising phase offset information for the one or more ~~of the~~ ranging signals, time offset information for the one or more ~~of the~~ ranging signals, or a combination thereof.

36. The method of claim 35, wherein:

the offset information is received with the configuration.

37. The method of claim 35, wherein:

~~the~~ a distance between the wireless device and the ~~transmitter~~transceiver is determined based at least in part on the offset information.

38. ~~An apparatus~~ A first vehicle for wireless communication, comprising:

~~means for identifying~~ a processor; a first transceiver; and memory coupled with the processor, wherein the processor is configured to: determine, by the first transceiver, a configuration for transmitting ranging signals~~,~~, the ranging signals transmitted in one or more channels of a plurality of channels in a vehicle-based communication system, the configuration identifying ~~a~~one or more ranging signals, the plurality of channels to be used for ~~the ranging signals~~ transmitting at least one ranging signal of the one or more ranging signals, a data sequence included in each of the ranging signals, a transmitter identifier associated with the first transceiver, and timing for the ~~ranging signals; and~~

~~means for transmitting~~one or more ranging signals, wherein the plurality of channels, the data sequence, the transmitter identifier, and the timing are used to identify the one or more ranging signals identified in the configuration ~~to a receiver~~as ranging signals; and transmit a configuration transmission including the configuration to a second transceiver at a second vehicle.

39. The ~~apparatus~~first vehicle of claim ~~1,~~38, wherein the processor is further ~~comprising:~~

~~means for transmitting the~~configured to: transmit the one or more ranging signals on the plurality of channels based at least in part on the configuration.

40. The ~~apparatus~~first vehicle of claim 39, ~~further comprising:~~

~~means for transmitting the~~wherein, to transmit the one or more ranging signals, the processor is configured to: transmit the one or more ranging signals simultaneously on the plurality of channels based at least in part on the configuration.

41. The ~~apparatus~~first vehicle of claim 40, ~~further comprising:~~

~~means for transmitting the~~wherein, to transmit the one or more ranging signals simultaneously, the processor is configured to: transmit the one or more ranging signals simultaneously on the plurality of channels comprises using carrier aggregation.

42. The ~~apparatus~~first vehicle of claim 39, ~~further comprising:~~

~~means for transmitting the~~wherein, to transmit the one or more ranging signals, the processor is configured to: transmit the one or more ranging signals on the plurality of channels during a transmission interval based at least in part on the configuration, each of the ranging signals being transmitted during a different time period during the transmission interval.

43. The ~~apparatus~~first vehicle of claim 39, wherein the processor is further

~~comprising:~~

~~means for receiving~~configured to: receive, from the ~~receiver,~~second transceiver, information comprising an indication of a time elapsed between transmission and receipt of the one or more ranging signals, an indication of an arrival time of the one or more ranging signals, or a combination thereof.

44. The ~~apparatus~~first vehicle of claim 43, wherein the processor is further

~~comprising:~~

~~means for updating~~configured to: update a positioning information based at least in part on the information received from the ~~receiver~~second transceiver.

45. The ~~apparatus~~first vehicle of claim 38, wherein ~~the means for~~

~~transmitting~~, to transmit the configuration ~~to the receiver further comprise:~~

~~means for transmitting~~transmission to the second transceiver, the processor is configured to: transmit the configuration to the ~~receiver~~second transceiver in a broadcast message.

46. The ~~apparatus~~first vehicle of claim 38, wherein ~~the means for~~

~~transmitting~~, to transmit the configuration ~~to the receiver further comprise:~~

~~means for transmitting~~transmission to the second transceiver, the processor is configured to: transmit the configuration to the ~~receiver~~second transceiver in a dedicated message addressed to the ~~receiver~~second transceiver.

47. The ~~apparatus~~first vehicle of claim 38, wherein the configuration comprises a ~~transmitter~~second transceiver identifier corresponding to the ~~transmitter~~second transceiver, an identification of a channel ~~for each of the ranging signals, a data sequence~~ for each of the ranging signals, a time schedule for the ranging signals, or a combination thereof.

48. The ~~apparatus~~ first vehicle of claim 47, wherein the processor is further ~~comprising:~~

~~means for transmitting~~configured to: transmit each of the ranging signals on the channel identified in the configuration.

49. The ~~apparatus~~ first vehicle of claim 47, wherein the processor is further ~~comprising:~~

~~means for transmitting the~~configured to: transmit one or more data ~~sequence~~sequences on each of the plurality of channels.

50. The ~~apparatus~~ first vehicle of claim 47, wherein the processor is further ~~comprising:~~

~~means for transmitting the~~ configured to: transmit the one or more ranging signals according to the time schedule.

51. The ~~apparatus~~first vehicle of claim 38, wherein the processor is further ~~comprising:~~

~~means for transmitting~~configured to: transmit offset information to the ~~receiver~~second transceiver, the offset information comprising phase offset information for the one or more ~~of the~~ ranging signals, time offset information for the one or more ~~of the~~ ranging signals, or a combination thereof.

52. The ~~apparatus~~first vehicle of claim 51, wherein the offset information is transmitted with the configuration.

53. The ~~apparatus~~first vehicle of claim 38, wherein a road side unit comprises the ~~transmitter~~ first transceiver and a motor vehicle comprises the ~~receiver~~second transceiver.

54. The ~~apparatus~~first vehicle of claim 38, wherein a first motor vehicle comprises the ~~transmitter~~ first transceiver and a second motor vehicle comprises the ~~receiver~~second transceiver.

55. The ~~apparatus~~first vehicle of claim 38, wherein the ~~transmitter~~first transceiver comprises a base station or network entity.

56. ~~An apparatus~~ A first vehicle for wireless communication, comprising:

~~means for receiving~~ a processor; a first transceiver; and memory coupled with the processor, wherein the processor is configured to: receive from a second transceiver, at a second vehicle, a configuration transmission including signaling identifying a configuration for receiving ranging signals in a vehicle-based communication system, the configuration identifying one or more ranging signals, a plurality of channels to be used for ~~the ranging~~

~~signals~~receiving at least one ranging signal of the one or more ranging signals, a data sequence included in each of the ranging signals, a transmitter identifier associated with the second transceiver, and timing for the ~~ranging signals; and~~

~~means for receiving~~one or more ranging signals, wherein the plurality of channels, the data sequence, the transmitter identifier, and the timing are used to identify the one or more ranging signals identified in the configuration as ranging signals; and receive from the second transceiver, based at least in part on the configuration, one or more ranging signal transmissions including the one or more ranging signals on the plurality of channels according to the configuration.

57. The ~~apparatus~~first vehicle of claim 56, ~~further comprising:~~

~~means for receiving~~wherein, to receive the one or more ranging signal transmissions, the processor is configured to: receive the one or more ranging signals simultaneously on the plurality of channels based at least in part on the configuration.

58. The ~~apparatus~~first vehicle of claim 56, ~~further comprising:~~

~~means for receiving~~wherein, to receive the one or more ranging signals simultaneously, the processor is configured to: receive the one or more ranging signals on the plurality of channels during a reception interval based at least in part on the configuration, each of the ranging signals being received during a different time period during the reception interval.

59. The ~~apparatus~~first vehicle of claim 56, wherein the processor is further

~~comprising:~~

~~means for identifying the~~configured to: identify the one or more ranging signals based at least in part on the configuration.

60. The ~~apparatus~~first vehicle of claim 59, wherein the configuration comprises a ~~transmitter~~second transceiver identifier corresponding to the ~~transmitter~~second transceiver, an identification of a channel ~~for each of the ranging signals, a data sequence~~ for each of the ranging signals, a time schedule for the ranging signals, or a combination thereof.

61. The ~~apparatus~~first vehicle of claim 60, wherein, to identify the ~~means for identifying the~~ one or more ranging signals ~~further comprise:~~

~~means for identifying~~, the processor is configured to: identify the one or more ranging signals based at least in part on the ~~transmitter~~second transceiver identifier included in the one or more ranging signals.

62. The ~~apparatus~~first vehicle of claim 60, wherein, to identify the ~~means for identifying the~~ one or more ranging signals ~~further comprise:~~

~~means for identifying the~~, the processor is configured to: identify the one or more ranging signals based at least in part on the channel identified in the configuration for each of the ranging signals.

63.—— The ~~apparatus~~first vehicle of claim 60, wherein, to identify the ~~means for identifying the~~ one or more ranging signals ~~further comprise:~~

~~means for identifying the~~, the processor is configured to: identify one or more ranging signals based at least in part on the data ~~sequence~~sequences included in each of the identified ranging signals.

64.—— The ~~apparatus~~first vehicle of claim 60, wherein, to identify the ~~means for identifying the~~one or more ranging signals ~~further comprise:~~

~~means for identifying the~~, the processor is configured to: identify the one or more ranging signals based at least in part on the time schedule for the ranging signals.

65.—— The ~~apparatus~~first vehicle of claim 56, wherein the processor is further ~~comprising:~~

~~means for determining~~configured to: determine, based at least in part on the one or more ranging signals, a distance between the ~~wireless device~~second vehicle and ~~a transmitter~~the first transceiver.

66.—— The ~~apparatus~~first vehicle of claim 65, wherein ~~the means for determining~~, to determine the distance ~~further comprise:~~

~~means for determining~~, the processor is configured to: determine a transmission time for the one or more ranging signals based at least in part on the configuration, the ranging signals, or a combination thereof~~;~~, the processor further configured to: determine an arrival time for the one or more ranging signals; and determine the distance between the second vehicle and the first transceiver based at least in part on a difference between the transmission time and the arrival time.

~~the apparatus further comprising means for determining an arrival time for the ranging signals; and~~

~~means for determining the distance between the wireless device and the transmitter based at least in part on a difference between the transmission time and the arrival time.~~

67.—— The ~~apparatus~~first vehicle of claim 66, wherein ~~the means for determining~~, to determine the arrival time ~~further comprise:~~

~~means for determining~~, the processor is configured to: determine a channel frequency response for each of the plurality of channels~~;~~

, the ~~apparatus~~processor further ~~comprising means for determining~~configured to: determine, based at least in part on the channel frequency response for each of the plurality of channels, a combined channel frequency response for the plurality of channels; and determine the arrival time based at least in part on the combined channel frequency response.

~~means for determining the arrival time based at least in part on the combined channel frequency response.~~

68. The ~~apparatus~~first vehicle of claim 56, wherein the processor is further ~~comprising:~~

~~means for updating~~configured to: update positioning information based at least in part on ~~the~~a distance between the ~~wireless device~~ second vehicle and the ~~transmitter~~first transceiver.

69. The ~~apparatus~~ first vehicle of claim 56, wherein a motor vehicle comprises the ~~wireless device~~second vehicle and a road side unit comprises the ~~transmitter~~first transceiver.

70. The ~~apparatus~~first vehicle of claim 56, wherein the processor is further ~~comprising:~~

~~means for operating a~~configured to: operate the first ~~motor~~ vehicle based at least in part on ~~the~~a distance between the ~~wireless device~~second vehicle and the ~~transmitter~~first transceiver.

71. The ~~apparatus~~first vehicle of claim 56, wherein a first motor vehicle comprises the ~~wireless device~~second vehicle and a second motor vehicle comprises the ~~transmitter~~first transceiver.

72. The ~~apparatus~~first vehicle of claim 56, wherein the processor is further ~~comprising:~~

~~means for receiving~~configured to: receive offset information, the offset information comprising phase offset information for the one or more ~~of the~~ ranging signals, time offset information for the one or more ~~of the~~ ranging signals, or a combination thereof.

73. The ~~apparatus~~first vehicle of claim 72, wherein the offset information is received with the configuration.

74. The ~~apparatus~~first vehicle of claim 72, wherein ~~the~~a distance between the ~~wireless device~~second vehicle and the ~~transmitter~~first transceiver is determined based at least in part on the offset information.

75. A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to:

~~identify~~ determine, by a ~~transmitter~~first transceiver, a configuration for transmitting ranging signals~~-~~, the ranging signals transmitted in one or more channels of a plurality of channels in a vehicle-based communication system, the configuration identifying ~~a~~one or more ranging signals, the plurality of channels to be used for ~~the ranging signals~~ transmitting at least one ranging signal of the one or more ranging signals, a data sequence included in each of the ranging signals, a transmitter identifier associated with the first transceiver, and timing for the ~~ranging signals;~~one or more ranging signals, wherein the plurality of channels, the data sequence, the transmitter identifier, and

~~transmit~~ the timing are used to identify the one or more ranging signals identified in the configuration ~~to a receiver~~as ranging signals; and transmit a configuration transmission including the configuration to a second transceiver.

76. ~~——~~ A non-transitory computer-readable medium storing code for wireless communication, the code comprising instructions executable by a processor to:

receive, from a transceiver, at a wireless device, a configuration transmission including signaling identifying a configuration for receiving ranging signals in a vehicle-based communication system, the configuration identifying ~~a plurality of channels to be used for the ranging signals and timing for the ranging signals; and~~one or more ranging signals, a plurality of channels to be used for receiving at least one ranging signal of the one or more ranging signals, a data sequence included in each of the ranging signals, a transmitter identifier associated with the transceiver, and timing for the one or more ranging signals, wherein the plurality of channels, the data sequence, the transmitter identifier, and the timing are used to identify the one or more ranging signals identified in the configuration as ranging signals; and receive, based at least in part on the configuration, one or more ranging signal transmissions including the one or more ranging signals on the plurality of channels according to the configuration.

~~receive, based at least in part on the configuration, the ranging signals on the plurality of channels according to the configuration.~~

77. ~~——An apparatus~~ A first vehicle for wireless communication, comprising:

~~a processor;~~

~~memory in electronic communication with the processor; and~~

~~instructions stored in the memory and executable~~ means for determining, by ~~the processor to cause the apparatus to:~~

~~identify~~ a first transceiver at the first vehicle, a configuration for transmitting ranging signals , the ranging signals transmitted in one or more channels of a plurality of channels in a vehicle-based communication system, the configuration identifying ~~a plurality of channels to be used for the~~ one or more ranging signals ~~and timing for the~~ , the plurality of channels to be used for transmitting at least one ranging signal of the one or more ranging signals~~; and~~, a data sequence included in each of the ranging signals, a transmitter identifier associated with the first transceiver, and timing for the one or more ranging signals, wherein the plurality of channels, the data sequence, the transmitter identifier, and the timing are used to identify the one or more ranging signals identified in the configuration as ranging signals; and means for transmitting a configuration transmission including the configuration to a second transceiver at a second vehicle.

~~transmit the configuration to a receiver.~~

78. ~~——An apparatus~~ A first vehicle for wireless communication, comprising:

means for receiving at a first transceiver at the first vehicle, from a ~~processor;~~

~~memory in electronic communication with the processor; and~~

~~instructions stored in the memory and executable by the processor to cause the apparatus to:~~

~~receive~~second transceiver at a second vehicle, a configuration transmission including signaling identifying a configuration for receiving ranging signals in a vehicle-based communication system, the configuration identifying one or more ranging signals, a plurality of channels to be used for receiving at least one ranging signal of the one or more ranging signals ~~and timing for~~, a data sequence included in each of the ranging signals~~; and receive,~~ , a transmitter identifier associated with the second transceiver, and timing for the one or more ranging signals, wherein the plurality of channels, the data sequence, the transmitter identifier, and the timing are used to identify the one or more ranging signals identified in the configuration as ranging signals; and means for receiving at the first transceiver, from the second transceiver and based at least in part on the configuration, ~~the~~one or more ranging signal transmissions including the one or more ranging signals on the plurality of channels according to the configuration.