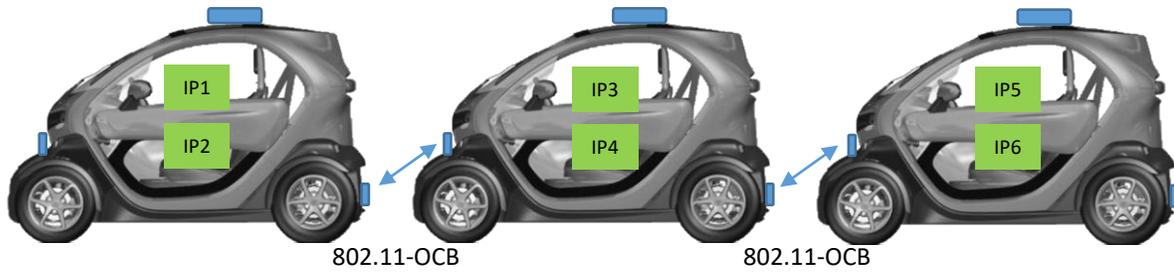


# IP for V2V and V2I communications

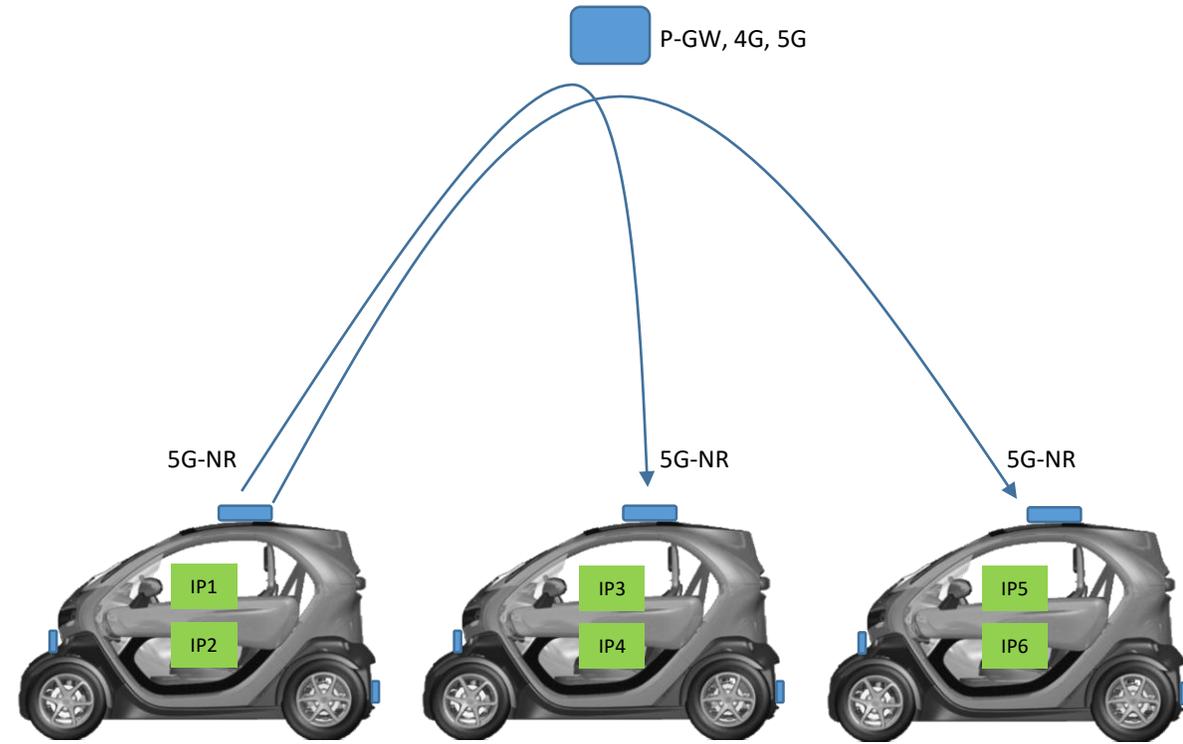
Alexandre PETRESCU, CEA

March 14th, 2018

# V2V Topology



OR



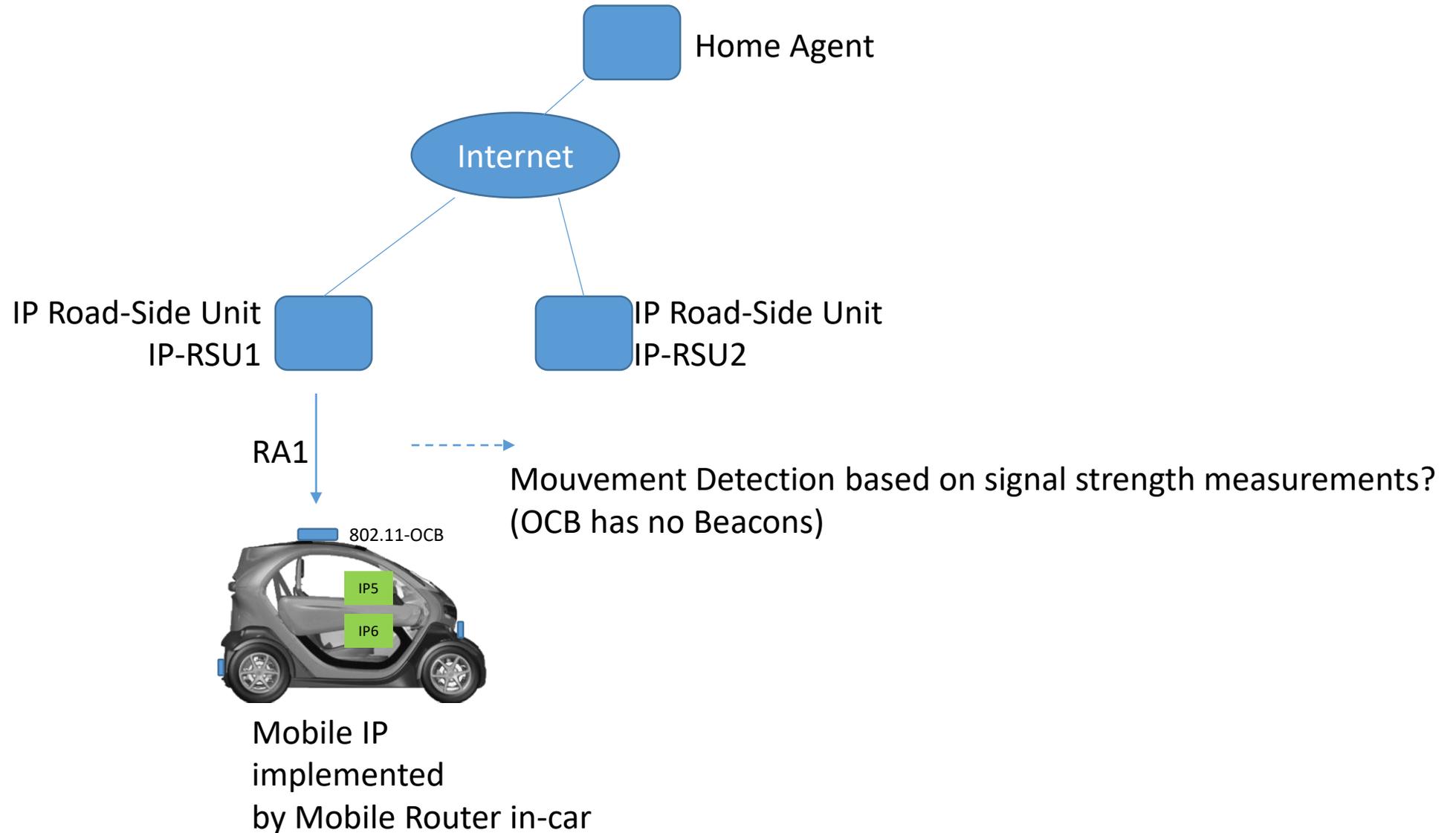
# V2V Requirements

- Dynamic distributed decision of 5.9GHz channel use (for 802.11-OCB).
- Establish paths linking all IP nodes.
- Distribute the address of a DNS resolver.

## Potential solutions:

- Use Babel routing protocol (triated ok on 802.11 OCB).
- Use Prefix Exchanges in IPv6 Router Advertisements (triated ok on 802.11 OCB).
- Use DHCPv6 Prefix Delegation (triated ok on 4G).

# V2I Topology



# Requirements for Movement Detection in OCB mode

- Problem:
  - For Mobile IP to work in V2I mode, a movement detection procedure is needed.
  - Current movement detection procedures on Mobile Routers measure and compare signal strengths of different Beacons.
  - 802.11 OCB mode has no Beacons.
- Requirements:
  - A movement detection procedure that measures the signal strength of IP messages that can be used as 'Beacons'.
  - The 'Beacon' IP messages should contain enough IP and L2 information to assist MR to decide it must change the subnet and send a Binding Update. (MAC address of IP-RSU and prefix of the link are not sufficient).