

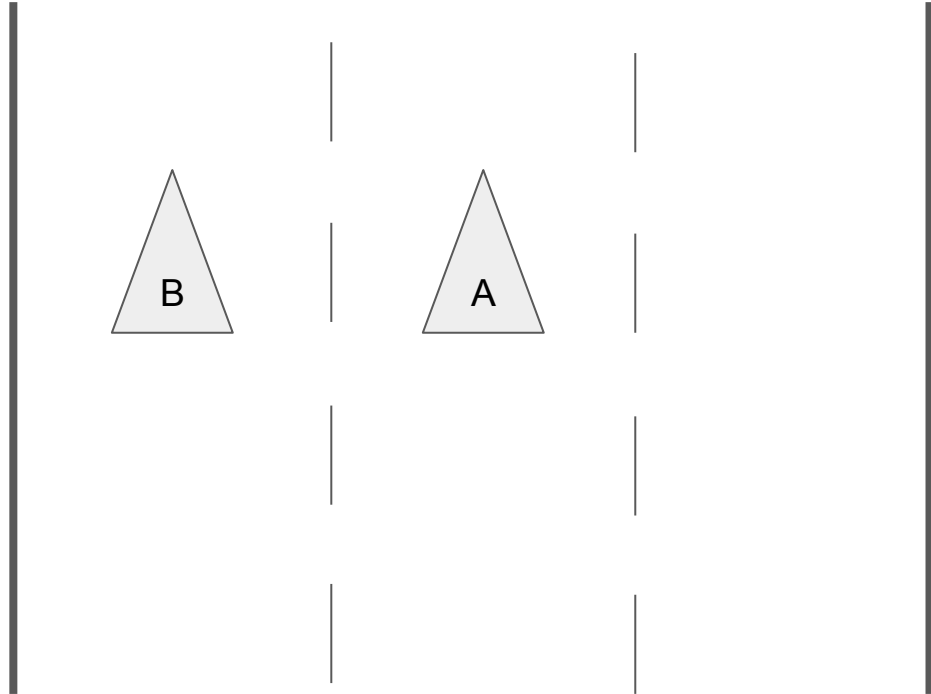


Mycelia V2X Use Cases

What the Spider solution Can Do

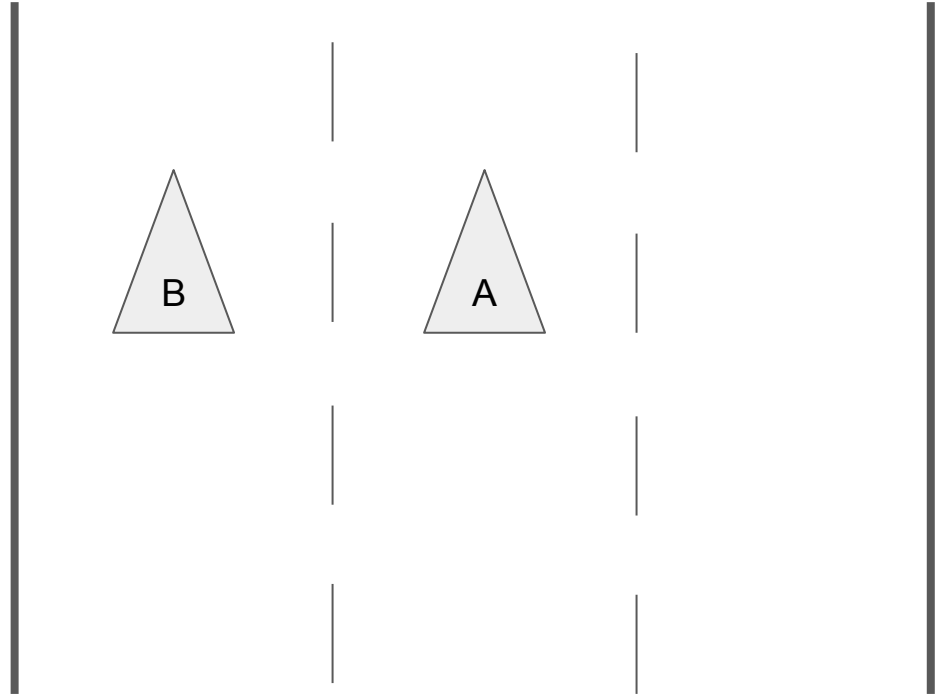
Seemingly Simple Scenario #1

Two AVs are traveling down the road together at roughly the same speed. When at some point A wants to make a lane change left.



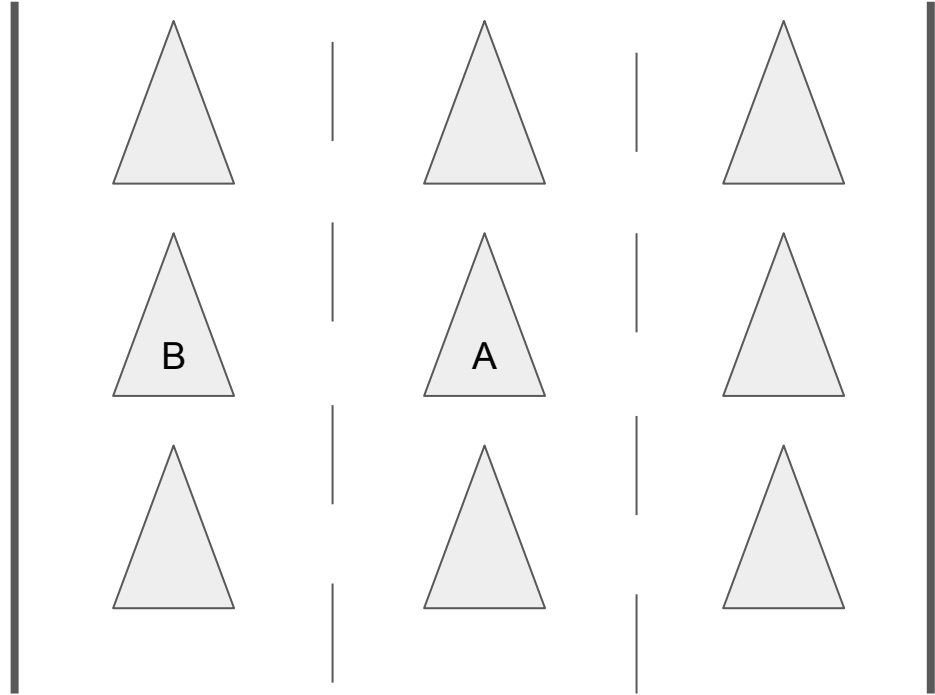
Seemingly Simple Scenario #1

If the road looks like this, then A can simply speed up or slow down to make the lane change.



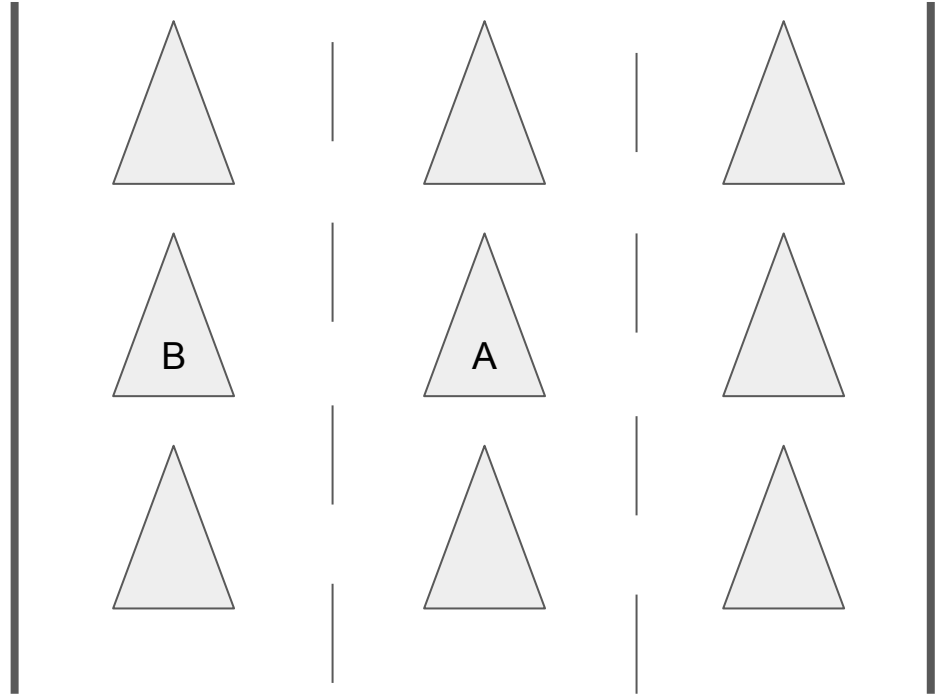
Seemingly Simple Scenario #1

But what if the road looks like this?
Then speeding up or slowing down
will not help, the cars are grouped
too tight for A to have any space.



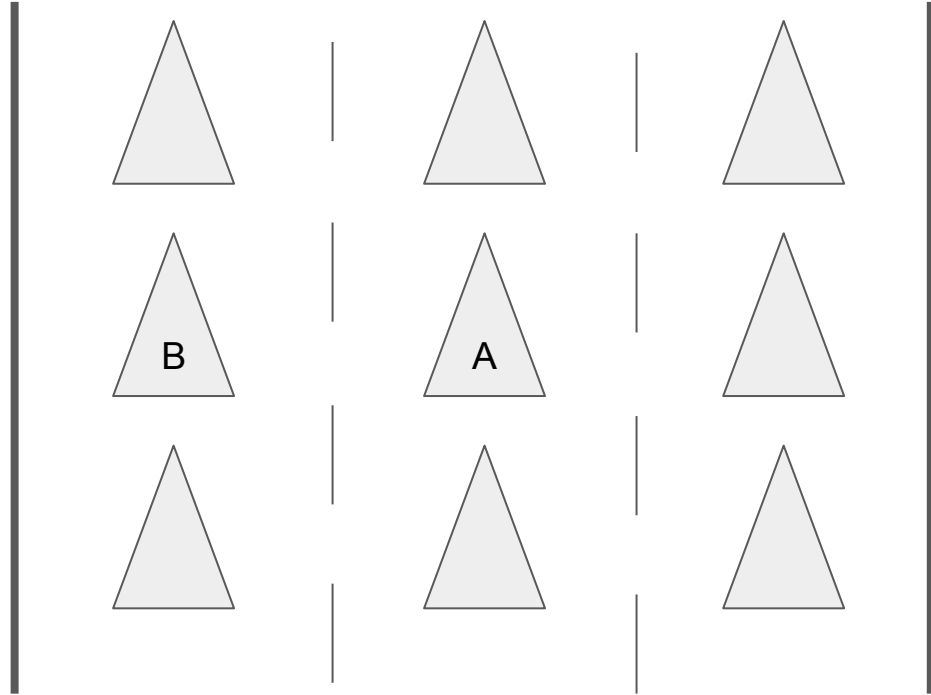
Seemingly Simple Scenario #1

This is where Mycelia V2V comes in.
Car A announces an “intent” to
change lanes and in that “intent”
asks for B to slow down.



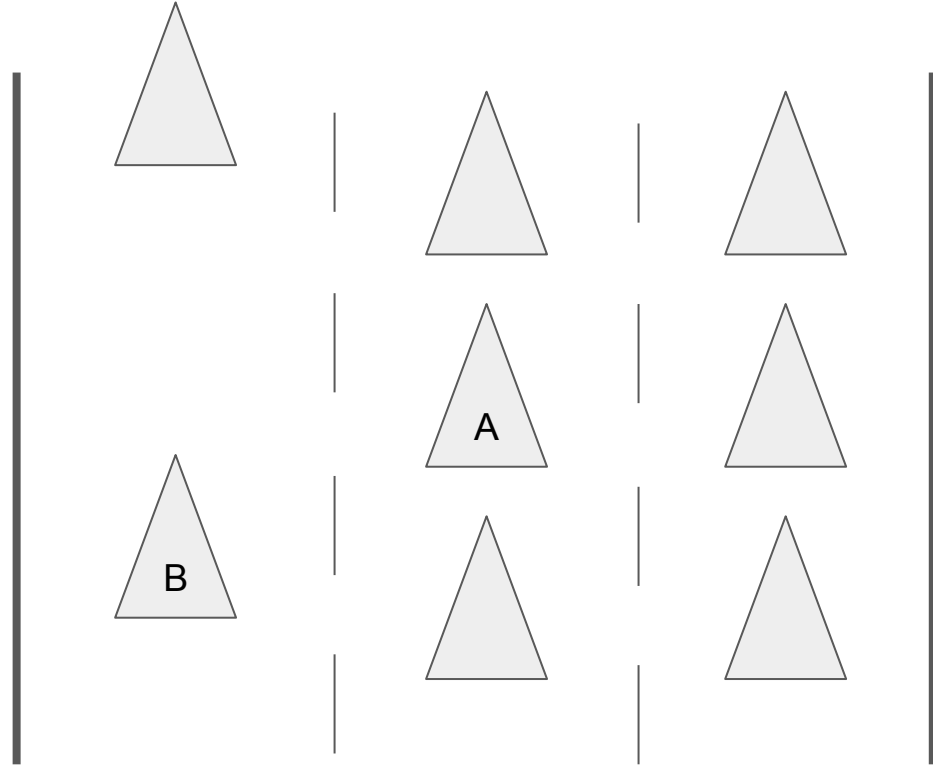
Seemingly Simple Scenario #1

Car B returns BOTH a “yes” to A letting it know that it will slow down AND announces to all cars around it that it intends to slow speed (so that the cars behind it know at which point they also announce intent to slow speed)



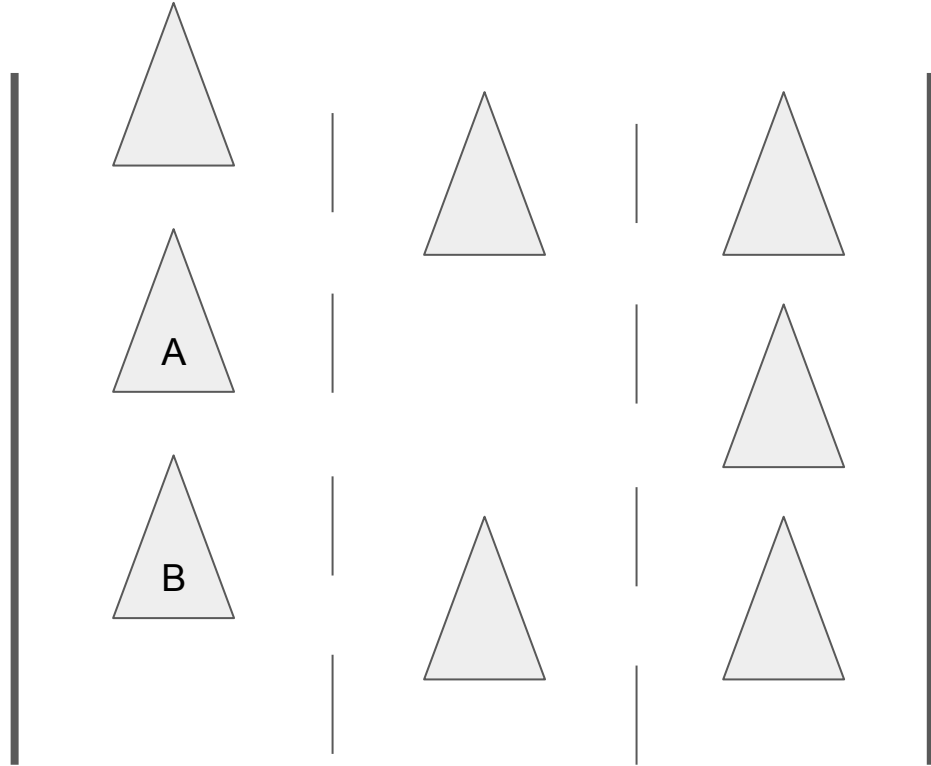
Seemingly Simple Scenario #1

This would create a traffic pattern that shifts to look like the above, allowing car A to safely move left.



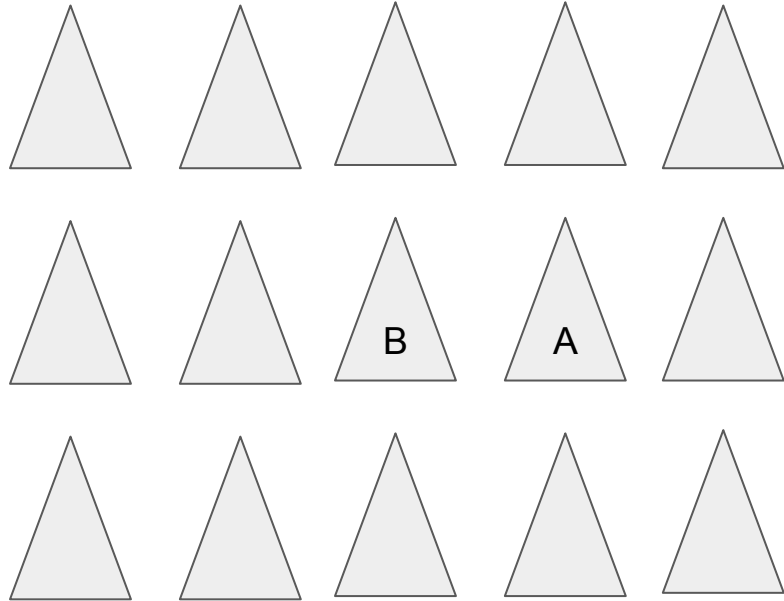
Seemingly Simple Scenario #1

With Mycelia, V2V is a two way cooperative handshake with ALL traffic on the road. ALL traffic announces intent and when necessary “handshakes” with other vehicles on the road for smooth, safe and cooperative traffic flow.



Seemingly Simple Scenario #1

But these triangles can represent any AMR of any kind because that's all an AV really is. These triangles could be cars, logistics robots in a warehouse, or any other kind of object moving without direct human operation.



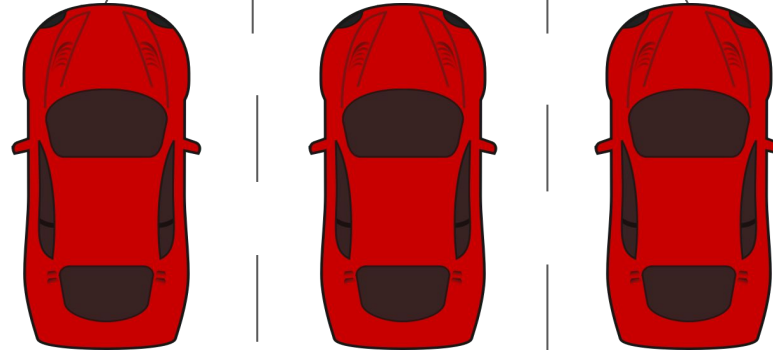
Stay tuned, more “Seemingly Simply Scenarios” coming.



SPIDER

Why V2V Is So Important

With sensors only, none of the cars can see each other at all in heavy rainfall (or many other weather or lighting conditions)



With sensors only, the left and right cars can not sense each other

Mycelia allows all of these cars to know location, speed, direction of movement, and upcoming behaviors about each other in all conditions.

Why V2V Is So Important (continued)

Imagine how difficult it would be to live, move, and operate as a human when you have no ability to communicate. All interaction with the world operating only through sight. No sound, no ability to hear, no ability to speak, no ability to communicate in any way with anyone or anything else.

This is the situation with AVs today. AVs are being “asked” to safely navigate the world and all they can do is “see” (through various sensors). No ability to hear or communicate with anything else.

The Mycelia solution from Spider v2x is designed to allow any kind of autonomous mobile robot (such as an AV) the ability to communicate with other AMRs and the infrastructure around it. This is meant to operate in synergy with sensors; Improving safety and cooperation.