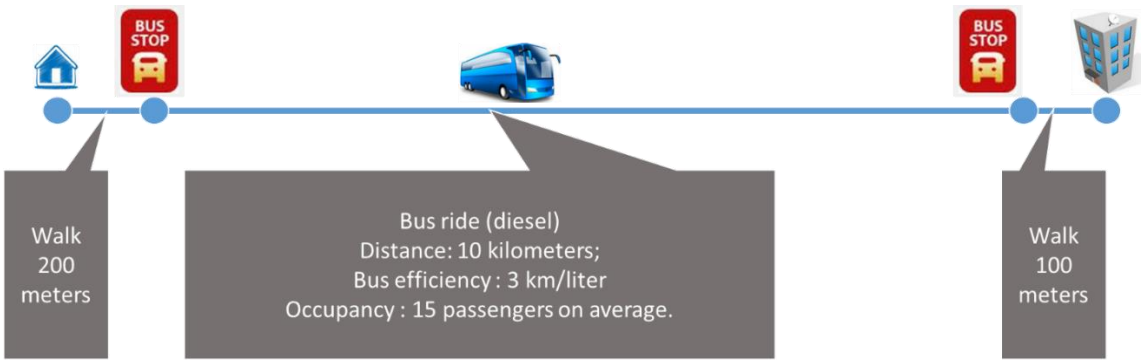
# Learning Exercise: ASIF and ASI

John goes to work every day using his car. His car is an old gasoline one, which roughly runs 7 kilometers per liter of fuel. His office is 15 kilometers away from his house. He travels alone every day.

He was thinking of taking an alternative method to go to the office, as he felt that fuel prices have been too high recently and he had taken a personal goal of reducing his CO2 emissions. He narrowed it down to two options:

## A) Using the bus as a main mode

John can take the bus everyday as stated in the diagram below. He just needs to do a little bit of walking.




## B) Share a ride with his friend

John has been invited by his neighbor Paul to share a ride with him to the office. Paul essentially works in the same building as John so it makes perfect sense to share a ride. Paul's car is the same as John's (fuel, efficiency).

Additional information:

Diesel = 2.6 kgCO2/liter

Gasoline = 2.4 kgCO2/liter

Assuming that you adopt a scope of analysis that is limited to the direct tailpipe emissions of $CO_2$ from the options given above, kindly answer the following questions:

*Business-as-Usual*

1. How much $kgCO_2$ is John emitting per trip if he uses his car?

*Option A:*

2. Which of the A-S-I-F parameters are being impacted if he takes Option A? Explain.

3. How would you categorize this intervention? Avoid? Shift? Improve? Why?

*Option B:*

4. Which of the A-S-I-F parameters are being impacted if he takes Option B? Explain.

5. How would you categorize this intervention? Avoid? Shift? Improve? Why?

6. How much $kgCO_2$ will John be responsible for if he takes Option A , Option B? Which one do you recommend for him to take?