# Changes to Support Other Simulations

## More Types of Vehicles

In order to add more types of vehicles to the simulation, a subclass of the Vehicle superclass would be created and all the inherited fields will need to be set to appropriate values for that vehicle in a generate method as well as a probability of it appearing. The generate method should be called in its constructor so that vehicles of this type can be generated in the simulation. In the generateVehicle method of the Station class, an if statement should be added to generate a random number to instantiate an object and should be written in the same syntax of the other if statements in that method.

## Multiple Types of Fuel with Different Prices

To add multiple types of fuel with different prices, a fuel class could be created with various subclasses of fuel types. A static field of type double, an accessor method and a mutator method would be added to the Station class allowing the price to be set or accessed. In the main method inside the Simulator class, it should call the mutator method created and the price of the fuel should be set in the parameter.

## Parking Away from Pump during Shopping

If the vehicle was to be parked away from the pump whilst shopping, a new array list in the Queueable class could be created, storing all the vehicles that are currently parked. The array list could have a maximum value of items representing the number of parking spaces there are and each vehicle parked occupies one space.

## Vehicles Breaking Down during Simulation

If the simulation was to include the possibility of vehicles breaking down, a probability and time would have to be created and stored inside the Station class. If the vehicle breaks down in the queue or whilst filling up then the vehicles behind it in the array would have to move to a different queue which is the shortest and prevent any incoming vehicles from entering that queue array. This can be done by writing a method in the Station class that moves the vehicles in the array to the next shortest one and reduce the array in which the vehicle has broken down to a size of 1 temporarily until the broken down vehicle leaves.