Sang Hwa Lee

INST 354

October 21, 2022

LAB 6

**Briefly describe two other situations where one could use an optimization mode.**

1. One situation could be when a bus company is organizing routes and bus stops in a city. The bus company would need to organize the most efficient routes and stops that require the least amount of gas but offer opportunities to gain more customers in optimal areas.

**Objective**

- The objective would be to maximize profit for the bus company.

**Decision Variable**

- Decision variables may include gas prices, most population dense areas, and the distance between these bus stop areas.

2. Another situation could be when a family tries to decide how to move homes. This scenario would include choosing the best method of transporting and moving to a new home.

**Objective**

The objective would be to minimize costs when moving.

**Decision Variable**

Decision variables would include the cost of shipping, the cost of movers, the cost of a moving truck, and the cost of using a personal vehicle. Another variable could be the time spent for each of these moving methods.