

Module 5: Sustainable and Intelligent Transportation Technology

Lesson 1: Sustainable Transportation Technology

Example Trip Scenarios

Grade Level: 9 - 12

- **Trip Scenario 1**

You are traveling from Pearisburg to Washington, DC to interview for a job as a Trainmaster. The building address is 1808 I St. Nw Ste 400, Washington, DC, 20006. The shortest route is 287 miles total distance, but there is no parking at the building in the city. So, you will need to drive to a Metro Station that has daily parking to park your car, and then take the Metro to the closest stop to your address and walk to your interview.

1. Select a transportation mode and travel 278 mile to the Van Dorn St. Metro Station.
2. Park your car in the daily - \$4.85 fee
3. Board the Metrorail to the Farragut West Metro Station – this distance is 11 miles and will take approximately 27 minutes, including stops - \$4.60 fee
4. Walk from the Station to your destination. This is 0.03 miles (150 feet).

- **Trip Scenario 2**

You won a contest for a free trip to New York City! Pack your bags for a three night's stay at The New York Hilton Midtown, 1335 Avenue of the Americas, New York City! The only glitch is you have to take the bus as part of a promotional deal with the bus company.

1. Drive to the Christiansburg Park and Ride from Pearisburg, VA. This leg of the trip is 33 miles.
2. Board the Megabus to Union Station. This leg of the trip costs \$51 and takes 12 hours. It's only 482 miles, but there are stops along the way so it takes more of your time than if you took a car which would only be a 7 hour drive.
3. You can walk to the hotel from Union Station which is 1.2 miles, but you are tired and it is 5:20 a.m. so you should walk to nearby Penn Station to catch a subway train, which is 0.3 miles away.
4. Purchase a MetroCard for \$3 and take the E- line to the 7th Avenue Station which takes 14 minutes.
5. Walk to the hotel. It's only 0.2 miles away.

- **Trip Scenario 3**

Sadly, your dear Aunt Lillian has passed away and although you never met her, she was an avid bird watcher. Great news for you: she has left you \$10,000 in her will. Aunt Lillian was a little quirky and as part of the requirement for collecting your inheritance, you must travel without flying to her favorite place for ‘birding’ in the United States and take a selfie to prove to the lawyer that you were there. Your Aunt Lillian was afraid of airplanes – she thought it was unnatural to fly, so you therefore, cannot board a plane for this trip. It’s a long journey in a car!

1. Select a transportation mode to get you from Pearisburg, VA to the Kris Eggle Visitor Center at the Organ Pipe Cactus National Monument in Arizona. This trip 2,161 miles.
2. At the Visitor Center, you will need to take the ‘free’ van shuttle to the trail entrance to the trail to hike Estes Canyon – the shuttle ride is 5 miles to the trail entrance.
3. Hike the trail and take your selfie with the trail marker at the lookout point at the end. This hike is 1.5 miles. Don’t forget water and don’t lose your camera!

- **Trip Scenario 4**

You are passionate about protecting the environment and wildlife - especially marine animals. You have written a compelling essay about protecting marine animals in the Puget Sound and have been selected to receive a Young Conservationist’s Award from the West Sound Wildlife Shelter. Plan your travel to the award ceremony with the least impact on the environment, to demonstrate your commitment to conservation.

1. The trip to the Wildlife Shelter is not a direct flight. It is 2,672 miles to Seattle, Washington. The ferry to get to the island is 801 Alaskan Way, Pier 52.
2. From there, you will need to take the Bainbridge Island Ferry to the Wildlife Reserve. There are different fees for the ferry depending on what type of vehicle you have to get across. The trip is 9 miles and takes 35 minutes by ferry boat.
3. If you decide not to drive your vehicle to the Shelter, then you must pay \$14 at the ferry terminal to park your vehicle for the day. Ferry fees are:
 - i. Walking (no vehicle)- \$8.10
 - ii. Bicycle- \$9.10
 - iii. Small vehicle (<14 ft)- \$14.30
 - iv. Standard Vehicle- \$18.20
 - v. Motorcycle- \$7.90
 - vi. Other vehicle (>22 ft)- Fees vary by vehicle length
- b. If you don’t take your vehicle on the ferry, it is another 9 miles by bus to the wildlife shelter and the fare is \$2.00. This trip takes approximately 25 minutes.

Notes:

- These trips have been designed to serve as examples and are based on departure from a particular location; they are also designed to incorporate many different modes of transportation, although it is obvious that for longer journeys, flying could likely be the time-saving, cost-saving option.
- For these trips, perform calculations based on non-stop journeys, even though realistically, the longer trips would require more time and money for hotel stops and meals.