Homework 9 on Lecture 13 on EVCI

Date due: Monday, April 21, 2023

This is a problem which is appropriate to do as a team assignment. I am most willing to review your team’s answer, if you wish to submit.

This problem requires the determination of the location of EVSE placement for one-stop en-route charging

1. Select trip origin of under 100 miles and identify the points of origin and destination.
2. Identify the widely-used routes to reach your destination from the origin.
3. Select the “best” route according to a criterion (a) that you need to specify.
4. Determine the CRZ on the selected route and explain how you determined its borders.
5. Identify the location for the EVSE placement within the CRZ based on the following criteria:
   - distance from the main travel corridor, i.e., the selected route
   - provision of electricity service at the location
6. State how you plan to ensure that the location has
   - adequate and appropriate signage to guide drivers to the EVSE location
   - on-site entertainment while the charging occurs

Among the assumptions you may make include:
   - the lowest EV range on the market is 73 miles
   - the addition of loads such as hotel and other incidental needs may further reduce the battery range by 30%
   - the car is fully charge when departing from the origin.

State all additional assumptions you wish to introduce and justify their reasonableness.