

Geolocation Terminal Zone Integration System

1. Get Freightliners

- **Gets** all Freightliner truck assets from the Fluke API.
- **Returns:** A Pandas DataFrame with the following columns:
 - 'c_description': Number and name of the truck (ex: C19 - Mill Mountain).
 - 'id': Unique identifier for the asset.
 - 'geolocation': Dictionary with latitude and longitude of the truck's position.
 - 'c_terminalzonedropdown': Current assigned terminal zone (if any).

2. Get Nearest City

- **For each truck**, determines which predefined city (ABQ, BCB, DFW, UPG, or PDX) is **geographically closest** to the truck's current position.
- **If there is an error** with the geolocation data:
 - Prints the truck's name and its location onto the console.
- **Returns:** Updates the Data Frame to add a new column nearest_city with the closest city name.

3. Post Nearest City

- **For each truck with a valid nearest city:**
 - **Builds** a TerminalZone payload corresponding to the city.
 - **Sends** an update (PUT request) to the Fluke (eMaint) API to update the truck's c_terminalzonedropdown field with the new TerminalZone entity.
- **If the update fails**, prints an error message with the truck's ID.

Analysis:

There are **three major sections** where errors could occur, but in each of these errors rerunning the script typically solves them:

1. Getting the Freightliner Asset Data:

- If the Fluke API call fails, the script will print:

Error getting Freightliners

2. Processing Geolocation Data:

- If a truck's geolocation is missing or incorrectly formatted this message will occur:

Error: Could not process truck 'C19 - Mill Mountain': location is None

Error: Could not process truck 'C42 - Cascade': {'lat': None, 'long': None}

- These errors do **not** stop the script — it will continue processing the other trucks.

3. Posting Terminal Zone Updates:

- If an API call to update a truck fails this message will occur:

Error updating {truck id}

Additional Notes:

- **Missing Geolocations:** Trucks with no valid location will **not** be assigned a nearest city and **will not be updated**.
- **Service Perimeter:** The service perimeter has the same code, only with different variables. The service perimeter code runs repeatedly while the terminal zone only runs twice a day at 4:30am/pm MST.

Adding New City Locations

1. A new city will be added via the drop-down form on the asset menu on fluke.
2. Lookup the address of this location on google maps and copy down the latitude and longitude.
3. The latitude and longitude will be entered near the top of the python script identified by this variable:
 - a. The style of each line must be followed directly, with a comma after each line
 - b. The key on the left is the exact name of the drop-down answer on Fluke

```
CITIES = {  
    'ACM': (42.2379, -83.55375),  
    'ABQ': (35.0844, -106.6504),  
    'BCB': (37.2296, -80.4139),  
    'DFW': (32.8998, -97.0403),  
    'UPG': (29.2097, -99.7862),  
    'PDX': (45.5152, -122.6784),  
}
```

4. Then navigate to the form entries tab on fluke. The url of the newly created entry contained a number in the form of: "XXXXXXXX-XXXX-XXXX-XXXX-XXXXXXXXXXXX"
5. Copy and paste the number above into the field: Key to Cities.
 - a. Again the format must remain the same as in step 3
 - b. The name on the left side must be the same as the name in step 3 and as the name in fluke, then copy and paste the key from step four into the right side

```
KEYS_TO_CITIES = {  
    'BCB (Blacksburg, VA)': '351680e3-38fc-481a-b2e4-8a3834006c03',  
    'MTL (Montreal, CN)': '2a900522-59bc-4518-ab7a-3f9af8fd5762',  
    'AUS (Austin, TX)': 'c5057cf9-7df8-436e-afd3-a243818a6b9b',  
    'MPG (Michellin Proving Grounds, SC)': '08203d31-a3b8-4252-9d6e-acb512f0e246',  
    'ACM (American Center for Mobilities, MI)': 'b709fb0b-c6a8-45ac-a829-ebc73e98ad4d',  
    'DFW (Dallas, TX)': '9056cfa3-701d-46ed-8aec-37d2b642d2b4',  
    'UPG (Uvalde Proving Grounds, TX)': '8eb92cad-6a68-4dc1-ae6e-58ced7eb34e0',  
    'PDX (Portland, OR)': '83e7a2ec-da8d-4f9c-8a45-a3580bd1ac79',  
}
```

LucasKniska, 6 days ago • Added ACM Zone ...