Lab 03: USPS - ArcGIS Online

The scenario:

Reilly and Randy are two USPS drivers. Their boss gave them overtime work for a Saturday to get packages delivered before the holidays. They start at 8am and need to deliver 10 packages to 10 different locations that are scattered around Western Twin Cities.

Your job is to help them find the best 2 routes between their two trucks so that it minimizes the amount of time they have to spend working before a holiday. Provide directions for them that they can print off. They're old school and don't carry smart phones.

This script performs vehicle routing analysis using the Place Routes Analysis tool.

This script requires the user to already have uploaded the shapefiles for the starting point and the delivery stops.

Run this cell to connect to your GIS and get started:

```
In [ ]:  import datetime
         from arcgis import features
         from arcgis.gis import GIS
         gis = GIS("home")
```

Place Routes Analysis

```
In [ ]:  # Title: stops_projected | Type: Feature Service | Owner: leex6165_UMN
         stops = gis.content.get("53c6d96f737a4d239df0a3f15af6375e")
```

```
In [ ]:  # Title: start_point | Type: Feature Service | Owner: leex6165_UMN
         start_layer = gis.content.get("437c24a1aa0b4768b7c8081ebe813bd1")
```

```
In [ ]:  # Item Added From Toolbar
         # Title: closed_highways_poly | Type: Feature Service | Owner: leex6165_UMN
         item = gis.content.get("937b1137bafc468fa497be38895a3534")
         item
```

```
In [ ]:  features.use_proximity.plan_routes(stops,
                                             2,
                                             5,
                                             datetime.datetime(2021, 3, 22, 10, 0), #st
                                             start_layer,
                                             output_name = "routes.shp")
                                             #polygon_barrier_layer = item)
```

Map route results

Map route results

```python
# features.use_proximity.plan_routes?
```

```python
# Title: routes.shp | Type: Feature Service | Owner: leex6165_UMN
routes = gis.content.get("4f42200c9e15449eaaa52c03f0aa8f7f")
```

```python
map1 = gis.map("Minneapolis Minnesota")
```

```python
map1.add_layer(routes)
```

```python
map1
```

```python

```