**Problem Formulation**

**Objective**: Define routes that n promoters should take at any given moment and place to maximize the number of places they visit by minimizing the time needed.

**Variables**:

1. **Nodes (Places to Visit)**: Each node represents a location that needs to be visited.
2. **Distances**: The travel distance between each pair of nodes.
3. **Priority**: Importance or urgency of visiting each node (Regelmässiger Besuchsintervall) – *Priorität muss anpassbar sein*
4. **Time Windows**: Each node has specific opening hours / holidays during which visits must occur.
5. **Duration**: Expected time to spend at each node – Erwartungswerte (30-60M)
6. **Total time**: E.g.: Starts working at 8 and wants to work for x hours
7. **Start point**: Home of the promoter
8. **Übernachtungen im Hotel**

**Constraints**:

1. **Visit Completion**: All designated nodes must be visited.
2. Plan for (at least) a week
3. Übernachtung muss vor 20:00 erreicht werden

**Dynamic Elements**:

1. **Real-Time Adjustments**: The ability to modify the route in real-time if a visit duration is shorter or longer than expected, or other changes like traffic conditions – or route for last day was too ambitous and needs to be completed
2. **Bereits vereinbarte Termine**
3. **Learn duration spent at locations**

Trade-off:

* Dynamisch vs. Compute

Daten:

* Vergangene Routen
* Locations

|  |  |
| --- | --- |
| **IN** | **OUT** |
| Anzahl Promoter | Promoter |
| Startpunkte | Standort |
| Arbeitszeiten | Datum |
| Wann Übernachtungen mögliche sind | Reihenfolge |
| Prioritäten der Standorte | Übernachtungen |