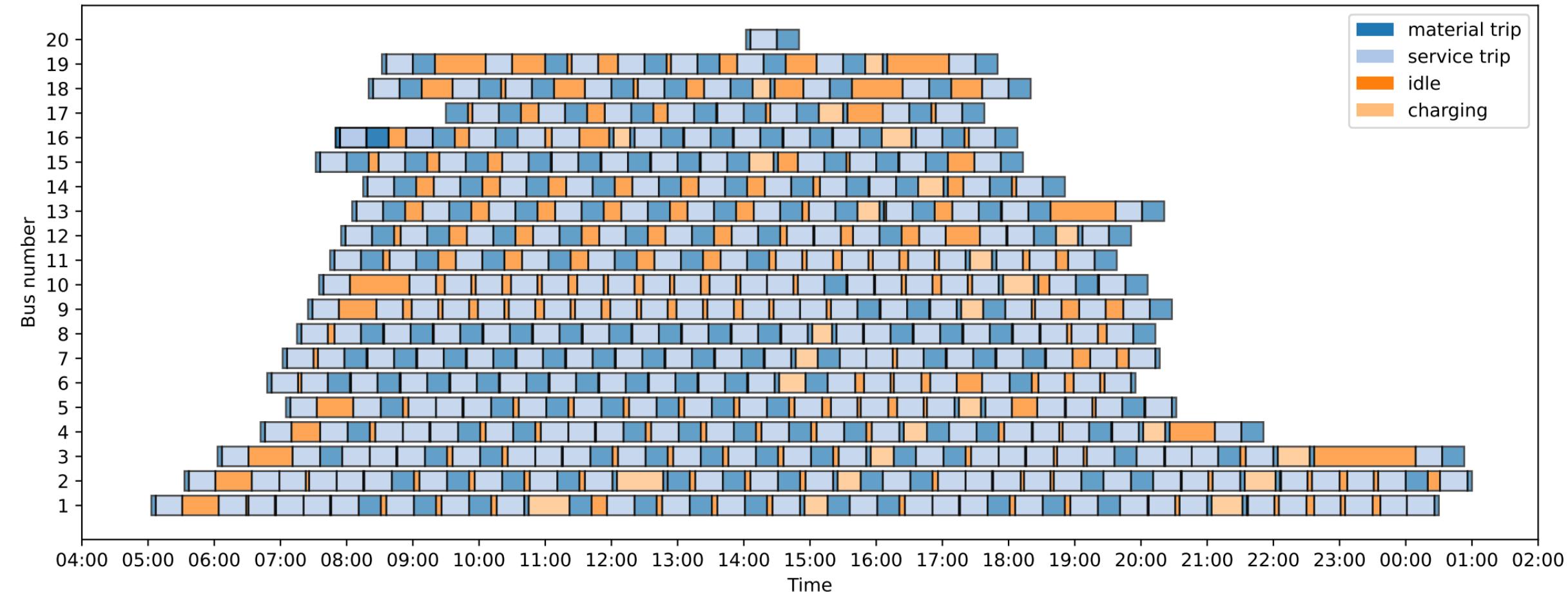


Bus Planning lines 400 and 401 for 1 day



Overlaps found:

```
(16, np.int64(750), np.int64(751), 'ehvgar', 'ehvbst', Timestamp('2025-10-31 07:50:00'),  
Timestamp('2025-10-31 07:54:00'), 'ehvgar', 'ehvbst', Timestamp('2025-10-31 07:50:00'),  
Timestamp('2025-10-31 07:54:00'))  
(16, np.int64(752), np.int64(753), 'ehvbst', 'ehvapt', Timestamp('2025-10-31 07:54:00'),  
Timestamp('2025-10-31 08:18:00'), 'ehvbst', 'ehvapt', Timestamp('2025-10-31 07:54:00'),  
Timestamp('2025-10-31 08:18:00'))  
(16, np.int64(754), np.int64(755), 'ehvapt', 'ehvgar', Timestamp('2025-10-31 08:18:00'),  
Timestamp('2025-10-31 08:38:00'), 'ehvapt', 'ehvgar', Timestamp('2025-10-31 08:18:00'),  
Timestamp('2025-10-31 08:38:00'))  
(16, np.int64(757), np.int64(758), 'ehvbst', 'ehvapt', Timestamp('2025-10-31 08:54:00'),  
Timestamp('2025-10-31 09:18:00'), 'ehvbst', 'ehvapt', Timestamp('2025-10-31 08:54:00'),  
Timestamp('2025-10-31 09:18:00'))
```

Energie-checker result:

Bus plan for Bus 1 is feasible. Amount of energy used: 454.34 kWh

Bus plan for Bus 2 is feasible. Amount of energy used: 455.57 kWh

Bus 3: Battery level will drop below 10% during route 203. Route is infeasible.

Bus 4: Battery level will drop below 10% during route 257. Route is infeasible.

Bus 5: Battery level will drop below 10% during route 307. Route is infeasible.

Bus 6: Battery level will drop below 10% during route 358. Route is infeasible.

Bus 7: Battery level will drop below 10% during route 410. Route is infeasible.

Bus 8: Battery level will drop below 10% during route 463. Route is infeasible.

Bus 9: Battery level will drop below 10% during route 511. Route is infeasible.

Bus 10: Battery level will drop below 10% during route 558. Route is infeasible.

Bus 11: Battery level will drop below 10% during route 600. Route is infeasible.

Bus 12: Battery level will drop below 10% during route 639. Route is infeasible.

Bus plan for Bus 13 is feasible. Amount of energy used: 277.50 kWh

Bus plan for Bus 14 is feasible. Amount of energy used: 251.45 kWh

Bus plan for Bus 15 is feasible. Amount of energy used: 283.73 kWh

Bus plan for Bus 16 is feasible. Amount of energy used: 316.94 kWh

Bus plan for Bus 17 is feasible. Amount of energy used: 206.12 kWh

Bus plan for Bus 18 is feasible. Amount of energy used: 228.45 kWh

Bus plan for Bus 19 is feasible. Amount of energy used: 196.79 kWh

Bus plan for Bus 20 is feasible. Amount of energy used: 25.63 kWh

Total Energy Used is 6102.953733333333

Total Charge Time: -9.73333333333334

Total Idle Time: 38.76666666666666

Amount of Buses used: 20