Baseline

100% EV

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HyBridge SIMULATION FINAL KPI REPORT

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--- Delivery Performance ---

Total Deliveries Completed: 12005

Average Delivery Cycle Time: 1.628 Hours

% Deliveries Completed: 98.904%

Average Vehicle Distance per Delivery: 37.611 km/order

Total Fleet Distance Traveled: 477,836.198 km

Overall Vehicle Utilization Rate: 100.467% (Time Active)

--- Infrastructure Use ---

Average EV Wait Time (Queuers Only): 213.318 Minutes

Maximum EV Wait Time: 675 Minutes

Average H2V Wait Time (Queuers Only): 0 Minutes

Maximum H2V Wait Time: 0 Minutes

Average EV Charger Utilization: 6.687 %

Average H2V Pump Utilization: 0 %

Number of Failed EV Charges (No resource on arrival): 2421

Number of Failed H2 Refuels (No resource on request): 0

--- Energy/Fuel Consumption ---

Total Electricity Consumed (Charging): 269,486.265 kWh

Total Hydrogen Consumed (Refueling): 0 kg

Average EV Driving Consumption: 0.6 kWh/km

Average H2V Driving Consumption: 0 kg/km

--- Environmental Impact ---

Baseline Diesel Emissions (est.): 114,824.038 kg CO2

EV Grid Electricity Emissions (est.): 62,871.146 kg CO2

H2 Production Emissions (est.): 0 kg CO2

Total Actual Emissions (Grid + H2 Prod.): 62,871.146 kg CO2

Estimated Total CO2 Saved: 51,952.893 kg CO2

--- Operational ---

Number of Infeasible EV Trips (Range Limit): 3180.0

Number of Infeasible H2V Trips (Range Limit): 0

Total Infeasible Trips (Range Limit): 3180.0

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END OF SIMULATION REPORT

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Optimized

80% EV

20% H2V

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HyBridge SIMULATION FINAL KPI REPORT

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--- Delivery Performance ---

Total Deliveries Completed: 11925

Average Delivery Cycle Time: 1.257 Hours

% Deliveries Completed: 98.905%

Average Vehicle Distance per Delivery: 37.55 km/order

Total Fleet Distance Traveled: 475,059.68 km

Overall Vehicle Utilization Rate: 90.363% (Time Active)

--- Infrastructure Use ---

Average EV Wait Time (Queuers Only): 139.884 Minutes

Maximum EV Wait Time: 492 Minutes

Average H2V Wait Time (Queuers Only): 3.538 Minutes

Maximum H2V Wait Time: 12 Minutes

Average EV Charger Utilization: 6.395 %

Average H2V Pump Utilization: 14.898 %

Number of Failed EV Charges (No resource on arrival): 1767

Number of Failed H2 Refuels (No resource on request): 46

--- Energy/Fuel Consumption ---

Total Electricity Consumed (Charging): 210,541.474 kWh

Total Hydrogen Consumed (Refueling): 1,641.494 kg

Average EV Driving Consumption: 0.6 kWh/km

Average H2V Driving Consumption: 0.017 kg/km

--- Environmental Impact ---

Baseline Diesel Emissions (est.): 114,156.841 kg CO2

EV Grid Electricity Emissions (est.): 49,119.326 kg CO2

H2 Production Emissions (est.): 16,414.944 kg CO2

Total Actual Emissions (Grid + H2 Prod.): 65,534.27 kg CO2

Estimated Total CO2 Saved: 48,622.571 kg CO2

--- Operational ---

Number of Infeasible EV Trips (Range Limit): 2493.0

Number of Infeasible H2V Trips (Range Limit): 222

Total Infeasible Trips (Range Limit): 2715.0

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END OF SIMULATION REPORT

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Optimized   
100% EV  
  
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HyBridge SIMULATION FINAL KPI REPORT

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--- Delivery Performance ---

Total Deliveries Completed: 12005

Average Delivery Cycle Time: 1.628 Hours

% Deliveries Completed: 98.904%

Average Vehicle Distance per Delivery: 37.611 km/order

Total Fleet Distance Traveled: 477,836.198 km

Overall Vehicle Utilization Rate: 100.467% (Time Active)

--- Infrastructure Use ---

Average EV Wait Time (Queuers Only): 213.318 Minutes

Maximum EV Wait Time: 675 Minutes

Average H2V Wait Time (Queuers Only): 0 Minutes

Maximum H2V Wait Time: 0 Minutes

Average EV Charger Utilization: 6.687 %

Average H2V Pump Utilization: 0 %

Number of Failed EV Charges (No resource on arrival): 2421

Number of Failed H2 Refuels (No resource on request): 0

--- Energy/Fuel Consumption ---

Total Electricity Consumed (Charging): 269,486.265 kWh

Total Hydrogen Consumed (Refueling): 0 kg

Average EV Driving Consumption: 0.6 kWh/km

Average H2V Driving Consumption: 0 kg/km

--- Environmental Impact ---

Baseline Diesel Emissions (est.): 114,824.038 kg CO2

EV Grid Electricity Emissions (est.): 62,871.146 kg CO2

H2 Production Emissions (est.): 0 kg CO2

Total Actual Emissions (Grid + H2 Prod.): 62,871.146 kg CO2

Estimated Total CO2 Saved: 51,952.893 kg CO2

--- Operational ---

Number of Infeasible EV Trips (Range Limit): 3180.0

Number of Infeasible H2V Trips (Range Limit): 0

Total Infeasible Trips (Range Limit): 3180.0

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END OF SIMULATION REPORT

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100% H2V

optimized

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HyBridge SIMULATION FINAL KPI REPORT

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--- Delivery Performance ---

Total Deliveries Completed: 11920

Average Delivery Cycle Time: 0.706 Hours

% Deliveries Completed: 99.316%

Average Vehicle Distance per Delivery: 36.764 km/order

Total Fleet Distance Traveled: 463,122.275 km

Overall Vehicle Utilization Rate: 61.437% (Time Active)

--- Infrastructure Use ---

Average EV Wait Time (Queuers Only): 0 Minutes

Maximum EV Wait Time: 0 Minutes

Average H2V Wait Time (Queuers Only): 5.861 Minutes

Maximum H2V Wait Time: 36 Minutes

Average EV Charger Utilization: 0 %

Average H2V Pump Utilization: 70.082 %

Number of Failed EV Charges (No resource on arrival): 0

Number of Failed H2 Refuels (No resource on request): 168

--- Energy/Fuel Consumption ---

Total Electricity Consumed (Charging): 0 kWh

Total Hydrogen Consumed (Refueling): 7,476.99 kg

Average EV Driving Consumption: 0 kWh/km

Average H2V Driving Consumption: 0.018 kg/km

--- Environmental Impact ---

Baseline Diesel Emissions (est.): 111,288.283 kg CO2

EV Grid Electricity Emissions (est.): 0 kg CO2

H2 Production Emissions (est.): 74,769.899 kg CO2

Total Actual Emissions (Grid + H2 Prod.): 74,769.899 kg CO2

Estimated Total CO2 Saved: 36,518.383 kg CO2

--- Operational ---

Number of Infeasible EV Trips (Range Limit): 0.0

Number of Infeasible H2V Trips (Range Limit): 985

Total Infeasible Trips (Range Limit): 985.0

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END OF SIMULATION REPORT

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50%/50%

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HyBridge SIMULATION FINAL KPI REPORT

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--- Delivery Performance ---

Total Deliveries Completed: 11749

Average Delivery Cycle Time: 1.036 Hours

% Deliveries Completed: 99.006%

Average Vehicle Distance per Delivery: 36.77 km/order

Total Fleet Distance Traveled: 459,586.879 km

Overall Vehicle Utilization Rate: 77.943% (Time Active)

--- Infrastructure Use ---

Average EV Wait Time (Queuers Only): 108.626 Minutes

Maximum EV Wait Time: 470 Minutes

Average H2V Wait Time (Queuers Only): 3.907 Minutes

Maximum H2V Wait Time: 10 Minutes

Average EV Charger Utilization: 5.57 %

Average H2V Pump Utilization: 33.97 %

Number of Failed EV Charges (No resource on arrival): 880

Number of Failed H2 Refuels (No resource on request): 187

--- Energy/Fuel Consumption ---

Total Electricity Consumed (Charging): 128,653.551 kWh

Total Hydrogen Consumed (Refueling): 3,655.202 kg

Average EV Driving Consumption: 0.6 kWh/km

Average H2V Driving Consumption: 0.017 kg/km

--- Environmental Impact ---

Baseline Diesel Emissions (est.): 110,438.727 kg CO2

EV Grid Electricity Emissions (est.): 30,014.874 kg CO2

H2 Production Emissions (est.): 36,552.02 kg CO2

Total Actual Emissions (Grid + H2 Prod.): 66,566.894 kg CO2

Estimated Total CO2 Saved: 43,871.833 kg CO2

--- Operational ---

Number of Infeasible EV Trips (Range Limit): 1526.0

Number of Infeasible H2V Trips (Range Limit): 467

Total Infeasible Trips (Range Limit): 1993.0

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END OF SIMULATION REPORT

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