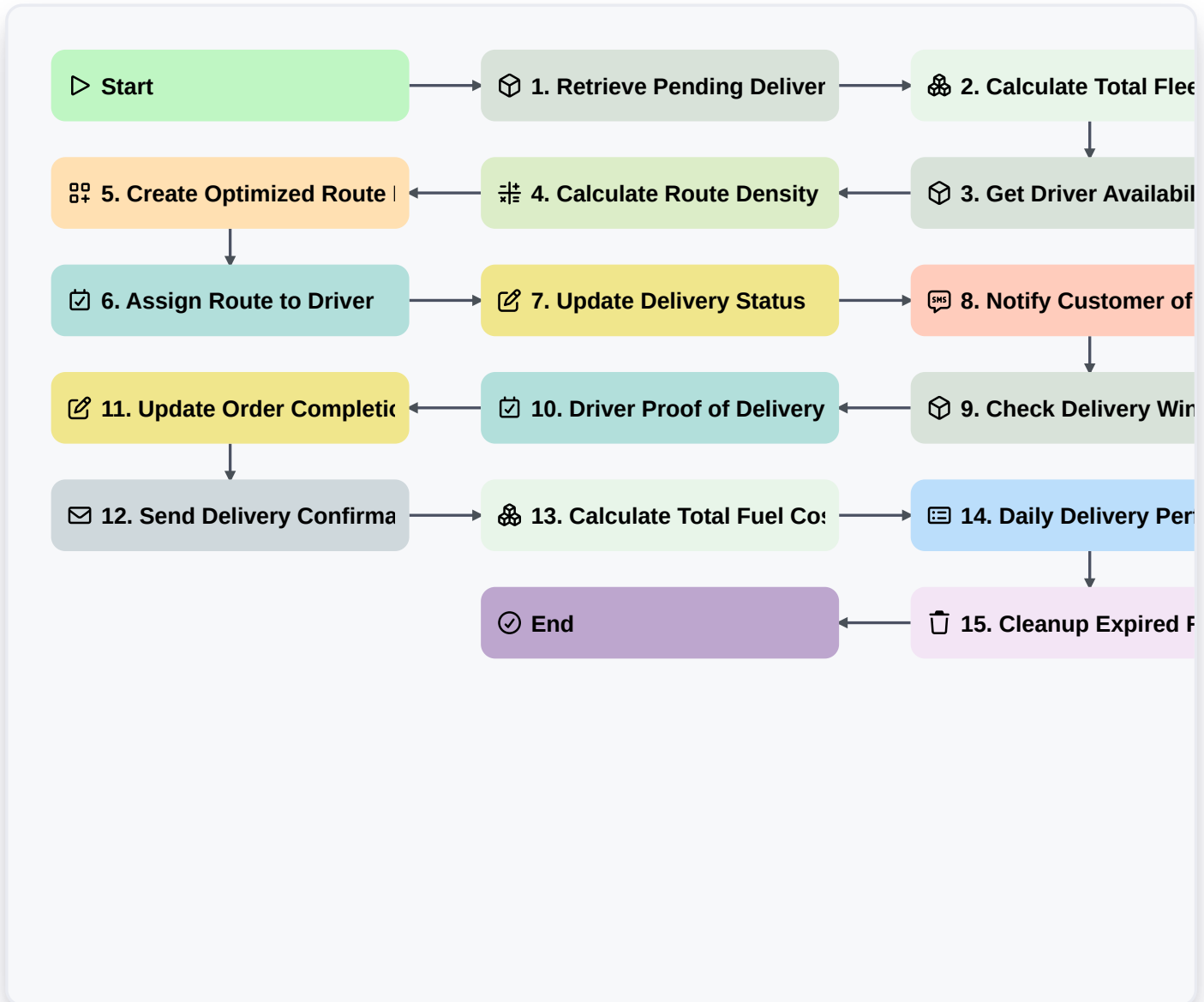


Last-Mile Delivery Optimization Process



Start

Start of the Workflow/Process.

1. Retrieve Pending Deliveries

Fetch all delivery entries with a status of 'Pending' or 'In Transit' from the Delivery Data Model.

2. Calculate Total Fleet Capacity

Sum the available volume/weight capacity of all active vehicle entries in the Fleet Data Model.

3. Get Driver Availability

Retrieve driver entries that are currently marked as 'On Duty' and have no active assignments.

4. Calculate Route Density

Calculate the ratio of total delivery stops to total available vehicle capacity to determine optimization needs.

5. Create Optimized Route Plan

Create a new 'Route Plan' entry in the Route Data Model containing the assigned stops and driver ID.

6. Assign Route to Driver

Create a task for the identified Driver to review and accept the newly generated Route Plan.



7. Update Delivery Status

Update the status of individual delivery entries from 'Pending' to 'Dispatched' once the route is confirmed.

8. Notify Customer of Departure

Send an SMS to the customer's phone number informing them that their delivery is on its way.

9. Check Delivery Window

Retrieve the 'Expected Delivery Window' from the Customer Order data model to ensure route alignment.

10. Driver Proof of Delivery Check

Create a task for the driver to upload a photo and signature upon completion of the delivery.

11. Update Order Completion

Update the original Order entry to 'Delivered' once the driver completes the task.

12. Send Delivery Confirmation

Send an automated email to the customer with the delivery summary and receipt.

13. Calculate Total Fuel Cost

Sum the estimated fuel costs for all routes within the current optimization batch.

14. Daily Delivery Performance Report

Generate a report summarizing successful deliveries, delays, and total distance traveled for the day.

15. Cleanup Expired Routes

Delete route plan entries that were created but never activated or have passed their expiration timestamp.

End

End of the Workflow/Process.