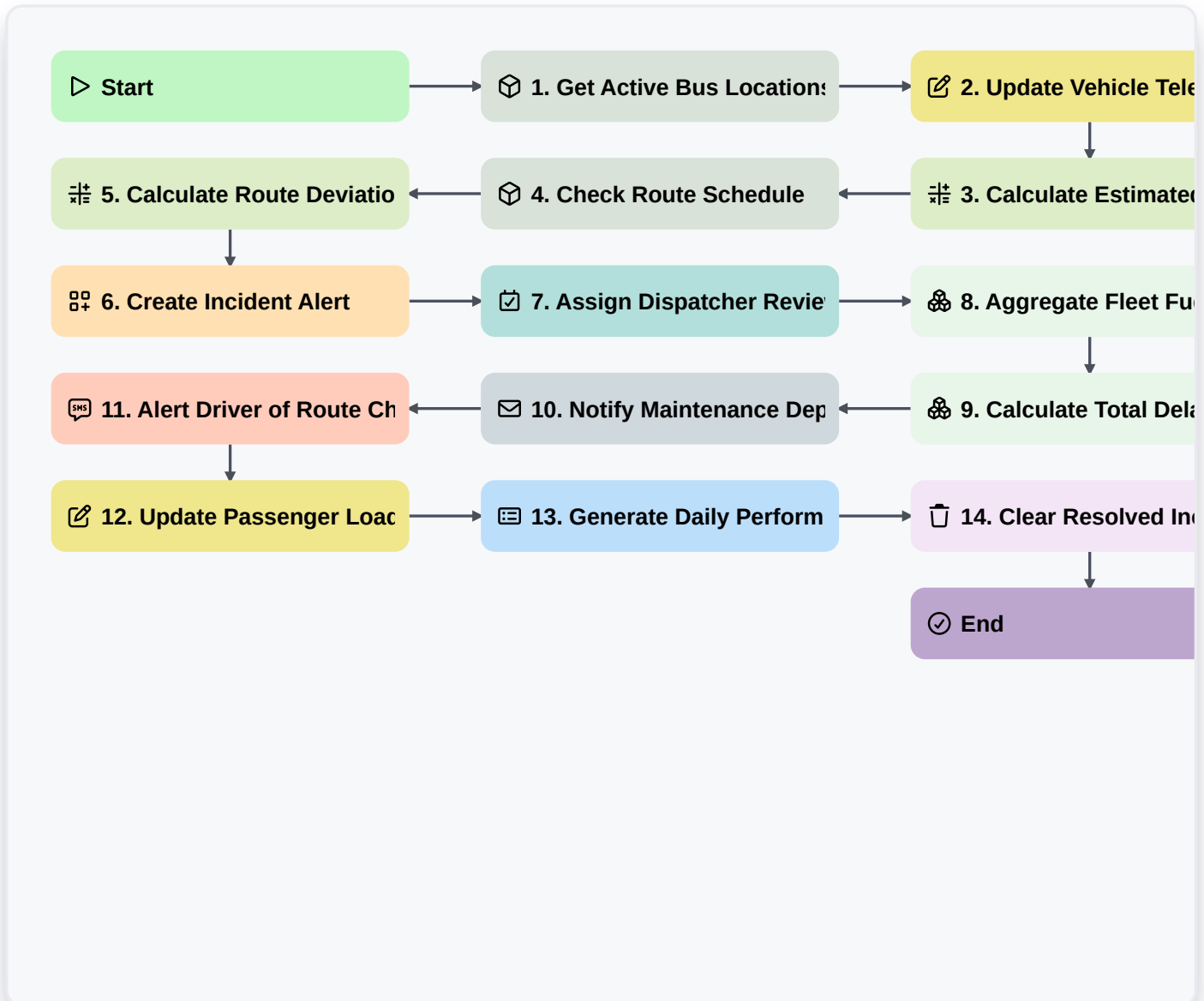


Real-Time Bus Tracking And Fleet Monitoring Workflow



Start

Start of the Workflow/Process.

1. Get Active Bus Locations

Retrieve the latest GPS coordinates and status for all buses currently marked as 'In Service' from the Fleet Data Model.

2. Update Vehicle Telemetry

Update existing bus entries with real-time fuel levels, engine temperature, and current speed.

3. Calculate Estimated Time of Arrival (ETA)

Calculate the projected arrival time at the next stop based on current speed, distance to stop, and traffic delay variables.

4. Check Route Schedule

Retrieve the predefined timetable and stop sequence for the specific route assigned to the bus.



5. Calculate Route Deviation

Compare current GPS coordinates against the authorized route path to detect if the bus has moved off-course.

6. Create Incident Alert

Create a new entry in the 'Incidents' data model when a deviation or breakdown is detected.

7. Assign Dispatcher Review

Create a task for the Fleet Dispatcher to review and acknowledge the newly created Incident Alert.

8. Aggregate Fleet Fuel Levels

Calculate the average fuel level across the entire fleet to determine refueling urgency.

9. Calculate Total Delay Minutes

Sum the total minutes of delay across all active routes to assess network-wide congestion.

10. Notify Maintenance Department

Send an email to the maintenance team when a bus telemetry update indicates an engine temperature threshold breach.

11. Alert Driver of Route Change

Send an SMS to the driver's mobile device if a new instruction or detour is issued by dispatch.

12. Update Passenger Load Info

Update the 'Bus Capacity' entry with current passenger counts retrieved from onboard sensors.

13. Generate Daily Performance Report

Create a summary report at the end of the shift showing total distance traveled, on-time performance, and fuel efficiency.

14. Clear Resolved Incidents

Delete or archive incident entries from the active dashboard once the Dispatcher marks the task as complete.

End

End of the Workflow/Process.