

# **Route Optimization Analysis Checklist**

#### **Data Gathering & Preparation**

Focuses on collecting and cleaning the data needed for route optimization. This includes location data, traffic patterns, delivery windows, vehicle characteristics, and constraints.

Write something		
Upload Customer Addres  Lupload File	ss Data (CSV, Excel, etc.)	
	tions	

/	Set My Current Location	
Google		Map data ©2025
Data Format of Loc	ation Data	
Latitude/Longitude		
Street Address		
Other		
Account Deales as M	Mainted (Lorello a)	
Average Package V	veignt (kg/ibs)	
Enter a number		
Enter a number		
	us ata di O a li a ata d	
Enter a number  Date Data Was Extr	acted/Collected	

Describe any Data Cleaning/Transformation Steps	
Write something	
Problem Definition & Objective Setting	
Clearly defines the optimization problem and establishes specific, meas This ensures the analysis focuses on the right goals.	surable objectives.
Describe the overall logistical challenge this route optimization address.	aims to
Write something	
Define the maximum allowable increase in delivery time (in minu	ıtes).
Enter a number	
What is the primary objective of the route optimization?	
Minimize Total Distance	
Minimize Travel Time	
Minimize Fuel Consumption	
Maximize Number of Deliveries	

Which constraints must be considered during optimization? (Select all that apply)
☐ Time Windows
Vehicle Capacity
Driver Hours
Road Restrictions (e.g., weight limits, no-truck zones)
Service Level Agreements (SLAs)
Define the total number of deliveries to be optimized.
Enter a number
What is the start date for the optimization analysis?
Enter date
Describe any specific customer requirements or service level agreements (SLAs) that must be adhered to.
Write something

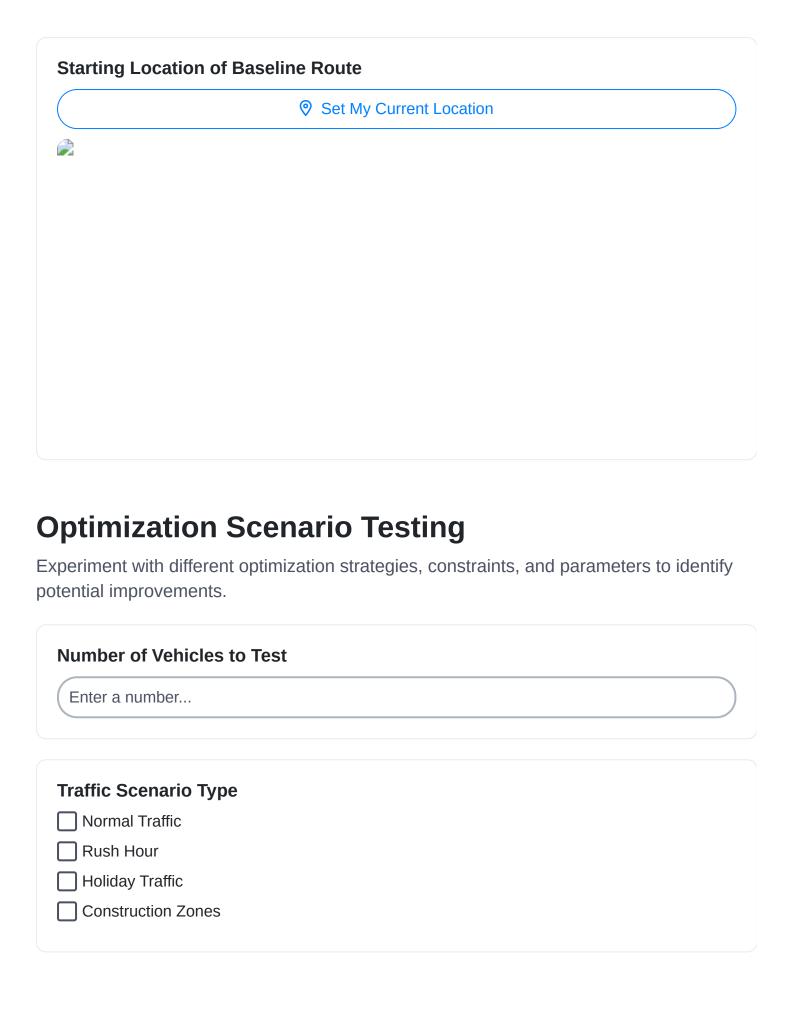
### **Algorithm Selection & Model Configuration**

Choosing the appropriate route optimization algorithm (e.g., Traveling Salesperson, Vehicle Routing Problem solvers) and configuring it with relevant parameters.

Primary Optimization Algorithm  Traveling Salesperson Problem (TSP)  Vehicle Routing Problem (VRP)  Genetic Algorithm  Simulated Annealing  Other (Specify in Long Text)	
Number of Vehicles Considered  Enter a number	
Algorithm Specific Configuration Details (e.g., mutation rates, crossover probabilities)  Write something	
Objective Function Weighting (if applicable)  Distance Time Fuel Consumption Cost	
Maximum Route Deviation (for feasibility)  Enter a number	

Constraints Applied Time Windows Vehicle Capacity Driver Hours Road Restrictions Traffic Patterns	
Input Data File (e.g., CSV, Excel)  Lipload File	
Any specific limitations or assumptions applied to the algorithm.	
Write something	
Base Route Analysis & Key Performance Indicators (KPIs)  Establish a baseline route and measure initial performance using key metrics like distance, time, fuel consumption, and cost.	
Total Route Distance (Miles/KM)	
Enter a number	
Total Travel Time (Hours/Minutes)	
Enter a number	

Fuel Consumption (Gallons/Liters)	
Enter a number	
Total Vehicle Operating Cost (\$)	
Enter a number	
Number of Deliveries/Dielyman	
Number of Deliveries/Pickups	
Enter a number	
Vehicle Type Used for Baseline Route	
☐ Van	
☐ Truck	
Car	
Other Other	
Notes on Baseline Route Challenges/Inefficiencies	
Write something	
Date of Baseline Route Assessment	
Enter date	



Maximum Distance Deviation (%),	
Enter a number	
Maximum Time Deviation (minutes)	
Enter a number	
Constraints to Relax (for sensitivity analysis)	
Time Windows	
☐ Vehicle Capacity	
Driver Hours	
Route Priorities	
Notes on specific test configurations	
Write something	
Date of Scenario Test	
Enter date	
Time of Scenario Test	

## **Constraint Management & Feasibility Checks**

Ensuring proposed routes comply with all logistical constraints, including time windows, vehicle capacity, driver hours, and legal regulations.

Maximum Vehicle Capacity (Weight/Volume)
Enter a number
Maximum Driver Hours per Day
Enter a number
Vehicle Type Restrictions (e.g., bridges, roads)
□ None □ Restricted Bridges
Restricted Bridges Restricted Roads
Low Emission Zones
Earliest Delivery/Pickup Time (Per Stop)
Latest Delivery/Pickup Time (Per Stop)
Time Window Conflicts (Select all that apply)
Weekend Delivery Restrictions
Holiday Delivery Restrictions
Specific Hour Restrictions
Legal Regulations Compliance
Checked - Complies with all relevant regulations
Requires Review

Write something			
			1.

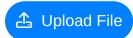
#### **Route Visualization & Validation**

Visualizing the optimized routes to assess feasibility, identify potential issues, and ensure driver usability.

Describe the visualization tool used (e.g., Google Maps, dedicated routing software)

Write something...

Upload screenshots of the optimized route visualization.



	Set My Current Location	
	viations from the original route identified during visual	
inspection.		
Enter a numbe		pply)
Enter a numbe	ential issues observed during visualization (check all that ap	ply)
Enter a number  Select any po	ential issues observed during visualization (check all that ap	ply)
Enter a number  Select any po  Route appea	ential issues observed during visualization (check all that ap	ply)
Enter a number  Select any po  Route appea  Distance see	ential issues observed during visualization (check all that apos illogical	ply)
Enter a number  Select any po  Route appea  Distance see  Time estimat  Potential traf	ential issues observed during visualization (check all that apos illogical ms excessive es appear inaccurate	ply)
Enter a number  Select any po  Route appea  Distance see  Time estimat  Potential traf	ential issues observed during visualization (check all that ap is illogical instance excessive es appear inaccurate ic bottlenecks g conditions identified	ply)
Enter a number  Select any po Route appea Distance see Time estimat Potential traf Unsafe drivir	ential issues observed during visualization (check all that ap is illogical instance excessive es appear inaccurate ic bottlenecks g conditions identified	ply)
Enter a number  Select any po Route appea Distance see Time estimat Potential traf Unsafe drivir No issues ob	ential issues observed during visualization (check all that ap is illogical instance excessive es appear inaccurate ic bottlenecks g conditions identified	
Enter a number  Select any po Route appea Distance see Time estimat Potential traf Unsafe drivir No issues ob	ential issues observed during visualization (check all that ap sillogical ms excessive es appear inaccurate ic bottlenecks g conditions identified served	

Needs Modification  Cost-Benefit Analysis & ROI Calculation  valuating the potential cost savings and return on investment (ROI) associated with applementing the optimized routes.
valuating the potential cost savings and return on investment (ROI) associated with
Estimated Fuel Savings (per week/month/year)
Enter a number
Estimated Driver Labor Savings (per week/month/year)
Enter a number
Estimated Vehicle Maintenance Cost Savings (per year)
Enter a number
Implementation Cost (Software/Hardware/Training)
Enter a number
Ongoing Software Subscription/Maintenance Costs (per year)
Enter a number

Write something			
Projected Payback Perio	od (in months)		
Enter a number			
estimated Annual ROI (9	%)		
Enter a number			
lotes/Caveats Regardin	g Cost-Benefit	Analysis	
Write something			

Planning for the rollout of the optimized routes, training drivers, and communicating changes effectively.

ì	Draft	Comm	unicatio	n Dlan	for	Drivore
	ınanı		HIMIC'ALIC	m Pian	1737	

Write something...

Driver Training Method  In-Person Workshop Online Video Tutorial Printed Manual Combination of Methods
Training Session Start Date
Enter date
Number of Drivers Requiring Training
Enter a number
Communication Channels to Drivers    Email   Team Meeting   Mobile App Notification   Notice Board
Outline key talking points for driver briefings.
Write something
Designated Point Person for Driver Support  Logistics Manager  Dispatch Team  Dedicated Route Optimization Support

# Upload training materials (e.g. route maps, guidelines) ① Upload File

#### **Monitoring & Continuous Improvement**

Establishing mechanisms to monitor route performance post-implementation and making adjustments as needed to maintain efficiency.

Average Route Deviation (km/route)	
Enter a number	
Fuel Consumption Variance (%)	
Enter a number	
Delivery Time Variance (minutes)	
Enter a number	
Driver Feedback Frequency	
Daily	
Weekly	
Monthly Monthly	
Quarterly	
Summary of Driver Feedback (Last Review)	
Write something	

Last Route Optimization Review Date
Enter date
Areas for Potential Improvement (select all that apply)
Traffic Prediction Accuracy
Driver Skillset
Vehicle Maintenance
Delivery Window Accuracy
Route Sequencing
Number of Unplanned Stops/Diversions (per month)
Enter a number