



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to KCK & Co

Objective of the JRM Report

This JRM report is designed to ensure compliance with the Central Motor Vehicle Rules, 1989 (CMVR), AIS 140 standards, and the Road Transport Safety Policy (RTSP). It provides a comprehensive risk assessment for the transportation of hazardous materials along specified routes. By integrating these legal frameworks, the report offers a broad strategy for identifying and mitigating route-specific risks.

Regulatory Compliance

The report complies with the Central Motor Vehicles (Eleventh Amendment) Rules, 2022, mandating safe transportation practices for N2 and N3 category vehicles carrying hazardous materials. These rules require detailed route assessments, especially regarding road conditions, speed limits, and risk areas, to ensure safety compliance.

Risk Management Strategy

This report categorizes transportation routes into high-risk and medium-risk areas, with a focus on factors such as sharp turns, accident-prone regions, and elevation changes. The goal is to provide actionable

recommendations to minimize these risks, including speed regulations, driver warnings for hazardous zones, and the option of alternate routes.

Compliance with the Road Transport Safety Policy (RTSP)

The report integrates RTSP provisions, including mandatory driving hours, rest periods, and nighttime driving restrictions. It ensures that drivers follow official guidelines, such as taking prescribed rest breaks and avoiding dangerous road conditions like poor visibility, heavy crowds, or high-traffic areas during peak hours.

Emergency Preparedness and Response

The report highlights the significance of predetermined emergency stops for refueling, rest, and overnight stays. It includes protocols for safe responses to road hazards, alternative routes, and rerouting processes if roads are closed or severe weather arises. This aligns with the RTSP emphasis on driver safety and rapid emergency response.

Environmental Considerations

The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental impacts during transport.

Journey Risk Mitigation

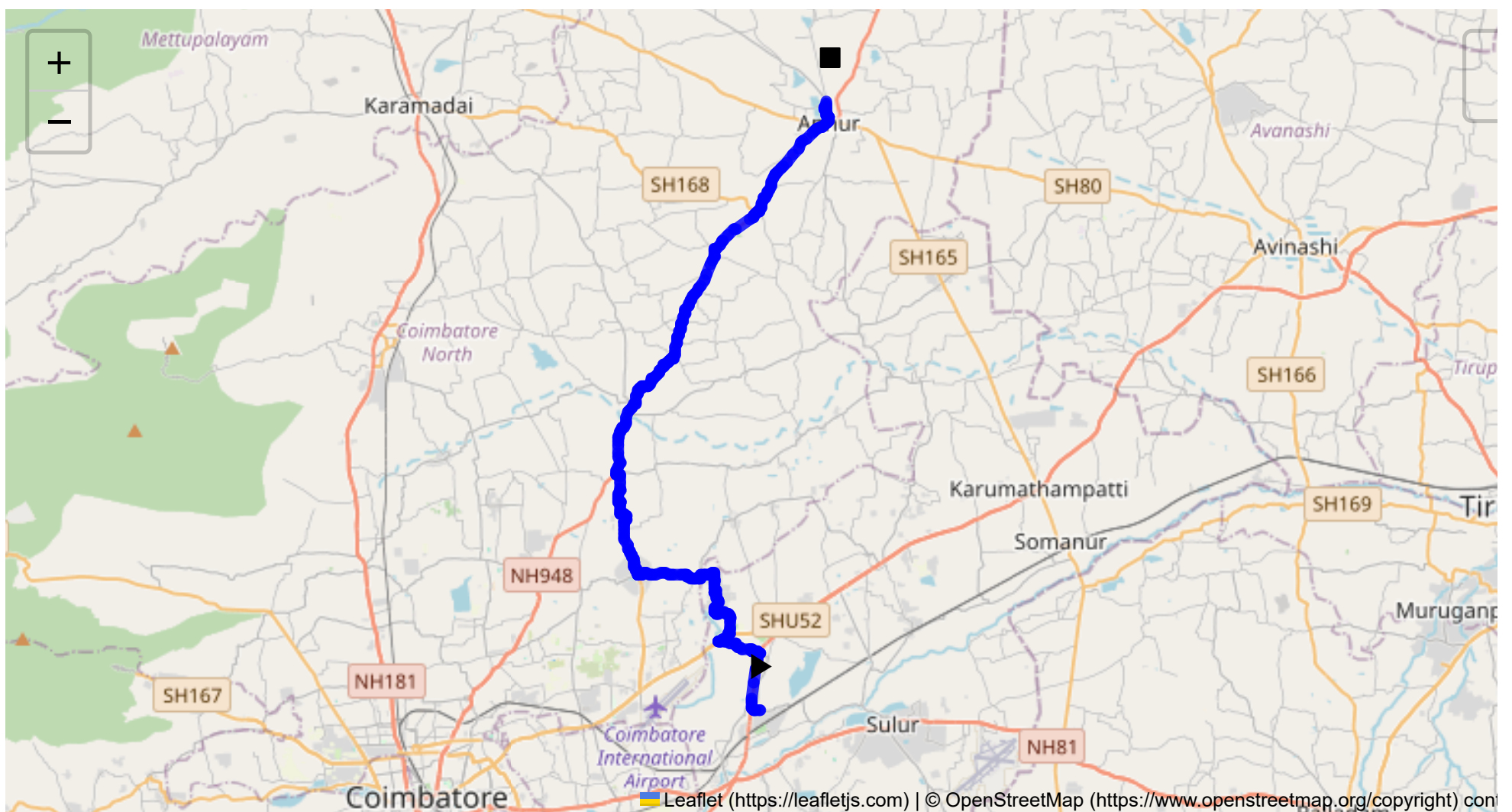
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety norms.

Compliance with Government Directives

This report fully adheres to governmental directives regarding hazardous material transportation, implementing mandatory speed limits, nighttime driving restrictions, and comprehensive driver briefings and real-time alerts about route-related risks.



Route Summary:
Total Distance: 32.43 km
Estimated Duration: 0.9 hours
Adjusted Duration (Heavy Vehicle): 1.2 hours
Start: (11.0315, 77.0797)
End: (11.24026, 77.103207)



Welcome to the Journey Risk Management Study

Certainly! Here's a comprehensive analysis of the route from Athappagoundenpudur, Coimbatore to Annur, Allapalayam, Tamil Nadu via Chinniyampalayam and GEM Nagar:

1. Overview of the Route Map

The route stretches approximately 32.43 kilometers and is predominantly rural with suburban sections. It includes highways and local roads, with multiple intersections in populated areas such as Chinniyampalayam and Annur.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Weather Conditions:** The region experiences a tropical climate. Summers (March-June) are hot, while monsoons (June-September) bring heavy rain.
- **Potential Hazards:** During monsoon season, roads may be prone to flooding and reduced visibility. Dust and exhaust are concerns during dry weather periods.

3. Analysis of Traffic Patterns

- **Peak Hours:** Morning (8:00-10:00 AM) and evening (5:00-8:00 PM) show increased traffic, especially near urban centers.
- **Congestion-Prone Areas:** Chinniyampalayam experiences significant congestion due to market activity and narrow roads.

4. Assessment of Road Quality and Infrastructure

- **Road Quality:** Varies from well-maintained highways to rough patches in rural sections. Watch for potholes and uneven surfaces.
- **Infrastructure:** Limited street lighting in rural areas poses risks during night travel. Bridge conditions are generally satisfactory, but caution for weight limits should be observed.

5. Suggestions for Alternative Routes for Emergencies

- **Alternative Route:** Increasing weather-related issues or traffic snarls may require deviation via NH544, which connects Coimbatore to Annur more directly though typically longer in distance.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Regulations:** Compliance with the Motor Vehicles Act is critical. Transport of hazardous materials requires special permits. Key regulations include speed restrictions and specific travel times to avoid peak traffic.

7. Overview of Historical Incidents

- Historical records suggest minor incidents involving heavy vehicles, commonly due to driver fatigue and mechanical failures. No significant hazardous material spills noted recently.

8. Environmental Considerations and Sensitive Areas

- Acute sensitivity needed around water bodies near Mylampatti and agricultural fields to prevent contamination.
- Noise and air pollution must be minimized near Chinniyampalayam due to residential areas.

9. Analysis of Communication Coverage

- **Coverage:** Good cellular coverage throughout most of the route, with possible weak spots in rural areas. Internet connectivity might fluctuate.

10. Estimated Emergency Response Times

- **Emergency Services:** Average response time is approximately 30-45 minutes. Urban areas like Coimbatore offer quicker emergency services than rural sections.

11. An Overall Summary of Risk Assessment

The route necessitates caution due to varied road quality and susceptibility to climate impacts, especially during monsoons. Traffic peaks and potential congestion require strategic travel planning. The infrastructure is generally sufficient but demands vigilance, especially when transporting hazardous materials. Historical data suggests safe passage under compliance with regulations and observance of environmental considerations. Emergency response times are moderate, hence preemptive safety measures and sound communication plans are critical.

In conclusion, while travel on this route can be executed safely, recognizing potential hazards and adhering to local guidelines is essential for a smooth transit, especially for vehicles carrying hazardous materials. Regular updates on weather patterns and road conditions should be accessed to ensure preparedness and timely action.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.07800, 77.03707	15 KM/Hr
1	U-Turn	High	11.0549503, 77.0650284	10 KM/Hr
2	Turn	High	11.03211, 77.07640	15 KM/Hr
3	Turn	High	11.05129, 77.07919	15 KM/Hr
4	Turn	High	11.05181, 77.07696	15 KM/Hr
5	Turn	High	11.05222, 77.07690	15 KM/Hr
6	Turn	Medium	11.05281, 77.07261	30 KM/Hr
7	Turn	Medium	11.05343, 77.07106	30 KM/Hr
8	Turn	High	11.05351, 77.07099	15 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
9	Turn	High	11.05411, 77.07097	15 KM/Hr
10	Turn	High	11.05529, 77.06566	15 KM/Hr
11	Turn	High	11.05495, 77.06503	15 KM/Hr
12	Blind Spot	Blind Spot	11.05507, 77.06496	10 KM/Hr
13	Turn	High	11.05751, 77.06875	15 KM/Hr
14	Turn	High	11.06437, 77.06865	15 KM/Hr
15	Turn	High	11.06490, 77.06371	15 KM/Hr
16	Turn	Medium	11.06501, 77.06366	30 KM/Hr
17	Turn	Medium	11.07201, 77.06366	30 KM/Hr
18	Turn	Medium	11.07209, 77.06370	30 KM/Hr
19	Turn	Medium	11.07220, 77.06393	30 KM/Hr
20	Turn	Medium	11.07232, 77.06400	30 KM/Hr
21	Blind Spot	Blind Spot	11.07865, 77.06377	10 KM/Hr
22	Turn	High	11.07773, 77.05884	15 KM/Hr
23	Turn	Medium	11.07655, 77.05823	30 KM/Hr
24	Turn	Medium	11.07854, 77.03872	30 KM/Hr
25	Turn	Medium	11.09589, 77.03170	30 KM/Hr
26	Turn	Medium	11.09605, 77.03172	30 KM/Hr
27	Turn	Medium	11.09655, 77.03237	30 KM/Hr
28	Turn	Medium	11.09846, 77.03245	30 KM/Hr
29	Turn	High	11.09883, 77.03091	15 KM/Hr
30	Turn	High	11.10301, 77.03046	15 KM/Hr
31	Turn	Medium	11.10312, 77.03001	30 KM/Hr
32	Turn	Medium	11.10320, 77.02990	30 KM/Hr
33	Turn	Medium	11.10331, 77.02984	30 KM/Hr
34	Blind Spot	Blind Spot	11.11250, 77.03030	10 KM/Hr
35	Blind Spot	Blind Spot	11.11256, 77.02901	10 KM/Hr
36	Turn	Medium	11.23309, 77.10252	30 KM/Hr
37	Blind Spot	Blind Spot	11.23330, 77.10347	10 KM/Hr
38	Turn	Medium	11.23489, 77.10353	30 KM/Hr
39	Turn	Medium	11.23501, 77.10348	30 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	KGM, Chinniampalayam	11.0570076, 77.067239	30 km/h	Medium
1	hospital	Chinniampalayam Venkateshwara Hospital	11.0545152, 77.0652106	30 km/h	Medium
3	hospital	R V Hospital, Coimbatore	11.0546916, 77.0639178	30 km/h	Medium
4	hospital	Kamalaprakasam, Kalapatti	11.0778, 77.035681	30 km/h	Medium
6	hospital	Aravindan Hospital	11.1334592, 77.0340488	30 km/h	Medium
7	hospital	Sampath Hospital ,S.S.Kulam	11.1339, 77.034088	30 km/h	Medium
8	hospital	Gokulam ortho hospital	11.1340331, 77.0350369	30 km/h	Medium
9	hospital	Sanjeevani Hospital And Maternity Home, Annur	11.21711, 77.0872946	30 km/h	Medium
11	hospital	R.G. Hospital	11.23188, 77.100705	30 km/h	Medium
12	police	Annur Police Station	11.2315485, 77.1014321	30 km/h	Medium
13	hospital	NM Hospital	11.23271, 77.10187	30 km/h	Medium
14	hospital	Shanthi Medical Foundation	11.232428, 77.1016701	30 km/h	Medium
15	hospital	Government Hospital, Annur	11.2325, 77.102249	30 km/h	Medium

Crowded Spots

	type	name	coordinates	speed_limit	risk_level
2	school	Government school	11.0554435, 77.0653927	30 km/h	Medium
5	college	KV Institute of Management and Information Studies	11.1050789, 77.0276575	30 km/h	Medium
10	school	St. Mary's Convent Matriculation Higher Secondary School	11.2296044, 77.0928116	30 km/h	Medium
16	marketplace	Annur saturday market (weekly market)	11.2349165, 77.1028197	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07800, 77.03707



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Coordinates: 11.0549503, 77.0650284



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.03211, 77.07640



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05129, 77.07919



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.05181, 77.07696



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.05222, 77.07690



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.05281, 77.07261



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05343, 77.07106



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05351, 77.07099



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05411, 77.07097



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05529, 77.06566



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05495, 77.06503



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.05507, 77.06496



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05751, 77.06875



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06437, 77.06865



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06490, 77.06371



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.06501, 77.06366



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07201, 77.06366



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07209, 77.06370



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07220, 77.06393



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07232, 77.06400



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.07865, 77.06377



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07773, 77.05884



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07655, 77.05823



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07854, 77.03872



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.09589, 77.03170



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.09605, 77.03172



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09655, 77.03237



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09846, 77.03245



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.09883, 77.03091



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.10301, 77.03046



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10312, 77.03001



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.10320, 77.02990



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.10331, 77.02984



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.11250, 77.03030



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.11256, 77.02901



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.23309, 77.10252



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.23330, 77.10347



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.23489, 77.10353



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.23501, 77.10348
