



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to Tamilnadu Newsprint & Papers Ltd

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

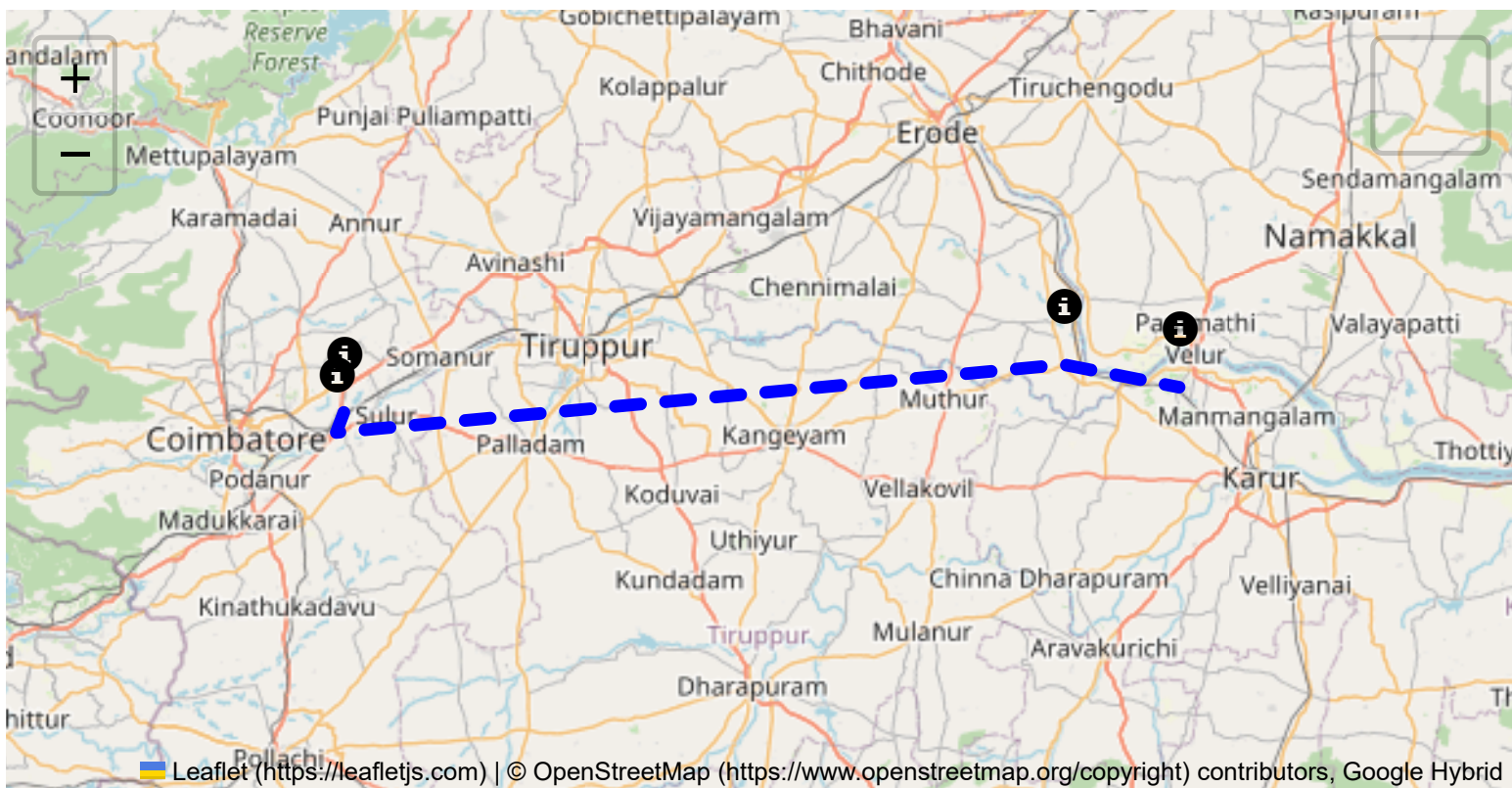
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

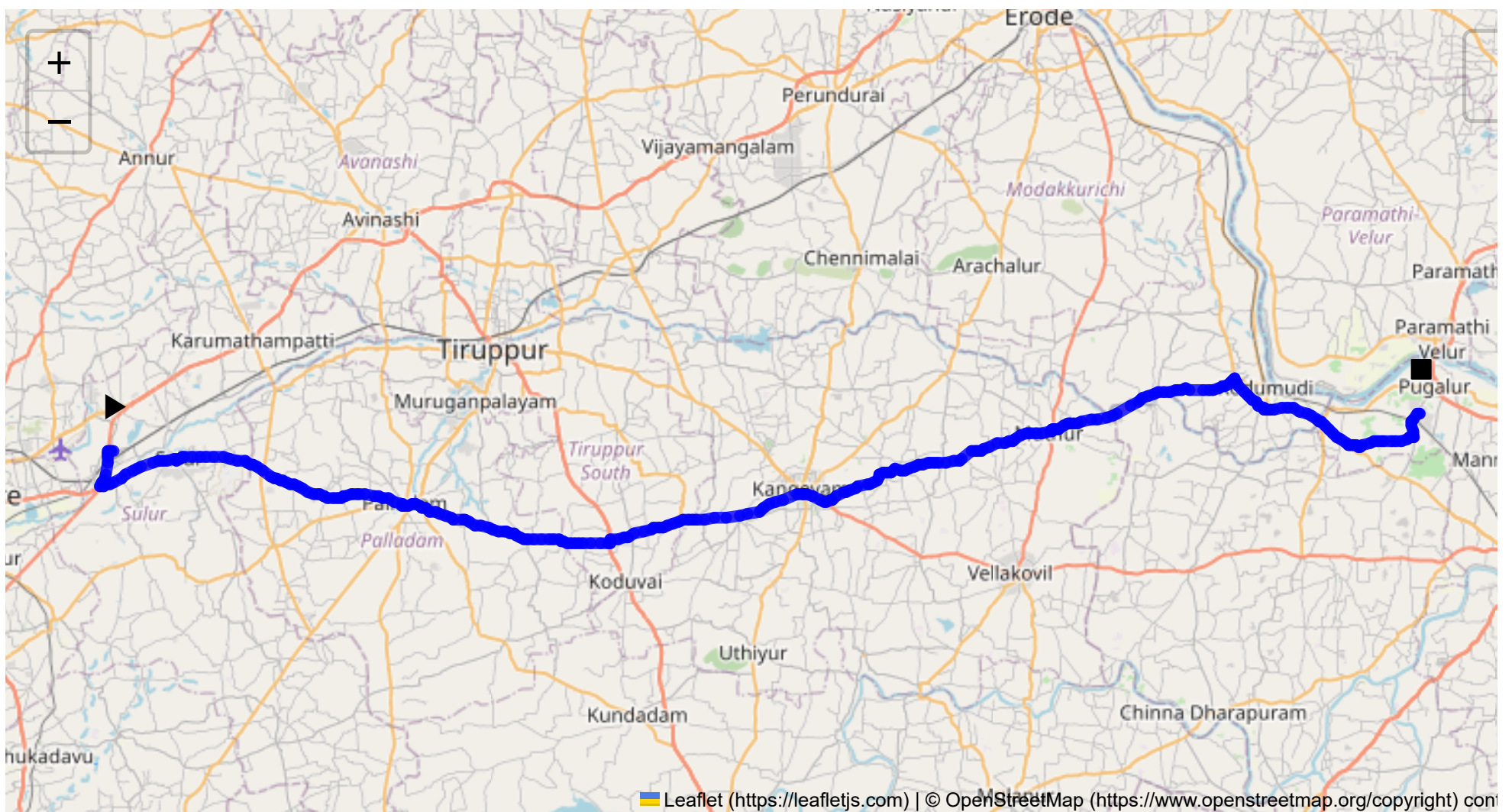
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 113.50 km
Estimated Duration: 2.4 hours
Adjusted Duration (Heavy Vehicle): 3.0 hours
Start: (11.0315, 77.0797)
End: (11.057215, 77.99309)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route begins in Athappagoundenpudur, Coimbatore, and concludes in Kagithapuram, Tamil Nadu. The journey moves southeast via Trichy Road in Coimbatore, passing through Chinthamanipudur, and then heads northeast through Kodumudi before reaching Kagithapuram. The major highways and roads involved include Trichy Road and other regional roads leading to Kodumudi and Kagithapuram.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Seasons:** The area experiences a tropical climate, with the monsoon season roughly between June and September, which may cause heavy rainfall along the route.
- **Hazards:** Flooding and waterlogging are possible during monsoons, especially in low-lying areas. During summer (March to May), high temperatures can affect road surfaces and vehicle maintenance.

3. Analysis of Traffic Patterns

- **Peak Hours:** Morning (7 AM - 10 AM) and evening (5 PM - 8 PM) are typically busy due to commuter traffic, especially near urban centers like Coimbatore.
- **Congestion-Prone Areas:** Possible congestion near Coimbatore, especially around Trichy Road due to business and residential activities.

4. Assessment of Road Quality and Infrastructure

- **Road Quality:** Major highways such as Trichy Road are generally well-maintained, although minor roads nearer to rural areas like Kodumudi might show signs of wear and tear.
- **Infrastructure:** Some areas may lack adequate signage and lighting, particularly rural segments.

5. Suggestions for Alternative Routes for Emergencies

- Consider bypassing major urban centers during peak hours or in the event of severe congestion. Alternative routes could involve regional roads connecting directly between key points like Coimbatore and Kodumudi.
- For floods, assess rural detours that avoid identified low-lying road segments.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- Permits and licenses are mandatory for transporting hazardous materials, with restrictions potentially applying to times of day and urban areas to minimize risk.
- Checkpoints and weigh stations may enforce compliance along the route.

7. Overview of Historical Incidents

- Incidents involving heavy vehicles often occur near Coimbatore due to high traffic volumes. Notable cases usually involve collisions or vehicle overturns, frequently caused by speed or road conditions.
- Consult local traffic reports for specific historical data insights.

8. Environmental Considerations and Sensitive Areas

- Care should be taken near agricultural zones along the route, especially as hazardous materials can pose risks to water and soil.

- Additionally, any nearby protected ecological systems must be considered when planning stops or detours.

9. Analysis of Communication Coverage

- Urban areas like Coimbatore generally have strong communication networks. However, rural segments, especially those near Kodumudi, could experience communication dead zones.
- Ensure communication devices are fully charged, and consider satellite phones for uninterrupted service.

10. Estimated Emergency Response Times

- **Urban Areas:** Faster response times (approximately 15-30 minutes) due to proximity to emergency services.
- **Rural Areas:** Response might exceed 45 minutes due to distance from emergency responders.

12. Overall Summary of Risk Assessment

The route requires careful attention to various risks, including traffic congestion, road quality, and environmental concerns. Awareness of weather conditions is crucial, particularly during monsoon months. Ensuring compliance with local regulations for hazardous materials and maintaining communication and navigation systems are recommended to minimize potential risks. Regular route updates and emergency plans should be maintained as part of the risk management strategy.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.04633, 77.73751	15 KM/Hr
1	Blind Spot	Blind Spot	11.03211, 77.07640	10 KM/Hr
2	Blind Spot	Blind Spot	11.00778, 77.07085	10 KM/Hr
3	Turn	Medium	11.02535, 77.12419	30 KM/Hr
4	Turn	Medium	11.02774, 77.12761	30 KM/Hr
5	Turn	Medium	10.99570, 77.28153	30 KM/Hr
6	Turn	Medium	10.99535, 77.28179	30 KM/Hr
7	Turn	High	10.99416, 77.28200	15 KM/Hr
8	Turn	High	10.96823, 77.42701	15 KM/Hr
9	Turn	High	10.97042, 77.42713	15 KM/Hr
10	Turn	Medium	11.01178, 77.61449	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
11	Turn	Medium	11.01467, 77.61560	30 KM/Hr
12	Turn	Medium	11.01704, 77.62328	30 KM/Hr
13	Turn	Medium	11.01801, 77.63357	30 KM/Hr
14	Turn	Medium	11.05057, 77.74878	30 KM/Hr
15	Blind Spot	Blind Spot	11.08078, 77.86455	10 KM/Hr
16	Turn	Medium	11.03600, 77.94381	30 KM/Hr
17	Turn	High	11.03611, 77.94602	15 KM/Hr
18	Turn	Medium	11.03579, 77.94639	30 KM/Hr
19	Turn	High	11.03581, 77.94847	15 KM/Hr
20	Turn	Medium	11.03450, 77.95047	30 KM/Hr
21	Blind Spot	Blind Spot	11.04051, 77.98977	10 KM/Hr
22	Turn	Medium	11.05169, 77.98844	30 KM/Hr
23	Blind Spot	Blind Spot	11.05736, 77.99171	10 KM/Hr
24	Blind Spot	Blind Spot	11.05677, 77.99282	10 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	Saraswathi Hospital	11.0069868, 77.071368	30 km/h	Medium
1	clinic	Dr. V. Ramakrishnan Clinic	11.0086635, 77.081108	30 km/h	Medium
2	police	Sulur Police Station	11.0248612, 77.1204842	30 km/h	Medium
3	hospital	Government Hospital, Sulur	11.0247544, 77.1228621	30 km/h	Medium
4	hospital	Balaji Hospital, Sulur	11.0277947, 77.1298133	30 km/h	Medium
7	hospital	Ponni Hospital - Palladam	10.9965327, 77.2758865	30 km/h	Medium
8	police	Palladam Police Station	10.9966966, 77.279193	30 km/h	Medium
9	clinic	Rajeshwari Nursing Home	10.9953069, 77.2841138	30 km/h	Medium
10	hospital	Palladam Government Hospital	10.9962561, 77.2803585	30 km/h	Medium
11	hospital	Sanjeevi Hospital, Palladam	10.9963103, 77.2800924	30 km/h	Medium
12	hospital	Balaji Hospital	10.9936939, 77.2849449	30 km/h	Medium
13	hospital	Ponni Hospital, Coimbatore	10.9955604, 77.2887151	30 km/h	Medium
16	hospital	J K Hospital	11.0042298, 77.5603345	30 km/h	Medium
17	police	Kangeyam Police Station	11.0011411, 77.562688	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
19	hospital	Malar Hospital, Muthur	11.0438049, 77.7361156	30 km/h	Medium

Crowded Spots

	type	name	coordinates	speed_limit	risk_level
5	school	Kendriya Vidhyalaya School	11.0254394, 77.1609298	30 km/h	Medium
6	school	Infant Jesus Matriculation Higher Secondary School	10.9986758, 77.2493732	30 km/h	Medium
14	school	PVKN Higher Secondary School	10.9711766, 77.3699335	30 km/h	Medium
15	school	Pongalur Uppathiyar Venkadasamy Naidu Elementry School	10.9703113, 77.3693546	30 km/h	Medium
18	school	Carmel Girls Higher Secondary School	11.0009019, 77.5710182	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.04633, 77.73751



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.03211, 77.07640



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.00778, 77.07085



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.02535, 77.12419



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.02774, 77.12761



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 10.99570, 77.28153



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 10.99535, 77.28179



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 10.99416, 77.28200



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 10.96823, 77.42701



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 10.97042, 77.42713



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.01178, 77.61449



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.01467, 77.61560



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.01704, 77.62328



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.01801, 77.63357



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.05057, 77.74878



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.08078, 77.86455



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.03600, 77.94381



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.03611, 77.94602



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.03579, 77.94639



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.03581, 77.94847



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.03450, 77.95047



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.04051, 77.98977



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.05169, 77.98844



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.05736, 77.99171
