



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### IOCL Coimbatore Terminal to Loghu Agency

#### 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**

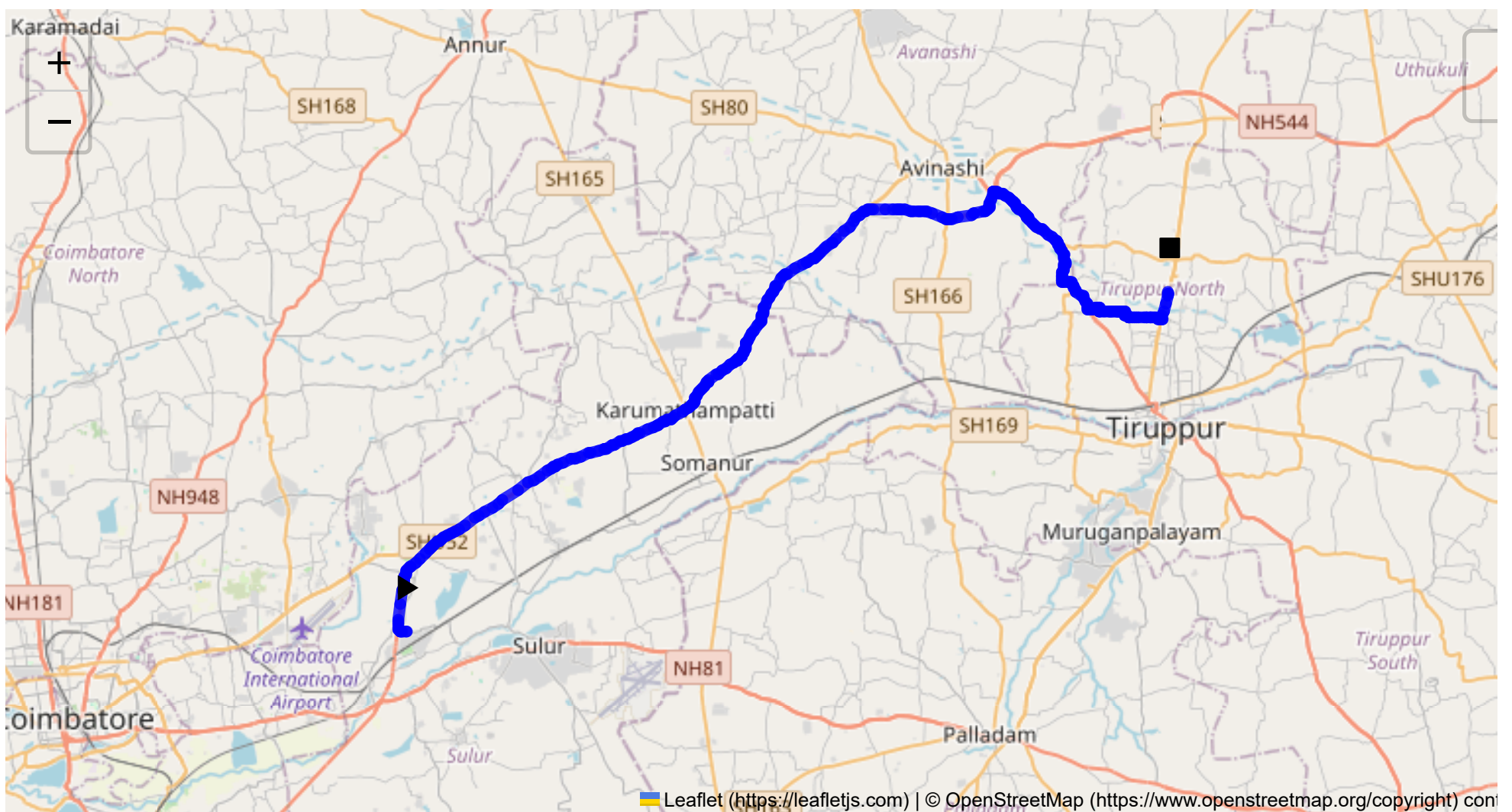
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 41.69 km**  
**Estimated Duration: 0.9 hours**  
**Adjusted Duration (Heavy Vehicle): 1.1 hours**  
**Start: (11.0315, 77.0797)**  
**End: (11.147916, 77.345886)**



## Welcome to the Journey Risk Management Study

### Route Overview

The route from Athappagoundenpudur, Coimbatore to Boyampalayam, Vengamedu in Tiruppur spans approximately 41.69 kilometers. It typically takes about 55 minutes (0.91 hours) for heavy vehicles carrying hazardous materials.

# 1. Overview of the Route Map

This route primarily traverses through industrial and semi-urban areas of Coimbatore district and Tiruppur city. It includes state highways and arterial roads that interconnect rural areas with major towns.

## 2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Weather Conditions:** The region experiences a tropical climate, with hot summers and moderate winters. The monsoon season typically spans from June to September.
- **Potential Hazards:** Heavy rainfall during the monsoon may lead to slick roads or flooding, particularly in low-lying areas. Fog is uncommon but possible during winter mornings.

## 3. Analysis of Traffic Patterns

- **Peak Hours:** Traffic congestion peaks in the morning (7:30-9:30 AM) and evening (5:30-7:30 PM) on weekdays.
- **Congestion-Prone Areas:** Urban centers like Tiruppur and roads connecting industrial zones may experience elevated traffic volume.

## 4. Assessment of Road Quality and Infrastructure

- **Road Quality:** Most roads along the route are well-maintained, especially the highways. However, some rural roads could have uneven surfaces and potholes.
- **Infrastructure:** Adequate signage and lighting exist on main roads. Peripheral roads may lack comprehensive traffic signals and pedestrian safety measures.

## 5. Suggestions for Alternative Routes for Emergencies

- **Alternative Route:** In case of roadblocks or emergencies, consider detouring through NH 81, which runs parallel and connects Coimbatore with Tiruppur via Avinashi. This road is a broader highway with better traffic management.

## 6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Hazardous Materials:** Transportation of hazardous materials is regulated under the Motor Vehicles Act and the Central Motor Vehicle Rules in India. Transport vehicles must display appropriate placards and follow specific transit time restrictions.
- **Local Bans:** Some town centers may restrict the entry of heavy vehicles during peak hours.

## 7. Overview of Historical Incidents Involving Heavy Vehicles or Hazardous Materials



- Historical data is scarce but occasional incidents involving overturned vehicles or leaks due to improper handling have been reported in the region. Emphasis is often on safe loading practices to mitigate these risks.

## 8. Environmental Considerations and Sensitive Areas

- **Sensitive Areas:** Be cautious near populated residential areas in Tiruppur with potential risks of pollution.
- **Environmental Zones:** Streams or small water bodies crossed by the route need adequate caution to prevent contamination.

## 9. Analysis of Communication Coverage

- **Coverage:** The majority of the route has reliable mobile network coverage. Potential dead zones may exist in rural tracts or between industrial regions.
- **Recommendations:** Equip drivers with portable communication devices for continuous connectivity.

## 10. Estimated Emergency Response Times

- **Urban Segments:** Response times are typically faster in Tiruppur, with emergency services reaching within 15-30 minutes.
- **Rural Segments:** Remote areas might experience response delays, ranging from 30 minutes to an hour, due to distance from urban centers.

## 11. Overall Summary of Risk Assessment

- **Risk Level:** Moderate. The route is well-established for industrial transport, but considerations for weather, congestion, and adherence to hazardous material regulations are crucial.
- **Recommendations:** Regular vehicle maintenance, careful monitoring of weather forecasts, clear communication protocols, and emergency preparedness plans can substantially mitigate risks.

In conclusion, while the route consists of well-maintained roads and standard regulations for hazardous material transport, potential hazards due to traffic, weather, and emergency services delay must be factored into planning. Adhering to the guidelines outlined will help ensure a safer transit for heavy vehicles carrying sensitive loads.

### Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Turn	High	11.03211, 77.07640	15 KM/Hr
1	Turn	High	11.17756, 77.28350	15 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
2	Turn	High	11.17771, 77.28339	15 KM/Hr
3	Blind Spot	Blind Spot	11.18268, 77.28468	10 KM/Hr
4	Turn	Medium	11.15180, 77.30889	30 KM/Hr
5	Turn	Medium	11.15169, 77.30907	30 KM/Hr
6	Turn	High	11.14174, 77.31848	15 KM/Hr
7	Turn	Medium	11.14264, 77.32130	30 KM/Hr
8	Turn	Medium	11.14261, 77.32145	30 KM/Hr
9	Turn	Medium	11.14252, 77.32155	30 KM/Hr
10	Turn	High	11.14122, 77.32181	15 KM/Hr
11	Turn	Medium	11.14115, 77.32796	30 KM/Hr
12	Blind Spot	Blind Spot	11.14129, 77.33066	10 KM/Hr
13	Turn	High	11.13917, 77.33217	15 KM/Hr
14	Turn	High	11.13922, 77.33934	15 KM/Hr
15	Turn	High	11.13944, 77.33940	15 KM/Hr
16	Turn	High	11.13919, 77.34065	15 KM/Hr
17	Turn	High	11.13948, 77.34086	15 KM/Hr
18	Turn	High	11.13896, 77.34370	15 KM/Hr
19	Blind Spot	Blind Spot	11.14773, 77.34607	10 KM/Hr

### Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	Royal Care Hospital, Coimbatore	11.059106, 77.0893479	30 km/h	Medium
4	police	Karumathampatti Police Station	11.1093464, 77.1802095	30 km/h	Medium
7	hospital	Sree Saran Medical Centre	11.1488, 77.346725	30 km/h	Medium

### Crowded Spots

	type	name	coordinates	speed_limit	risk_level
1	college	PSG Institute of Technology and Applied Research	11.0677118, 77.0945744	30 km/h	Medium
2	school	GRD-CPF Matriculation Higher Secondary School	11.0610217, 77.0933504	30 km/h	Medium
3	school	M. Nanjappa Chettiar Matriculation Hr. Sec. School	11.0715394, 77.1039133	30 km/h	Medium
5	marketplace	Thekkalur Weekly market	11.1537037, 77.2126685	30 km/h	Medium
6	marketplace	Thekalur weekly market	11.1547211, 77.2140187	30 km/h	Medium

Route Photos of Risky Spots



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:** 11.17756, 77.28350



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.17771, 77.28339



**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 11.18268, 77.28468





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.15180, 77.30889



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.15169, 77.30907





**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.14174, 77.31848



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.14264, 77.32130



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.14261, 77.32145





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.14252, 77.32155



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.14122, 77.32181





**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Coordinates: 11.14115, 77.32796**



**Risk Type: Blind Spot**

**Risk Level: Blind Spot**

**Speed Limit: 10 KM/Hr**

**Coordinates: 11.14129, 77.33066**



**Risk Type: Turn**

**Risk Level: High**

**Speed Limit: 15 KM/Hr**

**Coordinates: 11.13917, 77.33217**





**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.13922, 77.33934



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.13944, 77.33940





**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.13919, 77.34065



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.13948, 77.34086



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.13896, 77.34370





**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Coordinates:** 11.14773, 77.34607

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