



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### IOCL Coimbatore Terminal to Kevi Petroleum

#### 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**

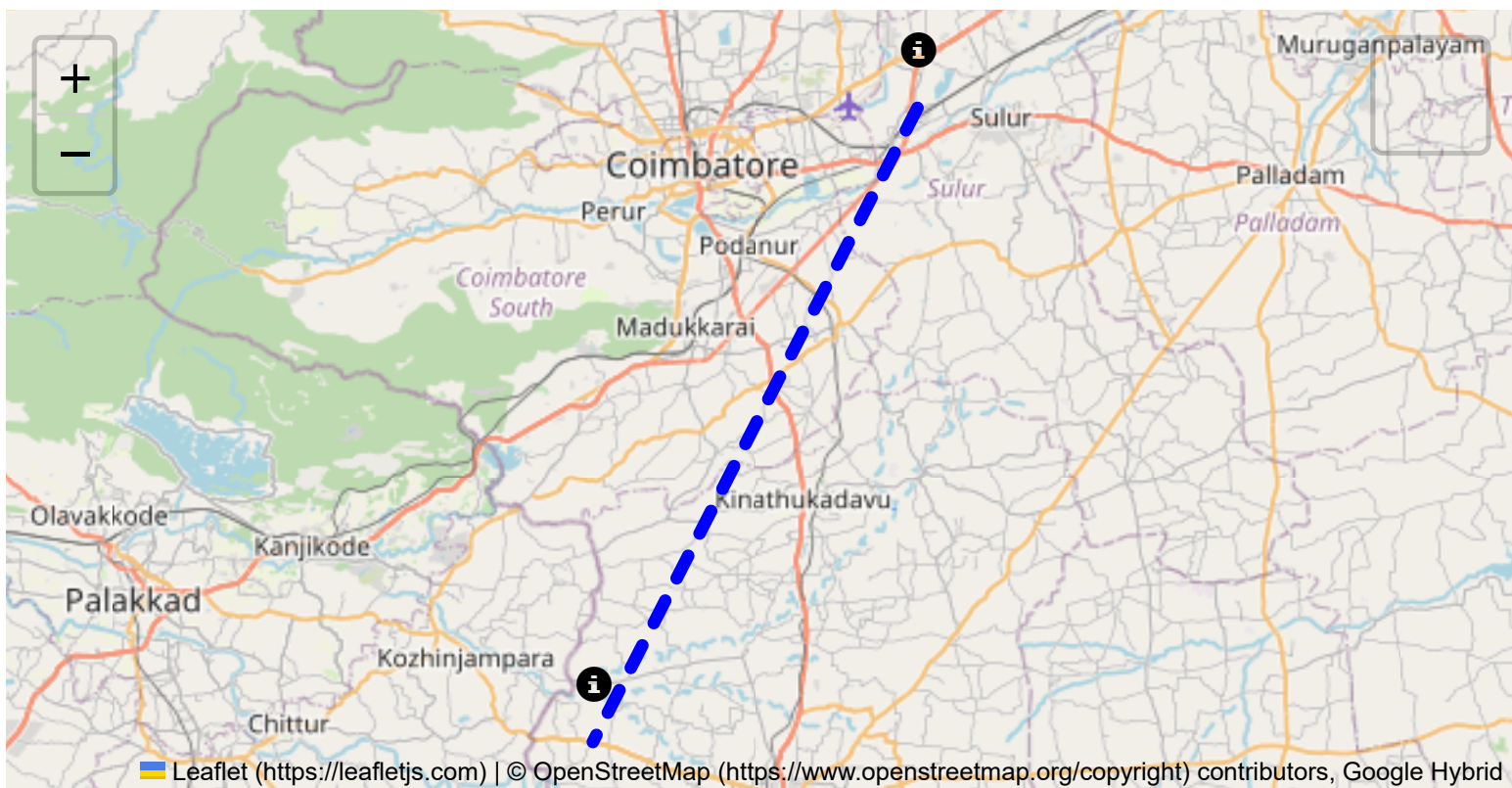
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 53.58 km**  
**Estimated Duration: 1.2 hours**  
**Adjusted Duration (Heavy Vehicle): 1.5 hours**  
**Start: (11.0315, 77.0797)**  
**End: (10.691766, 76.903305)**



## Welcome to the Journey Risk Management Study

To provide a comprehensive analysis of the route from Athappagundenpudur, Coimbatore, to Mannur, Tamil Nadu, for heavy vehicles carrying hazardous materials, we'll address each point systematically.

- Overview of the Route Map:** The route spans approximately 53.58 kilometers. Starting in Athappagundenpudur, it likely follows NH83 (National Highway 83) towards Pollachi, then uses



secondary roads to reach Mannur. The journey typically takes about 1 hour and 22 minutes for heavy vehicles.

2. **Typical Weather Conditions and Potential Weather-Related Hazards:** The region experiences a tropical climate with distinct rainy (monsoon) and dry seasons. The southwest monsoon (June to September) and the northeast monsoon (October to December) can lead to heavy rainfall, causing potential hazards such as flooding, water-logged roads, and reduced visibility. The dry season can witness high temperatures, impacting road surface conditions.
3. **Analysis of Traffic Patterns:** Traffic is generally heavier during peak hours (8-10 AM and 5-7 PM) due to commuter traffic, particularly near urban areas like Pollachi. Traffic congestion is common in market areas and intersections without traffic signals. Agricultural seasons can also impact traffic flow due to the movement of farm equipment and produce.
4. **Assessment of Road Quality and Infrastructure:** The NH83 segment is generally well-maintained with a dual carriageway. However, secondary roads can vary in quality with potential potholes, poor signage, and narrow lanes. Bridges and culverts should be approached with caution, especially during the monsoon.
5. **Suggestions for Alternative Routes for Emergencies:** In emergencies, consider using state highways like SH19 or SH78, although these may extend travel time. Keeping an updated GPS or navigation tool will help in rerouting efficiently.
6. **Summary of Local Regulations Affecting Hazardous Material Transport:** Transporting hazardous materials in Tamil Nadu requires compliance with regulations regarding load limits, proper labeling, and travel primarily during designated hours (usually avoiding peak hours). Permits must be obtained in advance from local authorities.
7. **Overview of Historical Incidents:** Historically, accidents have occurred due to overloaded trucks, brake failures on slopes, and vehicles skidding on wet roads. There have been incidents of spills involving agrochemicals during the monsoon season.
8. **Environmental Considerations and Sensitive Areas:** Keep aware of agricultural zones where spills could harm crops and water bodies. There are sensitive areas near forest patches and wetlands; contamination could have significant environmental impacts.
9. **Analysis of Communication Coverage:** Major highways tend to have good mobile network coverage, but rural segments and forested areas might have intermittent coverage. It is essential to have a satellite phone or pre-programmed two-way radios for emergencies in these spots.
10. **Estimated Emergency Response Times:** Urban areas and major highways might have emergency response times of 20-30 minutes. Rural sections, especially those leading to Mannur, may experience delays of 45 minutes to an hour due to distance from major hospitals and emergency services.
11. **Overall Summary of Risk Assessment:** The route is moderately risky predominantly due to weather-related events, variable road quality, and traffic congestion in urban patches. Ensuring strict adherence to safety regulations, continuous communication, and weather monitoring will mitigate risks. Proper training on emergency response and spill management is essential for truck drivers. Consider pre-trip planning to ensure adherence to local traffic rules and understanding of environmental sensitivities.

## Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	10.68968, 76.91155	15 KM/Hr
1	U-Turn	High	10.6914007, 76.9028769	10 KM/Hr
2	Blind Spot	Blind Spot	11.03211, 77.07640	10 KM/Hr
3	Blind Spot	Blind Spot	10.91785, 76.98617	10 KM/Hr
4	Turn	Medium	10.76126, 77.01934	30 KM/Hr
5	Turn	Medium	10.76105, 77.01924	30 KM/Hr
6	Turn	Medium	10.76064, 77.01722	30 KM/Hr
7	Turn	Medium	10.75924, 77.01193	30 KM/Hr
8	Turn	Medium	10.75911, 77.01183	30 KM/Hr
9	Turn	Medium	10.75897, 77.01181	30 KM/Hr
10	Turn	Medium	10.75677, 77.01162	30 KM/Hr
11	Turn	Medium	10.75580, 77.00744	30 KM/Hr
12	Turn	Medium	10.75289, 77.00037	30 KM/Hr
13	Turn	Medium	10.75230, 76.99966	30 KM/Hr
14	Turn	High	10.75039, 76.99445	15 KM/Hr
15	Blind Spot	Blind Spot	10.74949, 76.99419	10 KM/Hr
16	Turn	High	10.75015, 76.99326	15 KM/Hr
17	Turn	Medium	10.74173, 76.98693	30 KM/Hr
18	Turn	Medium	10.74138, 76.98754	30 KM/Hr
19	Turn	Medium	10.74071, 76.98762	30 KM/Hr
20	Turn	Medium	10.74058, 76.98756	30 KM/Hr
21	Turn	High	10.72397, 76.91777	15 KM/Hr
22	Turn	Medium	10.71840, 76.91764	30 KM/Hr
23	Turn	Medium	10.70997, 76.91926	30 KM/Hr
24	Turn	Medium	10.70811, 76.91552	30 KM/Hr
25	Blind Spot	Blind Spot	10.69140, 76.90288	10 KM/Hr
26	Turn	High	10.69148, 76.90288	15 KM/Hr

## Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	Saraswathi Hospital	11.0069868, 77.071368	30 km/h	Medium
4	hospital	Ambal Malumichampatty, Coimbatore	10.90265, 76.997586	30 km/h	Medium
11	hospital	Sri Venkateswara Kinnathukadavu	10.8241085, 77.0191884	30 km/h	Medium
12	hospital	Government Hospital, Kinathukadavu	10.82107, 77.017406	30 km/h	Medium

## Crowded Spots

	type	name	coordinates	speed_limit	risk_level
1	school	Kadri Mills Higher Secondary School	11.0058181, 77.0664118	30 km/h	Medium
2	college	Karpagam Academy of Higher Education	10.9175939, 76.9882369	30 km/h	Medium
3	college	Karpagam Polytechnic College	10.9185202, 76.99131	30 km/h	Medium
5	college	DJ Academy of Design and Management	10.8740175, 77.0042594	30 km/h	Medium
6	college	Coimbatore Marine College	10.8627423, 77.0107491	30 km/h	Medium
7	school	Sasi Creative School for Architecture	10.8613583, 77.0118878	30 km/h	Medium
8	school	Vivek Vidyalaya Matric Hr. Sec. School	10.8451346, 77.015443	30 km/h	Medium
9	school	Vivek Vidya Mandir	10.8448467, 77.01614	30 km/h	Medium
10	college	VSB College of Engineering Technical Campus=Coimbatore	10.8430943, 77.0180336	30 km/h	Medium

## Route Photos of Risky Spots





**Risk Type:** Roundabout

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.68968, 76.91155



**Risk Type:** U-Turn

**Risk Level:** High

**Speed Limit:** 10 KM/Hr

**Coordinates:** 10.6914007, 76.9028769





**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:** 10.91785, 76.98617



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.76126, 77.01934





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.76105, 77.01924



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.76064, 77.01722





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.75924, 77.01193



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.75911, 77.01183



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.75897, 77.01181





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.75677, 77.01162



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.75580, 77.00744





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.75289, 77.00037



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.75230, 76.99966



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.75039, 76.99445





**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Coordinates:** 10.74949, 76.99419



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.75015, 76.99326





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.74173, 76.98693



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.74138, 76.98754



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.74071, 76.98762





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.74058, 76.98756



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.72397, 76.91777





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.70997, 76.91926



**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 10.69140, 76.90288



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.69148, 76.90288

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