



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Salem Terminal to SRI VENKATESHWARA AGENCIES

#### 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.

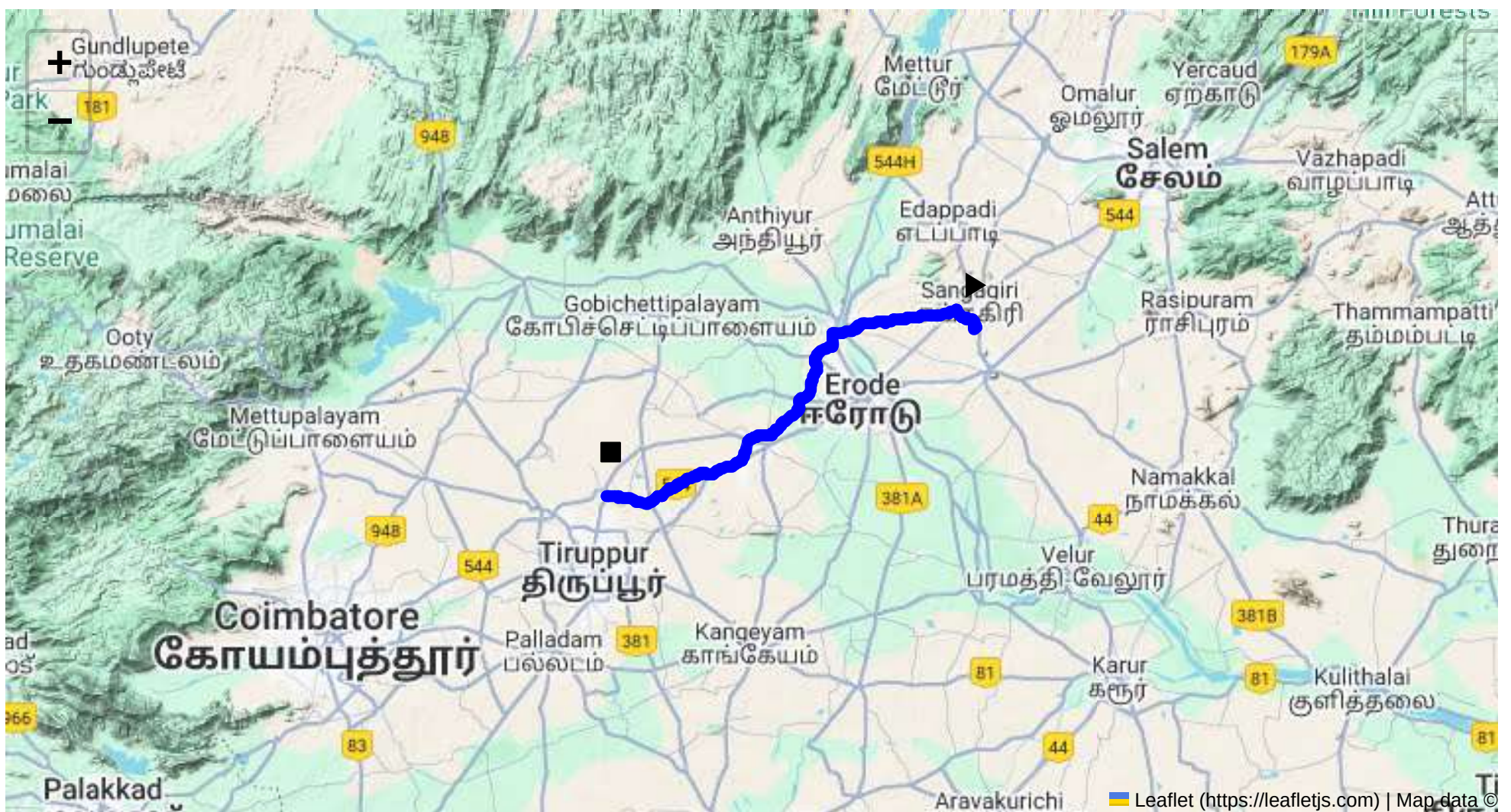
## **Compliance with Government Directives**

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: 74.36 km**  
**Estimated Duration: 1.4 hours**  
**Adjusted Duration (Heavy Vehicle): 1.7 hours**  
**Start: (11.4381, 77.8734)**  
**End: (11.20804, 77.363198)**



## Welcome to the Journey Risk Management Study

Route Analysis for CVQF+23W, Sangagiri to 6957+688,  
 Perumanallur, Tamil Nadu

### 1. Overview of the Route Map



The route spans approximately 74.36 kilometers, typically taking around 1.39 hours for heavy vehicles. Starting from Sangagiri, the route primarily follows NH-544, a major highway facilitating east-west travel. The journey involves passing through towns and potentially busy junctions which might need careful navigation, especially for heavy vehicles.

## 2. Weather Conditions and Potential Hazards

- **Typical Weather:** The region experiences a tropical climate with hot temperatures, particularly from March to June. Monsoon rains occur from October to December.
- **Hazards:** Monsoon rains can lead to slippery roads and localized flooding, increasing accident risks. Heat waves can cause tire blowouts.

## 3. Traffic Patterns and Congestion

- **Peak Hours:** Morning (8 AM - 10 AM) and evening (5 PM - 7 PM).
- **Congestion-Prone Areas:** Major towns such as Tiruchengode and junctions with other highways, such as NH-44 near Salem, often experience congestion that can delay travel.

## 4. Road Quality and Infrastructure

- **Road Quality:** NH-544 is generally well-maintained, with multiple lanes. Spot repairs can occur, leading to temporary lane closures.
- **Infrastructure:** The route includes well-marked signage, though vigilance at junctions and intersections is needed.

## 5. Alternative Routes for Emergencies

In case of severe congestion or roadblocks, SH-86 provides an alternative route slightly north of the primary path, though it may add travel time. It's crucial to check for local traffic updates before diverting.

## 6. Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials requires adherence to regulations prescribed by the Directorate General of Civil Aviation (DGCA) and Ministry of Road Transport and Highways (MoRTH), including proper labeling and documentation.

## 7. Historical Incidents Involving Heavy Vehicles

There have been occasional incidents, such as rollovers or spills, primarily attributed to speeding or improper vehicle maintenance. The region maintains a moderate record for such incidents, stressing the need for cautious driving practices.

## 8. Environmental Considerations and Sensitive Areas

Key environmental concerns include nearby agricultural zones and water bodies intersecting the route. Transporters must prevent spills that could harm soil or water quality.

## 9. Communication Coverage and Dead Zones

Mobile network coverage is generally reliable along NH-544. However, rural patches may suffer from weak signals, particularly in remote areas between towns.

## 10. Estimated Emergency Response Times

- Urban Areas:** Approximately 15-20 minutes.
- Rural Areas:** Response times increase to 30-40 minutes due to longer distances from emergency services.

## 11. Overall Summary of Risk Assessment

This route is moderately safe for hazardous material transport with proper precautions. Key risks include weather-related hazards, congestion, and potential for vehicle incidents. Preparedness with backups like alternative routes, awareness of local regulations, and vigilance during peak hours can mitigate most identified risks.

In conclusion, adherence to safety protocols and remaining informed about dynamic conditions along this route can ensure a safe transit of hazardous materials from Sangagiri to Perumanallur.

### Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	U-Turn	High	11.2075731, 77.36051979999999	10 KM/Hr
1	Turn	Medium	11.43822, 77.87348	30 KM/Hr
2	Turn	High	11.43968, 77.87345	15 KM/Hr
3	Turn	High	11.44029, 77.87544	15 KM/Hr
4	Turn	High	11.44898, 77.87410	15 KM/Hr
5	Turn	Medium	11.45357, 77.85789	30 KM/Hr
6	Turn	High	11.45352, 77.85698	15 KM/Hr
7	Turn	Medium	11.45847, 77.85140	30 KM/Hr
8	Turn	Medium	11.46303, 77.84945	30 KM/Hr
9	Turn	Medium	11.46314, 77.84928	30 KM/Hr
10	Turn	Medium	11.45509, 77.81383	30 KM/Hr
11	Turn	Medium	11.29288, 77.59029	30 KM/Hr
12	Turn	Medium	11.29140, 77.58253	30 KM/Hr
13	Turn	Medium	11.29154, 77.58236	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
14	Turn	Medium	11.20682, 77.37703	30 KM/Hr
15	Turn	Medium	11.20668, 77.37686	30 KM/Hr
16	Blind Spot	Blind Spot	11.20758, 77.36054	10 KM/Hr

## Emergency Locations

	type	name	coordinates	speed_limit	risk_level
3	hospital	Government Hospital	11.4525596, 77.7749426	30 km/h	Medium
4	hospital	Dhanvantri Multi Speciality Hospital	11.451362, 77.766602	30 km/h	Medium
5	hospital	Dhanvanthri Hospital	11.4496712, 77.7593772	30 km/h	Medium
6	hospital	J.K.K. Trust Hospital	11.4445841, 77.7307962	30 km/h	Medium
8	hospital	Shri Sathyanarayana Hospital	11.4291297, 77.6913408	30 km/h	Medium
9	hospital	Thanish Siddha Hospital	11.430003, 77.674964	30 km/h	Medium
10	clinic	Harshitha Clinic	11.4313207, 77.674718	30 km/h	Medium
11	hospital	Sri Kaalangi Siddhar Mooligai Vaithiya Nilayam	11.432369, 77.674894	30 km/h	Medium
12	clinic	G.K Clinic	11.4297244, 77.6749715	30 km/h	Medium
13	clinic	Erode Cancer Centre	11.3732, 77.649152	30 km/h	Medium
15	hospital	Irt Hospital	11.2803603, 77.5644118	30 km/h	Medium
17	hospital	Gen Siddha Hospital	11.2375033, 77.5059797	30 km/h	Medium
18	hospital	Vijayamangalm Government Hospital	11.2382827, 77.501687	30 km/h	Medium
19	hospital	Dr. N Viswanathan Hospital	11.2412783, 77.5005502	30 km/h	Medium
20	clinic	P.M. Clinic	11.2281078, 77.4647296	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
22	hospital	Sri Renu Hospital	11.1990225, 77.4219937	30 km/h	Medium
23	hospital	Akshitha Hospital- Perumanallur	11.2050424, 77.3584876	30 km/h	Medium

## Crowded Spots

	type	name	coordinates	speed_limit	risk_level
0	school	KRP Matric. Hr. Sec School	11.4546193, 77.8142445	30 km/h	Medium
1	college	Vivekanandha Engineering College	11.4589312, 77.7899284	30 km/h	Medium
2	marketplace	Monday market	11.452863, 77.775989	30 km/h	Medium
7	school	SSM Matriculation Higher Secondary School	11.4321653, 77.6880046	30 km/h	Medium
14	college	Government polytechnic college	11.2907053, 77.5698726	30 km/h	Medium
16	school	Bharathi Matriculation School	11.2494613, 77.5307028	30 km/h	Medium
21	marketplace	Weekly Market (sandhai)	11.2287229, 77.4646676	30 km/h	Medium

## Route Photos of Risky Spots





**Risk Type: U-Turn**

**Risk Level: High**

**Speed Limit: 10 KM/Hr**

**Coordinates: 11.2075731, 77.36051979999999**



**Risk Type: Turn**

**Risk Level: High**

**Speed Limit: 15 KM/Hr**

**Coordinates: 11.44029, 77.87544**



**Risk Type: Turn**

**Risk Level: High**

**Speed Limit: 15 KM/Hr**

**Coordinates: 11.44898, 77.87410**





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.45357, 77.85789



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.45352, 77.85698





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 11.45847, 77.85140



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 11.46303, 77.84945



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 11.46314, 77.84928





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.45509, 77.81383



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.29288, 77.59029





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.29140, 77.58253



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.29154, 77.58236



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.20682, 77.37703





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.20668, 77.37686



**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Coordinates:** 11.20758, 77.36054

