



# IndianOil

## **JOURNEY RISK MANAGEMENT (JRM) STUDY**

### **Salem Terminal to ADHOC SREE PALANIVEL TRADERS UNIT II**

#### **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.

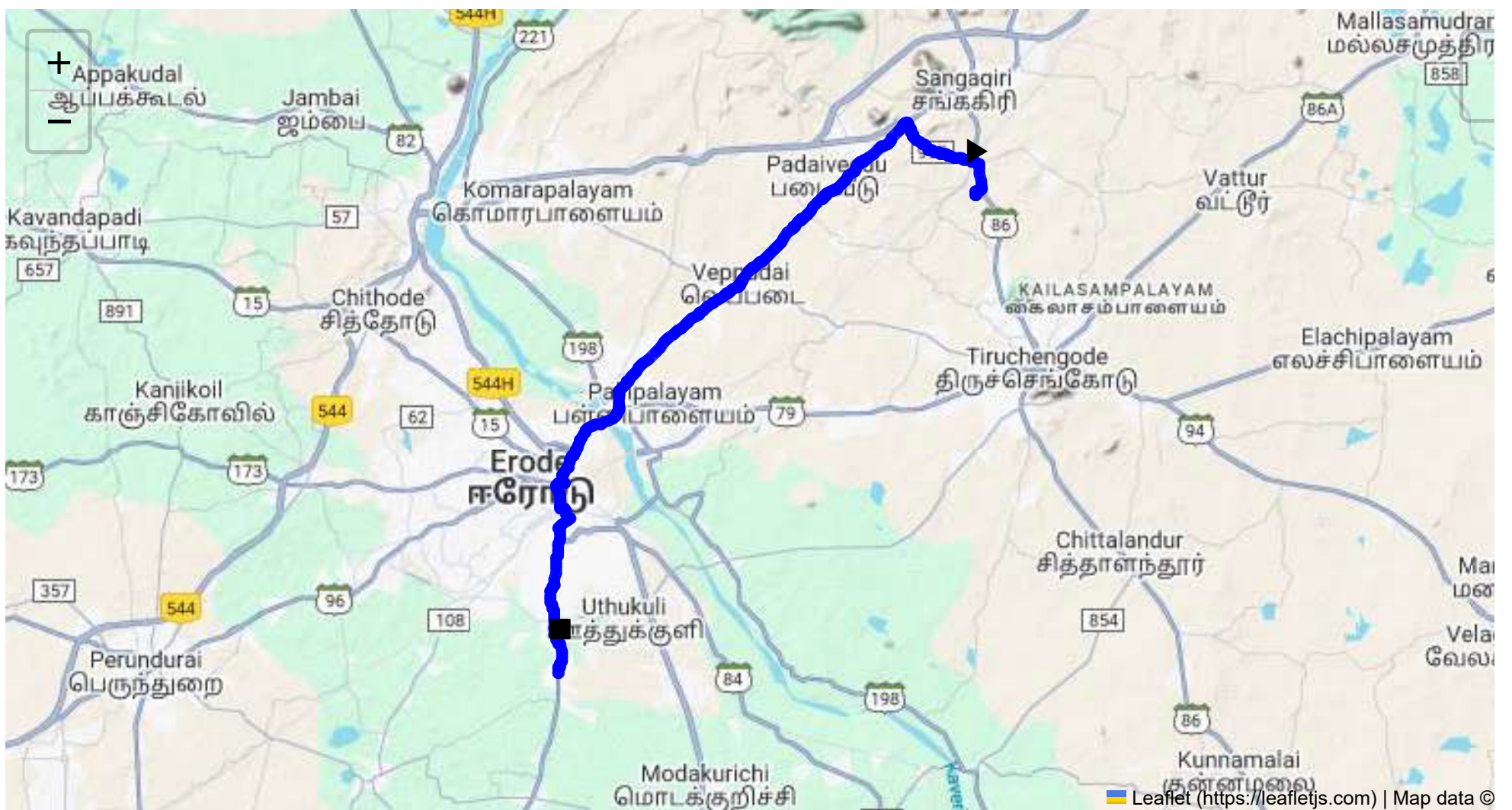
## **Compliance with Government Directives**

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: 32.56 km**  
**Estimated Duration: 0.9 hours**  
**Adjusted Duration (Heavy Vehicle): 1.1 hours**  
**Start: (11.4381, 77.8734)**  
**End: (11.273925, 77.726665)**



**Welcome to the Journey Risk Management Study**

## Route Safety Analysis

### 1. Overview of the Route Map



The route from Sangagiri to Kaspapettai via the mentioned points covers approximately 32.56 kilometers and takes roughly 0.90 hours for heavy vehicles carrying hazardous materials. Starting from CVQF+23W in Sangagiri, the path leads to FR4V+R5 Alex in Thomas Colony, passing through Erode along the Attur - Rasipuram - Erode Road (SH 83A) before reaching 7PFG+CQR in Kaspapettai.

## 2. Typical Weather Conditions and Hazards

The region experiences a tropical climate, with temperatures ranging from moderate to hot. The monsoon season (June to September) may lead to heavy rains, potentially causing floods and slippery road conditions. During the summer months (March to June), high temperatures can cause heat stress and vehicle overheating.

## 3. Traffic Patterns and Congestion-Prone Areas

Traffic tends to peak during morning (7:30 - 9:30 AM) and evening (5:30 - 8:00 PM) hours, especially near urban centers like Erode. Congestion is common in Erode, particularly on major roads entering and exiting the city. The junctions along SH 83A can also experience heavy traffic.

## 4. Road Quality and Infrastructure

Generally, SH 83A is well-maintained, but there are patches where potholes and uneven surfaces could be problematic. These issues are more evident in rural areas between major towns. Continuous maintenance is required to avoid potential hazards due to poor road quality.

## 5. Alternative Routes for Emergencies

In case of emergencies, an alternative route via rural roads parallel to SH 83A may be used, though they generally are less maintained. Another alternative is taking NH79 which bypasses Erode to the north, although it would add distance to the journey.

## 6. Local Regulations on Hazardous Material Transport

Transportation of hazardous materials is regulated by national and local guidelines. Drivers are required to follow Indian Motor Vehicles Act provisions, ensure proper labeling, and maintain necessary documentation. Night travel for vehicles carrying hazardous materials may be restricted in some urban zones.

## 7. Historical Incidents Involving Heavy Vehicles

Historically, incidents in the area often occur due to vehicle breakdowns or accidents near congestion points in Erode. Major accidents involving hazardous materials are less frequent but necessitate stringent safety protocols.

## 8. Environmental Considerations and Sensitive Areas

The route passes through both urban and rural areas. Sensitive agricultural zones along the route require careful navigation to prevent environmental contamination. Local wildlife crossings near forested areas

should be noted for animal safety.

## 9. Communication Coverage

Communication coverage is generally good along SH 83A, but some rural segments may have dead zones. Drivers should ensure communication devices are fully charged and consider additional equipment like satellite phones for emergencies.

## 10. Estimated Emergency Response Times

Emergency response within cities like Erode is relatively quick, often within 15-30 minutes. Rural segments may experience delayed response times of up to 45-60 minutes. It is vital to know the locations of nearby hospitals and fire stations.

## 11. Overall Summary of Risk Assessment

While the primary route is generally safe, there are potential risks associated with traffic congestion, weather conditions, road integrity, and communication coverage. Preparation includes planning for alternative routes, awareness of local regulations, and effective communication measures. Ensuring vehicle maintenance, adhering to speed limits, and staying informed about weather conditions will mitigate many risks associated with this route.

### Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.37086, 77.74828	15 KM/Hr
1	Turn	High	11.43811, 77.87348	15 KM/Hr
2	Turn	Medium	11.43956, 77.87340	30 KM/Hr
3	Turn	High	11.43968, 77.87345	15 KM/Hr
4	Turn	High	11.44029, 77.87544	15 KM/Hr
5	Turn	Medium	11.44898, 77.87410	30 KM/Hr
6	Turn	Medium	11.45357, 77.85789	30 KM/Hr
7	Turn	Medium	11.45352, 77.85698	30 KM/Hr
8	Turn	Medium	11.46303, 77.84945	30 KM/Hr
9	Turn	Medium	11.46318, 77.84913	30 KM/Hr
10	Turn	Medium	11.46312, 77.84886	30 KM/Hr
11	Turn	Medium	11.36626, 77.74788	30 KM/Hr
12	Blind Spot	Blind Spot	11.33920, 77.72902	10 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
13	Turn	High	11.33914, 77.72659	15 KM/Hr
14	Turn	High	11.33890, 77.72637	15 KM/Hr
15	Turn	Medium	11.33093, 77.72776	30 KM/Hr
16	Turn	Medium	11.33076, 77.72884	30 KM/Hr
17	Turn	High	11.32694, 77.73073	15 KM/Hr
18	Turn	Medium	11.32427, 77.72730	30 KM/Hr
19	Turn	Medium	11.32401, 77.72723	30 KM/Hr

## Emergency Locations

	type	name	coordinates	speed_limit	risk_level
1	hospital	Cheran Hospital	11.3680302, 77.7481976	30 km/h	Medium
2	hospital	Sri Kumaran E N T Hospital	11.3657814, 77.7477763	30 km/h	Medium
3	pharmacy	Pharmacy	11.3652161, 77.7486375	30 km/h	Medium
4	hospital	Visaalam Hospitals	11.3651528, 77.747808	30 km/h	Medium
5	hospital	Sri Krishna Hospital	11.3656648, 77.7477783	30 km/h	Medium
6	police	Police Station	11.3630177, 77.7476505	30 km/h	Medium
7	hospital	Government Hospital	11.3608508, 77.747453	30 km/h	Medium
9	hospital	Sri Hari Sakthivel Hospital	11.3526901, 77.7323055	30 km/h	Medium
10	hospital	Senthil Prakash Hospital	11.352639, 77.732267	30 km/h	Medium
11	hospital	Dhanvantri Critical Care Center	11.3504266, 77.7311274	30 km/h	Medium
12	hospital	V K Hospital	11.3513792, 77.7313976	30 km/h	Medium
13	hospital	Indrajith Yoga Nature Cure Hospital	11.3499973, 77.732974	30 km/h	Medium
15	hospital	Dhanvantri Critical Care Centre	11.35099, 77.730508	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
16	hospital	Kumudha Hospital	11.3467172, 77.7306797	30 km/h	Medium
17	hospital	City Hospital	11.3451151, 77.7300887	30 km/h	Medium
18	clinic	K.B.N. Nursing Home	11.344835, 77.7310771	30 km/h	Medium
19	clinic	Kpn Nursing Home	11.3437022, 77.7304525	30 km/h	Medium
20	hospital	Kaviraj Ayurveda Hospital	11.3400349, 77.7298199	30 km/h	Medium
21	hospital	Dr Kokilasekar Nursing Hospital	11.3395874, 77.7269838	30 km/h	Medium
22	clinic	M.R Nursing Home	11.3386746, 77.7294262	30 km/h	Medium
24	hospital	Government Maternity Hospital, Agathiar	11.33716, 77.727075	30 km/h	Medium
25	clinic	Naseer Nursing Home	11.3364485, 77.7271691	30 km/h	Medium
26	hospital	Vikram Hospital, Erode	11.3356411, 77.7280569	30 km/h	Medium
27	hospital	Shabeer Hospital	11.33529, 77.7285236	30 km/h	Medium
28	hospital	Dr. R.M. Habibullah Hospital	11.335246, 77.7266028	30 km/h	Medium
29	hospital	Kumarasamy Hospital	11.334273, 77.7259118	30 km/h	Medium
30	hospital	Thangam Hospital, Erode	11.3340961, 77.7262437	30 km/h	Medium
31	hospital	J.B. Clinic And Hospital	11.3351769, 77.7282031	30 km/h	Medium
32	hospital	Ck Hospital	11.3326562, 77.7282011	30 km/h	Medium
33	hospital	Immick Hospital	11.332617, 77.728073	30 km/h	Medium
34	fire_station	Erode District Fire Station	11.3326366, 77.7272532	30 km/h	Medium
35	hospital	Jai Maaruthi Hospital	11.332, 77.727272	30 km/h	Medium
36	hospital	Shubiksha Hospital	11.3318174, 77.7299544	30 km/h	Medium
37	hospital	JJ hospital	11.33168, 77.728823	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
38	hospital	Bethesda Hospital	11.3314183, 77.7266231	30 km/h	Medium
39	hospital	Lotus Hospital	11.3266236, 77.7306301	30 km/h	Medium
40	hospital	Lotus Hospital	11.3259471, 77.7302149	30 km/h	Medium
41	clinic	Monika Diabetes Centre	11.3229084, 77.7269179	30 km/h	Medium
42	hospital	Sri Jothi Hospitals	11.3217208, 77.7275956	30 km/h	Medium
43	clinic	Vasanth Clinic	11.3195299, 77.727194	30 km/h	Medium
44	clinic	Pulze Health Clinic	11.3179874, 77.7288603	30 km/h	Medium
45	hospital	Agathiyar Siddha Hospital	11.3174229, 77.7254599	30 km/h	Medium
46	hospital	Om Shakthi Hospital	11.3108011, 77.7259973	30 km/h	Medium

### Crowded Spots

	type	name	coordinates	speed_limit	risk_level
0	school	Ssri Valliappa Vidhayalayam mat hr school	11.4004878, 77.7794381	30 km/h	Medium
8	marketplace	Weekly Market	11.3605669, 77.7488199	30 km/h	Medium
14	school	Municipality Girls Higher secondary school	11.3495618, 77.7325011	30 km/h	Medium
23	school	E.V.R. Govt Girls Hr. Sec School	11.3371265, 77.7266283	30 km/h	Medium

### Route Photos of Risky Spots





**Risk Type:** Roundabout

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.37086, 77.74828



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.44029, 77.87544





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 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:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 11.45352, 77.85698





**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:** 11.46318, 77.84913





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.46312, 77.84886



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.36626, 77.74788



**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Coordinates:** 11.33920, 77.72902





**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.33914, 77.72659



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.33890, 77.72637





**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Coordinates: 11.33093, 77.72776**



**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Coordinates: 11.33076, 77.72884**



**Risk Type: Turn**

**Risk Level: High**

**Speed Limit: 15 KM/Hr**

**Coordinates: 11.32694, 77.73073**





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.32427, 77.72730



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.32401, 77.72723

