



JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal To SRI KRISHNA 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

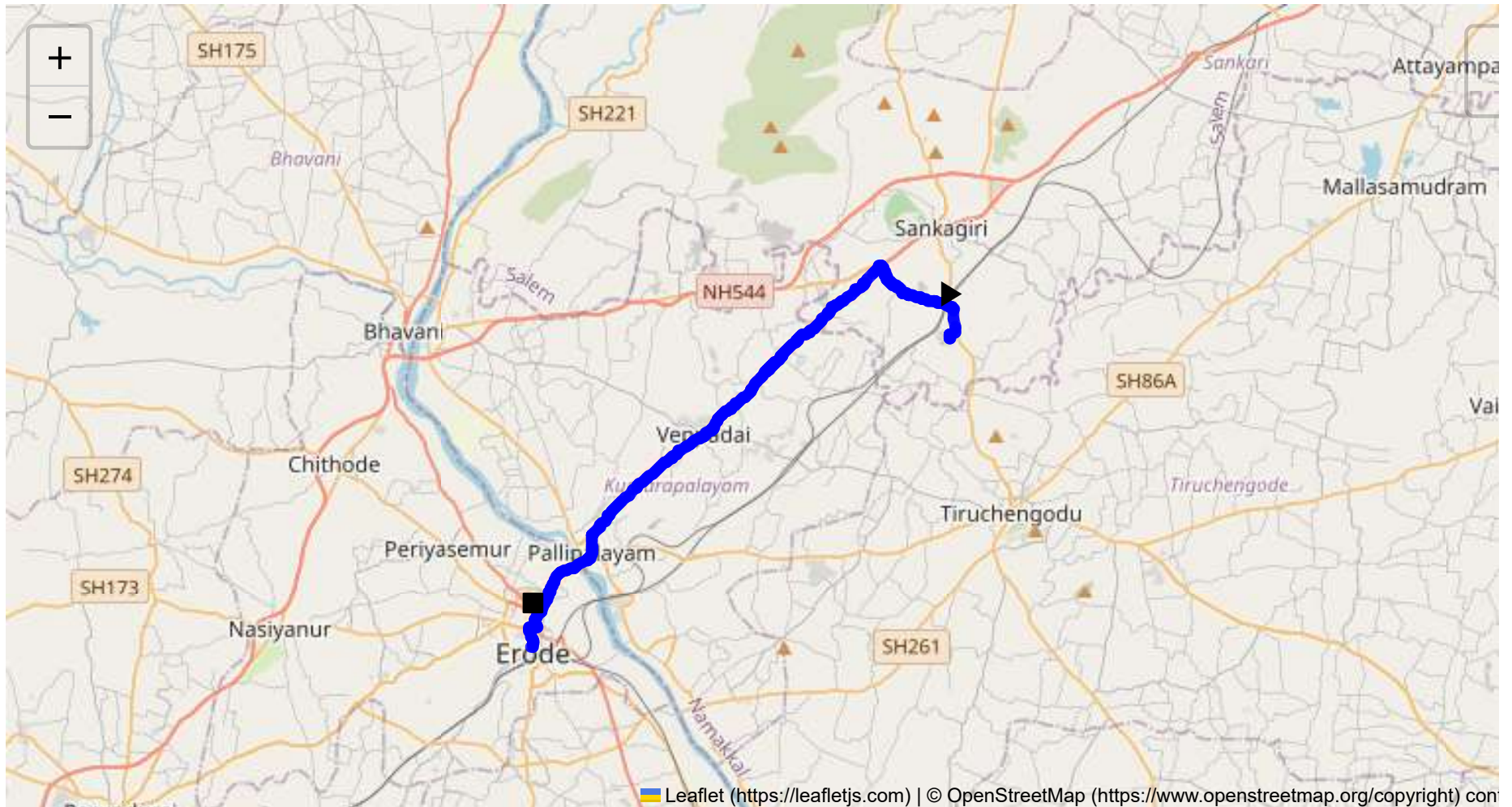
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 25.55 km
Estimated Duration: 0.7 hours
Adjusted Duration (Heavy Vehicle): 0.9 hours
Start: (11.4381, 77.8734)
End: (11.332871, 77.727211)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from Sangagiri to Erode traverses through several small towns and rural areas in Tamil Nadu. It begins at Sangagiri, passing through Pallipalayam and Gobichettipalayam, before reaching Erode. The path primarily follows state highways and local roads.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- **Typical Weather:** Erode and its surrounding areas generally experience hot and humid weather conditions. The monsoon season (June to September) brings heavy rains which can lead to flooding and water-logging on roads.
- **Hazards:** During monsoon, reduced visibility and slippery roads increase the risk of accidents. Winds can also be strong, posing additional challenges, especially for larger vehicles.

3. Analysis of Traffic Patterns

- **Peak Hours:** Traffic congestion is typically highest during morning (8:00 AM - 10:00 AM) and evening (5:00 PM - 7:00 PM) hours.
- **Congestion-Prone Areas:** Major congestion is likely at the intersections and urban areas, particularly near Pallipalayam and Gobichettipalayam.

4. Assessment of Road Quality and Infrastructure

- **Road Quality:** The state highways are generally well-maintained, but some local roads, particularly near rural stretches, may have potholes and uneven surfaces.
- **Infrastructure:** Adequate signaling and signage exist on state highways, while rural roads might lack proper markings and signs.

5. Suggestions for Alternative Routes for Emergencies

- **Alternative Routes:** If the main route becomes impassable, consider detouring via NH544 connecting to SH15, though it may add some distance. Local knowledge is crucial for finding smaller detours.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Regulations:** Tamil Nadu enforces strict regulations on hazardous material transport, including permits, route approvals, and time restrictions within urban areas to limit exposure to densely populated zones.

7. Overview of Historical Incidents

- **Incidents:** There are occasional accidents involving heavy vehicles, often related to skidding during rains or brake failure. Not many significant hazardous material incidents are reported.

8. Environmental Considerations and Sensitive Areas

- **Environmental Zones:** Parts of this route pass through agricultural land. It's important to prevent any spill or contamination, as this can affect farmland and local water resources.

9. Analysis of Communication Coverage

- **Coverage:** Mobile network coverage is generally reliable in towns and along the highways. However, there are potential dead zones in rural sections between towns. Drivers should carry multiple communication devices.

10. Estimated Emergency Response Times

- **Response Times:** Response times may vary significantly. In urban areas like Erode, it can be around 15-30 minutes, whereas in rural sections, it may extend to an hour or more.

11. Overall Summary of Risk Assessment

- **Risk Assessment:** The route is moderately challenging primarily due to weather hazards during the monsoon, potential communication gaps, and congestion in towns. Proper planning, route monitoring, and adherence to local regulations will mitigate most risks. Be vigilant during peak traffic times and maintain safe speeds to navigate varying road conditions safely. Additionally, ensure compliance with hazardous material transport regulations to minimize environmental and safety risks.

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	11.43961, 77.87341	30 KM/Hr
3	Turn	Medium	11.43968, 77.87345	30 KM/Hr
4	Turn	High	11.44029, 77.87544	15 KM/Hr
5	Turn	Medium	11.45350, 77.85700	30 KM/Hr
6	Turn	Medium	11.45833, 77.85146	30 KM/Hr
7	Turn	Medium	11.46312, 77.84886	30 KM/Hr
8	Turn	Medium	11.34493, 77.73032	30 KM/Hr
9	Turn	Medium	11.34487, 77.73024	30 KM/Hr
10	Turn	Medium	11.34470, 77.73018	30 KM/Hr
11	Blind Spot	Blind Spot	11.33920, 77.72902	10 KM/Hr
12	Turn	Medium	11.33914, 77.72659	30 KM/Hr
13	Turn	High	11.33890, 77.72637	15 KM/Hr
14	Turn	High	11.33281, 77.72755	15 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
1	hospital	Cheran Hospital	11.3680302, 77.7481976	30 km/h	Medium
2	pharmacy	Pharmacy	11.3652161, 77.7486375	30 km/h	Medium
3	hospital	Sri Kumaran E N T Hospital	11.3657814, 77.7477763	30 km/h	Medium
4	hospital	Sri Krishna Hospital	11.3656648, 77.7477783	30 km/h	Medium
5	hospital	Visaalam Hospitals	11.3651528, 77.747808	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
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
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	Milan Hospital	11.343591, 77.733182	30 km/h	Medium
21	hospital	Kaviraj Ayurveda Hospital	11.3400349, 77.7298199	30 km/h	Medium
22	hospital	Dr Kokilasekar Nursing Hospital	11.3395874, 77.7269838	30 km/h	Medium
23	clinic	M.R Nursing Home	11.3386746, 77.7294262	30 km/h	Medium
25	hospital	Government Maternity Hospital, Agathiar	11.33716, 77.727075	30 km/h	Medium
26	clinic	Naseer Nursing Home	11.3364485, 77.7271691	30 km/h	Medium
27	hospital	Vikram Hospital, Erode	11.3356411, 77.7280569	30 km/h	Medium
28	hospital	Shabeer Hospital	11.33529, 77.7285236	30 km/h	Medium
29	hospital	J.B. Clinic And Hospital	11.3351769, 77.7282031	30 km/h	Medium
30	hospital	Dr. R.M. Habibullah Hospital	11.335246, 77.7266028	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
31	hospital	Kumarasamy Hospital	11.334273, 77.7259118	30 km/h	Medium
32	hospital	Thangam Hospital, Erode	11.3340961, 77.7262437	30 km/h	Medium
33	hospital	Ck Hospital	11.3326562, 77.7282011	30 km/h	Medium
34	hospital	Immick Hospital	11.332617, 77.728073	30 km/h	Medium
35	fire_station	Erode District Fire Station	11.3326366, 77.7272532	30 km/h	Medium
36	hospital	Jai Maaruthi Hospital	11.332, 77.727272	30 km/h	Medium
37	hospital	JJ hospital	11.33168, 77.728823	30 km/h	Medium
38	hospital	Shubiksha Hospital	11.3318174, 77.7299544	30 km/h	Medium
39	hospital	Bethesda Hospital	11.3314183, 77.7266231	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
24	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: 11.45350, 77.85700



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.45833, 77.85146



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: 11.34493, 77.73032



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.34487, 77.73024



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.34470, 77.73018



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.33920, 77.72902



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 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: High

Speed Limit: 15 KM/Hr

Coordinates: 11.33281, 77.72755

