



JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal To SRI BALAGANAPATHI 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

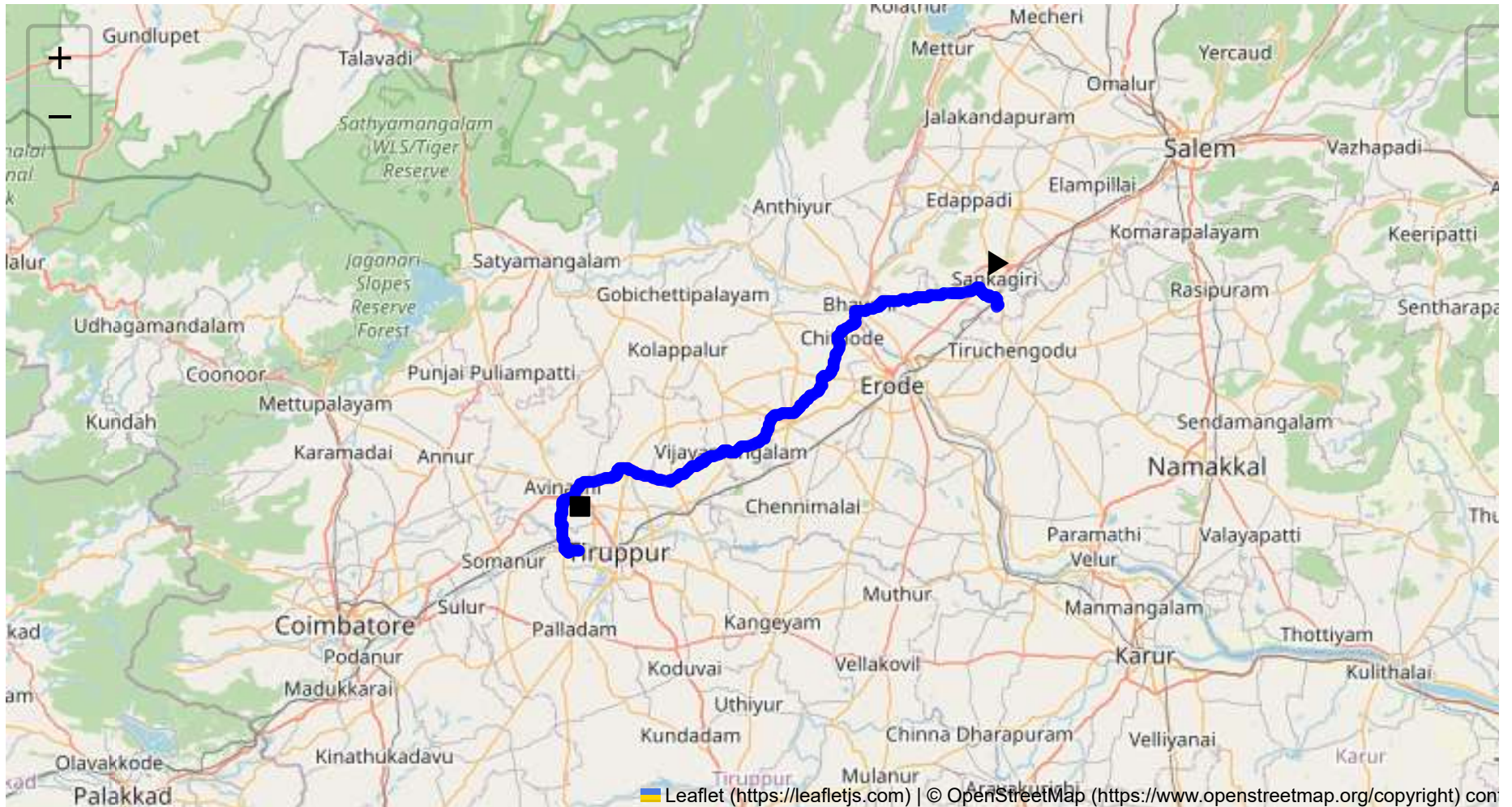
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 96.60 km
Estimated Duration: 1.8 hours
Adjusted Duration (Heavy Vehicle): 2.2 hours
Start: (11.4381, 77.8734)
End: (11.101758, 77.287747)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route stretches approximately 96.60 kilometers starting from Sangagiri, passing through major points such as SH 79A in Sangagiri, Erode's Lakshmi Nagar Bypass, Perundurai Bypass, and Avinashi, and ending at Sulthan Peettai. The journey navigates through a combination of state highways and bypasses that facilitate smoother traffic for heavy vehicles.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Tamil Nadu generally experiences a hot and dry climate, but from October to December, the region is affected by the Northeast Monsoon which might lead to heavy rainfall. During these months, routes can suffer from waterlogging that may impact visibility and road condition. Summer months can pose the risk of tire blowouts due to high temperatures and road heat.

3. Analysis of Traffic Patterns

- **SH 79A and Erode Bypass:** Typically busy, especially during morning (8 AM - 10 AM) and evening (5 PM - 7 PM) rush hours.
- **Perundurai Bypass and Avinashi:** These sections are prone to congestion due to narrower roads and roadside markets.

4. Assessment of Road Quality and Infrastructure

- **SH 79A and Perundurai Bypass:** Generally well-maintained, with periodic wear and tear from heavy vehicle usage and occasional potholing during monsoon.
- **Lakshmi Nagar and Avinashi:** These areas might have uneven surfaces and require caution for truck navigation, particularly Avinashi, which has reported road maintenance lag at times.

5. Suggestions for Alternative Routes for Emergencies

For emergencies, utilizing local roads connecting NH544, which runs parallel to this route, can be considered. NH544 offers better infrastructure and faster access to emergency services.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials is regulated by the Petroleum and Explosives Safety Organization (PESO) in India. State-specific rules include restrictions on passage through populated areas during peak hours and mandatory compliance with escort and signage requirements.

7. Overview of Historical Incidents

In recent years, there have been isolated incidents involving tanker overturns on the SH 79A and near Avinashi, primarily attributed to speeding and poor road conditions during rains.

8. Environmental Considerations and Sensitive Areas

Erode and its surroundings have rich agrarian zones; hence, it is crucial to prevent contamination from spills. The route also passes near water bodies; thus, additional vigilance is required to prevent environmental hazards.

9. Analysis of Communication Coverage

Most of the route boasts good cellular coverage, but pockets along the Perundurai Bypass might experience spotty service, especially in remote stretches. Drivers should equip themselves with proper communication tools accordingly.

10. Estimated Emergency Response Times

- **Sangagiri and SH 79A:** Around 20-30 minutes due to proximity to urban centers.
- **Perundurai and Avinashi areas** can expect response times of 30-45 minutes due to traffic and potential communication gaps.

11. Overall Summary of Risk Assessment

The route presents moderate risks primarily due to seasonal weather patterns, road infrastructure conditions, and traffic congestion. Proper planning around peak traffic, weather awareness, and contingency plans for communication failures and route diversions can mitigate these risks significantly.

Collaboration with local authorities and adherence to safety regulations will further ensure a safer journey for heavy vehicle operators transporting hazardous materials.

Driver awareness training, equipment checks, and pre-trip planning focusing on traffic and weather forecasts are highly recommended to maintain both efficiency and safety standards along this route.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.17250, 77.26863	15 KM/Hr
1	Roundabout	High	11.10249, 77.27146	15 KM/Hr
2	Turn	High	11.43961, 77.87341	15 KM/Hr
3	Turn	High	11.44029, 77.87544	15 KM/Hr
4	Turn	High	11.44893, 77.87413	15 KM/Hr
5	Turn	Medium	11.45127, 77.86734	30 KM/Hr
6	Turn	High	11.45350, 77.85700	15 KM/Hr
7	Turn	Medium	11.45845, 77.85141	30 KM/Hr
8	Turn	Medium	11.45889, 77.85136	30 KM/Hr
9	Turn	High	11.46303, 77.84945	15 KM/Hr
10	Turn	Medium	11.46317, 77.84906	30 KM/Hr
11	Turn	Medium	11.43175, 77.67757	30 KM/Hr
12	Turn	Medium	11.16875, 77.26763	30 KM/Hr
13	Turn	Medium	11.10874, 77.27131	30 KM/Hr
14	Turn	Medium	11.10258, 77.27231	30 KM/Hr
15	Turn	High	11.10213, 77.28783	15 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
3	hospital	Dhanvantri Multi Speciality Hospital	11.451362, 77.766602	30 km/h	Medium
4	hospital	Dhanvanthri Hospital	11.4496712, 77.7593772	30 km/h	Medium
5	hospital	J.K.K. Trust Hospital	11.4445841, 77.7307962	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
6	hospital	Shri Sathyanarayana Hospital	11.4291297, 77.6913408	30 km/h	Medium
8	hospital	Thanish Siddha Hospital	11.430003, 77.674964	30 km/h	Medium
9	hospital	Sri Kaalangi Siddhar Mooligai Vaithiya Nilayam	11.432369, 77.674894	30 km/h	Medium
10	clinic	G.K Clinic	11.4297244, 77.6749715	30 km/h	Medium
11	clinic	Harshitha Clinic	11.4313207, 77.674718	30 km/h	Medium
12	clinic	Erode Cancer Centre	11.3732, 77.649152	30 km/h	Medium
14	hospital	Irt Hospital	11.2803603, 77.5644118	30 km/h	Medium
16	hospital	Gen Siddha Hospital	11.2375033, 77.5059797	30 km/h	Medium
17	hospital	Vijayamangalm Government Hospital	11.2382827, 77.501687	30 km/h	Medium
18	hospital	Dr. N Viswanathan Hospital	11.2412783, 77.5005502	30 km/h	Medium
19	clinic	P.M. Clinic	11.2281078, 77.4647296	30 km/h	Medium
21	hospital	Sri Renu Hospital	11.1990225, 77.4219937	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
13	college	Government polytechnic college	11.2907053, 77.5698726	30 km/h	Medium
15	school	Bharathi Matriculation School	11.2494613, 77.5307028	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
20	marketplace	Weekly Market (sandhai)	11.2287229, 77.4646676	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.17250, 77.26863



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.10249, 77.27146



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: 11.44893, 77.87413



Risk Type: Turn
Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.45127, 77.86734



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.45350, 77.85700



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.45845, 77.85141



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.45889, 77.85136

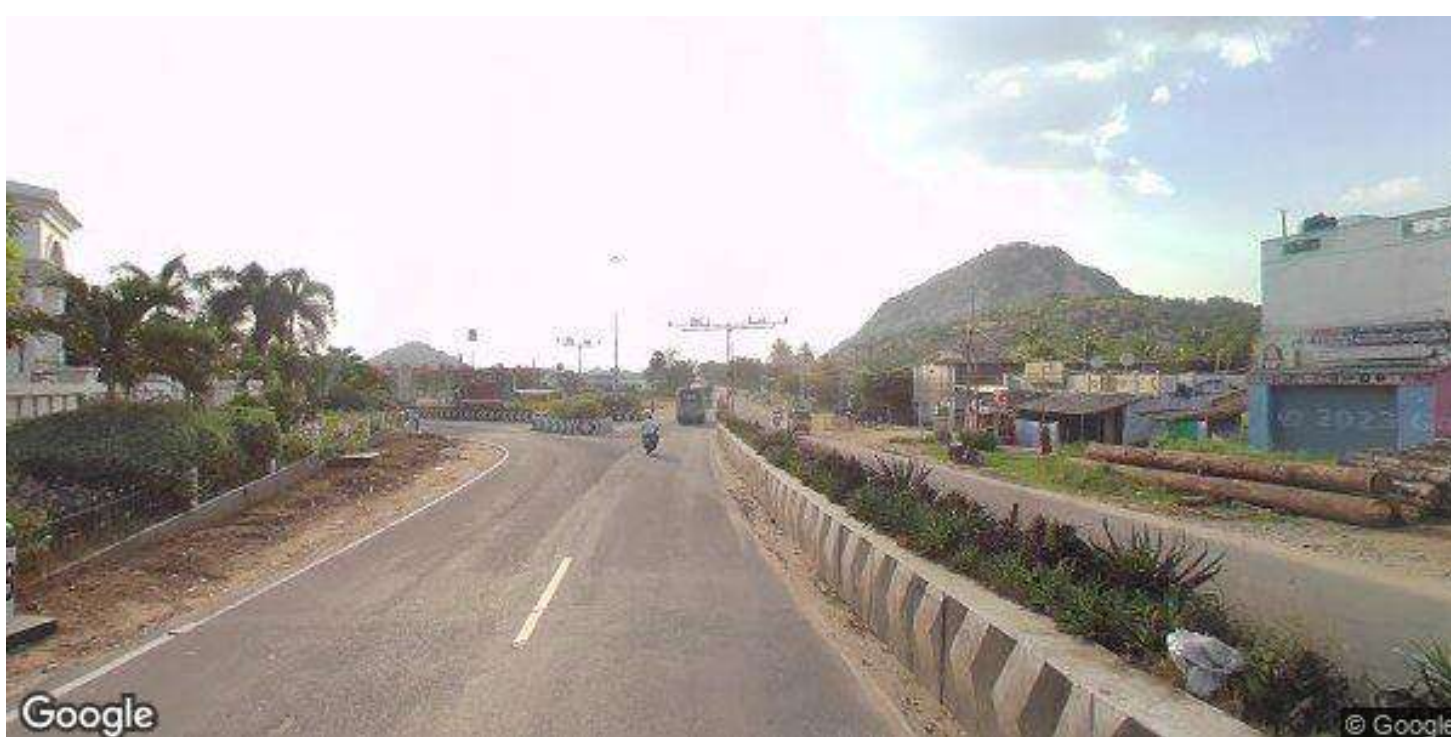


Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.46303, 77.84945



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.46317, 77.84906



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.43175, 77.67757



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.16875, 77.26763



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10874, 77.27131



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10258, 77.27231



Risk Type: Turn
Risk Level: High

Speed Limit: 15 KM/Hr
Coordinates: 11.10213, 77.28783
