



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal TO DR NGP MOTOR AGENCY

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

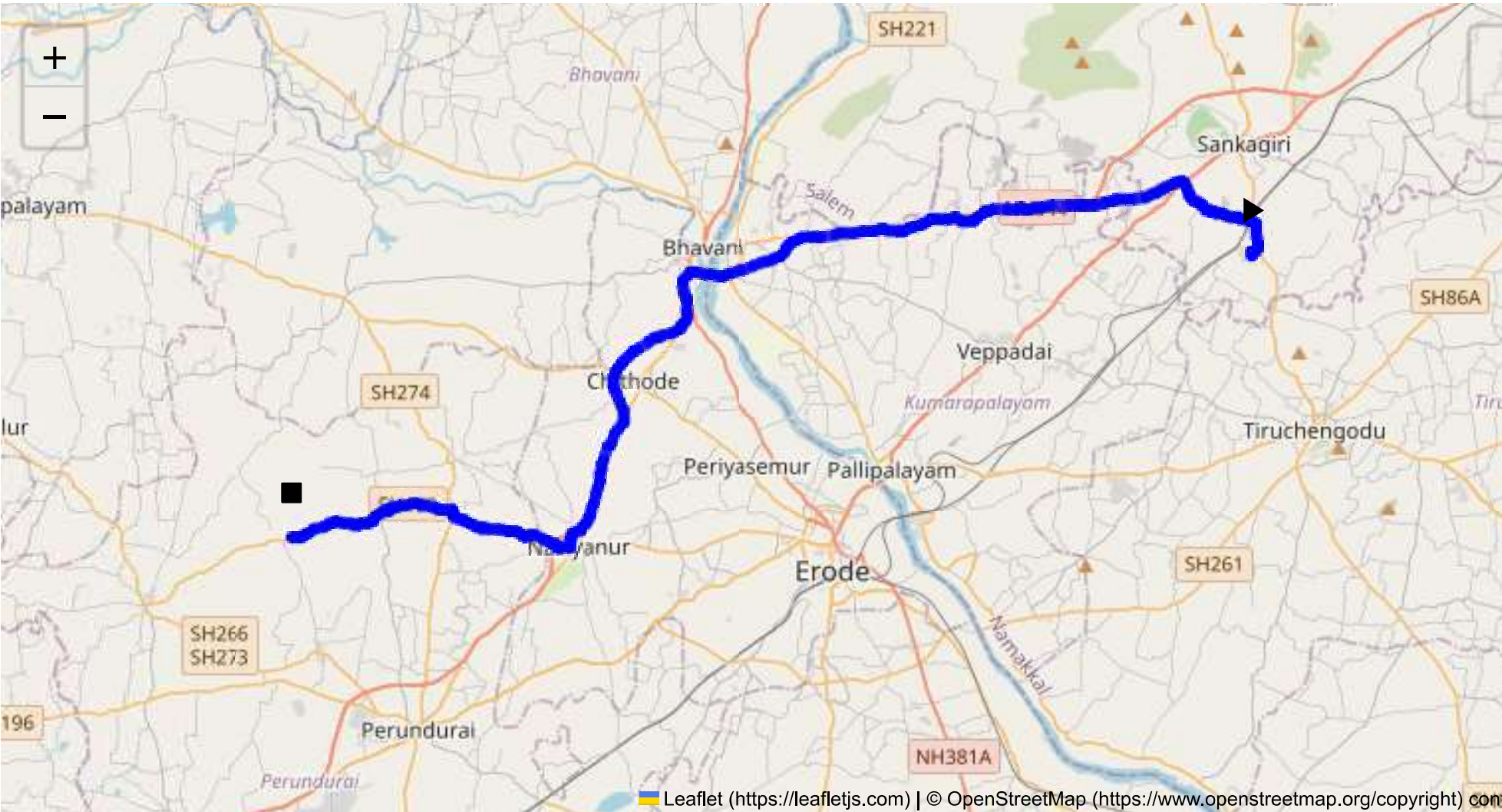
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 48.43 km
Estimated Duration: 1.0 hours
Adjusted Duration (Heavy Vehicle): 1.2 hours
Start: (11.4381, 77.8734)
End: (11.342236, 77.539014)



Welcome to the Journey Risk Management Study

Route Overview

The route from Sangagiri to Nallampatti in Tamil Nadu, India, covers approximately 48.43 kilometers and typically takes around one hour for heavy vehicles. This route primarily traverses through rural areas and small towns, offering a mixture of narrow roads, state highways, and connecting roads.

Weather Conditions and Potential Hazards

- **Typical Weather:** Tamil Nadu generally experiences a tropical climate, with hot summers, moderate winters, and significant monsoon rainfall from June to September.
- **Weather Hazards:** The primary weather-related risks include heavy monsoon rains that can cause local flooding and reduce road visibility. Fog is a less common, but potential issue during winter months, particularly in early mornings and late evenings.

Traffic Patterns

- **Congestion:** Traffic is generally light for most of the route, except near town centers, where congestion may occur, especially during morning and evening rush hours (7-10 AM, 5-8 PM).
- **Sensitive Areas:** Watch for increased pedestrian and vehicular traffic at junctions, markets, and near schools.

Road Quality and Infrastructure

- **Road Quality:** The roads vary in quality, with some segments well-paved and others having potholes or poorly marked lanes. Regular maintenance is not always evident, particularly on lesser-used roads.
- **Infrastructure Concerns:** There may be narrow bridges and sharp turns, requiring careful negotiation when driving large vehicles.

Alternative Routes

- **For Emergencies:**
 - **Option 1:** Use SH-86, a more direct but potentially congested alternative.
 - **Option 2:** If the main route is blocked, consider detours via less trafficked local roads or loops back to NH-544 for better infrastructure.

Local Regulations on Hazardous Material Transport

- **Regulations:** Transporting hazardous material requires appropriate documentation, including a Goods Vehicle Permit and compliance with the Motor Vehicle Act. There may be restrictions on transporting hazardous materials through certain densely populated areas.

Historical Incidents

- **Incidents:** Review of local data shows sporadic incidents involving heavy vehicles, primarily due to driver error or mechanical failure. No major incidents specific to hazardous materials have been documented along this route.

Environmental Considerations

- **Sensitive Areas:** Most of the route passes through agricultural zones and near small water bodies. Minimize environmental impact by avoiding off-road driving and practicing spill prevention

measures.

Communication Coverage

- Signal Reliability:** Mobile network coverage is generally reliable; however, there might be occasional weak signals in more rural sections. Most urban areas have full coverage.

Emergency Response Times

- Response Times:** Emergency services may take 30-60 minutes to reach rural segments of this route due to distance and road conditions. Closer to town centers, expected response time reduces to 15-30 minutes.

Risk Assessment Summary

This route poses moderate risk for heavy vehicles carrying hazardous materials primarily due to:

- Weather:** Monsoon-related flooding or reduced visibility.
- Road Conditions:** Varying road quality and potential for congestion in populated areas.
- Infrastructure:** Lack of emergency service presence along rural stretches.

Drivers should prioritize adherence to safety protocols, maintain stable communications, and plan travel during off-peak hours to minimize risk. Alternative routes should be pre-identified in case of emergencies or unforeseen roadblocks. It is advisable to stay updated on weather reports and road conditions before and during travel.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Turn	High	11.43811, 77.87348	15 KM/Hr
1	Turn	High	11.43968, 77.87345	15 KM/Hr
2	Turn	High	11.44029, 77.87544	15 KM/Hr
3	Turn	Medium	11.44898, 77.87410	30 KM/Hr
4	Turn	Medium	11.45357, 77.85789	30 KM/Hr
5	Turn	Medium	11.45352, 77.85698	30 KM/Hr
6	Turn	Medium	11.46048, 77.85036	30 KM/Hr
7	Turn	Medium	11.46303, 77.84945	30 KM/Hr
8	Turn	Medium	11.46318, 77.84913	30 KM/Hr
9	Turn	High	11.34315, 77.63670	15 KM/Hr
10	Turn	High	11.33890, 77.63610	15 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
11	Turn	Medium	11.34241, 77.61957	30 KM/Hr
12	Turn	High	11.34865, 77.59559	15 KM/Hr
13	Turn	Medium	11.35150, 77.59493	30 KM/Hr
14	Turn	Medium	11.35165, 77.59474	30 KM/Hr
15	Turn	Medium	11.35209, 77.57382	30 KM/Hr
16	Turn	Medium	11.35106, 77.57318	30 KM/Hr
17	Turn	Medium	11.35049, 77.57222	30 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
14	hospital	Veena Hospital	11.3367614, 77.6366566	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

Route Photos of Risky Spots



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: 11.46048, 77.85036



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: High

Speed Limit: 15 KM/Hr

Coordinates: 11.34315, 77.63670



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.33890, 77.63610



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.34241, 77.61957



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.34865, 77.59559



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.35150, 77.59493



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.35165, 77.59474



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.35209, 77.57382



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.35106, 77.57318



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.35049, 77.57222

