



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal TO DURAISAMY SONS

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

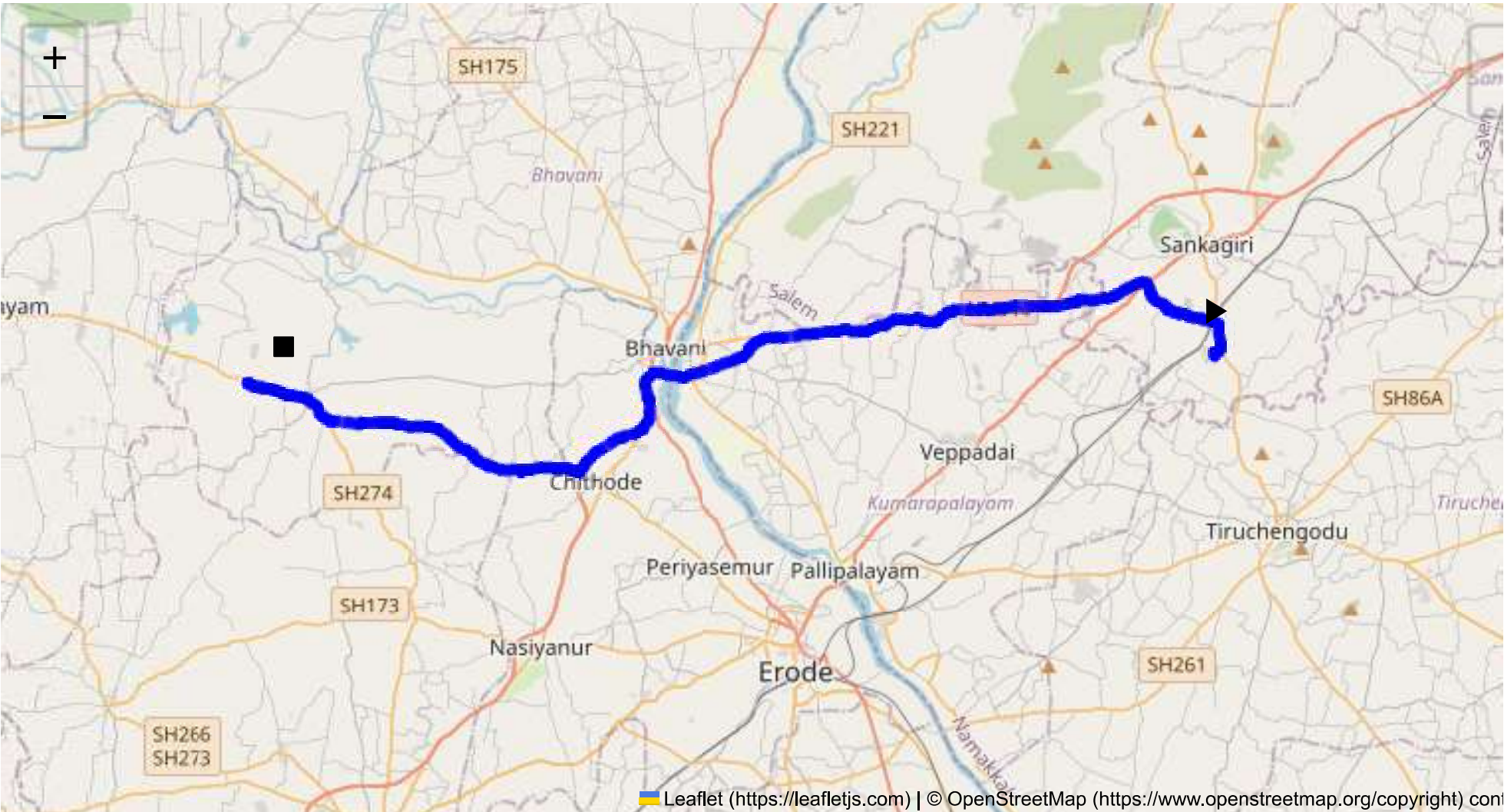
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 44.46 km
Estimated Duration: 0.9 hours
Adjusted Duration (Heavy Vehicle): 1.1 hours
Start: (11.4381, 77.8734)
End: (11.425868, 77.549112)



Welcome to the Journey Risk Management Study

Route Safety Analysis Report

1. Overview of the Route Map

The route from Sangagiri to Kavandapadi in Tamil Nadu covers approximately 44.46 kilometers. It primarily involves traveling through state highways and some rural roads. The landscape may vary from

rural and agricultural land to small towns, with limited urban interference.

2. Typical Weather Conditions and Potential Weather-Related Hazards

The region experiences a tropical climate with hot summers, a monsoon season typically from June to September, and milder winter months. Monsoon can pose a hazard with heavy rainfall leading to waterlogged roads and reduced visibility. Fog and dew could affect early morning journeys, particularly in the cooler months.

3. Analysis of Traffic Patterns

Traffic is generally moderate along the route with trucks, buses, and local traffic commonly seen. Peak traffic hours are typically in the morning (8-10 AM) and evening (5-7 PM) due to work and school commutes. Congestion points can occur near town centers and market entrances.

4. Assessment of Road Quality and Infrastructure

Overall road quality is moderate, with some stretches potentially suffering from potholes or uneven surfaces, especially after the monsoon season. Infrastructure such as signage and lighting in rural sections might be inadequate, which could pose risks during nighttime travel.

5. Suggestions for Alternative Routes for Emergencies

In case of emergencies, consider alternate routes via local roads that connect back to major highways. It will be crucial to have updated maps or GPS systems to navigate these roads effectively, as local knowledge will be invaluable for detours.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials is regulated and typically requires adherence to state and national guidelines, including proper labeling and permits. Vehicles are also often required to avoid densely populated areas during peak times.

7. Overview of Historical Incidents

Historical data suggests some incidents involving heavy vehicles, often related to vehicle overturns or collisions at high speeds in poorly lit areas. However, specific hazardous material incidents are relatively less documented in this area.

8. Environmental Considerations and Sensitive Areas

This route passes through agricultural zones, so any spillage of hazardous materials could have detrimental effects on local water bodies and soil used for farming. It's also essential to be mindful of wildlife crossings in rural sections.

9. Analysis of Communication Coverage

Overall, the mobile network coverage is generally good but could have occasional dead zones in remote rural areas and near hills. It is advisable to have multiple means of communication ready, including radio.

10. Estimated Emergency Response Times

Emergency response times can vary significantly across the route. In towns, assistance might be quicker (20-30 minutes). In rural sections, it might take up to an hour due to limited access and local service availability.

11. Overall Summary of Risk Assessment

This route, while relatively short, presents typical rural transportation challenges, including variable road quality, moderate congestion, and potential weather impacts. The critical risks relate to road conditions, unexpected weather changes, and logistical challenges related to communication and emergency response. Drivers should be well-prepared with safety gear, updated maps, and emergency contact lists. Constant vigilance, especially during inclement weather and night travel, will be crucial for safety. Regular route updates and communication with local authorities can further mitigate risks.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	U-Turn	High	11.4287655, 77.537661	10 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	High	11.40046, 77.65371	15 KM/Hr
11	Turn	High	11.40035, 77.65383	15 KM/Hr
12	Turn	High	11.39827, 77.65237	15 KM/Hr
13	Turn	Medium	11.42079, 77.56127	30 KM/Hr
14	Blind Spot	Blind Spot	11.42877, 77.53766	10 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
15	Turn	High	11.42885, 77.53775	15 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	hospital	Naarayani Hospital	11.4157401, 77.5773087	30 km/h	Medium
14	hospital	P K Hospital	11.4175923, 77.5640962	30 km/h	Medium
15	hospital	Dharun Hospital	11.4223638, 77.5597735	30 km/h	Medium
16	hospital	Dr. Ramaswamy Hospital	11.4249065, 77.5535658	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: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Coordinates: 11.4287655, 77.537661



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: High
Speed Limit: 15 KM/Hr
Coordinates: 11.40046, 77.65371



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.40035, 77.65383



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.39827, 77.65237



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.42079, 77.56127



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.42877, 77.53766



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.42885, 77.53775
