



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal to A R 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

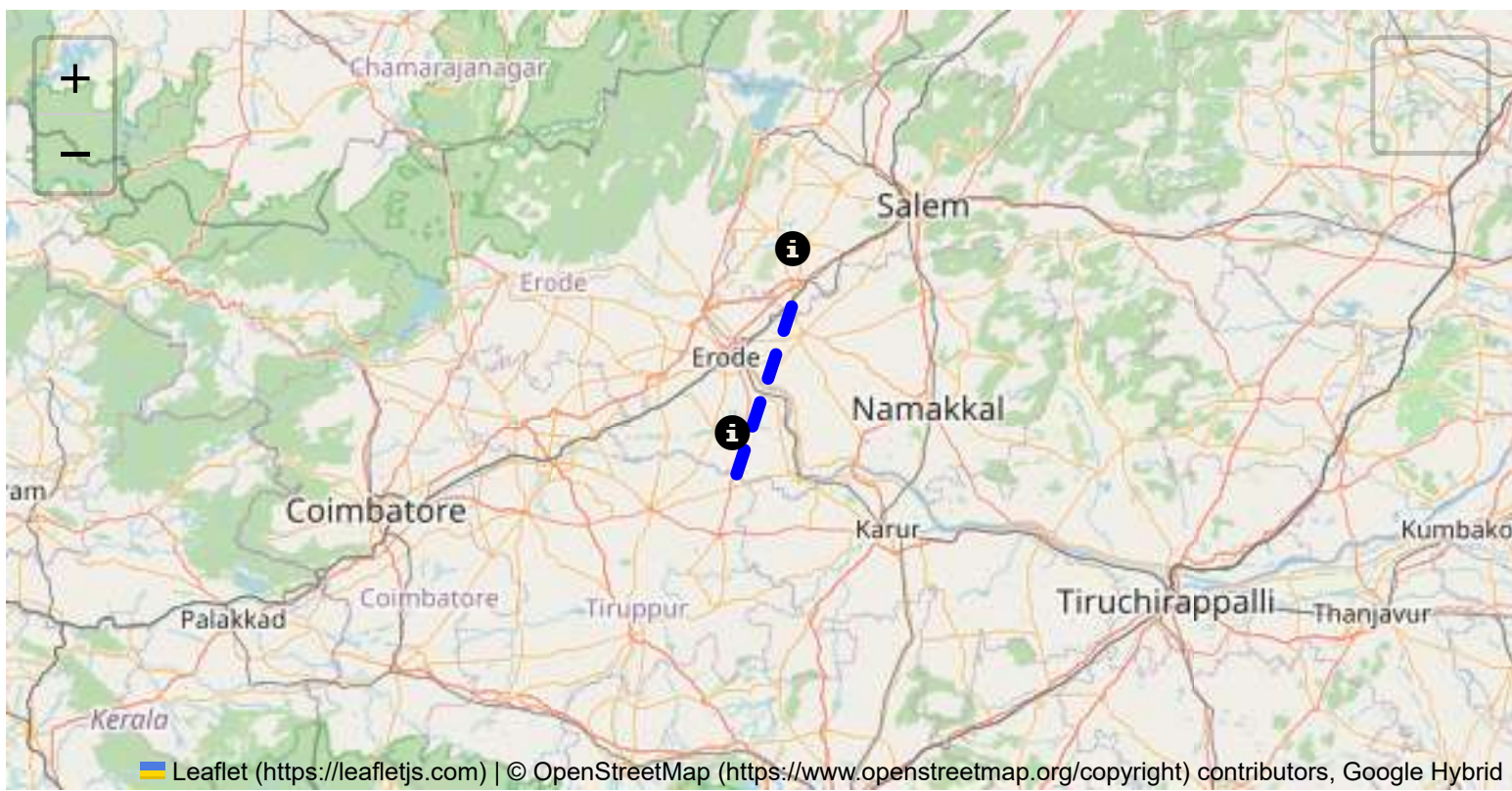
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental impacts during transport.

Journey Risk Mitigation

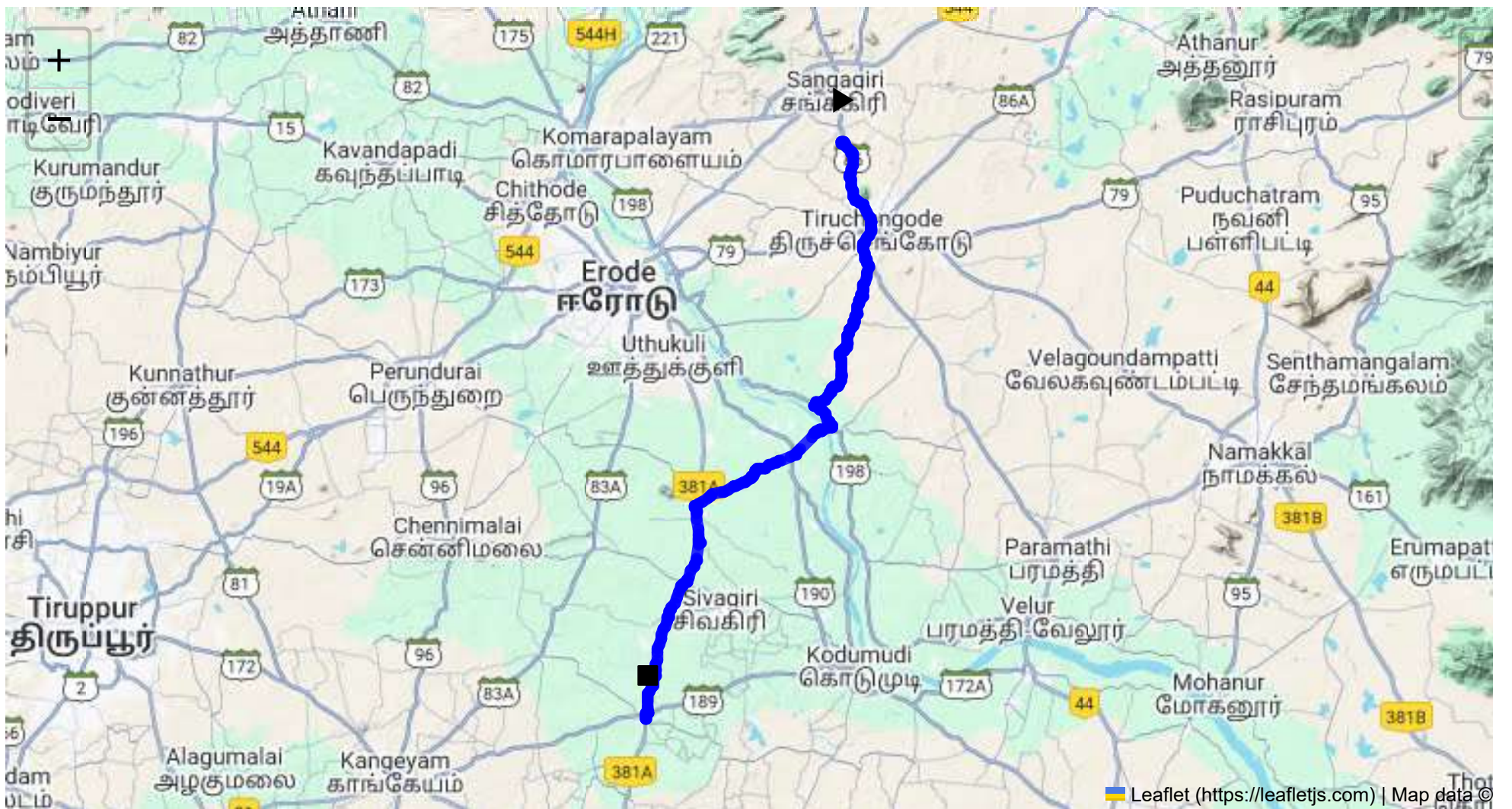
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 55.66 km
Estimated Duration: 1.4 hours
Adjusted Duration (Heavy Vehicle): 1.7 hours
Start: (11.4381, 77.8734)
End: (11.042631, 77.736596)



Risk Spots

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
2	Turn	11.43822, 77.87348	15 KM/Hr	0.01 km
3	Turn	11.43968, 77.87345	15 KM/Hr	0.14 km
4	Turn	11.44022, 77.87546	15 KM/Hr	0.40 km

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
0	Roundabout	11.38395, 77.89480	15 KM/Hr	7.33 km
5	Turn	11.37868, 77.89498	15 KM/Hr	7.99 km
6	Turn	11.33268, 77.88827	15 KM/Hr	13.49 km
7	Turn	11.33071, 77.88660	15 KM/Hr	13.75 km
8	Turn	11.32155, 77.88499	15 KM/Hr	14.82 km
9	Turn	11.31205, 77.88131	15 KM/Hr	15.98 km
10	Turn	11.31151, 77.88008	15 KM/Hr	16.11 km
11	Turn	11.30805, 77.87934	15 KM/Hr	16.50 km
12	Turn	11.30625, 77.87776	15 KM/Hr	16.78 km
13	Turn	11.29763, 77.87710	15 KM/Hr	17.75 km
14	Turn	11.29668, 77.87515	15 KM/Hr	17.94 km
15	Turn	11.29585, 77.87457	15 KM/Hr	18.12 km
16	Turn	11.29417, 77.87309	15 KM/Hr	18.38 km
17	Turn	11.27096, 77.87034	15 KM/Hr	21.12 km
18	Turn	11.27057, 77.86827	15 KM/Hr	21.34 km
19	Turn	11.26017, 77.85606	15 KM/Hr	23.24 km
20	Turn	11.25802, 77.85511	15 KM/Hr	23.47 km
21	Turn	11.25287, 77.86220	15 KM/Hr	24.43 km
22	Turn	11.24384, 77.86689	15 KM/Hr	25.60 km
23	Turn	11.24100, 77.86030	15 KM/Hr	26.33 km
24	Turn	11.24196, 77.85902	15 KM/Hr	26.53 km
25	Turn	11.23960, 77.85563	15 KM/Hr	27.00 km
26	Turn	11.20949, 77.81173	15 KM/Hr	33.01 km
27	Blind Spot	11.18861, 77.77108	10 KM/Hr	38.18 km
28	Turn	11.16417, 77.77367	15 KM/Hr	40.95 km
1	Roundabout	11.04637, 77.73761	15 KM/Hr	55.03 km
29	Turn	11.04505, 77.73623	15 KM/Hr	55.23 km
30	Turn	11.04269, 77.73659	15 KM/Hr	55.52 km

Emergency Services

	type	name	coordinates	side_of_road
0	hospital	Tiruchengode, Goverment Hospital	11.3903328, 77.8920627	Driver's Side
1	hospital	SPM Medical Centre,Tiruchengode	11.3881331, 77.8931963	Opposite Side

	type	name	coordinates	side_of_road
3	clinic	Kongu Nursing Home	11.3783065, 77.8961134	Driver's Side
4	hospital	T.C.A Hospital Tiruchengode	11.3791885, 77.8965774	Driver's Side
5	hospital	Soorya Multispecialty Hospital	11.3786429, 77.8931912	Opposite Side
6	hospital	Tiruchengode Government Hospital	11.37645, 77.89426	Driver's Side
7	hospital	Tirukumaran Hospitals	11.3782118, 77.8914933	Opposite Side
8	hospital	Krishna Hospital, Namakkal	11.3754811, 77.8931817	Opposite Side
9	police	கரட்டுப்பாளையம் காவல் நிலையம்	11.357586, 77.8922539	Driver's Side
10	hospital	Government Hospital, Elumathur	11.18533, 77.772496	Driver's Side
11	hospital	Malar Hospital, Muthur	11.0438049, 77.7361156	Opposite Side

Rest Stops

	type	name	coordinates	side_of_road
2	restaurant	Lijo	11.3805115, 77.8946385	Opposite Side
12	fuel	Indian Oil	11.0445808, 77.7345458	Opposite Side
13	fuel	Indian Oil	11.0427213, 77.7366296	Driver's Side

Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from CVQF+23W, Sangagiri to Muthur primarily involves traveling southeast along local roads and state highways. It includes a mix of rural roads and more developed areas. The primary highways involved are SH 84A, which provides access through various towns and villages, before reaching the destination at A.R.Complex in Muthur.

2. Typical Weather Conditions and Potential Weather-Related Hazards

- Weather Conditions:** Generally, Tamil Nadu experiences a tropical climate with dry seasons and seasonal monsoon rains.
- Potential Hazards:** During the monsoon (typically October to December), roads can become slippery, and visibility may be reduced due to heavy rains. There is also a risk of localized flooding in low-lying areas, which could impact travel time and safety.

3. Analysis of Traffic Patterns

- **Peak Hours:** Traffic tends to be heavier in the morning (7:30 AM to 9:30 AM) and late afternoon (5:00 PM to 7:30 PM).
- **Congestion-Prone Areas:** Town centers and major intersections are prone to congestion, particularly near markets and schools. The SH 84A segment near larger towns sees increased traffic.

4. Assessment of Road Quality and Infrastructure

- **Road Quality:** Varies from well-maintained highways to narrower rural roads. Potholes and uneven surfaces may be present, particularly on lesser-traveled roads.
- **Infrastructure:** Signage and lighting can be inconsistent outside major towns, potentially creating navigation challenges at night.

5. Suggestions for Alternative Routes

- **Local Knowledge:** Given the rural nature of the area, it is advisable to consult local drivers for route alternatives during emergencies.
- **Alternative Highways:** If SH 84A is unusable, local roads parallel to the highway can often offer alternative access, though at reduced speeds.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Regulations:** The transportation of hazardous materials is regulated by state transport authorities, requiring permits and adherence to specific routing rules to avoid densely populated areas.
- **Transportation Hours:** Transport during off-peak hours is often recommended to minimize risks in congestion zones.

7. Overview of Historical Incidents

- **Historical Incidents:** Few documented incidents, but rural areas often lack robust emergency services. Breakdowns or accidents in these areas may lead to significant delays. No specific catastrophic events reported involving heavy vehicles or hazardous materials.

8. Environmental Considerations and Sensitive Areas

- **Sensitive Areas:** The route passes near agricultural zones which can be sensitive to spills or accidents involving hazardous materials.
- **Conservation Zones:** Awareness of nearby conservation areas or water bodies is important, as these require specific precautions to prevent contamination.

9. Analysis of Communication Coverage

- **Coverage:** Mobile communication coverage is generally reliable along major stretches of the highway but may be intermittent in rural areas.

- **Dead Zones:** Particular segments in heavily forested or hilly terrain may experience reduced signal strength.

10. Estimated Emergency Response Times

- **Response Times:** In towns, emergency response could range from 15-30 minutes but could extend to over an hour in rural stretches due to limited access and resources.

11. An Overall Summary of Risk Assessment

- **Overall Risks:** Moderate. The route presents typical rural transport challenges with added weather-related and communication risks. Timely and efficient emergency response might be a concern due to varying accessibility.

Mitigation strategies include careful monitoring of weather conditions, planning transport during non-peak hours, and ensuring robust communication tools are ready. Given these factors, enhanced driver training for handling potential road and weather conditions would further reduce risks.

Route Photos of Risky Spots



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 0.40 km

Coordinates: 11.44022, 77.87546



Risk Type: Roundabout
Speed Limit: 15 KM/Hr
Distance from Start: 7.33 km
Coordinates: 11.38395, 77.89480



Risk Type: Turn
Speed Limit: 15 KM/Hr
Distance from Start: 7.99 km
Coordinates: 11.37868, 77.89498



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 13.49 km

Coordinates: 11.33268, 77.88827



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 13.75 km

Coordinates: 11.33071, 77.88660



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 14.82 km

Coordinates: 11.32155, 77.88499



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 15.98 km

Coordinates: 11.31205, 77.88131



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 16.11 km

Coordinates: 11.31151, 77.88008



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 16.50 km

Coordinates: 11.30805, 77.87934



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 16.78 km

Coordinates: 11.30625, 77.87776



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 17.75 km

Coordinates: 11.29763, 77.87710



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 21.12 km

Coordinates: 11.27096, 77.87034



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 21.34 km

Coordinates: 11.27057, 77.86827



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 23.24 km

Coordinates: 11.26017, 77.85606



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 23.47 km

Coordinates: 11.25802, 77.85511



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 24.43 km

Coordinates: 11.25287, 77.86220



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 25.60 km

Coordinates: 11.24384, 77.86689



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 26.33 km

Coordinates: 11.24100, 77.86030



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 26.53 km

Coordinates: 11.24196, 77.85902



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 27.00 km

Coordinates: 11.23960, 77.85563



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 33.01 km

Coordinates: 11.20949, 77.81173



Risk Type: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 38.18 km

Coordinates: 11.18861, 77.77108



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 40.95 km

Coordinates: 11.16417, 77.77367



Risk Type: Roundabout
Speed Limit: 15 KM/Hr
Distance from Start: 55.03 km
Coordinates: 11.04637, 77.73761



Risk Type: Turn
Speed Limit: 15 KM/Hr
Distance from Start: 55.23 km
Coordinates: 11.04505, 77.73623



Risk Type: Turn
Speed Limit: 15 KM/Hr
Distance from Start: 55.52 km
Coordinates: 11.04269, 77.73659

[Download Interactive Map](#)