



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal TO MUTHUKUMAR & CO

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

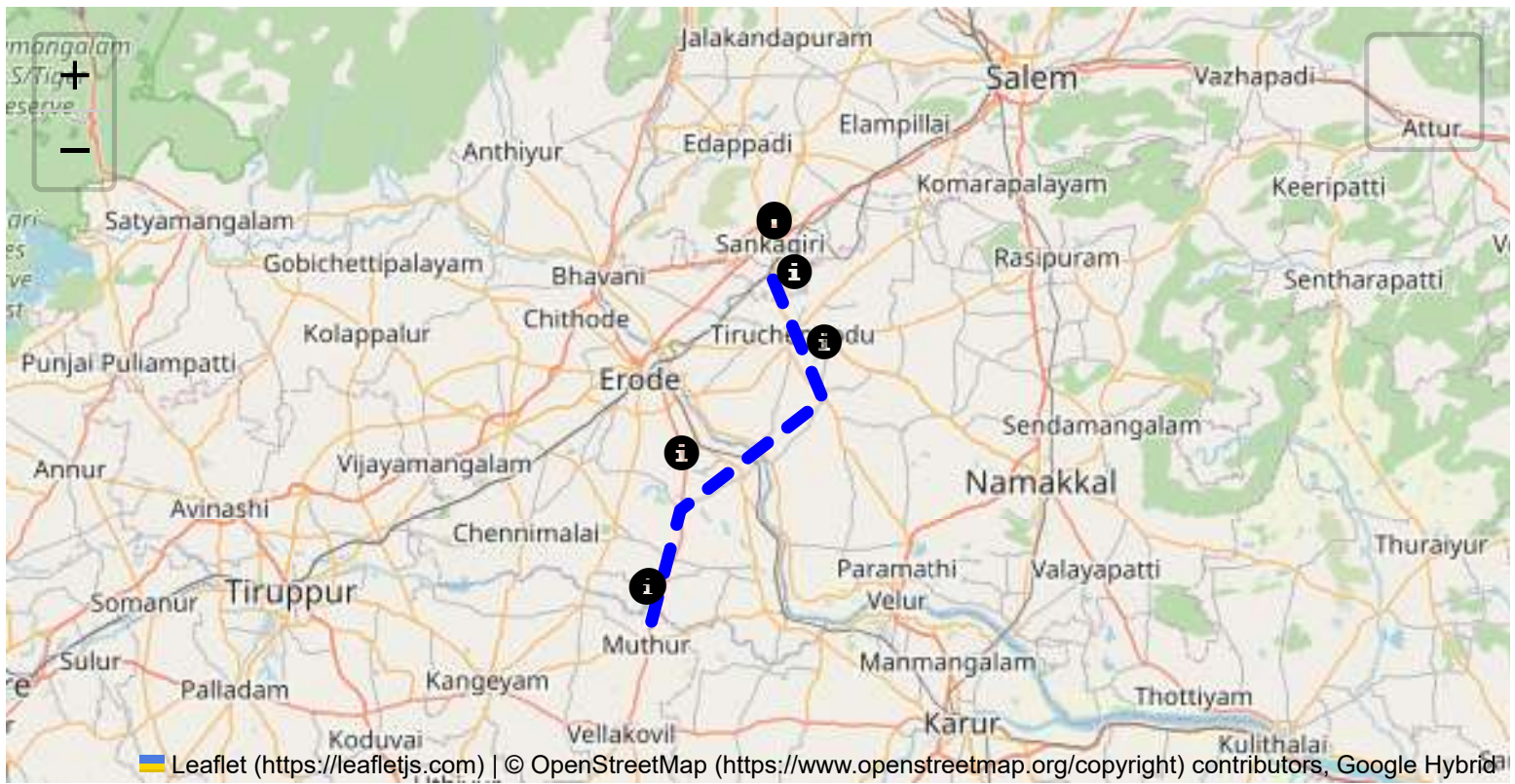
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

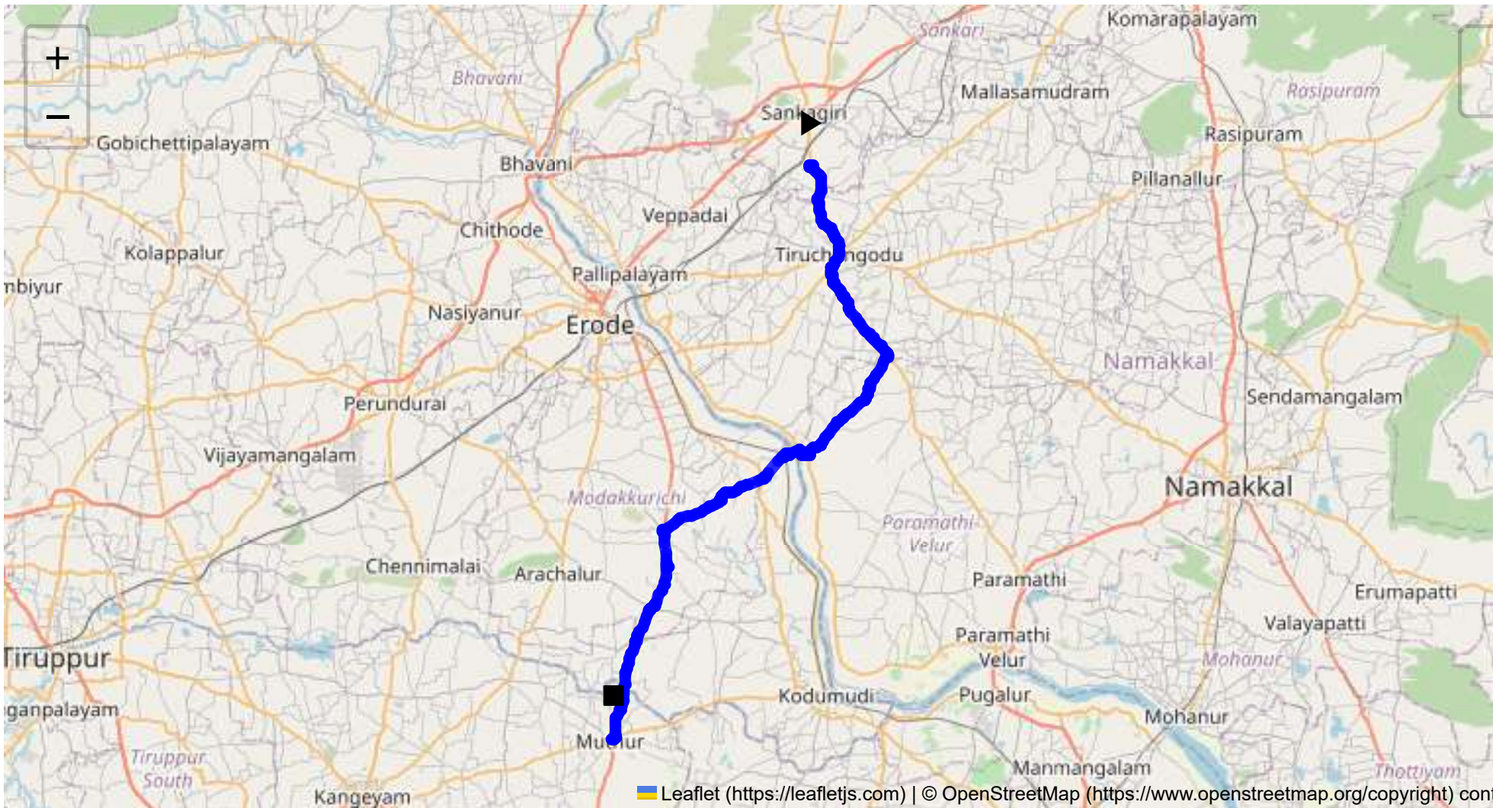
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 58.49 km
Estimated Duration: 1.4 hours
Adjusted Duration (Heavy Vehicle): 1.7 hours
Start: (11.4381, 77.8734)
End: (11.04468, 77.734535)



Risk Spots

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
2	Turn	11.43822, 77.87348	15 KM/Hr	0.01 km
3	Turn	11.43961, 77.87341	15 KM/Hr	0.14 km
4	Blind Spot	11.44029, 77.87544	10 KM/Hr	0.31 km

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
5	Turn	11.39671, 77.88878	15 KM/Hr	5.84 km
0	Roundabout	11.38395, 77.89480	15 KM/Hr	7.45 km
6	Turn	11.37868, 77.89498	15 KM/Hr	7.97 km
7	Turn	11.30859, 77.92918	15 KM/Hr	17.55 km
8	Turn	11.24000, 77.87363	15 KM/Hr	27.57 km
9	Turn	11.24053, 77.86902	15 KM/Hr	28.08 km
10	Turn	11.24155, 77.86877	15 KM/Hr	28.20 km
11	Turn	11.24248, 77.86829	15 KM/Hr	28.34 km
12	Blind Spot	11.24384, 77.86689	10 KM/Hr	28.52 km
13	Turn	11.24100, 77.86026	15 KM/Hr	29.30 km
14	Turn	11.24194, 77.85910	15 KM/Hr	29.50 km
15	Turn	11.23959, 77.85560	15 KM/Hr	29.98 km
16	Blind Spot	11.18861, 77.77108	10 KM/Hr	41.16 km
17	Turn	11.16417, 77.77367	15 KM/Hr	43.92 km
1	Roundabout	11.04637, 77.73761	15 KM/Hr	58.00 km
18	Turn	11.04515, 77.73621	15 KM/Hr	58.19 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
2	clinic	Kongu Nursing Home	11.3783065, 77.8961134	Driver's Side
3	hospital	T.C.A Hospital Tiruchengode	11.3791885, 77.8965774	Driver's Side
4	hospital	Soorya Multispecialty Hospital	11.3786429, 77.8931912	Opposite Side
6	hospital	Tiruchengode Government Hospital	11.37645, 77.89426	Driver's Side
7	hospital	Krishna Hospital, Namakkal	11.3754811, 77.8931817	Opposite Side
8	hospital	Tirukumaran Hospitals	11.3782118, 77.8914933	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	Driver's Side

Rest Stops

	type	name	coordinates	side_of_road
5	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 begins at CVQF+23W in Sangagiri and finishes at 2PVM+VR4 in Muthur, covering approximately 58.49 kilometers. It traverses through several key waypoints including Puthur, Thondikaradu near Girls High School, Sullipalayam on SH 86, Elumathur, and Kattupalayam.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Tamil Nadu experiences a tropical climate with hot summers, moderate monsoons, and mild winters. From June to September, heavy monsoonal rains can lead to waterlogging and reduced visibility on roads. Heat waves may occur from March to May, causing road surface degradation. Fog can be occasional during early mornings in winter (December to February).

3. Traffic Patterns

- Peak Hours:** Morning (8-10 AM) and evening (5-7 PM).
- Congestion-Prone Areas:** Sankagiri and Tiruchengode, particularly around school zones and marketplaces.
- Roads:** The SH 86 near Sullipalayam tends to have more traffic due to inter-district connectivity.

4. Assessment of Road Quality and Infrastructure

- Sangagiri to Puthur:** Moderate quality, with a few narrow sections.
- Thondikaradu:** Good, wider roads; speed limitations near schools.
- Sullipalayam (SH 86):** Good, with recent repairs visible but occasional potholes.
- Elumathur to Muthur:** Rural roads with varying quality, mostly single lane.

5. Suggestions for Alternative Routes for Emergencies

- SH 84A and SH 79:** Major highways with better facilities for rerouting in emergencies.
- Local Bypass Roads:** Can be used to detour major congestions, particularly around urban areas.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Tamil Nadu adheres to national guidelines for transporting hazardous materials. Transport requires specific permits. Heavy vehicles must use designated routes, and nighttime driving might have restrictions due to safety concerns.

7. Overview of Historical Incidents

There have been sporadic incidents involving heavy vehicles on SH 86, mainly due to overspeeding and improper overtaking. Historical data indicate a few spills or leaks concerning hazardous materials due to inadequate container locking.

8. Environmental Considerations and Sensitive Areas

- **Agricultural Areas:** High sensitivity due to proximity to farmland.
- **Water Bodies:** Ensure spill prevention near water sources en route.
- **Schools and Hospitals:** Close proximity, especially near Thondikaradu, necessitates cautious driving and adherence to speed limits.

9. Analysis of Communication Coverage

Most of the route has adequate mobile network coverage. However, rural segments, particularly between Elumathur and Kattupalayam, may experience intermittent signal loss.

10. Estimated Emergency Response Times

- **Sangagiri to Tiruchengode:** 20-30 minutes (urban areas with proximal emergency services).
- **Tiruchengode to Sullipalayam:** 30-45 minutes.
- **Sullipalayam to Muthur:** 40-60 minutes, due to rural and less traversed areas.

12. Overall Summary of Risk Assessment

- **Low Risk:** Urban segments with good road infrastructure and emergency facilities.
- **Moderate Risk:** Rural areas with single-lane roads, potential for weather-related disruptions, and less frequent emergency services.
- **High Risk:** Peak hour travel through congested areas and weather conditions or incidents leading to road closures or diversions.

Safety protocols should emphasize cautious driving, speed management, and preparedness for weather disruptions. Emergency contact lists must be kept accessible, and planning should consider peak travel times and road quality variations. Training programs should focus on navigating rural terrains and handling hazardous materials securely.

Route Photos of Risky Spots



Risk Type: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 0.31 km

Coordinates: 11.44029, 77.87544



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 5.84 km

Coordinates: 11.39671, 77.88878



Risk Type: Roundabout

Speed Limit: 15 KM/Hr

Distance from Start: 7.45 km

Coordinates: 11.38395, 77.89480



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 7.97 km

Coordinates: 11.37868, 77.89498



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Speed Limit: 15 KM/Hr

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Speed Limit: 15 KM/Hr
Distance from Start: 29.30 km
Coordinates: 11.24100, 77.86026



Risk Type: Turn
Speed Limit: 15 KM/Hr
Distance from Start: 29.50 km
Coordinates: 11.24194, 77.85910



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 29.98 km

Coordinates: 11.23959, 77.85560



Risk Type: Blind Spot

Speed Limit: 10 KM/Hr

Distance from Start: 41.16 km

Coordinates: 11.18861, 77.77108



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 43.92 km

Coordinates: 11.16417, 77.77367



Risk Type: Roundabout

Speed Limit: 15 KM/Hr

Distance from Start: 58.00 km

Coordinates: 11.04637, 77.73761



Risk Type: Turn

Speed Limit: 15 KM/Hr

Distance from Start: 58.19 km

Coordinates: 11.04515, 77.73621

[Download Interactive Map](#)