



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal TO MARUDHAN 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

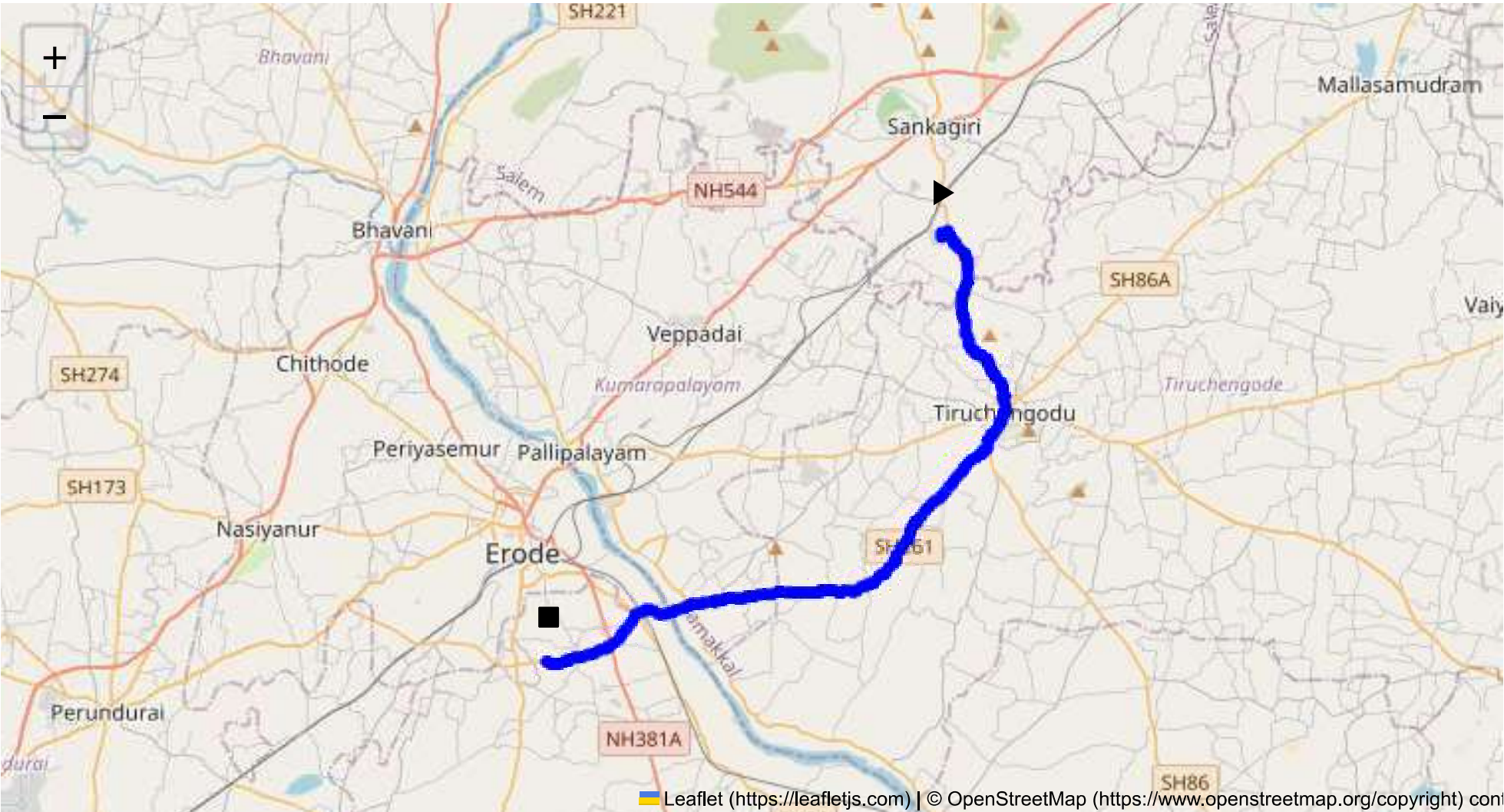
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 29.82 km
Estimated Duration: 0.8 hours
Adjusted Duration (Heavy Vehicle): 1.0 hours
Start: (11.4381, 77.8734)
End: (11.293561, 77.736095)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from CVQF+23W, Sangagiri, Tamil Nadu to 7PVP+FQQ, Erode Outer Ring Rd, Pudur, Tamil Nadu generally follows major local roads and highways, covering a span of approximately 29.82 kilometers (18 miles). The journey typically takes around 47 minutes for heavy vehicles like trucks carrying hazardous materials.

2. Typical Weather Conditions and Potential Weather-related Hazards

- **Weather Patterns:** This region experiences a tropical climate with hot summers, moderate rainfall during the monsoon (July to September), and mild winters.
- **Weather-related Hazards:** During monsoon season, roads can be slippery and prone to flooding, especially in low-lying areas. Summer months may present risks related to vehicle overheating.

3. Analysis of Traffic Patterns

- **Peak Hours:** Peak traffic times are typically between 8:00-10:00 AM and 5:00-7:00 PM due to commuter and commercial traffic.
- **Congestion-prone Areas:** The towns and markets along the route can significantly affect traffic flow. Key congestion points include town centers and intersections with other major roads.

4. Assessment of Road Quality and Infrastructure

- **Road Quality:** The primary route largely comprises well-paved state highways and significant local roads. However, periodic maintenance work can affect road conditions temporarily.
- **Infrastructure:** Insufficient service lanes and shoulder width, especially on bypass roads, might affect maneuverability for heavy vehicles.

5. Suggestions for Alternative Routes for Emergencies

- **Alternative Routes:** In case of obstructions, routes bypassing congested towns and business areas should be identified in real time via GPS or local traffic guidance systems.

6. Summary of Local Regulations Affecting Hazardous Material Transport

- **Regulations:** Transport of hazardous materials is restricted during peak daytime hours within cities. Restrictions on certain materials are enforced near populated areas and environmentally sensitive zones.

7. Overview of Historical Incidents Involving Heavy Vehicles or Hazardous Materials

- **Incident Analysis:** Historical data suggests a higher risk of accidents near Sangagiri during monsoon due to poor visibility and slippery roads. However, the overall incident rate remains low with proper caution.

8. Environmental Considerations and Sensitive Areas

- **Sensitive Areas:** Proximity to agricultural fields and water bodies necessitates cautious transportation of hazardous materials. Emissions or spills in these areas could have significant

ecological impacts.

9. Analysis of Communication Coverage

- Coverage:** Mobile network coverage is generally stable across the route, but rural stretches may experience occasional dead zones. It is advisable to carry alternative communication devices, such as satellite phones.

10. Estimated Emergency Response Times

- Response Times:** Emergency services, such as police and ambulances, are relatively prompt in urban areas (15-20 minutes) but may be delayed in rural sections, sometimes up to 30-45 minutes.

11. Overall Summary of Risk Assessment

- Risk Level:** Moderate. While infrastructure is generally reliable, challenges include weather effects, potential traffic congestion, and environmental sensitivity. Solid communication and thorough preparedness can mitigate risks effectively.

Truck drivers are advised to be extra cautious during peak traffic periods and in adverse weather conditions, maintaining strict adherence to local transport regulations to ensure safe passage along this route.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.38395, 77.89480	15 KM/Hr
1	Turn	High	11.43811, 77.87348	15 KM/Hr
2	Turn	Medium	11.43956, 77.87340	30 KM/Hr
3	Turn	Medium	11.43971, 77.87348	30 KM/Hr
4	Blind Spot	Blind Spot	11.44029, 77.87544	10 KM/Hr
5	Turn	High	11.37868, 77.89498	15 KM/Hr
6	Turn	High	11.37850, 77.89453	15 KM/Hr
7	Turn	High	11.36604, 77.88887	15 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	Tiruchengode, Goverment Hospital	11.3903328, 77.8920627	30 km/h	Medium
1	hospital	SPM Medical Centre,Tiruchengode	11.3881331, 77.8931963	30 km/h	Medium
5	hospital	T.C.A Hospital Tiruchengode	11.3791885, 77.8965774	30 km/h	Medium
6	hospital	Soorya Multispecialty Hospital	11.3786429, 77.8931912	30 km/h	Medium
7	clinic	Kongu Nursing Home	11.3783065, 77.8961134	30 km/h	Medium
8	hospital	Tiruchengode Government Hospital	11.37645, 77.89426	30 km/h	Medium
9	hospital	Krishna Hospital, Namakkal	11.3754811, 77.8931817	30 km/h	Medium
10	hospital	Tirukumaran Hospitals	11.3782118, 77.8914933	30 km/h	Medium

Crowded Spots

	type	name	coordinates	speed_limit	risk_level
2	school	அரசு ஆண்கள் மேல்நிலைப் பள்ளி	11.3850439, 77.8948279	30 km/h	Medium
3	school	அரசு பெண்கள் மேல்நிலைப் பள்ளி	11.3844247, 77.8949053	30 km/h	Medium
4	marketplace	திருச்செங்கோடு தினசரி காய்கறி சந்தை	11.3833608, 77.8970145	30 km/h	Medium
11	school	KSR Educational institution	11.3772013, 77.8908807	30 km/h	Medium
12	school	MDV School	11.3719843, 77.8915244	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.38395, 77.89480



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.44029, 77.87544



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.37868, 77.89498



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.37850, 77.89453



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.36604, 77.88887

