



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal to VASANTHA ENTERPRISES

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

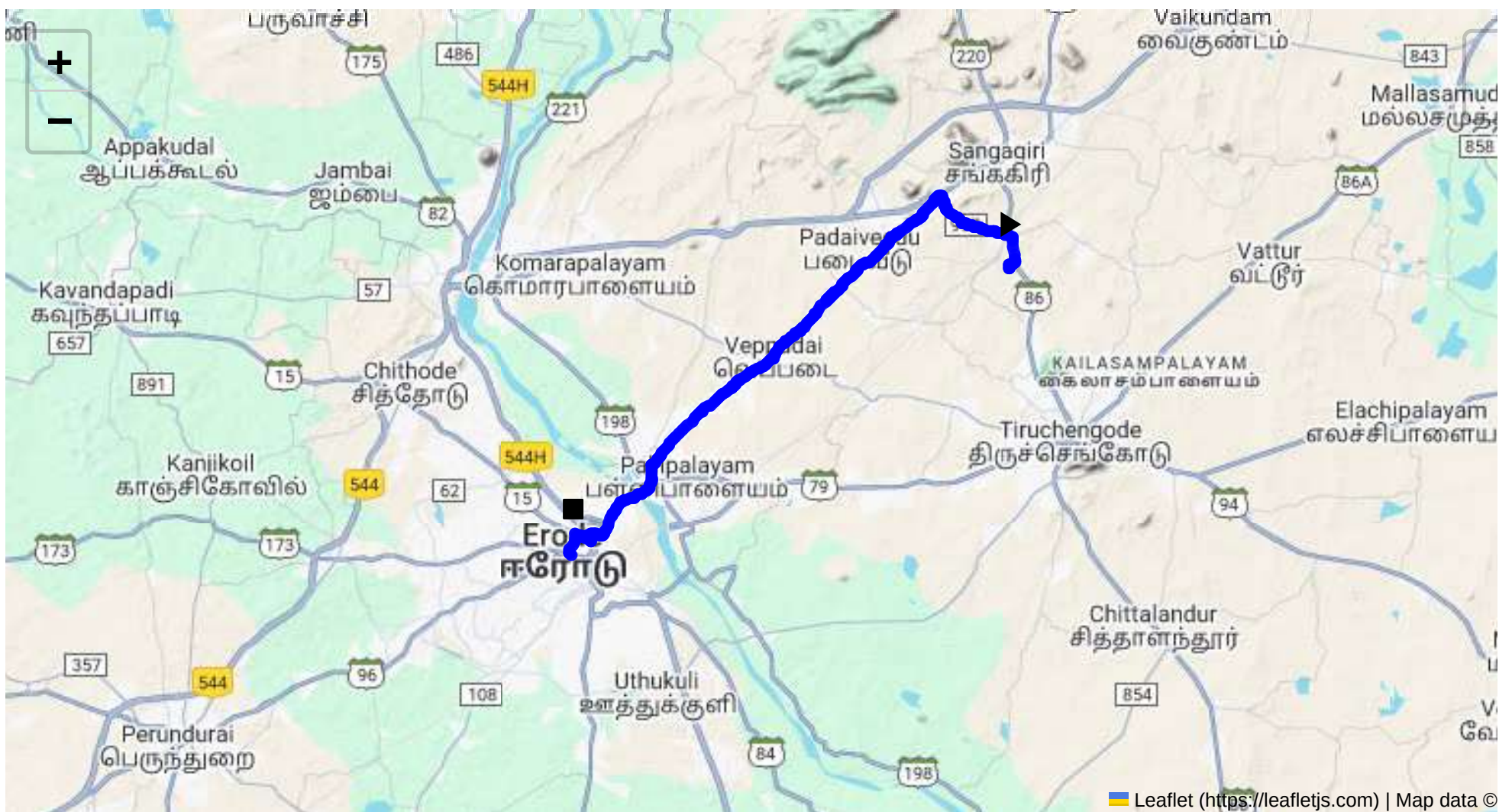
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 25.97 km
Estimated Duration: 0.7 hours
Adjusted Duration (Heavy Vehicle): 0.9 hours
Start: (11.4381, 77.8734)
End: (11.340379, 77.720093)



Welcome to the Journey Risk Management Study

Route Overview

The route begins at Sangagiri, Tamil Nadu, and follows a path toward Erode, passing through key locations in Thirunagar Colony and Pavalatham Palayam before reaching Brough Road in Erode Fort. The total distance is approximately 26 kilometers and should take about 42 minutes under optimal conditions for heavy vehicles.

Weather Conditions and Hazards

Tamil Nadu generally experiences a tropical climate. During the monsoon season (June to September and October to December), heavy rains could cause flooding, especially on poorly drained roads. During summer, extreme heat could lead to asphalt softening, posing challenges for heavy trucks.

Traffic Patterns

Heavy congestion can be expected during peak hours (8:00-10:00 AM and 5:00-7:00 PM), particularly near urban areas such as Erode city centers and near significant intersections. This route may have moderate traffic during mid-day and evening hours, so planning travel post-rush hours can mitigate delays.

Road Quality and Infrastructure

The roads on this route range from national highways to smaller roadways in urban settings. National highways feature good surface conditions and clear signage, while inner-city streets might have potholes and varying quality. Narrow streets and pedestrian traffic near urban areas can be a concern.

Alternative Routes for Emergencies

In case of blockades or traffic issues:

- **Bypass Road:** Use NH544, which offers a more direct route avoiding central congestion at Brough Road.
- **Alternate Entry into Erode:** Access via the southern routes like Perundurai Road can circumvent city center congestion.

Local Regulations on Hazardous Material Transport

Transporting hazardous materials requires strict adherence to permits in India, including permissible hours that typically avoid peak times and specific routes to minimize public exposure.

Historical Incidents

There have been sporadic incidents involving vehicle mishaps in both rural and urban settings in Erode district, but no recent major accidents specifically involving hazardous materials have been reported.

Environmental Considerations

The regions around Erode host several agricultural lands, which are sensitive to chemical runoff. Drivers must ensure no leakage of hazardous materials to avoid environmental harm.

Communication Coverage

Cellular and GPS coverage are robust throughout Tamil Nadu, although some dead zones might be present in rural stretches, reducing certain telecom provider efficiency.

Emergency Response Times

In urban and suburban regions like Erode, emergency response times are approximately 15-30 minutes owing to readily available local facilities. In more rural or remote areas, expect longer response times due to road access issues.

Risk Assessment Summary

Overall, the route from Sangagiri to Erode is manageable but requires careful attention to weather conditions, traffic, and adherence to local regulations for hazardous materials. Effective journey planning and off-peak travel timing could ease potential risks. Ensure all contingency plans are activated for efficient communication and emergency response, especially when transporting hazardous materials.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.37086, 77.74828	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	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	11.45348, 77.85706	30 KM/Hr
7	Turn	Medium	11.45352, 77.85698	30 KM/Hr
8	Turn	Medium	11.46318, 77.84913	30 KM/Hr
9	Turn	Medium	11.46312, 77.84886	30 KM/Hr
10	Turn	High	11.34678, 77.73104	15 KM/Hr
11	Blind Spot	Blind Spot	11.34680, 77.72584	10 KM/Hr
12	Blind Spot	Blind Spot	11.34492, 77.72706	10 KM/Hr
13	Blind Spot	Blind Spot	11.34716, 77.72174	10 KM/Hr
14	Turn	Medium	11.34477, 77.72149	30 KM/Hr
15	Turn	High	11.34049, 77.71907	15 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
1	hospital	Cheran Hospital	11.3680302, 77.7481976	30 km/h	Medium
2	pharmacy	Pharmacy	11.3652161, 77.7486375	30 km/h	Medium
3	hospital	Sri Kumaran E N T Hospital	11.3657814, 77.7477763	30 km/h	Medium
4	hospital	Sri Krishna Hospital	11.3656648, 77.7477783	30 km/h	Medium
5	hospital	Visaalam Hospitals	11.3651528, 77.747808	30 km/h	Medium
6	police	Police Station	11.3630177, 77.7476505	30 km/h	Medium
7	hospital	Government Hospital	11.3608508, 77.747453	30 km/h	Medium
9	hospital	Sri Hari Sakthivel Hospital	11.3526901, 77.7323055	30 km/h	Medium
10	hospital	Senthil Prakash Hospital	11.352639, 77.732267	30 km/h	Medium
11	hospital	V K Hospital	11.3513792, 77.7313976	30 km/h	Medium
12	hospital	Dhanvantri Critical Care Center	11.3504266, 77.7311274	30 km/h	Medium
13	hospital	Dhanvantri Critical Care Centre	11.35099, 77.730508	30 km/h	Medium
14	hospital	Indrajith Yoga Nature Cure Hospital	11.3499973, 77.732974	30 km/h	Medium
16	hospital	Kumudha Hospital	11.3467172, 77.7306797	30 km/h	Medium
17	hospital	City Hospital	11.3451151, 77.7300887	30 km/h	Medium
18	clinic	K.B.N. Nursing Home	11.344835, 77.7310771	30 km/h	Medium
19	hospital	Kaviraj Siddha Hospital	11.347153, 77.720863	30 km/h	Medium
20	hospital	SG MET Hospital	11.34467, 77.720405	30 km/h	Medium
21	pharmacy	Chinthamani Medical Department	11.347629, 77.7190874	30 km/h	Medium
22	clinic	K G Nursing Home	11.3456845, 77.7188784	30 km/h	Medium
23	pharmacy	Pasumai Pharmacy	11.3452083, 77.7183883	30 km/h	Medium
24	hospital	Universal Hospital	11.3411046, 77.7185217	30 km/h	Medium
25	hospital	Devi Hospital	11.34116, 77.718307	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
26	hospital	Abisek Medical Centre	11.3415975, 77.7191789	30 km/h	Medium
27	hospital	SCS Hospital And Urology Clinic	11.3410253, 77.718043	30 km/h	Medium
28	clinic	Vanalikaa Homoeo Centre	11.341349, 77.717987	30 km/h	Medium
29	clinic	Skin Care Clinic	11.3409042, 77.7178413	30 km/h	Medium
30	hospital	Shri Vijaiah Trauma Care Hospital	11.3418935, 77.7193036	30 km/h	Medium
31	pharmacy	Tava Drug Mart	11.3436578, 77.7182673	30 km/h	Medium
33	hospital	Dr. Agarwal's Eye Hospital Ltd. - Erode	11.3421842, 77.7173066	30 km/h	Medium
34	clinic	Janet Nursing Home	11.3396455, 77.7203698	30 km/h	Medium
35	clinic	Dr. R Kumaraswamy Sexologist Clinic	11.3396057, 77.7221701	30 km/h	Medium
36	hospital	Sri Vijaya Hitech Hospital	11.3400011, 77.7192251	30 km/h	Medium
37	hospital	Suriya Hospital	11.340248, 77.7186452	30 km/h	Medium
38	hospital	Abitha Eye Hospital	11.34021, 77.7187589	30 km/h	Medium
39	hospital	SRC Hospital	11.3413999, 77.7177834	30 km/h	Medium
40	hospital	Guhan ENT Hospital	11.339489, 77.721001	30 km/h	Medium
41	hospital	Surya Hospital	11.3400026, 77.7190977	30 km/h	Medium
42	clinic	Dr. Chandran Skin Laser Centre	11.3413527, 77.7174891	30 km/h	Medium
43	hospital	District Hospital, Eroda	11.3393048, 77.717926	30 km/h	Medium
44	hospital	Duraisamy Hospital	11.3391625, 77.7187054	30 km/h	Medium
45	hospital	Anusha Hospital	11.3397168, 77.7166805	30 km/h	Medium
46	hospital	Dr. Pondiperumal Hospital	11.3390924, 77.7205408	30 km/h	Medium
47	hospital	Ortho Life Hospital	11.3395729, 77.7167329	30 km/h	Medium
48	hospital	Nalan Hospital	11.3399703, 77.716773	30 km/h	Medium
49	hospital	Erode Kidney's Centre	11.3383801, 77.7164201	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
50	hospital	Srimathi Murugesan Hospital	11.3389205, 77.7187791	30 km/h	Medium
51	hospital	Care Hospital	11.338443, 77.716511	30 km/h	Medium
52	clinic	Sathyavathi Ramalingam Clinic	11.3380366, 77.7166875	30 km/h	Medium
53	clinic	Newlife Fertility Centre	11.3389396, 77.7213358	30 km/h	Medium
54	hospital	Sri Hari Hospital	11.338357, 77.7164204	30 km/h	Medium

Crowded Spots

	type	name	coordinates	speed_limit	risk_level
0	school	Ssri Valliappa Vidhayalayam mat hr school	11.4004878, 77.7794381	30 km/h	Medium
8	marketplace	Weekly Market	11.3605669, 77.7488199	30 km/h	Medium
15	school	Municipality Girls Higher secondary school	11.3495618, 77.7325011	30 km/h	Medium
32	school	Sengunthar matriculation School	11.3407075, 77.7195086	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Roundabout
Risk Level: High

Speed Limit: 15 KM/Hr
Coordinates: 11.37086, 77.74828



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: 11.45348, 77.85706



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: 11.46318, 77.84913



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.46312, 77.84886



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.34678, 77.73104



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.34680, 77.72584



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.34492, 77.72706



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.34716, 77.72174



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.34477, 77.72149



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.34049, 77.71907

