



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal to A K N 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

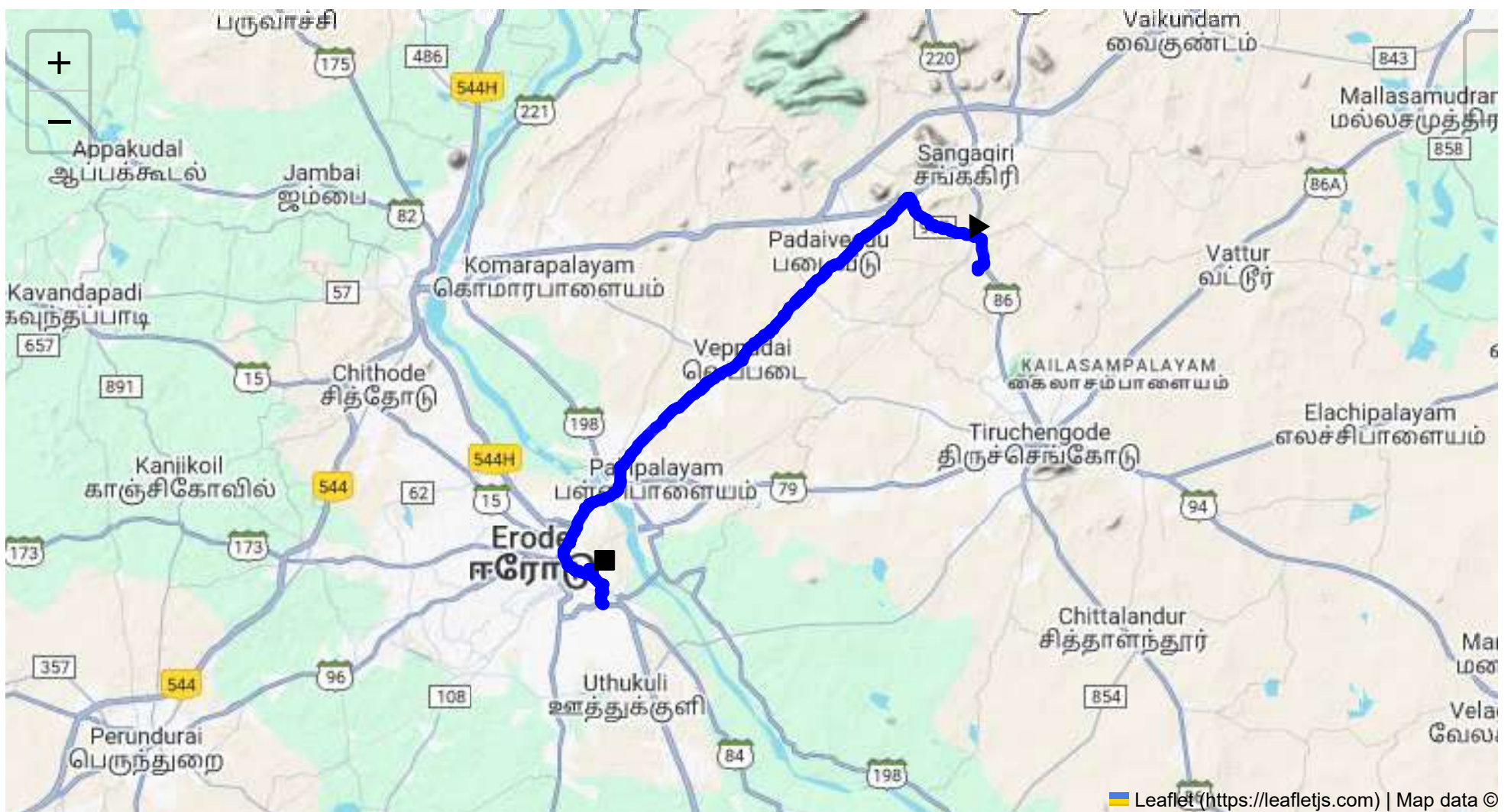
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 27.52 km
Estimated Duration: 0.8 hours
Adjusted Duration (Heavy Vehicle): 1.0 hours
Start: (11.4381, 77.8734)
End: (11.323585, 77.741676)



Welcome to the Journey Risk Management Study

Route Overview

The route spans approximately 27.52 kilometers and typically takes about 0.81 hours, with the starting point at CVQF+23W, Sangagiri, Tamil Nadu, and the destination at 10, Karur Bypass Road, Erode. The journey includes segments through Attur - Rasipuram - Erode Road, Pattukotta Street, and Molevekounder Street in Railway Colony, with a final section through Nagur Natarajan Street.

Weather Conditions and Hazards

- **Typical Weather:** The region generally experiences a tropical climate with hot, dry summers and monsoon rains (June to September).
- **Potential Hazards:** Sudden heavy rains can cause waterlogging and reduced visibility. It's advisable to check weather updates regularly during the monsoon season.

Traffic Patterns and Congestion

- **Traffic Analysis:** Regular working hours see increasing traffic congestion, particularly during mornings (8:00 AM to 10:00 AM) and evenings (5:00 PM to 7:00 PM).
- **Congestion Points:** High congestion is likely around urbanized areas like downtown Erode and the railway colony during peak hours.

Road Quality and Infrastructure

- **Assessment:** Generally, roads in this area are well-maintained, though some inner-city roads like those in Railway Colony may be narrower and congested.
- **Quality Issues:** Potential for potholes, especially during or after rain, and ongoing roadwork could temporarily affect conditions.

Alternative Routes for Emergencies

- **Suggestion:** In case of blockages or heavy congestion, drivers may consider using the State Highway 86, accessible from nearby locations, to bypass urban areas.

Local Regulations for Hazardous Materials

- **Regulations:** Transport of hazardous materials is regulated by state and national guidelines, requiring permits and adherence to safety protocols. Night transit might be restricted or require additional permissions.

Historical Incidents

- **Incidents Overview:** While there are occasional reports of accidents, Erode district generally maintains a standard safety record for heavy vehicles. Few incidents relate specifically to the transportation of hazardous materials.

Environmental and Sensitive Areas

- **Sensitive Zones:** Largely commercial and residential urban areas; care is needed near schools, hospitals, and densely populated areas in Erode. Avoiding emissions and noise pollution is essential.

Communication Coverage

- **Coverage Analysis:** Mobile network coverage is generally good in Erode and along major roads. However, minor potential dead zones may exist in rural stretches between urban centers.

Emergency Response Times

- **Times Estimation:** Urban areas can expect relatively quick response times of 15-30 minutes, while rural stretches may experience longer wait times, up to 45 minutes or more.

Risk Assessment Summary

- **Route Safety:** Overall, the route is manageable with standard precautionary measures. Drivers should remain vigilant for weather changes, ensure compliance with local transport regulations, and maintain contact with dispatchers to navigate any unexpected delays effectively.
- **Preparedness:** Regular checks on vehicle condition, familiarity with alternate routes, and communication readiness will enhance safety and response efficiency in case of emergencies.

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	11.45357, 77.85789	30 KM/Hr
7	Turn	Medium	11.45348, 77.85706	30 KM/Hr
8	Turn	Medium	11.45352, 77.85698	30 KM/Hr
9	Turn	Medium	11.46318, 77.84913	30 KM/Hr
10	Turn	Medium	11.46312, 77.84886	30 KM/Hr
11	Turn	Medium	11.34493, 77.73032	30 KM/Hr
12	Turn	Medium	11.34487, 77.73024	30 KM/Hr
13	Turn	Medium	11.34470, 77.73018	30 KM/Hr
14	Turn	High	11.33422, 77.73630	15 KM/Hr
15	Turn	High	11.33607, 77.73724	15 KM/Hr
16	Turn	Medium	11.33575, 77.73807	30 KM/Hr
17	Turn	Medium	11.33566, 77.73815	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
18	Turn	Medium	11.33332, 77.73836	30 KM/Hr
19	Blind Spot	Blind Spot	11.33050, 77.74216	10 KM/Hr
20	Turn	Medium	11.32586, 77.74133	30 KM/Hr
21	Turn	Medium	11.32577, 77.74130	30 KM/Hr
22	Blind Spot	Blind Spot	11.32363, 77.74196	10 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	Indrajith Yoga Nature Cure Hospital	11.3499973, 77.732974	30 km/h	Medium
15	hospital	Dhanvantri Critical Care Centre	11.35099, 77.730508	30 km/h	Medium
16	hospital	Kumudha Hospital	11.3467172, 77.7306797	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
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	clinic	Kpn Nursing Home	11.3437022, 77.7304525	30 km/h	Medium
20	hospital	Milan Hospital	11.343591, 77.733182	30 km/h	Medium
21	hospital	Kaviraj Ayurveda Hospital	11.3400349, 77.7298199	30 km/h	Medium
22	hospital	Dr Kokilasekar Nursing Hospital	11.3395874, 77.7269838	30 km/h	Medium
23	clinic	M.R Nursing Home	11.3386746, 77.7294262	30 km/h	Medium
25	hospital	Government Maternity Hospital, Agathiar	11.33716, 77.727075	30 km/h	Medium
26	hospital	Vikram Hospital, Erode	11.3356411, 77.7280569	30 km/h	Medium
27	clinic	Naseer Nursing Home	11.3364485, 77.7271691	30 km/h	Medium
28	hospital	Baby Hospital	11.335873, 77.7315099	30 km/h	Medium
29	hospital	Shabeer Hospital	11.33529, 77.7285236	30 km/h	Medium
30	hospital	J.B. Clinic And Hospital	11.3351769, 77.7282031	30 km/h	Medium
31	hospital	SS Hospital	11.334839, 77.732254	30 km/h	Medium
32	hospital	Arul Siddha Clinic	11.3241935, 77.7415856	30 km/h	Medium
33	pharmacy	Sukra medicals	11.3230763, 77.7386608	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

	type	name	coordinates	speed_limit	risk_level
8	marketplace	Weekly Market	11.3605669, 77.7488199	30 km/h	Medium
14	school	Municipality Girls Higher secondary school	11.3495618, 77.7325011	30 km/h	Medium
24	school	E.V.R. Govt Girls Hr. Sec School	11.3371265, 77.7266283	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: 11.45357, 77.85789



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: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.34493, 77.73032



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.34487, 77.73024



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.34470, 77.73018



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.33422, 77.73630



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.33607, 77.73724



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.33575, 77.73807



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.33566, 77.73815



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.33332, 77.73836



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.33050, 77.74216



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.32586, 77.74133



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.32577, 77.74130



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.32363, 77.74196
