



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to Shree Nanjappa & 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

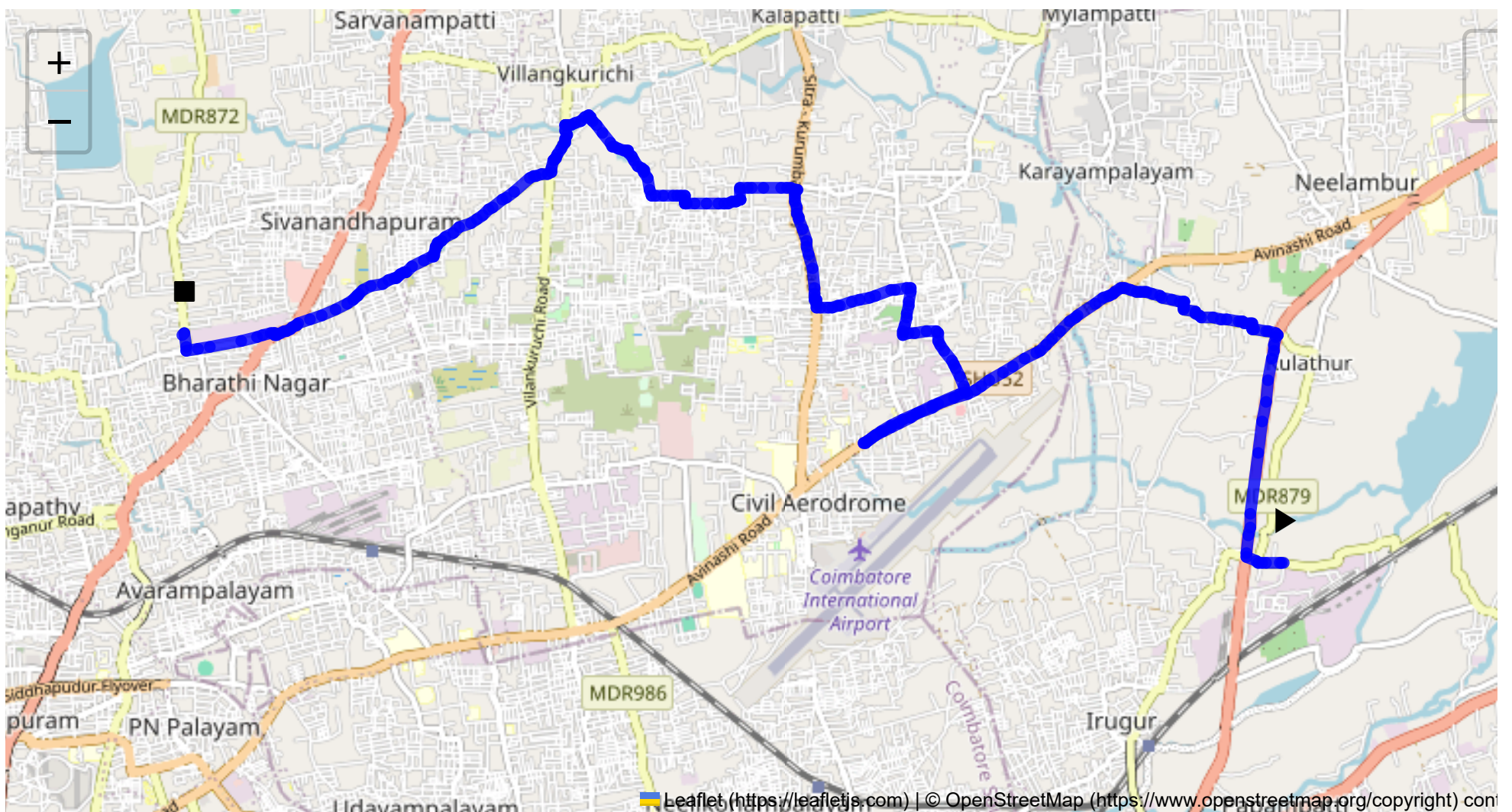
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 19.16 km
Estimated Duration: 0.7 hours
Adjusted Duration (Heavy Vehicle): 0.9 hours
Start: (11.0315, 77.0797)
End: (11.051234, 76.983368)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from Athappagoundenpudur to Ganapathy via Karupampalayam Pirvu and Nehru Nagar West in Coimbatore, Tamil Nadu, covers approximately 19.16 kilometers. It includes a mix of urban and semi-urban areas with diverse road types, ranging from narrow local streets to broader highways. The trajectory moves through residential areas, commercial zones, and semi-urban landscapes.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Coimbatore generally experiences a tropical wet and dry climate. The region's weather is typically mild-year round, with significant seasonal monsoon rainfall, especially from June to September. During the monsoon, the roads may experience flooding and reduced visibility, increasing the risk of accidents for heavy vehicles transporting hazardous materials.

3. Traffic Patterns and Congestion-Prone Areas

Traffic is typically heavier during morning (7:30 AM - 10:00 AM) and evening (5:00 PM - 8:00 PM) rush hours, especially along main streets and near commercial areas in Coimbatore. Congestion-prone zones include intersections close to marketplaces and schools, particularly around Nehru Nagar West and Ganapathy.

4. Assessment of Road Quality and Infrastructure

The overall road quality varies. Main roads are generally well-maintained, but some local streets may have potholes and uneven surfaces, which could pose significant risks for heavy vehicles. Intersection designs may require careful navigation to avoid accidents, and signage may occasionally be insufficient or unclear.

5. Suggestions for Alternative Routes for Emergencies

In case of emergencies, one alternate route is to take the NH 948-A, which bypasses dense traffic areas by connecting via more extensive networks, reducing transport time and avoiding congestion hotspots. Other regional roads around the city outskirts can also be considered to detour away from populated centers.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transporting hazardous materials must comply with local, state, and national regulations. Permits are required, and there might be restricted hours for transporting such materials within city limits. Adherence to safety protocols, including appropriate packaging and vehicle specifications, is necessary.

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

The region has witnessed occasional incidents involving heavy vehicles, mainly due to sharp turning points or poor road conditions. Historical data indicates few incidents specifically related to hazardous materials, but this necessitates heightened precaution.

8. Environmental Considerations and Sensitive Areas

The route passes near several environmental sensitive zones, mainly residential and educational institutions. Care should be taken in these areas to minimize the risk of hazardous material exposure.

Noise and air pollution control measures should be adhered to.

9. Analysis of Communication Coverage, Noting Potential Dead Zones

Communication coverage is generally reliable across the route, with few potential dead zones that might occur in less urbanized patches or amidst dense infrastructural developments. It is advised to have backup communication methods ready, such as satellite phones or two-way radios, especially when transporting hazardous materials.

10. Estimated Emergency Response Times for Different Route Segments

Emergency response times vary, potentially taking 15-30 minutes in urban areas like Ganapathy due to good hospital and fire station proximity. However, it may take longer in semi-urban or rural segments, up to 45 minutes. Coordination with local emergency services is advised to ensure preparedness.

11. Overall Summary of Risk Assessment

Transport along this route requires vigilance due to variability in road conditions, traffic congestion, and proximity to sensitive areas. Adverse weather conditions during monsoon periods increase the risk factors. While historical incidents involving hazardous materials are limited, stringent adherence to safety and regulatory measures is paramount. Alternate routes should be pre-planned, and communication with local authorities and the community is beneficial to mitigate risks effectively.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	U-Turn	High	11.0419501, 77.04308759999999	10 KM/Hr
1	Turn	High	11.03211, 77.07640	15 KM/Hr
2	Turn	High	11.05129, 77.07919	15 KM/Hr
3	Turn	Medium	11.05181, 77.07696	30 KM/Hr
4	Turn	High	11.05222, 77.07690	15 KM/Hr
5	Turn	Medium	11.05343, 77.07106	30 KM/Hr
6	Turn	Medium	11.05351, 77.07099	30 KM/Hr
7	Turn	Medium	11.05411, 77.07097	30 KM/Hr
8	Turn	High	11.05529, 77.06566	15 KM/Hr
9	Turn	High	11.04195, 77.04309	15 KM/Hr
10	Blind Spot	Blind Spot	11.04203, 77.04303	10 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
11	Blind Spot	Blind Spot	11.04636, 77.05199	10 KM/Hr
12	Turn	High	11.05158, 77.04943	15 KM/Hr
13	Blind Spot	Blind Spot	11.05130, 77.04643	10 KM/Hr
14	Blind Spot	Blind Spot	11.05528, 77.04708	10 KM/Hr
15	Turn	High	11.05356, 77.03890	15 KM/Hr
16	Turn	Medium	11.05427, 77.03879	30 KM/Hr
17	Turn	Medium	11.05431, 77.03881	30 KM/Hr
18	Turn	High	11.06370, 77.03708	15 KM/Hr
19	Turn	High	11.06387, 77.03223	15 KM/Hr
20	Turn	High	11.06278, 77.03213	15 KM/Hr
21	Turn	Medium	11.06262, 77.02734	30 KM/Hr
22	Turn	High	11.06325, 77.02732	15 KM/Hr
23	Turn	High	11.06322, 77.02449	15 KM/Hr
24	Turn	High	11.07004, 77.01891	15 KM/Hr
25	Blind Spot	Blind Spot	11.06931, 77.01691	10 KM/Hr
26	Turn	High	11.06513, 77.01566	15 KM/Hr
27	Turn	Medium	11.05204, 76.99331	30 KM/Hr
28	Turn	High	11.05126, 76.99153	15 KM/Hr
29	Turn	Medium	11.05138, 76.99143	30 KM/Hr
30	Turn	High	11.04993, 76.98386	15 KM/Hr
31	Blind Spot	Blind Spot	11.05132, 76.98368	10 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	KGM, Chinnampalayam	11.0570076, 77.067239	30 km/h	Medium
1	hospital	Chinnampalayam Venkateshwara Hospital	11.0545152, 77.0652106	30 km/h	Medium
3	hospital	R V Hospital, Coimbatore	11.0546916, 77.0639178	30 km/h	Medium
5	hospital	Kovai Medical Centre,Coimbatore	11.0426077, 77.0406074	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
6	hospital	V.R.Hospital, Coimbatore	11.05642, 77.001972	30 km/h	Medium
7	hospital	Sankara Eye Hospital	11.0558646, 76.9977839	30 km/h	Medium

Crowded Spots

	type	name	coordinates	speed_limit	risk_level
2	school	Government school	11.0554435, 77.0653927	30 km/h	Medium
4	school	Sri Vivekananda Matriculation Higher Secondary School	11.054695, 77.0572126	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Coordinates: 11.0419501, 77.04308759999999



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.03211, 77.07640



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05129, 77.07919



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05181, 77.07696



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05222, 77.07690



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05343, 77.07106



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05351, 77.07099



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05411, 77.07097



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.05529, 77.06566



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.04195, 77.04309



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.04203, 77.04303



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.04636, 77.05199



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05158, 77.04943



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.05130, 77.04643



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.05528, 77.04708



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.05356, 77.03890



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05427, 77.03879



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05431, 77.03881



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06370, 77.03708



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06387, 77.03223



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06278, 77.03213



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.06262, 77.02734



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06325, 77.02732



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06322, 77.02449



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06513, 77.01566



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05204, 76.99331



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05126, 76.99153



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05138, 76.99143



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.04993, 76.98386



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.05132, 76.98368
