



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### IOCL Coimbatore Terminal to A N G Agency

#### 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.

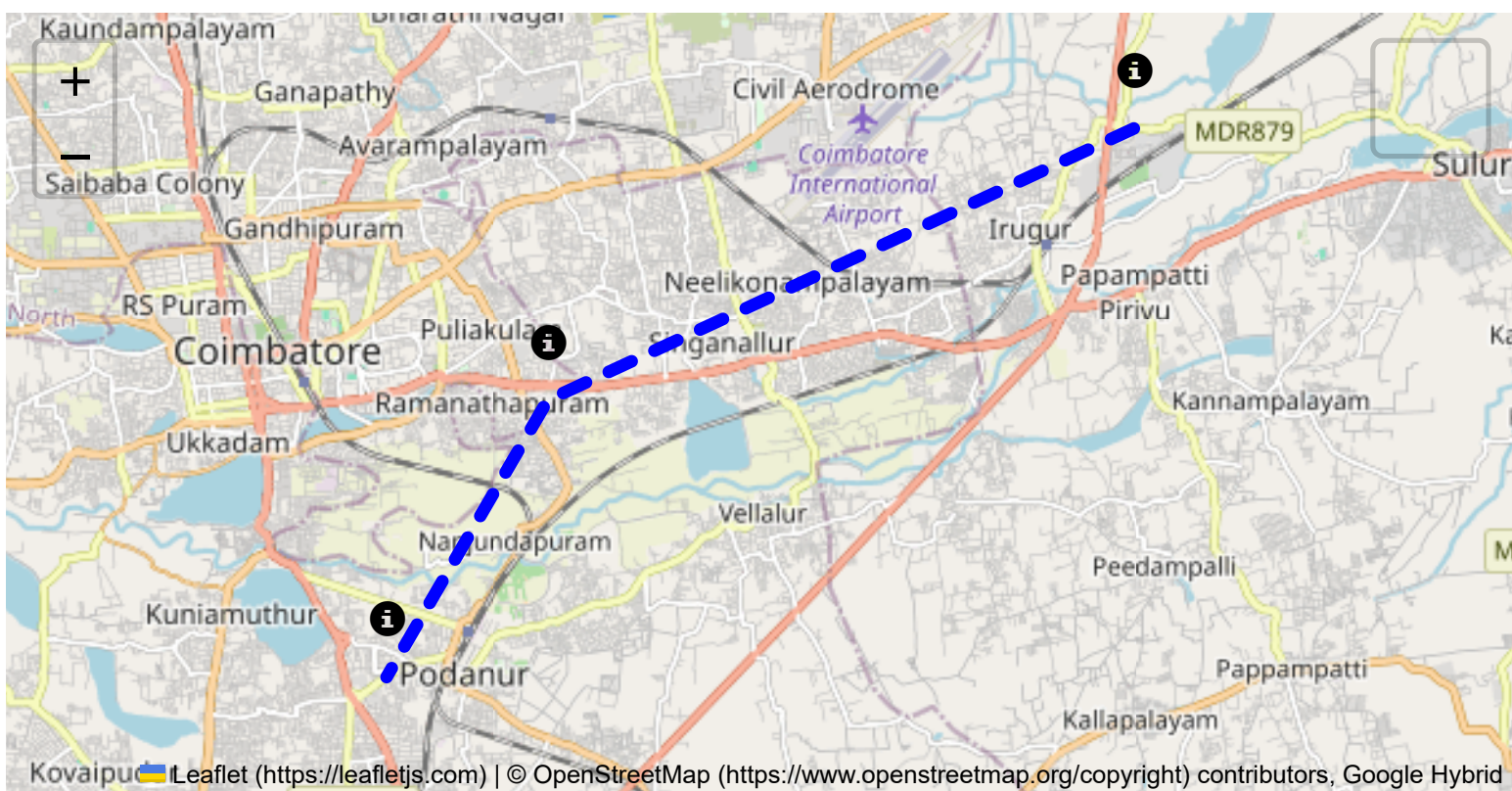
## **Journey Risk Mitigation**

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.

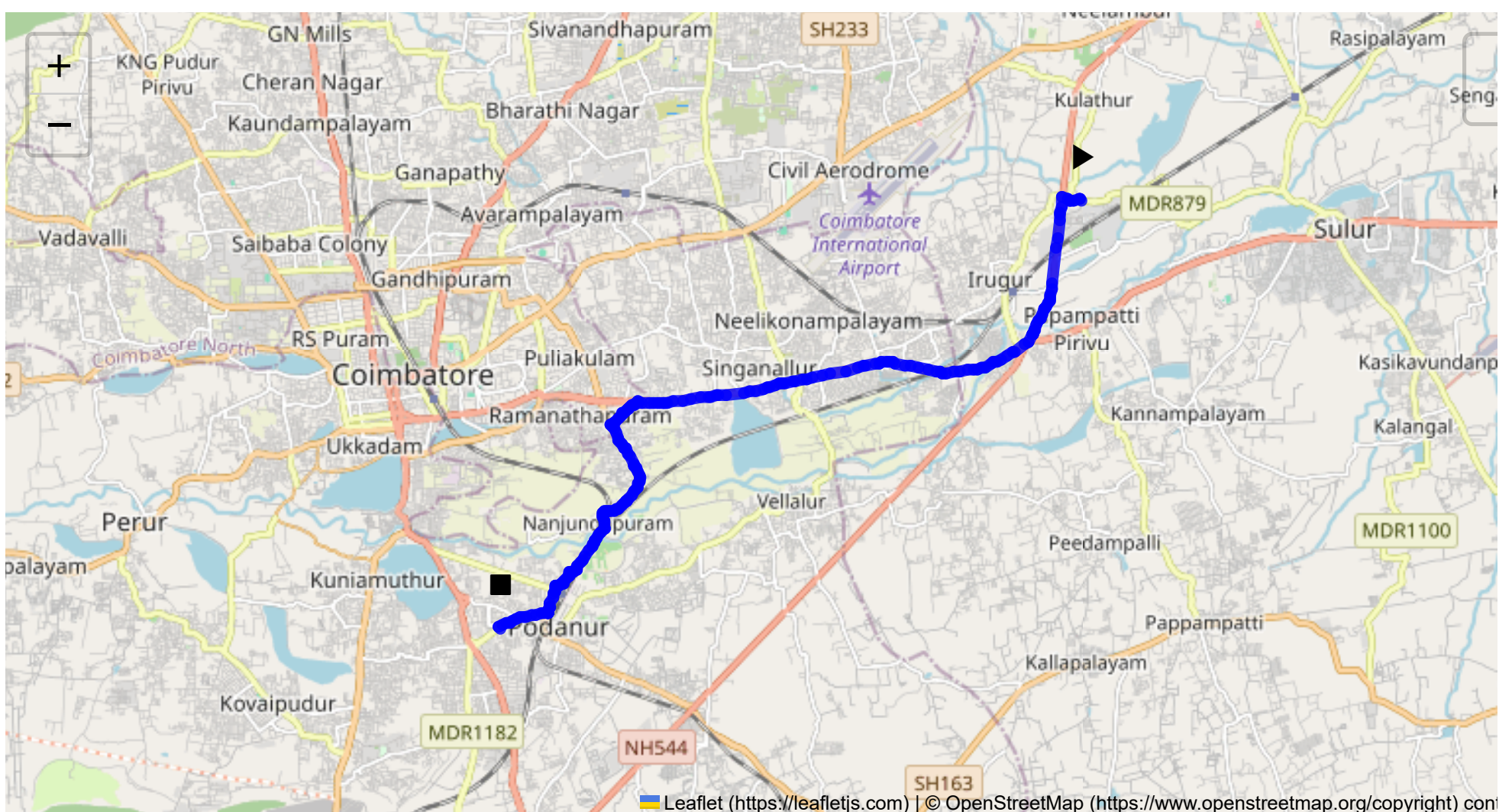
## **Compliance with Government Directives**

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: 17.14 km**  
**Estimated Duration: 0.6 hours**  
**Adjusted Duration (Heavy Vehicle): 0.8 hours**  
**Start: (11.0315, 77.0797)**  
**End: (10.958024, 76.977917)**



## Welcome to the Journey Risk Management Study

### Route Overview

The route spans approximately 17.14 kilometers and passes through key points such as Athappagoundenpudur, Nanjundapuram Road, T Nagar, and Kongu Nagar, finally reaching Sarada Mill Road in Kurichi. This path traverses urban, semi-urban, and potentially industrial areas within Coimbatore, Tamil Nadu.



## Weather Conditions and Hazards

Coimbatore generally experiences a tropical wet and dry climate. The monsoon season from June to September may bring heavy rainfall, leading to waterlogging and reduced visibility. Such conditions can increase the risk of accidents and cause delays.

## Traffic Patterns and Congestion

Traffic in Coimbatore can be heavy during peak hours, typically from 8:00 AM to 10:00 AM and 5:00 PM to 7:00 PM, with key congestion along Nanjundapuram Road and near commercial hubs. Congestion is often higher near schools, marketplaces, and industrial areas.

## Road Quality and Infrastructure

The road infrastructure on major sections like Nanjundapuram Road is generally good, with well-paved surfaces. However, side roads and lesser-used paths might have potholes and uneven surfaces. Regular maintenance may not be consistent across all stretches.

## Alternative Routes for Emergencies

In case of emergencies, an alternative route could be via Avinashi Road and Trichy Road, both of which bypass parts of the city center. These roads are larger and potentially support smoother traffic flow for heavy vehicles.

## Local Regulations on Hazardous Material Transport

Transport of hazardous materials is strictly regulated under Indian laws. Specific permits are required, and vehicles must be appropriately labeled and equipped. Night travel for such loads might have additional restrictions.

## Historical Incidents

Historically, Coimbatore's industrial zones have witnessed accidents involving heavy vehicles, primarily due to traffic congestion and navigation errors in narrow lanes. There are no specific recent incidents noted involving hazardous materials for this exact route.

## Environmental Considerations

Particular sections near residential and sensitive areas such as schools and hospitals require extra caution to minimize environmental and health impacts from any potential spills or emissions.

## Communication Coverage

Mobile network coverage in Coimbatore is generally robust, but potential dead zones can occur in more built-up or industrial areas where infrastructure interference is common. This might affect real-time communication and GPS navigation.

# Emergency Response Times

Emergency services are relatively quick in urban Coimbatore. Central areas may see response times of less than 15 minutes, while more outlying or congested areas could experience longer delays, up to 30 minutes during peak traffic.

## Overall Risk Assessment

This route presents moderate risk, primarily due to traffic congestion, variable road quality, and weather-related challenges during the monsoon season. Adhering to traffic regulations, exercising caution during peak hours, and maintaining up-to-date navigation aids can mitigate risks effectively. Comprehensive planning and preparedness are vital for the safe transport of hazardous materials along this route.

### Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Blind Spot	Blind Spot	11.03211, 77.07640	10 KM/Hr
1	Turn	Medium	11.00873, 77.07114	30 KM/Hr
2	Turn	Medium	11.00737, 77.07049	30 KM/Hr
3	Turn	Medium	10.99678, 77.00653	30 KM/Hr
4	Blind Spot	Blind Spot	10.99700, 77.00222	10 KM/Hr
5	Turn	High	10.99689, 77.00222	15 KM/Hr
6	Blind Spot	Blind Spot	10.99315, 76.99745	10 KM/Hr
7	Turn	Medium	10.97985, 77.00005	30 KM/Hr
8	Turn	Medium	10.97985, 77.00000	30 KM/Hr
9	Turn	Medium	10.96577, 76.98909	30 KM/Hr
10	Turn	Medium	10.96179, 76.98659	30 KM/Hr
11	Turn	Medium	10.96173, 76.98661	30 KM/Hr
12	Turn	Medium	10.96088, 76.98632	30 KM/Hr
13	Turn	Medium	10.96086, 76.98632	30 KM/Hr
14	Turn	Medium	10.96082, 76.98629	30 KM/Hr
15	Turn	Medium	10.96081, 76.98626	30 KM/Hr
16	Turn	Medium	10.96083, 76.98620	30 KM/Hr
17	Turn	High	10.95824, 76.97793	15 KM/Hr

## Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	Saraswathi Hospital	11.0069868, 77.071368	30 km/h	Medium
2	hospital	Dr. Muthu's Ortho Centre-Coimbatore	11.0026291, 77.0406497	30 km/h	Medium
3	hospital	Singanallur Government Hospital	11.0011, 77.033733	30 km/h	Medium
4	hospital	Dr. Felix Hospital	11.0044086, 77.0348661	30 km/h	Medium
5	hospital	Ortho One	11.0018351, 77.0328061	30 km/h	Medium
6	hospital	Vela Hospital, Singanallur, Coimbatore	11.0017873, 77.0300545	30 km/h	Medium
7	clinic	Nalam Child Care	11.0006287, 77.0306011	30 km/h	Medium
8	police	E1 Singanallur Police Station	11.0003996, 77.0296891	30 km/h	Medium
9	police	Out Post Police Station - Singanallur	11.0025957, 77.0288423	30 km/h	Medium
10	hospital	AB Child Care Hospital	11.0006913, 77.028744	30 km/h	Medium
11	hospital	Coimbatore Child Trust Hospital	10.9978875, 77.0170667	30 km/h	Medium
12	hospital	VGM Hospital	10.9986666, 77.0143291	30 km/h	Medium
13	hospital	VGM Hospital, Coimbatore	10.99819, 77.014447	30 km/h	Medium
14	hospital	Ortho One Orthopaedic Speciality Center(A Unit Of Spine Arthroscopic and Joint Replacement Center Pvt Ltd)	10.9962048, 77.0082217	30 km/h	Medium
15	hospital	Narmada Hospital	10.9967758, 77.0071075	30 km/h	Medium
16	hospital	Medwin Hospital, Coimbatore	10.9972946, 77.0051728	30 km/h	Medium
17	hospital	Deepam Hospital, Ramanathapuram	10.9965453, 77.0039274	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
19	pharmacy	Prakash medicals	10.9969248, 77.0008135	30 km/h	Medium
20	pharmacy	Revathi medicals	10.9972171, 77.0003871	30 km/h	Medium
21	clinic	Sri Durga Poly Clinic	10.9980729, 77.0001926	30 km/h	Medium
22	hospital	Sathyan Eye Care Hospital & Coimbatore Glaucoma Foundation	10.9980405, 77.0009615	30 km/h	Medium
23	hospital	N.M. Hospital	10.9981558, 76.9994865	30 km/h	Medium
24	clinic	Dr. Karthikeyan Clinic	10.9969119, 76.9995376	30 km/h	Medium
25	hospital	Leo Ortho care Hospital	10.9969428, 76.9993022	30 km/h	Medium
26	police	Ramanathapuram police station	10.9975827, 76.997871	30 km/h	Medium
28	hospital	Ramvel Hospital	10.9958212, 76.9963939	30 km/h	Medium
31	hospital	Punarnava Ayurveda	10.9830163, 76.9995841	30 km/h	Medium
32	hospital	Podanur Government Hospital	10.9664096, 76.9870623	30 km/h	Medium
33	hospital	St. Mary's Hospital	10.9626641, 76.98594	30 km/h	Medium
34	hospital	St. Marys Hospital	10.9625619, 76.9865689	30 km/h	Medium
36	hospital	Koushikha Hospital	10.9589868, 76.9788824	30 km/h	Medium

### Crowded Spots

	type	name	coordinates	speed_limit	risk_level
1	school	Kadri Mills Higher Secondary School	11.0058181, 77.0664118	30 km/h	Medium
18	school	Alvernia Higher Secondary Matriculation School	10.9981807, 77.0027548	30 km/h	Medium



	type	name	coordinates	speed_limit	risk_level
27	school	Trinity Boys High school	10.9976249, 76.9971414	30 km/h	Medium
29	school	Corporation Boys High School	10.9964338, 76.9941036	30 km/h	Medium
30	school	Balaji Driving School	10.9847217, 77.0022413	30 km/h	Medium
35	school	St. Marys School of Nursing	10.9621472, 76.986111	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Blind Spot  
Risk Level: Blind Spot  
Speed Limit: 10 KM/Hr  
Coordinates: 11.03211, 77.07640



Risk Type: Turn  
Risk Level: Medium



**Speed Limit: 30 KM/Hr**  
**Coordinates: 11.00873, 77.07114**



**Risk Type: Turn**  
**Risk Level: Medium**  
**Speed Limit: 30 KM/Hr**  
**Coordinates: 11.00737, 77.07049**



**Risk Type: Turn**  
**Risk Level: Medium**  
**Speed Limit: 30 KM/Hr**  
**Coordinates: 10.99678, 77.00653**





**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 10.99700, 77.00222



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.99689, 77.00222





**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 10.99315, 76.99745



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.96577, 76.98909



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.96179, 76.98659





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.96173, 76.98661



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.96088, 76.98632





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.96086, 76.98632



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.96082, 76.98629



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.96081, 76.98626



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.96083, 76.98620



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.95824, 76.97793

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