



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to Sri Ramakrishna Fuels

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

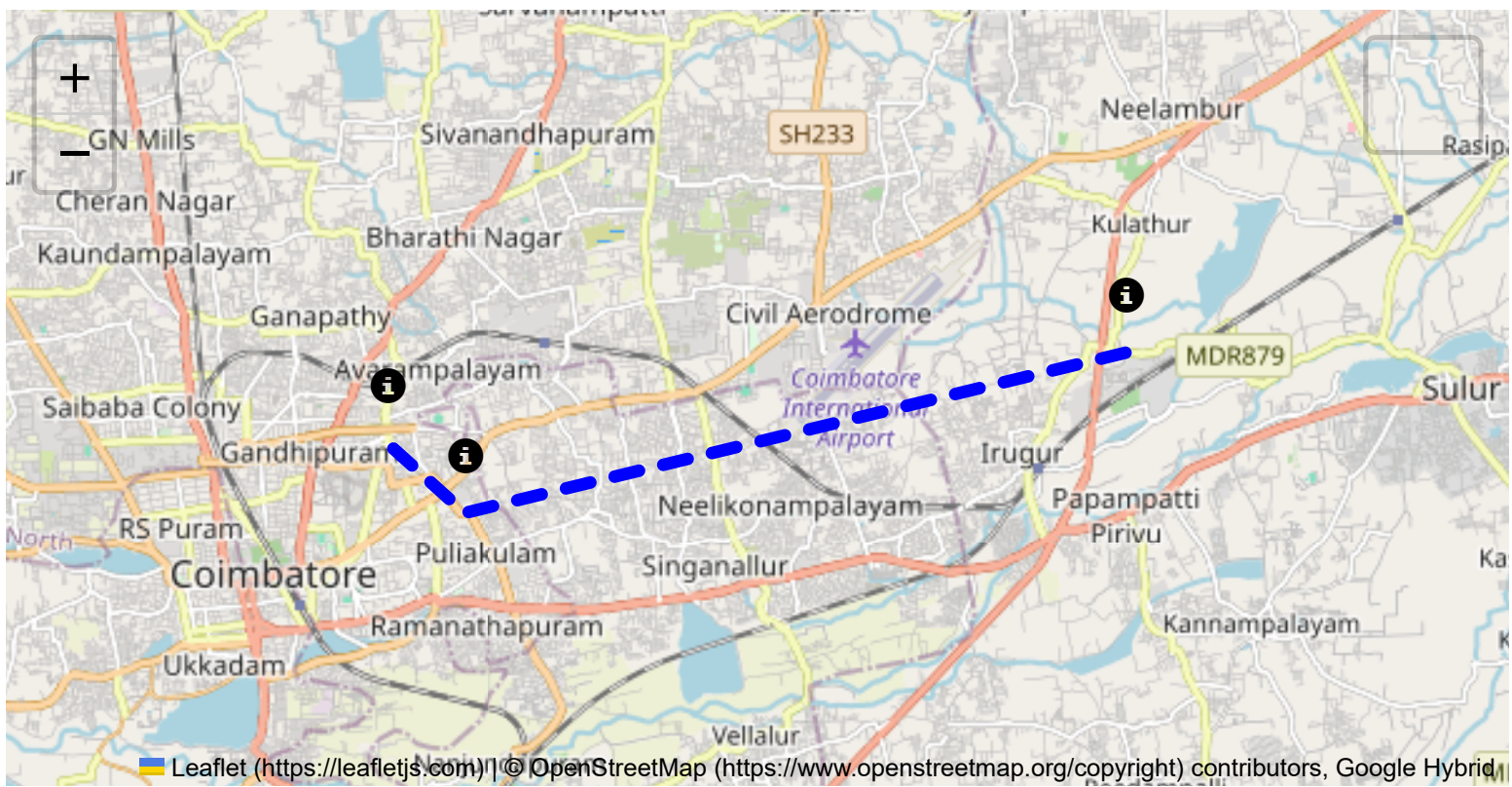
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 15.98 km
Estimated Duration: 0.6 hours
Adjusted Duration (Heavy Vehicle): 0.7 hours
Start: (11.0315, 77.0797)
End: (11.019492, 76.978585)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route begins at Athappagoundenpudur, Coimbatore and ends at New Siddhapudur in Coimbatore, passing through Puliakulam. This approximately 15.98-kilometer stretch is mostly urban, navigating through residential and commercial districts with significant vehicular movement.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Coimbatore experiences a tropical climate, with the monsoon season from June to September. During this time, roads can be slick, and visibility may be reduced due to heavy rainfall. The region is generally temperate, with temperatures ranging from mild to warm. In the post-monsoon months, occasional waterlogging can occur in poorly-drained sections.

3. Analysis of Traffic Patterns

Peak traffic hours are typically from 8:00-10:00 AM and 5:00-7:00 PM on weekdays. Key congestion-prone areas include major junctions and marketplaces, especially around Puliakulam and New Siddhapudur. Traffic is generally lighter on weekends, but unexpected delays may occur due to local events or road work.

4. Assessment of Road Quality and Infrastructure

The infrastructure along this route is relatively well-developed, although some sections may have potholes or uneven surfaces, particularly on secondary roads. Major roads are generally well-maintained but can suffer from wear and tear higher from heavy vehicular loads.

5. Suggestions for Alternative Routes

In emergencies, alternative routes may include:

- Via Gandhipuram: Diverting through Gandhipuram could bypass highly congested segments, albeit potentially adding to distance and time.
- Utilizing bypass roads where available to avoid central congested areas.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Transport of hazardous materials requires compliance with local guidelines, including permits and adherence to designated routes and timing restrictions, typically avoiding school zones, residential areas during peak hours, and night travel restrictions for certain materials.

7. Overview of Historical Incidents

While detailed records of incidents specifically involving heavy vehicles and hazardous materials aren't publicly exhaustive, heavy urban settings like Coimbatore do have a history of accidents at busy intersections. Proactive measures, such as dedicated truck lanes and bylaws on transporting hazardous materials, have been implemented.

8. Environmental Considerations and Sensitive Areas

Sensitive areas include schools, hospitals, and densely populated residential blocks, especially near Puliakulam. Environmental bodies may impose restrictions due to proximity to water bodies or green

zones. Care should be taken near sensitive sites to minimize the environmental impact.

9. Analysis of Communication Coverage

The urban nature of this route ensures generally good mobile network coverage with rare dead zones, typically occurring in underpasses or dense buildings. However, signal strength may vary across different carriers.

10. Estimated Emergency Response Times

Emergency services in urban Coimbatore typically respond within 10-20 minutes, depending on traffic conditions and proximity to major response facilities. Response times might elongate during peak traffic or adverse weather conditions.

12. Overall Summary of Risk Assessment

Overall, this route poses multiple risks primarily related to traffic congestion and weather conditions during monsoon months. Continuous monitoring of traffic patterns and weather updates is crucial for timely adjustments en route. Adhering strictly to safety protocols, especially when transporting hazardous materials, is imperative to mitigate potential hazards. Transporters should remain vigilant in densely populated areas and maintain firm communication links with emergency services for efficient crisis handling.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.00410, 76.99311	15 KM/Hr
1	U-Turn	High	11.011602, 76.9841897	10 KM/Hr
2	Blind Spot	Blind Spot	11.03211, 77.07640	10 KM/Hr
3	Turn	Medium	11.00873, 77.07114	30 KM/Hr
4	Turn	Medium	11.00737, 77.07049	30 KM/Hr
5	Turn	Medium	10.99678, 77.00653	30 KM/Hr
6	Turn	High	10.99699, 76.99565	15 KM/Hr
7	Blind Spot	Blind Spot	11.01285, 76.98611	10 KM/Hr
8	Turn	High	11.01160, 76.98419	15 KM/Hr
9	Blind Spot	Blind Spot	11.01176, 76.98410	10 KM/Hr
10	Turn	High	11.01298, 76.98601	15 KM/Hr
11	Turn	Medium	11.01367, 76.97915	30 KM/Hr
12	Turn	Medium	11.01374, 76.97905	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
13	Turn	High	11.01671, 76.97732	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

	type	name	coordinates	speed_limit	risk_level
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
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	Bala Hospital	10.9969296, 76.995705	30 km/h	Medium
29	pharmacy	Dheepmeena pharmacy	10.9969617, 76.9956179	30 km/h	Medium
30	hospital	Sri Bala Medical Centre Hospital	10.9967187, 76.9954568	30 km/h	Medium
31	hospital	Ramvel Hospital	10.9958212, 76.9963939	30 km/h	Medium
32	clinic	Lakshmi ENT Clinic	10.9973118, 76.9963622	30 km/h	Medium
33	hospital	Gem Hospital, Coimbatore	10.9996629, 76.9953933	30 km/h	Medium
35	clinic	Marutham Health Clinic	11.0040562, 76.9934204	30 km/h	Medium
36	police	Ramanathapuram Police Station	11.0028259, 76.9916717	30 km/h	Medium
37	hospital	Shree Hospital, Puliakulam, Coimbatore	11.0064832, 76.9914482	30 km/h	Medium
38	hospital	Rafa Hospital	11.007011, 76.992439	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
39	clinic	Anbu Child Care Clinic	11.0075989, 76.9911858	30 km/h	Medium
41	hospital	Dr. G. Thiagarajan's Memorial Hospital	11.00534, 76.989401	30 km/h	Medium
44	hospital	Coimbatore Kidney Centre	11.009415, 76.9893791	30 km/h	Medium
46	hospital	Vasan Eye Care Hospital	11.0124743, 76.9862396	30 km/h	Medium
47	clinic	NSR Cancer Centre	11.0121496, 76.9862308	30 km/h	Medium
48	hospital	Arc Fertility Hospital	11.012539, 76.986166	30 km/h	Medium
50	clinic	Sayee Kids Care	11.015436, 76.984214	30 km/h	Medium
52	hospital	K.B.S. Hospital	11.0157437, 76.9842202	30 km/h	Medium
53	clinic	Shakthi Clinic	11.015452, 76.981739	30 km/h	Medium
54	clinic	Kids Clinic	11.0163842, 76.9812846	30 km/h	Medium
55	clinic	Dr. B. Nirmala Womens Clinic	11.0163044, 76.9799078	30 km/h	Medium
56	hospital	Ishaiah Hospital, Coimbatore	11.0154329, 76.9779193	30 km/h	Medium
59	clinic	Iswarya Fertility Test Tube Baby and Research Centre	11.0173902, 76.9769123	30 km/h	Medium
61	hospital	Nandha Hospital	11.0168636, 76.9756664	30 km/h	Medium
62	hospital	Sudha Hospital	11.0168278, 76.9758131	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

	type	name	coordinates	speed_limit	risk_level
18	school	Alvernia Higher Secondary Matriculation School	10.9981807, 77.0027548	30 km/h	Medium
27	school	Trinity Boys High school	10.9976249, 76.9971414	30 km/h	Medium
34	school	Corporation Boys High School	10.9964338, 76.9941036	30 km/h	Medium
40	school	ALG Matriculation School	11.0057772, 76.9894238	30 km/h	Medium
42	school	Corporation girls high school	11.0091964, 76.9905727	30 km/h	Medium
43	school	Vidhya nikethan school	11.0096519, 76.9902482	30 km/h	Medium
49	traffic_signals	Lakshmi Mills Junction	11.0129587, 76.9860251	30 km/h	Medium
51	school	Mani Higher Secondary School	11.0138918, 76.9820619	30 km/h	Medium
57	college	Government Women's Polytechnic College	11.0155228, 76.9751633	30 km/h	Medium
58	motorway_junction	Government Polytechnic	11.0167491, 76.977343	30 km/h	Medium
60	college	Government Women's Polytechnic College	11.0159476, 76.975865	30 km/h	Medium
63	school	P.R.Sidha Naidu Memorial Matriculation School	11.0221084, 76.9765552	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr
Coordinates: 11.00410, 76.99311



Risk Type: U-Turn
Risk Level: High
Speed Limit: 10 KM/Hr
Coordinates: 11.011602, 76.9841897



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: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 10.99699, 76.99565



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.01285, 76.98611



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.01160, 76.98419



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.01176, 76.98410



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.01298, 76.98601



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.01367, 76.97915



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.01374, 76.97905



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.01671, 76.97732
