



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to Ravichandra

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

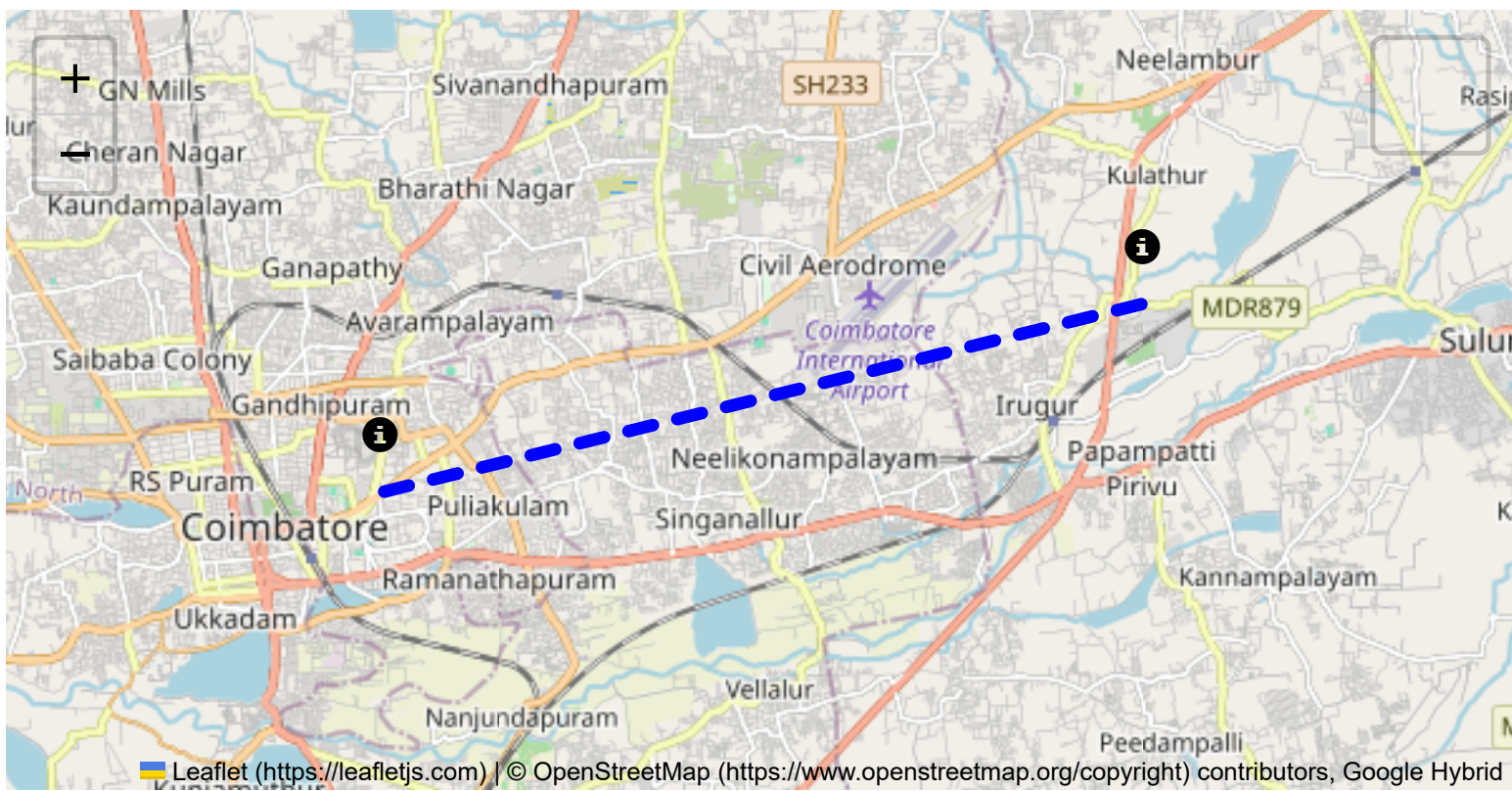
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental impacts during transport.

Journey Risk Mitigation

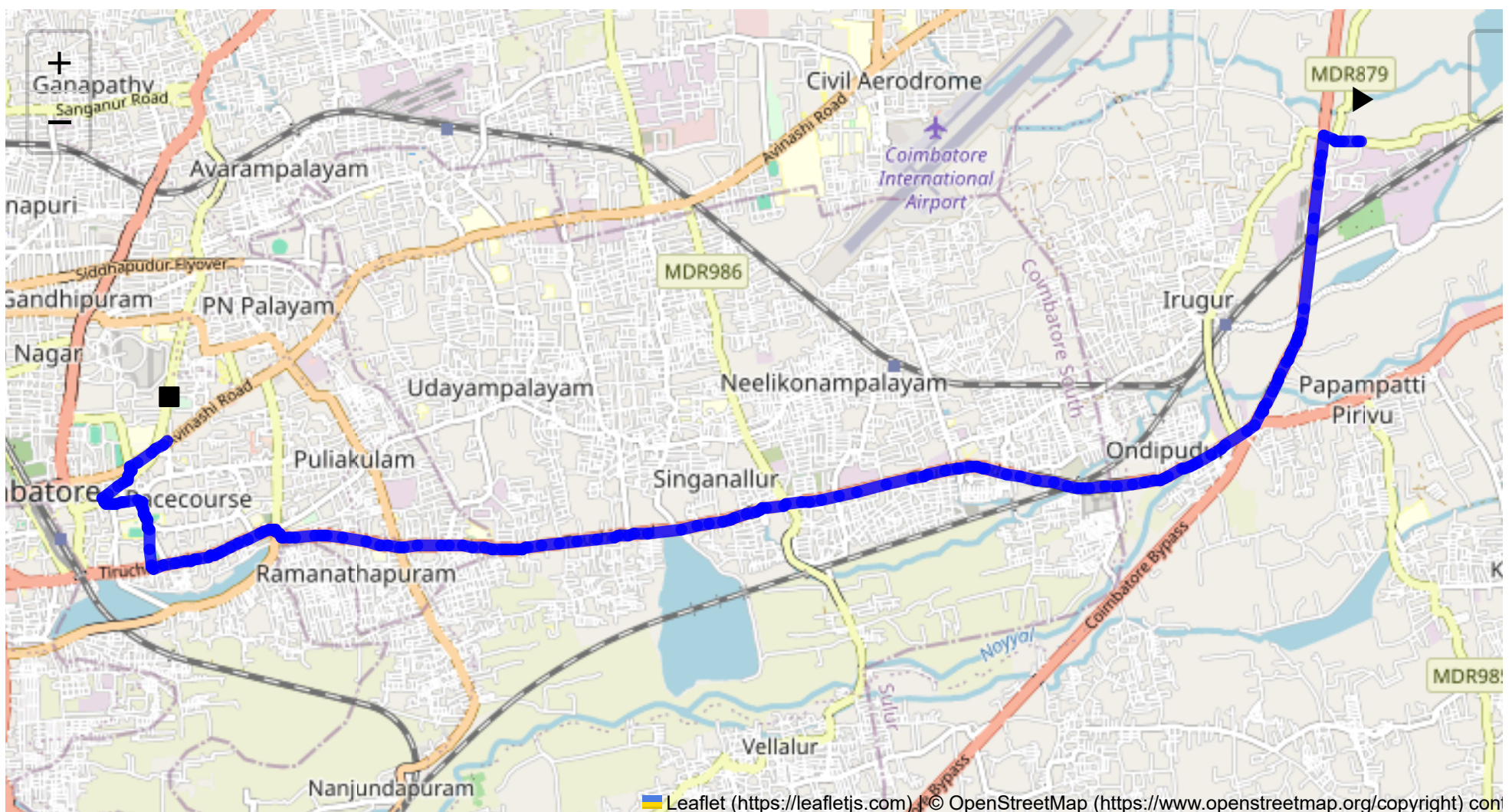
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 15.99 km
Estimated Duration: 0.5 hours
Adjusted Duration (Heavy Vehicle): 0.6 hours
Start: (11.0315, 77.0797)
End: (11.006074, 76.975745)



Welcome to the Journey Risk Management Study

To perform a comprehensive analysis of the route from Athappagoundenpudur to Gopalapuram in Coimbatore, Tamil Nadu, India, I will provide insights into various aspects crucial for ensuring the safety of truck drivers transporting hazardous materials.

1. Overview of the Route Map

The route spans approximately 16 kilometers starting from Athappagoundenpudur in a rural setting and moves through semi-urban and urban areas, ending at Avinashi Rd, Gopalapuram, a busy commercial zone. The route primarily follows local roads, merging onto more significant arterials closer to the city center.

2. Typical Weather Conditions and Potential Weather-Related Hazards

Coimbatore generally experiences a tropical wet and dry climate. The summer months can be hot, causing road surfaces to soften, which may affect tire grip and increase wear. The monsoon season, from June to September, brings heavy rains, potentially causing flooding or waterlogging, reducing traction, and increasing braking distances.

3. Traffic Patterns and Congestion-Prone Areas

Traffic in Coimbatore peaks during the morning (8 AM - 10 AM) and evening (5 PM - 7 PM) due to office and school commutes. The route can experience congestion near the city center, particularly on Avinashi Road. This road is a major arterial, prone to slow-moving traffic and complex intersections.

4. Assessment of Road Quality and Infrastructure

The roads from Athappagoundenpudur to the outskirts of Coimbatore are generally narrow and may lack proper signage or divider markings. As the route approaches the city, road quality improves with better maintenance and signage. However, urban areas may have sudden potholes and uneven surfaces especially post-monsoon.

5. Suggestions for Alternative Routes for Emergencies

In case of road closures or heavy congestion, alternate routes via Kalapatti Road and NH948 towards the city could be considered, although they might be longer. Routes through Saravanampatti could offer respite from central congestion but might not be ideal for large vehicles due to narrower streets.

6. Summary of Local Regulations Affecting Hazardous Material Transport

Local regulations require trucks carrying hazardous materials to display appropriate placards and adhere to designated truck routes within city limits. Transporting such materials during peak hours or through densely populated areas is generally discouraged.

7. Overview of Historical Incidents

There have been occasional reports of heavy vehicles involved in accidents due to poor road conditions or driver fatigue. Incidents involving hazardous materials are rare but emphasize the need for rigorous adherence to safety protocols.

8. Environmental Considerations and Sensitive Areas

Sensitive areas along the route include residential zones, schools, and hospitals. Transporting hazardous materials requires cautious driving near these areas to prevent exposure in the event of a spill or accident.

9. Analysis of Communication Coverage

Mobile network coverage in Coimbatore is generally robust due to multiple service providers. However, there might be weak signals in rural stretches or areas with dense tree cover, impacting effective communication.

10. Estimated Emergency Response Times

Within city limits, emergency services typically take 10-15 minutes to respond. The outskirts might experience longer response times, up to 30 minutes, due to less frequent service stations and traffic conditions.

11. An Overall Summary of Risk Assessment

Overall, the route exhibits moderate risk levels. Challenges include managing urban congestion, maintaining vehicle control during adverse weather, and adhering to regulatory requirements. Preparedness through route planning, adherence to safety protocols, and considering alternate routes in case of incidents are imperative.

Conclusion

For truck drivers transporting hazardous materials, this route requires careful consideration of time schedules to avoid traffic peaks, increased caution during adverse weather conditions, and preparedness for urban travel challenges. Continuous monitoring of weather forecasts, traffic updates, and compliance with local regulations will enhance safety outcomes on this route.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.00090, 76.97343	15 KM/Hr
1	Blind Spot	Blind Spot	11.03211, 77.07640	10 KM/Hr
2	Turn	Medium	11.00873, 77.07114	30 KM/Hr
3	Turn	Medium	11.00737, 77.07049	30 KM/Hr
4	Blind Spot	Blind Spot	10.99519, 76.97443	10 KM/Hr
5	Turn	Medium	10.99927, 76.97399	30 KM/Hr
6	Turn	High	11.00081, 76.97015	15 KM/Hr
7	Turn	High	11.00112, 76.97010	15 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
8	Turn	Medium	11.00277, 76.97221	30 KM/Hr
9	Turn	Medium	11.00358, 76.97255	30 KM/Hr
10	Turn	High	11.00391, 76.97244	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

	type	name	coordinates	speed_limit	risk_level
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
19	pharmacy	Prakash medicals	10.9969248, 77.0008135	30 km/h	Medium
20	hospital	Sathyan Eye Care Hospital & Coimbatore Glaucoma Foundation	10.9980405, 77.0009615	30 km/h	Medium
21	pharmacy	Revathi medicals	10.9972171, 77.0003871	30 km/h	Medium
22	clinic	Sri Durga Poly Clinic	10.9980729, 77.0001926	30 km/h	Medium
23	clinic	Dr. Karthikeyan Clinic	10.9969119, 76.9995376	30 km/h	Medium
24	hospital	Leo Ortho care Hospital	10.9969428, 76.9993022	30 km/h	Medium
25	hospital	N.M. Hospital	10.9981558, 76.9994865	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	hospital	Arya Vaidya Pharmacy	10.995609, 76.9917076	30 km/h	Medium
36	hospital	R. A. Hospital	10.998556, 76.9918562	30 km/h	Medium
37	hospital	The Arya Vaidya Chikitsalayam and Research Institue	10.9958401, 76.9915813	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
38	hospital	Clinic - Dr.Rajashree	10.9978977, 76.9893923	30 km/h	Medium
40	clinic	Karthick Polyclinic	10.9957861, 76.9876988	30 km/h	Medium
43	hospital	Masonic Medical Centre For Children	10.9997961, 76.9799441	30 km/h	Medium
44	hospital	Richmond Hospital	10.9946605, 76.9793813	30 km/h	Medium
45	hospital	Thayarammal poly clinic	10.9935069, 76.9756194	30 km/h	Medium
46	clinic	Sri Rani Poly Clinic	10.9949528, 76.9755752	30 km/h	Medium
47	hospital	Santhiya Hospital	10.9950877, 76.9746602	30 km/h	Medium
51	hospital	K. G. Hospital, Coimbatore	11.0004227, 76.9715023	30 km/h	Medium
52	police	C2- Race Course Police Station, Coimbatore	11.001692, 76.9713177	30 km/h	Medium
53	hospital	Coimbatore Medical College Hospital	10.9964129, 76.9702365	30 km/h	Medium
54	police	Commisioner Office	11.0007466, 76.9681639	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
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
39	school	Carmel Garden Matriculation Higher Secondary School	10.9993669, 76.9876201	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
41	school	Bishop Ambrose College	10.9955885, 76.9844758	30 km/h	Medium
42	college	Niramla College for Women	11.0000423, 76.9837036	30 km/h	Medium
48	college	Government Arts College Campus	10.9985728, 76.9726412	30 km/h	Medium
49	college	PG & Research Department of Public Administration	10.9984965, 76.9737086	30 km/h	Medium
50	college	Government Arts College (Autonomous), Coimbatore-18	10.998499, 76.9721668	30 km/h	Medium
55	school	Stanes HSS	11.005264, 76.9735828	30 km/h	Medium
56	college	Bishop Appasamy College	11.0041088, 76.9767157	30 km/h	Medium
57	college	GTTI	11.0068188, 76.9778523	30 km/h	Medium
58	college	Goethe Institute	11.0069288, 76.9779997	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.00090, 76.97343



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: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 10.99519, 76.97443



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 10.99927, 76.97399



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.00081, 76.97015



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.00112, 76.97010



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.00277, 76.97221



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.00358, 76.97255



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.00391, 76.97244

