



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

**IOCL Coimbatore Terminal to ADH Coco Karamadai
Suresh Agencies Un**

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

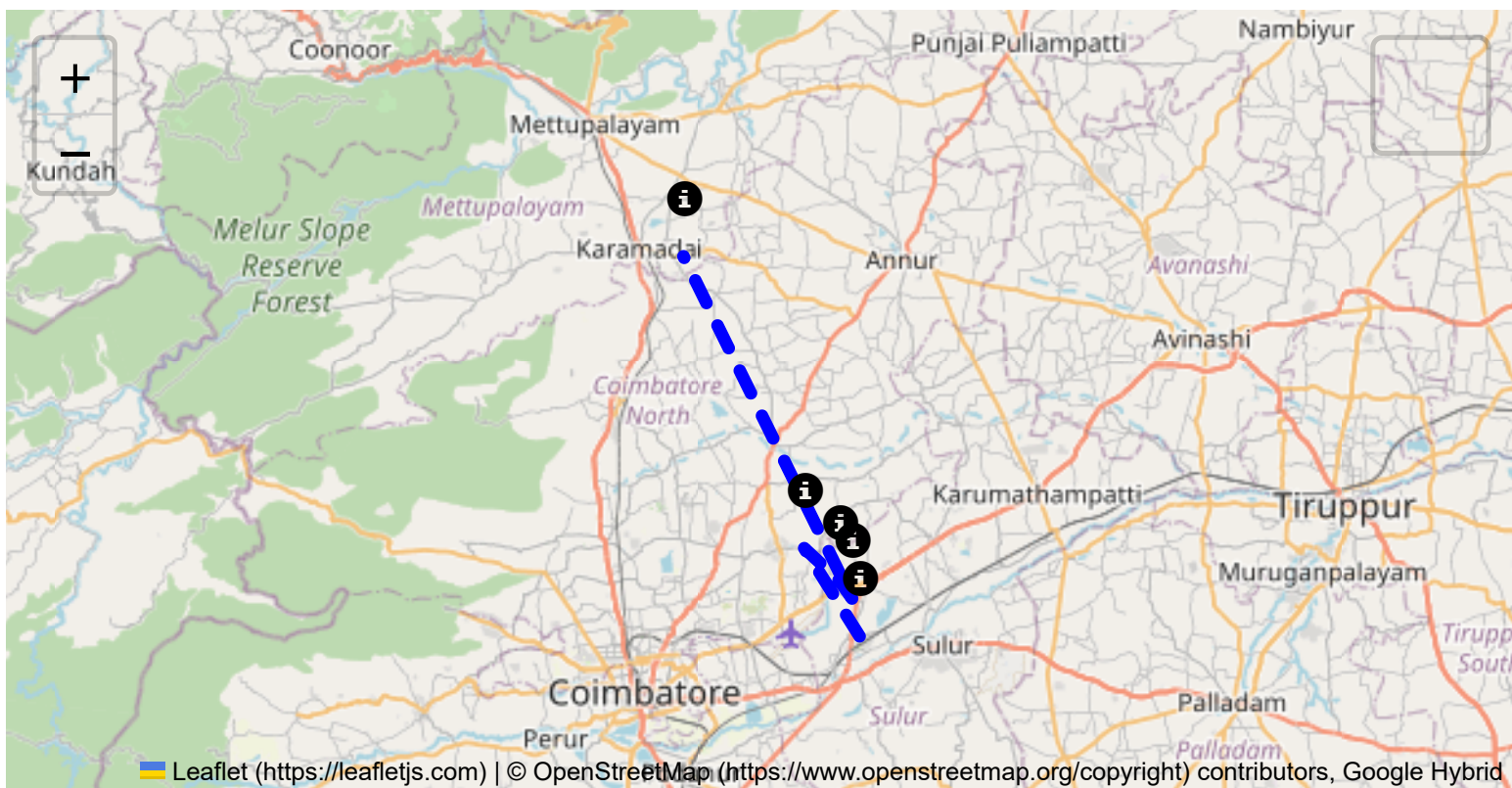
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

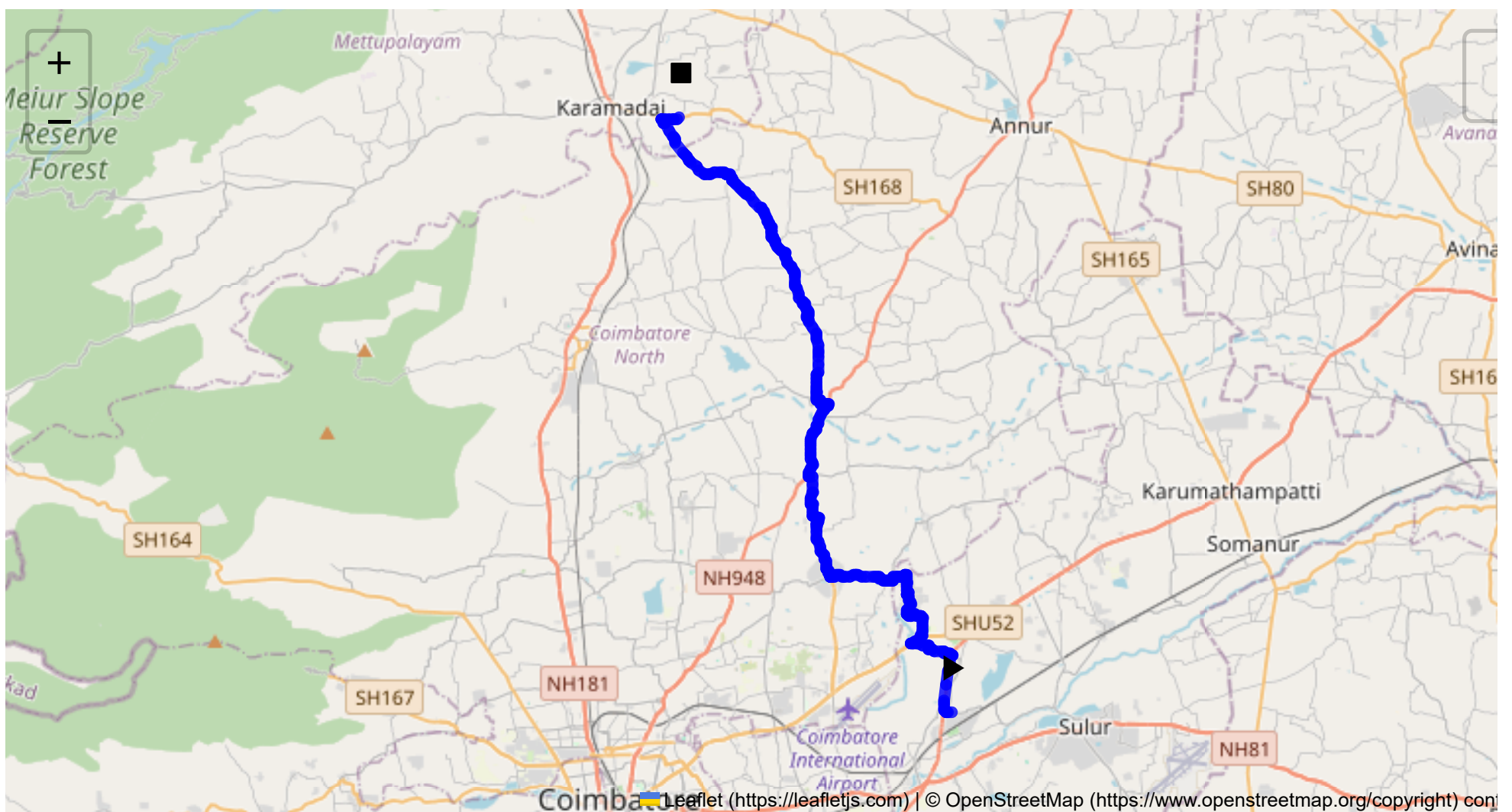
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 32.79 km
Estimated Duration: 1.0 hours
Adjusted Duration (Heavy Vehicle): 1.2 hours
Start: (11.0315, 77.0797)
End: (11.235424421125959, 76.98399869441442)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map:

- The route begins in Athappagoundenpudur, travels through Kalapatti, Mylampatti, and Venkitapuram, before reaching Chikkarampalayam. It covers both rural and semi-urban areas, with a mix of local roads and state highways.

2. Typical Weather Conditions and Potential Weather-Related Hazards:

- The climate in this region is tropical. It experiences heavy rainfall during the monsoon (June to September) and hot temperatures during summer (March to May). Hazards may include waterlogging and reduced visibility during heavy rains.

3. Analysis of Traffic Patterns:

- Peak traffic hours are generally from 8:00-10:00 AM and 5:00-7:00 PM. Traffic congestion is more likely near urban centers like Kalapatti and intersections with major highways.

4. Assessment of Road Quality and Infrastructure:

- Overall, roads range from well-maintained highways to less optimal rural roads. Some sections, especially in less urbanized areas, might have potholes and lack adequate signage.

5. Suggestions for Alternative Routes for Emergencies:

- In case of emergencies, consider detours via NH544 for a faster evacuation route toward Coimbatore city or bypass the Kalapatti congested area via smaller roads connecting to major highways.

6. Summary of Local Regulations Affecting Hazardous Material Transport:

- Transport of hazardous materials is regulated by state laws, requiring permits and adherence to approved timings, typically restricting movement during peak congestion hours.

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

- There have been occasional reports of accidents, mostly due to poor road conditions and driver error. Fortunately, incidents involving hazardous materials are rare due to stringent regulations.

8. Environmental Considerations and Sensitive Areas:

- The route crosses agricultural lands and some water bodies, requiring adherence to environmental laws to prevent contamination. Awareness of biodiversity in rural segments is crucial.

9. Analysis of Communication Coverage:

- Mobile network coverage is generally good along the route, but some rural stretches, particularly around agricultural areas, might experience weaker signals.

10. Estimated Emergency Response Times:

- Near urban centers like Kalapatti, response times are relatively quick (15-30 minutes). In rural areas, expect longer response times, potentially extending beyond an hour.

11. Overall Summary of Risk Assessment:

- The route is moderately safe for heavy vehicles transporting hazardous materials with manageable risks. Primary concerns include weather-induced hazards, occasional traffic congestion, and sections with suboptimal road conditions. Adhering to local regulations and being cautious during adverse weather can mitigate most risks. Emergency plan readiness and maintaining communication with local authorities are recommended for safe transit.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.07800, 77.03707	15 KM/Hr
1	U-Turn	High	11.0549503, 77.0650284	10 KM/Hr
2	Turn	High	11.03211, 77.07640	15 KM/Hr
3	Turn	High	11.05129, 77.07919	15 KM/Hr
4	Turn	High	11.05181, 77.07696	15 KM/Hr
5	Turn	High	11.05218, 77.07692	15 KM/Hr
6	Turn	Medium	11.05280, 77.07264	30 KM/Hr
7	Turn	High	11.05350, 77.07100	15 KM/Hr
8	Turn	High	11.05410, 77.07099	15 KM/Hr
9	Turn	Medium	11.05527, 77.06568	30 KM/Hr
10	Turn	High	11.05495, 77.06503	15 KM/Hr
11	Blind Spot	Blind Spot	11.05507, 77.06496	10 KM/Hr
12	Turn	High	11.05751, 77.06875	15 KM/Hr
13	Turn	High	11.06437, 77.06865	15 KM/Hr
14	Turn	Medium	11.06474, 77.06463	30 KM/Hr
15	Turn	Medium	11.06489, 77.06374	30 KM/Hr
16	Turn	High	11.06496, 77.06367	15 KM/Hr
17	Turn	Medium	11.07201, 77.06366	30 KM/Hr
18	Turn	Medium	11.07209, 77.06370	30 KM/Hr
19	Turn	Medium	11.07220, 77.06393	30 KM/Hr
20	Turn	Medium	11.07232, 77.06400	30 KM/Hr
21	Blind Spot	Blind Spot	11.07865, 77.06377	10 KM/Hr
22	Turn	High	11.07773, 77.05884	15 KM/Hr
23	Turn	Medium	11.07655, 77.05823	30 KM/Hr
24	Turn	Medium	11.07855, 77.03876	30 KM/Hr
25	Turn	High	11.09602, 77.03170	15 KM/Hr
26	Turn	Medium	11.09651, 77.03234	30 KM/Hr
27	Turn	High	11.09846, 77.03246	15 KM/Hr
28	Turn	High	11.09881, 77.03093	15 KM/Hr
29	Turn	High	11.10298, 77.03048	15 KM/Hr
30	Turn	Medium	11.10308, 77.03036	30 KM/Hr
31	Turn	Medium	11.10317, 77.02993	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
32	Turn	Medium	11.10329, 77.02985	30 KM/Hr
33	Turn	High	11.11250, 77.03030	15 KM/Hr
34	Blind Spot	Blind Spot	11.11256, 77.02901	10 KM/Hr
35	Blind Spot	Blind Spot	11.13744, 77.03599	10 KM/Hr
36	Blind Spot	Blind Spot	11.13742, 77.03359	10 KM/Hr
37	Turn	Medium	11.13901, 77.03204	30 KM/Hr
38	Turn	Medium	11.18435, 77.02300	30 KM/Hr
39	Turn	Medium	11.18440, 77.02284	30 KM/Hr
40	Turn	High	11.18892, 77.02121	15 KM/Hr
41	Turn	Medium	11.20958, 77.00724	30 KM/Hr
42	Turn	High	11.21403, 77.00250	15 KM/Hr
43	Turn	Medium	11.21428, 77.00243	30 KM/Hr
44	Turn	Medium	11.21432, 77.00235	30 KM/Hr
45	Turn	Medium	11.21579, 77.00168	30 KM/Hr
46	Turn	Medium	11.21590, 77.00040	30 KM/Hr
47	Turn	Medium	11.21635, 77.00015	30 KM/Hr
48	Turn	Medium	11.21703, 76.99890	30 KM/Hr
49	Turn	Medium	11.23428, 76.97860	30 KM/Hr
50	Blind Spot	Blind Spot	11.23512, 76.97753	10 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	KGM, Chinniampalayam	11.0570076, 77.067239	30 km/h	Medium
1	hospital	Chinniampalayam Venkateshwara Hospital	11.0545152, 77.0652106	30 km/h	Medium
3	hospital	R V Hospital, Coimbatore	11.0546916, 77.0639178	30 km/h	Medium
4	hospital	Kamalaprakasam, Kalapatti	11.0778, 77.035681	30 km/h	Medium
6	hospital	Aravindan Hospital	11.1334592, 77.0340488	30 km/h	Medium
7	hospital	Sampath Hospital ,S.S.Kulam	11.1339, 77.034088	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
8	hospital	Gokulam ortho hospital	11.1340331, 77.0350369	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
5	college	KV Institute of Management and Information Studies	11.1050789, 77.0276575	30 km/h	Medium
9	school	panchayat union middle school	11.2140204, 77.0028892	30 km/h	Medium
10	school	panchayat union middle school	11.2141334, 77.0028305	30 km/h	Medium
11	school	The ooty public school	11.2158022, 77.0041736	30 km/h	Medium
12	college	Christ the King Engineering College	11.2262519, 76.9803262	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Roundabout

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07800, 77.03707



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Coordinates: 11.0549503, 77.0650284



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: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05181, 77.07696



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05218, 77.07692



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05280, 77.07264



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05350, 77.07100



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05410, 77.07099



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05527, 77.06568



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05495, 77.06503



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.05507, 77.06496



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05751, 77.06875



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.06437, 77.06865



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.06474, 77.06463



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.06489, 77.06374



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.06496, 77.06367



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07201, 77.06366



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07209, 77.06370



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07220, 77.06393



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07232, 77.06400



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.07865, 77.06377



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07773, 77.05884



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07655, 77.05823



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.07855, 77.03876



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09602, 77.03170



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09651, 77.03234



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09846, 77.03246



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.09881, 77.03093



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.10298, 77.03048



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10308, 77.03036



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.10317, 77.02993



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.10329, 77.02985



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.11250, 77.03030



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.11256, 77.02901



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.13744, 77.03599



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.13742, 77.03359



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.13901, 77.03204



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.18435, 77.02300



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.18440, 77.02284



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.18892, 77.02121



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.20958, 77.00724



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.21403, 77.00250



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.21428, 77.00243



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.21432, 77.00235



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.21579, 77.00168



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.21590, 77.00040



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.21635, 77.00015



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.21703, 76.99890



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.23428, 76.97860



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.23512, 76.97753

