



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to Sri Balaji Agencies

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

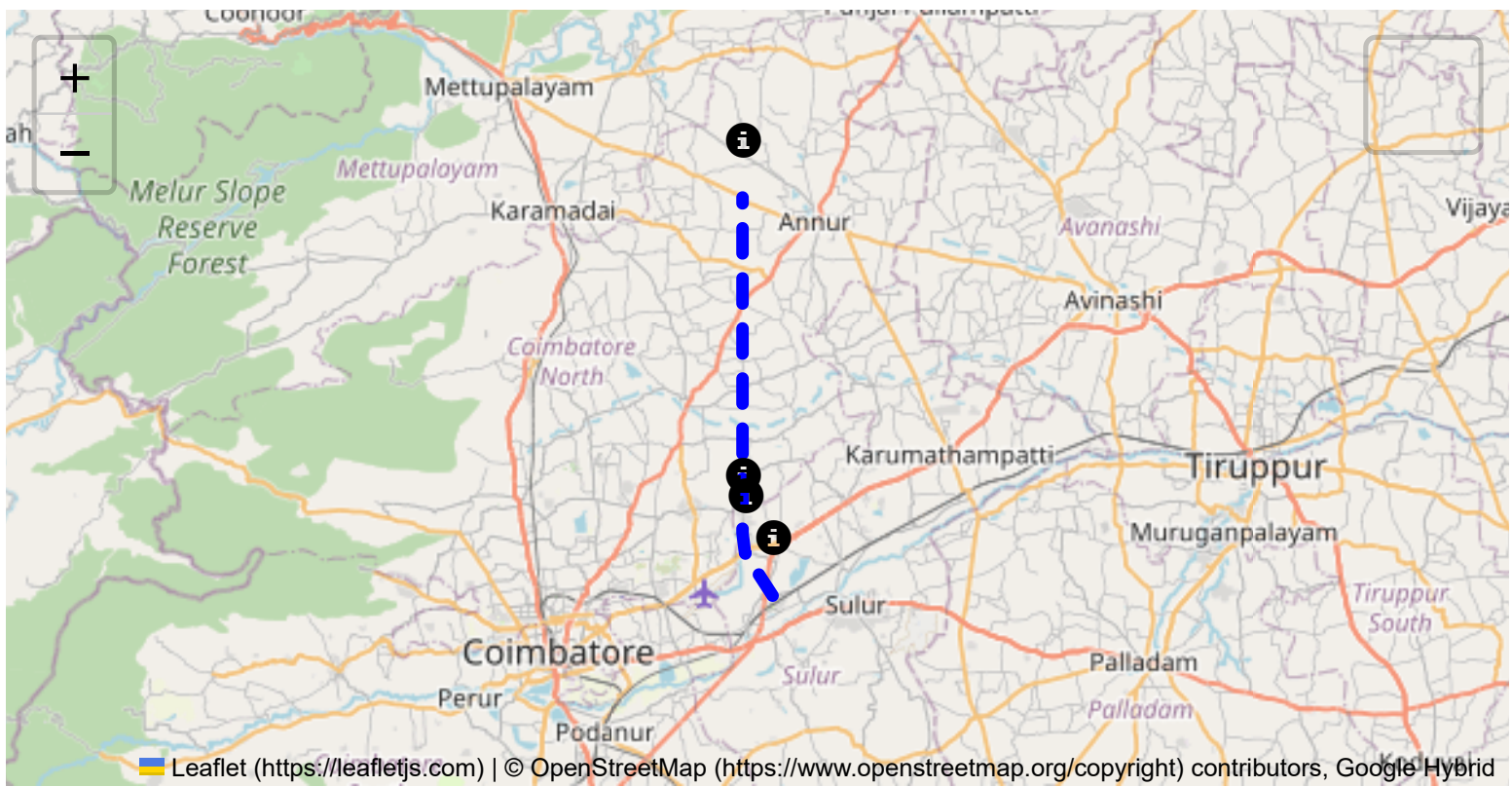
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

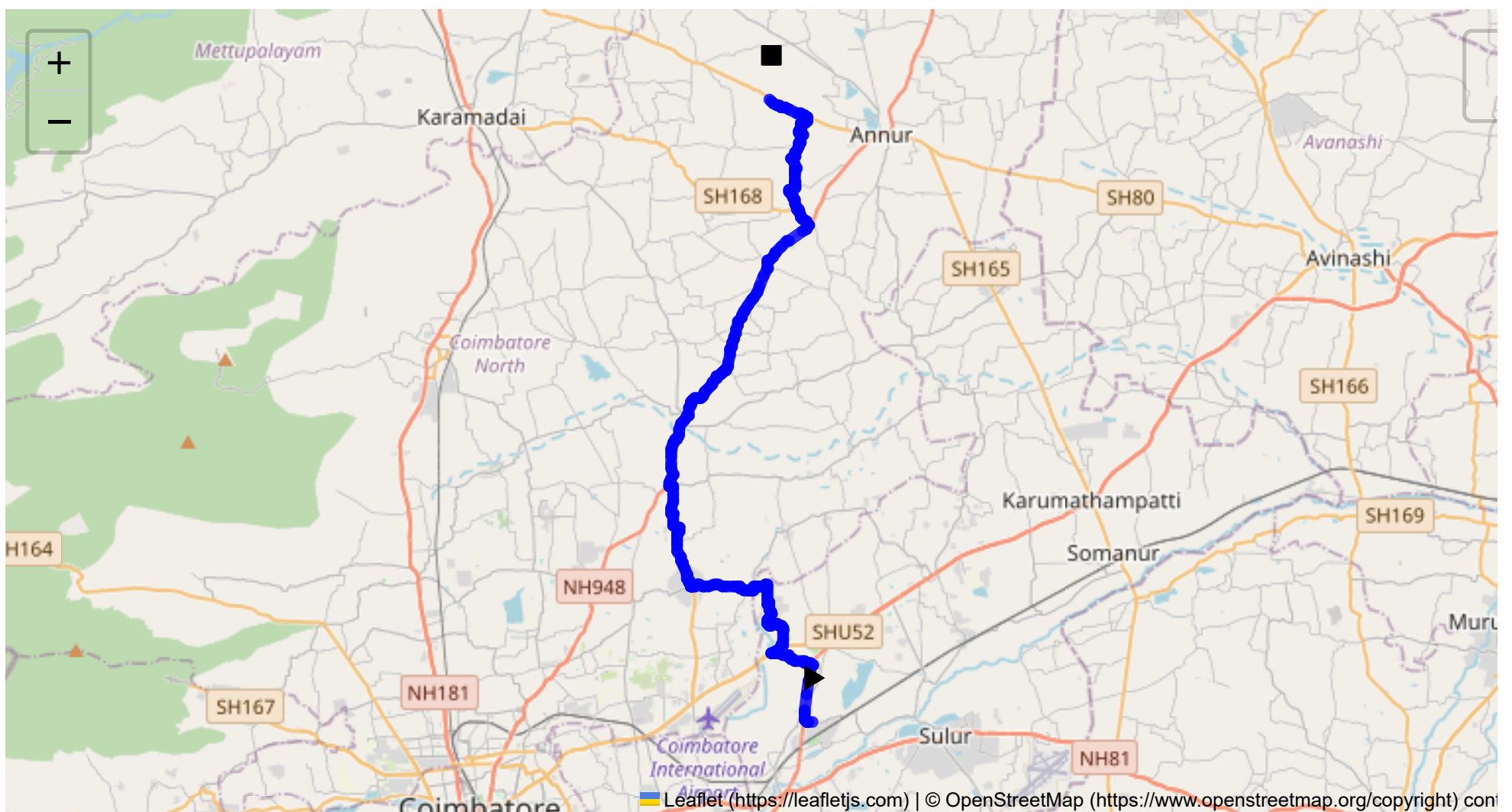
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 33.64 km
Estimated Duration: 1.0 hours
Adjusted Duration (Heavy Vehicle): 1.2 hours
Start: (11.0315, 77.0797)
End: (11.245128, 77.063993)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map: The designated route from Athappagoundenpudur to J.J. Nagar via Chinniyampalayam and GEM Nagar spans approximately 33.64 kilometers. It primarily consists of rural and semi-urban roads, with segments that pass through small towns and agricultural areas. The route includes intersections at towns like Chinniyampalayam and Mylampatti, which are important to note for navigation and potential traffic delays.

2. Typical Weather Conditions and Potential Weather-Related Hazards: Coimbatore and surrounding areas experience a tropical wet and dry climate. The typical weather includes:

- **Summer (March to May):** Hot temperatures can impact vehicle performance. Ensure adequate hydration for drivers.
- **Monsoon (June to September):** Heavy rainfall can cause road flooding and reduced visibility. Monitor weather forecasts for unpredicted heavy rains or storms.
- **Winter (November to February):** Cool temperatures with occasional fog in the early mornings that may affect visibility.

3. Analysis of Traffic Patterns:

- **Peak Hours:** Traffic congestion is typical during morning (7:30 AM - 9:30 AM) and evening (5:30 PM - 7:30 PM) hours, especially in urbanized areas and near industrial zones.
- **Congestion-Prone Areas:**
 - The vicinity of Chinniyampalayam due to local commuter traffic
 - Mylampatti, as it is a converging point for several routes

4. Assessment of Road Quality and Infrastructure:

- Roads are generally paved, although maintenance levels vary.
- Be on the lookout for potholes, especially after the monsoon season.
- Narrow roads in some rural areas may pose challenges to heavy vehicles.
- Inadequate lighting in less populated stretches can affect visibility at night.

5. Suggestions for Alternative Routes for Emergencies:

- Use the NH544 to bypass local roads should there be any major blockages due to accidents or weather issues.
- Consider local state roads connecting Avinashi Road (SH 166) as alternative routes with better infrastructure.

6. Summary of Local Regulations Affecting Hazardous Material Transport:

- Vehicles carrying hazardous materials must adhere to state transportation regulations, which include restricted timings for these vehicles on certain roads.
- Proper permits and emergency response plans are required.

7. Overview of Historical Incidents:

- Limited historical data available on the specific route for incidents involving heavy vehicles or hazardous materials.
- Monitor local news and traffic updates for current incidents.

8. Environmental Considerations and Sensitive Areas:

- There are agricultural areas along the route which should be approached with caution to prevent spillage or accidents.
- Ensure minimal disruption to local fauna and flora.

9. Analysis of Communication Coverage:

- Most parts of the route have decent network coverage, however, there may be specific dead zones near agricultural areas and low-density regions.
- It’s advisable to have multiple communication devices (e.g., GPS and mobile phone) and service providers.

10. Estimated Emergency Response Times:

- Urban segments: Approximately 15-30 minutes due to better proximity and service infrastructure.
- Rural segments: Can exceed 30 minutes; response time is influenced by weather and road conditions.

12. Overall Summary of Risk Assessment: The route requires vigilance due to variable road conditions, potential weather impacts, and traffic congestion during peak hours. Regular monitoring of weather forecasts, adherence to transportation regulations, and immediate reporting of incidents are essential for safe navigation. Emergency response plans should be reviewed regularly, and alternative routes strategized in case of disruptions. Constant communication check-ins and contingency planning are vital for ensuring the safe transport of hazardous materials.

This assessment can help drivers and managers minimize risks while maintaining compliance with relevant safety procedures.

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	11.05281, 77.07261	30 KM/Hr
7	Turn	Medium	11.05343, 77.07106	30 KM/Hr
8	Turn	High	11.05351, 77.07099	15 KM/Hr
9	Turn	High	11.05411, 77.07097	15 KM/Hr
10	Turn	High	11.05529, 77.06566	15 KM/Hr
11	Turn	High	11.05495, 77.06503	15 KM/Hr
12	Blind Spot	Blind Spot	11.05507, 77.06496	10 KM/Hr
13	Turn	High	11.05751, 77.06875	15 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
14	Turn	High	11.06437, 77.06865	15 KM/Hr
15	Turn	High	11.06490, 77.06371	15 KM/Hr
16	Turn	Medium	11.06501, 77.06366	30 KM/Hr
17	Turn	High	11.07201, 77.06366	15 KM/Hr
18	Turn	Medium	11.07232, 77.06400	30 KM/Hr
19	Blind Spot	Blind Spot	11.07865, 77.06377	10 KM/Hr
20	Turn	High	11.07773, 77.05884	15 KM/Hr
21	Turn	Medium	11.07655, 77.05823	30 KM/Hr
22	Turn	Medium	11.07854, 77.03872	30 KM/Hr
23	Turn	Medium	11.09589, 77.03170	30 KM/Hr
24	Turn	Medium	11.09605, 77.03172	30 KM/Hr
25	Turn	Medium	11.09655, 77.03237	30 KM/Hr
26	Turn	Medium	11.09846, 77.03245	30 KM/Hr
27	Turn	High	11.09883, 77.03091	15 KM/Hr
28	Turn	High	11.10301, 77.03046	15 KM/Hr
29	Turn	Medium	11.10312, 77.03001	30 KM/Hr
30	Turn	Medium	11.10320, 77.02990	30 KM/Hr
31	Turn	Medium	11.10331, 77.02984	30 KM/Hr
32	Blind Spot	Blind Spot	11.11250, 77.03030	10 KM/Hr
33	Blind Spot	Blind Spot	11.11256, 77.02901	10 KM/Hr
34	Turn	High	11.20175, 77.07779	15 KM/Hr
35	Turn	Medium	11.20311, 77.07750	30 KM/Hr
36	Turn	Medium	11.20700, 77.07462	30 KM/Hr
37	Turn	Medium	11.20713, 77.07450	30 KM/Hr
38	Turn	High	11.20727, 77.07392	15 KM/Hr
39	Turn	High	11.21376, 77.07136	15 KM/Hr
40	Turn	High	11.21388, 77.07139	15 KM/Hr
41	Turn	Medium	11.21423, 77.07206	30 KM/Hr
42	Turn	Medium	11.21440, 77.07217	30 KM/Hr
43	Turn	Medium	11.21474, 77.07304	30 KM/Hr
44	Turn	Medium	11.21577, 77.07311	30 KM/Hr
45	Turn	High	11.21616, 77.07343	15 KM/Hr
46	Turn	High	11.22086, 77.07300	15 KM/Hr
47	Turn	Medium	11.22096, 77.07307	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
48	Turn	High	11.22125, 77.07364	15 KM/Hr
49	Turn	High	11.22480, 77.07218	15 KM/Hr
50	Turn	High	11.22523, 77.07311	15 KM/Hr
51	Turn	High	11.23324, 77.07566	15 KM/Hr
52	Turn	Medium	11.23384, 77.07487	30 KM/Hr
53	Turn	Medium	11.23657, 77.07534	30 KM/Hr
54	Turn	Medium	11.23681, 77.07560	30 KM/Hr
55	Turn	Medium	11.23738, 77.07750	30 KM/Hr
56	Turn	High	11.23917, 77.07764	15 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
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

	type	name	coordinates	speed_limit	risk_level
5	college	KV Institute of Management and Information Studies	11.1050789, 77.0276575	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: 11.05281, 77.07261



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05343, 77.07106



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05351, 77.07099



Risk Type: Turn

Risk Level: High

Speed Limit: 15 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: 11.05495, 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: High
Speed Limit: 15 KM/Hr
Coordinates: 11.06490, 77.06371



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.06501, 77.06366



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07201, 77.06366



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: 11.07854, 77.03872



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09589, 77.03170



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09605, 77.03172



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09655, 77.03237



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09846, 77.03245



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09883, 77.03091



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.10301, 77.03046



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10312, 77.03001



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10320, 77.02990



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10331, 77.02984



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 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: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.20175, 77.07779



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.20311, 77.07750



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.20700, 77.07462



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.20713, 77.07450



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.20727, 77.07392



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.21376, 77.07136



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.21388, 77.07139



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.21423, 77.07206



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.21440, 77.07217

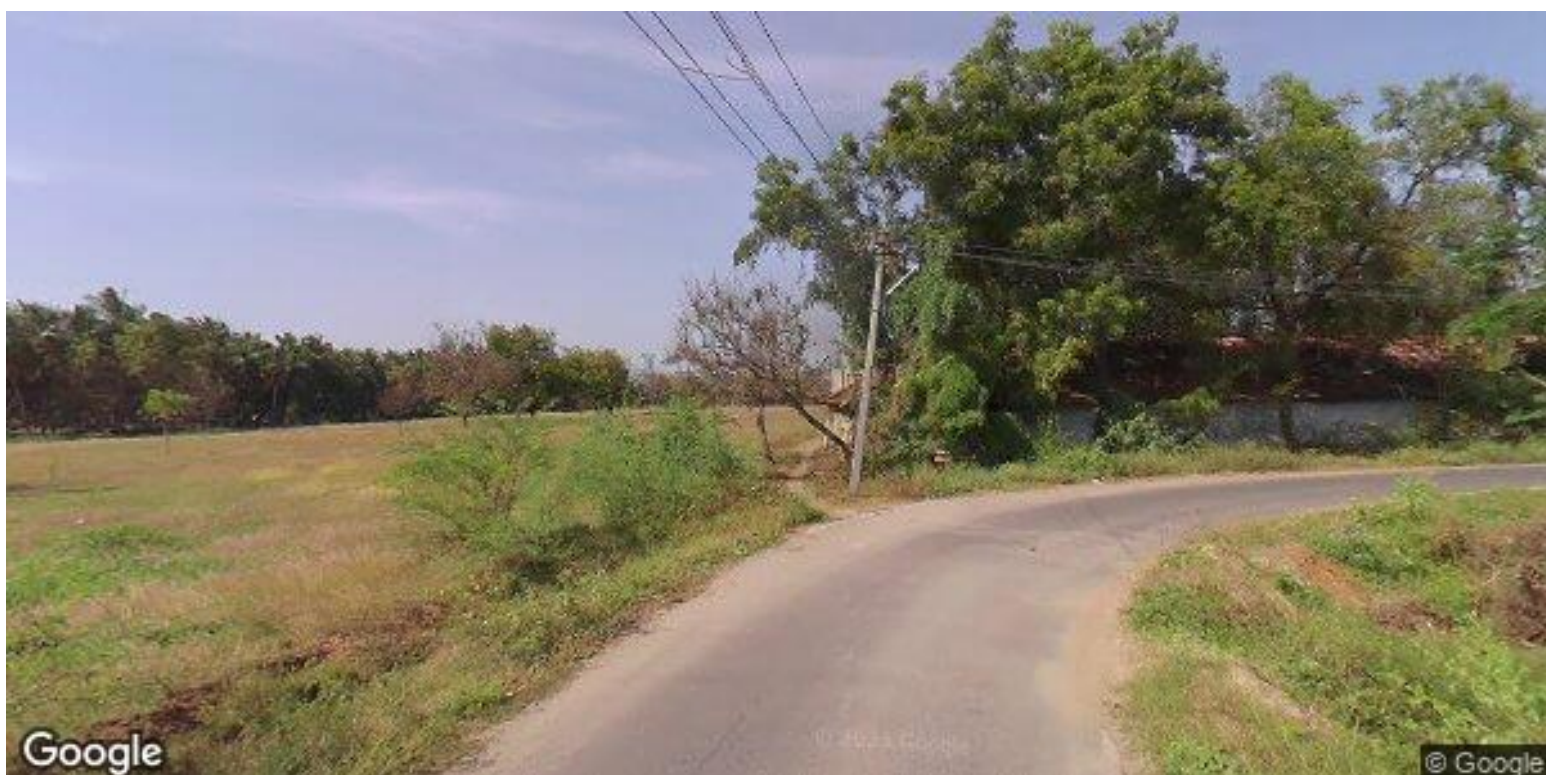


Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.21616, 77.07343



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.22086, 77.07300



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.22096, 77.07307



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.22125, 77.07364



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.22480, 77.07218



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.22523, 77.07311



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.23324, 77.07566



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.23384, 77.07487



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.23657, 77.07534



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.23681, 77.07560



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.23738, 77.07750



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.23917, 77.07764
