



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to Sri Moorthy 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

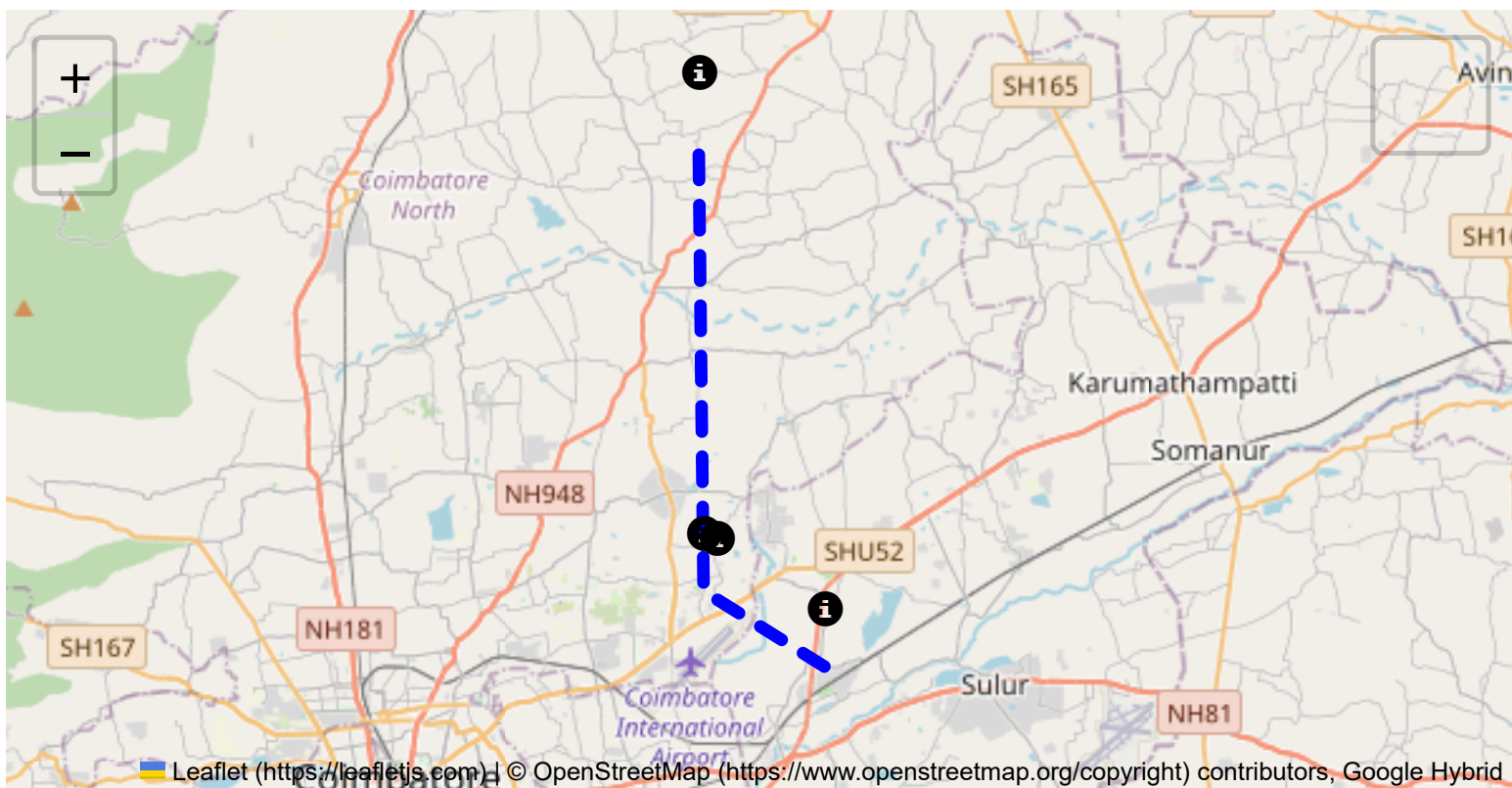
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

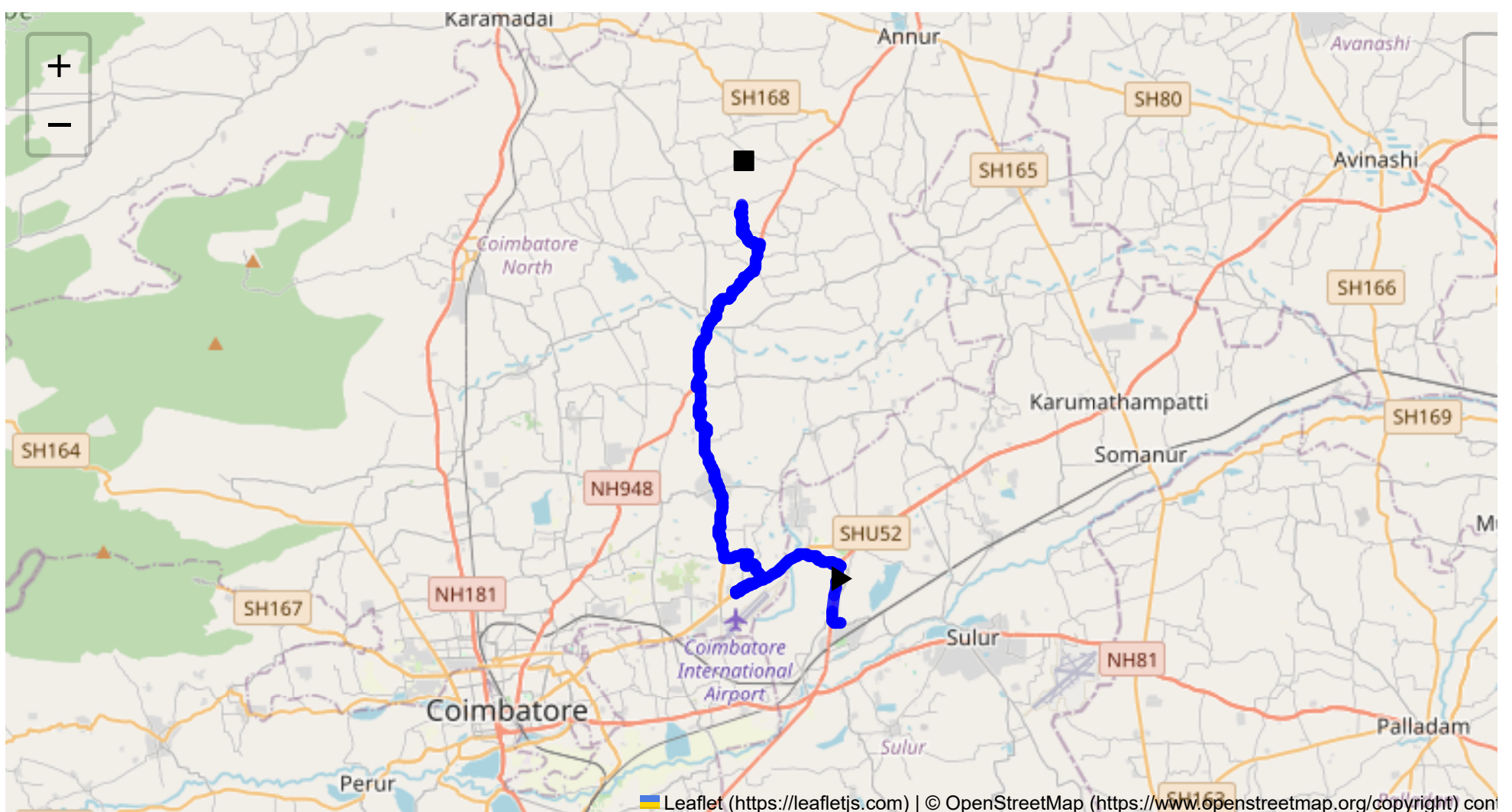
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 26.06 km
Estimated Duration: 0.8 hours
Adjusted Duration (Heavy Vehicle): 1.0 hours
Start: (11.0315, 77.0797)
End: (11.1746989, 77.045062)



Welcome to the Journey Risk Management Study

Route Overview

The route from Athappagoundenpudur to Muthalipalayam in Tamil Nadu spans approximately 26 kilometers, passing through major points such as Thottipalayam Road, Karuparampalayam Pirvu, and Periyar Nagar, Nehru Nagar West in Coimbatore. This route typically takes about 49 minutes for trucks carrying hazardous materials, depending on traffic conditions.

Weather Conditions and Potential Hazards

- Weather Overview:** Tamil Nadu experiences a tropical climate with three main seasons: summer (March to June), monsoon (July to September), and winter (October to February). The area is susceptible to heavy rainfall during the monsoon season.
- Weather-Related Hazards:** During the monsoon season, roads may become slippery and visibility could be reduced, increasing the risk of accidents. Additionally, certain low-lying areas may experience waterlogging, potentially causing delays or detours.

Traffic Patterns

- Peak Hours:** Traffic congestion is typically heaviest during morning (7 AM - 10 AM) and evening (5 PM - 8 PM) rush hours, particularly near urban centers like Coimbatore.
- Congestion-Prone Areas:** The intersections at Thottipalayam Road and along Nehru Nagar West are known for bottlenecks, especially during peak traffic periods.

Road Quality and Infrastructure

- Assessment:** The roads on this route vary in quality. Urban areas typically have well-maintained roads, but rural sections may experience wear and tear, leading to uneven surfaces and potholes.
- Infrastructure:** Some stretches may lack adequate lighting, requiring caution during night travel.

Suggestions for Alternative Routes

In case of emergencies or roadblocks, an alternative route would be to take National Highway 544 or State Highway 168A, which provide additional access to the desired locations while avoiding congested urban areas.

Local Regulations on Hazardous Material Transport

- Regulations:** Regulations require transport of hazardous materials to follow designated routes where possible, with mandatory signage and containment measures.
- Permits:** Ensure all necessary permits for transporting hazardous materials are obtained and up to date.

Historical Incidents

While specific data on historical incidents in this precise area may not be readily available, there have been reports of occasional accidents involving heavy vehicles due to traffic density and road quality in the broader Coimbatore region.

Environmental Considerations

- Sensitive Areas:** Some parts of the route may pass near agricultural land and residential areas, requiring caution to minimize environmental impact.

- 2. **Restrictions:** Restrictions may exist in certain areas to protect wildlife or agricultural zones from spillage or pollution.

Communication Coverage

- 1. **Analysis:** Communication coverage is generally reliable in urban and peri-urban areas. However, some rural sections might experience occasional dead zones, affecting mobile network connectivity.
- 2. **Preparation:** It's advisable to have alternative means of communication, such as radio, particularly for emergency contact.

Emergency Response Times

- 1. **Urban Sections:** Quick response is typically possible within Coimbatore due to proximity to hospitals and fire stations.
- 2. **Rural Sections:** Emergency response might be delayed in less accessible rural locations due to distance from service centers.

Overall Summary of Risk Assessment

- **Main Concerns:** Weather-related hazards during monsoon, traffic congestion, road quality variability, and potential communication dead zones.
- **Risk Mitigation:** Plan trips outside peak traffic hours, particularly during adverse weather. Ensure all vehicles are equipped with necessary safety and communication equipment.
- **Preparedness:** Drivers should be well-versed with alternative routes and local regulations concerning hazardous materials. Regular training on emergency response procedures is recommended.

Overall, while the route is generally manageable for transporting hazardous materials, preparation and caution are key to minimizing risks.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	U-Turn	High	11.0419501, 77.04308759999999	10 KM/Hr
1	Turn	High	11.03211, 77.07640	15 KM/Hr
2	Turn	High	11.05129, 77.07919	15 KM/Hr
3	Turn	High	11.05181, 77.07696	15 KM/Hr
4	Turn	High	11.05222, 77.07690	15 KM/Hr
5	Turn	Medium	11.05343, 77.07106	30 KM/Hr
6	Turn	High	11.05351, 77.07099	15 KM/Hr
7	Turn	High	11.05411, 77.07097	15 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
8	Turn	High	11.05529, 77.06566	15 KM/Hr
9	Turn	High	11.04195, 77.04309	15 KM/Hr
10	Blind Spot	Blind Spot	11.04203, 77.04303	10 KM/Hr
11	Blind Spot	Blind Spot	11.04636, 77.05199	10 KM/Hr
12	Turn	High	11.05158, 77.04943	15 KM/Hr
13	Blind Spot	Blind Spot	11.05130, 77.04643	10 KM/Hr
14	Blind Spot	Blind Spot	11.05528, 77.04708	10 KM/Hr
15	Turn	High	11.05356, 77.03890	15 KM/Hr
16	Turn	Medium	11.05427, 77.03879	30 KM/Hr
17	Turn	Medium	11.05431, 77.03881	30 KM/Hr
18	Turn	Medium	11.07800, 77.03694	30 KM/Hr
19	Turn	Medium	11.07803, 77.03694	30 KM/Hr
20	Turn	High	11.07805, 77.03695	15 KM/Hr
21	Turn	Medium	11.09605, 77.03172	30 KM/Hr
22	Turn	Medium	11.09655, 77.03237	30 KM/Hr
23	Turn	Medium	11.09846, 77.03245	30 KM/Hr
24	Turn	High	11.09883, 77.03091	15 KM/Hr
25	Turn	Medium	11.10295, 77.03049	30 KM/Hr
26	Turn	Medium	11.10301, 77.03046	30 KM/Hr
27	Turn	Medium	11.10312, 77.03001	30 KM/Hr
28	Turn	Medium	11.10320, 77.02990	30 KM/Hr
29	Turn	Medium	11.10331, 77.02984	30 KM/Hr
30	Blind Spot	Blind Spot	11.11250, 77.03030	10 KM/Hr
31	Blind Spot	Blind Spot	11.11256, 77.02901	10 KM/Hr
32	Blind Spot	Blind Spot	11.16156, 77.05154	10 KM/Hr
33	Turn	Medium	11.16486, 77.04558	30 KM/Hr
34	Turn	High	11.16646, 77.04545	15 KM/Hr
35	Turn	Medium	11.16677, 77.04506	30 KM/Hr
36	Turn	Medium	11.16685, 77.04503	30 KM/Hr
37	Turn	High	11.16772, 77.04548	15 KM/Hr
38	Turn	High	11.17195, 77.04420	15 KM/Hr
39	Turn	Medium	11.17210, 77.04428	30 KM/Hr
40	Turn	High	11.17238, 77.04514	15 KM/Hr
41	Turn	High	11.17466, 77.04502	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
5	hospital	Kovai Medical Centre,Coimbatore	11.0426077, 77.0406074	30 km/h	Medium
6	hospital	Kamalaprakasam, Kalapatti	11.0778, 77.035681	30 km/h	Medium
8	hospital	Aravindan Hospital	11.1334592, 77.0340488	30 km/h	Medium
9	hospital	Sampath Hospital ,S.S.Kulam	11.1339, 77.034088	30 km/h	Medium
10	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
4	school	Sri Vivekananda Matriculation Higher Secondary School	11.054695, 77.0572126	30 km/h	Medium
7	college	KV Institute of Management and Information Studies	11.1050789, 77.0276575	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Coordinates: 11.0419501, 77.04308759999999



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: 11.05222, 77.07690



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: 11.04195, 77.04309



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.04203, 77.04303



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.04636, 77.05199



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05158, 77.04943



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.05130, 77.04643



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.05528, 77.04708



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05356, 77.03890



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05427, 77.03879



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.05431, 77.03881



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07800, 77.03694



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07803, 77.03694



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.07805, 77.03695



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: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.10295, 77.03049



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 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: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.16156, 77.05154



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.16486, 77.04558



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.16646, 77.04545

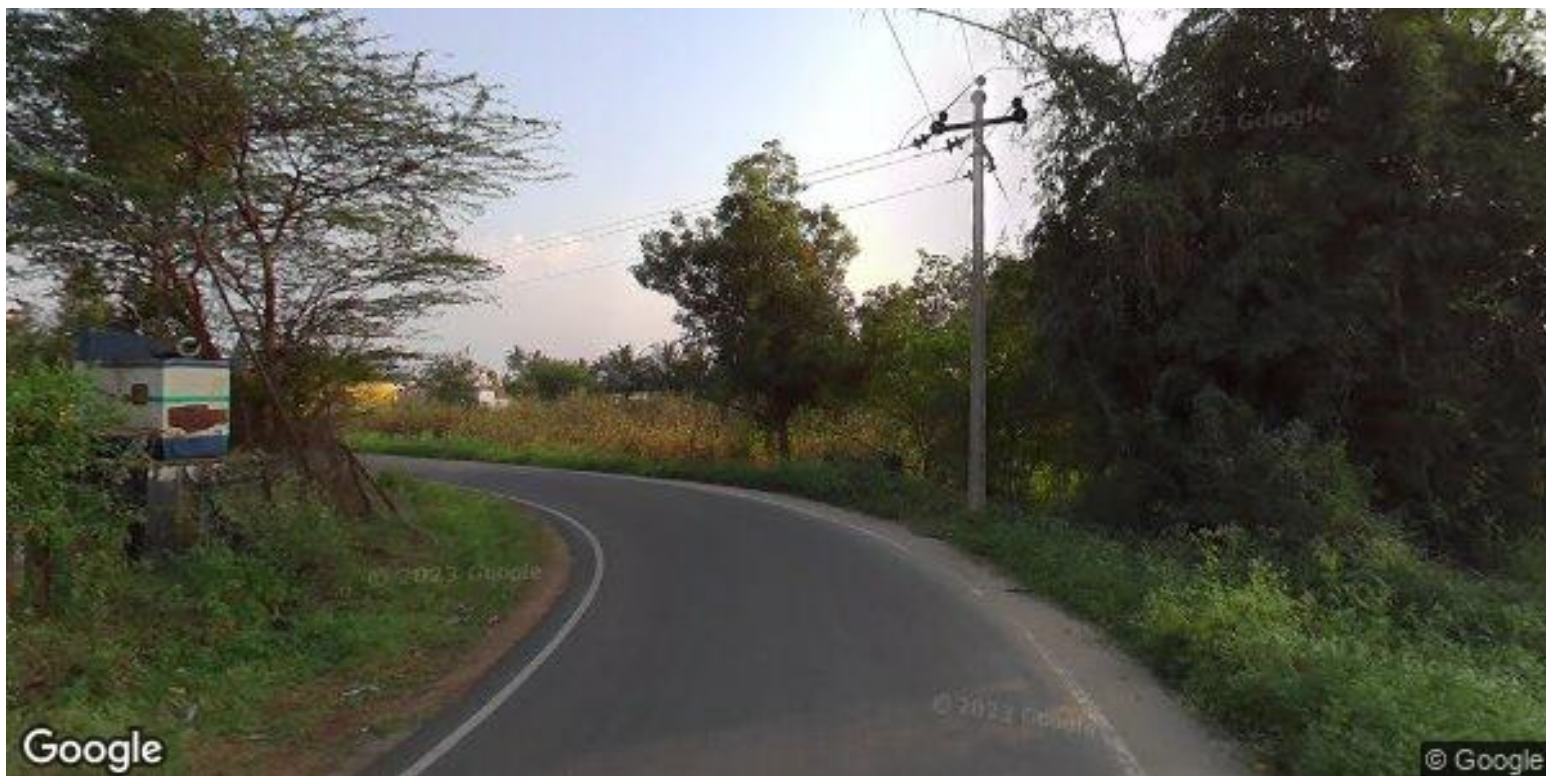


Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.16677, 77.04506

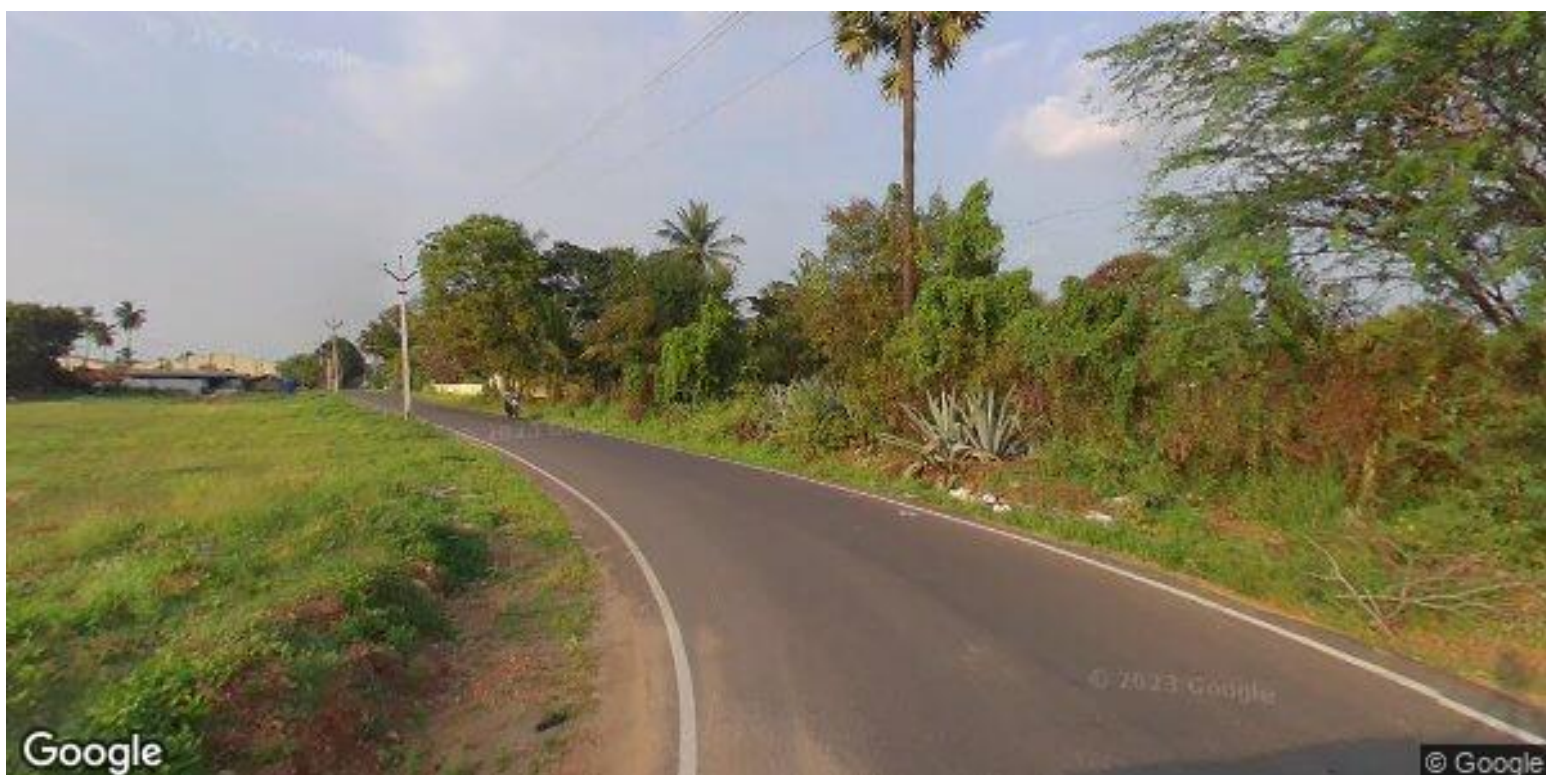


Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.16685, 77.04503



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.16772, 77.04548



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.17195, 77.04420



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.17210, 77.04428



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.17238, 77.04514



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.17466, 77.04502
