



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to Sri Ramakrishna Yarn Carrier

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

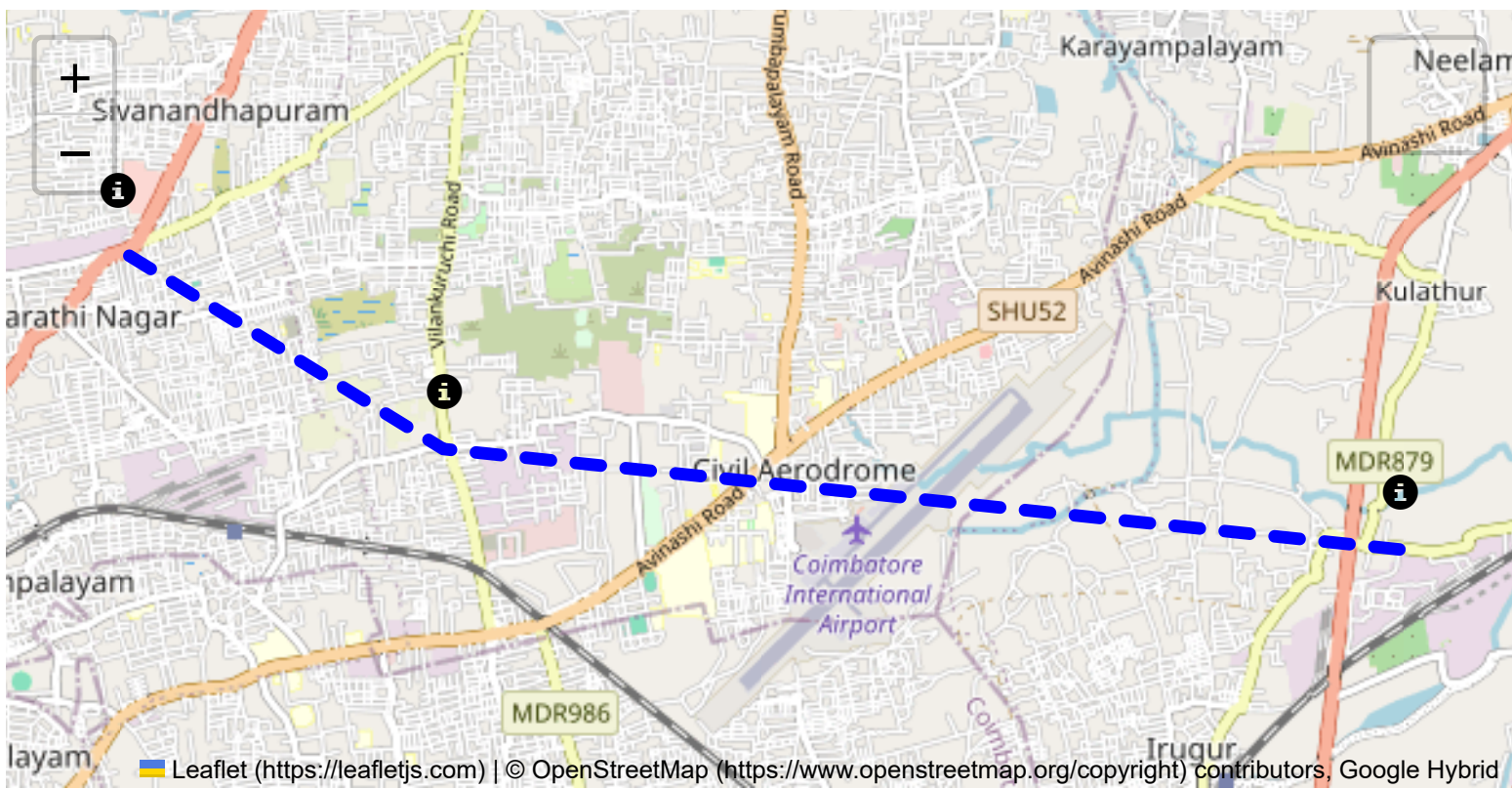
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental 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: 16.39 km
Estimated Duration: 0.6 hours
Adjusted Duration (Heavy Vehicle): 0.8 hours
Start: (11.0315, 77.0797)
End: (11.051786, 76.992094)



Welcome to the Journey Risk Management Study

Route Safety Analysis Report

1. Overview of the Route Map:

The route from 23JH+HR8, Athappagoundenpudur to SF No 469, Sathy Rd, Ganapathy spans approximately 16.39 kilometers, passing through Peelamedu, Thaneerpanthal. The journey typically

involves navigating through urban and semi-urban areas with significant commercial activity.

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

Coimbatore generally experiences a tropical wet and dry climate. Typical weather conditions include warmer temperatures, with potential monsoon rains from June to September. During the rainy season, road conditions may become hazardous due to water-logging and reduced visibility.

3. Analysis of Traffic Patterns:

- **Peak Hours:** 8:00 AM - 10:00 AM and 5:30 PM - 8:00 PM witness increased traffic due to commuting workers and students.
- **Congestion-prone Areas:** Peelamedu and Ramakrishnapuram are known for congestion, particularly around marketplaces and educational institutions.

4. Assessment of Road Quality and Infrastructure:

The road infrastructure ranges from highways to narrower urban roads. Roads in Peelamedu may experience increased wear and tear due to heavy traffic and localized congestion. Potholes and uneven surfaces can be expected in certain segments, especially during the monsoon season.

5. Suggestions for Alternative Routes for Emergencies:

In the event of road blockages or severe congestion, consider using Avinashi Road or Trichy Road as detour options. These routes provide access to major arterial roads and can bypass high-traffic zones.

6. Summary of Local Regulations Affecting Hazardous Material Transport:

Transporting hazardous materials within Coimbatore mandates adherence to specific time restrictions to minimize the risk during peak traffic hours. Permits are required, and it's advised to confine such transports to specified times, often late at night or early morning.

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

There have been isolated incidents involving overturned trucks in congested areas like Ganapathy. Historical data shows rare occurrences of accidents related to hazardous materials, which are typically attributed to driver error and road conditions.

8. Environmental Considerations and Sensitive Areas:

- **Sensitive Areas:** Proximity to educational institutions and hospitals, particularly in Peelamedu.
- **Environmental Concerns:** Spillage near water bodies or residential zones could lead to contamination risks.

9. Analysis of Communication Coverage:

The route generally benefits from good mobile network coverage with potential weak spots around dense urban structures. It is advisable to check network status around Peelamedu's commercial centers.

10. Estimated Emergency Response Times for Different Route Segments:

Emergency services in urban areas like Ganapathy typically respond faster (within 15-20 minutes) due to proximity to stations, compared to semi-urban sections near Athappagoundenpudur (20-30 minutes) where facilities are more dispersed.

11. An Overall Summary of Risk Assessment:

- Risk Level:** Moderate, due to urban traffic congestion, potential monsoon effects, and infrastructure conditions.
- Key Threats:** Road accidents due to congestion, weather-induced poor visibility, and infrastructure.
- Recommendations:** Schedule transport during off-peak hours, comply with hazardous material regulations, and maintain updated communication devices for real-time route monitoring.

This analysis highlights potential risks but also provides actionable insights to mitigate them, ensuring the safety of cargo and personnel. Regular updates and monitoring of the factors mentioned can further enhance safety and efficiency in transportation along this route.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	U-Turn	High	11.0269486, 77.0222809	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	Medium	11.05181, 77.07696	30 KM/Hr
4	Turn	High	11.05222, 77.07690	15 KM/Hr
5	Turn	Medium	11.05343, 77.07106	30 KM/Hr
6	Turn	Medium	11.05351, 77.07099	30 KM/Hr
7	Turn	Medium	11.05411, 77.07097	30 KM/Hr
8	Turn	High	11.05529, 77.06566	15 KM/Hr
9	Turn	High	11.02695, 77.02228	15 KM/Hr
10	Blind Spot	Blind Spot	11.02708, 77.02220	10 KM/Hr
11	Turn	High	11.02730, 77.02265	15 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
12	Blind Spot	Blind Spot	11.02749, 77.02257	10 KM/Hr
13	Turn	Medium	11.02698, 77.02121	30 KM/Hr
14	Turn	High	11.03822, 77.01471	15 KM/Hr
15	Blind Spot	Blind Spot	11.03849, 77.01419	10 KM/Hr
16	Blind Spot	Blind Spot	11.03460, 77.00456	10 KM/Hr
17	Blind Spot	Blind Spot	11.04046, 77.00373	10 KM/Hr
18	Turn	High	11.03892, 76.99666	15 KM/Hr
19	Turn	High	11.04686, 76.98809	15 KM/Hr
20	Blind Spot	Blind Spot	11.05132, 76.99150	10 KM/Hr
21	Turn	Medium	11.05138, 76.99143	30 KM/Hr
22	Turn	High	11.05189, 76.99137	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	Lotus Eye Care Hospital Ltd, Coimbatore	11.0406116, 77.0401856	30 km/h	Medium
9	hospital	Park Hospital, Coimbatore	11.0419411, 77.0379131	30 km/h	Medium
13	hospital	St Lukes Hospital, Coimbatore	11.0335424, 77.0376261	30 km/h	Medium
15	hospital	Coimbatore Medical College Hospital	11.0289285, 77.0237553	30 km/h	Medium
17	hospital	Rajah Hospital, Coimbatore	11.0270299, 77.0187333	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
18	hospital	Sumith Hospital	11.0261493, 77.0176752	30 km/h	Medium
19	police	Gandhimanagar Police Station	11.0412789, 77.0062037	30 km/h	Medium
20	fire_station	Ganapathy FireStation	11.0391993, 76.9975014	30 km/h	Medium
21	hospital	Shree Siva Hospital, Ganapathy,	11.0441103, 76.9856071	30 km/h	Medium
22	hospital	Shree Sivaa Hospital	11.0450728, 76.9856121	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	school	Park Global School	11.0424178, 77.038601	30 km/h	Medium
8	traffic_signals	SITRA Junction	11.0380037, 77.0374143	30 km/h	Medium
10	college	South India Textile Research Association - SITRA	11.0396478, 77.0355493	30 km/h	Medium
11	college	PSG College of Arts and Science	11.0328471, 77.034909	30 km/h	Medium
12	school	RAK's Pallikoodam	11.0381253, 77.0329064	30 km/h	Medium
14	college	Government Polytechnic	11.0300874, 77.0308517	30 km/h	Medium
16	traffic_signals	Hope College Signal	11.0263851, 77.0208783	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: U-Turn

Risk Level: High

Speed Limit: 10 KM/Hr

Coordinates: 11.0269486, 77.0222809



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: Medium
Speed Limit: 30 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: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05351, 77.07099



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 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: 11.02695, 77.02228



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.02708, 77.02220



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.02730, 77.02265



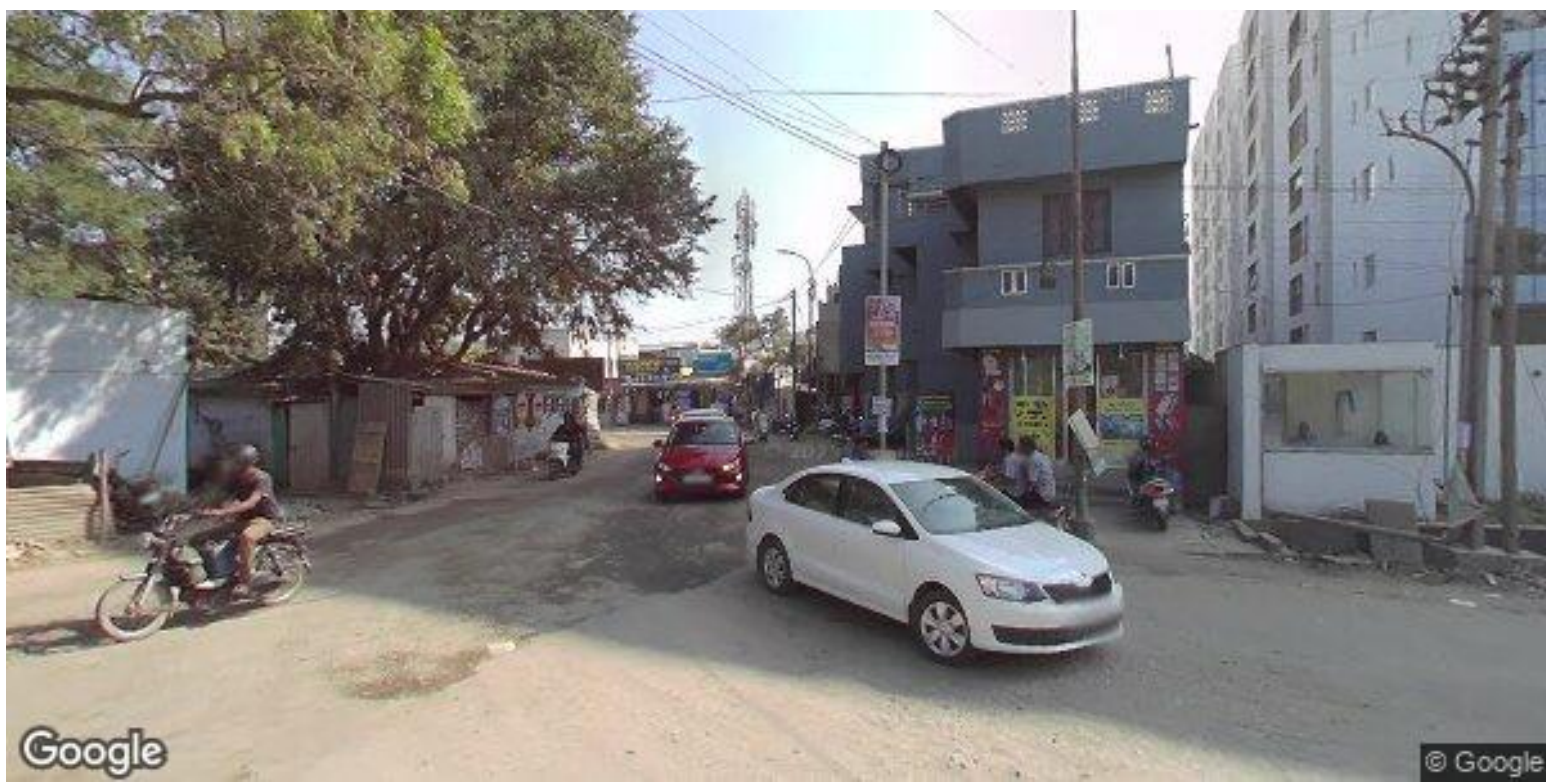
Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.02749, 77.02257



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.02698, 77.02121



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.03822, 77.01471



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.03849, 77.01419



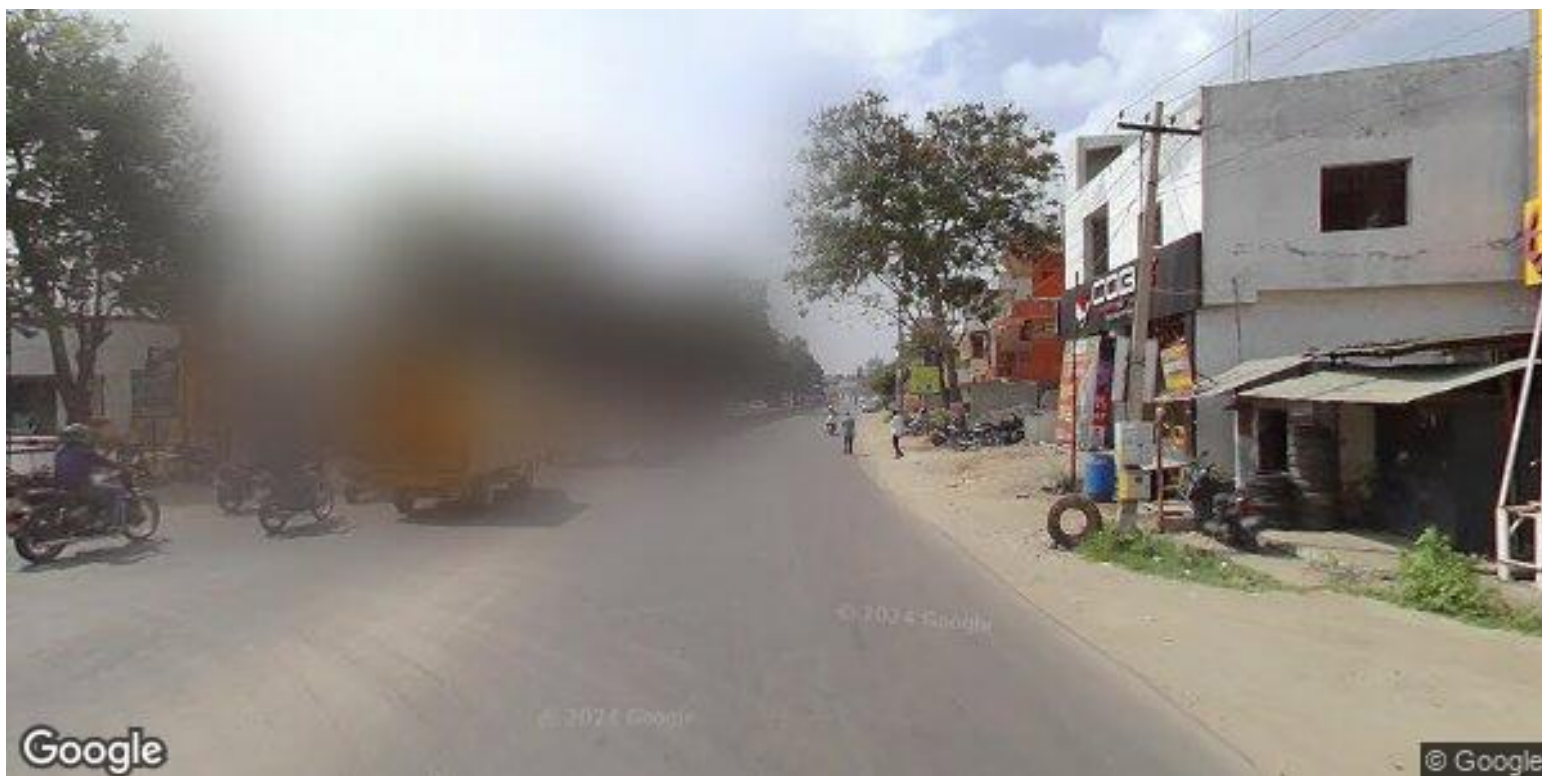
Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.03460, 77.00456



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.04046, 77.00373



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.03892, 76.99666



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.04686, 76.98809



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.05132, 76.99150



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.05138, 76.99143



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.05189, 76.99137
