



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Salem Terminal to SRI SAKTHI AGENCY

#### 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.

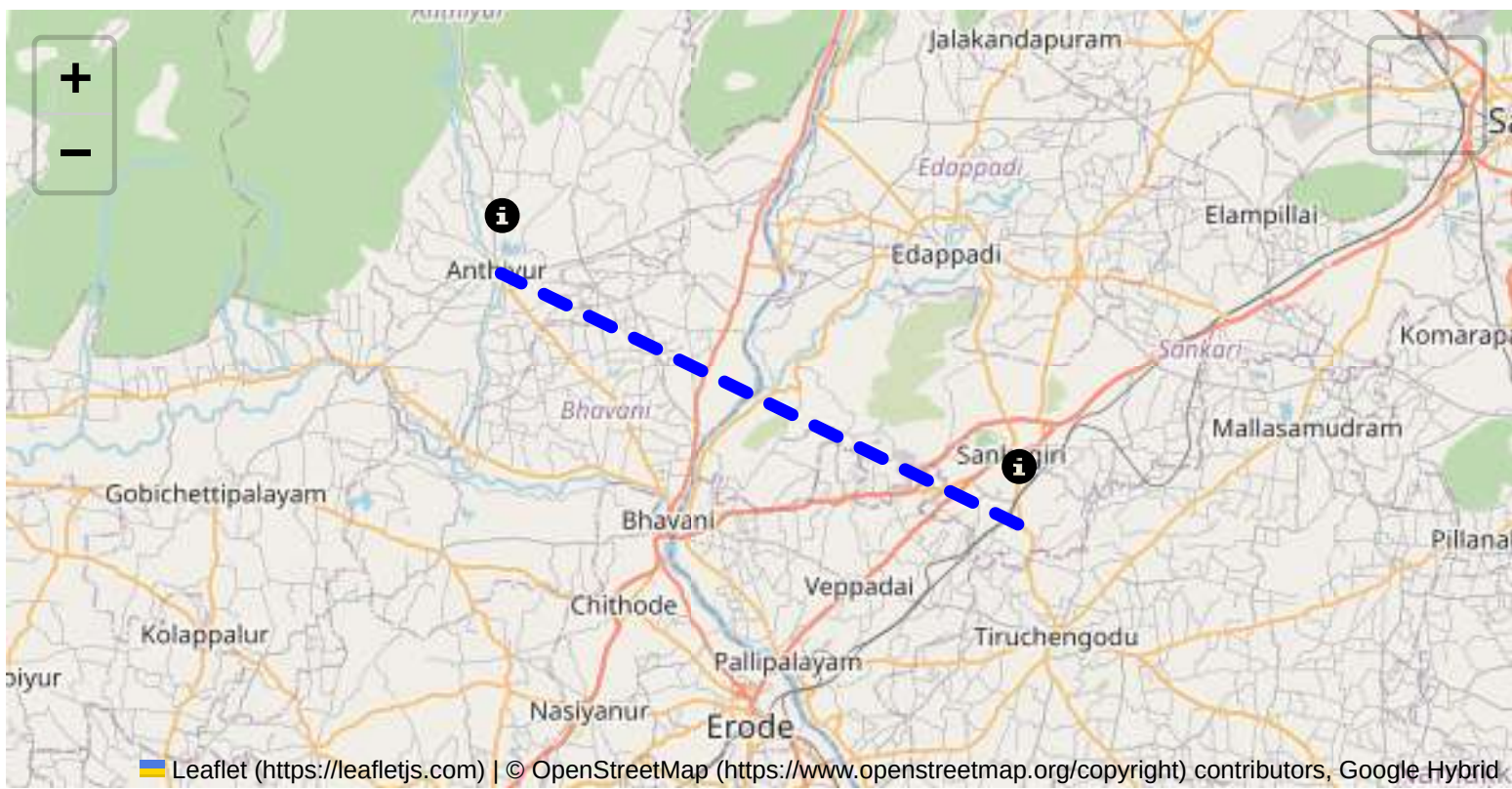
## **Journey Risk Mitigation**

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.

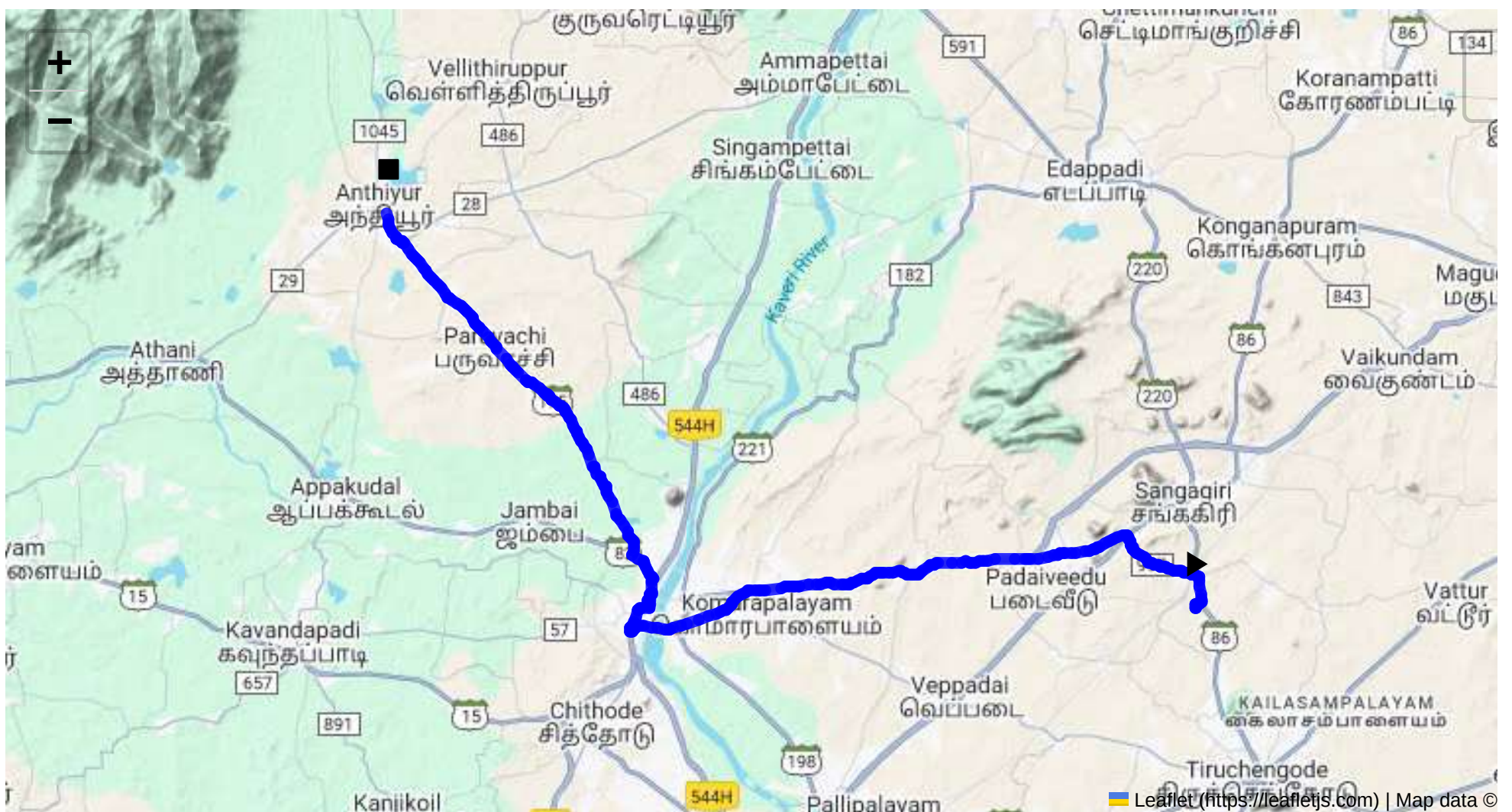
## **Compliance with Government Directives**

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: 45.00 km**  
**Estimated Duration: 1.0 hours**  
**Adjusted Duration (Heavy Vehicle): 1.3 hours**  
**Start: (11.4381, 77.8734)**  
**End: (11.573409, 77.590302)**



## Welcome to the Journey Risk Management Study

### 1. Overview of the Route Map

The route from Sangagiri to Anthiyur in Tamil Nadu covers approximately 45 kilometers, starting from CVQF+23W, Sangagiri, and ending at HHFR+C58 on the Bhavani-Anthiyur-Kollegal Road in Anthiyur. The route involves a combination of state highways and rural roads, primarily moving through agricultural and semi-urban areas.



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

The weather in this region is typically tropical, with high temperatures and humidity levels, especially during the summer months (March to June). The monsoon season (June to September) can bring heavy rainfall, which may lead to waterlogging or flooding in low-lying road sections. It's important to be cautious of slippery road conditions and reduced visibility during these periods.

## 3. Traffic Patterns and Congestion-Prone Areas

Traffic is generally moderate outside of peak hours. However, congestion can occur around major towns and intersections, particularly during morning (7-9 AM) and evening (5-7 PM) rush hours. Sangagiri and Eruthukaranpatti may experience traffic buildups due to local commerce and schools.

## 4. Assessment of Road Quality and Infrastructure

The road quality varies, with state highways being relatively well-maintained, offering a smooth driving surface and proper signage. Rural stretches, however, may have potholes, limited shoulder space, and narrower lanes, which can pose challenges for heavy vehicles. Frequent checks of vehicle suspension and tire pressure are advisable when using this route.

## 5. Alternative Routes for Emergencies

In case of emergencies, an alternative route would be to travel through Bhavani via NH544 and SH15, though this may increase travel distance and time slightly. This route is recommended for its better infrastructure and more straightforward navigation for emergency vehicles.

## 6. Summary of Local Regulations Affecting Hazardous Material Transport

Tamil Nadu has specific regulations for transporting hazardous materials, requiring permits and adherence to safety protocols, including appropriate signage and documentation. Transportation is restricted during certain hours in urban areas to minimize interaction with heavy traffic.

## 7. Overview of Historical Incidents

While there's no specific record of frequent incidents on this route, it is essential to note that heavy vehicle accidents typically occur due to road conditions, driver fatigue, and weather-related factors. Regular training and awareness programs are recommended to mitigate such risks.

## 8. Environmental Considerations and Sensitive Areas

The route passes through agricultural zones where spillage of hazardous materials can adversely affect crops and water sources. Drivers must ensure the integrity of cargo containers and respond promptly to any signs of leakage.

## 9. Communication Coverage

Mobile network coverage is generally reliable along this route, but rural segments may experience occasional dead zones. Drivers should be equipped with emergency communication devices such as satellite phones for these areas.

## 10. Estimated Emergency Response Times

Emergency response times can vary, with towns like Sangagiri benefiting from relatively quicker response times (15-20 minutes). In more rural sections, response times could extend up to 40 minutes due to distance and road access conditions.

## 12. Overall Summary of Risk Assessment

Overall, the route presents moderate risks for transporting hazardous materials, with potential challenges including rural road conditions, weather-related disruptions, and limited emergency services in remote areas. Drivers should implement rigorous safety checks and be prepared for alternate route scenarios. Continuous monitoring of weather forecasts and traffic reports is advisable to anticipate and manage risks effectively.

### Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Roundabout	High	11.56355, 77.59597	15 KM/Hr
1	Turn	High	11.43811, 77.87348	15 KM/Hr
2	Turn	Medium	11.43956, 77.87340	30 KM/Hr
3	Turn	High	11.43968, 77.87345	15 KM/Hr
4	Turn	High	11.44029, 77.87544	15 KM/Hr
5	Turn	Medium	11.44898, 77.87410	30 KM/Hr
6	Turn	Medium	11.45357, 77.85789	30 KM/Hr
7	Turn	Medium	11.45352, 77.85698	30 KM/Hr
8	Turn	Medium	11.46303, 77.84945	30 KM/Hr
9	Turn	Medium	11.46318, 77.84913	30 KM/Hr
10	Turn	High	11.43001, 77.67575	15 KM/Hr
11	Turn	Medium	11.43003, 77.67551	30 KM/Hr
12	Turn	High	11.43026, 77.67525	15 KM/Hr
13	Turn	Medium	11.43769, 77.67810	30 KM/Hr
14	Turn	High	11.43863, 77.68223	15 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
15	Turn	Medium	11.43871, 77.68228	30 KM/Hr
16	Turn	Medium	11.43965, 77.68224	30 KM/Hr
17	Turn	Medium	11.43997, 77.68198	30 KM/Hr
18	Turn	High	11.44105, 77.68187	15 KM/Hr
19	Turn	High	11.44119, 77.68217	15 KM/Hr
20	Turn	Medium	11.44295, 77.68261	30 KM/Hr
21	Turn	High	11.44300, 77.68275	15 KM/Hr
22	Turn	High	11.44853, 77.68331	15 KM/Hr
23	Turn	High	11.45649, 77.67621	15 KM/Hr

## Emergency Locations

	type	name	coordinates	speed_limit	risk_level
3	hospital	Government Hospital	11.4525596, 77.7749426	30 km/h	Medium
4	hospital	Dhanvantri Multi Speciality Hospital	11.451362, 77.766602	30 km/h	Medium
5	hospital	Dhanvanthri Hospital	11.4496712, 77.7593772	30 km/h	Medium
6	hospital	J.K.K. Trust Hospital	11.4445841, 77.7307962	30 km/h	Medium
8	hospital	Shri Sathyanarayana Hospital	11.4291297, 77.6913408	30 km/h	Medium
9	hospital	Thanish Siddha Hospital	11.430003, 77.674964	30 km/h	Medium
10	clinic	Harshitha Clinic	11.4313207, 77.674718	30 km/h	Medium
11	hospital	Sri Kaalangi Siddhar Mooligai Vaithiya Nilayam	11.432369, 77.674894	30 km/h	Medium
12	clinic	G.K Clinic	11.4297244, 77.6749715	30 km/h	Medium
13	hospital	Maha Hospital	11.4372003, 77.6781345	30 km/h	Medium
14	hospital	Jothikumar Hospital	11.43687, 77.678407	30 km/h	Medium
15	hospital	Sutha Hospital	11.4365526, 77.6796472	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
16	clinic	Velavan Homoeo Clinic	11.4367087, 77.6761472	30 km/h	Medium
17	hospital	SKMH Hospital	11.4379787, 77.6780268	30 km/h	Medium
18	clinic	Sri Dharshan Diabetes Care	11.437649, 77.6778126	30 km/h	Medium
19	hospital	Kavin Hospital	11.4399114, 77.6838194	30 km/h	Medium
20	clinic	Thangam Acupuncture	11.4418816, 77.6832318	30 km/h	Medium
21	hospital	Sumangali Hospital	11.4427668, 77.6827131	30 km/h	Medium
22	hospital	Annusiya Hospital	11.4432777, 77.6813562	30 km/h	Medium
23	hospital	Kandasamy Hospital	11.4450062, 77.6832304	30 km/h	Medium
24	hospital	Ashok Krishna Hospital	11.4483344, 77.6856579	30 km/h	Medium
25	hospital	Senthil Hospital	11.4475854, 77.6844482	30 km/h	Medium
26	hospital	S.N.A. Siddha Hospital	11.44704, 77.682877	30 km/h	Medium
27	hospital	Shri Mani Hospital	11.44771, 77.6838471	30 km/h	Medium
28	clinic	Sri Hari Clinic	11.4483503, 77.6850963	30 km/h	Medium
29	hospital	Immiaditya Hospital	11.4501276, 77.6836088	30 km/h	Medium
30	hospital	Sri Saravana Hospital	11.4506202, 77.6829676	30 km/h	Medium
31	hospital	Government Hospital	11.45112, 77.682149	30 km/h	Medium
32	hospital	Vijay Hospital	11.45091, 77.682019	30 km/h	Medium
33	hospital	Anbe Sivam Hospital	11.4508139, 77.6854947	30 km/h	Medium
34	clinic	Kalyani Nursing Home	11.452097, 77.6808974	30 km/h	Medium
35	hospital	Government Hospital	11.4519113, 77.6819742	30 km/h	Medium
36	hospital	Sindhu Hospital	11.57417, 77.590371	30 km/h	Medium



## Crowded Spots

	type	name	coordinates	speed_limit	risk_level
0	school	KRP Matric. Hr. Sec School	11.4546193, 77.8142445	30 km/h	Medium
1	college	Vivekanandha Engineering College	11.4589312, 77.7899284	30 km/h	Medium
2	marketplace	Monday market	11.452863, 77.775989	30 km/h	Medium
7	school	SSM Matriculation Higher Secondary School	11.4321653, 77.6880046	30 km/h	Medium

## Route Photos of Risky Spots



**Risk Type:** Roundabout

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.56355, 77.59597





**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.44029, 77.87544



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.44898, 77.87410





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 11.45357, 77.85789



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 11.45352, 77.85698



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 11.46303, 77.84945





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.46318, 77.84913



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.43001, 77.67575





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.43003, 77.67551



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.43026, 77.67525



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.43769, 77.67810





**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.43863, 77.68223



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.43871, 77.68228





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 11.43965, 77.68224



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 11.43997, 77.68198



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.44105, 77.68187





Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.44119, 77.68217



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.44295, 77.68261





**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.44300, 77.68275



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.44853, 77.68331



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.45649, 77.67621

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