



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### IOCL Coimbatore Terminal to TNSTC CTC Palani

#### 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**

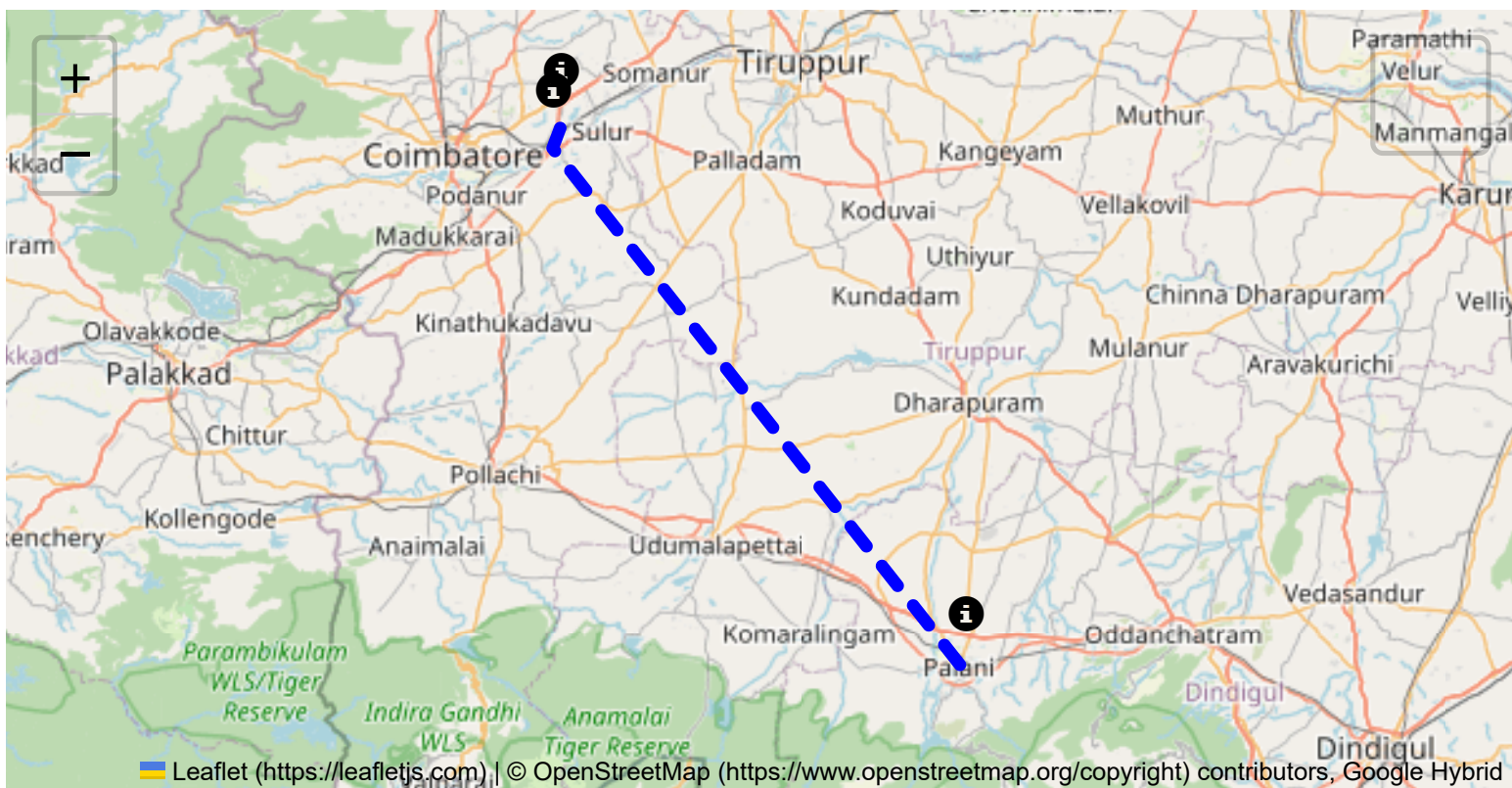
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

## **Journey Risk Mitigation**

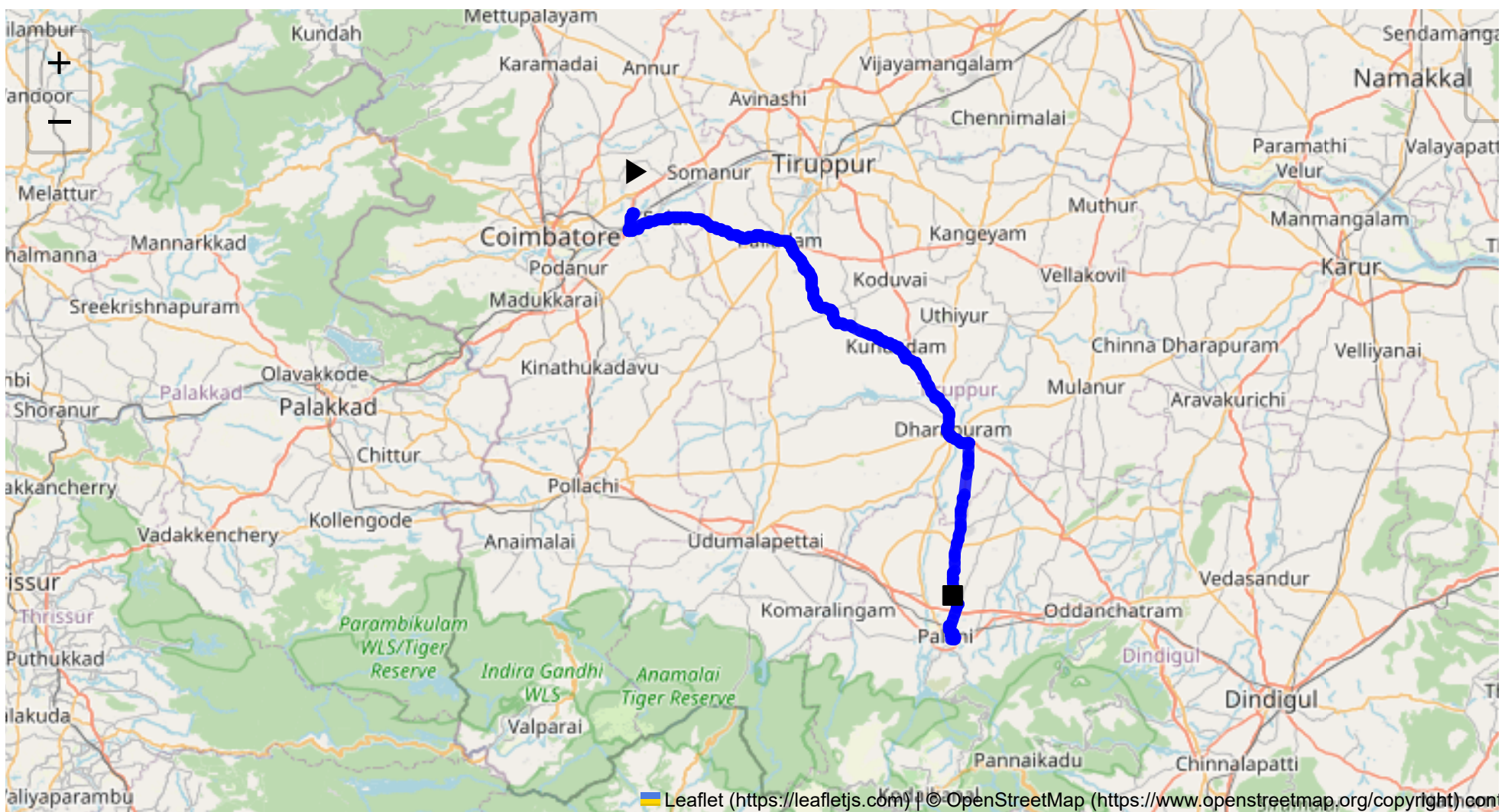
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 106.78 km**  
**Estimated Duration: 2.1 hours**  
**Adjusted Duration (Heavy Vehicle): 2.6 hours**  
**Start: (11.0315, 77.0797)**  
**End: (10.448145, 77.522655)**



## Welcome to the Journey Risk Management Study

### Route Safety Analysis Report

#### 1. Overview of the Route Map:

The route from Athappagoundenpudur, Coimbatore to Laxmipuram, Palani via Trichy Road,



Chinthamanipudur spans approximately 106.78 kilometers. The journey is mainly along well-traveled highways and regional roads, including NH83 and NH209. The route navigates through urban, suburban, and rural settings, which offer varied driving conditions.

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

Tamil Nadu generally experiences a tropical climate. The key weather concerns along the route include:

- **Monsoon Season (June to September):** Expect heavy rains, leading to possible flooding and reduced road visibility.
- **Summer (March to June):** High temperatures can impact driver fatigue and vehicle condition. During monsoon, roads can become slippery, increasing the risk of hydroplaning, and landslides may occur in certain areas.

## 3. Analysis of Traffic Patterns:

- **Coimbatore (starting point & nearby city areas like Trichy Road):** Heavy congestion during morning (7-10 AM) and evening (5-8 PM) rush hours.
- **NH83 & NH209:** Moderate traffic, with slight increase during weekends and holidays as people travel between Coimbatore and Dindigul/Palani.

## 4. Assessment of Road Quality and Infrastructure:

- **Urban Sections (Coimbatore):** Well-paved roads but crowded, with a higher risk of accidents at intersections.
- **Highways (NH83 & NH209):** Generally well-maintained but watch for potholes during and after rainy seasons.

## 5. Suggestions for Alternative Routes for Emergencies:

- **Route via Dharapuram:** If NH83 is blocked, consider diverting through Dharapuram (use State Highway 83) to reach Palani. This route, however, may increase travel time.

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

- Transport of hazardous materials is restricted in dense urban areas during peak hours.
- Special permits may be required for certain classes of hazardous materials.

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

While specific historical data is limited, there have been incidents of heavy vehicle accidents on highways, particularly during monsoon season, due to poor visibility and road conditions.

## 8. Environmental Considerations and Sensitive Areas:

- **Wildlife Crossings:** Certain sections near Palani might be close to wildlife zones; awareness and caution are advised not to harm local fauna.
- **Protected Areas:** Drivers should adhere to speed limits and noise regulations to avoid disturbing ecological zones.

## 9. Analysis of Communication Coverage:

The route generally has good mobile network coverage, but potential dead zones may exist in rural parts

between major towns. It's advised to keep communication devices charged and use GPS devices with offline capabilities.

10. Estimated Emergency Response Times for Different Route Segments:

- **Coimbatore Urban Areas:** Typically rapid, 15-30 minutes.
- **Highway Stretch (NH83 & NH209):** Variability exists; responses might take 30-45 minutes due to distance from emergency bases.
- **Rural or Remote Areas Near Palani:** Emergency response could take 45-60 minutes due to travel time considerations.

12. Overall Summary of Risk Assessment:

This route is generally manageable for heavy vehicles, but drivers should remain vigilant regarding typical urban congestion in Coimbatore, challenging weather during monsoon, and potential road conditions on highways. Adherence to local regulations, up-to-date communication means, and emergency plans are crucial for safely transporting hazardous materials. Attention to environmental and communication details can contribute to a smoother journey.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Blind Spot	Blind Spot	11.03211, 77.07640	10 KM/Hr
1	Blind Spot	Blind Spot	11.00778, 77.07085	10 KM/Hr
2	Turn	Medium	11.02774, 77.12761	30 KM/Hr
3	Turn	Medium	10.99570, 77.28153	30 KM/Hr
4	Turn	Medium	10.99535, 77.28179	30 KM/Hr
5	Turn	High	10.99416, 77.28200	15 KM/Hr
6	Turn	Medium	10.99304, 77.29585	30 KM/Hr
7	Turn	Medium	10.92330, 77.33071	30 KM/Hr
8	Turn	Medium	10.91341, 77.33227	30 KM/Hr
9	Turn	Medium	10.91232, 77.33390	30 KM/Hr
10	Turn	Medium	10.90536, 77.33657	30 KM/Hr
11	Turn	Medium	10.88226, 77.36219	30 KM/Hr
12	Turn	Medium	10.88198, 77.36259	30 KM/Hr
13	Turn	Medium	10.83247, 77.46080	30 KM/Hr
14	Turn	Medium	10.82855, 77.47237	30 KM/Hr
15	Turn	Medium	10.73654, 77.51731	30 KM/Hr
16	Turn	Medium	10.71676, 77.53770	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
17	Blind Spot	Blind Spot	10.71814, 77.54657	10 KM/Hr
18	Turn	Medium	10.49666, 77.53204	30 KM/Hr
19	Turn	High	10.46253, 77.51898	15 KM/Hr
20	Turn	High	10.45536, 77.52484	15 KM/Hr
21	Blind Spot	Blind Spot	10.45337, 77.52314	10 KM/Hr
22	Turn	Medium	10.45267, 77.52375	30 KM/Hr
23	Turn	High	10.45064, 77.52392	15 KM/Hr
24	Blind Spot	Blind Spot	10.45010, 77.52732	10 KM/Hr
25	Turn	High	10.44811, 77.52649	15 KM/Hr

## Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	Saraswathi Hospital	11.0069868, 77.071368	30 km/h	Medium
1	clinic	Dr. V. Ramakrishnan Clinic	11.0086635, 77.081108	30 km/h	Medium
2	police	Sulur Police Station	11.0248612, 77.1204842	30 km/h	Medium
3	hospital	Government Hospital, Sulur	11.0247544, 77.1228621	30 km/h	Medium
4	hospital	Balaji Hospital, Sulur	11.0277947, 77.1298133	30 km/h	Medium
7	hospital	Ponni Hospital - Palladam	10.9965327, 77.2758865	30 km/h	Medium
8	police	Palladam Police Station	10.9966966, 77.279193	30 km/h	Medium
9	clinic	Rajeshwari Nursing Home	10.9953069, 77.2841138	30 km/h	Medium
10	hospital	Palladam Government Hospital	10.9962561, 77.2803585	30 km/h	Medium
11	hospital	Sanjeevi Hospital, Palladam	10.9963103, 77.2800924	30 km/h	Medium
12	hospital	Balaji Hospital	10.9936939, 77.2849449	30 km/h	Medium
13	hospital	Ponni Hospital, Coimbatore	10.9955604, 77.2887151	30 km/h	Medium
16	hospital	Sri Balaji Surya Hospital	10.735518, 77.5185388	30 km/h	Medium
18	hospital	Ramana Hospital, Dharapuram	10.7351092, 77.517107	30 km/h	Medium
20	hospital	Janani Hospital, Dharapuram	10.7294033, 77.5210119	30 km/h	Medium
21	clinic	Punitha Nursing Home	10.72901, 77.520148	30 km/h	Medium
22	hospital	Ponnaiah Hospital, Dharapuram	10.72916, 77.520131	30 km/h	Medium
23	police	T.S.P. Camp	10.4642883, 77.5175337	30 km/h	Medium
25	hospital	K V Hospital (Iswarya Fertility Center)	10.4488063, 77.52472	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
26	hospital	Sai Krishna Women's Hospital	10.4497, 77.521652	30 km/h	Medium
27	hospital	ENT clinic	10.4480545, 77.5242001	30 km/h	Medium
30	hospital	satish babu hospital	10.4475295, 77.524816	30 km/h	Medium
31	hospital	ortho hospital	10.4481759, 77.5285028	30 km/h	Medium

### Crowded Spots

	type	name	coordinates	speed_limit	risk_level
5	school	Kendriya Vidhyalaya School	11.0254394, 77.1609298	30 km/h	Medium
6	school	Infant Jesus Matriculation Higher Secondary School	10.9986758, 77.2493732	30 km/h	Medium
14	college	Maharani College	10.7625655, 77.5157126	30 km/h	Medium
15	school	Sindhu Matriculation Higher Secondary School	10.7471261, 77.5182993	30 km/h	Medium
17	school	Vishnu Lakshmi Matriculation Higher Secondary School	10.7340392, 77.5164506	30 km/h	Medium
19	school	Thenmalar Higher Secondary School	10.7333748, 77.5166481	30 km/h	Medium
24	school	Government Girls Higher Secondary School	10.4584704, 77.5184552	30 km/h	Medium
28	college	Arulmigu Palaniandavar Polytechnic College	10.4461092, 77.5266362	30 km/h	Medium
29	college	Arulmigu Palaniyandavar Arts & Science College	10.4461317, 77.5287922	30 km/h	Medium
32	school	Akshaya Public School	10.446954, 77.5216673	30 km/h	Medium
33	school	Municipal Higher Secondary School	10.449848, 77.5194144	30 km/h	Medium

### Route Photos of Risky Spots





**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 11.03211, 77.07640



**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 11.00778, 77.07085





**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Coordinates: 11.02774, 77.12761**



**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Coordinates: 10.99570, 77.28153**



**Risk Type: Turn**

**Risk Level: Medium**

**Speed Limit: 30 KM/Hr**

**Coordinates: 10.99535, 77.28179**



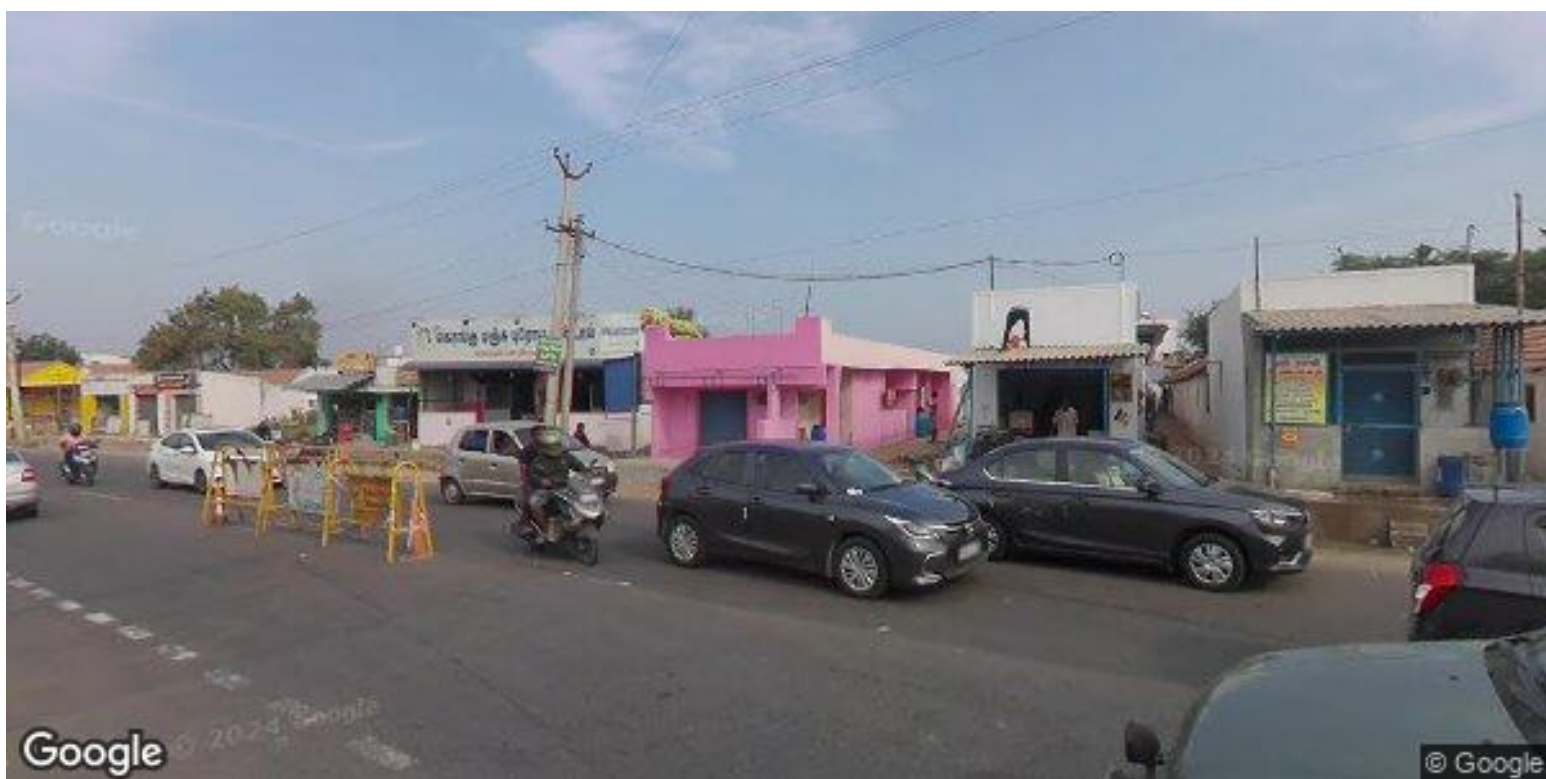


**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.99416, 77.28200



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.99304, 77.29585





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.88226, 77.36219

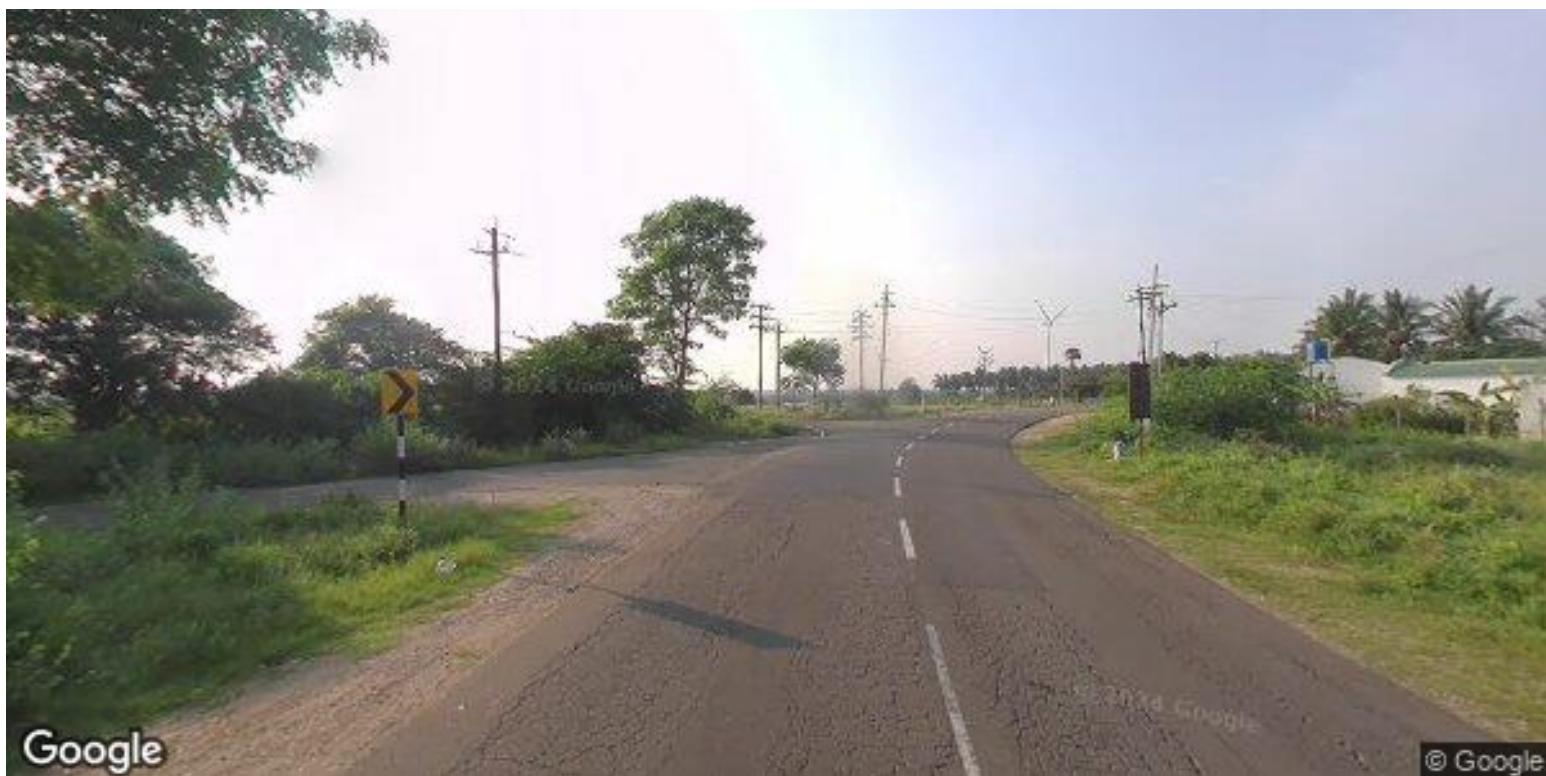


**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.88198, 77.36259



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.83247, 77.46080





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.82855, 77.47237



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.73654, 77.51731





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.71676, 77.53770



**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 10.71814, 77.54657



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.49666, 77.53204



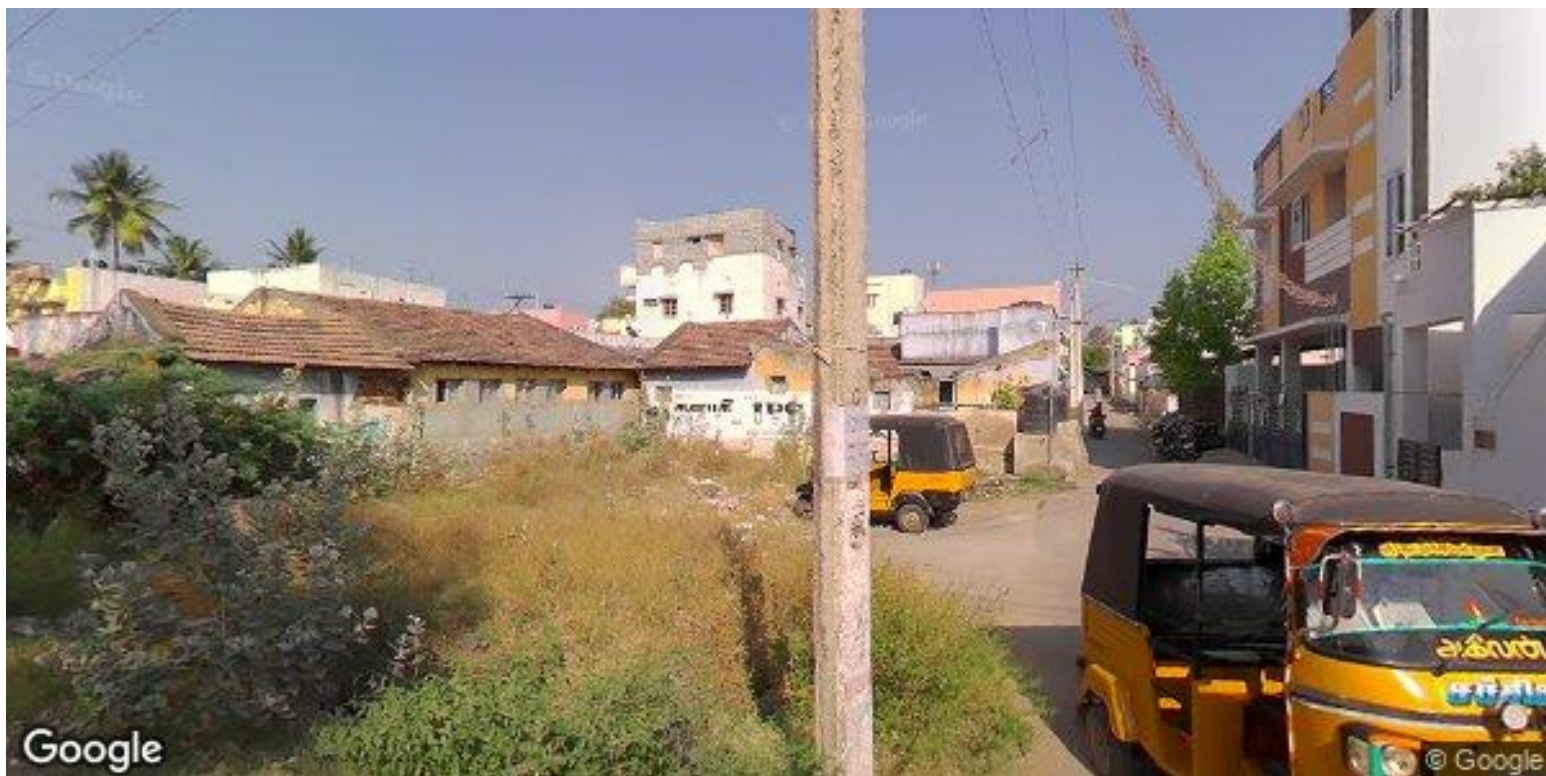


**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.46253, 77.51898



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.45536, 77.52484

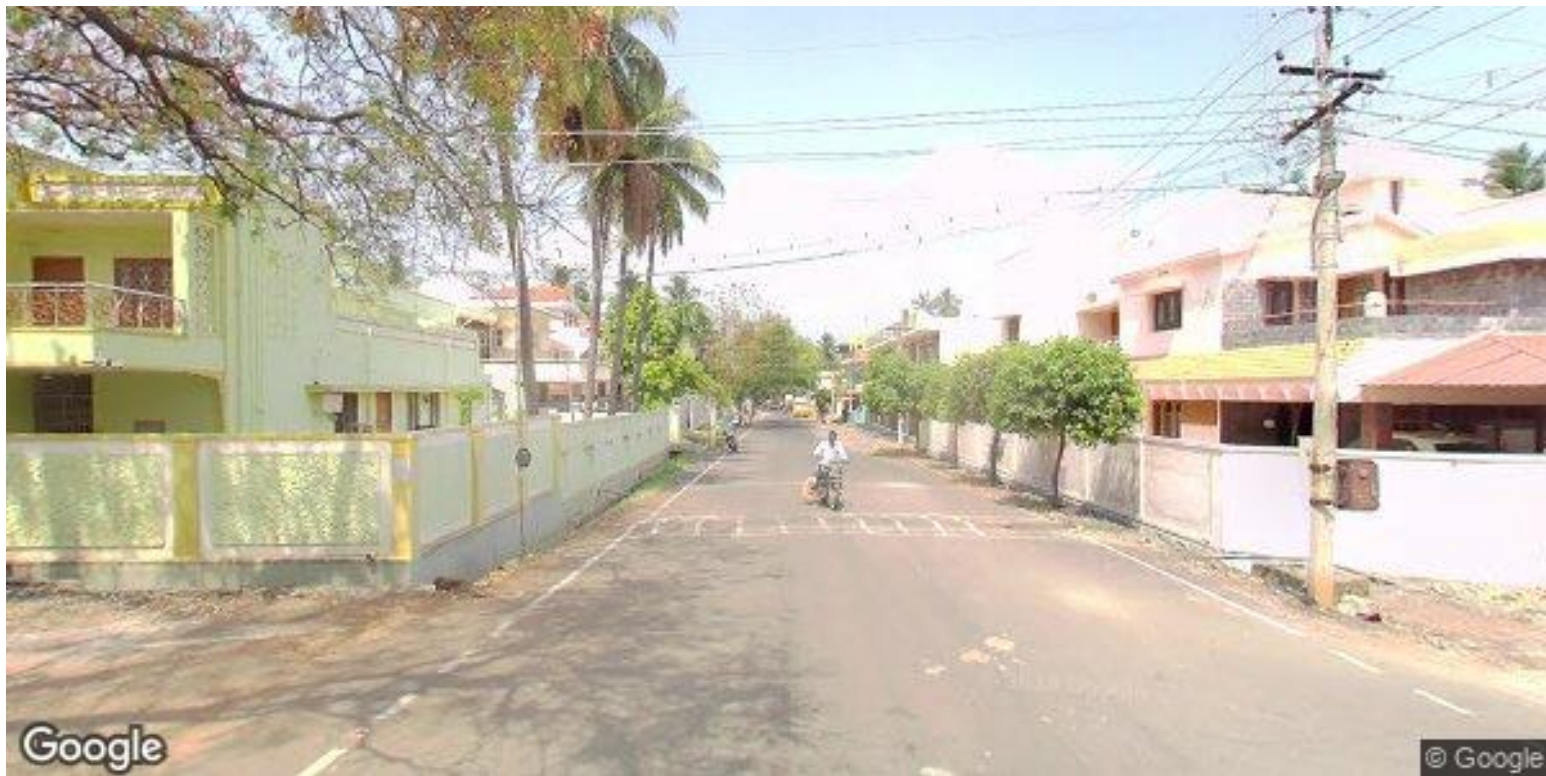




**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 10.45337, 77.52314



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.45267, 77.52375



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.45064, 77.52392





**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Coordinates:** 10.45010, 77.52732



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.44811, 77.52649

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