



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### IOCL Coimbatore Terminal to Shri Lakshmi Thirumal Fuel Station

#### 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.

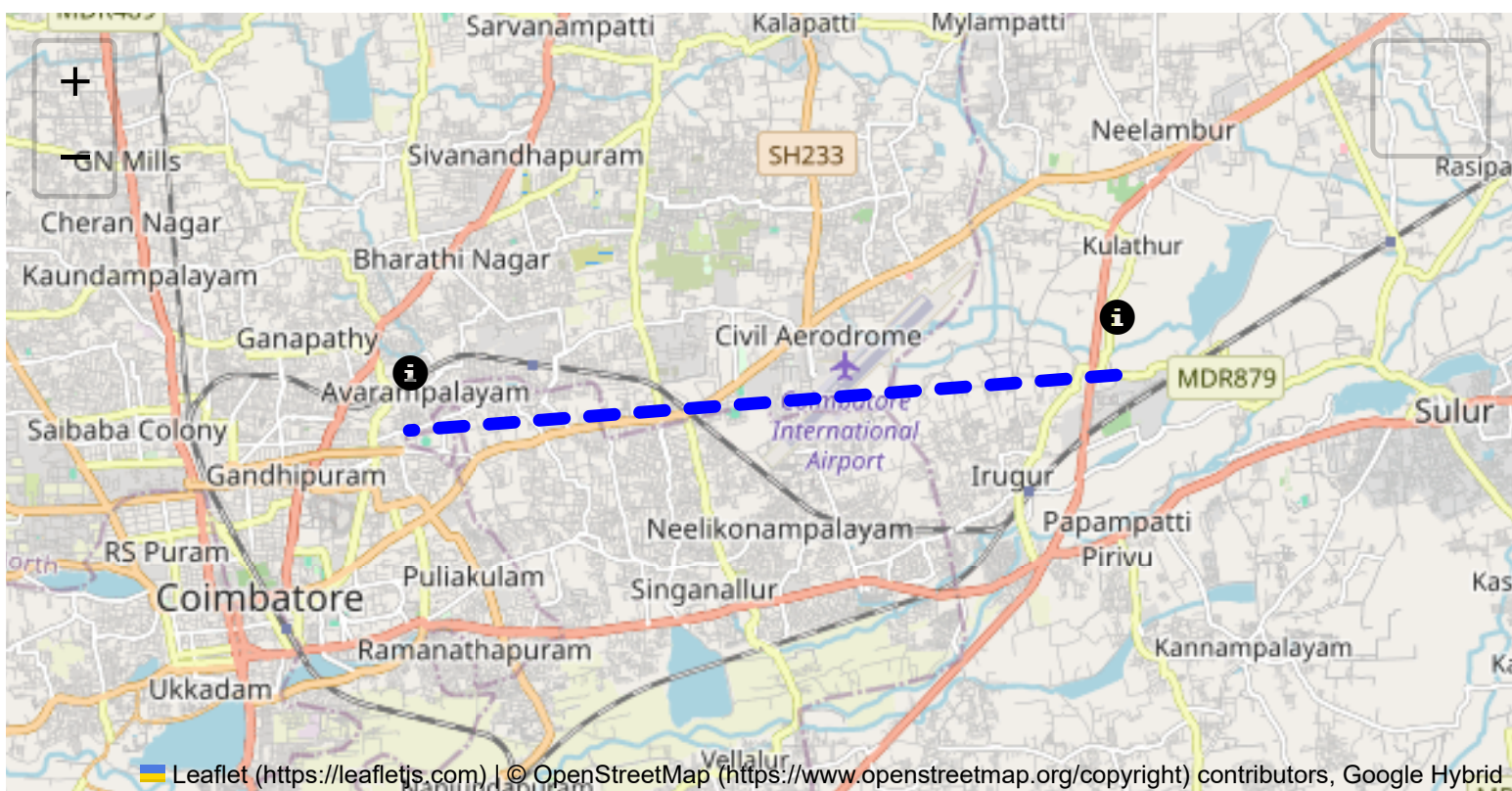
## **Journey Risk Mitigation**

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.

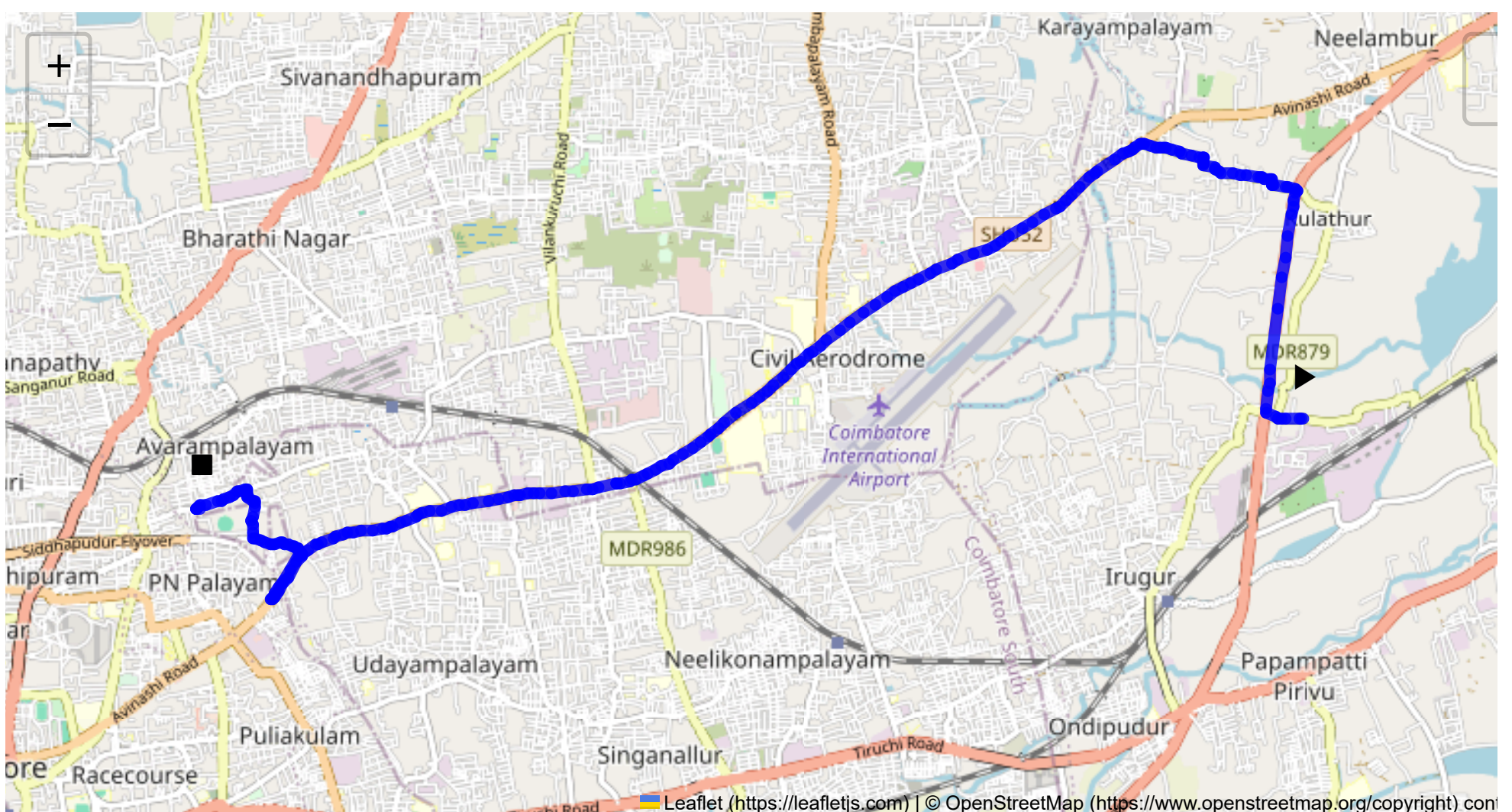
## **Compliance with Government Directives**

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: 15.92 km**  
**Estimated Duration: 0.6 hours**  
**Adjusted Duration (Heavy Vehicle): 0.7 hours**  
**Start: (11.0315, 77.0797)**  
**End: (11.023948977074276, 76.98319637854866)**



## Welcome to the Journey Risk Management Study

### Route Safety Analysis Report

**1. Overview of the Route Map:** The route from Athappagoundenpudur to Papanicker Palyam in Coimbatore spans approximately 15.92 kilometers. The journey typically involves traveling through a mix of rural and urban areas, with primary roads including state highways and city roads.



**2. Typical Weather Conditions and Potential Weather-Related Hazards:** Coimbatore experiences a tropical wet and dry climate. Key weather challenges include:

- **Monsoon Months (June to September):** High rainfall can lead to water-logging and flooding, especially in areas with inadequate drainage.
- **Summer Months (March to May):** Intense heat could affect vehicle performance and driver comfort.
- **Foggy Conditions in Winter (December to February):** May reduce visibility in certain parts, particularly in rural areas.

**3. Analysis of Traffic Patterns:**

- **Peak Hours:** The morning (8:30-10:00 AM) and evening (5:30-7:30 PM) see heavy traffic due to office and school commutes.
- **Congestion-Prone Areas:** Junctions and intersections near city centers; arterial roads connecting to major highways can experience bottlenecks.

**4. Assessment of Road Quality and Infrastructure:**

- Roads are generally well-maintained within urban areas, but rural stretches may have potholes and narrow lanes.
- Watch for roadworks or construction activities, especially in rapidly developing regions.

**5. Suggestions for Alternative Routes for Emergencies:**

- Alternative routes include smaller local roads or bypasses, though these might increase travel time.
- In emergencies, consider taking NH544 (Coimbatore bypass) or Avinashi Road to avoid central congestion.

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

- Strict licensing and time restrictions apply to vehicles carrying hazardous materials.
- Vehicle documentation should comply with local hazardous material transport guidelines.
- It is essential to follow designated truck routes and obey weight and height limits.

**7. Overview of Historical Incidents:**

- Past incidents have included vehicular accidents due to poor visibility and road conditions during monsoons.
- Heavy vehicles have faced challenges on narrow or crowded roads leading to minor collisions.
- Hazardous material spills have been rare but underscore the importance of compliance with safety protocols.

**8. Environmental Considerations and Sensitive Areas:**

- Routes through agricultural lands and near water bodies require careful navigation to prevent contamination.
- Nearby wildlife reserves and protected zones necessitate reduced speed limits and noise pollution control.

9. Analysis of Communication Coverage:

- Generally, strong network coverage in urban areas.
- Some rural stretches might experience weak signal, particularly near hilly regions or dense forests.

10. Estimated Emergency Response Times:

- Urban segments have faster emergency response times (approximately 15-30 minutes).
- Rural areas might have slower responses (30-50 minutes) due to accessibility and distance from emergency services.

11. Environmental Considerations:

- Transporting hazardous materials should strictly avoid sensitive zones like water reservoirs and wildlife sanctuaries.

12. An Overall Summary of Risk Assessment:

- This route presents moderate risks, primarily from weather conditions, variable traffic congestion, and some limited infrastructure issues in rural areas.
- Emergency response times and communication coverage are generally adequate but require vigilance, especially in remote areas.
- Compliance with local regulations and awareness of environmental sensitivities are crucial for safe and efficient transit of hazardous materials.

Recommendations:

- Update all necessary permits and adhere to scheduled transportation hours.
- Check weather forecasts ahead of travel and plan routes accordingly.
- Stay informed of local road conditions and any planned construction activities.
- Maintain communication devices to ensure connectivity across all route segments.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	U-Turn	High	11.0161282, 76.9896128	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

	Risk Type	Risk Level	Coordinates	Speed Limit
7	Turn	Medium	11.05411, 77.07097	30 KM/Hr
8	Turn	High	11.05529, 77.06566	15 KM/Hr
9	Turn	High	11.01613, 76.98961	15 KM/Hr
10	Blind Spot	Blind Spot	11.01618, 76.98951	10 KM/Hr
11	Turn	High	11.02014, 76.99212	15 KM/Hr
12	Turn	Medium	11.02051, 76.99177	30 KM/Hr
13	Turn	High	11.02135, 76.98788	15 KM/Hr
14	Turn	High	11.02453, 76.98806	15 KM/Hr
15	Blind Spot	Blind Spot	11.02562, 76.98730	10 KM/Hr
16	Blind Spot	Blind Spot	11.02401, 76.98291	10 KM/Hr
17	Turn	Medium	11.02386, 76.98298	30 KM/Hr
18	Turn	Medium	11.02385, 76.98300	30 KM/Hr

## Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	KGM, Chinnampalayam	11.0570076, 77.067239	30 km/h	Medium
1	hospital	Chinnampalayam 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	Peelamedu E2 Police Station	11.0253639, 77.0101634	30 km/h	Medium
25	hospital	Hindusthan Hospital, Coimbatore	11.019682, 76.9947731	30 km/h	Medium
26	hospital	Sri Ramakrishna Dental Hospital	11.0212988, 76.9883526	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
20	school	Sardar Vallabhbhai Patel International School of Textiles & Management	11.0253598, 77.0082319	30 km/h	Medium
21	college	PSG College of Technology	11.024807, 77.0029194	30 km/h	Medium
22	school	PSG Sarva Jana Higher Secondary School	11.0227214, 77.0040432	30 km/h	Medium

	type	name	coordinates	speed_limit	risk_level
23	college	PSG Institute of Management	11.0228112, 77.0030943	30 km/h	Medium
24	college	PSG Grounds	11.0203887, 77.0047109	30 km/h	Medium
27	college	Sri Ramakrishna Dental College	11.0213038, 76.9883559	30 km/h	Medium
28	college	SNR College of Arts and Science	11.0219743, 76.9877109	30 km/h	Medium
29	college	Sri Ramakrishna College of Arts & Science	11.022171, 76.98703	30 km/h	Medium
30	school	Sri Ramakrishna Matric Higher Secondary School	11.023175, 76.9847233	30 km/h	Medium

## Route Photos of Risky Spots



**Risk Type:** U-Turn

**Risk Level:** High

**Speed Limit:** 10 KM/Hr

**Coordinates:** 11.0161282, 76.9896128





**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:** 11.01613, 76.98961



**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 11.01618, 76.98951





**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 11.02014, 76.99212

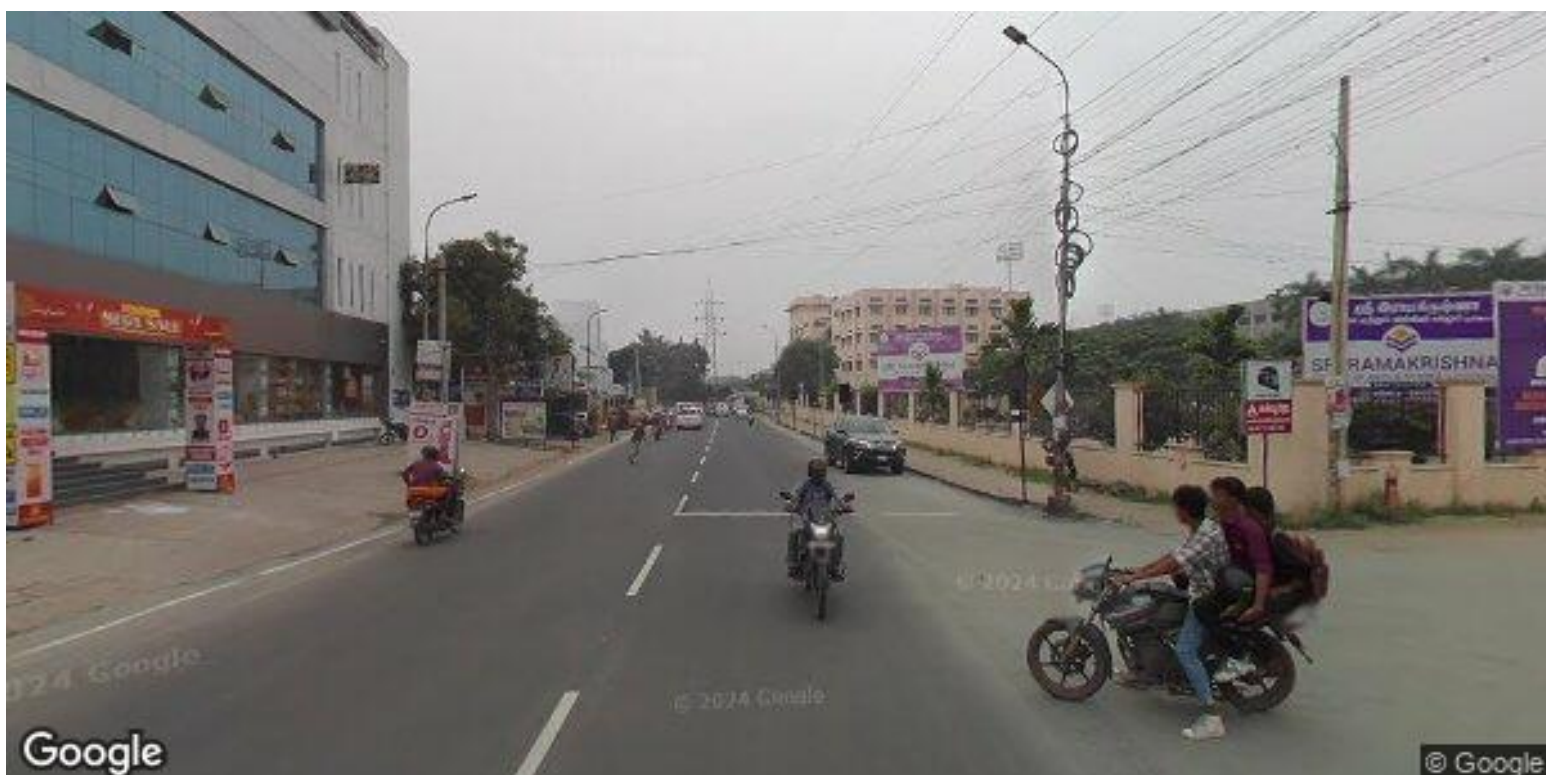


**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.02051, 76.99177





**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.02135, 76.98788



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 11.02453, 76.98806



**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 11.02562, 76.98730





**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Coordinates:** 11.02401, 76.98291



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.02386, 76.98298



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 11.02385, 76.98300

---