



IndianOil

JOURNEY RISK MANAGEMENT (JRM) STUDY

IOCL Coimbatore Terminal to Selvanayagi and Co

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

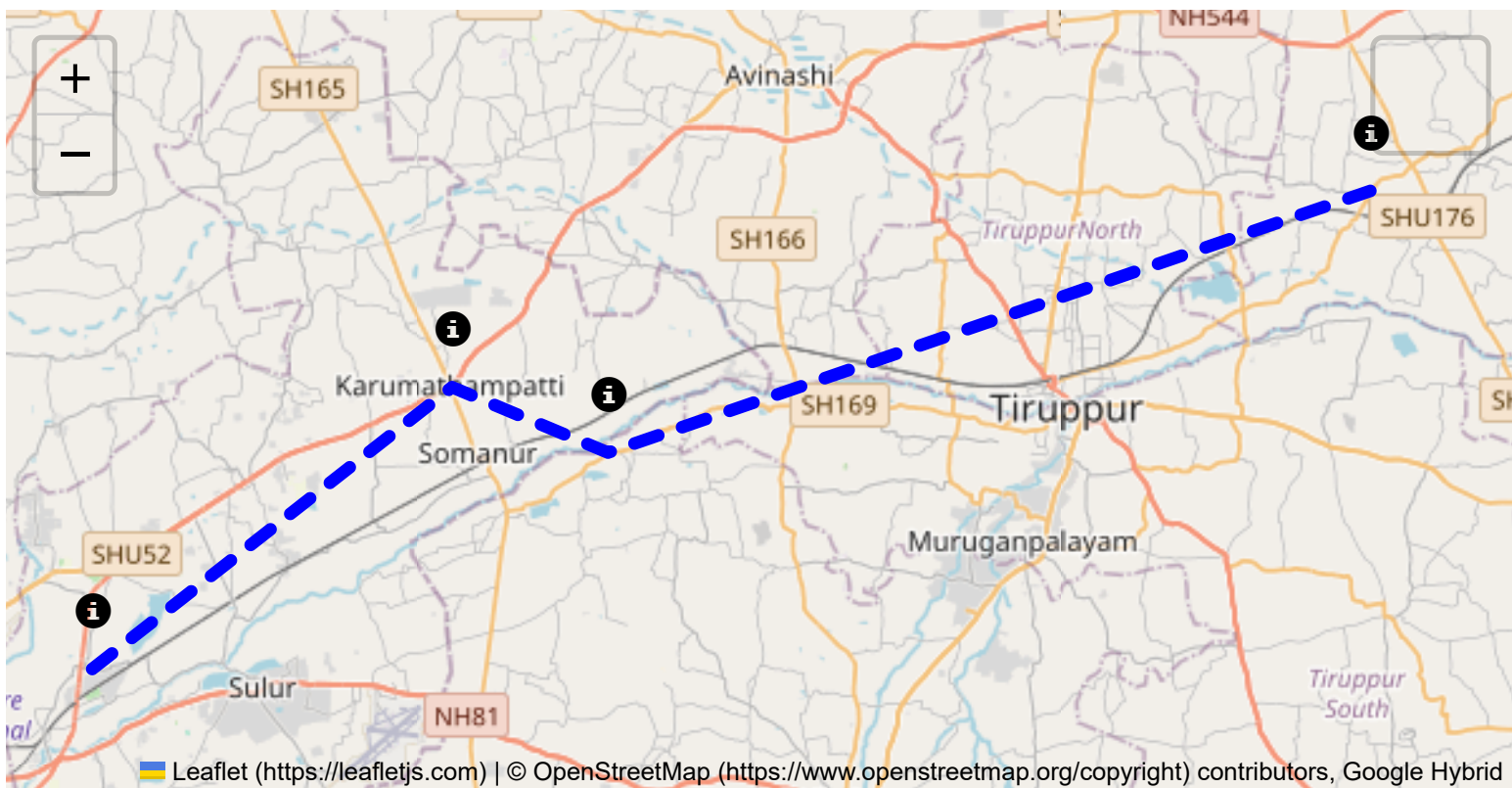
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

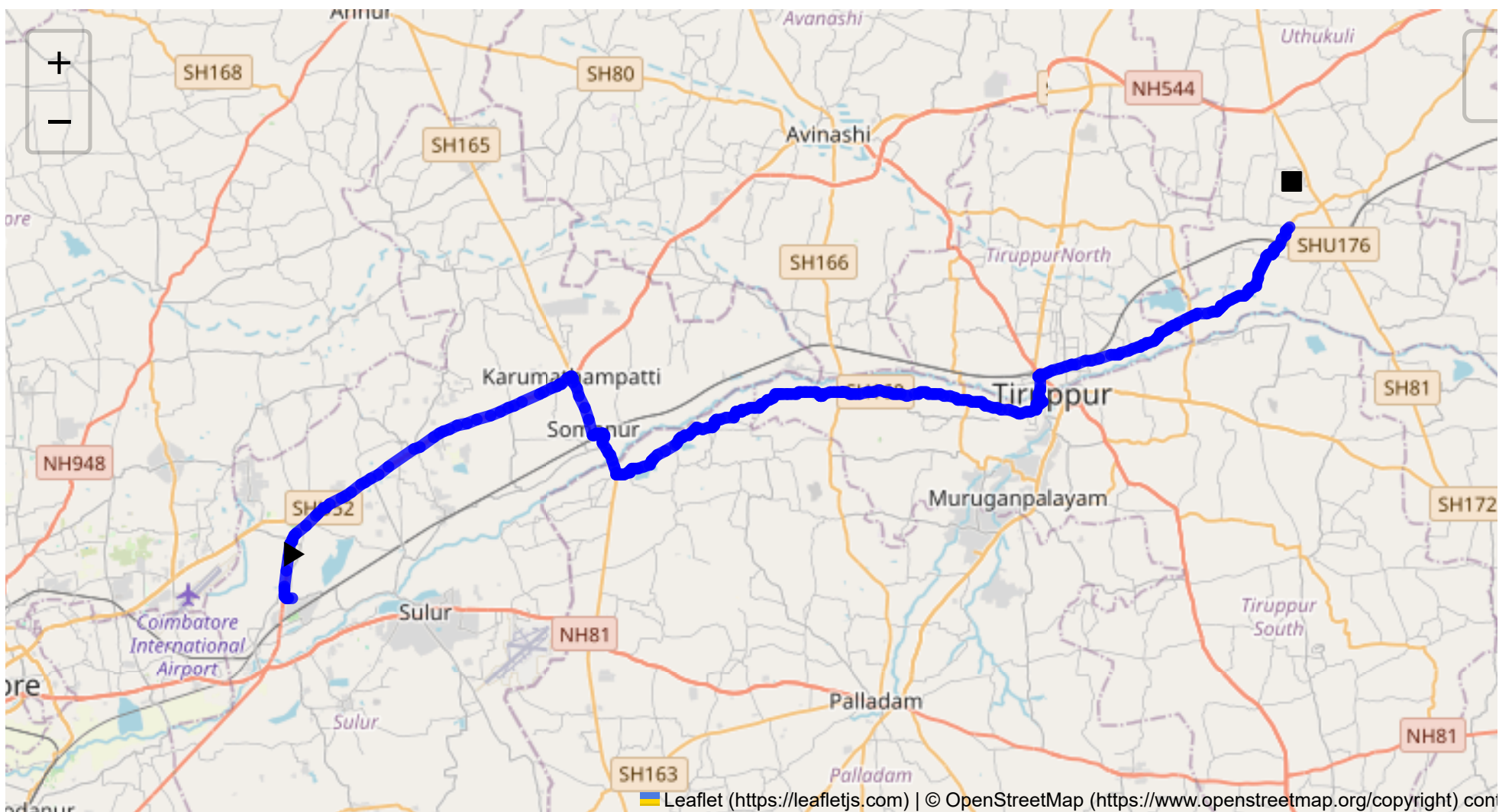
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 50.77 km
Estimated Duration: 1.4 hours
Adjusted Duration (Heavy Vehicle): 1.7 hours
Start: (11.0315, 77.0797)
End: (11.15926, 77.428022)



Welcome to the Journey Risk Management Study

1. Overview of the Route Map

The route from Athappagoundenpudur in Coimbatore to Kavundampalayam spans approximately 50.77 kilometers and passes through Karumathampatti and Vaikal Piruvu. The journey involves navigating through rural and semi-urban areas, with a combination of state highways and smaller roads.

2. Typical Weather Conditions and Potential Weather-Related Hazards

The region generally experiences a tropical climate with:

- **Summer (March to June):** High temperatures, sometimes exceeding 35°C, can cause road surface issues.
- **Monsoon (July to September):** Heavy rains leading to potential flooding, especially in low-lying areas, could affect road conditions and visibility.
- **Winter (October to February):** Mild conditions, but fog can occasionally reduce visibility during early mornings.

3. Analysis of Traffic Patterns

- **Peak Hours:** Morning (7:30 AM - 10:00 AM) and Evening (5:00 PM - 7:00 PM) see increased traffic due to local commuting.
- **Congestion-Prone Areas:** Karumathampatti is a major junction; expect slow-moving traffic and potential delays.

4. Assessment of Road Quality and Infrastructure

- **Road Conditions:** Generally good on main highways, but be cautious of narrower, less maintained roads in rural areas.
- **Infrastructure:** Adequate signage and some parts equipped with street lighting, but caution is advised on village roads.

5. Suggestions for Alternative Routes for Emergencies

- **Emergency Route:** An alternative is to take the Coimbatore-Mettupalayam Highway if the primary route is obstructed. This highway is better maintained and suited for heavy vehicles.

6. Local Regulations Affecting Hazardous Material Transport

- Strict adherence to Tamil Nadu State regulations is required. Transport of hazardous materials is restricted during peak traffic hours and must comply with specific safety standards including labeling and driver's documentation.

7. Overview of Historical Incidents

- Past incidents generally involve vehicular breakdowns causing minor delays. There are limited records of major hazardous material incidents, but vigilance is necessary.

8. Environmental Considerations and Sensitive Areas

- **Sensitive Areas:** Avoid taking routes through the densely populated regions where possible. Some areas near Vaikal Piruvu have agricultural fields where care should be taken to avoid contamination.

9. Analysis of Communication Coverage

- Coverage:** Generally, good mobile network coverage throughout the route, with potential weak zones around remote stretches between Karumathampatti and Vaikal Piruvu.

10. Estimated Emergency Response Times

- Response Time:** Approximately 30-45 minutes in urban areas like Karumathampatti and longer in remote areas, due to varying accessibility.

12. Overall Summary of Risk Assessment

The route from Coimbatore to Kavundampalayam is adequately serviced but presents challenges such as potential congestion, weather-related disruptions during monsoon, and occasional coverage gaps. Emergency response is moderate, necessitating thorough pre-trip planning. Compliance with local hazardous materials regulations and a proactive approach to potential hazards is crucial for a safe journey. Emergency routes should be familiarized, and communication devices and emergency contact numbers should always be at hand.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Turn	High	11.03211, 77.07640	15 KM/Hr
1	Blind Spot	Blind Spot	11.10783, 77.17709	10 KM/Hr
2	Turn	High	11.08748, 77.18469	15 KM/Hr
3	Turn	Medium	11.08840, 77.18756	30 KM/Hr
4	Turn	Medium	11.08826, 77.18786	30 KM/Hr
5	Turn	Medium	11.08537, 77.18776	30 KM/Hr
6	Turn	Medium	11.08474, 77.18785	30 KM/Hr
7	Blind Spot	Blind Spot	11.07394, 77.19267	10 KM/Hr
8	Turn	Medium	11.07453, 77.19703	30 KM/Hr
9	Turn	High	11.07563, 77.19752	15 KM/Hr
10	Turn	Medium	11.07721, 77.20414	30 KM/Hr
11	Turn	Medium	11.08421, 77.21319	30 KM/Hr
12	Turn	Medium	11.08635, 77.21471	30 KM/Hr
13	Turn	Medium	11.08984, 77.22095	30 KM/Hr
14	Turn	High	11.09062, 77.22674	15 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
15	Turn	High	11.09247, 77.22714	15 KM/Hr
16	Turn	Medium	11.09265, 77.22747	30 KM/Hr
17	Turn	High	11.09346, 77.23358	15 KM/Hr
18	Turn	Medium	11.09539, 77.23452	30 KM/Hr
19	Turn	High	11.09576, 77.23663	15 KM/Hr
20	Turn	High	11.09617, 77.23686	15 KM/Hr
21	Turn	High	11.09689, 77.24288	15 KM/Hr
22	Turn	Medium	11.10138, 77.24891	30 KM/Hr
23	Turn	Medium	11.10143, 77.25611	30 KM/Hr
24	Turn	Medium	11.10087, 77.26426	30 KM/Hr
25	Turn	Medium	11.10086, 77.26444	30 KM/Hr
26	Turn	High	11.10181, 77.26509	15 KM/Hr
27	Turn	High	11.10246, 77.27138	15 KM/Hr
28	Turn	Medium	11.10248, 77.27139	30 KM/Hr
29	Turn	Medium	11.10250, 77.27143	30 KM/Hr
30	Turn	High	11.10238, 77.29955	15 KM/Hr
31	Turn	Medium	11.09901, 77.31958	30 KM/Hr
32	Turn	Medium	11.09748, 77.32180	30 KM/Hr
33	Turn	High	11.09657, 77.33977	15 KM/Hr
34	Turn	Medium	11.09772, 77.33965	30 KM/Hr
35	Turn	Medium	11.09794, 77.33979	30 KM/Hr
36	Turn	Medium	11.09875, 77.34131	30 KM/Hr
37	Turn	Medium	11.09924, 77.34144	30 KM/Hr
38	Turn	Medium	11.10043, 77.34057	30 KM/Hr
39	Turn	High	11.10680, 77.34121	15 KM/Hr
40	Turn	High	11.10754, 77.34012	15 KM/Hr
41	Turn	High	11.10781, 77.34014	15 KM/Hr
42	Turn	Medium	11.12261, 77.38320	30 KM/Hr
43	Turn	Medium	11.12464, 77.38647	30 KM/Hr
44	Turn	Medium	11.12986, 77.40294	30 KM/Hr

Emergency Locations

	type	name	coordinates	speed_limit	risk_level
0	hospital	Royal Care Hospital, Coimbatore	11.059106, 77.0893479	30 km/h	Medium
4	hospital	Governmemt Hospital, Somanur	11.0839439, 77.189266	30 km/h	Medium
6	hospital	Krithika Hospital , Tiruppur	11.0958666, 77.337589	30 km/h	Medium
7	clinic	Arumugam Clinic	11.0970252, 77.3393636	30 km/h	Medium
8	clinic	Subas Clinic	11.0968948, 77.3396048	30 km/h	Medium
9	clinic	Dr. Gunashekaran Clinic	11.0990514, 77.3400514	30 km/h	Medium
10	clinic	Sakthi Clinic	11.0945881, 77.3424228	30 km/h	Medium
11	clinic	Dental and Orthodontic Center	11.0990919, 77.3411027	30 km/h	Medium
12	clinic	Dr. Raman Velumani Clinic	11.0994555, 77.3412062	30 km/h	Medium
13	clinic	Ramya Children's Clinic	11.0993206, 77.342525	30 km/h	Medium
14	hospital	Sankara Hospital , Tiruppur	11.0996262, 77.3440224	30 km/h	Medium
16	police	Tiruppur North	11.1066254, 77.3427939	30 km/h	Medium
17	police	TIRUPPUR NORTH	11.107892, 77.3450511	30 km/h	Medium
18	hospital	Tirupur Medical Foundation (P) Limited	11.1090003, 77.3449825	30 km/h	Medium
19	clinic	S R Nursing Home, Tiruppur	11.111432, 77.3489019	30 km/h	Medium
20	clinic	Immuno Lab & Health Care	11.1136966, 77.3487122	30 km/h	Medium
21	hospital	AG Hospital, Tiruppur	11.1090267, 77.3528045	30 km/h	Medium
22	hospital	Nallini Hospital	11.1091685, 77.353517	30 km/h	Medium
23	hospital	Sakthi Sugam Hospital - Tiruppur	11.1151517, 77.3621541	30 km/h	Medium
24	clinic	Dr. Raja Clinic	11.1278464, 77.3927768	30 km/h	Medium

Crowded Spots

	type	name	coordinates	speed_limit	risk_level
1	college	PSG Institute of Technology and Applied Research	11.0677118, 77.0945744	30 km/h	Medium
2	school	GRD-CPF Matriculation Higher Secondary School	11.0610217, 77.0933504	30 km/h	Medium
3	school	M. Nanjappa Chettiar Matriculation Hr. Sec. School	11.0715394, 77.1039133	30 km/h	Medium
5	college	Tiruppur Kumaran College For Women	11.0979724, 77.3222063	30 km/h	Medium
15	school	Nanjappa Boys Hr. Sec. School	11.1044446, 77.3399245	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.03211, 77.07640



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.10783, 77.17709



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.08748, 77.18469



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.08840, 77.18756



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.08826, 77.18786



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.08537, 77.18776



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.08474, 77.18785



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.07394, 77.19267



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07453, 77.19703



Risk Type: Turn
Risk Level: High
Speed Limit: 15 KM/Hr
Coordinates: 11.07563, 77.19752



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.07721, 77.20414



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.08421, 77.21319



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.08635, 77.21471



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.08984, 77.22095



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09062, 77.22674



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09247, 77.22714



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09265, 77.22747



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09346, 77.23358



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09539, 77.23452



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09576, 77.23663



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09617, 77.23686



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09689, 77.24288



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.10138, 77.24891



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10143, 77.25611



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10087, 77.26426



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.10086, 77.26444



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.10181, 77.26509



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.10246, 77.27138



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.10248, 77.27139



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.10250, 77.27143



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.10238, 77.29955



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09901, 77.31958



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09748, 77.32180



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.09657, 77.33977



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09772, 77.33965



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09794, 77.33979



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09875, 77.34131



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.09924, 77.34144



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.10043, 77.34057



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.10680, 77.34121



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.10754, 77.34012



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.10781, 77.34014

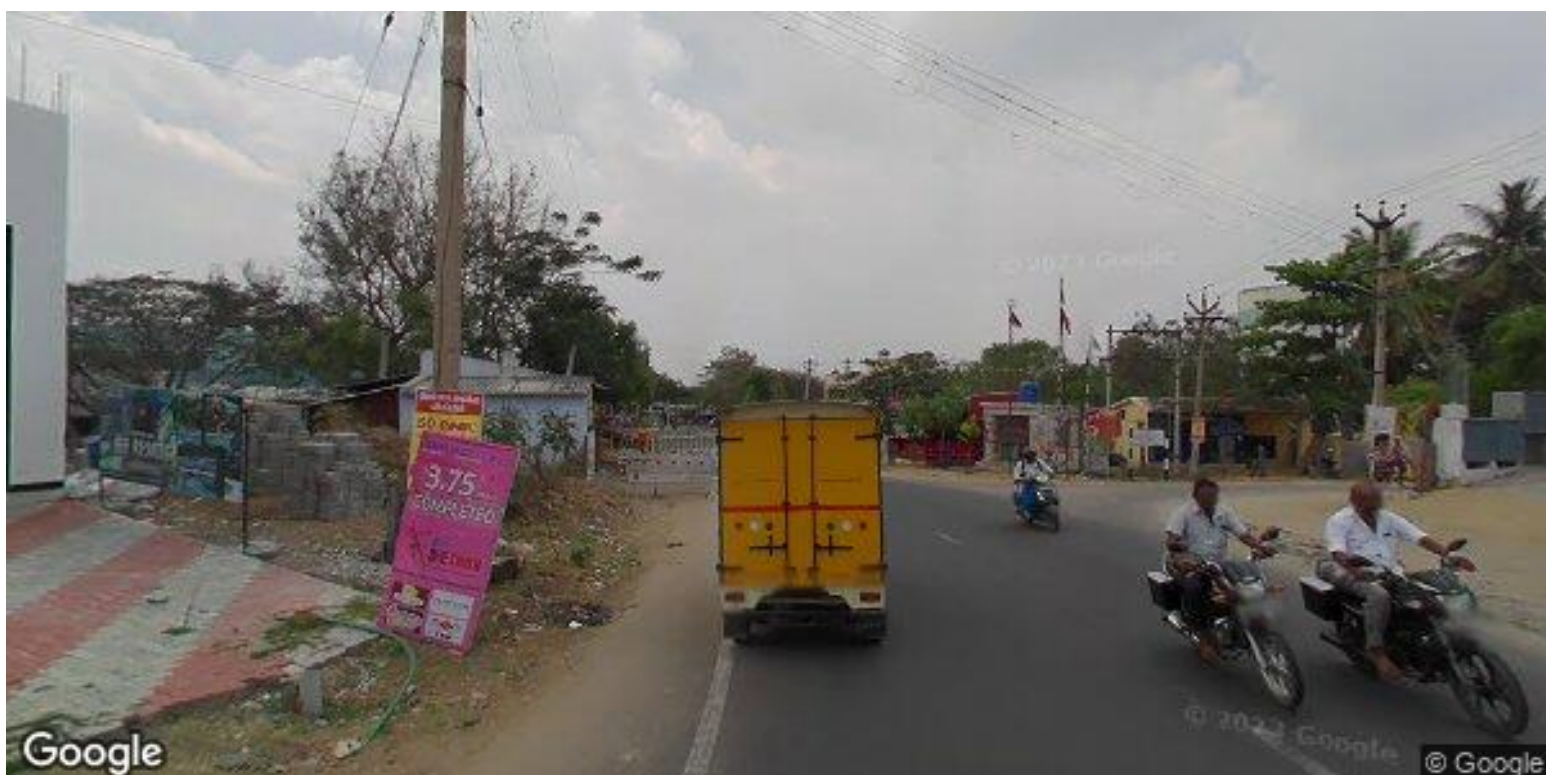


Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.12261, 77.38320



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.12464, 77.38647



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.12986, 77.40294
