



JOURNEY RISK MANAGEMENT (JRM) STUDY

Salem Terminal To SRI PACHINAYAKI AMMAN FUEL

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

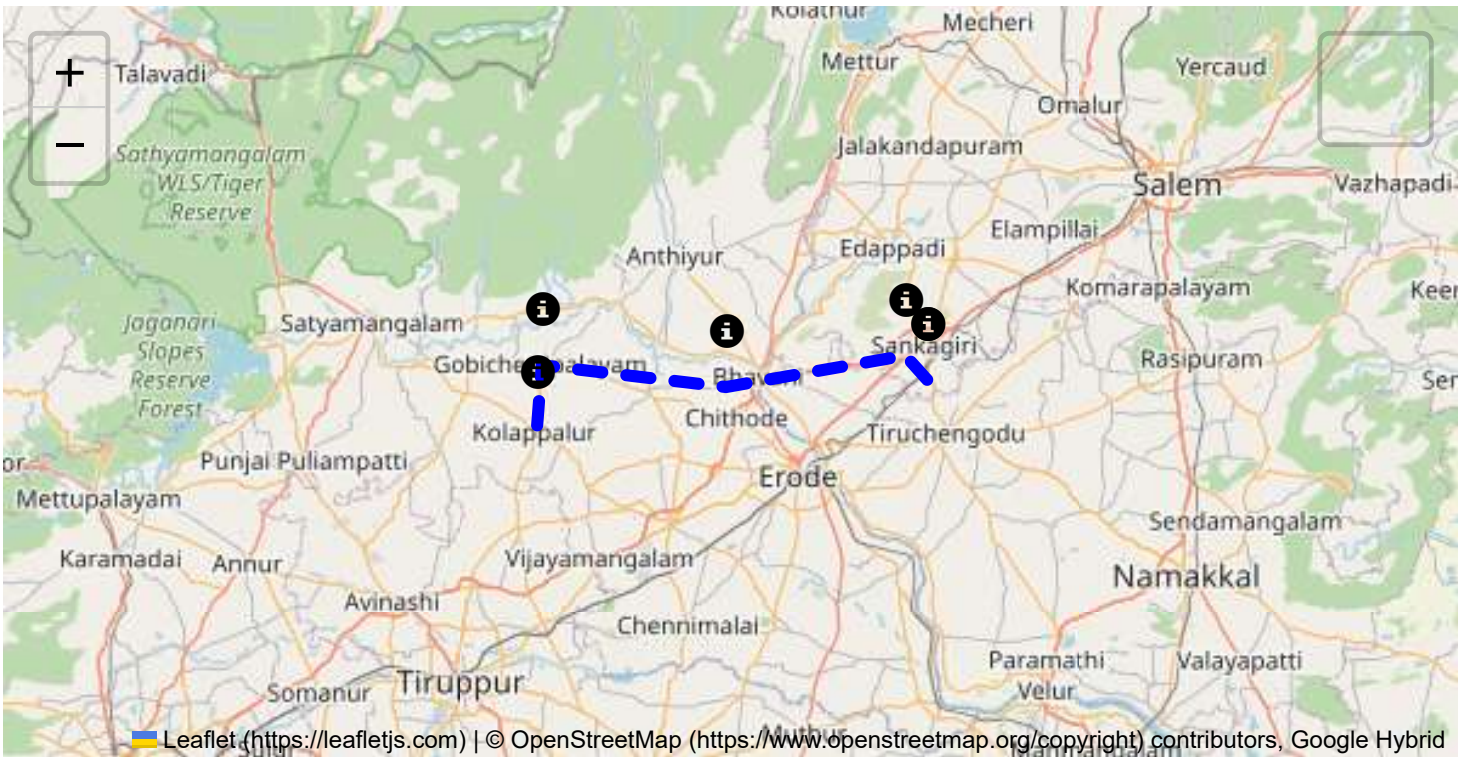
The JRM report addresses environmental risks along the route, ensuring compliance with environmental protection laws in ecologically sensitive zones. It suggests strategies such as identifying areas near water bodies, forests, or populated regions and implementing safety measures to minimize environmental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

Journey Risk Mitigation

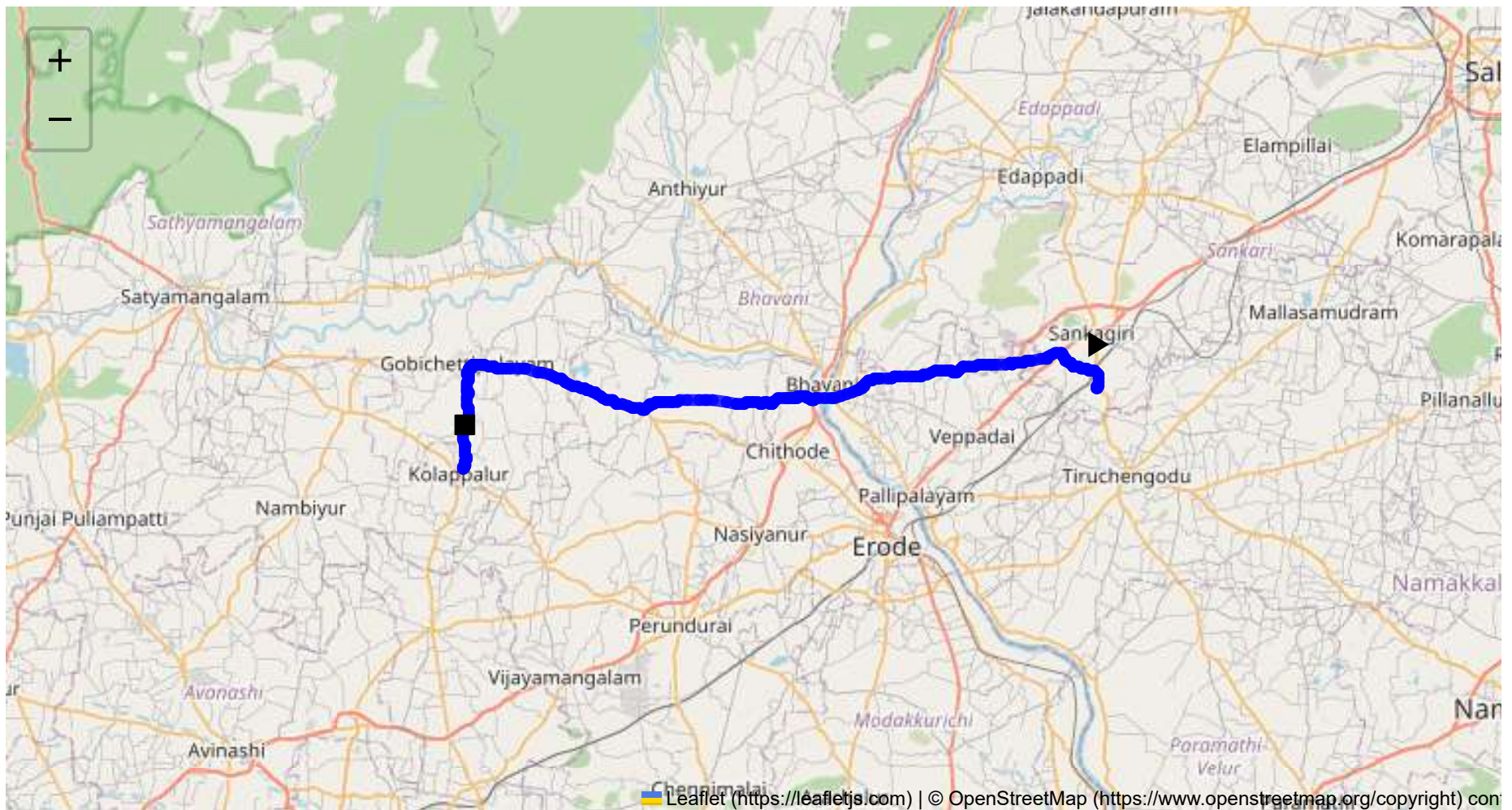
The report includes route-specific risk assessments, detailed journey charts, and defensive driving guidelines for each transport route. Integration with vehicle tracking systems guarantees real-time warnings on hazardous areas, speed limits, and mandatory stops, consistent with RTSP and CMVR safety 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: 60.49 km
Estimated Duration: 1.3 hours
Adjusted Duration (Heavy Vehicle): 1.6 hours
Start: (11.4381, 77.8734)
End: (11.382693, 77.431213)



Welcome to the Journey Risk Management Study

Route Overview: The route from Sangagiri to Tamil Nadu 638456 via Gobichettipalayam covers approximately 60.49 kilometers. It begins at CVQF+23W in Sangagiri, follows SH 79A, passes through Karai Ellapalayam, and continues past Kuthirai Vandi Theru before reaching the final destination. The typical travel time for heavy vehicles, particularly those carrying hazardous materials, is around 1 hour and 30 minutes.

Weather Conditions: Typical weather in this region includes hot and humid conditions, with summer temperatures potentially reaching over 40°C (104°F). Monsoon seasons bring heavy rainfall, which can lead to water-logged roads and reduced visibility. Weather-related hazards include possible flooding during the monsoon and slippery roads afterward.

Traffic Patterns: Traffic congestion is common during peak hours, typically from 8 AM to 10 AM and 5 PM to 7 PM, particularly near urban centers like Gobichettipalayam and Sangagiri. The stretch between SH 79A and dense market areas can slow down considerably.

Road Quality and Infrastructure: Road quality varies along the route. SH 79A is generally well-maintained, but rural areas may have narrower, less developed roads. Watch for potholes and uneven surfaces, especially after the monsoon season.

Alternative Routes for Emergencies: In the event of roadblocks or emergencies, consider taking the NH 544 from Sangagiri toward Salem and then connecting via state highways towards Erode for a safer bypass, although it may add distance and time.

Local Regulations: Transporting hazardous materials may require special permits, mandatory safety equipment, and adherence to specific operating hours. Drivers need to be aware of local check-posts and inspection points.

Historical Incidents: This route has had occasional reports of accidents involving heavy vehicles, mainly attributed to driver error or road conditions. There are no significant incidents of hazardous material release, but caution during adverse weather is advised.

Environmental Considerations: The area includes agricultural lands; hence, there is a sensitivity to chemical spills that could affect crops. Additionally, air quality issues may be more severe near congested towns.

Communication Coverage: The majority of this route has good mobile connectivity. However, there may be patches of weak signal, particularly in more rural and less populated areas.

Emergency Response Times: Emergency response is relatively swift in urban areas like Gobichettipalayam, approximately 30 to 45 minutes. Rural areas may have response times extending up to 1 hour or more.

Overall Risk Assessment: Overall, the risk associated with this route for heavy vehicles carrying hazardous materials is moderate. The critical risk factors include road conditions, especially post-monsoon, congestion during peak hours, and environmental sensitivity to spills. Regular updates on weather conditions and avoiding peak traffic times can significantly mitigate these risks.

Implementing robust safety practices, conducting pre-trip inspections, and ensuring compliance with local transport regulations are recommended measures to enhance the safety of the journey.

Risk Assessment - Turns

	Risk Type	Risk Level	Coordinates	Speed Limit
0	Turn	Medium	11.43822, 77.87348	30 KM/Hr
1	Turn	High	11.43961, 77.87341	15 KM/Hr
2	Turn	High	11.44029, 77.87544	15 KM/Hr
3	Turn	High	11.44893, 77.87413	15 KM/Hr
4	Turn	Medium	11.45127, 77.86734	30 KM/Hr
5	Turn	Medium	11.45354, 77.85798	30 KM/Hr
6	Turn	High	11.45350, 77.85700	15 KM/Hr
7	Turn	Medium	11.45845, 77.85141	30 KM/Hr
8	Turn	High	11.46303, 77.84945	15 KM/Hr
9	Turn	Medium	11.46317, 77.84906	30 KM/Hr
10	Turn	High	11.43000, 77.67564	15 KM/Hr
11	Turn	Medium	11.43009, 77.67540	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
12	Turn	High	11.43026, 77.67525	15 KM/Hr
13	Blind Spot	Blind Spot	11.43073, 77.67536	10 KM/Hr
14	Turn	Medium	11.43273, 77.67018	30 KM/Hr
15	Turn	Medium	11.43346, 77.66700	30 KM/Hr
16	Turn	Medium	11.43225, 77.66561	30 KM/Hr
17	Turn	Medium	11.43223, 77.65334	30 KM/Hr
18	Turn	Medium	11.42707, 77.56407	30 KM/Hr
19	Turn	High	11.42337, 77.55804	15 KM/Hr
20	Turn	Medium	11.42335, 77.55788	30 KM/Hr
21	Turn	High	11.45501, 77.43872	15 KM/Hr
22	Turn	High	11.45346, 77.43800	15 KM/Hr
23	Turn	High	11.45337, 77.43746	15 KM/Hr
24	Turn	High	11.45305, 77.43732	15 KM/Hr
25	Turn	High	11.45302, 77.43718	15 KM/Hr
26	Turn	Medium	11.45272, 77.43714	30 KM/Hr
27	Turn	Medium	11.45242, 77.43681	30 KM/Hr
28	Turn	High	11.45152, 77.43645	15 KM/Hr
29	Blind Spot	Blind Spot	11.45165, 77.43530	10 KM/Hr
30	Turn	Medium	11.44593, 77.43553	30 KM/Hr
31	Turn	Medium	11.43675, 77.43448	30 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
7	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

	type	name	coordinates	speed_limit	risk_level
10	hospital	Sri Kaalangi Siddhar Mooligai Vaithiya Nilayam	11.432369, 77.674894	30 km/h	Medium
11	clinic	G.K Clinic	11.4297244, 77.6749715	30 km/h	Medium
12	clinic	Harshitha Clinic	11.4313207, 77.674718	30 km/h	Medium
13	hospital	PST Mahaa Hospital	11.4312903, 77.6585751	30 km/h	Medium
14	hospital	Dharun Hospital	11.4223638, 77.5597735	30 km/h	Medium
15	hospital	Dr. Ramaswamy Hospital	11.4249065, 77.5535658	30 km/h	Medium
16	hospital	Dakshin Trauma Centre	11.454593, 77.4461819	30 km/h	Medium
17	hospital	Dakshin Hospital	11.4546301, 77.445905	30 km/h	Medium
18	hospital	Sri Varahi Herbal Research Centre and Hospital	11.4539333, 77.4427438	30 km/h	Medium
19	clinic	Germen Homeopathy Clinic	11.4536305, 77.4394692	30 km/h	Medium
20	hospital	JP Hospital	11.454765, 77.438257	30 km/h	Medium
21	hospital	KKS Hospital	11.4551792, 77.4392927	30 km/h	Medium
23	hospital	ESI Hospital	11.457705, 77.440475	30 km/h	Medium
24	hospital	Jesus Hospital	11.4511405, 77.4355211	30 km/h	Medium
25	clinic	Anandhan Clinic	11.4548037, 77.4349074	30 km/h	Medium
26	hospital	Kumaran Hospital	11.4533971, 77.4349621	30 km/h	Medium
27	hospital	Ramachandran Hospital	11.452242, 77.434641	30 km/h	Medium
28	hospital	Gobi Neuro Mind Care	11.4548344, 77.434649	30 km/h	Medium
29	hospital	Siranjeeve Hospitals	11.453132, 77.4344382	30 km/h	Medium
30	clinic	AG Kids Clinic	11.4501348, 77.4349865	30 km/h	Medium
31	hospital	Seetha Lakshmi Hospital	11.4474948, 77.4341288	30 km/h	Medium
32	clinic	GK Siddha Ayurveda Clinic	11.445915, 77.433649	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
8	school	SSM Matriculation Higher Secondary School	11.4321653, 77.6880046	30 km/h	Medium
22	school	Shree Vidyalaya Matric Higher Secondary School	11.4536114, 77.4383163	30 km/h	Medium
33	school	Saratha Matric Higher Secondary School	11.4480452, 77.431079	30 km/h	Medium

Route Photos of Risky Spots



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.44029, 77.87544



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.44893, 77.87413



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.45127, 77.86734



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.45354, 77.85798



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.45350, 77.85700



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.45845, 77.85141

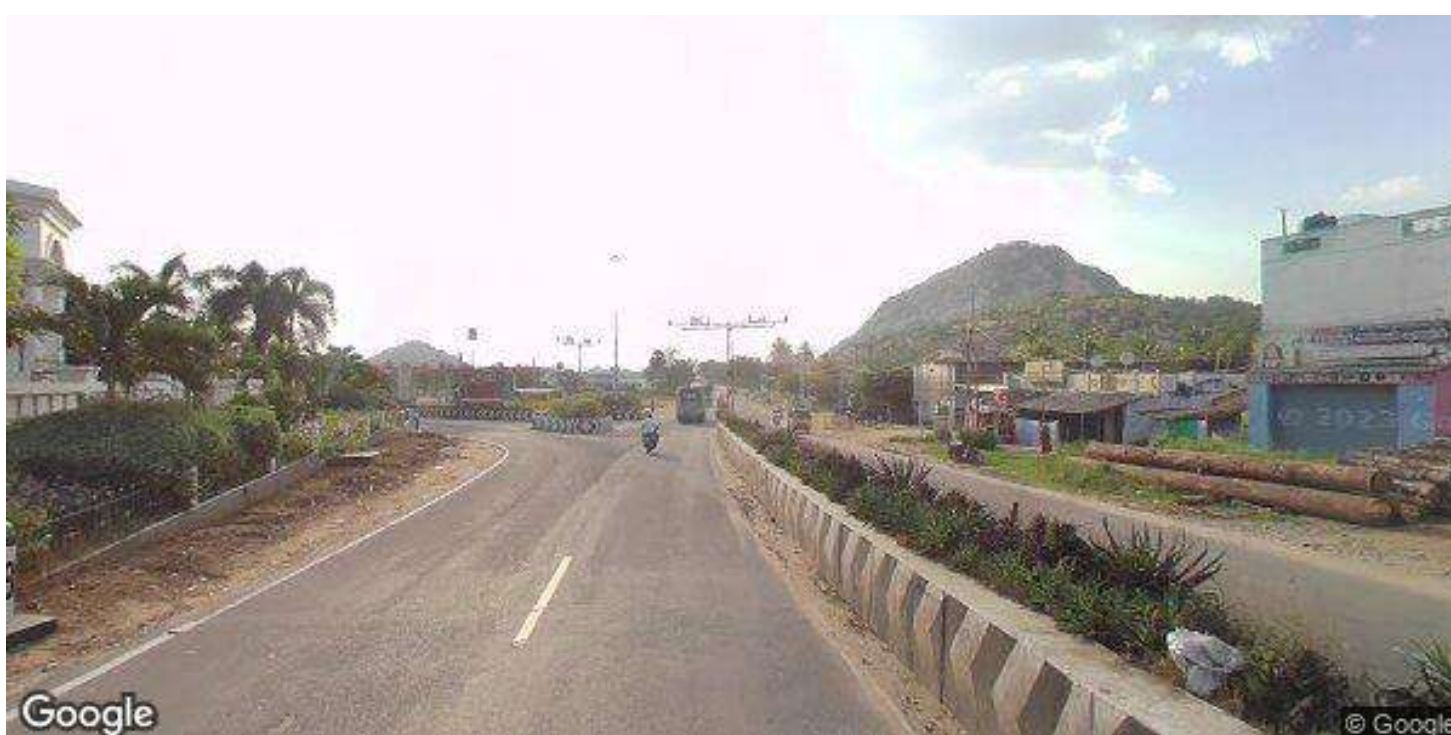


Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.46303, 77.84945



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.46317, 77.84906



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.43000, 77.67564



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.43009, 77.67540



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.43026, 77.67525



Risk Type: Blind Spot
Risk Level: Blind Spot
Speed Limit: 10 KM/Hr
Coordinates: 11.43073, 77.67536



Risk Type: Turn
Risk Level: Medium
Speed Limit: 30 KM/Hr
Coordinates: 11.43273, 77.67018



Risk Type: Turn
Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.43346, 77.66700



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.43225, 77.66561



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.43223, 77.65334



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.42707, 77.56407



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.42337, 77.55804



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.42335, 77.55788

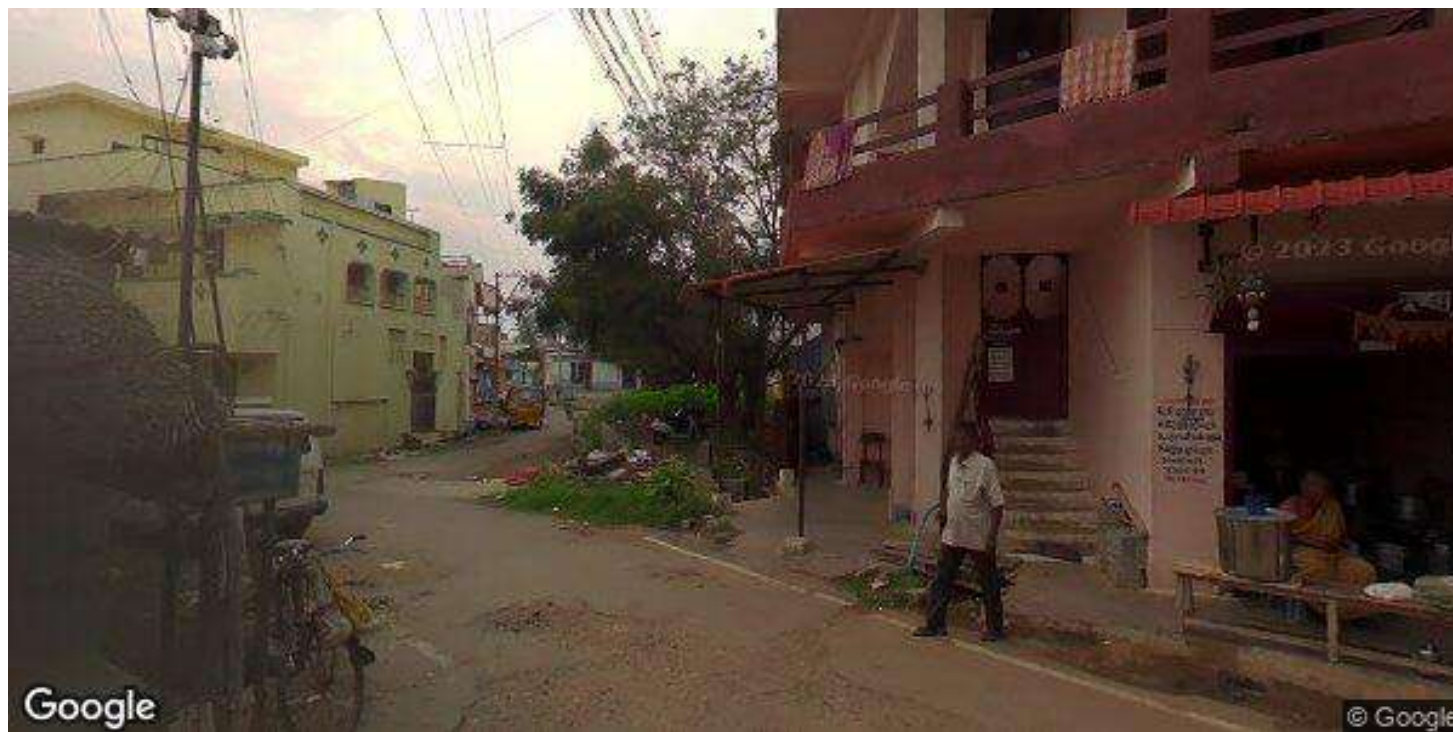


Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.45501, 77.43872



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.45346, 77.43800

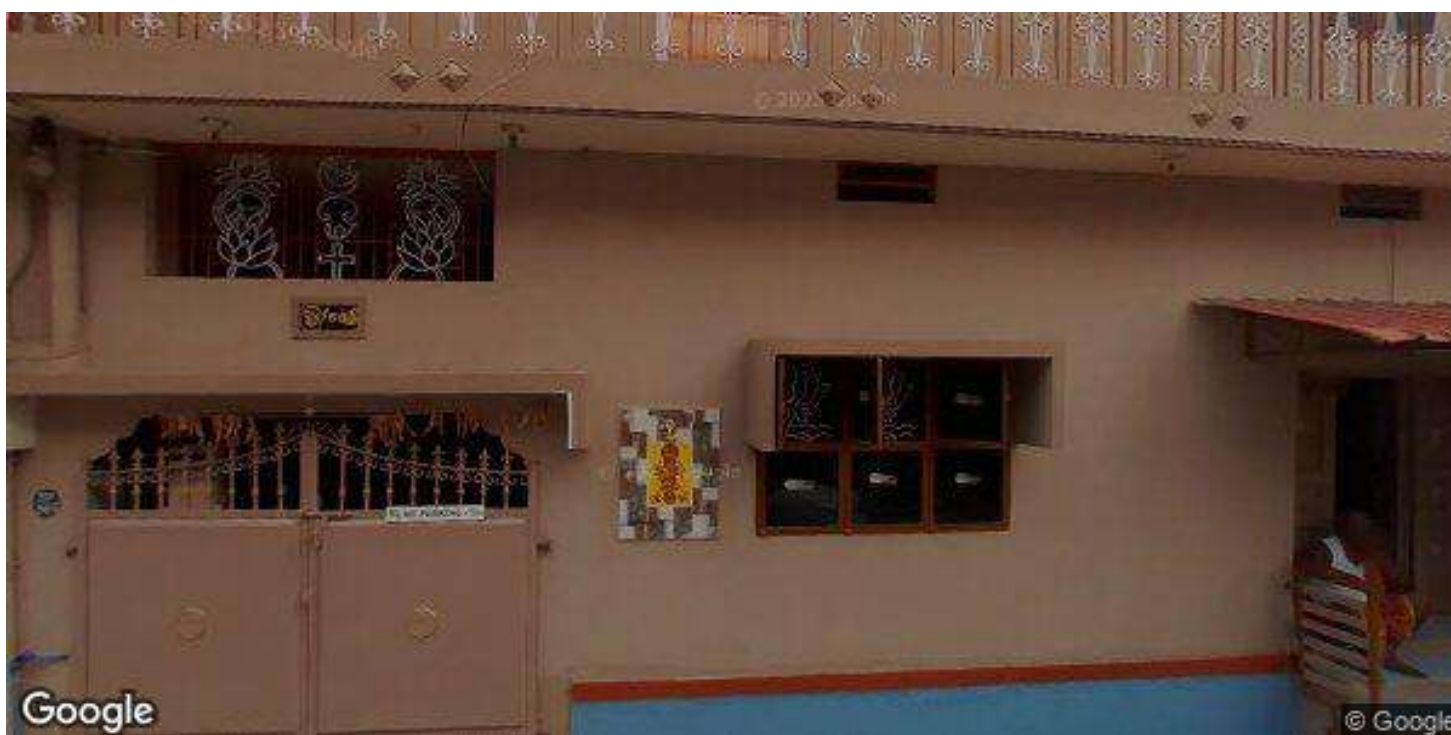


Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.45337, 77.43746



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.45305, 77.43732



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.45302, 77.43718

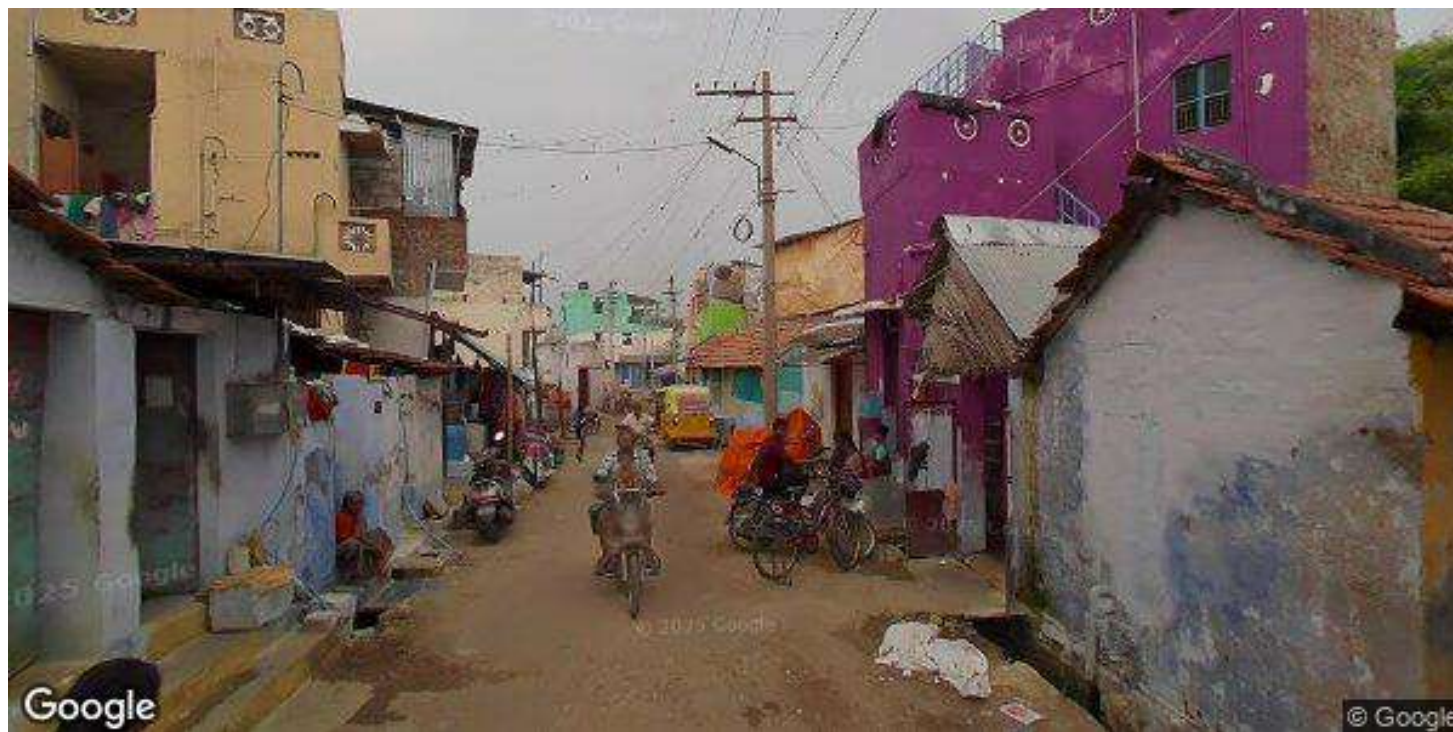


Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.45272, 77.43714



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr

Coordinates: 11.45242, 77.43681



Risk Type: Turn

Risk Level: High

Speed Limit: 15 KM/Hr

Coordinates: 11.45152, 77.43645



Risk Type: Blind Spot

Risk Level: Blind Spot

Speed Limit: 10 KM/Hr

Coordinates: 11.45165, 77.43530



Risk Type: Turn

Risk Level: Medium

Speed Limit: 30 KM/Hr
Coordinates: 11.43675, 77.43448
