



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### Salem Terminal TO MR 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.

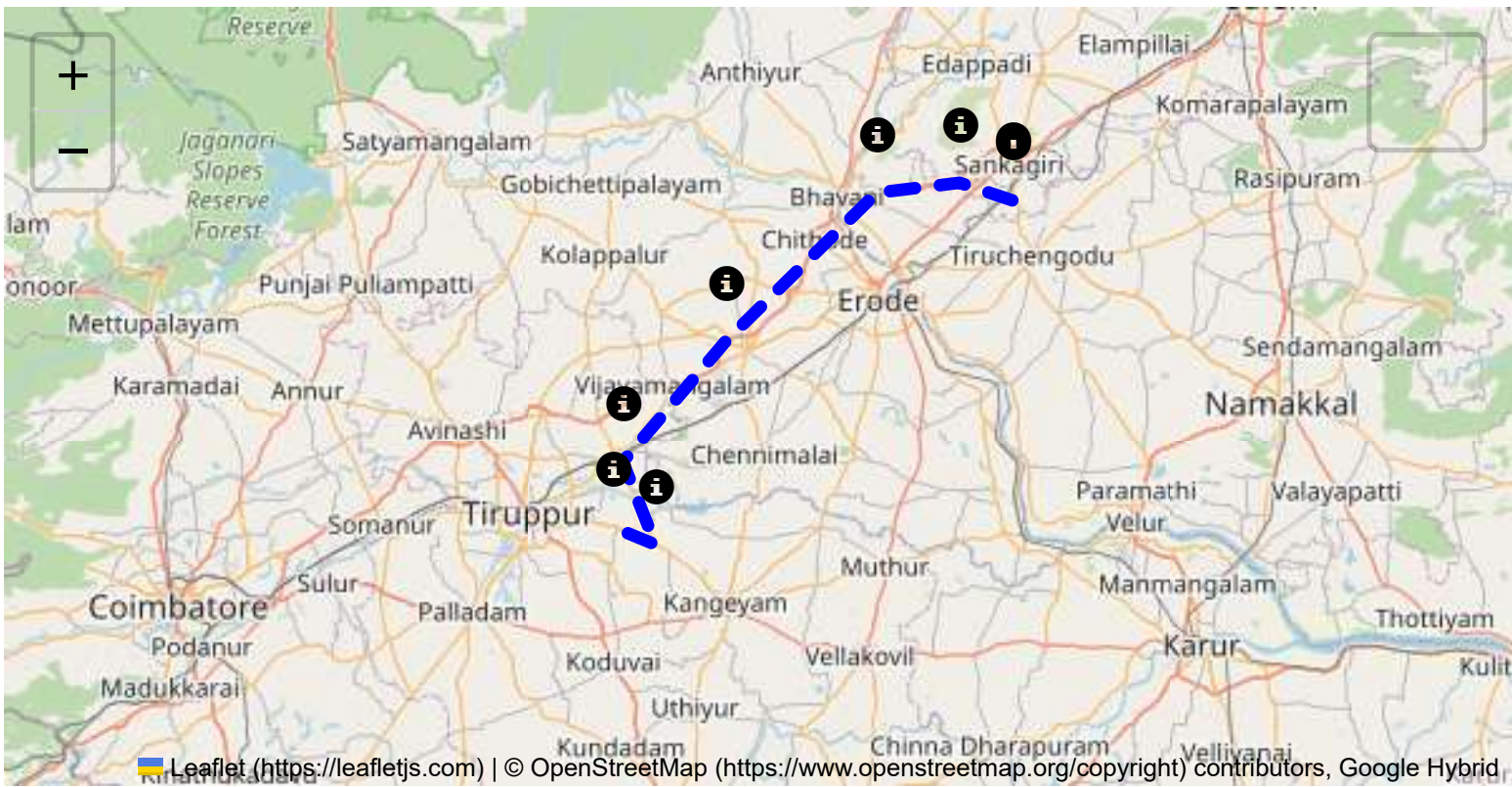
## **Journey Risk Mitigation**

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.

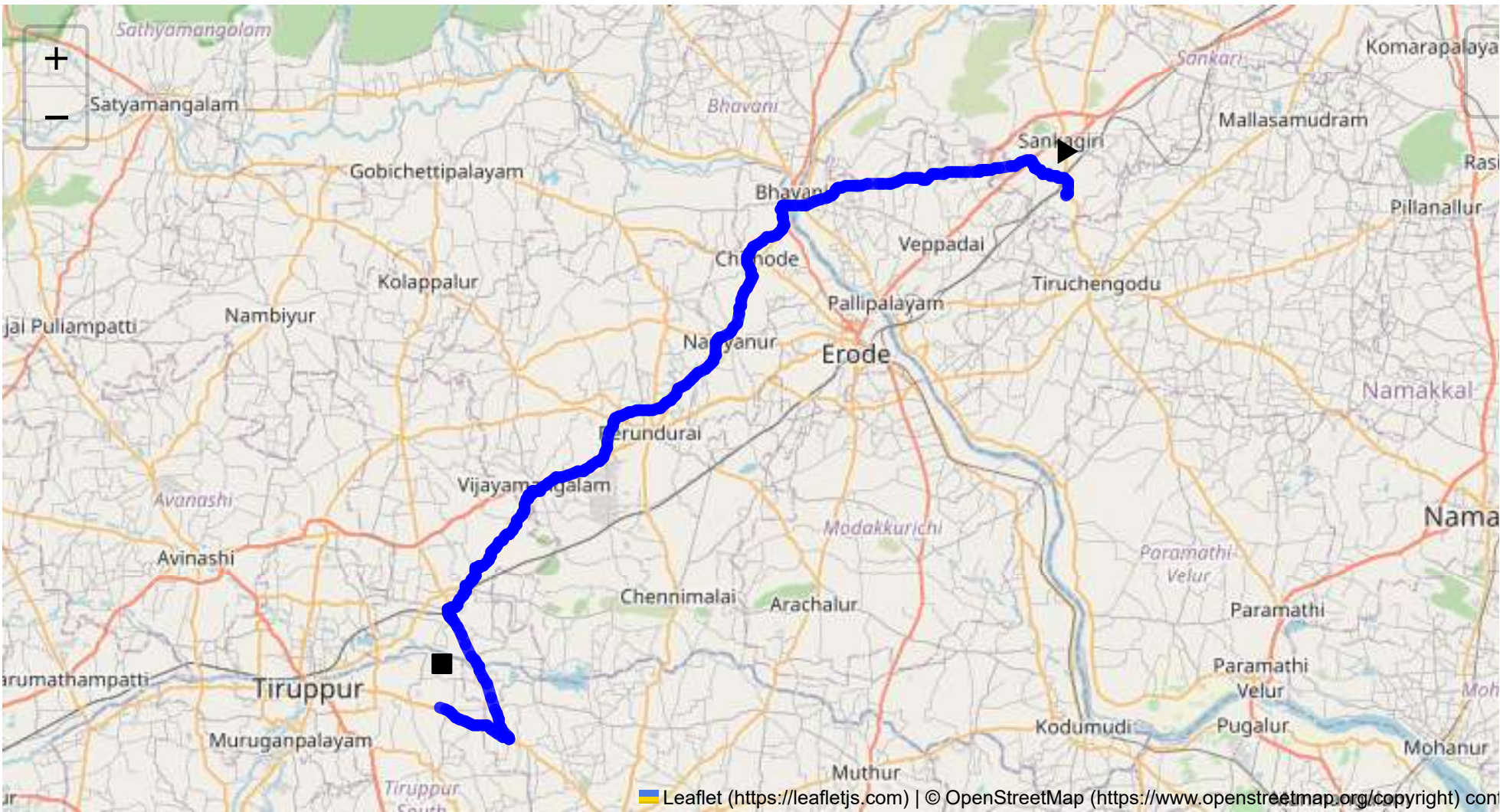
## **Compliance with Government Directives**

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: 86.30 km**  
**Estimated Duration: 1.7 hours**  
**Adjusted Duration (Heavy Vehicle): 2.2 hours**  
**Start: (11.4381, 77.8734)**  
**End: (11.087506, 77.436493)**



**Risk Spots**

	RiskSpotType	Coordinates	Speed Limit	Distance from Start
0	Turn	11.43961, 77.87341	15 KM/Hr	0.08 km
1	Turn	11.44029, 77.87544	15 KM/Hr	0.28 km
2	Turn	11.44893, 77.87413	15 KM/Hr	1.29 km



	RiskSpotType	Coordinates	Speed Limit	Distance from Start
3	Turn	11.45127, 77.86734	15 KM/Hr	2.15 km
4	Turn	11.45350, 77.85700	15 KM/Hr	3.29 km
5	Turn	11.45845, 77.85141	15 KM/Hr	4.11 km
6	Turn	11.46303, 77.84945	15 KM/Hr	4.65 km
7	Turn	11.45542, 77.81725	15 KM/Hr	8.36 km
8	Blind Spot	11.45634, 77.81673	10 KM/Hr	8.50 km
9	Blind Spot	11.44530, 77.72783	10 KM/Hr	18.62 km
10	Turn	11.23716, 77.50666	15 KM/Hr	56.59 km
11	Blind Spot	11.23687, 77.50213	10 KM/Hr	57.06 km
12	Turn	11.23386, 77.50098	15 KM/Hr	57.46 km
13	Turn	11.23319, 77.49954	15 KM/Hr	57.65 km
14	Turn	11.23054, 77.49777	15 KM/Hr	57.97 km
15	Turn	11.17834, 77.46162	15 KM/Hr	65.29 km
16	Turn	11.17518, 77.45976	15 KM/Hr	65.70 km
17	Turn	11.17366, 77.45728	15 KM/Hr	65.95 km
18	Turn	11.17144, 77.45602	15 KM/Hr	66.21 km
19	Blind Spot	11.17094, 77.45510	10 KM/Hr	66.46 km
20	Turn	11.16698, 77.45485	15 KM/Hr	66.88 km
21	Turn	11.15693, 77.44742	15 KM/Hr	68.27 km
22	Turn	11.15727, 77.44546	15 KM/Hr	68.50 km
23	Turn	11.15557, 77.44475	15 KM/Hr	68.69 km
24	Blind Spot	11.15600, 77.44208	10 KM/Hr	68.99 km
25	Turn	11.15034, 77.44341	15 KM/Hr	69.54 km
26	Turn	11.14996, 77.44489	15 KM/Hr	69.79 km
27	Turn	11.11580, 77.46453	15 KM/Hr	74.12 km
28	Turn	11.11336, 77.46446	15 KM/Hr	74.37 km
29	Blind Spot	11.06718, 77.48504	10 KM/Hr	80.13 km

### Emergency Services

	type	name	coordinates	side_of_road
2	hospital	Dhanvantri Multi Speciality Hospital	11.451362, 77.766602	Opposite Side
3	hospital	Dhanvanthri Hospital	11.4496712, 77.7593772	Opposite Side
4	hospital	J.K.K. Trust Hospital	11.4445841, 77.7307962	Driver's Side

	type	name	coordinates	side_of_road
6	hospital	Shri Sathyanarayana Hospital	11.4291297, 77.6913408	Driver's Side
8	hospital	Thanish Siddha Hospital	11.430003, 77.674964	Opposite Side
9	clinic	Harshitha Clinic	11.4313207, 77.674718	Opposite Side
10	hospital	Sri Kaalangi Siddhar Mooligai Vaithiya Nilayam	11.432369, 77.674894	Opposite Side
11	clinic	G.K Clinic	11.4297244, 77.6749715	Opposite Side
13	clinic	Erode Cancer Centre	11.3732, 77.649152	Opposite Side
27	hospital	Irt Hospital	11.2803603, 77.5644118	Driver's Side
31	hospital	Gen Siddha Hospital	11.2375033, 77.5059797	Opposite Side
32	hospital	Vijayamangalm Government Hospital	11.2382827, 77.501687	Opposite Side
33	hospital	Aravind Eye Care Hospital	11.1729469, 77.4574467	Driver's Side
34	clinic	Sri Maha Annai Clinic	11.1707162, 77.4536498	Opposite Side
35	hospital	Ram Doctor Hospital	11.1709391, 77.4532808	Opposite Side
36	clinic	Vasumathi Health Care	11.1576405, 77.4436732	Opposite Side
37	clinic	Jeeva Health Care	11.155934, 77.444441	Opposite Side
38	clinic	Sri Kumaran Clinic	11.155488, 77.443657	Driver's Side
39	clinic	Shobana Clinic	11.1523012, 77.4439668	Driver's Side
40	hospital	Goverment Hospital, Nallur	11.0843901, 77.4463723	Opposite Side

## Rest Stops

	type	name	coordinates	side_of_road
0	fuel	SLOA Bunk - Unit II	11.4543854, 77.8052665	Driver's Side
1	restaurant	Canteen	11.4478386, 77.7705441	Driver's Side
5	fuel	Reliance	11.4325168, 77.6912865	Opposite Side
7	fuel	Indian Oil	11.4321177, 77.6765153	Opposite Side
12	fuel	KR Fuels - Auto LPG	11.4127737, 77.6747462	Driver's Side
14	hotel	Athithi cafe	11.3756993, 77.6516401	Driver's Side
15	restaurant	Athithi Cafe	11.3756705, 77.6516565	Driver's Side
16	restaurant	Canteen	11.3725755, 77.6466465	Opposite Side
17	restaurant	Kumki Restaurant	11.3523614, 77.644608	Driver's Side
18	parking	Kumki Restaurant	11.352414, 77.644492	Driver's Side
19	restaurant	Paradise Biriyani	11.3291744, 77.6297833	Driver's Side

	type	name	coordinates	side_of_road
20	hotel	Hotel Annachi	11.3020259, 77.600017	Opposite Side
21	hotel	Adayar Ananda Bhavan(a2b)	11.3018451, 77.599909	Opposite Side
22	restaurant	Ambur Star Biryani	11.3017372, 77.5999546	Opposite Side
23	parking	NHAI parking	11.3030168, 77.6009269	Opposite Side
24	restaurant	Arukkaniyammal Mess	11.2982771, 77.5967424	Opposite Side
25	fuel	HP	11.2909675, 77.5815262	Driver's Side
26	cafe	Backery and Cafe	11.2893987, 77.565338	Opposite Side
28	fuel	Reliance	11.2575595, 77.5511245	Driver's Side
29	fuel	Bharat Petroleum	11.255444, 77.5457729	Opposite Side
30	fuel	Auto LPG	11.2523222, 77.5400243	Opposite Side

# Welcome to the Journey Risk Management Study

## 1. Overview of the Route Map

The route from Sangagiri to Tiruppur via Puthur, Padaiveedu, Perundurai, and Vadugapalayam covers approximately 86.30 kilometers. It follows a combination of state highways and major roads, ensuring connectivity between rural and semi-urban areas. The journey includes sections of both narrow roads and broader thoroughfares, passing through small towns and bypasses, making it suitable for truck transport.

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

The climate in Tamil Nadu is typically tropical, with hot summers and monsoon rains from June to September. The route is susceptible to heavy rains during the monsoon, potentially causing waterlogging and reduced visibility. Dust storms or extreme heat could occur during the summer months, affecting driving conditions.

## 3. Analysis of Traffic Patterns

Traffic density is generally moderate, with higher congestion around towns, such as Perundurai and Tiruppur. Peak hours typically coincide with local business hours, particularly in the morning (8-10 AM) and evening (5-7 PM). The Perundurai Bypass can occasionally experience slowdowns due to trucks merging from industrial zones.

## 4. Assessment of Road Quality and Infrastructure

The road quality along this route varies. The Perundurai Bypass and major highways are well-maintained, but some rural stretches near Puthur and Padaiveedu may have potholes or narrower lanes. Signage is generally adequate, but nighttime visibility can be an issue in less urbanized sections.

## 5. Suggestions for Alternative Routes for Emergencies

In case of roadblocks or emergencies, alternative routes include using NH44 southwards towards Salem before redirecting towards Tiruppur, though this adds considerable distance. Smaller local roads can also provide detours, but may not support heavy vehicle traffic and could lack infrastructure support.

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

Transport of hazardous materials is regulated, necessitating proper containment, labeling, and permits. Restricted times for such transport are usually in place to avoid peak school and work traffic, particularly in densely populated areas like Tiruppur.

## 7. Overview of Historical Incidents

Incidents involving trucks have historically occurred due to factors like brake failure or driver fatigue. Specific areas without adequate illumination or with sharp turns near Padaiveedu have seen higher accident rates. No significant hazardous material spills have been historically recorded, but routine safety checks remain crucial.

## 8. Environmental Considerations and Sensitive Areas

The route passes near agricultural zones where spillages could impact local ecosystems. Wildlife crossings may occur, particularly in less urbanized sections, necessitating caution during early morning or night drives.

## 9. Analysis of Communication Coverage

Mobile network coverage is generally reliable, but there may be occasional dead zones, particularly in more rural stretches between Padaiveedu and Vadugapalayam. Emergency communication systems or satellite phones could be considered for continuous connectivity.

## 10. Estimated Emergency Response Times

Response times vary, averaging about 20-30 minutes around major towns (like Perundurai and Tiruppur) with well-equipped local fire and rescue services. In rural sections, response could be delayed to 45 minutes or more due to distance from emergency facilities.

## 12. Overall Summary of Risk Assessment

The overall risk on this route is moderate. Major hazards include weather conditions during the monsoon, intermittent road quality, peak traffic congestion, and possible communication gaps. Compliance with local regulations and strategic planning for emergency scenarios can mitigate most risks efficiently. Continuous updates on weather and road conditions, as well as staying informed on local incidents, can further enhance safe transport of hazardous materials.



## Route Photos of Risky Spots



**Risk Type:** Turn

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 0.28 km

**Coordinates:** 11.44029, 77.87544



**Risk Type:** Turn

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 1.29 km

**Coordinates:** 11.44893, 77.87413





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 2.15 km**

**Coordinates: 11.45127, 77.86734**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 3.29 km**

**Coordinates: 11.45350, 77.85700**





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 4.11 km**

**Coordinates: 11.45845, 77.85141**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 4.65 km**

**Coordinates: 11.46303, 77.84945**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 8.36 km**

**Coordinates: 11.45542, 77.81725**





**Risk Type:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Distance from Start:** 8.50 km  
**Coordinates:** 11.45634, 77.81673



**Risk Type:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Distance from Start:** 18.62 km  
**Coordinates:** 11.44530, 77.72783





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 56.59 km**

**Coordinates: 11.23716, 77.50666**



**Risk Type: Blind Spot**

**Speed Limit: 10 KM/Hr**

**Distance from Start: 57.06 km**

**Coordinates: 11.23687, 77.50213**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 57.46 km**

**Coordinates: 11.23386, 77.50098**





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 57.65 km**

**Coordinates: 11.23319, 77.49954**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 57.97 km**

**Coordinates: 11.23054, 77.49777**





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 65.29 km**

**Coordinates: 11.17834, 77.46162**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 65.70 km**

**Coordinates: 11.17518, 77.45976**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 65.95 km**

**Coordinates: 11.17366, 77.45728**





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 66.21 km**

**Coordinates: 11.17144, 77.45602**



**Risk Type: Blind Spot**

**Speed Limit: 10 KM/Hr**

**Distance from Start: 66.46 km**

**Coordinates: 11.17094, 77.45510**





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 66.88 km**

**Coordinates: 11.16698, 77.45485**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 68.27 km**

**Coordinates: 11.15693, 77.44742**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 68.50 km**

**Coordinates: 11.15727, 77.44546**





**Risk Type:** Turn

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 68.69 km

**Coordinates:** 11.15557, 77.44475



**Risk Type:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 68.99 km

**Coordinates:** 11.15600, 77.44208





**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 69.54 km**

**Coordinates: 11.15034, 77.44341**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 69.79 km**

**Coordinates: 11.14996, 77.44489**



**Risk Type: Turn**

**Speed Limit: 15 KM/Hr**

**Distance from Start: 74.12 km**

**Coordinates: 11.11580, 77.46453**





**Risk Type:** Turn

**Speed Limit:** 15 KM/Hr

**Distance from Start:** 74.37 km

**Coordinates:** 11.11336, 77.46446



**Risk Type:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Distance from Start:** 80.13 km

**Coordinates:** 11.06718, 77.48504

