



# IndianOil

## JOURNEY RISK MANAGEMENT (JRM) STUDY

### IOCL Coimbatore Terminal to Baladhandayuthapani Agencies

#### 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.

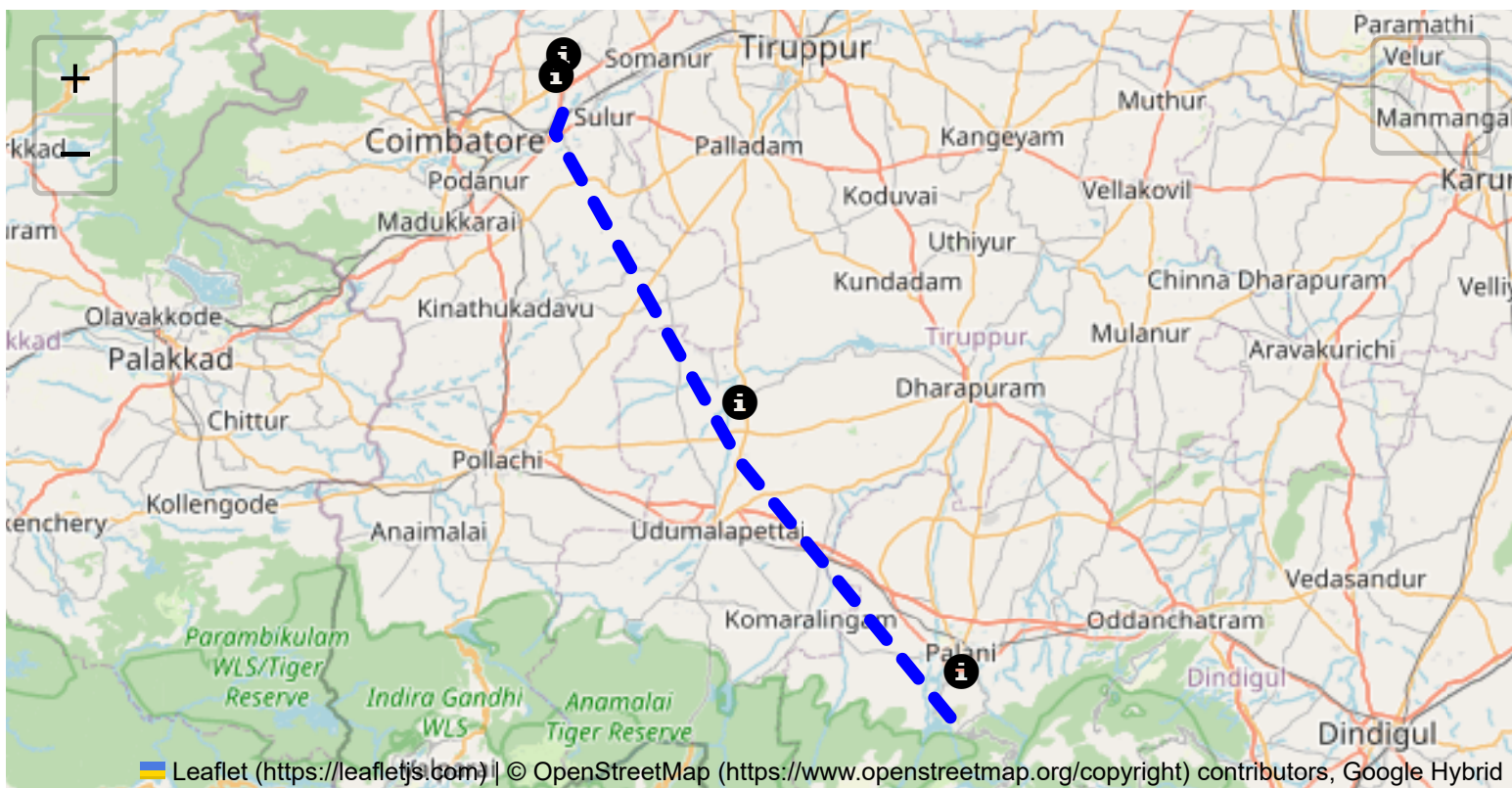
## **Journey Risk Mitigation**

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.

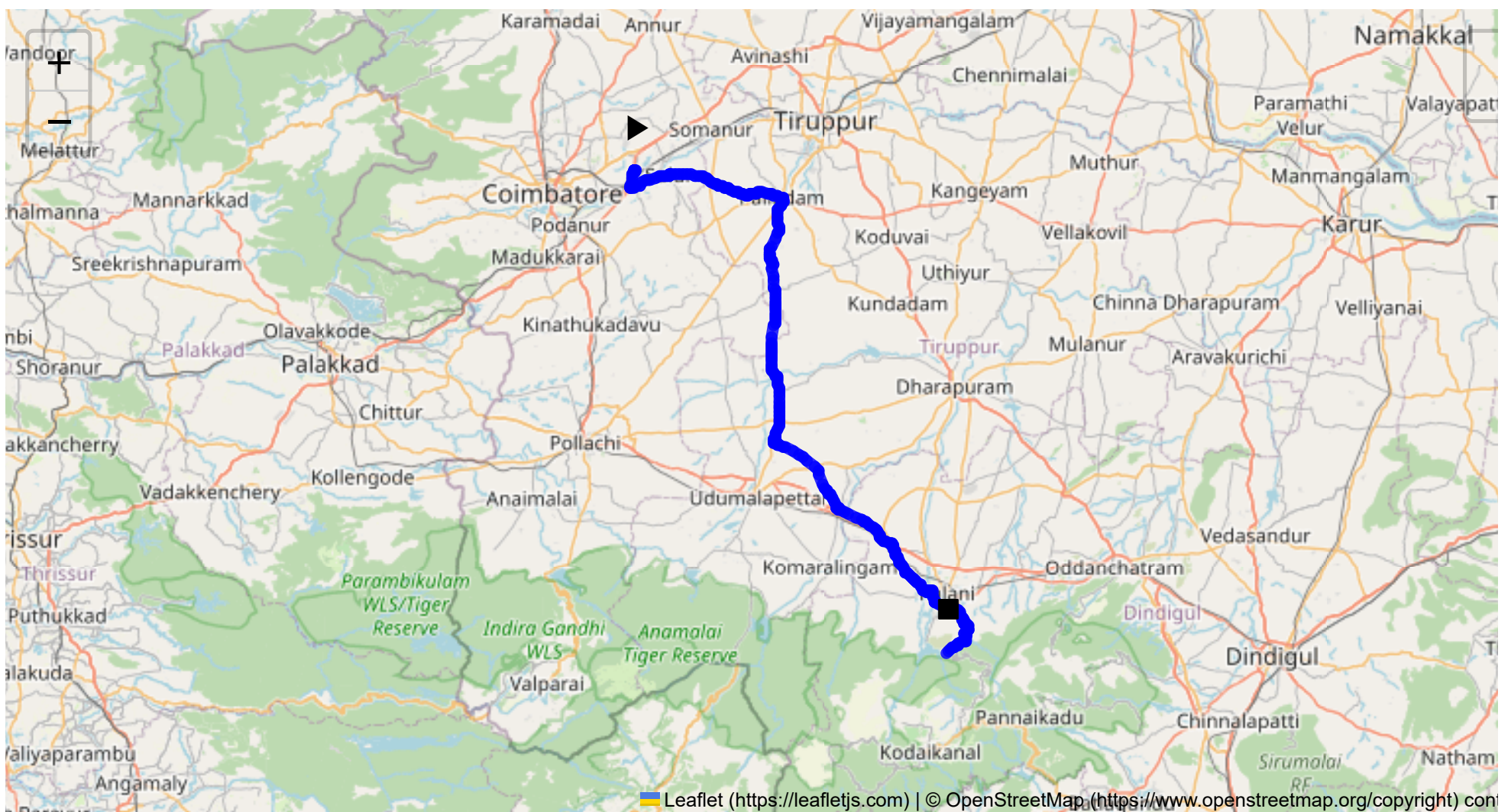
## **Compliance with Government Directives**

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: 117.86 km**  
**Estimated Duration: 2.4 hours**  
**Adjusted Duration (Heavy Vehicle): 3.1 hours**  
**Start: (11.0315, 77.0797)**  
**End: (10.36981, 77.514397)**



## Welcome to the Journey Risk Management Study

### Route Overview

The route from Athappagoundenpudur in Coimbatore to Pachalur via Chinthamanipudur and Kottamangalam takes you through various terrains, transitioning from urban roads to rural and semi-rural roadways. This pathway spans approximately 117.86 kilometers. The trip involves navigating through a mixture of highways and local roads, with varied levels of infrastructure quality.

# Weather Conditions

The region typically experiences a tropical climate, with the potential for heavy monsoonal rains from June to September, which may lead to slippery roads and limited visibility. During the summer months from March to May, high temperatures could impact vehicle performance. The post-monsoon and winter months (October to February) generally offer pleasant weather but can occasionally feature morning fog, reducing visibility.

# Traffic Patterns

The primary congestion areas include:

- **Trichy Road** in Coimbatore, a major arterial route that can experience heavy traffic, especially during morning and evening rush hours.
- **Small towns and intersections** like those near Kottamangalam can cause delays, especially during market days or local festivals.

Typical peak hours vary between 8:00 to 10:00 AM and 5:00 to 8:00 PM. Weekend traffic and holiday periods may also see increased congestion.

# Road Quality and Infrastructure

- **Highways** leading out of Coimbatore are generally well-maintained. However, as you move towards smaller towns and rural areas, the road quality may deteriorate, with potential for potholes and narrow lanes.
- **Rural roads** may lack proper signage and lighting, posing risks at night or in poor visibility conditions.

# Alternative Routes

In case of emergencies, a common detour might involve:

- **Taking National Highway 83** if you need to redirect back towards major urban centers quickly.
- Consider using state highways that intersect with the main road for shorter diversions.

# Local Regulations

Transporting hazardous materials through Tamil Nadu requires adherence to specific guidelines, such as:

- Comprehensive documentation of the materials being transported.
- Proper labeling as per government regulations.
- Observing speed and route restrictions imposed for safety.

Consult local authorities for any zone-specific prohibitions.

# Historical Incidents

While specific incidents may not be well-documented publicly, the region has seen instances of road accidents involving heavy vehicles on rural roads due to narrow passages and overspeeding. It is



advisable to conduct a detailed check through local transportation offices for recent data.

## Environmental Considerations

Certain stretches of this route may run close to protected forest areas. These require cautious driving to avoid environmental disturbances or encounters with wildlife. Night driving through these sections may increase risks.

## Communication Coverage

Primary urban and semi-urban areas provide good mobile coverage. Potential dead zones could be encountered in rural sections and forested areas on this route. Drivers should ensure their communication devices are charged and have offline maps available.

## Emergency Response Times

- Urban stretches (Coimbatore area):** Emergency services are generally fast, responding within 30-45 minutes.
- Rural areas** can expect slower response times, potentially exceeding an hour, dependent on road conditions and distance from the nearest service center.

## Summary of Risk Assessment

Overall, the route presents manageable risks if precautions are observed:

- Weather** is a significant factor; check forecasts and prepare accordingly.
- Traffic** in urban areas can cause delays; plan trips to avoid peak hours.
- Road conditions** vary; increase alertness in rural sections.
- Environmental considerations** necessitate mindful driving.
- Emergency plans** need to account for communication gaps and potentially slow response times in remote areas.

Proper planning, adherence to local regulations, and readiness for unexpected events will be essential for ensuring a safe journey along this route.

### 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	11.02535, 77.12419	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
3	Turn	Medium	11.02774, 77.12761	30 KM/Hr
4	Turn	Medium	10.99570, 77.28153	30 KM/Hr
5	Turn	Medium	10.99535, 77.28179	30 KM/Hr
6	Turn	High	10.99416, 77.28200	15 KM/Hr
7	Turn	High	10.99400, 77.28557	15 KM/Hr
8	Turn	Medium	10.98116, 77.27933	30 KM/Hr
9	Turn	Medium	10.91559, 77.26611	30 KM/Hr
10	Blind Spot	Blind Spot	10.65984, 77.27186	10 KM/Hr
11	Turn	Medium	10.62623, 77.33109	30 KM/Hr
12	Blind Spot	Blind Spot	10.56755, 77.36194	10 KM/Hr
13	Blind Spot	Blind Spot	10.56785, 77.36058	10 KM/Hr
14	Turn	High	10.51927, 77.43698	15 KM/Hr
15	Turn	High	10.51890, 77.43690	15 KM/Hr
16	Turn	Medium	10.51818, 77.43818	30 KM/Hr
17	Turn	Medium	10.45424, 77.48472	30 KM/Hr
18	Turn	Medium	10.45389, 77.48588	30 KM/Hr
19	Turn	Medium	10.45592, 77.48999	30 KM/Hr
20	Turn	High	10.45499, 77.49476	15 KM/Hr
21	Turn	Medium	10.43805, 77.49840	30 KM/Hr
22	Turn	Medium	10.43203, 77.51045	30 KM/Hr
23	Turn	High	10.43276, 77.52349	15 KM/Hr
24	Turn	Medium	10.42937, 77.52672	30 KM/Hr
25	Turn	Medium	10.42853, 77.53076	30 KM/Hr
26	Turn	Medium	10.41772, 77.53534	30 KM/Hr
27	Turn	High	10.41715, 77.53656	15 KM/Hr
28	Turn	Medium	10.41433, 77.53813	30 KM/Hr
29	Turn	Medium	10.41105, 77.53824	30 KM/Hr
30	Turn	High	10.40757, 77.54363	15 KM/Hr
31	Turn	Medium	10.40110, 77.54486	30 KM/Hr
32	Turn	High	10.39844, 77.54054	15 KM/Hr
33	Turn	High	10.39510, 77.53996	15 KM/Hr
34	Turn	High	10.39345, 77.54200	15 KM/Hr
35	Turn	High	10.38642, 77.54187	15 KM/Hr
36	Turn	Medium	10.38208, 77.53037	30 KM/Hr

	Risk Type	Risk Level	Coordinates	Speed Limit
37	Turn	Medium	10.37908, 77.52860	30 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

## 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

## 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:** 11.02535, 77.12419



**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:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.99400, 77.28557



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.98116, 77.27933



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.91559, 77.26611





**Risk Type:** Blind Spot

**Risk Level:** Blind Spot

**Speed Limit:** 10 KM/Hr

**Coordinates:** 10.65984, 77.27186



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.62623, 77.33109





**Risk Type:** Blind Spot  
**Risk Level:** Blind Spot  
**Speed Limit:** 10 KM/Hr  
**Coordinates:** 10.56755, 77.36194



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.51927, 77.43698



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.51890, 77.43690





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.51818, 77.43818



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.45424, 77.48472





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.45389, 77.48588



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.45592, 77.48999



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.45499, 77.49476





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.43805, 77.49840



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.43203, 77.51045





**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.43276, 77.52349



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.42937, 77.52672



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.42853, 77.53076





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.41772, 77.53534



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.41715, 77.53656





**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.41433, 77.53813



**Risk Type:** Turn  
**Risk Level:** Medium  
**Speed Limit:** 30 KM/Hr  
**Coordinates:** 10.41105, 77.53824



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.40757, 77.54363





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.40110, 77.54486



**Risk Type:** Turn

**Risk Level:** High

**Speed Limit:** 15 KM/Hr

**Coordinates:** 10.39844, 77.54054





**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.39510, 77.53996



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.39345, 77.54200



**Risk Type:** Turn  
**Risk Level:** High  
**Speed Limit:** 15 KM/Hr  
**Coordinates:** 10.38642, 77.54187





**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.38208, 77.53037



**Risk Type:** Turn

**Risk Level:** Medium

**Speed Limit:** 30 KM/Hr

**Coordinates:** 10.37908, 77.52860

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