



HINDUSTAN PETROLEUM CORPORATION

Journey Risk Management Division

Powered by Route Analytics Pro - AI Intelligence Platform

COMPREHENSIVE JOURNEY RISK MANAGEMENT ANALYSIS REPORT

Enhanced with Artificial Intelligence & Multi-API Analysis

ROUTE ANALYSIS DETAILS

Route ID: af7c8826-2d0...
Origin: Unnamed Road, Oil Industry Terminals, Part
Destination: V85H+WR5, Saharanpur Rd, Ambehata Dehat, A
Total Distance: 131 km
Estimated Duration: 2 hours 27 mins
Analysis Date: June 25, 2025
Report Generated: 07:29 PM

ROAD QUALITY ENVIRONMENTAL TRAFFIC AI ANALYSIS VISUAL EVIDENCE

Generated by HPCL Journey Risk Management System - Complete Enhanced Analysis

CONFIDENTIAL - For Internal Use Only

COMPREHENSIVE ROUTE OVERVIEW & STATISTICS

ROUTE INFORMATION

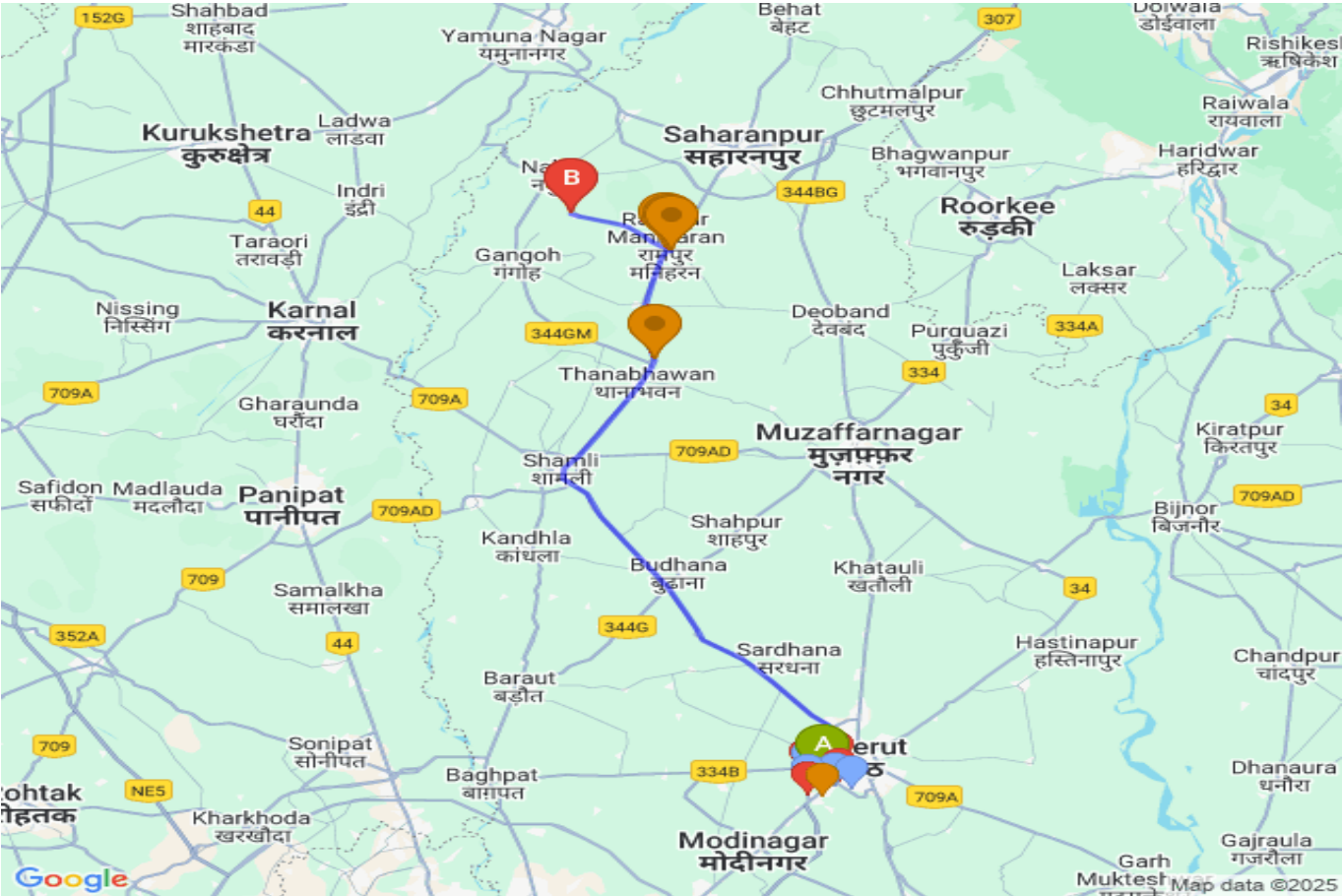
| | |
|----------------|--|
| From Address | Unnamed Road, Oil Industry Terminals, Baramulla, Jammu & Kashmir, India - 191001 |
| To Address | V85H+WR5, Saharanpur Rd, Ambehata, Baramulla, Jammu & Kashmir, India - 191010 |
| Distance | 131 km |
| Duration | 2 hours 27 mins |
| Major Highways | NH-344, NH-709 |
| Terrain | Rural Plains |

ROUTE ANALYSIS STATISTICS

| | |
|---------------------------------|----------|
| Sharp Turns Detected | 15 |
| Critical Turns (≥ 70 deg) | 7 |
| Points of Interest | 119 |
| Major Highways | 2 |
| Highway Length | 15.08 km |
| Terrain Confidence | 100.0% |

APPROVED ROUTE MAP

Comprehensive route visualization showing start/end points, critical turns, emergency services, highway junctions, and potential hazards.



MAP LEGEND

- A

Route Start Point
- T#

Critical Sharp Turns
- P

Police Stations
- G

Gas Stations
- *

Highway Junctions
- B

Route End Point
- H

Hospitals
- F

Fire Stations
- S

Schools/Education

KEY SAFETY MEASURES & REGULATORY COMPLIANCE

| | |
|---------------------|---|
| Speed Limits | NH: 60 km/h; Rural: 25-30 km/h |
| Night Driving | Prohibited: 00:00-06:00 hrs |
| Rest Breaks | Mandatory 15 min every 2 hours; Schedule: 06:00-18:00 hrs |
| Vehicle Compliance | Check brakes, tires, lights, high-speed vehicle inspection |
| Permits & Documents | Carry valid transport permits, Hazardous materials manifest if applicable |
| VTs | VTs device shall be functional (Mandatory for NH routes) |

Ensure all regulatory requirements are met before journey commencement.
Route includes major highways: NH-344, NH-709. Rural terrain requires attention to livestock and agricultural vehicles. Speed limits may vary based on local regulations and road conditions.

HIGH-RISK ZONES & KEY RISK POINTS

| Type | from Start | from End | Coordinates | Risk Level | Speed Limit | Driver Action |
|----------------------------|------------|----------|--------------------|------------|-------------|-------------------------|
| Sharp Turn #1 | 96.4 km | 14.4 km | 29.79971, 77.46206 | Critical | 10 km/h | Stop, check visibility, |
| Sharp Turn #2 | 96.5 km | 14.1 km | 29.80005, 77.45864 | Critical | 10 km/h | Stop, check visibility, |
| Sharp Turn #3 | 96.5 km | 14.1 km | 29.80005, 77.45864 | Critical | 10 km/h | Stop, check visibility, |
| Sharp Turn #4 | 96.7 km | 14.1 km | 29.80176, 77.45924 | Critical | 10 km/h | Stop, check visibility, |
| Sharp Turn #5 | 96.7 km | 14.1 km | 29.80176, 77.45924 | Critical | 10 km/h | Stop, check visibility, |
| Sharp Turn #6 | 97.1 km | 13.6 km | 29.80464, 77.45467 | Critical | 10 km/h | Stop, check visibility, |
| Sharp Turn #7 | 78.1 km | 28.1 km | 29.62532, 77.43918 | High | 20 km/h | Slow down, cautious |
| Blind Spot #1 | 2.2 km | 104.4 km | 28.96025, 77.63995 | Medium | 30 km/h | Use horn, stay alert |
| Blind Spot #2 | 106.1 km | 0.5 km | 29.86096, 77.33386 | Medium | 30 km/h | Use horn, stay alert |
| Wildlife Sanctuary | 45.7 km | 62.3 km | 29.30456, 77.42177 | Critical | Normal | Follow environmental |
| Communication Dead Zone #1 | 0.0 km | 106.1 km | 28.94966, 77.65908 | High | -- | Use alternative |
| Communication Dead Zone #2 | 5.3 km | 100.8 km | 28.99594, 77.64593 | High | -- | Use alternative |
| Poor Visibility | 0.0 km | 106.1 km | 28.94966, 77.65908 | High | Normal | Follow environmental |

RISK SUMMARY: 13 high-risk zones identified

Critical: 7 | High: 4 | Medium: 2

SEASONAL ROAD CONDITIONS & TRAFFIC PATTERNS

| Season / Condition | Critical Stretches / Coordinates / | Typical Challenges | Driver Caution |
|--------------------|--|--|--|
| Summer | NH-344 (29.3, 77.5 to 29.3, 77.4) | High temperatures -> vehicle overheating, tire blowouts | Pre-check cooling systems, carry extra water |
| Summer | NH-709 (29.4, 77.4 to 29.5, 77.3) | High temperatures -> vehicle overheating, tire blowouts | Pre-check cooling systems, carry extra water |
| Summer | Rural plains section (28.9, 77.7 to 29.9, 77.3) | Extreme heat exposure, limited shade, dust storms | Plan travel during cooler hours, carry sun protection |
| Monsoon | NH-344 (29.3, 77.5 to 29.3, 77.4) | Waterlogging, reduced visibility, flooding | Slow down, use wipers, headlights on, plan for delays |
| Monsoon | NH-709 (29.4, 77.4 to 29.5, 77.3) | Waterlogging, reduced visibility, flooding | Slow down, use wipers, headlights on, plan for delays |
| Schools | Dewan Public School International.. (28.9, 77.7) | Children crossing, school vehicles, increased pedestrian | Slow down, watch for pedestrian crossings, school timings: 7-9 AM, |
| Schools | Bhai Joga Singh Public School (28.9, 77.7) | Children crossing, school vehicles, increased pedestrian | Slow down, watch for pedestrian crossings, school timings: 7-9 AM, |
| Schools | METRO PUBLIC SCHOOL (28.9, 77.7) | Children crossing, school vehicles, increased pedestrian | Slow down, watch for pedestrian crossings, school timings: 7-9 AM, |
| Toll Plazas | NH-344 - Estimated toll plaza (29.3, 77.4) | Buildup of queues during peak times, payment delays | Plan breaks before toll, ensure lane discipline, keep exact |
| Toll Plazas | NH-709 - Estimated toll plaza (29.4, 77.3) | Buildup of queues during peak times, payment delays | Plan breaks before toll, ensure lane discipline, keep exact |

SEASONAL ANALYSIS: 10 conditions identified for route

Current season: Monsoon. Review relevant conditions above before departure.

ENVIRONMENTAL & LOCAL CONSIDERATIONS

| Zone / Area | Location / Stretch | Coordinates | Located On / Near | Environmental / Local Risk |
|--------------------|---|-------------|--------------------------------|---|
| Eco-sensitive Zone | Pollution Sensitive Area near route section 1 | 28.9, 77.7 | NH-344 near eco-sensitive area | Increased wildlife movement, no littering, noise restrictions |
| Eco-sensitive Zone | Wildlife Sanctuary near route section 2 | 29.3, 77.4 | NH-344 near eco-sensitive area | Increased wildlife movement, no littering, noise restrictions |
| School Zone | Dewan Public School International.. | 28.9, 77.7 | Near NH-344 | Pedestrian activity, reduced speed required (25 km/h), school timings |
| School Zone | Bhai Joga Singh Public School | 28.9, 77.7 | Near NH-344 | Pedestrian activity, reduced speed required (25 km/h), school timings |
| School Zone | METRO PUBLIC SCHOOL | 28.9, 77.7 | Near NH-344 | Pedestrian activity, reduced speed required (25 km/h), school timings |
| School Zone | PRESIDENCY PUBLIC SCHOOL | 28.9, 77.7 | Near NH-344 | Pedestrian activity, reduced speed required (25 km/h), school timings |
| Market Area | Commercial zone 1 (3 establishments) | 28.9, 77.7 | City centre area, local roads | High foot traffic, unpredictable congestion, parking challenges |
| Market Area | Commercial zone 2 (5 establishments) | 29.3, 77.5 | City centre area, local roads | High foot traffic, unpredictable congestion, parking challenges |
| Market Area | Commercial zone 3 (3 establishments) | 29.4, 77.3 | City centre area, local roads | High foot traffic, unpredictable congestion, parking challenges |

ENVIRONMENTAL SUMMARY: 9 zones requiring special attention

Eco-sensitive Zone: 2 | School Zone: 4 | Market Area: 3

NOTES - GENERAL ENVIRONMENTAL & LOCAL DRIVING GUIDELINES FOR PETROL

| Aspect | Guidelines / Actions |
|----------------------------------|--|
| Eco-sensitive Areas | Drive slowly, avoid honking unnecessarily, do not stop for breaks or cleaning in these areas. |
| Waterbody Crossings | Inspect for leaks before entering bridges, no refuelling or repairs on or near bridges. |
| School & Market Areas | Maintain speed limits (25-30 km/h), stay alert for children and pedestrians, avoid peak school/market hours. |
| Festivals & Local Events | Expect road diversions or closures, confirm route with local authorities or control room. |
| Littering & Pollution Prevention | Never discard trash or spill fuel; carry spill kits and clean-up materials as per SOP. |
| Noise & Cultural Sensitivity | Avoid honking in populated areas and during religious or cultural gatherings. |
| Local Road Regulations | Follow local traffic signage and any state-specific restrictions for hazardous cargo. |
| Coordination with Locals | Be courteous to local communities; stop only at designated points for rest, food, or refuelling. |

Note: These guidelines are mandatory for all petroleum tanker operations. Compliance ensures safety and environmental protection.

DEFENSIVE DRIVING & DRIVER WELL-BEING

| Checklist Item | Detailed Guidelines / Actions |
|---|---|
| Maintain safe distance, use indicators | Keep a minimum 3-second following distance from the vehicle ahead, adjust for heavy loads; always signal turns or lane changes well in advance. |
| Stay hydrated: carry water bottles | Carry at least 2 liters of drinking water. Avoid dehydration, especially in summer. Drink at rest stops every 1-2 hours. |
| Avoid heavy/oily meals before journey | Eat light, balanced meals to avoid drowsiness and discomfort. Avoid spicy, fried, or heavy foods before and during the trip. |
| Get at least 8 hours of sleep before starting | A good night's sleep is essential to reduce fatigue and maintain focus. Never start a trip when tired or drowsy. |
| Wear weather-appropriate protective gear | Use sun protection (caps, sunglasses) in summer; layered clothing in winter; always wear safety shoes and reflective vests. |
| Control speed based on road conditions | Adjust speed for weather, road curves, and heavy vehicle braking distances. Never exceed posted speed limits. |
| Plan rest breaks every 3 hours | Stop for at least 30 minutes to stretch, refresh, and check vehicle condition. Avoid continuous driving for more than 3 hours. |
| Defensive driving mindset | Stay calm, anticipate road users' actions, avoid aggression. Use mirrors frequently and watch for potential hazards ahead. |
| Emergency readiness | Keep fire extinguisher, first-aid kit, and communication device within easy reach. Be aware of nearest emergency services along the route. |

Note: These guidelines are mandatory for all petroleum tanker operations. Compliance ensures safety and environmental protection.

SHARP TURNS ANALYSIS WITH DUAL VISUAL EVIDENCE

| | |
|-----------------------------------|-----------|
| Total Sharp Turns Detected | 15 |
| Extreme Danger Turns (>=90 deg) | 6 |
| High-Risk Blind Spots (80-90 deg) | 0 |
| Sharp Danger Zones (70-80 deg) | 1 |
| Moderate Risk Turns (45-70 deg) | 8 |
| Most Dangerous Turn Angle | 180.0 deg |
| Average Turn Angle | 88.4 deg |
| Street View Images Available | 7 |
| Satellite Images Available | 7 |
| Route Map Images Available | 1 |
| Total Visual Evidence Files | 15 |

[OK] VISUAL EVIDENCE STATUS: EXCELLENT VISUAL EVIDENCE (14 images)

TURN CLASSIFICATION SYSTEM

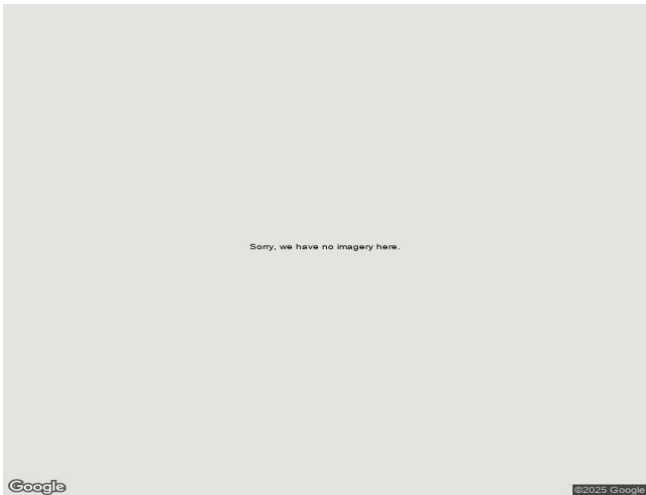
| Angle Range | Classification | Risk Level | Max Speed | Safety Requirement |
|-------------|-----------------|------------|-----------|-----------------------|
| >=90 deg | EXTREME BLIND S | CRITICAL | 15 km/h | Full stop may be requ |
| 80-90 de | HIGH-RISK BLIND | EXTREME | 20 km/h | Extreme caution requi |
| 70-80 de | BLIND SPOT | HIGH | 25 km/h | High caution required |
| 60-70 de | HIGH-ANGLE TURN | MEDIUM | 30 km/h | Moderate caution requ |
| 45-60 de | SHARP TURN | LOW | 40 km/h | Normal caution requir |

CRITICAL TURNS WITH DUAL VISUAL EVIDENCE ANALYSIS

| CRITICAL TURN #1: 180.0 deg - EXTREME BLIND SPOT - CRITICAL RISK | |
|--|---|
| GPS Coordinates | 29.799710, 77.462060 |
| Turn Angle | 180.0 deg (Deviation from straight path) |
| Risk Classification | EXTREME BLIND SPOT - CRITICAL Risk Level |
| Recommended Maximum Speed | 15 km/h |
| Safety Distance Required | Minimum 50m approach visibility |
| Driver Action Required | Reduce speed, check mirrors, signal early |
| Street View Images | 1 images available |
| Satellite Images | 1 images available |
| Total Visual Evidence | 2 images for analysis |

VISUAL EVIDENCE FOR TURN #1:

STREET VIEW ANALYSIS:



STREET VIEW DATA:
File: streetview_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_1_h0.jpg
Size: 8.6 KB
GPS: 29.7997, 77.4621

- ROAD ANALYSIS:
- * Turn angle: 180.0 degrees
 - * Visibility: Limited due to sharp curve
 - * Hazard level: CRITICAL
 - * Max speed: 15 km/h

SATELLITE VIEW ANALYSIS:



SATELLITE VIEW DATA:
File: satellite_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_1.png
Size: 317.6 KB
GPS: 29.7997, 77.4621

- AERIAL ANALYSIS:
- * Turn geometry: 180.0 deg curve
 - * Road curvature: Sharp bend visible
 - * Terrain context: Aerial perspective
 - * Traffic flow impact: Potential bottleneck

CRITICAL TURN #2: 159.6 deg - EXTREME BLIND SPOT - CRITICAL RISK

| | |
|---------------------------|---|
| GPS Coordinates | 29.800050, 77.458640 |
| Turn Angle | 159.6 deg (Deviation from straight path) |
| Risk Classification | EXTREME BLIND SPOT - CRITICAL Risk Level |
| Recommended Maximum Speed | 15 km/h |
| Safety Distance Required | Minimum 50m approach visibility |
| Driver Action Required | Reduce speed, check mirrors, signal early |
| Street View Images | 2 images available |
| Satellite Images | 2 images available |
| Total Visual Evidence | 4 images for analysis |

VISUAL EVIDENCE FOR TURN #2:

STREET VIEW ANALYSIS:



STREET VIEW DATA:
File: streetview_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_2_h0.jpg
Size: 59.0 KB
GPS: 29.8000, 77.4586

ROAD ANALYSIS:
* Turn angle: 159.6 degrees
* Visibility: Limited due to sharp curve
* Hazard level: CRITICAL
* Max speed: 15 km/h

SATELLITE VIEW ANALYSIS:



SATELLITE VIEW DATA:
File: satellite_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_2.png
Size: 308.2 KB
GPS: 29.8000, 77.4586

AERIAL ANALYSIS:
* Turn geometry: 159.6 deg curve
* Road curvature: Sharp bend visible
* Terrain context: Aerial perspective
* Traffic flow impact: Potential bottleneck

CRITICAL TURN #3: 159.6 deg - EXTREME BLIND SPOT - CRITICAL RISK

| | |
|---------------------------|---|
| GPS Coordinates | 29.800050, 77.458640 |
| Turn Angle | 159.6 deg (Deviation from straight path) |
| Risk Classification | EXTREME BLIND SPOT - CRITICAL Risk Level |
| Recommended Maximum Speed | 15 km/h |
| Safety Distance Required | Minimum 50m approach visibility |
| Driver Action Required | Reduce speed, check mirrors, signal early |
| Street View Images | 2 images available |
| Satellite Images | 2 images available |
| Total Visual Evidence | 4 images for analysis |

VISUAL EVIDENCE FOR TURN #3:

STREET VIEW ANALYSIS:



STREET VIEW DATA:
File: streetview_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_2_h0.jpg
Size: 59.0 KB
GPS: 29.8000, 77.4586

ROAD ANALYSIS:
* Turn angle: 159.6 degrees
* Visibility: Limited due to sharp curve
* Hazard level: CRITICAL
* Max speed: 15 km/h

SATELLITE VIEW ANALYSIS:



SATELLITE VIEW DATA:
File: satellite_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_2.png
Size: 308.2 KB
GPS: 29.8000, 77.4586

AERIAL ANALYSIS:
* Turn geometry: 159.6 deg curve
* Road curvature: Sharp bend visible
* Terrain context: Aerial perspective
* Traffic flow impact: Potential bottleneck

CRITICAL TURN #4: 113.0 deg - EXTREME BLIND SPOT - CRITICAL RISK

| | |
|---------------------------|---|
| GPS Coordinates | 29.801760, 77.459240 |
| Turn Angle | 113.0 deg (Deviation from straight path) |
| Risk Classification | EXTREME BLIND SPOT - CRITICAL Risk Level |
| Recommended Maximum Speed | 15 km/h |
| Safety Distance Required | Minimum 50m approach visibility |
| Driver Action Required | Reduce speed, check mirrors, signal early |
| Street View Images | 2 images available |
| Satellite Images | 2 images available |
| Total Visual Evidence | 4 images for analysis |

VISUAL EVIDENCE FOR TURN #4:

STREET VIEW ANALYSIS:



STREET VIEW DATA:
File: streetview_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_4_h0.jpg
Size: 59.5 KB
GPS: 29.8018, 77.4592

- ROAD ANALYSIS:
- * Turn angle: 113.0 degrees
 - * Visibility: Limited due to sharp curve
 - * Hazard level: CRITICAL
 - * Max speed: 15 km/h

SATELLITE VIEW ANALYSIS:



SATELLITE VIEW DATA:
File: satellite_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_4.png
Size: 342.8 KB
GPS: 29.8018, 77.4592

- AERIAL ANALYSIS:
- * Turn geometry: 113.0 deg curve
 - * Road curvature: Sharp bend visible
 - * Terrain context: Aerial perspective
 - * Traffic flow impact: Potential bottleneck

CRITICAL TURN #5: 113.0 deg - EXTREME BLIND SPOT - CRITICAL RISK

| | |
|---------------------------|---|
| GPS Coordinates | 29.801760, 77.459240 |
| Turn Angle | 113.0 deg (Deviation from straight path) |
| Risk Classification | EXTREME BLIND SPOT - CRITICAL Risk Level |
| Recommended Maximum Speed | 15 km/h |
| Safety Distance Required | Minimum 50m approach visibility |
| Driver Action Required | Reduce speed, check mirrors, signal early |
| Street View Images | 2 images available |
| Satellite Images | 2 images available |
| Total Visual Evidence | 4 images for analysis |

VISUAL EVIDENCE FOR TURN #5:

STREET VIEW ANALYSIS:



STREET VIEW DATA:
File: streetview_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_4_h0.jpg
Size: 59.5 KB
GPS: 29.8018, 77.4592

- ROAD ANALYSIS:
- * Turn angle: 113.0 degrees
 - * Visibility: Limited due to sharp curve
 - * Hazard level: CRITICAL
 - * Max speed: 15 km/h

SATELLITE VIEW ANALYSIS:



SATELLITE VIEW DATA:
File: satellite_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_4.png
Size: 342.8 KB
GPS: 29.8018, 77.4592

- AERIAL ANALYSIS:
- * Turn geometry: 113.0 deg curve
 - * Road curvature: Sharp bend visible
 - * Terrain context: Aerial perspective
 - * Traffic flow impact: Potential bottleneck

| CRITICAL TURN #6: 97.4 deg - EXTREME BLIND SPOT - CRITICAL RISK | |
|---|---|
| GPS Coordinates | 29.804640, 77.454670 |
| Turn Angle | 97.4 deg (Deviation from straight path) |
| Risk Classification | EXTREME BLIND SPOT - CRITICAL Risk Level |
| Recommended Maximum Speed | 15 km/h |
| Safety Distance Required | Minimum 50m approach visibility |
| Driver Action Required | Reduce speed, check mirrors, signal early |
| Street View Images | 1 images available |
| Satellite Images | 1 images available |
| Total Visual Evidence | 2 images for analysis |

VISUAL EVIDENCE FOR TURN #6:

STREET VIEW ANALYSIS:



STREET VIEW DATA:
File: streetview_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_6_h0.jpg
Size: 48.4 KB
GPS: 29.8046, 77.4547

- ROAD ANALYSIS:
- * Turn angle: 97.4 degrees
 - * Visibility: Limited due to sharp curve
 - * Hazard level: CRITICAL
 - * Max speed: 15 km/h

SATELLITE VIEW ANALYSIS:



SATELLITE VIEW DATA:
File: satellite_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_6.png
Size: 353.5 KB
GPS: 29.8046, 77.4547

- AERIAL ANALYSIS:
- * Turn geometry: 97.4 deg curve
 - * Road curvature: Sharp bend visible
 - * Terrain context: Aerial perspective
 - * Traffic flow impact: Potential bottleneck

CRITICAL TURN #7: 75.7 deg - BLIND SPOT - HIGH RISK

| | |
|---------------------------|---|
| GPS Coordinates | 29.625320, 77.439180 |
| Turn Angle | 75.7 deg (Deviation from straight path) |
| Risk Classification | BLIND SPOT - HIGH Risk Level |
| Recommended Maximum Speed | 25 km/h |
| Safety Distance Required | Minimum 50m approach visibility |
| Driver Action Required | Reduce speed, check mirrors, signal early |
| Street View Images | 1 images available |
| Satellite Images | 1 images available |
| Total Visual Evidence | 2 images for analysis |

VISUAL EVIDENCE FOR TURN #7:

STREET VIEW ANALYSIS:



STREET VIEW DATA:
File: streetview_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_7_h0.jpg
Size: 50.9 KB
GPS: 29.6253, 77.4392

- ROAD ANALYSIS:
- * Turn angle: 75.7 degrees
 - * Visibility: Limited due to sharp curve
 - * Hazard level: HIGH
 - * Max speed: 25 km/h

SATELLITE VIEW ANALYSIS:



SATELLITE VIEW DATA:
File: satellite_af7c8826-2d03-4239-aceb-0c329bbf2064_turn_7.png
Size: 299.5 KB
GPS: 29.6253, 77.4392

- AERIAL ANALYSIS:
- * Turn geometry: 75.7 deg curve
 - * Road curvature: Sharp bend visible
 - * Terrain context: Aerial perspective
 - * Traffic flow impact: Potential bottleneck

| CRITICAL TURN #8: 68.3 deg - HIGH-ANGLE TURN - MEDIUM RISK | |
|--|---|
| GPS Coordinates | 28.960250, 77.639950 |
| Turn Angle | 68.3 deg (Deviation from straight path) |
| Risk Classification | HIGH-ANGLE TURN - MEDIUM Risk Level |
| Recommended Maximum Speed | 30 km/h |
| Safety Distance Required | Minimum 50m approach visibility |
| Driver Action Required | Reduce speed, check mirrors, signal early |
| Street View Images | 0 images available |
| Satellite Images | 0 images available |
| Total Visual Evidence | 0 images for analysis |

No visual evidence available for Turn #8

Images may be available at nearby coordinates: 28.9602, 77.6399

COMPREHENSIVE POINTS OF INTEREST ANALYSIS

| | |
|-----------------------------|-----------|
| Total POIs Identified | 119 |
| Emergency Services | 44 |
| Essential Services | 25 |
| Other Services | 50 |
| Coverage Score | 100/100 |
| Service Availability Rating | EXCELLENT |

SERVICE AVAILABILITY: EXCELLENT SERVICE COVERAGE (100/100)

MEDICAL FACILITIES - Emergency Healthcare Services (25 found) - CRITICAL

| # | Facility Name | Location/Address | Distance | Notes |
|----|--------------------|-----------------------|----------|----------|
| 1 | Sanjeevani Yoga An | Unnamed Road, Surya P | Along ro | Emergenc |
| 2 | Chhatrapati Shivaj | Swami Vivekanand Subh | Along ro | Emergenc |
| 3 | Dr Lal PathLabs - | Shop No 17, Khana Pla | Along ro | Emergenc |
| 4 | Kalka Dental Colle | near Partapur Flyover | Along ro | Emergenc |
| 5 | Davki Nandan Hospi | Devkinandan hospital, | Along ro | Emergenc |
| 6 | kailashi super spe | C-2 Shardhapuri Phase | Along ro | Emergenc |
| 7 | Hans Multispeciali | 512, Sardhana Road, O | Along ro | Emergenc |
| 8 | Prakash Hospital | 1/108, Dantal Jatoli | Along ro | Emergenc |
| 9 | Omnibus Healthcare | 1H, NH58, Ansal City, | Along ro | Emergenc |
| 10 | G.M. Modi Hospital | 3P75+J72, Modipuram, | Along ro | Emergenc |
| 11 | Government Hospita | 4GMR+XV2 | Along ro | Emergenc |
| 12 | Community health c | 4GMR+QWG, Meerut | Along ro | Emergenc |
| 13 | medical store | 4GWP+9HQ, Dahar | Along ro | Emergenc |
| 14 | Aadi Medical Store | Jasar Sultannagar | Along ro | Emergenc |
| 15 | Panwar Medical Sto | 5G49+MVV, Gotka | Along ro | Emergenc |
| 16 | Seva Charitable Ho | Muzaffarnagar Road, p | Along ro | Emergenc |
| 17 | life line clinic | 2, Budhana | Along ro | Emergenc |
| 18 | Dr aatma ram eye h | Baraut Road, Budhana | Along ro | Emergenc |
| 19 | Rafikan Physio Cli | satheri road, Budhana | Along ro | Emergenc |
| 20 | Ayushman arogye ma | 6FJP+C6R, Kurthal | Along ro | Emergenc |
| 21 | Get Well Hospital | Karnal - Shamli Road, | Along ro | Emergenc |
| 22 | Ayushman Arogya Ma | C83X+279, Kabraut | Along ro | Emergenc |
| 23 | bansal hospital | C83Q+V9C, Jhal | Along ro | Emergenc |
| 24 | Ayushman arogya ma | C83P+4PW, Jhal | Along ro | Emergenc |
| 25 | Arvind I owner | C9F9+XQJ, Kudana | Along ro | Emergenc |

LAW ENFORCEMENT - Security & Emergency Response (18 found) - CRITICAL

| # | Facility Name | Location/Address | Distance | Notes |
|----|--------------------|-----------------------|----------|-------|
| 1 | Nauchandi Police S | Mohsin Bagh, Manzoor | Along ro | |
| 2 | Shatabdi Nagar Pol | WMPG+W37, Shatabdi Na | Along ro | |
| 3 | Police Choki Shubh | XJ5Q+9R6, NH58, Meeru | Along ro | |
| 4 | Pari Chowk | WJPR+VG3, Pari Chowk, | Along ro | |
| 5 | Police Choki VedVy | XJ7R+37V, NH58, Ved V | Along ro | |
| 6 | Police chawki | 2MMF+C6W, Unnamed Roa | Along ro | |
| 7 | Police Station, Ka | B30 Sardhana Road, Ka | Along ro | |
| 8 | Police Chowki kasb | 1/126, Shradha Puri R | Along ro | |
| 9 | Police Choki | 2PP4+QH4, Krishna Nag | Along ro | |
| 10 | Police post Modipu | Bus Station, 2PX4+JVG | Along ro | |
| 11 | Police check post | 4HP8+GG5, Karnal - Me | Along ro | |
| 12 | Police Station Sar | 4GMR+54G | Along ro | |
| 13 | Diwan ji | 4GR9+GX, Jasar Sultan | Along ro | |
| 14 | Police Station | 7FR9+29Q, Budhana | Along ro | |
| 15 | Bai wala police st | 7F54+GM5, Budhana Roa | Along ro | |
| 16 | Police chunki | 7CMP+WW3, Vigyana | Along ro | |
| 17 | ????? ???? ?????? | 7FRG+6H8, MDR 22W, Bu | Along ro | |
| 18 | Police Chowki Lank | 99F9+GCP, National Hi | Along ro | |

FIRE & RESCUE - Emergency Response Services (1 found) - CRITICAL

| # | Facility Name | Location/Address | Distance | Notes |
|---|--------------------|-----------------------|----------|-------|
| 1 | Fire Station Parta | WMC5+X9P, Sector 2, M | Along ro | |

FUEL STATIONS - Vehicle Refueling Points (25 found) - ESSENTIAL

| # | Facility Name | Location/Address | Distance | Notes |
|----|--------------------|-----------------------|----------|-------|
| 1 | IndianOil | Rithani, Delhi - Meer | Along ro | Fuel |
| 2 | cng pump meerut | WMJ5+6X6, Block 4A, S | Along ro | Fuel |
| 3 | Hindustan Petroleu | Ground Floor, Crossin | Along ro | Fuel |
| 4 | Allen Oil | WMG5+4FP, Sector 2, M | Along ro | Fuel |
| 5 | Raj Service Statio | Bhoor Baral, NH 58, M | Along ro | Fuel |
| 6 | IndianOil | Sardhana Road, Kanker | Along ro | Fuel |
| 7 | Nayara Filling Sta | 279/1, Shradha Puri R | Along ro | Fuel |
| 8 | IndianOil | Ground Floor,NH 58, H | Along ro | Fuel |
| 9 | IndianOil | Roorkee Road, Vivek V | Along ro | Fuel |
| 10 | IndianOil | Ground Floor, Roorkee | Along ro | Fuel |
| 11 | RDML Energy Servic | Bhuni Crossing Binoli | Along ro | Fuel |
| 12 | Petrol Pump | Meerut | Along ro | Fuel |
| 13 | Shiv Kailash Fuel | Meerut Karnal, Nation | Along ro | Fuel |
| 14 | Hindustan Petroleu | Khasra No 29 NH 709A, | Along ro | Fuel |
| 15 | IndianOil | Ground Floor, Julhera | Along ro | Fuel |
| 16 | Hindustan Petroleu | Ground Floor, Baraut | Along ro | Fuel |
| 17 | Hp Petrol Pump - M | Budhana Bagar | Along ro | Fuel |
| 18 | IndianOil | Ground Floor, Budhana | Along ro | Fuel |
| 19 | Shaheed Rizwan gas | 7FM5+8FG, Budhana Bag | Along ro | Fuel |
| 20 | Manya Garg | Budhana-Muzaffarnagar | Along ro | Fuel |
| 21 | IndianOil | Ground Floor, Shamli | Along ro | Fuel |
| 22 | HP Petrol Pump - G | C84X+9WF, Kabraut | Along ro | Fuel |
| 23 | My Eco Energy | India | Along ro | Fuel |
| 24 | HPCL Petrol Pump- | NH709A, Meerut, to, K | Along ro | Fuel |
| 25 | BPCL petrol pump M | Kudana Road, Shamli | Along ro | Fuel |

EDUCATIONAL INSTITUTIONS - Speed Limit Zones (40 km/h) (25 found) - AWARENESS

| # | Facility Name | Location/Address | Distance | Notes |
|----|--------------------|-----------------------|----------|---------|
| 1 | Dewan Public Schoo | 143, Delhi Road, Phas | Along ro | 40 km/h |
| 2 | Bhai Joga Singh Pu | WMXM+H76, Surya Palac | Along ro | 40 km/h |
| 3 | METRO PUBLIC SCHOO | Shatabdi Nagar, Ritha | Along ro | 40 km/h |
| 4 | PRESIDENCY PUBLIC | WMPF+Q99, Delhi Road, | Along ro | 40 km/h |
| 5 | SHEMROCK Smart Lea | Pocket B, NS-2, Shata | Along ro | 40 km/h |
| 6 | St. Francis' Conve | Sardhana Road, Kanker | Along ro | 40 km/h |
| 7 | St Mary's Academy | 2M4X+H44, Cariappa Rd | Along ro | 40 km/h |
| 8 | K.D. International | National Highway 58, | Along ro | 40 km/h |
| 9 | J.P. International | opposite grand opera, | Along ro | 40 km/h |
| 10 | American Kidz Play | Ark city D Block, Lax | Along ro | 40 km/h |
| 11 | J.N.Public School | 5GGW+WXW, Meerut | Along ro | 40 km/h |
| 12 | Chaudhary Amar Sin | 4HQ6+VMQ, Gotka | Along ro | 40 km/h |
| 13 | Kadam Public Schoo | Bhooni Chauraha, Sham | Along ro | 40 km/h |
| 14 | Guljaridrishi | 4HP8+GG3, Road, Ranch | Along ro | 40 km/h |
| 15 | saraswati shishu m | 4GWP+HM9, Dahar | Along ro | 40 km/h |
| 16 | Balwanti Devi Kany | Baraut, Budhana Road, | Along ro | 40 km/h |
| 17 | Shaheed Rizwan Tya | 7CFV+CGF, State Highw | Along ro | 40 km/h |
| 18 | Maples Academy | 7CPV+2C2, Kandhla - B | Along ro | 40 km/h |
| 19 | RASHTRIYA INTER CO | 7FQ9+4F3, teacher col | Along ro | 40 km/h |
| 20 | Indian Public Scho | 7CJ7+WM3, Jaula | Along ro | 40 km/h |
| 21 | Vedantam Public Sc | Kudana Main Road, Jam | Along ro | 40 km/h |
| 22 | BrainZone Junior H | Karnal - Meerut Road, | Along ro | 40 km/h |
| 23 | KVM High School Ka | C942+XFG, Karnal - Me | Along ro | 40 km/h |
| 24 | UPS BARLA JAT COMP | C89X+RXW, Barla Jatt | Along ro | 40 km/h |
| 25 | Sahib,s home | C83Q+8WP, Jhal | Along ro | 40 km/h |

FOOD & REST - Meal Stops & Driver Rest Areas (25 found) - CONVENIENCE

| # | Facility Name | Location/Address | Distance | Notes |
|----|--------------------|-----------------------|----------|-------|
| 1 | Hotel Bravura Gold | Delhi Roorkee, Bypass | Along ro | |
| 2 | CROWN Hotel & Rest | Ved Vyas Puri -Phase | Along ro | |
| 3 | Domino's Pizza S | Shop No. 7A, Upper Gr | Along ro | |
| 4 | KFC | Sports Goods Complex, | Along ro | |
| 5 | SF Food Pure Veg P | 3rd Floor, Food Court | Along ro | |
| 6 | Biggies Restaurant | NH-58, NH58, Meerut | Along ro | |
| 7 | Meera's Bistro Amo | 2MF8+M9, Kanker Khera | Along ro | |
| 8 | Anupam Fast Food C | 2PX4+HRP, Meerut Bypa | Along ro | |
| 9 | Aangan restaurant | 160, opposite Hotel D | Along ro | |
| 10 | Veera deluxe Resta | 2MQ8+9Q5, Sardhana By | Along ro | |
| 11 | Sunny restaurant | 4HQ7+R7X, Bhuni | Along ro | |
| 12 | Fauji Restaurant & | 4HP8+83G, Bhuni Chowk | Along ro | |
| 13 | CHAUDHARY DHABA | 4HP9+XJJ, Sardhana - | Along ro | |
| 14 | Akki fast food | India | Along ro | |
| 15 | Green Vatika Resta | 4HQC+5GH, Sardhana - | Along ro | |
| 16 | Ashok Maggie Point | Ashok Maggie Point, B | Along ro | |
| 17 | Mahadev Maggie Poi | Karnal - Meerut Road, | Along ro | |
| 18 | Sadda Adda | Baiwala chowk, Budhan | Along ro | |
| 19 | VINAYAK ENTERPRISE | near Baiwala, Baraut | Along ro | |
| 20 | Madhav Dhaba No. | India | Along ro | |
| 21 | Mid-Way Point Fami | NH 709A, Karnal - Mee | Along ro | |
| 22 | Amritsari Truck Dh | C87W+F9F, Shamli | Along ro | |
| 23 | Highway family dha | C87W+R5G, Barla Jatt | Along ro | |
| 24 | Shiva pure vegetar | Village and post, Kab | Along ro | |
| 25 | hotel midway guest | C82X+W83, Kabraut | Along ro | |

CRITICAL SERVICE GAPS IDENTIFIED

* No critical service gaps identified - Good service coverage along route

COMPREHENSIVE NETWORK COVERAGE ANALYSIS

| | |
|----------------------------|----------|
| Analysis Points Tested | 20 |
| Overall Coverage Score | 57.0/100 |
| Coverage Status | MODERATE |
| Dead Zones Identified | 3 |
| Poor Coverage Areas | 4 |
| Good Coverage Areas | 35.0% |
| Network Reliability Rating | LOW |

NETWORK RELIABILITY: MODERATE (57.0/100)

SIGNAL QUALITY DISTRIBUTION ANALYSIS

| Signal Quality Level | Points Count | Route % | Status |
|-----------------------|--------------|---------|----------|
| No Signal (Dead Zone) | 3 | 15.0% | Critical |
| Fair Signal (2-3 bar) | 6 | 30.0% | Good |
| Poor Signal (1-2 bar) | 4 | 20.0% | Attentio |
| Good Signal (3-4 bar) | 4 | 20.0% | Good |
| Excellent Signal (4- | 3 | 15.0% | Good |

CRITICAL COMMUNICATION PROBLEMS (7 areas)

DEAD ZONES - NO CELLULAR SERVICE (3 locations):

| Zone # | GPS Coordinates | Impact Level | Recommendation |
|--------|------------------|--------------|------------------------------|
| 1 | 28.9497, 77.6591 | CRITICAL | Use satellite phone or emerg |

| | | | |
|---|------------------|----------|------------------------------|
| 2 | 28.9959, 77.6459 | CRITICAL | Use satellite phone or emerg |
| 3 | 29.7682, 77.4412 | CRITICAL | Use satellite phone or emerg |

POOR COVERAGE AREAS (4 locations):

| Area # | GPS Coordinates | Signal Level | Recommendation |
|--------|------------------|--------------|------------------------------|
| 1 | 29.1456, 77.5534 | WEAK | Download offline maps, carry |
| 2 | 29.1900, 77.4955 | WEAK | Download offline maps, carry |
| 3 | 29.8073, 77.4475 | WEAK | Download offline maps, carry |
| 4 | 29.8417, 77.3956 | WEAK | Download offline maps, carry |

NETWORK COVERAGE RECOMMENDATIONS

- 1. Route has 3 dead zones - consider satellite communication device
- 2. Multiple poor coverage areas - download offline maps before travel
- 3. Inform someone of your route and expected arrival time

EMERGENCY COMMUNICATION PLAN

- * Download offline maps before travel (Google Maps, Maps.me)
- * Inform someone of your route and expected arrival time
- * Carry a satellite communication device for dead zones
- * Keep emergency numbers saved: 112 (Emergency), 100 (Police), 108 (Ambulance)
- * Consider two-way radios for convoy travel
- * Identify nearest towers and repeater locations along route

COMPREHENSIVE WEATHER CONDITIONS ANALYSIS

| | |
|-----------------------------|--------------------------|
| Weather Analysis Points | 10 |
| Average Temperature | 32.7 deg C |
| Temperature Range | 32.1 deg C to 33.5 deg C |
| Average Humidity | 52.1% |
| Average Wind Speed | 2.9 km/h |
| Weather Conditions Detected | 2 different types |
| Weather Risk Assessment | LOW |

TEMPERATURE STATUS: MODERATE TEMPERATURE CONDITIONS (32.7 deg C)

WEATHER CONDITIONS BREAKDOWN

| Weather Condition | Frequency | Route % | Risk Level | Driver Impact |
|-------------------|-----------|---------|------------|---------------------------|
| Clouds | 7 | 70.0% | MODERATE | Reduced visibility, lower |
| Clear | 3 | 30.0% | LOW | Good driving conditions |

WEATHER-BASED VEHICLE PREPARATION

- * Standard vehicle maintenance check recommended
- * Ensure all fluid levels are adequate
- * Check tire condition and pressure
- * Verify all lights are functioning properly

COMPREHENSIVE REGULATORY COMPLIANCE ANALYSIS

[!] COMPLIANCE STATUS: NEEDS ATTENTION (Score: 70/100)

VEHICLE & ROUTE COMPLIANCE DETAILS

| | |
|-------------------------------|--|
| Vehicle Type | Heavy Goods Vehicle |
| Vehicle Category | Heavy Goods Vehicle |
| Vehicle Weight Classification | 18,000 kg |
| AIS-140 GPS Tracking Required | YES (Mandatory) |
| Route Origin | Unnamed Road, Oil Industry Terminals, Partapur, Me |
| Route Destination | V85H+WR5, Saharanpur Rd, Ambehata Dehat, Ambheta, |
| Total Route Distance | 131 km |
| Estimated Travel Duration | 2 hours 27 mins |
| Interstate Travel | NO |

MANDATORY COMPLIANCE REQUIREMENTS

| Requirement Category | Compliance Status | Action Required |
|----------------------|-------------------|------------------------------|
| Valid Driving Licens | REQUIRED | Verify license category matc |
| Vehicle Registration | REQUIRED | Ensure current registration |
| Vehicle Insurance | REQUIRED | Valid comprehensive insuranc |
| Route Permits | CONDITIONAL | Required for interstate/heav |
| AIS-140 GPS Device | REQUIRED | Install certified GPS tracki |
| Driving Time Limits | REQUIRED | Maximum 10 hours continuous |
| Vehicle Fitness Cert | REQUIRED | Valid pollution and fitness |
| Driver Medical Certi | REQUIRED | Valid medical fitness certif |

COMPLIANCE ISSUES REQUIRING IMMEDIATE ATTENTION (2)

- 1. AIS-140 GPS tracking device required - Address before travel
- 2. Heavy vehicle - weight restrictions may apply - Address before travel

APPLICABLE REGULATORY FRAMEWORK

- * Motor Vehicles Act, 1988 - Vehicle registration and licensing requirements
- * Central Motor Vehicles Rules, 1989 - Technical specifications and safety
- * AIS-140 Standards - GPS tracking and panic button requirements
- * Road Transport and Safety Policy (RTSP) - Driver working hours
- * Interstate Transport Permits - Required for commercial interstate travel
- * Pollution Control Board Norms - Emission standards compliance
- * Goods and Services Tax (GST) - Tax compliance for commercial transport
- * Road Safety and Transport Authority - State-specific requirements

COMPLIANCE RECOMMENDATIONS

- 1. Ensure all vehicle documents are current and accessible
- 2. Verify driver license category matches vehicle type
- 3. Check route-specific permits and restrictions
- 4. Install AIS-140 compliant GPS tracking device

NON-COMPLIANCE PENALTIES & CONSEQUENCES

- * Driving without valid license: Fine up to Rs 5,000 + imprisonment
- * Vehicle without registration: Fine up to Rs 10,000 + vehicle seizure
- * No insurance: Fine up to Rs 2,000 + vehicle seizure
- * AIS-140 non-compliance: Permit cancellation + heavy fines
- * Overloading violations: Fine Rs 20,000 + per excess ton
- * Driving time violations: License suspension + fines
- * Interstate without permits: Vehicle seizure + penalty
- * Environmental violations: Fine up to Rs 10,000 + registration cancellation

COMPREHENSIVE ELEVATION & TERRAIN ANALYSIS

| | |
|------------------------------|--|
| Data Source | Google Elevation API (Live Data) |
| Total Analysis Points | 20 coordinates |
| Minimum Elevation | 244.9 meters above sea level |
| Maximum Elevation | 284.0 meters above sea level |
| Average Elevation | 264.0 meters above sea level |
| Total Elevation Range | 39.1 meters |
| Terrain Classification | PLAINS |
| Driving Difficulty Level | LOW |
| Fuel Consumption Impact | LOW - Minimal impact on fuel consumption |
| Significant Changes Detected | 0 elevation changes > 50m |

TERRAIN ASSESSMENT: PLAINS TERRAIN - EASY CONDITIONS

ELEVATION-BASED DRIVING CHALLENGES

- * Minimal elevation changes with flat terrain
- * Normal fuel consumption expected
- * Standard vehicle performance throughout
- * No significant gradient-related challenges

ELEVATION-SPECIFIC VEHICLE PREPARATION

- * Standard vehicle maintenance check sufficient
- * Normal fuel planning adequate
- * Standard tire and brake inspection

FUEL CONSUMPTION IMPACT ANALYSIS

- * Normal fuel consumption expected

- * Standard fuel planning adequate
- * Total ascent sections identified: 0
- * Total descent sections identified: 0

COMPREHENSIVE TRAFFIC ANALYSIS

| | |
|---------------------------|---------------|
| Route Segments Analyzed | 10 |
| Overall Traffic Score | 97.5/100 |
| Traffic Condition | EXCELLENT |
| Average Travel Time Index | 1.03 |
| Average Current Speed | 50.7 km/h |
| Average Free Flow Speed | 51.8 km/h |
| Heavy Traffic Segments | 0 |
| Moderate Traffic Segments | 0 |
| Free Flow Segments | 9 |
| Worst Congestion Areas | 0.0% of route |

TRAFFIC STATUS: EXCELLENT TRAFFIC CONDITIONS (97.5/100)

TRAFFIC-BASED RECOMMENDATIONS

- 1. Check current traffic conditions before departure
- 2. Consider public transportation alternatives for heavily congested routes
- 3. Plan rest stops during low-traffic segments

COMPREHENSIVE ROAD QUALITY & SURFACE CONDITIONS

| | |
|------------------------------|----------------------|
| Total Analysis Points | 21 |
| Road Quality Issues Detected | 21 |
| Critical Condition Areas | 2 |
| High Risk Areas | 19 |
| Medium Risk Areas | 0 |
| API Sources Used | google_roads, mapbox |
| Analysis Confidence | Medium |
| Overall Road Quality Score | 3.8/10 |

ROAD QUALITY STATUS: POOR ROAD CONDITIONS (3.8/10)

IDENTIFIED ROAD QUALITY ISSUES (21 locations)

| Location (GPS) | Issue Type | Severity | Speed Limit | Description |
|----------------|-------------|----------|-------------|-----------------------|
| 28.9497, 77.6 | Critical Co | Critical | 30 km/h | Critical road condi |
| 28.9959, 77.6 | Poor Surfac | Critical | 30 km/h | Critical road condi |
| 29.0382, 77.6 | Minor Issue | High | 40 km/h | Poor road surface con |
| 29.0892, 77.6 | Minor Issue | High | 40 km/h | Poor road surface con |
| 29.1456, 77.5 | Poor Surfac | High | 40 km/h | Poor road surface con |
| 29.1900, 77.4 | Minor Issue | High | 40 km/h | Poor road surface con |
| 29.2587, 77.4 | Minor Issue | High | 40 km/h | Poor road surface con |
| 29.3313, 77.4 | Poor Surfac | High | 40 km/h | Poor road surface con |
| 29.4109, 77.3 | Poor Surfac | High | 40 km/h | Poor road surface con |
| 29.4514, 77.3 | Poor Surfac | High | 40 km/h | Poor road surface con |

VEHICLE-SPECIFIC ROAD QUALITY RECOMMENDATIONS

- * Heavy vehicles: Reduce speed by 20% in areas with road quality scores below 6/10
- * Check tire pressure more frequently when traveling through poor surface areas
- * Increase following distance by 50% in road quality risk zones
- * Plan additional maintenance checks after routes with multiple road quality issues
- * Consider alternative routes for high-value or sensitive cargo in critical condition areas
- * Carry emergency repair kit for tire damage in poor road surface zones

COMPREHENSIVE ENVIRONMENTAL RISK ASSESSMENT

| | |
|-----------------------------|--|
| Total Analysis Points | 7 |
| Eco-Sensitive Zones | 2 |
| Air Quality Risk Areas | 0 |
| Weather Hazard Zones | 5 |
| Seasonal Risk Areas | 0 |
| Overall Environmental Score | 3.0/10 |
| Primary Risk Level | High |
| API Sources Used | OpenWeather, Visual Crossing, Tomorrow.io, Google Places |

ENVIRONMENTAL STATUS: CRITICAL ENVIRONMENTAL RISKS (3.0/10)

ENVIRONMENTAL RISKS IDENTIFIED (7 locations)

| Risk Type | GPS Location | Severity | Category | Description |
|-------------|---------------|----------|----------|-----------------------|
| Pollution S | 28.9497, 77.6 | Medium | Ecologic | |
| Wildlife Sa | 29.3046, 77.4 | Critical | Ecologic | |
| Poor Visibi | 28.9497, 77.6 | High | Weather | Reduced visibility co |
| Poor Visibi | 29.0099, 77.6 | High | Weather | Reduced visibility co |
| Poor Visibi | 29.0613, 77.6 | High | Weather | Reduced visibility co |
| Poor Visibi | 29.1442, 77.5 | High | Weather | Reduced visibility co |
| Poor Visibi | 29.2017, 77.4 | High | Weather | Reduced visibility co |

ENVIRONMENTAL COMPLIANCE & BEST PRACTICES

* Comply with National Green Tribunal (NGT) regulations in eco-sensitive zones

- * Follow Central Pollution Control Board (CPCB) emission standards
- * Adhere to Wildlife Protection Act requirements in sanctuary areas
- * Implement noise control measures during night hours in sensitive zones
- * Ensure vehicle PUC (Pollution Under Control) certificate is current
- * Carry emergency spill containment kit for hazardous cargo

COMPREHENSIVE EMERGENCY PREPAREDNESS ANALYSIS

K] EMERGENCY PREPAREDNESS: EXCELLENT PREPAREDNESS (Score: 100/100)

EMERGENCY SERVICES AVAILABILITY ASSESSMENT

| | |
|--------------------------------|--------------------------|
| Medical Facilities (Hospitals) | 20 facilities identified |
| Law Enforcement (Police) | 20 stations identified |
| Fire & Rescue Services | 4 stations identified |
| Emergency Clinics | 20 clinics identified |
| Pharmacies (24hr) | 20 pharmacies identified |
| Communication Reliability | 100% |
| Coverage Gaps | 0 areas |
| Overall Service Coverage | EXCELLENT |

CRITICAL EMERGENCY CONTACT NUMBERS - MEMORIZE OR SAVE

| Emergency Service | Contact Number | When to Call | Response Type |
|-------------------|----------------|--------------------|--------------------|
| National Emerge | 112 | Any life-threateni | Police/Fire/Medica |
| Police Emergenc | 100 | Crime, accidents, | Law enforcement |
| Fire Services | 101 | Fire, rescue, hazm | Fire & rescue team |
| Medical Emergen | 108 | Medical emergencie | Ambulance service |
| Highway Patrol | 1033 | Highway accidents, | Traffic police |
| Tourist Helplin | 1363 | Tourist emergencie | Tourist support |
| Women Helpline | 1091 | Women in distress, | Women safety |
| Disaster Manage | 1078 | Natural disasters, | Disaster response |

EMERGENCY FACILITIES ALONG ROUTE WITH CONTACT DETAILS

MEDICAL FACILITIES (40 identified):

| # | Facility Name | Address | Phone Number | Distance |
|----|------------------|------------------|---------------|------------|
| 1 | G.M. Modi Hospit | 3P75+J72, Modipu | 0121 257 5597 | Along rout |
| 2 | Jindal Hospital | Eves Crossing, H | 0121 400 0444 | Along rout |
| 3 | Siddhi Vinayaka | Opp. Medical Col | 092580 63686 | Along rout |
| 4 | Eye Hospital Nur | Meerut, K-1252, | 0121 276 0991 | Along rout |
| 5 | Kalka Dental Col | By Pass, near Pa | 093191 80111 | Along rout |
| 6 | Meerut Kidney Ho | Surya Nagar, Pra | 0121 267 2022 | Along rout |
| 7 | PGI | 2P25+QVG, Medha | | Along rout |
| 8 | Madhu Nursing Ho | Nai Sarak, Secto | 091051 07070 | Along rout |
| 9 | Meerut | Meerut, Uttar Pr | | Along rout |
| 10 | Krome | Delhi Rd, opposi | 075002 44525 | Along rout |

POLICE STATIONS (20 identified):

| # | Police Station | Address | Phone Number | Distance |
|---|------------------|------------------|---------------|------------|
| 1 | Nauchandi Police | Mohsin Bagh, Man | 073472 59199 | Along rout |
| 2 | Police Chowki L- | near, Budhana Rd | 094577 53092 | Along rout |
| 3 | Lalkurti Police | Mall Road, 2P35+ | 0121 264 2610 | Along rout |
| 4 | HP Petrol Pump | XP7R+CPP, Ramgar | | Along rout |
| 5 | Shatabdi Nagar P | WMPG+W37, Shatab | | Along rout |
| 6 | Police Choki Shu | XJ5Q+9R6, NH58, | | Along rout |
| 7 | Pari Chowk | Pari Chowk, NRI | | Along rout |
| 8 | Police Choki Ved | XJ7R+37V, NH58, | | Along rout |

FIRE STATIONS (4 identified):

| # | Fire Station | Address | Phone Number | Distance |
|---|--------------|---------|--------------|----------|
|---|--------------|---------|--------------|----------|

| | | | | |
|---|------------------|------------------|--|------------|
| 1 | Fire Station Par | WMC5+X9P, Sector | | Along rout |
| 2 | Fire station pol | 693, Subhash Nag | | Along rout |
| 3 | Police fire stat | 7GQ2+PP5, Budhan | | Along rout |
| 4 | Fire Station Sha | C8W6+8Q6, Shamli | | Along rout |

COMPREHENSIVE EMERGENCY PREPAREDNESS CHECKLIST

- ☐ First aid kit with bandages, antiseptic, pain relievers, emergency medications
- ☐ Emergency contact numbers saved in phone and written backup copy
- ☐ Vehicle emergency kit - tools, spare tire, jumper cables, tow rope
- ☐ Emergency water supply (minimum 2 liters per person for 24 hours)
- ☐ Non-perishable emergency food (energy bars, nuts, dried fruits)
- ☐ Flashlight with extra batteries or hand-crank/solar powered model
- ☐ Emergency blanket, warm clothing, and weatherproof gear
- ☐ Portable phone charger/power bank with multiple cables
- ☐ Emergency cash in small denominations (ATMs may be unavailable)
- ☐ Vehicle documents in waterproof container (registration, insurance)
- ☐ Road atlas or offline maps as backup to GPS navigation
- ☐ Emergency whistle, signal mirror, or flares for signaling help
- ☐ Multi-tool or knife, duct tape, and basic repair supplies
- ☐ Personal medications for at least 3 days
- ☐ Important documents (ID, medical info, emergency contacts)
- ☐ Fire extinguisher (small vehicle type) and basic safety equipment

EMERGENCY RESPONSE ACTION PLAN

1. ASSESS THE SITUATION - Ensure personal safety first, then assess severity
2. CALL FOR HELP - Dial appropriate emergency number (112 for general emergencies)
3. PROVIDE LOCATION - Give precise GPS coordinates or landmark descriptions
4. STAY CALM - Speak clearly and provide requested information to operators
5. FOLLOW INSTRUCTIONS - Emergency operators are trained to guide you
6. SIGNAL FOR HELP - Use emergency signals if phone coverage is unavailable
7. STAY WITH VEHICLE - Unless immediate danger, stay near your vehicle
8. CONSERVE RESOURCES - Ration water, food, and phone battery if stranded
9. MAINTAIN COMMUNICATION - Update emergency contacts on your status
10. DOCUMENT INCIDENT - Take photos/notes for insurance and authorities