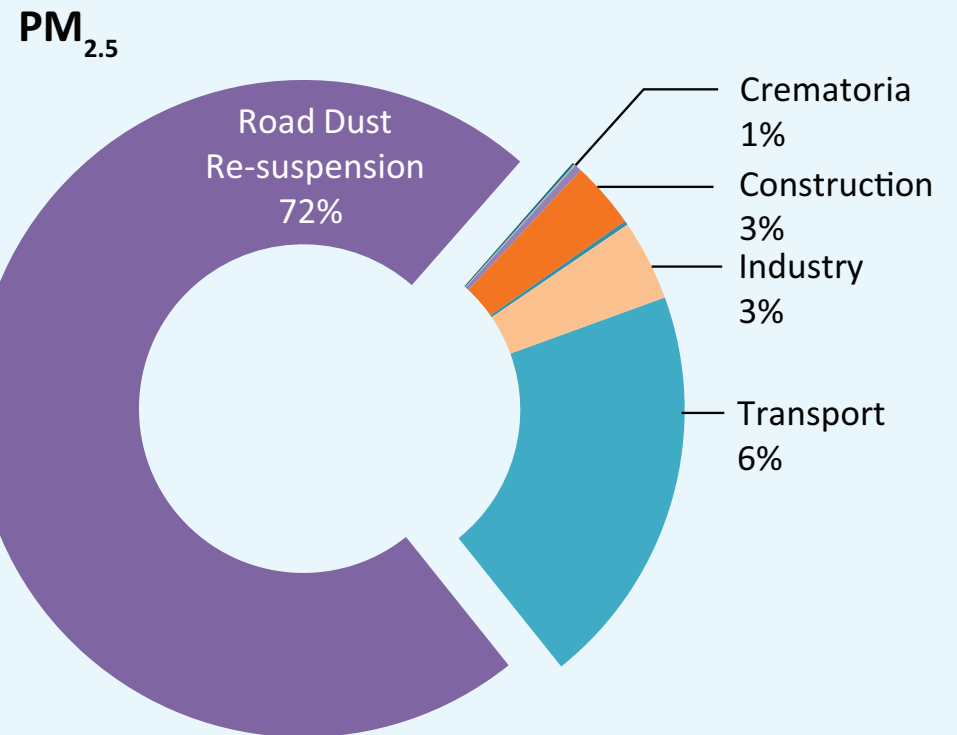
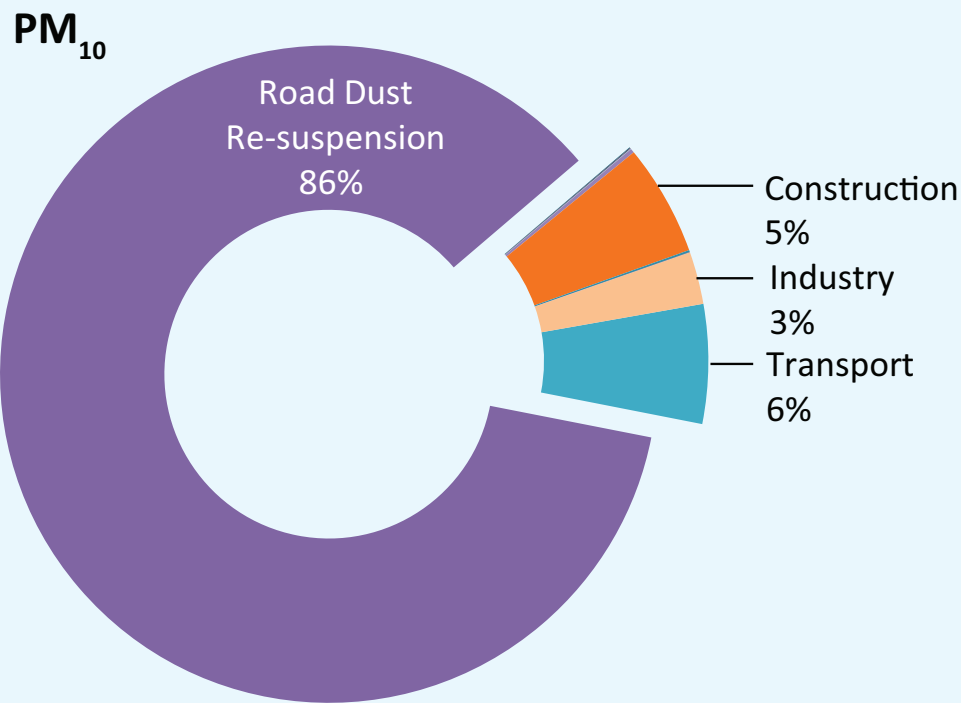


Development of an audit-based payment system for MRS in the Smart City 311 App



- » Diverse sources like brick kilns, construction, transportation, domestic activities, waste burning, and DG sets contribute to PM emissions.
- » Dust pollution from road dust is a significant environmental issue in IGP region and its contribution varies across region.
- » TERI study reveals that road dust re-suspension account for approximately 72% of total PM_{2.5} and over 86% of total PM₁₀ emissions in Lucknow.
- » Most of ULBs are utilizing MRS as effective solution to reduce road dust re-suspension.
- » However, there is a need to understand the effectiveness of on-ground MRS operations
- » MRS can achieve a 36% reduction in PM₁₀ and PM_{2.5} emissions from road dust re-suspension in Lucknow City and a 32% reduction in PM₁₀ and PM_{2.5} emissions when 50% of roads have operational MRS machines.

Challenges

Major high dust-generating routes usually have four- or six-lane roads.

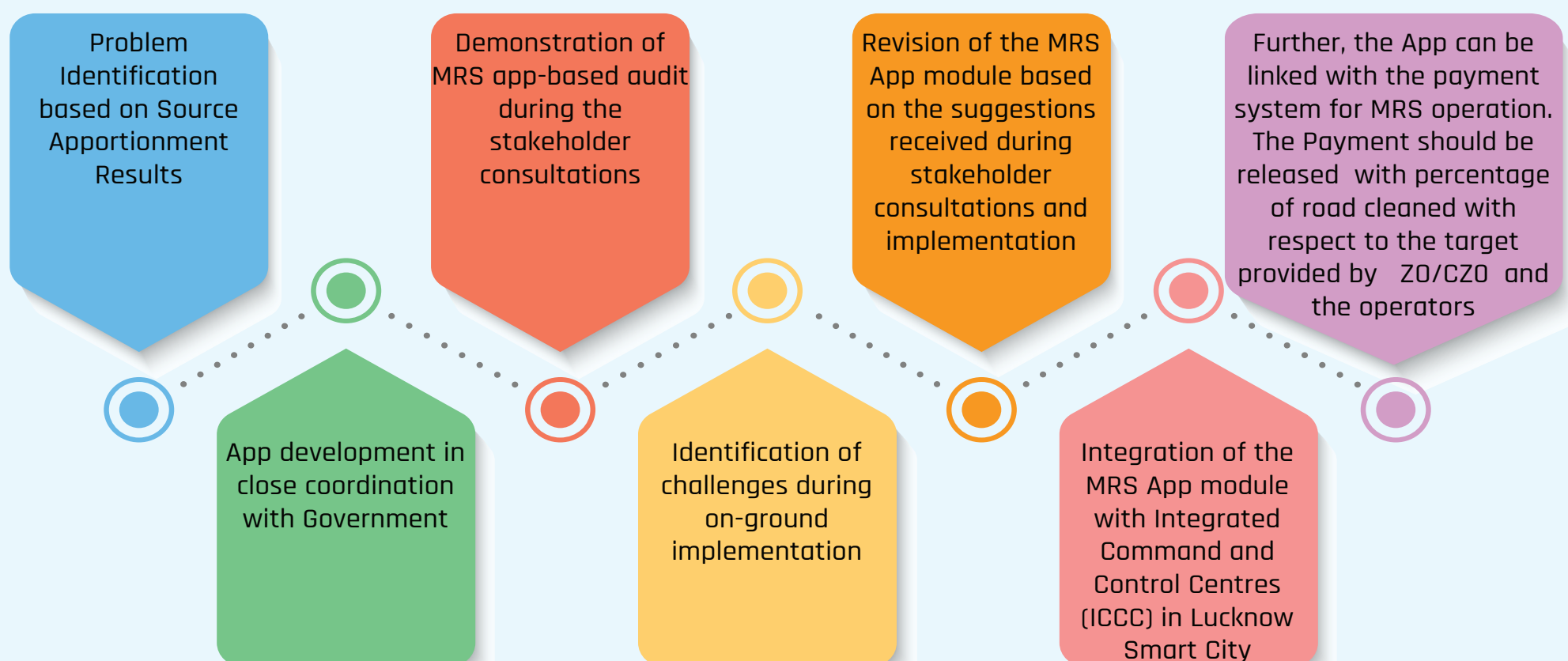
Major zone boundaries fall between the roads, with each zone containing half a lane.

During this inactive phase, the MRS burns diesel without contributing to dust control. MRS operate effectively on flat, even roads.

MRS operations are conducted zone by zone, requiring the MRS to take an extra run to follow the traffic rules.

Test operations for 11 MRS routes revealed:

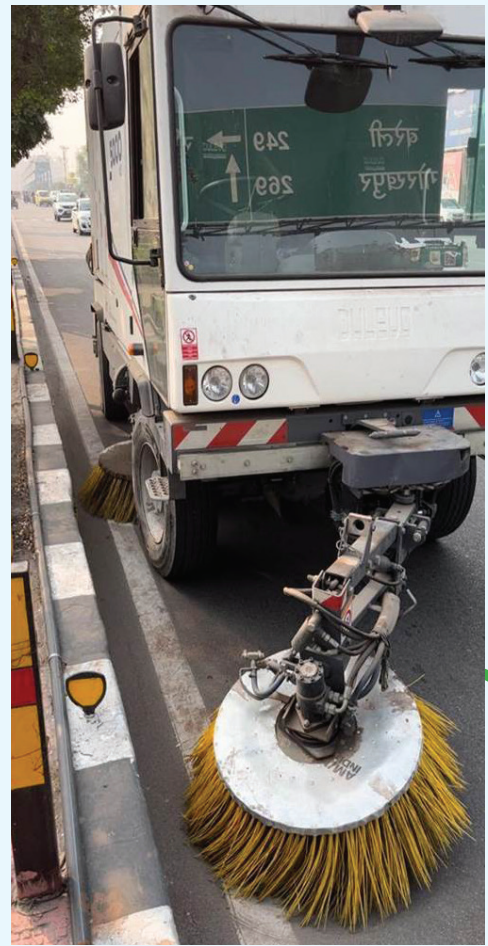
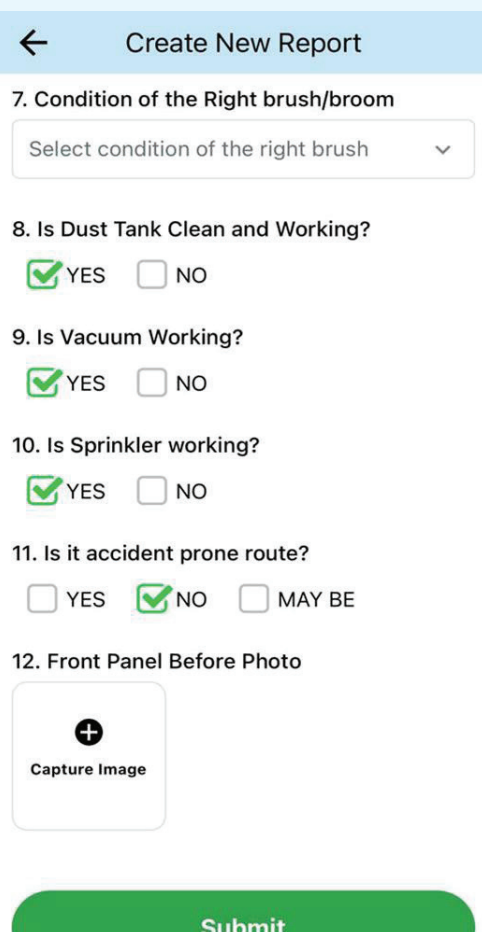
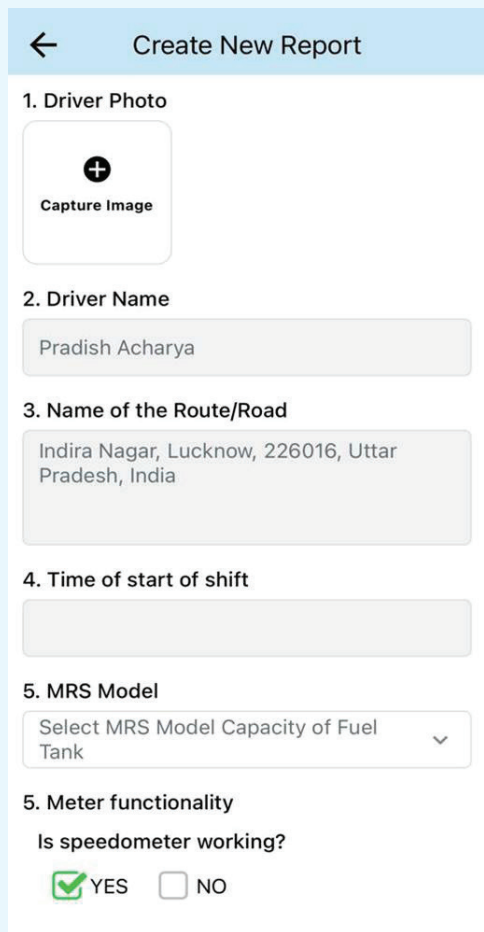
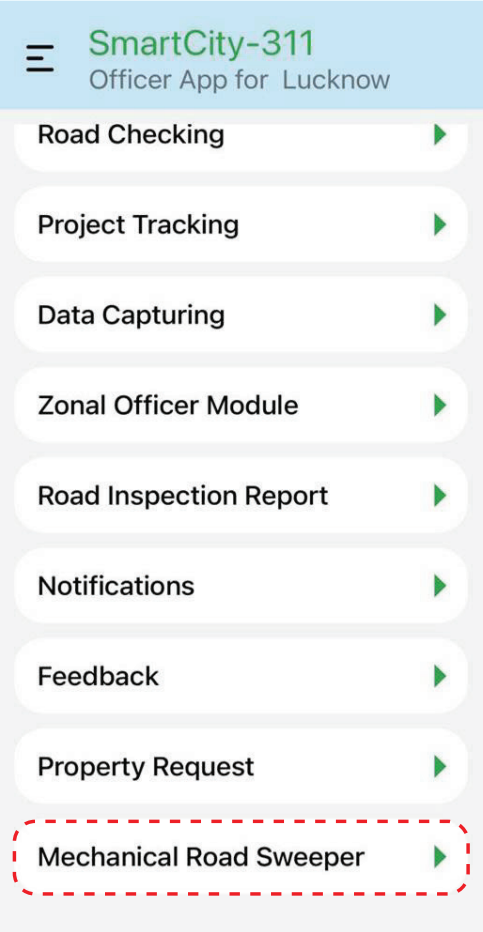
Methodology



Lack of understanding of on-ground efficiency & effectiveness of MRS operation



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Final Output

The MRS-App module has been integrated with the ICCC in Lucknow enabling regular monitoring of MRS, Enhanced Management Capabilities, Operational Efficiency, transparency, financial Management.

Under CAP India Project, DOE, UP in collaboration with TERI & LMC has developed MRS-App Module in Smart City 311 App



1. Require Fuel		
1	Fuel Before Fueling(in Liters)	N/A
2	Fueling Started	
3	Fueling Finished	
4	Fueling Taken(in Liters)	N/A
5	Fuel Panel Photo	
2. Emergency: What is the Reason of Machine Stopped in between?		
1	Emergency	N/A
2	End Time	7:14 AM
End of Shift		
1	End Time	7:14 AM
2	Speedometer Reading	5207
3	Auxiliary Generator Reading	10982
4	Fuel Remaining After Completion of Shift	35
5	Dust Disposal Sites	16/625, Sector 16, Indira Nagar, Lucknow, Uttar Pradesh 226016, India
6	Front Panel After Photograph	

Start of Shift:		
1	Start Time	6:25 AM
2	Condition of Left Brush	Fine
3	Condition of Right Brush	Fine
4	Name of the Route/Road	16/1401, Sector 16, Indira Nagar, Lucknow, Uttar Pradesh 226016, India
5	Is Speedometer Working?	Yes
6	Is Auxiliary Meter?	Yes
7	Is Fuel Meter Working?	Yes
8	Is Dust Tank Clean and Working?	Yes
9	Is Vacuum Working?	Yes
10	Is Sprinkler Working?	Yes
11	Is it accident prone route?	No

In between shift: (Fueling and Emergency Options)

Team members
For more information ▶



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