GOVERNMENT OF INDIA
MINISTRY OF RURAL DEVELOPMENT
DEPARTMENT OF RURAL DEVELOPMENT

LOK SABHA
UNSTARRED QUESTION NO. 4189
ANSWERED ON 19/08/2025

Construction of Roads using Plastic Wastes

4189. Shri NareshGanpatMhaske:
Smt. Shambhavi:
Shri RavindraDattaramWaikar:
Dr. ShrikantEknathShinde:
Shri Rajesh Verma:

Will the Minister of RURAL DEVELOPMENT be pleased to state:

(a) the data on the number of kilometers of rural roads constructed using plastic waste under Pradhan Mantri Gram SadakYojana (PMGSY) or other schemes during the last five years, State and year-wise;
(b) the data on the number of pilot villages or districts where plastic waste road models have been successfully implemented as of July 2025, State and year-wise;
(c) the details of the steps taken by the Government to promote the use of plastic waste in road construction under PMGSY;
(d) the details of the steps have been taken by the Government to ensure environmental safety and durability in roads constructed with plastic waste; and
(e) whether the Government has conducted any assessment or have any evaluation reports or performance audits available on the cost-efficiency and performance of plastic waste roads compared to conventional ones?

ANSWER
MINISTER OF STATE IN THE MINISTRY OF RURAL DEVELOPMENT
(SHRI KAMLESH PASWAN)

(a): The length of road constructed using waste plastic under various verticals of Pradhan Mantri Gram SadakYojana (PMGSY) during the last five years is given below:

Year	Length constructed using Waste plastic

	(in km)
2020-21	3133
2021-22	8848
2022-23	6382
2023-24	5241
2024-25	4061
2025-26 (Till 13.08.25)	2058

The State-wise/year-wise details of road length constructed using new technology (waste plastic) under various verticals of PMGSY may be accessed at *http://omms.nic.in>proposals>technology abstract.*

(b): As on 31.7.25, a total of 56,875 km of road works has been sanctioned using waste plastic, under various interventions/ verticals of PMGSY, out of which 43,700 km of road works have been completed. The State-wise/year-wise details of road length constructed using new technology under various verticals of PMGSY may be accessed at *http://omms.nic.in>proposals>technology abstract.*

(c) & (d): To promote adoption of new/ green Technology in the construction of rural roads using new materials/ waste materials/ locally available materials under PMGSY, the Ministry has issued "Vision Document on New Technology Initiatives Guidelines-2022". As per the guidelines, States/ UTs have to compulsorily use waste plastic in at least 70% length out of the eligible proposed length involving the Hot Mix process in PMGSY roads. The type of plastics to be used in this process and the required size are regulated as per "Guidelines for the use of waste plastic in hot bituminous mixes (Dry process) in wearing courses" issued by the Indian Roads Congress (IRC).

This helps reduce the environmental impact of plastic waste by diverting it from landfills/ sea and using it productively. Also The Indian Road Congress (IRC) has issued guidelines, specifically IRC:SP:98-2013, for the use of waste plastic in hot bituminous mixes (dry process) in wearing courses. This document encourages the use of waste plastic in road construction to promote sustainable

development and reduce plastic waste. Till July, 2025, 43,700 km of roads using waste plastic technology has been completed under PMGSY.

(e): Waste plastic is being used in thin bituminous surfaces under the scheme. The performance evaluation of rural roads constructed with waste plastic was carried out by seven institutes under the supervision of Indian Institute of Technology (IIT), Madras. The study found that distresses such as raveling, cracking, and potholes were significantly lower compared to conventional pavements. Pavement Condition Index (PCI) values for waste plastic roads were found higher, indicating better overall surface condition. The analysis further showed that the maintenance of these roads can generally be deferred by about one year and that there is a marginal reduction in overall life cycle cost compared to conventional roads.

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