

crushed stone and 5% of asphalt. Where it is tamped properly it becomes very firm and durable. We have one crew consisting of truck and three men employed on this work about five months out of the year. On the larger asphalt cuts we employ an asphalt foreman with truck, four men, and an Andressen asphalt road repair machine, which makes a complete crew. Where the cuts are large we invariably use our steam roller after the raking has been done.

The question of maintenance of city streets is going to tax the ingenuity of officials for some time to come. Much of the cost in this state has now been relieved by the gasoline tax a part of which is distributed to cities throughout the state for street repair work and maintenance of bridges. South Bend's share of this fund collected last year amounted to \$21,000. This year it should be approximately \$30,000. This fund has been of great help, and I feel that by the end of next summer our streets will be in much better condition than they ever have been since the automobile has come into general use.

We employ during the summer months, on street repair work, four different crews and have been endeavoring to adopt only modern methods.

The order for making service cut repairs comes from the city engineer's office. After repairs are made this order is returned with a notation as to the size of the cut and the charge is then made against the person or persons who had the cut made. Our council last year passed an ordinance prohibiting service cuts being made during the winter months.

STREET DEPARTMENT REPORT FOR 1926

By Charles Lyons,
City Street Commissioner, Richmond, Ind.

Cleaning Streets and Alleys

Hauling trash, ashes, etc., 57,166 cu.	
yds.	\$23,708.62
Maintenance and operating cost,	
trucks and tractors	6,058.56
Total	\$29,767.18
Cost per cu. yd. 52 cents	
Sweeping streets (hand)	\$3,928.75
Removing snow	801.09
Dump labor	996.36
Cutting weeds	357.28
Total	\$35,850.66

Sewers (Labor)

Catch basins	\$138.59	
Sewers	2,079.95	
Ditches	222.97	
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Total		\$2,441.51
Average per mile \$34.10		

Maintenance of Streets

Repairing and rebuilding	\$10,074.48	
Patching	588.20	
Repairing and building equipment	1,745.63	
Marking (Zoning)	929.63	
Materials	16,000.00	
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Total		\$29,337.94
Average per mile \$333.39		
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Grand Total		\$64,630.11

TREATMENT OF GRAVEL STREETS WITH BITUMINOUS MATERIALS

By H. A. Blunk,
City Engineer, Martinsville, Indiana.

In the city of Martinsville, our experience in treating gravel streets has been almost exclusively with the so-called road oils. It is the preparation, treating and maintaining of this particular kind of street that I shall attempt to discuss in this brief paper.

We will assume that the street has been properly constructed as to drainage, width, crown, materials, etc., for no amount of surface treating and maintenance can completely compensate for poor construction.

Streets that are worn to the extent of requiring additional materials, should be reshaped and given a thin coat, or coats, of gravel during the winter or early spring preceding the oiling. The size of gravel for this surface coat should range uniformly from $\frac{3}{4}$ to $\frac{1}{4}$ inch. It should be hard, durable and reasonably free from dirt and other soft materials.

If gravel is applied prior to the alternate freezing and thawing of the spring months and subjected to reasonable traffic, little difficulty is experienced in securing a satisfactory bond with the old materials before the time for oiling arrives. However, where oiling has been regularly practiced, many of our streets have gone for three or four years without the necessity of adding new materials.