



LEGEND	
—	PRINCIPAL ARTERIALS
—	MINOR ARTERIALS
—	COLLECTOR STREETS
—	LOCAL STREETS
—	PRIVATE STREETS
—	MSU / COUNTY MAINTAINED

CITY OF STARKVILLE, MISSISSIPPI

THOROUGHFARE MAP

NOVEMBER 2020

STARKVILLE STREET MAINTENANCE PROGRAM POLICY

The Mayor and the Board of Aldermen believe that the city has an obligation to its residents and visitors to provide the safest and most enjoyable experience possible when engaging in business or leisure or travel within our city limits.

The most visible statement of the overall pride in a city comes from its visual impact based on cleanliness and landscaping and quality of the streets. The adoption of this street maintenance policy will in conjunction with the approval of the Complete Streets policy (2017) and the Unified Development Code (2020) and a regional master transportation plan (2021) complete a comprehensive methodology for the future of the street development and maintenance in the City of Starkville.

It is the intent of this policy to provide both an aspirational and achievable goal for maintaining streets through sound fiscal planning and strategic criteria. The specific, timely and financial treatment of street infrastructure has not been subject to a policy directive from the elected body until now.

The Board of Aldermen recognizes that those streets that are most impactful within the city limits are the ones that are most frequently traveled and that are representative of our community by their location and placement of entrances to nodes of business and entertainment. To that end it is the goal of this policy to emphasize that significance and to provide for the overlay and treatment of all roads based on a number of factors outlined in the following narrative and charts.

Overview

The City of Starkville has a comprehensive roadway network of more than 175 miles of streets. The Engineering and Street Department is responsible for the planning, programming and execution of the City's street maintenance program. This entails maintaining all public roadways within the City's jurisdiction limits but does not include private streets, private alleys, state routes maintained by MDOT or roads maintained by Oktibbeha County and Mississippi State University.

The Street Maintenance Program provides the City with an effective strategy to protect the public investment on all public streets and thoroughfares. This program consists of minor reconstruction, resurfacing, overlaying, and other preventative measures of public streets to preserve and extend the life of the pavement. These maintenance measures prevent the City from paying higher costs for more extensive street repairs in the future and helps to extend the life expectancy of the pavement.

This policy will provide guidance for future infrastructure investment prioritization and strategies.

Policy and Program Goals

The City of Starkville's pavement maintenance program and policy goals are to:

- Maintain the road system to provide a safe and functional condition.
- Perform preventative maintenance to streets to delay the need for more costly surface treatments.
- Perform asphalt overlays to rehabilitate streets and extend street service life.
- Implement a long range maintenance strategy that can be consistently funded
- Prioritize roadways based on use, functionality and impact to the community

- Support a program that includes overlay of entire streets rather than partial street overlays whenever possible and when not fiscally possible by identifiable segments leaving the least negative visual impact from partial or segmented overlay projects

Thoroughfare Map and Classification

The City of Starkville will adopt and periodically update the Thoroughfare map which will classify roadways into different categories based on roadway type, use, traffic volumes and vehicle use types. The classification of roadways and their corresponding definitions are:

Principal Arterials. These roadways serve major activity centers, are the highest traffic volume corridors (with the exception of Interstates), have the longest trip demands, carry a high proportion of total urban travel on a minimum amount of mileage and interconnect and provide continuity for major rural corridors to accommodate trips entering and leaving urban areas and movements through urban areas. Examples of this type of roadway are Highway 12 and Highway 25.

Minor Arterials. Minor Arterials provide service for trips of moderate length at a somewhat lower level of travel mobility, distribute traffic to smaller geographic areas, provide more land access than Principal Arterials without penetrating identifiable neighborhoods and offer connectivity to the higher Arterial system. Examples of this type of roadway are Stark Road, South Montgomery Street, and Garrard Road.

Collector Streets. These facilities provide both land service and traffic movement functions. Collectors serve as intermediate feeders between arterials and local streets and primarily accommodate short distance trips. Since collector streets are not intended to accommodate long through trips, they are generally not continuous for any great length. Examples of this type of roadway are Gillespie Street, Hiwassee Drive, Critz Street.

Local Streets. Consists of all roads not defined as arterials or collectors. Local streets typically support direct access to homes and are generally designed for slow speeds. Examples of this type of roadway are neighborhood streets and low traffic roads.

Based on the October 2020 Thoroughfare Map, the City has approximately the following amounts of roadways based on classification:

Roadway Type	Street Length		Lane Mile Length*	
Principal Arterials**	36.2	Miles	144.8	Miles
Minor Arterials	29.6	Miles	69.3	Miles
Collector Streets	17.9	Miles	35.8	Miles
Local Streets	81.4	Miles	162.9	Miles
Private/ Non-City Owned Streets	11.2	Miles	22.4	Miles
Total	176.3	Miles	435.2	Miles

* A lane mile is a mile of roadway in a single driving lane. The total lane mileage of a highway is found by multiplying the centerline mileage of a road by the number of lanes it has.

** All Principal Arterials located within the City of Starkville are owned and maintained by the Mississippi Department of Transportation.

Pavement Maintenance Strategies

The City will employ various pavement maintenance strategies to maximize the service life of roads with minimal maintenance cost while maintaining and improving traffic safety. These strategies will depend on the roadway type, condition and anticipated loads. Some of those methods are described below.

Maintenance Overlay. One or more layers of hot mix asphalt placed over an existing pavement to restore or increase its load carrying capacity.

Full-Depth Patching. Removal and replacement of a failed segment of pavement to the level of the subgrade or lower in order to restore structural integrity

Milling. Process which removes several inches of existing asphalt which is then replaced with a new layer of asphalt. This treatment is generally used where existing grades need to be maintained such as curb and gutter streets.

Crack Filling. The placement of asphalt or other elastic materials into medium and larger cracks to prevent the intrusion of water and incompressible material.

Slurry Seal. A mixture of emulsified asphalt and fine aggregate used to fill cracks, restore surface texture, and protect aging asphalt surfaces.

Fog Seal. A light application of asphalt emulsion diluted with water and without the addition of any aggregate applied to the surface of asphalt pavements. Fog seals renew aged surfaces, and seal small cracks and surface voids. Research shows that the addition of fog seals to new pavements extends their initial life.

Pavement Maintenance Prioritization

Recommendation of pavement maintenance of streets or street segments is done through a process involving analysis, testing, and engineering staff experience rather than age of roadway.

Prioritize based on condition. Streets are not always prioritized on a “worst first” basis. The pavement maintenance policy’s objective is to keep street segments from falling into the reconstruction category, which typically costs four to five times more per lane mile than rehabilitation. By providing maintenance to a street before it significantly deteriorates, 10 to 20 years of useful life can be added to a street at a substantial cost savings over reconstruction. Once a street has deteriorated to the point that it must be reconstructed, the opportunity for preventive street maintenance is lost. For these reasons, streets that are categorized as overlay projects receive the highest priority for corrective treatment. Reconstruction projects typically require substantial investment and are typically prioritized through Capital Improvement funds.

Further, it is understood that City roadways are constructed differently based on age, methods and materials utilized at the time of construction. The roadway performance over time is directly related to the type and quality of construction. Therefore, pavement testing and analysis should be performed in conjunction with roadway prioritization and maintenance strategies.

Prioritize based on classification. Roadways that experience the largest amount of traffic incur the most frequent and often the highest loads. These higher classification roadways are used by businesses, the largest number of residents as well as visitors to the community and therefore, should be maintained to a higher level than the lower classification roadways. Frequency of pavement maintenance and the resulting estimated mileage improvement per year should be as follows:

Roadway Type	Overlay Frequency		Lane Miles/ Year		Est. Length/ Year	
Minor Arterials	10	Years	6.9	L. Miles	3.0	Miles
Collector Streets	15	Years	2.4	L. Miles	1.2	Miles
Local Streets	20	Years	8.1	L. Miles	4.1	Miles
	Total		17.5	L. Miles	8.2	Miles

Pavement Maintenance Program Funding

In order to develop a proposed funding level needed to complete the pavement maintenance program, several assumptions must be made estimating the projected costs of asphalt, repairs, milling, and striping. These costs should be updated regularly based on current construction prices.

Estimated Roadway asphalt overlay yearly cost	\$ 1,098,688
Estimated Roadway asphalt repair yearly cost	\$ 252,698
Estimated Roadway milling yearly cost	\$ 164,803
Estimated Roadway striping yearly cost	\$ 279,500
Subtotal Yearly Pavement Maintenance	\$ 1,795,690