

# ***WEST VIRGINIA HIGHWAYS***

## **Classification Systems, Characteristics and Usage**

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### **Road Surface Type**

The knowledge of basic roadway characteristics and use is necessary for sound planning and management practices, as well as for the development and operation of the highway system. To achieve uniformity and consistency throughout the country, the US Department of Transportation developed a classification system for various types of road surfaces. This classification system (Figure 2.8) identifies only visible surface types on existing streets and roadways. Many highways, either by original design or because of reconstruction, consist of more than one major type of construction material. A brief description of each classification of road surface type, from low type (A) to high type (K), follows:

#### **UNSURFACED:**

- ***Primitive (A)*** – earth road; may only be usable by four-wheel drive vehicles; publicly traveled by a small number of vehicles
- ***Unimproved (B)*** – earth road; maintained to permit bare passage for motor vehicles; road may have been bladed and/or minor improvements may have been made locally
- ***Graded and Drained (C)*** – earth road aligned and graded to permit reasonable convenient use by motor vehicles; has drainage systems (natural and artificial) sufficient to prevent serious impairment of the road by normal surface water; with or without dust palliative treatment or a continuous course of special borrow material to protect the new roadbed temporarily and to facilitate immediate traffic service

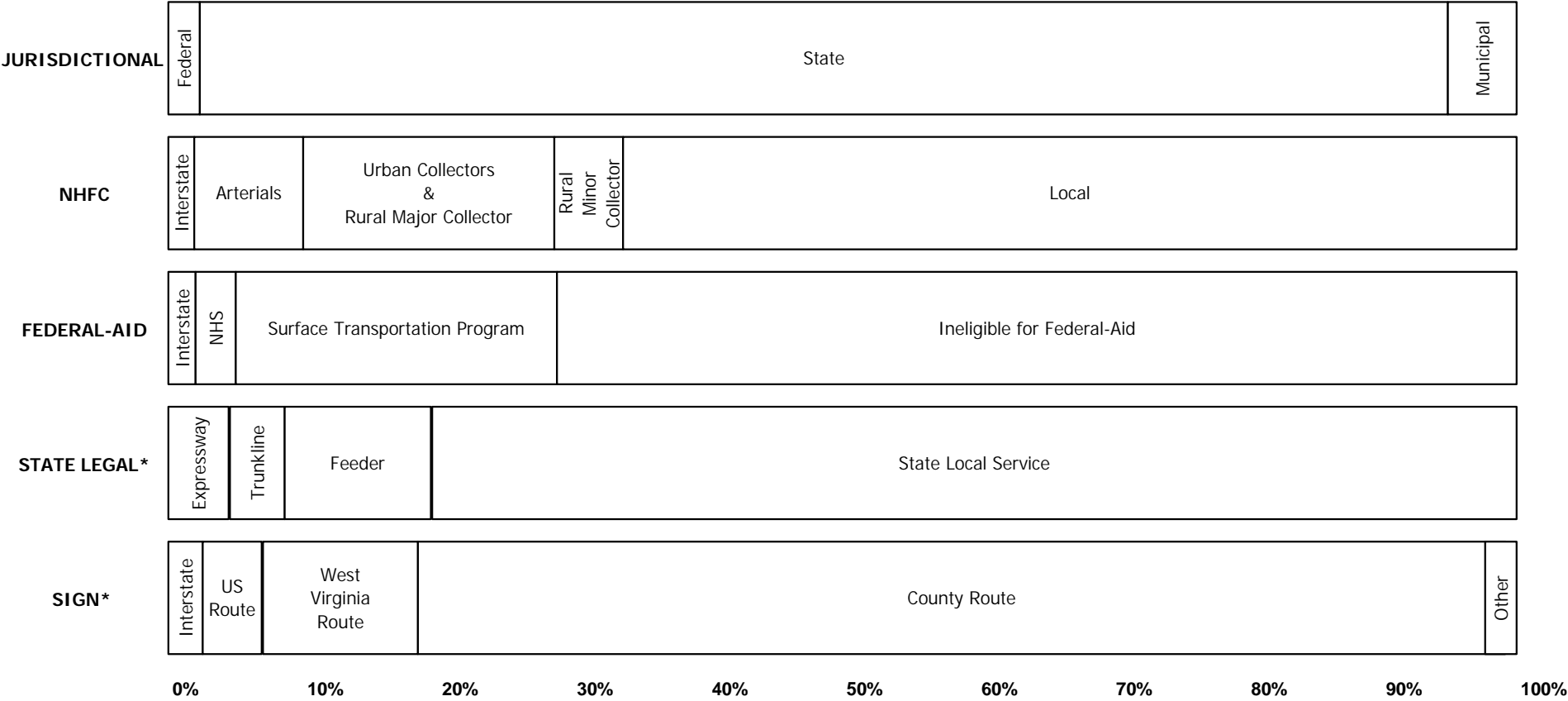
#### **SOIL SURFACED, GRAVEL AND STONE:**

- ***Soil Surface (D)*** – earth road, the surface of which consists of mixed or stabilized soil
- ***Gravel or Stone (E)*** – road with surface consisting of gravel, broken stone, slag, chert, caliche, iron ore, shale, chats, scoria, disinterred rock, or other similar fragmented material that is coarser than sand

#### **PAVED:**

- ***Bituminous Surface Treated (F)*** – earth, soil surface, or gravel or stone road to which has been added by any process, a bituminous surface course with or without a seal coat, the total compacted thickness of which is less than one inch; seal coats

Figure 2.8  
**West Virginia Classification Systems by Percentage  
 As of June 2000**



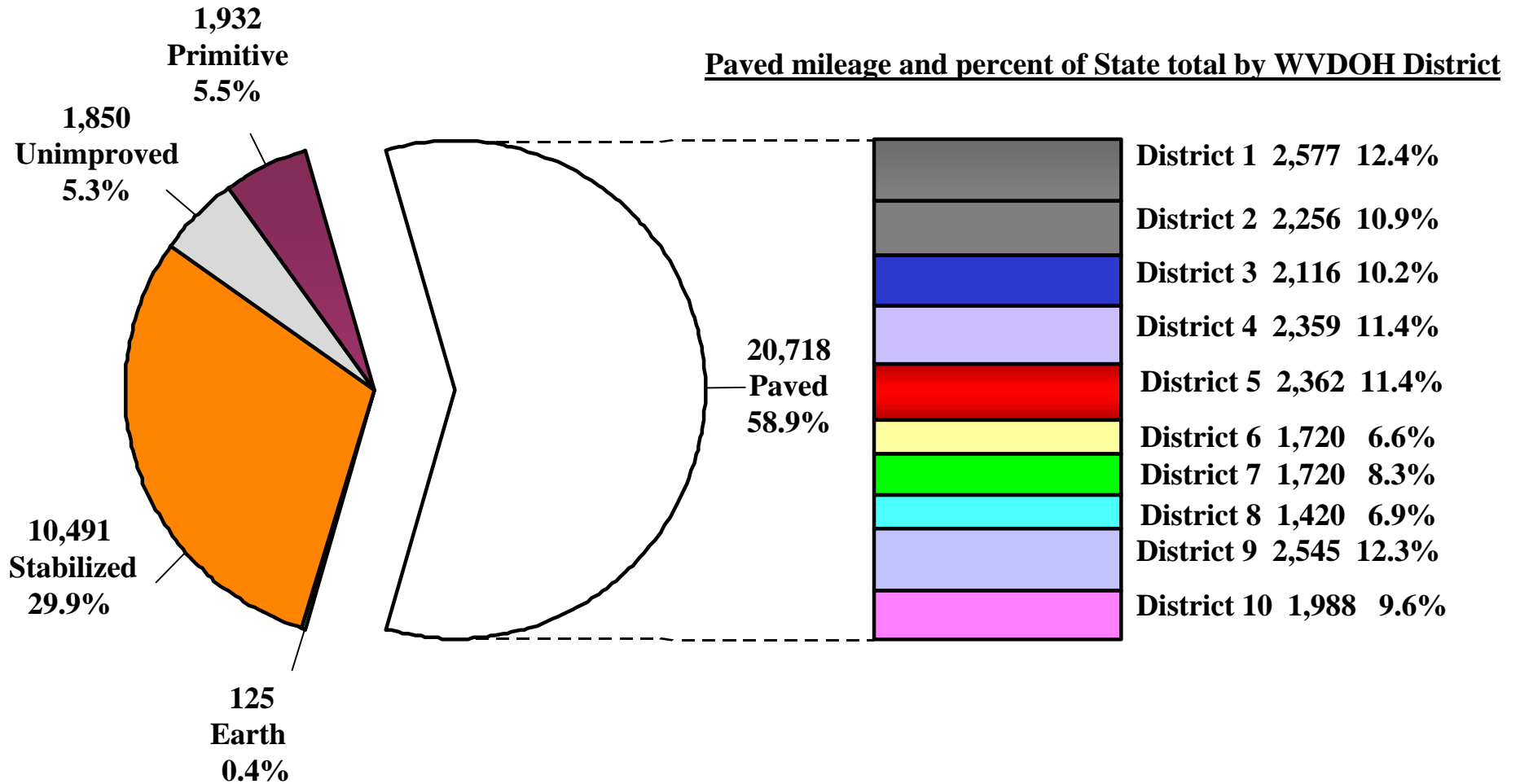
Note: \* Percentages based upon road mileage under WVDOT jurisdiction

include those known as chip seals, drag seals, plant-mix seals and rock asphalt seals

- **Mixed Bituminous (G)** – sub-classified as Low Type (G-1) or High Type (G-2), as follows:
  - *Low Type (G-1)* – road with a non-rigid base course having a combined thickness of surface and base less than seven inches, with a surface course of one inch or more in compacted thickness; composed of gravel, stone, sand, or similar material, mixed with bituminous materials under partial control with regard to grading and proportion
  - *High Type (G-2)* – road with a rigid base course of any thickness, or a non-rigid base course having a combined thickness of surface and base of seven inches or more, with a surface course of one inch or more in compacted thickness; composed of gravel, stone, sand, or similar material, mixed with bituminous materials under partial control with regard to grading and proportion
- **Bituminous Penetration (H)** – sub-classified as Low Type (H-1) or High Type (H-2), as follows:
  - *Low Type (H-1)* – road having a combined thickness of surface and base less than seven inches, with a surface course of one inch or more in compacted thickness; composed of gravel, stone, sand, or similar material bound with bituminous material introduced by downward or upward penetration
  - *High Type (H-2)* – road having a combined thickness of surface and base of seven inches or more, with a surface course of one inch or more in compacted thickness; composed of gravel, stone, sand, or similar material bound with bituminous material introduced by downward or upward penetration
- **Asphaltic Concrete (I)** – road constructed of a surface course of one inch or more in compacted thickness, consisting of bituminous concrete or sheet asphalt, prepared in accordance with precise specifications controlling gradation, proportion, and consistency of composition, or of rock asphalt; surface course may consist of a combination of two or more layers, such as a bottom and top course, or a binder or wearing course
- **Concrete (J)** – road consisting of Portland cement concrete with or without a bituminous wearing surface less than one inch in compacted thickness
- **Brick (K)** – road consisting of paving brick, stone, asphalt, wood and other block, or steel or wood with or without a bituminous wearing surface less than one inch in compacted thickness; includes roads with combination or wearing surfaces.

Figure 2.9 contains a representation of surface type trends for West Virginia's highways system, from 1934 to the present. These surface types have been grouped into three categories: 1) Unsurfaced, 2) Soil Surfaced, Gravel and Stone, and 3) Paved.

Figure 2.9  
**West Virginia Highway Mileage  
 Statewide by Surface Type - 1999**



SOURCE: West Virginia Department of Transportation, Planning and Research Division, Traffic Analysis Section. *West Virginia Traffic Count File Summary Tables*. Charleston, WV:2000.