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Abstract With their "popular" orientation, the articles of the series entitled "Backsights" published in the VDH&T <u>Bulletin</u> since December 1972 probably constitute the best comprehensive survey of Virginian transportation history readily available to the public. This bibliography allows ready retrieval of any article published through December 1985.				

"BACKSIGHTS": An Annotated Bibliography

by

Nathaniel Mason Pawlett
Faculty Research Historian

(The opinions, findings, and conclusions expressed in this report are those of the author and not necessarily those of the sponsoring agencies.)

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"BACKSIGHTS": An Annotated Bibliography

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"Backsights" is a continuing series of articles on transportation history appearing in the Bulletin of the Virginia Department of Highways and Transportation. Prepared in 1972, the first article carried the following editorial announcement:

This is the first in a series of historical articles by Mr. Newlon and other contributors that the Bulletin hopes to print, more or less regularly, during the next several months.

Needless to say, the series has stretched out to a much greater length than "the next several months" and has over the years employed the talents of a number of people both within and without the Department to write on the many transportation related aspects of history. While Howard H. Newlon, Jr., and Nathaniel Mason Pawlett have been authors of the major portion of the articles, historical society personnel and academics are also represented.

It has often been said that "history is the story of roads." This might easily be extended to "history is the story of transportation," for it is almost impossible to consider the social, political and technological developments that go to make up the fabric of Virginia's history without taking into account the evolution of its road system and the related water and rail transportation systems. Despite this, the history of transportation in Virginia remains largely unwritten. Besides a paucity of works on roads, few volumes treat the overall development of canals and railroads in Virginia. Most of those works that do are either articles buried in periodicals of limited circulation or else theses or dissertations lying unknown to the general public on the shelves of the libraries and colleges around the country. It was to remedy these deficiencies, as well as to inform Virginia Department of Highways and Transportation personnel of their history, that the "Backsights" series was conceived by Mr. Newlon in 1972. This volume constitutes the logical extension of that idea.

With their "popular" orientation, the articles which make up this volume probably constitute the best comprehensive survey of Virginian

transportation history readily available to the public. Repeated requests to the Department for specific articles, as well as "everything you have on turnpikes" or "everything you have on canals," and the large number of articles led to the preparation of the original edition of this annotated bibliography.

This continuing, oft-expressed interest in the series led to the publication of the first 43 articles as a volume entitled Backsights. The response to this was extremely gratifying, extending to the national level. This, in turn, led to the further volumes "Backsights II" and "Backsights III," now in preparation.

Now, while these volumes are being prepared, seemed the propitious moment to issue a revised and extended bibliography to cover those additional articles published through the year 1985.

1. "AMERICA'S FIRST CIVIL ENGINEER"
by Howard Newlon, Jr.,
December 1972

A biographical sketch of Benjamin Wright (1770-1842), the "father" of civil engineering in America, covering his education and engineering achievements. Wright lived for a time near Scottsville and worked on the James River & Kanawha Canal.

Illustration:

Engraving of Wright.

2. "A SEARCH FOR HERITAGE"
by Howard Newlon, Jr.
January 1973

A discussion of the background leading up to the initiation of Virginia's pioneering research project in the history of its roads and bridges, the aims of the project, and its peripheral effects. It might be noted that one result of this project was the nomination of seven metal truss bridges to the National Register in 1976.

Illustration:

Photograph of Virginia's oldest metal truss, now located in the Ironto Wayside on I-81.

3. "ROADS FROM THE PAST"
by Howard Newlon
March 1973 (Part I)

4. "ROADS FROM THE PAST: SETTLEMENT AND GROWTH 1607-1781"
by Howard Newlon
April 1973 (Part II)
5. "ROADS FROM THE PAST: EXPERIMENTATION, 1783-1815"
by Howard Newlon
May-June 1973 (Part III)
6. "ROADS FROM THE PAST: EXPANSION, 1816-1860"
by Howard Newlon
July 1973 (Part IV)
7. "ROADS FROM THE PAST: WAR AND RECONSTRUCTION, 1861-1906"
by Howard Newlon
August 1973

A five-part series surveying the history of Virginia's roads from 1607 down to 1906, when the Virginia Department of Highways came into being. Turnpikes, plank roads, railroads, and canals are also touched upon in their relationship to roads and the overall transportation planning policy of the Board of Public Works, which was created in 1816.

Illustration:

Illustrations of various modes of transportation, Gallatin presenting his report on roads and canals to Jefferson in 1807, Laommi Baldwin and the Board of Public Works, and the Confederate Army passing the tollgate on the Shenandoah Turnpike, as well as a map of the first wharf at Jamestown.

8. "THE PUNCTURED DRAGON OF THE POTOMAC"
by Howard Newlon
September 1973

A story of the multimodal aqueduct built across the Potomac River at Georgetown. It served canal boats, carriages, and pedestrians for 30 years. Constructed principally of wood upon stone piers, its many leaks earned it the unusual name "the Punctured Dragon of the Potomac."

Illustration:

Photograph and cross-sectional diagram of the aqueduct.

9. "WITH GOOD AND RESPONSIBLE INDIVIDUALS"
A LOOK AT CONTRACT SPECIFICATIONS OF 190 YEARS AGO
by Howard Newlon
October 1973

An examination of nineteenth century contract specifications in Virginia, specifically by use of an 1831 act for the construction of a 9-mile section of turnpike through the Blue Ridge north of Lynchburg. Lengthy quotations from the specifications for the project.

10. "BUILD US A BRIDGE"
by Howard Newlon
November 1973

A brief survey of bridge building in Virginia from colonial times down to the creation of the Virginia Department of Highways in 1906, with an emphasis on nineteenth century

10. (Cont.)

technology and the advent of the metal truss bridge.

Illustration:

An 1803 handbill advertising for bridge contractors is reproduced.

11. "CITIZEN TOM PAINE: BRIDGE ENGINEER"
by Howard Newlon, Jr.
December 1973

More noted as a political pamphleteer, Thomas Paine was also interested in bridges. Had his efforts reached fruition, he would have built the world's second iron bridge, following Abraham Darby's 1779 effort at Coalbrookdale, England.

Illustration:

Engraving of Paine.

12. "TRANSPORTATION DEPARTMENTS -- FULL CYCLE?"
by Howard Newlon
January-February 1974

Virginia's Board of Public Works, created in 1816, was America's first transportation department -- that is, a single agency dealing with all modes of transportation on land and water, from turnpikes, bridges, and canals to railroads. Active in varying degrees until 1902, it was the precursor of the present Virginia Department of Highways and Transportation, which had its beginnings in 1906.

12. (Cont.)

Illustration:

None.

13. "LEMUEL CHENOWETH: PIONEER BRIDGE BUILDER"
by Professor Emory L. Kemp, Chairman
History of Science & Technology
West Virginia University
March 1974

Professor Kemp documents the career of an early self-taught bridge builder who beginning life as a wagon maker and carpenter went on to build some of the most important bridges on Virginia's nineteenth century turnpike system. Two of these, at Barrackville and Phillippi in what is now West Virginia, survive as monuments to his genius.

Illustration:

Photographs of Chenoweth, the Phillippi Bridge, and the Barrackville Bridge.

14. "THE PLANK ROAD CRAZE"
by Howard Newlon, Jr.
April 1974

Plank roads enjoyed a brief vogue in the middle of the nineteenth century in the United States, where timber was plentiful. Ease of construction ensured a good return on the initial investment but maintenance proved to be their Achilles' heel. The theory of the roads and their technology are described.

14. (Cont.)

Illustrations:

Plan and cross section of a plank road are illustrated.

15. "THOMAS TELFORD: THE COLLOSSUS OF ROADS"

by Howard Newlon
May-June 1974

A discussion of the contributions of Thomas Telford, the Scottish road and bridge builder. His early development is described as well as his road-building methods (the Telford base with its attention to drainage), his stone bridges, and his cast iron bridge (the second in the world) adjacent to the Coalbrookdale structure.

Illustration:

Engraving of Telford.

16. "MACADAM ROADS: A PRODUCT OF THE AMERICAN REVOLUTION"

by Howard Newlon, Jr.
July 1974

Along with Telford's name, that of John Loudon McAdam has come down to us in the term "Telford base" and "macadamizing," still in use a century and a half later to describe types of road construction. McAdam's early development, his methods, and his book are described.

Illustration:

Portrait of McAdam.

17. "EARLY ROAD MAINTENANCE IN VIRGINIA"
by Howard Newlon, Jr.
August 1974

A description of road maintenance in Virginia from about 1785 down through "the turnpike era." Although the basic road law of 1785 is touched upon, the emphasis of the article is placed upon turnpikes because of the availability and more detailed nature of their records.

18. "NINETEENTH-CENTURY SUPERHIGHWAYS"
by Howard Newlon, Jr.
September 1974 (Part I)
19. "THE KANAWHA TURNPIKE"
by Howard Newlon, Jr.
October 1974 (Part II)
20. "THE NORTHWESTERN TURNPIKE"
by Howard Newlon, Jr.
November-December 1974 (Part III)
21. "THE STAUNTON AND PARKERSBURG TURNPIKE"
by Howard Newlon, Jr.
January-February 1975 (Part IV)
22. "THE SOUTHWESTERN TURNPIKE"
by Howard Newlon, Jr.
March-April 1975 (Part V)

A five-part sequence detailing the background and development of Virginia's nineteenth century arterial highway system designed to link eastern Virginia with the trans-Allegheny area.

22. (Cont.)

Illustrations:

Two maps and an illustration of Parkersburg, now West Virginia.

23. "EDWARD LORRAINE'S NINE-MILE TUNNEL"

by W. E. Trout, Historian, American Canal Society
May-June 1975

Although it was never built, Edward Lorraine's tunnel under the Alleghenys, designed to link the James and Kanawha improvements, was the greatest project ever conceived in Virginia. Its cost of \$50-\$60 million would have bankrupted Virginia.

Illustration:

Photograph of Lorraine.

24. "EARLY VIRGINIA ROAD MARKERS: 1724-1828"

by Nathaniel Mason Pawlett, Faculty
Research Historian, VH&TRC, and Dan G.
Deibler, now with the Pennsylvania
Historical and Museum Commission
July-August 1975

A brief survey of early road markers in Virginia featuring several of the more interesting examples that have recently come to light.

Illustration:

Print of a typical eighteenth century signpost and photographs of four of the more ornate carved stones.

25. "THE LOWEST OFFICE: JOHN TYLER AS OVERSEER OF ROADS"
by Nathaniel Mason Pawlett
September-October 1975

President John Tyler's service in the nation's highest office was followed by service in its lowest office, that of overseer of roads in his home county of Charles City. An amusing and oft-told story.

Illustration:

Engraving of John Tyler and photograph of Sherwood Forest, his plantation.

26. "JOHN RANDOLPH ABROAD: A CHRISTMAS TRIP"
by Nathaniel Mason Pawlett
November-December 1975

Excerpts from John Randolph's description of a December 1821 trip from Richmond to Washington through mud and flood.

Illustration:

Engraving of John Randolph of Roanoke and a twentieth century photograph of the road through the town of Dumfries.

27. "THE THREE NOTCH'D ROAD"
by Nathaniel Mason Pawlett
January-February 1976

One of the more important eighteenth century colonial roads was the Three Notch'd Road, which ran from Richmond to the Valley. A main east-west route, it remained in service down to the 1930's, when straightened and hard-surfaced,

27. (Cont.)

it became Route 250. Interstate 64 was later built along this route.

Illustration:

Photographs of the Three Notch'd Road at Gum Spring and Giles Allegre's Tavern.

28. "MAPMAKER EXTRAORDINARE"
by Howard Newlon, Jr.
March-April 1976

Christopher Colles published, in 1789, A Survey of the Roads of the United States of America. This was the first attempt to produce a U.S. road map.

Illustration:

Portrait of Christopher Colles, reproduction of a portion of his map and a photograph of Pohick Church and the adjacent road.

29. "TRAVELS IN VIRGINIA DURING REVOLUTIONARY TIMES"
by Howard Newlon, Jr.
May-June 1976

Descriptions of the hazards of travel during this period drawn from published narratives of the period. Particularly interesting are the perspectives of the foreign travellers of the period.

Illustration:

Illustrated with a Porte Crayon sketch of a coach crossing a swollen stream.

30. "SET OVER YE RIVER BY CHANCE"
by Howard Newlon, Jr.
July-August 1976

Although ferries are now virtually nonexistent in the United States, they were at one time of great importance. Particularly was this the case in the tide-water and riverine areas of Virginia. Ferry legislation, rates, etc., are discussed.

Illustration:

Illustrated with a print of a nineteenth century ferry.

31. "ROADS TO INDEPENDENCE: ROUTES OF THE VIRGINIA SIGNERS OF THE DECLARATION OF INDEPENDENCE"
by Howard Newlon, Jr.
September-October 1976

A discussion of the routes followed by the Virginian signers of the Declaration of Independence on their journey to Philadelphia in 1776 with particular emphasis on that of Thomas Jefferson.

Illustration:

Reproduction of the signatures of Virginia's signers.

32. "A ROYAL INSPECTION"
by Howard Newlon and Nathaniel Mason Pawlett
September-October 1976 (bonus article)

The 1976 visit of Queen Elizabeth II to this "her Most Antient Dominion" occasioned a considerable amount of preparation and fanfare. These preparations are compared to those

32. (Cont.)

attendant upon an earlier visitation of England by Elizabeth I.

Illustration:

Photographs of Queen Elizabeth II and Governor Godwin.

33. "...'BLASED AND LAID OFF WITH TWO KNOTCHES AND A CROSS...': THE GENESIS OF THE VALLEY ROAD"
by Nathaniel Mason Pawlett
November-December 1976

The Three Notch'd Road was only one of many roads originally marked in some fashion. The ancient Warriors' Path through the Valley was marked with "two Knotches and a Cross" in 1745 to become the Indian Road. Still later it became the Valley Pike, Route 11, and Interstate 81.

Illustration:

Reproduction of a portion of the Fry-Jefferson Map showing the Indian Road.

34. "'AND THE HIGHWAYMAN CAME RIDING': JOSEPH HARE AND THE SPECTRAL HORSE"
by Nathaniel Mason Pawlett
January-February 1977

Virginia has had few desperadoes of the stature of Jesse James and Black Bart. One who operated here was Joseph Hare, noted for his encounter with a spectral horse, which led to his downfall.

34. (Cont.)

Illustration:

Print of a highwayman plying his trade and a portion of The Nine-Sheet Map showing southeastern Franklin County.

35. "TROUBLED BRIDGES OVER WATERS"
by Howard Newlon, Jr.
March-April 1977

Fire and flood have taken their toll of Virginia's bridges over the years, aided by war, the natural decay caused by the elements, and the march of progress. Some of the more significant disasters are described.

Illustration:

Photograph of Herman Haupt and a picture of James Moore. Print of destruction of bridge at Harper's Ferry.

36. "A CENTURY AND A HALF OF TRANSPORTATION PLANNING"
by Howard Newlon, Jr.
May-June 1977

An exploration of early transportation planning in Virginia that led to the creation of the Board of Public Works in 1816 and its development of a master plan for a unified transportation network.

Illustration:

None.

37. "THE FORGOTTEN 'LABOURING MALE TITHEABLE'"
by Nathaniel Mason Pawlett
July-August 1977

Although "the labouring male titheable" performed the construction and maintenance of Virginia's roads, working under the "surveyor of roads" or "overseer of highways," his background has seldom been explored. Some of these "labouring male titheables" prove to be quite unusual when examined.

Illustration:

Engraving of labouring male titheables at work on a road.

38. "PRIVATE ROADS AND BRIDGES: A GREAT CONVENIENCE AND SATISFACTION
EVEN IF EXPENSIVE"
by Howard Newlon, Jr.
September-October 1977

Not all of Virginia's early roads and bridges were the work of the counties or state. Some quite considerable works were constructed by individuals and joint stock companies from a profit motive or, sometimes, sheer vanity.

Illustration:

Photograph of the 1895 Biedler Bridge in Rockingham County.

39. "THE CHEQUERED CAREER OF TAVERNS AND ORDINARIES IN VIRGINIA"
by Nathaniel Mason Pawlett
November-December 1977

39. (Cont.)

Although necessary adjuncts to travel, taverns and ordinaries had a rather chequered career over the first three centuries of their existence in the Old Dominion. This aspect of old Virginian country life is traced in an unusually long article.

Illustration:

Illustrated with a sketch of the Wilderness Tavern.

40. "A SITE ON THE POTOMAC"

by John Melville Jennings, Director Emeritus,
Virginia Historical Society
January-February 1978

The point has often been made that to a great extent geographical features determine transportation routes, and that transportation routes then determine the locations of towns, cities and such governmental centers as county seats and state and national capitals. Here the thesis is applied to Washington, D.C.

Illustration:

Nineteenth century print of Georgetown.

41. "THE PERILS OF A PIONEER PLANNER"

by Howard Newlon, Jr.
March-April 1978

Although Claud Crozet's name has principally been associated with the development of Virginia's internal improvements, his career here was not an unbroken string of triumphs. Caught in a

41. (Cont.)

political crossfire over ways and means, technological obsolescence, and perhaps personality conflicts, he abandoned the state for Louisiana. Returning in 1838, he again managed to fall from favour by 1842, ending his career with the state.

Illustration:

Photograph of Crozet.

42. "THE REVEREND ROBERT ROSE AND HIS MARVELLOUS TOBACCO CANOES"
by Nathaniel Mason Pawlett
May-June 1978

43. "ILLUMINATING A DARK CORNER: ROBERT ROSE"
by Nathaniel Mason Pawlett
July-August 1978

Among a host of notable eighteenth century Virginian gentlemen who might be styled "universal men" from the multiplicity of their accomplishments stands the name of Robert Rose. Chiefly noted for his tobacco canoes and the opening of the upper James for commercial navigation, Rose engaged in tobacco planting, land speculation, and road building. His recently published diary provides first-hand testimony of the canoes and mid-eighteenth century road construction.

Illustration:

Engravings of tobacco canoes and a reproduction of the Amherst-Nelson area from the Fry-Jefferson Map of 1751.

THE FOREGOING 43 ARTICLES WERE INCLUDED IN THE FIRST
BOOK ENTITLED BACKSIGHTS.

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44. "FOLLOW THE POLES, WATCH FOR THE ROCKS, AND CROSS THE BRIDGE
CAREFULLY"
by Howard Newlon, Jr.
September-October 1978

Hardly less diverting than the hazards that faced the eighteenth century traveller were those which faced the motorists in the early twentieth century. The principal difference lay in the issuance of a host of guidebooks to show the way in the days before numbered routes and free road maps.

Illustration:

Photograph of a Stutz automobile and driver in 1915.

45. "HISTORIC PRESERVATION AND THE ROLE OF THE DEPARTMENT"
by Howard Newlon, Jr.
November-December 1978

A comparison of the historic preservation efforts of the Virginia Department of Highways and Transportation with national trends in this area.

45. (Cont.)

Illustration:

Photograph of the Lynchburg Fink truss and a Porte Crayon sketch of a traveller.

46. "THE ROLE OF WOMEN IN EIGHTEENTH AND NINETEENTH CENTURY TRANSPORTATION"

by Howard Newlon, Jr.
January 1979

An exploration of some of the lesser known aspects of Virginian transportation history, the women who ran taverns, ferries, and toll bridges.

Illustration:

Photography of Polly Wood's ordinary at Peaks of Otter.

47. "GEORGE W. BAGBY AND THE BRIDGE TO UNCLE FLATBACK'S"

by Nathaniel Mason Pawlett
February 1979

The "anti-progressive" view of transportation improvements as set out in one of George Bagby's mid-nineteenth century sketches.

Illustration:

Photographs of George W. Bagby and a covered bridge similar to that described in the essay.

48. "ROAD-RELATED PLACE NAMES IN VIRGINIA"

by Nathaniel Mason Pawlett
March 1979

The text of a presentation to the Virginia Place Name Society's 1978 meeting at the

48. (Cont.)

University of Virginia. A host of interesting early place names have come to light in the road orders of Virginia counties.

Illustration:

Illustrated with a section of the Fry-Jefferson Map.

49. "A UNIQUE SURVIVOR: VIRGINIA'S FINK TRUSS"
by Howard Newlon, Jr.
April 1979

Subsequent to the inventorying of the 1879 bowstring truss in Bedford County as the oldest metal truss bridge in Virginia, a Fink truss thought to date from about 1870 was discovered in Lynchburg. If not a unique survivor in the United States, it is one of only two or three.

Illustration:

Photograph of the Lynchburg Fink truss.

50. "THE PHOENIX OF THE OLD DOMINION"
by Howard Newlon, Jr.
May 1979

A survey of the development of the land "boom" and accompanying town promotion schemes in late nineteenth century Virginia.

Illustration:

Photographs of Buena Vista in 1890 and 1891.

51. "A BOULEVARD FOR BESSEMER -- A CENTURY LATER"
by Barbara E. Hensley, Graduate Research Assistant,
Virginia Highway Research Council
June 1979

A case study of the promotion of the town of Bessemer at the junction of Craig's Creek and the James River in Botetourt County. The Craig Valley Railroad was also intimately related.

Illustration:

Photographs of Bessemer, the tri-modal bridge, and the 1890 town plan.

52. "DAWSONS, PIEDMONTS, AND KLINES: AUTO MANUFACTURE IN VIRGINIA"
by Howard Newlon, Jr.
July 1979

That Virginia once possessed a considerable automobile industry is another seldom-noted fact of her history. The history of several companies is explored.

Illustration:

Photographs of the Kline automobile and the Kline plant in Richmond.

53. "A. G. BRADLEY'S OLD BETHEL PIKE"
by Nathaniel Mason Pawlett
August 1979

A turn-of-the-century essay by an English sojourner in Virginia is used to illustrate the complications that can ensue from a lack of maintenance.

53. (Cont.)

Illustration:

Photographs of A. G. Bradley and a road similar to that described by Bradley.

54. "THE SECRETARY'S OLD ROLLING ROAD"
by Nathaniel Mason Pawlett
September 1979

The history of a road that played a significant part in the early development of the Piedmont and survives in use today, though no longer for the rolling of tobacco hogsheads to market.

Illustration:

Photograph of a tobacco roller and his hogshead and oxen, and a map of the Secretary's Road.

55. "FLOODS: DESTROYERS AND CREATORS"
by Howard Newlon, Jr.
October 1979

Virginia's "100-year floods" (1771, 1870, 1877, 1969, 1972) have removed untold numbers of bridges over the centuries, paving the way for the increased technological efficiency of the metal truss bridge (post-1877) and the modern concrete bridge (post-1969).

Illustration:

Two photographs of a metal truss bridge being washed away.

56. "'THE TEMPEST MAY SWEEP...' CARTER'S BRIDGE 1806-1816"
by Nathaniel Mason Pawlett
November 1979

Yearly floods have also been regular destroyers of bridges here. The rampaging little Hardware River quite regularly removed man's best efforts at Carter's Bridge in Albemarle County.

Illustration:

Engraving of the Free Bridge over the Rivanna River.

57. "BUILDING AT TRUSS BRIDGE -- 'BUT NOT ON THE CHEAP PLAN'"
by Howard Newlon, Jr.
December 1979

The mechanics of the purchase and erection of a metal truss bridge were an involved process as set out here in considerable detail.

Illustration:

Photograph of a 1913 Page County bridge being erected.

58. "JOHN S. WISE -- 'AMONG THE MOUNTAINS'"
by Nathaniel Mason Pawlett
January 1980

An excerpt from an 1862 travel account of a trip from Big Lick (now Roanoke) to Rocky Mount in Franklin County with descriptions of the route and the tavern and its characters.

58. (Cont.)

Illustration:

Map section of Franklin
County from the Nine-Sheet Map.

59. "THE EVOLUTION OF PUBLIC TRANSPORTATION IN VIRGINIA: THE EARLY YEARS"

by Howard Newlon, Jr.
February 1980

60. "THE EVOLUTION OF PUBLIC TRANSPORTATION IN VIRGINIA: 1800-1850"

by Howard Newlon, Jr.
March 1980

61. "THE EVOLUTION OF PUBLIC TRANSPORTATION IN VIRGINIA: THE RAILROAD ERA 1850-1900"

by Howard Newlon, Jr.
April 1980

A three-part sequence treating the historical development of public transportation down to the twentieth century.

Illustration:

Print of canal, map of the James River-Kanawha improvements, and a photograph of the west portal of Crozet's tunnel.

62. "THE RIVANNA NAVIGATION: ALMOST A CANAL SYSTEM"

by Nathaniel Mason Pawlett
May 1980

Although never quite converted into a canal, the portion of the Rivanna River from Charlottesville to Columbia received a series of impressive improvements over a period of more than a century.

62. (Cont.)

Illustration:

Section of Nine-Sheet Map showing Rivanna from Charlottesville to Columbia.

63. "THE WILLIS: ONLY A RIVER NAVIGATION"
by Nathaniel Mason Pawlett
June 1980

Never more than a river navigation, Cumberland County's little Willis River still played an important part in the transportation of goods over a broad area draining into the James River.

Illustration:

Portion of Nine-Sheet Map showing Buckingham and Cumberland counties.

64. "CHESSIE'S PARENT, THE LOUISA RAILROAD COMPANY"
by Nathaniel Mason Pawlett
July 1980

Only a few of the people who see "Chessie", the C&O Railroad's sleeping cat symbol, realize that the line had its origins in the Louisa Railroad, which was chartered in 1836 to build a line from near Richmond to Louisa Court House.

Illustration:

Map of the Louisa Railroad as later extended to Shadwell.

65. "'ALL MINE AND OTELIA'S,' BILLY MAHONE'S RAILROAD"
by Howard Newlon, Jr.
August 1980

65. (Cont.)

Like the C&O, the N&W was the result of a series of evolutions and combinations. The combination by General Billy Mahone in 1870 of three lines into a unitary railroad stretching from Norfolk to Bristol produced the Atlantic, Mississippi and Ohio, the N&W's predecessor.

Illustration:

Photographs of High Bridge over the Appomattox at Farmville and of General Mahone.

66. "THE WASHINGTON CITY, VIRGINIA MIDLAND, AND GREAT SOUTHERN RAILWAY"
by Nathaniel Mason Pawlett
September 1980

The evolution of today's Southern Railway system has to be one of the more complicated stories of Gilded Age finance capitalism.

Illustration:

Map of the Richmond & Danville (the Southern System after 1894) in 1877 and a photograph of financier J. P. Morgan.

67. "MONCURE ROBINSON, CIVIL ENGINEER"
by Nathaniel Mason Pawlett
October 1980

One of the neglected figures in the history of transportation in Virginia and the United States is Moncure Robinson. Active in railroad affairs from the 1820's up to his death in 1891, Robinson engaged in such other activities as locomotive and

67. (Cont.)

drydock design, canal ownership,
and running a steamship line.

Illustration:

Portrait of Moncure
Robinson

68. "CHANGING THE GAUGE. RAILROADS AS REGULATORS: PART I"
by Howard Newlon, Jr.
November 1980

69. "STANDARDIZING TIME. RAILROADS AS REGULATORS: PART II"
by Howard Newlon, Jr.
December 1980

A two-part sequence detailing
the influence of railroads on
modern society through their
efforts towards the stan-
dardization of rail gauges and
time.

Illustration:

A map of Virginia showing
the gauges of the various
railroads in 1861.

70. "RICHMOND'S -- AND AMERICA'S -- FIRST ELECTRIC RAILWAY SYSTEM"
by Howard Newlon, Jr.
January 1981

The story of Frank Julian
Sprague and the development of
the electric streetcar in
Richmond and its influence on
the development of "suburbia"
throughout the United States

Illustration:

Photograph of Richmond's
first streetcar system.

71. "PARALLEL AND PARADOX: VIRGINIA'S FORGOTTEN RAILROADS"
by Nathaniel Mason Pawlett
February 1981

The correspondence seen at many places between Virginia's principal highways and railroads can be extended to many of the lesser routes, where in some cases roads now occupy the abandoned railroad right-of-way or portions of it. The history of one of these railroads is explored at length.

Illustration:

Map showing the route of the Tidewater & Western Railroad from Petersburg to Farmville.

72. "VIRGINIA DOESN'T NEED ANY MORE RAILROADS -- 1840"
by Nathaniel Mason Pawlett
March 1981

Virginians have long been noted for their innate conservatism. This attitude is well-illustrated by this excerpt on railroad location from the writings of Edmund Ruffin, a noted conservative. In 1840 railroads were only about a decade old in Virginia.

Illustration:

Photograph of Ruffin in the uniform of the Palmetto (S.C.) Guards taken on the day following the surrender of Fort Sumter in April 1861.

73. "GETTING THE SHOW ON THE ROAD"
by Howard Newlon, Jr.
April 1981

In July 1906, the Virginia State Highway Commission began operation under the provisions of legislation passed by the General Assembly the previous March. The activities of the central office during its first year of operation are examined by means of an analysis of the expenses.

Illustration:

Photographs of the first commissioner, P. St. Julien Wilson, and of a horse-drawn vehicle traversing an extremely muddy road.

74. THE BEGINNING OF PERMANENT IMPROVEMENTS IN VIRGINIA'S ROADS"
by Howard Newlon, Jr.
July 1981

Projects described in the first annual report of the Highway Department in 1907 are used as indicators of early activities.

Illustration:

Comparative photographs of a portion of road, probably at Madison Heights, Virginia, before and after improvement.

75. "EARLY INDUSTRIAL ACCESS ROADS: FREDERICKSVILLE TO FREDERICKSBURG"
by Nathaniel Mason Pawlett
August 1981

It is not surprising to find that the Virginia government was interested in "industrial access

75. (Cont.)

roads" long before the recent legislative enactments. A 1730 road across Spotsylvania County to Fredericksburg was designed to serve an early iron furnace on the North Anna River.

Illustration:

Map of Spotsylvania County showing the approximate route of Chiswell's Mine Road.

76. "SURVEYORS OF STILL ANOTHER KIND"

by Nathaniel Mason Pawlett and Ann Brush Miller, Research Historian, Orange County Historical Society
September, October, November 1981, February 1982.

- Part I: The Early English Experience
- Part II: The English Surveyor of Roads
- Part III: The Virginian Surveyor of Roads
- Part IV: Orange County Documents

A treatment of the development of the office of surveyor of roads from its earliest English roots through its creation by the Act of 1555, the multitudinous duties of the office, its transplantation to Virginia with subsequent alterations over the years.

Illustration:

Photographs of a Roman road still in service in England, road orders and other related documents from Orange County, Virginia, and a print of English labourers at work on a road.

77. "TOURING TWENTIETH-CENTURY TRAILS"

by Nathaniel Mason Pawlett
March 1982

A survey of the development of the "trails" movement in the

77. (Cont.)

United States devoted to marking automobile touring routes anterior to the development and implementation of the system of federally marked highways in 1926.

Illustration:

Photograph of two trails maps and the 1914 Automobile Blue Book.

78. "DESIGNERS OF BRIDGES AND MANAGEMENT SYSTEMS"
by Howard Newlon, Jr.
April 1982

Seven men noted as pioneers in the development of modern management techniques in the 1840's and 1850's were old civil engineers involved with the construction and operation of railroads in the United States.

Illustration:

None.

79. "THE EIFFEL TOWER, THE STATUE OF LIBERTY AND THE NOKESVILLE BRIDGE"
by Howard Newlon, Jr.
May 1982

The Nokesville Bridge was erected by the Keystone Bridge Company, which also erected the Statue of Liberty, whose internal structure was designed by Gustave Eiffel.

Illustration:

Photograph of Nokesville Bridge.

80. "LORD FAIRFAX'S WHITE POST"
by Nathaniel Mason Pawlett
June 1982

A brief history of the origins of one of Virginia's earliest and most noted road markers located at White Post in Clarke County near Lord Fairfax's eighteenth century seat at Greenway Court.

Illustration:

Three photographs showing the White Post in 1905, 1929 and 1981.

81. "CLAIBOURNE RICE MASON: VISIONARY ENGINEER"
by Nathaniel Mason Pawlett
July, August, September, October 1982
Part I
Part II
Part III
Part IV

An extended treatment of the life and achievement of one of Virginia's legendary figures in the construction of roads, bridges, tunnels and railroads during the nineteenth century.

Illustration:

Photographs of the stone-arched bridge on the old Valley Railroad right-of-way and a portrait of Mason.

THE FOREGOING ARTICLES 44-81 ARE SCHEDULED TO BE
INCLUDED IN THE BOOK ENTITLED BACKSIGHTS II.

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82. "THE MATERIALS OF HISTORY"
by Howard Newlon, Jr.
November 1982

A discussion of the problems inherent in the materials from which history is drawn, both written and visual.

Illustration:

Photograph of a late eighteenth century painting of road construction by Claude-Joseph Vernet.

83. "ELEGANCE REBORN: THE ORIENT EXPRESS"
by Nathaniel Mason Pawlett
December 1982

The Orient Express, epitome of elegance to many, has American roots. These, its subsequent history and romantic aura are explored, as well as its recent revival.

Illustration:

Photograph of a poster advertising the train.

84. "GEORGE PULLMAN'S WONDERFUL SLEEPING CARS"
by Nathaniel Mason Pawlett
January 1983

Along with standard gauges and standard time, George Pullman's "hotel cars" made possible continuous through trains over long runs and the development of trains such as the Orient Express.

84. (Cont.)

Illustration:

None.

85. "RIVER OF NO RETURN
by Nathaniel Mason Pawlett
February, March 1983
Part I
Part II

Among the many heroes of the river and canal navigation era in Virginia was the slave boatman Frank Padget, who lost his life in an effort to save "some of his fellow Creatures" during a flood in 1854.

Illustration:

Photograph of the intersection of Routes 501 and 130 in Glasgow, Rockbridge County, under water.

86. "THE THREE NOTCH'D ROAD REVISITED"
by Nathaniel Mason Pawlett
April 1983

Further research and reflection upon new data make possible a reevaluation of the origins of the Three Notch'd Road and its naming.

Illustration:

Photograph of the ordinary at Gum Spring in whose 1742 license occurred the first use of the term "Three Notch'd Road."

87. "BICYCLES, TRAINS, AND GOOD ROADS"
by Howard Newlon, Jr.
May 1983

Strangely enough, the movement for good roads received its initial impetus from what today might seem two unlikely sources: bicyclists and the railroads.

Illustration:

Prints of bicyclists riding their new, quick, two-wheeled vehicles on country roads.

88. "GOOD ROADS, RAILROADS, AND VIRGINIANS"
by Howard Newlon, Jr.
June 1983

A continuation of the previous theme with the focus on the railroad's interest in good roads as feeders to get products to railheads.

Illustration:

Photograph of Secretary of Agriculture Wilson and Logan Waller Page, director of the U.S. Office of Public Roads, visiting a Road Improvement Train in 1911.

89. "FROM ART TO SCIENCE - PART 1: PRELUDE TO RESEARCH"
by Howard Newlon, Jr.
July 1983

The breakdown of road surfaces due to the heavy usage occasioned by World War I led to the beginning of a concerted research effort in transportation.

89. (Cont.)

Illustration:

Print of an early research effort to study truck damage to roadways.

90. "FROM ART TO SCIENCE - PART 2: RESEARCH COMES OF AGE"
by Howard Newlon, Jr.
August 1983

A detailed examination of the first highway research efforts in the United States in the 1920's.

Illustration:

None.

91. "A TRIP ALONG THE NATCHEZ TRACE"
by Howard Newlon, Jr.
September 1983

The Natchez Trace played an important part in the settlement of America's first "West" from 1785 to the coming of the steamboat in the 1820's.

Illustration:

Photograph of a section of the original Natchez Trace and of the cabin where Meriwether Lewis lost his life.

92. "THE BLIND ROAD BUILDER"
by Nathaniel Mason Pawlett
October 1983

While the achievements of an unlettered genius such as Claibourne Rice Mason are impressive, one can only marvel at those of the blind English road

92. (Cont.)

builder John Metcalf
(1717-1810).

Illustration:

Print of "Blind Jack"
Metcalf.

93. "A GUIDEPOST ROSE WITHIN HIS VIEW..."
by Nathaniel Mason Pawlett
November 1983

Even in the eighteenth century
vandalism of road signs and
markers created problems for
travelers, as illustrated by the
work of Thomas Rowlandson and
William Combe.

Illustration:

Print of "Doctor Syntax
Losing His Way."

94. "WHY VIRGINIA IS DIFFERENT: THE SECONDARY SYSTEM"
by Howard Newlon, Jr.
January, February 1984
Part I, Part II

The story of how the county
roads in Virginia came to be
turned over to the state in
1932.

Illustration:

Photographs of the old
Augusta County road equipment
depot and a 1911 Culpeper County
tax bill.

95. "FUNDING THE INFRASTRUCTURE THROUGH THE YEARS"
by Howard Newlon, Jr.
March, April, May, June 1984
Part I, Part II, Part III,

95. (Cont.) Part IV

A discussion of the various methods of funding roads used in Virginia from earliest times down to the Byrd Road Act in the twentieth century.

Illustration:

Photographs of a ticket for a "Mountain Road" lottery, managed by George Washington, a muddy road, road building in progress, and a 1934 gasoline price sign.

96. "AUTOMOBILES, HIGHWAYS AND THE RISE OF THE HISTORIC PRESERVATION MOVEMENT"

by Nathaniel Mason Pawlett
July 1984

The influence of the automobile in furthering the growth of tourism and the historic preservation movement by making historic sites accessible has been generally ignored up to now.

Illustration:

Photograph showing automobiles beginning to crowd America's highways.

97. "MONUMENTS LAID ON THE GROUND"
by Howard Newlon, Jr.
August 1984

An obscure episode in the life of Thomas Fortune Ryan serves to illustrate the outlook of the Gilded Age entrepreneurs and their view of "progress."

Illustration:

Photograph of Thomas Fortune Ryan.

98. "ANOTHER NATURAL GENIUS: JAMES BRINDLEY"
by Nathaniel Mason Pawlett
September 1984

A brief biographical sketch of another engineer of the ilk of Claibourne Rice Mason and John Metcalf.

Illustration:

Print of James Brindley

99. "THE PINE STAKE, THE TOMBSTONE AND THE BEE TREE: THE STORY OF THE ORANGE COUNTY COLONIAL ROADS PROJECT"
by Ann Brush Miller, Research Historian, Orange County Historical Society
October 1984

The lessons thus far learned about the relationship of historic sites and the early roads of Orange County are discussed by the principal researcher on the project.

Illustration:

Photograph of deep cutbanks alongside Route 699 near Monrovia.

100. "A BACKSIGHT ON BACKSIGHTS"

by Howard Newlon, Jr. and Nathaniel Mason Pawlett
November 1984

A perspective on the genesis of the "Backsights" series, its philosophy and the continually evolving uses to which the articles have been put over the years.

Illustration:

A print of George Washington conducting a survey, one of the oldest and most important engineering tasks, used on the cover of the first "Backsights" book.

101. "ROADS THAT LAY LIGHTLY ON THE LAND"

by Howard Newlon, Jr.
December 1984

The concept of environmentally sensitive road building is not new, as is exemplified by some of the early twentieth century schemes related here.

Illustration:

Map of the 1931 "Eastern National Park-to-Park Highway," conceived as a way to link national parks established or anticipated in the states of Virginia, West Virginia, Kentucky, Tennessee, and North Carolina.

102. "ROADS THAT LAY LIGHTLY ON THE LAND -- THE MOUNT VERNON MEMORIAL PARKWAY"

by Howard Newlon, Jr.
January, February 1985

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102. (Cont.)

The story of the Mount Vernon Memorial Parkway, which was opened in 1932 between the Nation's capital and George Washington's home.

Illustration:

Photograph of the Mount Vernon Memorial Parkway.

103. "ROADS THAT LAY LIGHTLY ON THE LAND -- THE SKYLINE DRIVE"
by Howard Newlon, Jr.
March 1985

The story of the Skyline Drive and its origins in the period of the Great Depression.

Illustration:

Photograph of a crowded Skyline Drive shortly after the opening of the mountain highway in the 1930's.

104. "ROADS THAT LAY LIGHTLY ON THE LAND -- THE BLUE RIDGE PARKWAY"
by Howard Newlon, Jr.
April, May 1985
Part I, Part II

Conceived as "The Crest of the Blue Ridge Highway" in 1909, its construction allowed the further refinement of design concepts and construction processes that began with the Mount Vernon Memorial Parkway.

Illustration:

Photographs of Mabry's Mill and a restored canal lock.

- 105. "ROADS THAT LAY LIGHTLY ON THE LAND -- THE COLONIAL PARKWAY"
 by Howard Newlon, Jr.
 June, July 1985
 Part I, Part II

The Colonial Parkway, familiar to most visitors to Yorktown and Williamsburg, was not completed until the 1950's, although begun in the 1930's.

Illustration:

Photographs of a brick-faced bridge and an exposed aggregate concrete roadway, and of construction of the Colonial Parkway tunnel under Colonial Williamsburg.

- 106. "HENRY GARNETT SHIRLEY: A VERSATILE HIGHWAY GIANT"
 by Nathaniel Mason Pawlett
 August 1985

A man of genius who might have become famous in any era of Virginia's history, the demands of the twentieth century made him an international figure in the highway world.

Illustration:

Portrait of Henry Garnett Shirley.

- 107. "THE VIRGINIAN: A RAILROAD FROM THE ROMANTIC ERA"
 by Nathaniel Mason Pawlett
 September 1985

The Virginian resulted from the complicated planning of William Nelson Page and the financier H. H. Rogers.

107. (Cont.)

Illustration:

Sketch of the Virginian
Railway Logo.

108. "DISCOVERING THE ELECTRIC RAIL SYSTEM"

by Nathaniel Mason Pawlett
October 1985

An engineering marvel when
constructed in 1925, the system
nevertheless bore a startling
resemblance to nineteenth
century systems of Moncure
Robinson -- only the means
differed.

Illustration:

Photographs of the Narrows
power plant and bridge.

109. "AGE OF RAPID CHANGE DRIVEN BY TECHNOLOGY"

by Howard Newlon, Jr.
November 1985

The influence of technology in
promoting change as
geophysically depicted in a
painting over a century ago
echoes contemporary discussion.

Illustration:

Photograph of John Gast's famous
painting, AMERICAN PROGRESS,
depicting "the grand drama of
Progress in the civilization,
settlement, and history of our
own happy land."

The foregoing articles 82-109 are scheduled to be
included in the book to be entitled Backsights III

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