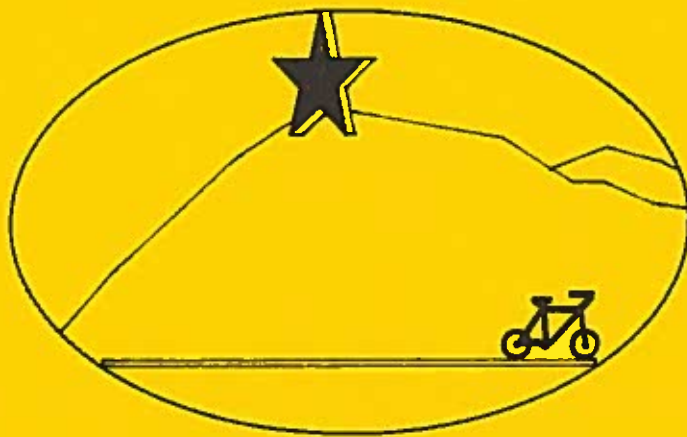


ROANOKE VALLEY BIKEWAY PLAN

1991 UPDATE



Prepared by the staff of
the Fifth Planning
District Commission

June 1991

This study was prepared by the staff of the Fifth Planning District Commission through the assistance of the United States Department of Transportation, Federal Highway Administration, and the Virginia Department of Transportation.

The contents of this report reflect the views of the authors who are responsible for the facts and the accuracy of the data presented herein. The contents do not reflect the official views nor the policy of the Federal Highway Administration or the Virginia Department of Transportation. This report does not constitute a standard, specification, or regulation.

The Federal Highway Administration and the Virginia Department of Transportation acceptance of this planning study does not constitute endorsement/approval of the need for any recommended improvements, nor does it constitute approval of their location or design, nor a commitment to fund any such improvements. Additional project level environmental impact assessments and/or studies of alternatives may be necessary.

Acknowledgements

The members of the Bicycle Advisory Committee consisted of:

<u>Name</u>	<u>Organization</u>
Terry Ashby	Blue Ridge Bicycling Club
Barbara Duerk	Blue Ridge Bicycling Club
John Greiner	Blue Ridge Bicycling Club
Green Lawson	Blue Ridge Bicycling Club
Artie Levin	Blue Ridge Bicycling Club
Jim Ritchie	Blue Ridge Bicycling Club
Steve Carpenter	Roanoke Co. Parks and Recreation
Cris Chittum	Town of Vinton Planning
Ron Hachey	Botetourt Co. Planning and Zoning
Charlie Hammersly	City of Salem Parks and Recreation
Lynn Vernon	Roanoke City Parks and Recreation

The authors are deeply indebted to the above individuals for their assistance.

Thanks for their invaluable assistance and expertise are also expressed to: Mr. John Fegan-FHWA, Mr. Richard Lockwood-VDOT, Mr. Larry Caldwell-VDOT, Mr. Herman Hollins-VDOT, Ms. Jackie Pace-5th PDC, and the Members of the Transportation Technical Committee.

While acknowledging the invaluable assistance of the above individuals, any error or omission in this report is the responsibility of the authors.

Charles E. "Chip" Taylor
Chief of Transportation

J. William B. "Bill" Austin
Transportation Technician

Table of Contents

<u>Introduction</u>	1
<u>Chapter 1: Bike Plans in the Roanoke Valley</u>	2
<u>Chapter 2: 1991 Route Alignment Changes</u>	6
<u>Chapter 3: Recommended Improvements Along the Bike Route</u> .	10
Bike Route segments recommended for section improvement:	14
Additional Roadways suggested for preliminary consideration of Class II improvements:	15
<u>Chapter 4: Bicycle Safety in the Roanoke Valley</u>	16
Summary of Recommendations	21
Appendices	22

Introduction: The 1991 Bike Plan

The 1991 Roanoke Metropolitan Area Bike Plan is an update of the 1981 Roanoke Bike Plan. The 1981 Bike Plan sought to examine bicycling conditions throughout the Roanoke Valley and arrive at a suitable network of facilities for bicycling around the Valley. The 1981 Bikeway Plan was written using the 1980 AASHTO guidelines for bicycle route designation, a survey of cyclists to determine their preferred paths and a committee of bicycle club members and representatives of local jurisdictions and institutions. In addition to the delineation of a viable bike network, the survey and the advisory committee were used to report on the safety needs of the average cyclist and on the destinations riders prefer for bicycle network access. In examining the 1981 Bicycle Plan it was found that the goals for the network established were successfully met. However, the implementation of the 1981 Plan was never accomplished.

The 1991 Bicycle Plan seeks to update the routes on the 1981 Plan taking into account the changes in the highway network that have occurred since 1981, it is not meant to replicate or replace the survey work or the safety recommendations made in 1981. The 1991 Plan does replace those facilities which have become inviable since 1981, and it also seeks to expand the areas covered by the bike routes around the Valley. The 1991 Bike Plan is also meant to create greater awareness and use of the Bicycle Routes by publicizing them and creating a standing committee to oversee their use and improvement.

Roanoke Valley Bicycle Plan

Chapter 1: Bike Plans in the Roanoke Valley

Since 1974 there have been two Bicycle Plans for the Roanoke Valley. The 1975 Roanoke Valley Bicycle Plan sought to establish a network of bicycle trails and paths throughout the Valley. This effort coming on the heels of the 1973 oil embargo sought to provide area riders with a clearly defined set of trails to navigate around the Valley in a recreational and efficient manner.

The 1981 Roanoke Valley Bicycle Plan sought to improve on the 1975 Plan by widening its scope with a survey of Roanoke Valley cyclists and bicycle shop owners to determine the demand for cycling services in the Valley. This plan also examined ways to increase ridership in the Valley. As the 1981 Bicycle plan stated: "...75% of the respondents (to the 1981 survey) stated that they would use their bicycles as a means of transportation if safe routes were available." (page 21) The result of the 1981 effort was an "Urban Route Network" (as defined in Selecting And Designating Bicycle Routes: A Handbook (Bicycle Federation of America 1986). An "Urban Route Network" is "...essentially an attempt to combine various aspects of route selection to form a generalized set of routes which effectively identify suitable streets which can be used to gain access to a variety of destinations." (Selecting pg.35)

In examining the 1981 Bicycle Plan for this update it became evident that the authors had been successful in outlining a series of bicycle paths that would provide safe access for most Valley riders to the majority of the desirable destinations. However, in preparing this report it became apparent that the state of the bicycle paths in the Roanoke Valley had not changed much since before the 1981 Plan. There are still only two recognized designated Bicycle Paths in the Roanoke Valley: Wiley Drive in Roanoke City, and the Salem Bike Path. These bicycle paths are only designated by route signs, or on official maps distributed by the respective jurisdictions involved. None of the roadway improvements suggested in the 1981 Plan have been made.

The fact that the 1981 Bicycle Plan was not implemented and the public was not informed that there were recommended routes for riding throughout the Valley may be attributed to the limited funding available to formalize the paths through signing and other methods, and the inability of the authors to publicize the Bike Plan. It is hoped that the 1991 Bicycle Plan will be better able to work for the implementation of the paths suggested. This may be accomplished by working with local businesses and riders on public distribution of the bike maps and by formally instituting a committee to oversee applications for funding from

Roanoke Valley Bicycle Plan

various sources for upgrade of those paths designated in the Plan.

The creation of a viable bicycling network throughout the Roanoke Valley is important on several different levels. First, the creation of a bicycling network enhances the Roanoke Valley by providing residents and newcomers with both recreational and utilitarian means for getting around the Valley. Secondly, it is hoped that with the establishment of a bicycling network there may be some decrease in the amount of traffic congestion and automobile pollution. Another by-product of a successful bicycle network may be that, by encouraging the use of bicycles, the general health of the Valleys' population will improve due to the increased exercise gained through riding. Finally, it is hoped that the bicycling network will help provide a new sense of pride in the Valley by presenting a safe, healthy, way to enjoy the scenic views of the area.

The creation of a vibrant Roanoke Valley Bicycle Network is dependent on several factors. The cooperation of the Valley governments in helping to create, adequately maintain, and publicize the routes. The enthusiasm of citizens involved in the establishment of the bicycle network and the recognition by the general public that this network is a good way to get around the Valley.

Criteria for Designating the Roanoke Valley Bikeways

In examining the various streets in the Roanoke Valley Traffic Network it is necessary to establish a set of guidelines to determine which facilities are suitable for use as bike routes. In developing the 1981 Bike Plan it was decided to use the three bike route designations established by the State of California these designations are:

"(a) Class I Bikeway (Bike Path or Bike Trail)-Provides a completely separated right-of-way designated for the exclusive use of bicycles and pedestrians with cross flows by motorists minimized.

(b) Class II Bikeway (Bike Lane)-Provides a restricted right-of-way designated for the exclusive or semi-exclusive use of bicycles with through travel by motor vehicles or pedestrians prohibited, but with vehicle parking and crossflows by pedestrians and motorists permitted.

(c) Class III Bikeway (Bike Route)-Provides a right-of-way designated by signs or permanent markings and shared with pedestrians or motorists. Any highway which shares its through traffic right-of-way with either or both moving (not parking)

Roanoke Valley Bicycle Plan

motor vehicles and pedestrians is considered a Class III Bikeway."

(California Vehicle Code-Section 2373, quoted in the "1981 Roanoke Valley Bicycle Plan".)

These guidelines are generally accurate in establishing what level of service is desired along the bikeways of the Roanoke Valley. They also leave room for the discretion of the bikeway planner in designating bikeways.

This discretion is a two edged sword in that it allows the planner to use his judgment in discerning what is a good bikeway, but, it also does not inform the rider of the differences in the level of service that may be expected along two paths which may be designated as the same type of bikeway. An example of this is the designation of the section of Route 419 from Ogden Road to Salem as a Class II bikeway. While the road segment itself is clearly supportive of a Class II facility, the volume of traffic and the nature of that traffic is clearly different from the other Class II facilities along the Bikeway. (The designation of this segment as part of the Bikeway is a necessity to maintain route continuity, and because the segment provides access to so many desirable destinations.) However, a rider unfamiliar with the area might assume that this segment has comparable riding characteristics to the other facilities which are assigned Class II status. In order to rectify this opportunity for confusion, this report has examined all of the facilities (Class II and Class III) to be included in this plan and mapped those segments which because of their individual characteristics should be recommended to the more experienced rider.

In considering whether or not a facility should be included on an "Urban Route Network" the most important suitability factors to examine are the facilities' "Lane Width, Traffic Volume, Traffic Speed, Intersections, Traffic Controls, Pavement, Parking" (Selecting pg. 36). Due to the topography of the Roanoke Valley, the grade of specific routes was also given some consideration in this report. Specific criteria for each of these variables on each type of bike path have not been suitably delineated as to give us generalized specifications. In examining the 1981 Roanoke Valley Bike Plan it was decided that the three main criteria for changing the routes along the plan would be those paths which were no longer viable because of physical changes to the road, routes where the amount of traffic had increased to such an extent that they were no longer suitable, and additions to the routes which would increase the number of destinations and people served in the Valley.

Roanoke Valley Bicycle Plan

Implementation of the Urban Network

Implementing a bike route may be done by signs and/or by map. Maps are recommended for primary designation of an urban route network. As Selecting states:

"Bike maps are the most reasonable approach to designating an urban route network since the cost of installing and maintaining a large number of signs would be prohibitive." (pg. 36)

However, having mapped out a reasonable network of bike paths, it is still necessary to insure that the road system designated is suitable for bikes and that, where appropriate, changes to upgrade the system will be made in the future. It is hoped that this document and the Standing Committee that is suggested in this document will keep the Roanoke Valley bicycle network attuned to the needs of the cyclists and coordinated with regard to available facilities.

Goals of this Document

The goals of this document are as follows:

- 1) To promote the safe use of bicycles throughout the Valley by providing a bicycling network appropriate for the majority of the bicycle riders in the Valley and by recommending actions which will promote bicycle safety.
- 2) To establish a standing committee to oversee the Bike Routes which will take actions to insure that the Bike Routes remain viable for use by the general public.
- 3) To publicize the Bike Routes through maps that are available to the general public.

Roanoke Valley Bicycle Plan

Chapter 2: 1991 Route Alignment Changes

Having examined the 1981 Bicycle Plan in the manner described in Chapter I and consulted with the members of the Bicycle Plan Advisory Committee, the following route alignment changes have been made. These changes are meant to either improve the level of service to all citizens of the Roanoke Metropolitan area or to remove discontinuities or unsafe conditions in the 1981 Bike Routes that have come about with the passage of time. The following deficiencies in the 1981 Bicycle Plan were identified for further study.

A) Area: South Roanoke at Roanoke Memorial Hospital

The existing 1981 Bike Routes do not provide access to the Mill Mountain recreational area of the Blue Ridge Parkway or the splendid scenery and roadways of South Roanoke. Also, residents of that community are under-served by the 1981 Bike Plan.

The 1991 Bike Plan has added a South Roanoke spur to the 1981 Bike Plan. This spur proceeds from Wiley Drive up Jefferson Street to Cornwallis Avenue at Fern Park. The Route then continues through Fern Park to Yellow Mountain Road and connects to the Blue Ridge Parkway Mill Mountain Spur at the Parkway's overpass of Yellow Mountain Road. From the Parkway overpass the Route continues to the Mill Mountain Star on one end and to the Blue Ridge Parkway on the other at the Spur's intersection with that facility. The path would then follow the Parkway north to the sections of Parkway already designated in the 1981 Plan.

B) Area: Downtown Roanoke-The Jefferson Street leg of the Hunter Viaduct.

With the demolition of the Jefferson Street leg of the Hunter Viaduct, a replacement for this path was required. Many alternatives were considered using the existing street network. After considering the amount of traffic on both Franklin and Williamson Roads it was decided that the replacement path should continue up Jefferson Street to the pedestrian at grade railroad crossing between North and South Jefferson Street. After crossing the railroad tracks from Jefferson Street, the Bicycle Route continues up North Jefferson Street to Wells Avenue. The path continues on Wells Avenue to the intersection with Williamson Road where it continues on Williamson, as before, to Carver Avenue. The final disposition of this segment will depend on Roanoke City's interpretation of a bike route on the relocated Wells Avenue. Alternatively, a median cut and pedestrian

Roanoke Valley Bicycle Plan

activated signal should be provided at the Shenandoah Avenue\Williamson Road intersection.

- C) Area: Melrose Avenue at the Peters Creek Road and Route 419 intersections. Lack of service to the Northwest Roanoke City residential community.

The 1981 Bicycle Route followed Melrose Avenue from 10th Street to Bruffey Street in Salem. In considering the 1981 Bicycle Plan in its entirety, it was clearly observed that both the northwest segment of Roanoke City was under-served, and that the Melrose Avenue intersections with Route 419 and Peters Creek Road were dangerous because of both the volume of traffic and the turn movements involved. It was therefore decided that an alternative to following Melrose Avenue all the way to Salem was needed.

The alternative route to the segment of Melrose Avenue described above follows Melrose Avenue from 24th Street to Westside Boulevard. The route continues on Westside to Hershberger Road. It then follows Hershberger to Peters Creek Road. From the intersection of Hershberger Road and Peters Creek the route crosses Peters Creek to Peach Tree Drive. It then follows Peach Tree Drive to Showalter Road and follows Showalter Road to Barnett Road. The route then proceeds along Barnett Road to Green Ridge Road. It then follows Green Ridge Road to Dalewood Road. The Route then runs along Dalewood Road across Route 419 to Garst Street. It follows Garst Street to Kessler Mill Road and continues on Kessler Mill Road to North Mill Lane which connects to the present Salem Bike Route at Craig Avenue. A future alternative to eliminate Melrose Avenue from the Bike Route completely was also developed.

- D) Area: North Roanoke County

In attempting to meet the needs of the Northwest portion of the Roanoke Metropolitan Area, the problem of lack of service described above also applies to the Hollins Area. In attempting to meet the needs of residents of this area, it was decided that an additional loop across the northern edge of the urban area would be desirable.

The path decided upon to improve service to this area follows the following route. From the intersection of Plantation Road and Dexter Road (already on the 1981 Bike Route), the route follows Plantation Road to Hitech Road. The route continues on Hitech Road to Enon Road. After turning onto Enon Road, the route continues on Enon Road to Goff Road. The route runs along Goff Road to Loman Drive. It then follows Loman Drive to Laban Road. Continuing on Laban Road, the route joins North Barrons Road. After joining North Barrons Road, the route connects with Belle

Roanoke Valley Bicycle Plan

Haven Road at North Barrens Road. It then follows Belle Haven Road and connects to Loch Haven Road. Following Loch Haven Road to Route 419, the route then follows Route 419 to Kessler Mill Road. Getting on Kessler Mill Road, the route continues down Kessler Mill to North Mill Lane to connect to the Salem Bike Route as described above.

E) Area: Southern Botetourt County and the National '76 Bike Path

With the recent increase in the scope of the Roanoke Metropolitan Area, it is apparent that the southern portion of Botetourt County should be added to the Bike Network. In addition to increasing the service area of the Bike Network, the addition of Botetourt County also provides an opportunity to connect the Roanoke Network, to the National '76 Bike Path. This connection presents riders riding the National '76 Trail an opportunity to explore the Roanoke Valley.

The route connecting the existing Bike Route to the National '76 Bike Trail follows Oakland Boulevard from Frontier Road (already on the 1981 Bike Network), to John Richardson Road. The route then follows John Richardson Road across Plantation Road to Hollins Road. Continuing along Hollins Road, the route connects to Shadwell Drive. Following Shadwell Drive, the route continues to Sanderson Drive. After joining Sanderson Drive, the route continues to Read Mountain Road. Following Read Mountain Road to Route 11 the route joins Route 11 and follows it to the National '76 Bike Trail.

F) Area: Brandon Avenue\Lee Highway\Apperson Drive

Two obvious problems will be facing this stretch of the Bike Route in the very near future. First, with the announcement of the Army Corps of Engineers Flood Reduction Plan, it is obvious that the Class I Trail from Westland Road off Lee Highway to the intersection of Apperson Drive and East Riverside Road will not be built in the immediate future. Secondly, the construction of the Peters Creek Road Extension from the intersection of Melrose Avenue to Lee Highway will greatly increase the amount of traffic using Lee Highway.

In order to overcome the discontinuity created by the cancellation of the Class I Trail and the safety problems created by the rising amount of traffic from the Peters Creek Road Extension project, it was felt that an alternative to following Lee Highway\Apperson Drive to East Riverside Road was needed. In addition to the problems described above, it was also felt that an additional segment of Bicycle Route could be added in the Raleigh Court Area to create a Raleigh Court loop within the Bike

Roanoke Valley Bicycle Plan

Route. This Raleigh Court Loop would provide a recreational facility to the residents of the area and additional access to the Bikeway for the neighborhood. A description of the routes adopted to accomplish these goals follows:

Raleigh Court loop-From the intersection of Carlton Road and Brandon Avenue (on the 1981 Bike Route), cross Brandon Avenue and follow Carlton Road to Grandin Road.

Alternative Route to Brandon Avenue: From the intersection of Carlton Road and Brandon Avenue, the route follows Brandon Avenue to Mud Lick Road. It then turns onto Mud Lick and continues to Deyerle Road. From Mud Lick Road, it follows Deyerle Road to Cravens Creek Road. It then proceeds on Cravens Creek Road and follows this route to Crestmoor Drive. It then follows along Crestmoor Drive to Belle Aire Circle. It continues on Belle Aire Circle to Keagy Road. Staying on Keagy Road, it crosses Route 419 and follows Keagy to McVitty Road. Turning on to McVitty Road, it follows McVitty to East Riverside Drive (across Apperson Drive).

~~G) Area: Melrose Avenue from 10th Street to 24th Street~~

The problems with Melrose Avenue from 10th Street to 24th Street focus on safety concerns. These safety concerns include, traffic volume, parking, and the amount of truck traffic to be found along Melrose Avenue. The members of the Bicycle Plan Advisory Committee suggested an alternative route which they are currently using. A description of this route follows.

Beginning at the pedestrian at grade railroad crossing connecting North and South Jefferson Streets, the route follows Shenandoah Avenue to 24th Street. It then turns onto 24th Street and follows it to Melrose Avenue. From here the route continues northward on Melrose Avenue to Westside Boulevard modified in alignment change C above. This route will connect to 10th Street by following 9th Street to Loudon Avenue and by following Loudon Avenue to 10th Street.

Roanoke Valley Bicycle Plan

Chapter 3: Recommended Improvements Along the Bike Route

Introduction:

The routes outlined as changes to the 1981 Bike Plan in Chapter 2 provide a viable network for getting around the Roanoke Valley. However, there is a need to both expand the service offered along the Bike Routes and to improve some of the selected route conditions. The first section of this Chapter will examine proposed Class I Trails and areas where service expansion should be considered. The second section of this Chapter will examine where Class II and other improvements to the road system should be considered.

Section 1:

Class I Trails:

While Class I Bicycle Trails are thought of as prototypical bicycle trails, their utility for the average rider is severely limited. It is simply not financially viable for there to be a Class I Bicycle Trail to every destination riders may wish to visit. The national "Rails to Trails" program, which advocates turning abandoned railroad easements into bicycle trails, offers the most economically feasible way for the widespread growth of Class I Trails. The location of the Norfolk Southern Railway yards in the Roanoke Valley offers many opportunities for the Rails to Trails concept to be put in action. Some of these opportunities will be examined below.

Another economical means to develop Class I facilities may be to build them as part of the construction of other projects. This is indeed the case with the Army Corps of Engineers Roanoke River Flood Reduction Project which is scheduled to begin shortly.

Roanoke River Corridor Plan: Class I Bicycling Facility

The Army Corps of Engineers (ACOE) has examined a wide variety of flood control measures along the Roanoke River in Roanoke City. In considering the recreational nature of land usage along the floodplain, it has been decided that the flood reduction measures will not only help to reduce flooding, but will also be tied to measures to enhance the present recreational usage of the floodplain. One key element of the flood reduction plan is a recreational bicycling trail which would run parallel to the Roanoke River from Wassena Park to the 13th Street Bridge in

Roanoke Valley Bicycle Plan

recommended. Second, the Town of Vinton already owns this property and finding a suitable use for the land is preferable to allowing it to lay fallow. Finally, it may be possible to find a way to connect this Trail to the ACOE Trail at a proposed future Roanoke River Parkway Bridge. Connection with the ACOE Trail would provide a Class I facility from Wasena Park to near downtown Vinton enhancing the quality of life for communities at both ends of the trail and those communities in between. There may be some question as to the suitability of some of the land included on this Trail, such as the old Sewage Treatment Plant, but it is believed that this land is almost certainly appropriate for a Bike Trail. It is recommended that this Trail be studied further.

Hershberger Road-Pittsfield Circle Class I/Class II Trail

In order to completely eliminate the heavily travelled Melrose Avenue and 24th Street corridors from the Bike Route and to provide a high level of service to the Northwest section of Roanoke City, it is recommended that a short Class I Trail connecting Hershberger Road to Pittsfield Circle be built. This trail would allow the Bike Route to follow residential streets through northwest Roanoke City and avoid the high traffic volume areas presently on the Route. The proposed Class I Trail would also provide the community with an additional facility for recreation. The complete alternative trail would follow the following route: From Shenandoah Avenue, the route follows 19th Street to Staunton Avenue (note here that a traffic signal affords easy crossing of Orange Avenue on 19th Street). It then follows Staunton Avenue to 23rd Street. It proceeds north on 23rd Street to Clifton Street. It then follows Clifton Street to Pittsfield Avenue (note here that there is a brief jog in Clifton Street on Aspen Street). It follows the Clifton Street/Forest Park Boulevard alignment north to Pittsfield Circle and from Pittsfield Circle to the proposed Class I Trail. The Class I Trail connects this route to Hershberger Road and follows Hershberger Road to Peters Creek Road using a proposed Class II facility along the side of the roadway.

Blue Ridge Parkway & Mill Mountain Parkway Connectors

Small Class I facilities are proposed for the intersection of the Mill Mountain Parkway at Yellow Mountain Road in Roanoke City and the Blue Ridge Parkway at Mountain View Road in eastern Roanoke County in order to gain access to these facilities in a well recognized and controlled manner. There are no current or proposed vehicle access points at these locations and no sight distance problems to hamper bicycle access. The Mountain View Road facility is of lower priority as access is available at the current Route 24 interchange although the combination of the

Roanoke Valley Bicycle Plan

various bicycle and vehicle movements is to be discouraged. The other facility merely formalizes an unofficial bicycle entrance point which is already being used and has been facilitated through clearing performed in conjunction with adjacent construction activities.

Study Areas For Additional Service along the Bike Routes

Southeastern Vinton

The Southeastern portion of the Town of Vinton is not currently served in this Bike Plan. In addition to increasing service to this portion of the Town, another reason for providing service in this area would be to make a cycling path from Southeast Vinton to Smith Mountain Lake, which is the most direct alignment. The reasons for this lack of service to these areas stem from the nature of the roadways through this section of the Town. The amount of traffic, the traffic speed, and the turn movements made on both Routes 24 and 634 make them unsafe candidates for a Bike Route, even though they are the most logical choices. Alternatives to the areas of the most dangerous conditions such as Feather Road may be possible but there is no consensus of opinion within the Advisory Committee that these routes are better suited than Routes 24 and 634 for use by bicycles. Therefore, this Plan recommends that any improvements considered for these roads give strong consideration to establishing safe bicycling conditions.

Roanoke Valley Bicycle Plan

Section II: Recommended Improvements to existing Bike Routes

Table 1

Bike Route segments recommended for section improvement:

Facility	Segment	Improvement
Cravens Creek Road	near Crestmoor Drive	Widen, improve sight distance at hill.
Crestmoor Drive	Cravens Creek Road to Keagy Road	Widen, improve sight distance at hill.
Fern Park	Through Park	Pave 6' path uphill. Extend path through cable fence if deemed appropriate.
Hollins Road	Plantation Road to Route 616	Widen, improve sight distance.
John Richardson Road	Oakland Boulevard to Plantation Road	Widen, repave, improve sight distance.
Wiley Drive	From parking area at Smith Park to the bridge at the old Trans. Museum site	Widen

These improvements are recommended in order to provide a conducive system of routes to the less familiar bicycling community. The recommendations made above will help to enhance the cycling environment in the valley but they are not all inclusive. One recommendation that may be made for key locations along the Bike Routes is the provision of bicycle lockers. However, bicycle lockers are costly, and it is recommended that the Bicycle Advisory Committee in conjunction with the concerned Parks and Recreations Departments examine each facility to determine the level of demand for lockers.

Roanoke Valley Bicycle Plan

Table 2

Additional Roadways suggested for preliminary consideration of Class II improvements:

Facility	Segment	Potential Problem
Brandon Avenue	From Franklin Road to Colonial Avenue	traffic volume, turn movements
Colonial Avenue	From Brandon Avenue to Broadway Street	traffic volume, turn movements
Franklin Road	From Wiley Drive to Brandon Avenue	railroad crossing, traffic volume
Ogden Road	From Winding Way Road to Route 419	narrow width, turn movements, sight distance
Pollard Street	From Lee Avenue to Madison Avenue	traffic volume, turn movement
Williamson Road	From Florist Road to Manor Road	traffic volume
Plantation Road	From Dexter Road to Hitech Road	traffic volume

While Table 2 is not all inclusive, these facilities obviously need consideration for bicycle movement separation and it is recommended that they be given attention by the appropriate jurisdictions in conjunction with other improvements.

Roanoke Valley Bicycle Plan

Chapter 4: Bicycle Safety in the Roanoke Valley

This report is not a comprehensive overview of all cycling conditions in the Roanoke Metropolitan Area, such reporting is clearly beyond the capacity of all but the most involved studies. There are, however, some general observations that may be made concerning bicycle safety in the Roanoke Valley.

First, it may be assumed that safety remains the overriding concern of the cyclist as it was in the survey conducted for the 1981 Bicycle Plan where 90% of respondents expressed concern about accidents (1981 Roanoke Valley Bikeway Plan p. 21). This concern with safety may be attributed to the vulnerability of cyclists to automobile traffic. It is this vulnerability that lead to the emphasis on the safe interaction of automobiles and bicycles found in this report.

Other safety considerations that were taken into account when considering the paths to be designated as the Roanoke Valley Bike Routes were: lighting, pavement quality, railroad crossings, and the vulnerability of the cyclist to crime. A short examination of these variables follows.

It must be assumed that the Bicycle Routes will be accessible 24 hours a day in the same manner as the highway network. Adequate lighting along a facility helps insure cycling safety by making the cyclist more visible to the motorist, and giving the cyclist a clear view of the road. A well lit roadway is also a deterrent to crime.

Good pavement quality, defined as the lack of dangerous obstacles such as drainage grates, potholes, and debris, allows the cyclist to avoid dangerous interactions with vehicles because he/she then does not have to swerve to avoid them.

Railroad crossings are common along some of the highway facilities in the Roanoke Valley. Tracks may be dangerous to the cyclist in that if they are improperly crossed they may catch bicycle wheels thus causing a fall. Bicyclists may also attempt to avoid delay by running railroad crossings and therefore subject themselves to dangerous situations.

Finally, keeping cyclists out of relatively high crime areas is a concern. Cyclists are slow when compared to automobiles or motorcycles, and they are not enclosed as in an automobile. As a consequence, the bicyclist is much more vulnerable to physical attack than any traveler except a pedestrian. In fact, a

Roanoke Valley Bicycle Plan

pedestrian may be safer than a cyclist because of the easier ability of pedestrians to defend themselves.

Even though all of the above variables were examined when the possible routes for the bikeway were considered, it must be noted that it was impossible to avoid all hazards. In order to develop a comprehensive bike network, it is necessary to make tradeoffs among the safety and destination variables being considered while attempting to address these deficiencies through cost effective measures.

Another observation is that the designation of a bicycle route along even the most hospitable roadway does not guarantee that riding conditions will be safe. **Bicycling safety does not arise from the facility in use but from the safe use of the facility.** Members of the 1991 Bicycle Advisory Committee expressed their concern with the safe use of facilities in relating anecdotal stories of misuse of designated bikeways. One example of this misuse, related by a member of the Advisory Committee, occurs regularly on Wiley Drive in Roanoke City where the speed limit is 15 mph but the average automobile traffic speed appeared to be at least 25 mph. In order for the bicycle routes to be safely used, it is necessary to educate both motorists and cyclists about properly sharing roadways.

Educational efforts on the statewide level have taken a step forward since the 1981 Bikeway Plan was written. A wide variety of pamphlets for every age group have been written and are now available from the Virginia Department of Transportation (VDOT). That these pamphlets are available is a step forward. However, their distribution is as key a factor as their production. In an informal survey of school system curriculum answered by administrators of the school systems of the various jurisdictions in the Roanoke Metropolitan Area, it was found that there is no coordinated systemwide bicycle safety program, with the exception of Drivers Education Classes. Also, Drivers Education programs do not focus on safe riding but on safe driving.

The importance of this lack of a coordinated effort to teach safe riding in the school systems becomes apparent when it is remembered that 31% of the respondents to the 1981 survey were under 18 years of age and that the survey respondents were most likely not the average youth rider, but the more highly motivated experienced rider. In any passive survey, such as the 1981 survey, the act of responding to the survey generally indicates an activism in the respondent that is not present in the general public. Otherwise, the passive survey response would be much higher.

Another indication that there is a need for greater education of

Roanoke Valley Bicycle Plan

the under 16 year-old bicycle rider is that of the three accidents in Roanoke City, Roanoke County, and Salem involving cyclists reported to the Virginia State Police in 1989 and 1990 two of which involved riders under 16.¹ While the number of accidents reported to the State Police is not great enough to make a significant judgment as to the riding capabilities of young riders, it is significant to note that:

"There is a tremendous individual variation in the types of persons engaged in bicycling pursuits. At one end of the spectrum are extremely young bicyclists having a limited experience in traffic judgment, incomplete knowledge of or respect for the rules of the road, and incompletely developed motor skills relevant to controlling a bicycle, who may well be riding a bicycle too big for them." (Federal Highway Administration. 1975 Safety and Locational Criteria for Bicycle Facilities: Final Report quoted in Federal Highway Administration. 1986 \Highway Route Designation Criteria For Bicycle Routes)

It is this young bicyclist we wish to reach with a more coordinated approach to bicycle education.

Route Safety and Designation along the Roanoke Metropolitan Area Bike Routes

The criteria used for determining the routes along the Roanoke Bicycle Network focused on safety and access as the main determinants of a specific trail's acceptability in the Bike Plan. As mentioned earlier in this chapter, no bicycle route along a roadway is inherently safe. Any possible interaction between an automobile and a bicycle is potentially dangerous. In this report, the Advisory Committee and the authors have made every attempt to outline those routes where the potential for conflict between automobile and bicycle is minimized. However, if, by minimizing the number of potential conflicts, the bike trail becomes too circuitous to provide the cyclist with a

¹ It should be noted that there were very few accidents involving bicycles reported to any jurisdictional authority. This under-reporting may be attributed to the fact that State law does not require reporting of accidents involving bicycles alone or motor vehicle accidents with damages less than \$500. Though in many instances these reporting requirements are prudent, it is desirable that some system be created for the reporting of accidents that were due to unsafe facilities.

Roanoke Valley Bicycle Plan

reasonably direct route to his/her destination, the bicycle paths will be ignored by the majority of utilitarian users.

It was this need to balance the utilitarian goal of the rider to get where he is going with the safety goals that lead to the designation of two levels of riding path on the commercially available map of the Roanoke Valley Bike Routes. The two designations made on this path are "Bike Route" and "Bike Route advised for the Experienced Rider". The criteria for designating a route as being for the "Experienced Rider" include: significantly higher than average traffic volume for that type of facility, significantly higher than average traffic speed, relatively high volumes of truck traffic, and poor road geometries when compared to other facilities of the same type. Included in the Appendix is a listing of those segments listed as advised for the "Experienced Rider".

The designation of a path as being advised for an "Experienced Rider" suggests the need for this designation to be apparent on the ground as opposed to simply marking the route on a map. However, the issue of signing bike routes is complicated by the fact that, in general, cyclists are opposed to most signs. The reason for this opposition to signing stems from the fact that often signs are both misleading due to their infrequency (typically only at decision points along routes), and the way they may misinform the motorist as to where cycling will occur. If a motorist sees a bicycle route sign along one street he may not expect to see cyclists along a parallel street.

When the subject of bike route signing comes up in future considerations of the Bicycle Advisory Committee, the above considerations should be taken into account and the following guidelines used:

- 1) Route signs should be placed where clear guidance is given to the cyclist.
- 2) The standard route sign should be changed (possibly using plaques and route numbering) to indicate the destination and length of the route.
- 3) Few routes along the Urban Network are appropriate for signing. (see page 179 Highway Route Designation Criteria For Bicycle Routes, FHWA, April 1986)
- 4) There is a need for the CLEAR differentiation of the suitability of the various routes along the bike network. It is proposed that when signing is considered along the Roanoke Valley Bikeway, there be an experimental sign designed to differentiate the "Experienced Rider" paths from the regular "Bike Route".

Roanoke Valley Bicycle Plan

This sign would follow MUTCD guidelines for directional signing but would also have a design which would clearly designate the path as being for the "Experienced Rider".

5) Signing is expensive and the selection of appropriate routes for signing should be based on safety, and the need for clear directions to properly follow the route.

6) In lieu of standard signs, appropriate pavement markings should be considered. (See "Highway Route Designation" page 171)²

7) Signing and/or pavement markings must not hinder the performance of existing traffic control devices.

² For a full discussion of bicycle route signing see "Highway Route Designation" quoted above, pages 163-181.

Roanoke Valley Bicycle Plan

Summary of Recommendations

1) This report recommends that all facilities included in the 1991 Bike Plan, which are also scheduled for other forms of improvement, take bicycle travel into account when improvements are planned.

2) This report recommends that a standing advisory committee be established to oversee the Bike Route. The advisory committee will continually examine the state of the Bike Routes, recommend changes to the bike routes, and apply for funding to improve the Bike Routes where appropriate. This committee will consist of citizens appointed from the area bicycle clubs, representatives of the involved Parks and Recreation Department or Planning Department for each jurisdiction, and a representative from the Fifth Planning District Commission.

3) The standing committee and/or the involved jurisdictions should undertake efforts to continue publicizing the Bike Network.

4) This report recommends that a coordinated bicycle safety program be established within each Metropolitan Area jurisdiction school system.

5) This report recommends that a study be conducted to develop an appropriate sign to designate "Routes Advised for Experienced Riders".

6) This report recommends a study to develop ways to improve bicycle accident reporting.

For spot improvement recommendations, please see Appendix A.

Roanoke Valley Bicycle Plan

Appendices

Appendix A

Spot Improvements on the 1991 Bike Route

Location: Fern Park and Yellow Mountain Road

- 1) Create an opening through the existing cable fence at the Park.
- 2) Create an appropriate path through Fern Park.
- 3) Create an appropriate path at the existing mud rut between Yellow Mountain Road and the Mill Mountain Spur of the Blue Ridge Parkway.

Location: John Richardson Road

- 1) Improve pavement conditions.

Location: Hollins Road from Plantation Road to Carlos Drive

- 1) Examine possibility of adding a bicycle lane to the shoulder of the road to upgrade the path to a Class II route.

Location: Wiley Drive

- 1) Examine areas for appropriate placement of bicycle lockers in light of the Army Corps of Engineers Flood Reduction Plan Trail.

Location: Deyerle Road and Cravens Creek Road

- 1) Examine narrow segments of both roads for possible widening.

Location: Williamson Road between Florist Road and Manor Road.

- 1) Widen Williamson Road so that its status may be upgraded from Class III to Class II.

Class II Bike Paths 1981 Bike Plan

Appendix B Class II Bike Paths in the Roanoke Valley from 1981 Bike Plan

Locality	Roadway	From	To	1990 ADT	AM peak	PM peak	Projected % Growth ADT	Improved 6 yr plan
Vinton	Wise Ave	2 block W Pollard	Norfolk	6641	844	930		
	Norfolk	Wise	Campbell	no ct				
	Keagy	Belle Aire	Rt. 419	no ct				
Rte. City	Brandon Ave.	Carlton	Deyette	no ct				Segment improved
	Jefferson	RR Crossing	Wiley Dr.	no ct			25.87%	
	subsegment	Highland	Washington	11527	1000	1093	8.60%	
		Bullitt	Elm	10041	876	945		
	Campbell	Jefferson/Nor.	13th	8211	813	698		
	13th/Mem.	Campbell	Grandin	15022	1555	1456	12.80%	
	Grandin	Memorial	Overbrook	no ct				
	subsegment	Windsor	Sherwood	10481	933	972	16.02%	
		Laburnum	Fairway Dr.	11683	1242	1095	50.50%	
	Rt. 419	Ogden	Bower					
Rte. Co.	subsegment	Ogden	Starkey	N 17578 S 17776	1316 1484	1547 1405	32.00% 32.00%	Seq. Improved
		Starkey	Garst Mill	N 16797 S 16351	1153 1400	1612 1410	32.80% 32.80%	
		1647(McVinty)	1697	N 16273 S 14325	1435 1055	1348 1420	32.10% 32.10%	
	Rte. 419	Bower	Apperson					
	subsegment	Grandin Ext.	Gatewood	N 17872	1988	1299	29.60%	

Class II Bike Paths 1981 Bike Plan

Appendix B cont.

<u>Locality</u>	<u>Roadway</u>	<u>From</u>	<u>To</u>	<u>*ADT</u>	<u>AM peak</u>	<u>PM peak</u>	<u>Projected % Growth ADT</u>	<u>Improved 6 yr plan</u>
<u>Rte. City</u>								
	**Williamson Rd.	Jeff. Viaduct	Carver	15054	965	1085	50.90%	
	24th St.	Shenandoah Ave.	Melrose Ave.					
	Hershberger Rd.	Westside Blvd.	Peters Creek Rd.					
	Shenandoah Ave.	N. Jefferson	24th St.					
	**10th Street	Norfolk	Courtland					
	subsegment	N&W Overpass	Loudon	12257	451	651	32.30%	
		Fairfax	Moorman	8583	665	797	18.00%	
		Carroll	Mercer	13181	875	1221	34.40%	
	**Rte. 460	10th Street	Melrose	14394	943	1159	30.90%	
	**Melrose	Orange	Salem City Lim.					
	subsegment	24th Street	Lafayette	E 11104 W 11696	681 715	939 1264	6.20% 6.20%	
		35th	36th	E 8598 W 8790	503 571	739 976	21.00% 21.00%	
		Gun Club	Guilford	E 11900 W 11787	806 754	1062 986	18.30% 18.30%	
<u>Salem</u>	**Rte. 460/IV/Main	Salem Cit Lim.	Bruffey	no cl				Seq. Improved
	subsegment	Dalewood	Rte. 419	E 13682 W 13097	903 824	1296 1054		Seq. Improved
		Kessler Mill	Lafayette	17571	1174	1411		
		Salem Tnpk.	Worham	13576	860	1213		
		Craig	Park	13558	861	1089		

Class II Bike Paths 1981 Bike Plan

Locality	Roadway	Appendix B cont.		*ADT	AM peak	PM peak	Projected % Growth ADT	Improved 6 yr plan
		From	To					
<u>Salem cont.</u>	Rt. 419	Rte. Riv Br.	Apperson	N 14731	1395	1373		
	Keagy	Rt. 419	McVitty	S 16005	1395	1584		
	Dalewood	Barnett	Garst					
	McVitty	Keagy	Apperson					
<u>Botetoun Co.</u>	Rt. 11	Read Mtn.	Nat. '76 Bike Tr.					

*Average Daily Traffic

**Segments deleted from 1991 Bike Plan

Class III Bike-ways From 1981 Bike Plan

Appendix C

Class III Bike-ways In the Roanoke Valley from 1991 Bike Plan
(Does not include the Blue Ridge Parkway)

Locality	Roadway	From	To	ADI	Projected growth % Year 2000
Vinton	Rutrough	BRP	Bennington	4571 am 564 pm 512	
	Bennington	Rutrough	13th	6861 am 731 pm 521	
	14th	Bennington	Kenwood	nc	
	19th	Kenwood	Wise Ave	nc	
	Arbutus	Rt. 116	Walnut Ave	nc	
	Wise/Walnut	2 blocks fr. Poll.	Pollard St	nc	
	Pollard	Wise Ave. (x Wash)	Madison	8945 am 555 pm 839	43 60%
	Madison	Pollard	Blair	nc	
	Blair (1 block)	Madison	Polk	Wash.-Mad. 777	
	Polk (1 block)	Blair	Mor./Meadow	nc	
	Mor./Meadow (1 block)	Polk	Mt. View Terr.	nc	
	Mt. View Terr.	Meadow	BRP	3751 am 349 pm 427	24 30%
	Mud Lick	Brandon	Deyerle	nc	
	Deyerle	Cravens Cr.	Crestmoor	nc	
	Crestmoor	Cravens Cr.	Belle Aire	nc	
	Brandon	Carlton	Westland	20960 am 1669 pm 1824	27 00%
Roanoke City	9th St	Shenandoah	Loudon	nc	
	Loudon	9th St.	10th St.	nc	
	Yellow Mtn Rd.	Fern Park	BRP	nc	
	Wiley Dr.	Jefferson	12th	nc	

Class III Bikeways From 1981 Bike Plan

Locality	Roadway	From	To	ADT	Projected growth / year
Appendix C cont	Wasena	12th	Mem. Ave.	nc	nc
Roanoke City	Rke. Ave.	Mem. Ave.	Oxford	nc	nc
	Oxford	Rke. Ave.	James	nc	nc
	James	Oxford	Mt. View Terr.	nc	nc
	Mt. View Terr.	James	Fauquier/Mem. Ave.	nc	nc
	Fauquier	Mem. Ave.	Westover	nc	nc
	Fauquier	Westover	Windsor	nc	nc
	Fauquier	Windsor	Devon	nc	nc
	Devon	Fauquier	Carlton/Brandon	nc	nc
	Overbrook	Grandin	Willowlawn	nc	nc
	Westside	Metrose	Hershberger	nc	nc
	Willowlawn	Overbrook	Kentland	nc	nc
	Kentland	Willowlawn	Granville	nc	nc
	Granville	Kentland	Bower	nc	nc
	Bower	Rt. 419	Granville	nc	nc
	*Winding Way	Colonial Ave.	Ogden/419	nc	nc
	Peach Tree	Peters Creek	Shawalter	nc	nc
	Shawalter	Peach Tree	Barnett	nc	nc
	Barnett	Shawalter	Green Ridge	nc	nc
	Frontier	Florist	Oakland	nc	nc
	Oakland	Frontier (x W/msn)	Round Hill	nc	nc
		Frontier	John Richardson	nc	nc

Class III Bikeways From 1981 Bike Plan

Locality Appendix C cont. Roanoke City	Roadway	From	To	ADT	Projected Growth Year 2000
	Round Hill	Oakland	Clarendon	nc	
	Clarendon	Round Hill	Shady Lawn	nc	
	Shady Lawn	Clarendon	Green Lawn	nc	
	Green Lawn	Broad	Ravenwood	nc	
	Ravenwood	Green Lawn	Del Ray	nc	
	Del Ray	Ravenwood	Hershberger	nc	
	Oakland	Round Hill	Counland	nc	
	Counland	Oakland	(xLib & 10th) Carver	8029 am 619 pm 735	
Roanoke Co.	Wmsn. Rd.	Manor	Florist	**15807 am 1071 pm 1300	40.60%
	Hollins	Plantation	Shadwell	nc	
	Shadwell	Hollins	Sanderson	nc	
	Sanderson	Shadwell	Bot. Co Line	nc	
	Hugh	Lamarr	Peyton	nc	
	Peyton	Lamarr	Summerdean	nc	
	Summerdean	Peyton	Plantation/Dexter	nc	
	Lamarr	Rt. 11	Hugh	nc	
	Dexter	Plant /Summer	Chester/Granville	nc	
	Chester	Dexter	Granville	nc	
	Granville	Chester	Greenway	nc	
	Greenway	Granville	Manor	nc	
	Manor	Greenway	Wmsn. Rd.	nc	
	Florist	Wmsn. Rd.	(x Hersh.) Frontier	nc	

Class III Bikeways From 1981 Bike Plan

Locality Appendix C cont Roanoke Co.	Roadway	From	To	ADT	Projected growth 4/5 Year 2000
	Green Ridge	Barnett	Dalewood	nc	
	Hitech	Plantation	Eron	nc	
	Eron	Hitech	Goff	nc	
	Goff	Eron	Loman	nc	
	Loman	Goff	Laban	nc	
	Laban	Loman	Belle Haven	nc	
	Lock Haven	Belle Haven	Rt. 419	nc	
<u>Salem</u>	McVitty Rd.	Keagy	E. Riverside	nc	
	Acc. Mowles PK.	Mowles PK	Rt. 694	nc	
	Rt. 694	Mowles PK.	Ellison	nc	
	Ellison	Smythe	Cloyd	nc	
	Cloyd	Ellison	Mill Lane	nc	
	Mill Lane	Cloyd	Riverside	nc	
<u>(River Spout)</u>	Riverside	Mill Lane	Mulberry/Piedmont	nc	
	Mulberry	W. Riverside	Front	nc	
	Front	Mulberry	Eddy	nc	
<u>(River-Dwntwn)</u>	Eddy	Front	Union	4485 am 305 pm 455	
	Union	Eddy	W.2nd	nc	
	W.2nd	Union	Chestnut	nc	
	Chestnut	W.2nd	W Main	nc	
<u>(River Spur cont.)</u>	W. Riverside	Eddy	Front	nc	
	Front	W. Riverside	E. Riverside	nc	

Class III Biteways From 1981 Bike Plan

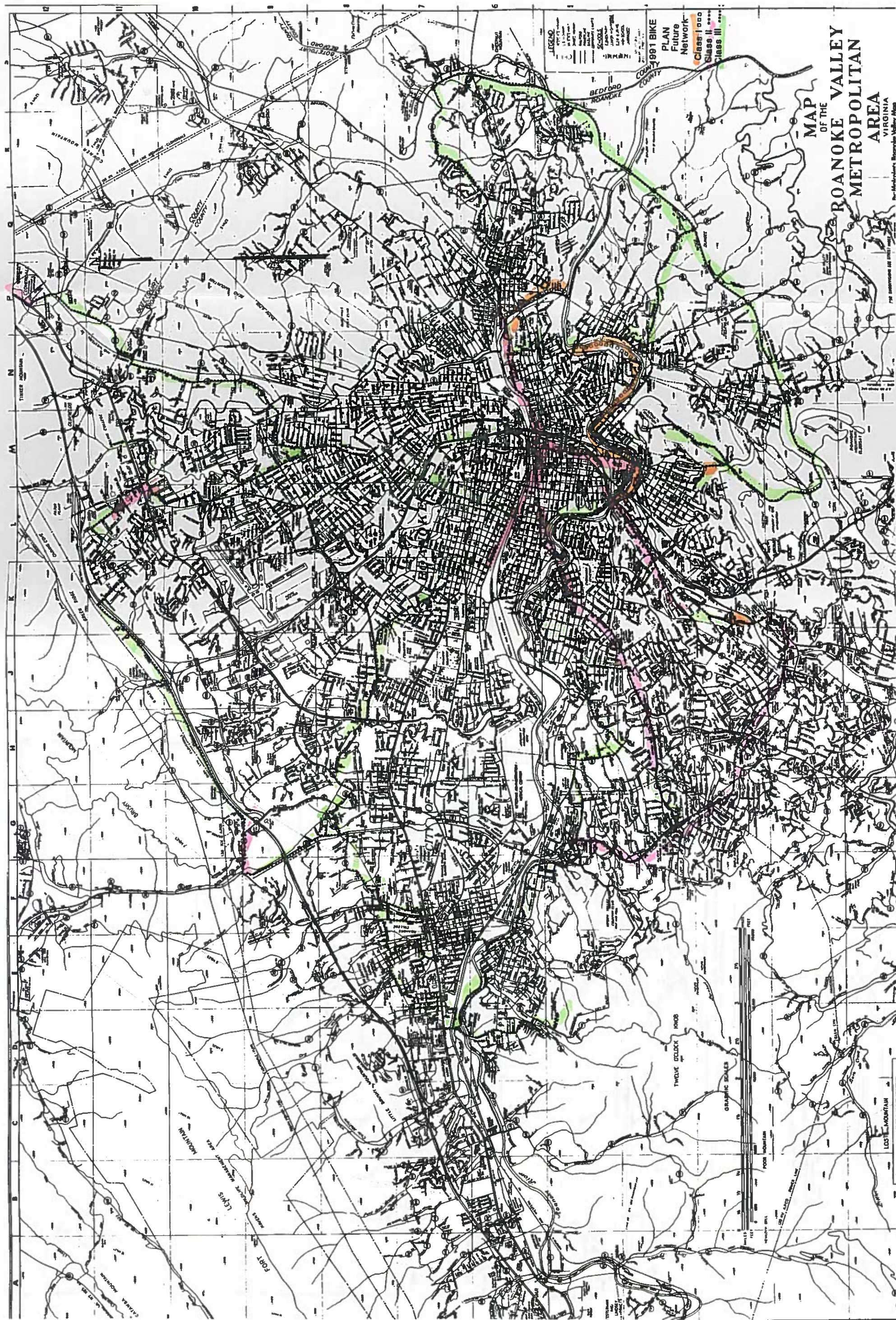
<u>Locality</u> <u>Appendix C cont.</u> <u>Salem</u>	<u>Roadway</u>	<u>From</u>	<u>To</u>	<u>ADT</u>	<u>Highway</u> <u>Station</u> <u>Year 2000</u>
	E. Riverside	Front	Rt. 11	nc	
	Mill Lane	W. Riverside	Tidewater	9073 am 925 pm 860	
	Tidewater	Mill Lane	S. Bruffey	nc	
	S. Bruffey	Tidewater	Tinsley	nc	
	Tinsley	S. Bruffey	W. Main	nc	
<u>N. Salem</u>	N. Bruffey	W. Main	Logan	nc	
	Logan	Highfield	Broad	nc	
<u>(Rt. Splits)</u>	Broad	Carrollton	Hawthorne	nc	
	Broad	Hawthorne	Dulaney Alley	nc	
	Taylor	Academy	Blair	nc	
	Blair	Taylor	Lewis	nc	
	Lewis	Blair	Main	nc	
<u>(Other leg)</u>	Hawthorne	Broad	High	nc	
	High	Hawthorne	Clay	nc	
	Clay	High	(xThomp.) Craig	nc	
	Craig	Clay	Cleveland	2875 am 297 pm 356	
	Cleveland	Craig	High	nc	
	Dalewood	Rt. 419	Garst	nc	
	Garst	Dalewood	Kessler Mill	nc	
	Kessler Mill	Rt. 419	N. Mill Lane	nc	
	N. Mill Ln.	Kessler Mill	Craig Ave.	nc	

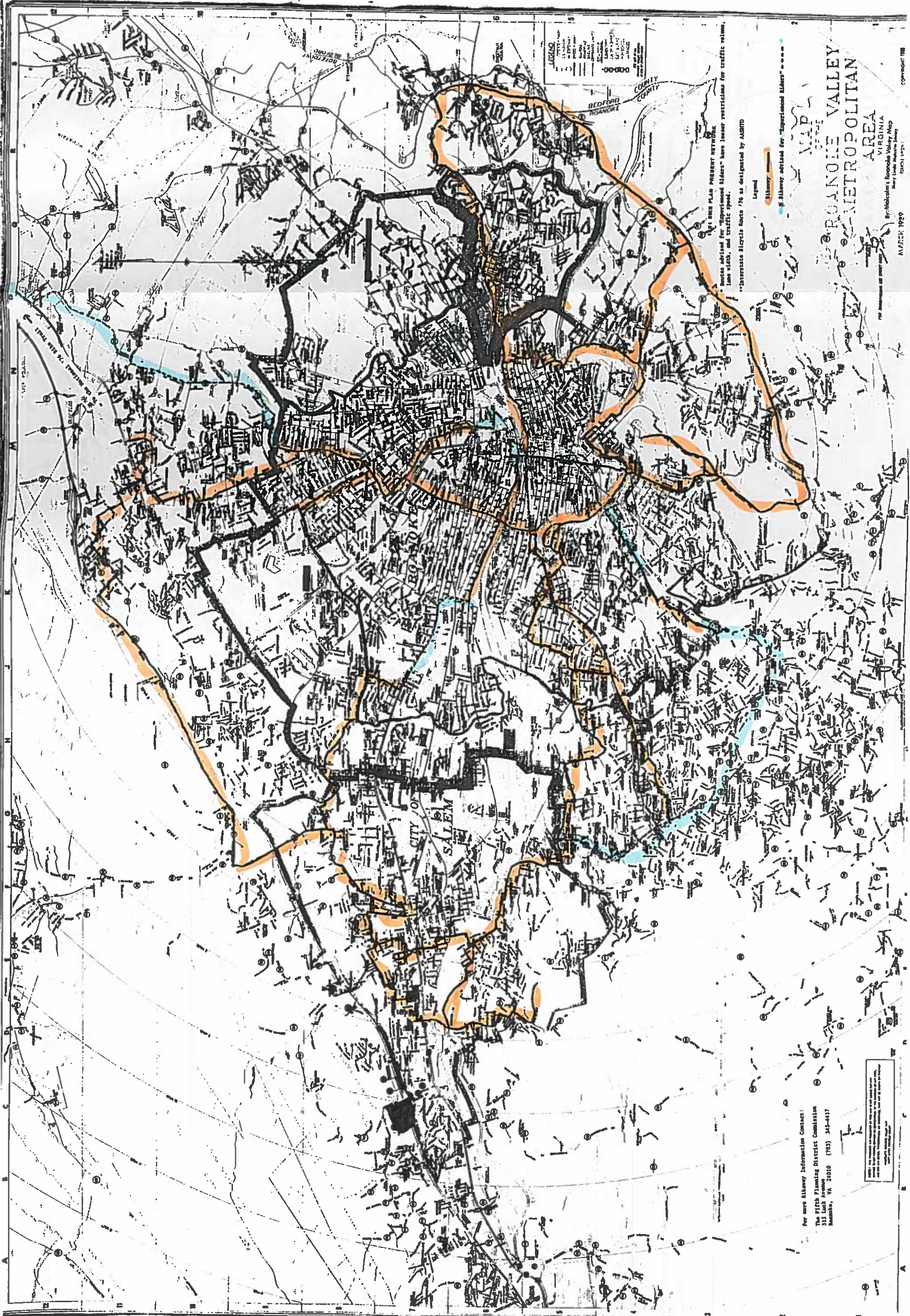
Class III Bikeways From 1981 Bike Plan

Locality Appendix C cont	Roadway	From	To	ADT	Projected Growth % Year 2000
Botetourt Co	Sanderson	Read Mt.	Rye Co. Line	180	
	Read Min.	Sanderson	Rt. 11	nc	
				nc=No Count na=not applicable	

→ This Rt closed to thru traffic after 1981 plan was written bike access still available

→ This count is Commander and Abney Rds. adjacent to the target





For more Bicyclist Information Contact:
The Fifth Planning District Commission
315 Luck Avenue
Roanoke, VA 24010 (703) 341-4417

ROANOKE VALLEY METROPOLITAN AREA

By Malcolm's Roanoke Valley Map
March 1999

LEGEND

Major Road	Minor Road	Water	Topography
Interstate	State Route	Lake	Contour
County	City	Stream	Spot Elevation
Neighborhood	Public School	Drainage	Population
Religious	Public Library	Watershed	Land Use
Public Works	Public Housing	Watershed	Land Use
Public Works	Public Housing	Watershed	Land Use

1. USE PLAN PROPERTY NETWORK
2. Bicyclist advised for "Supermarket Riders" have lower restrictions for traffic volume,
lane width, and traffic speed.
3. Interstate Bicycle Route 76 as designated by AASHTO

Legend

Bicycle routes for "Supermarket Riders"

Bicycle routes