

NORTON 2020 TRANSPORTATION PLAN

**DEVELOPED BY THE
TRANSPORTATION PLANNING DIVISION**

OF THE

VIRGINIA DEPARTMENT OF TRANSPORTATION

IN COOPERATION WITH

**THE U.S. DEPARTMENT OF TRANSPORTATION, FEDERAL HIGHWAY
ADMINISTRATION**

&

THE CITY OF NORTON

FEBRUARY 2002

**This report does not constitute a standard specification, regulation or provide a funding mechanism
for the included transportation recommendations.**

INTRODUCTION

The Norton 2020 Transportation Plan was developed as a joint effort between the Virginia Department of Transportation and the City of Norton. The purpose of the study was to evaluate the transportation system in the Norton area and to recommend a set of transportation improvements that could best satisfy existing and future transportation needs. This study identified needs which are based upon capacity, roadway safety, geometric conditions, and land use.

Improved transportation systems remain vital to Virginia's, as well as the local area's, continued economic growth and development. The provision for the effective, safe, and efficient movement of people and goods is a basic goal of all transportation programs in the Commonwealth of Virginia. It is with this basic goal in mind, and with further consideration of environmental issues and local desires, that this transportation plan has been developed.

The Virginia Department of Transportation will use this plan when evaluating requests from the local governments for specific transportation projects and/or for implementing projects that the Department initiates. The list of recommendations will also be used in the statewide transportation planning process in order that the statewide magnitude of needs can be better quantified.

STUDY AREA THOROUGHFARE SYSTEM

The City of Norton lies in Wise County and is located at the junction of US Route 23 and Alt 58 in southwest Virginia. The closest metropolitan area is Kingsport, Tennessee, 46 miles to the south. The other localities in the area are Wise, Appalachia, Big Stone Gap, and Coeburn. Jefferson National Forest surrounds the City of Norton. A finite urban area was established for purposes of this transportation study, which followed the corporate limits of the City of Norton. The proposed development plans of the City were kept in consideration.

Inside the study area limits, a specific set of highways that have been approved by the Virginia Department of Transportation, the Federal Highway Administration, and the City of Norton have been selected and designated as the area's urban thoroughfares. The urban thoroughfare system is identified as roads that are functionally classified as collectors or arterials. The subsequent analysis and recommendations were limited to those designated roadways, with the exception of any recommended facility on new location and those improvements that have been requested by representatives of Norton on the local unclassified street system. In addition, improvements to the following other modes of transportation have been evaluated: bicycle and pedestrian facilities; intercity rail, bus and air travel; transit, paratransit, and taxi; and goods movement.

DEMOGRAPHIC OVERVIEW

The population of the City of Norton (2000 Population 3,904) has marginally declined in the last decade. In the past, residents of the area tended to be employed in the coal industry; however, this trend has shifted to retail and services. Some of the largest employers in Norton are in the hotel, retail, medical (two hospitals), and manufacturing/telecommunications industries including a bottling plant and four tele-service call centers.

PHASE ONE: BASE YEAR ROADWAY RECOMMENDATIONS

Park Avenue from WCL to 14th St. NW

This two-lane section has a level of service (LOS) deficiency. The problem is compounded by numerous driveways and many undefined access points. Adding a center turn lane is recommended to address LOS concerns along with redefining access points in the vicinity of the 15th Street intersection. The total cost of improvements is expected to be \$900,000 (no additional right-of-way is anticipated).

Park Avenue from 14th St. NW to 11th St. SW

The three-lane section currently is striped as one eastbound lane and two westbound lanes. The westbound right lane is striped for right-turns only but is used as a de facto through lane. It is recommended that the right-turn lane be striped as a through and right-turn lane, which would allow trucks and turning vehicles to travel in the right lane (up the slope). The total cost of the improvement is expected to be \$18,000.

Citywide Signal Upgrade

This transportation systems management recommendation is for Citywide Signal System Upgrade (7 Signals on Park Avenue) and is being addressed under the Virginia Transportation Development Plan. The estimated cost of this improvement is \$1,344,000, which accounts for preliminary engineering, right-of-way, and construction. This project is under construction and is expected to be completed by the end of 2002.

Park Avenue from Coeburn Rd. to Beginning of 4-lane Divided Highway

This section of Park Avenue presents a bottleneck as it is a three-lane section flanked by a four-lane cross-section on either side. The project is recommended to be improved to four lanes under the Virginia Transportation Development Plan. The project was previously funded to the tune of \$79,000 and additional funding of \$1,433,000 (through fiscal year 2004-05) is expected to cover the entire cost of construction. This project also includes intersection improvements at Park Avenue and Coeburn Avenue that will address safety and geometry (turning radius) issues.

Intersection of Park Avenue and 15th St. SW

Fifteenth Street serves as the access point to the Norton Community Hospital as well as some retail businesses. The traffic counts convey a need for a signal. A traffic signal is recommended here, along with the provision for turn lanes and pedestrian crosswalks. Also, a well-defined access to the gas station and other retail establishments is recommended. The total cost of construction is estimated to be \$460,000.

Intersection of Park Avenue and 14th St. SW

Provision of signal at the 15th St. intersection would lead to minimizing the demand for left turns from 14th St. onto Park Avenue. It is recommended that this movement be banned during the peak hours and signage be erected to convey the same. The improvement is expected to cost \$5000.

Intersection of Park Avenue and 11th St. SW

Improve right turn lane radii on the west approach at this busy intersection. This improvement would help facilitate truck movements between Park Avenue and US 23. The total cost of this improvement is estimated at \$37,500.

Intersection of Park Avenue and Coeburn Rd.

Improve turning radii between the south and east approaches. The cost of this improvement is included in the thoroughfare improvements on Park Avenue, which is being undertaken under Virginia Transportation Development Plan.

Intersection of Alt 58 and Trent St. (Holiday Inn/ Shp. Ctr.)

The section of Alt 58 between US 23 and Trent Street has a large number of accidents. The exit ramp from northbound US 23 to access the shopping area on Alt 58 does not provide enough opportunity to safely execute multiple lane changes, thus leading to unsafe conditions. It is recommended that a raised barrier be constructed on Alt 58 to prevent this movement. The traffic destined to the shopping center would be forced to go through the Trent St. intersection and make a left turn at the subsequent intersection (Shopping Center access road). This recommendation would call for signal retiming at Alt 58/ Trent St intersection and plus adding appropriate signage. A signal at the subsequent intersection will also be needed. The total estimated cost of this improvement is \$250,000 (\$50,000 for Alt 58/ Trent St improvements and \$200,000 for a new signal at the subsequent intersection).

Intersection of Alt 58 and Hawthorne Road

The location has a high number of accidents. The unsignalized intersection is projected to have a level of service problem in year 2010. It is recommended that the intersection be signalized now, along with striping all approaches, as Hawthorne Road is expected to witness significant development in the immediate future. The total cost of this improvement is expected to be \$200,000.

Railroad Grade Crossing on 2nd St. NE

Under the Virginia Transportation Development Plan, flashing lights and gates are recommended to be installed at this railroad crossing. The total cost of improvements is expected to be \$90,000.

Railroad Grade Crossings on Coeburn Avenue (Two Crossings)

Of the three railroad crossings on Coeburn Avenue, two are humped. These are recommended to be smoothed by either improving the grade for the approaches, or lowering the railroad bed. Though the exact cost of this improvement could vary significantly depending on the methodology, a total cost of \$100,000 is estimated.

PHASE TWO: INTERIM YEAR (2010) ROADWAY RECOMMENDATIONS**US 23 and Alt. 58 Interchange**

The interchange does not allow for free movement from northbound US 23 to westbound Alt 58 (northeast loop is missing). That movement is currently executed by making a left turn from the shared exit ramp for eastbound Alt 58. The cost of the construction is projected to be \$3,000,000.

Park Avenue from WCL to 14th St. NW

The two-lane section is projected to have a level of service (LOS) deficiency. While a center turn lane is recommended for the Base Year, widening it to a four-lane section is recommended for 2010. The total cost of improvements is expected to be \$5,400,000.

Park Avenue from 14th St. NW to 11th St. SW

The three-lane section is projected to have a level of service (LOS) deficiency. Widening it to four-lanes is recommended for 2010. The total cost of improvements is expected to be \$2,160,000.

E. Park Avenue from Rte 283 to 8th St. NE

The three-lane section is projected to have a level of service (LOS) deficiency. Widening it to four-lanes is recommended for 2010. The total cost of improvements is expected to be \$7,200,000.

E. Park Avenue from 8th St. NE to 12th St. NE

The two-lane section is projected to have a level of service (LOS) deficiency. Widening it to four-lanes is recommended for 2010. The total cost of improvements is expected to be \$3,600,000.

Coeburn Avenue Railroad Crossings (3)

The three railroad crossings within a short distance (1000 feet) are currently not gated. Altogether, Coeburn Avenue witnesses a total of 83 train crossings daily. For latest five-year period for which the data is available, two accidents have occurred at these crossings. It is recommended that these crossings be gated for safety reasons. As the roadway has a combination of retail and industrial uses, it presents a challenge to design an effective system, perhaps using multiple sets of gates. The improvement is estimated to cost \$200,000.

E. Park Avenue Railroad Crossing

It is recommended that the crossing be gated for safety reasons. The improvement is expected to cost \$100,000.

PHASE THREE: STUDY YEAR (2020) ROADWAY RECOMMENDATIONS

12th St. S.W. from US 23 to 11th St.

The roadway is projected to have level of service problems in 2020. The 2020 operating conditions warrant four through lanes. The total cost of the improvement is expected to be \$337,000 including \$67,000 for right-of-way. This improvement should be examined along with the alternative of building a new connection linking Main Avenue and 12th Street described later in the section.

11th St. from Kentucky Avenue to Park Avenue

Reconstruct 11th Street as a four-lane road from Kentucky Avenue to Park Avenue. Total length of this facility is 0.2 mile. The roadway would be widened to an urban four-lane undivided cross-section with sidewalks and curb and gutter. This improvement is needed to resolve projected level of service problems in the future. The roadway is in a urbanized setting and involves a T- bridge over a set of railroad tracks. The total estimated cost of this project is \$1,440,000 including \$320,000 for the right-of-way (but excluding the T-bridge). This improvement should be examined along with the alternative of building a new connection linking Main Avenue and 12th Street described later in the section.

Intersection of Kentucky Avenue and 11th St.

Provide dual left turns for west approach and dual right turns for north approach along with revisions to signal phasing and timing. The total cost of this improvement is estimated at \$254,000 (including right-of-way).

Intersection of Alt. 58 and Trent St. SE

The intersection is projected to exceed capacity by 2020. Additional turn lanes on north (right), east (right), west (left) approaches would improve capacity. The improvement would need to be reviewed in light of city's plans for the surrounding land use as well as desire for an additional access to US 23 north of Alt 58. The improvement is estimated to cost \$238,000.

OTHER MODES OF TRANSPORTATION

Parking

The City of Norton has adequate on-street and off-street parking along major thoroughfares, though it may not be available adjacent to every destination. There are no parking recommendations being made as part of the Norton 2020 Transportation Plan.

Bicycle / Pedestrian

Currently there are no dedicated bicycle facilities within the corporate limits of the City of Norton. Sidewalks exist on either both or one side of many of the thoroughfare roadways. Specific pedestrian facility recommendations are covered under thoroughfare improvements.

Transit, Paratransit, and Taxi

The Mountain Empire Older Citizens organization offers on-demand paratransit service to the City of Norton and surrounding areas. Taxi service is also provided by private companies in the City. No recommendations associated with transit, paratransit, and taxi services are being made as part of this plan.

Goods Movement

The need for a new connection linking Hawthorne Avenue and Kentucky Avenue, and one linking Main Avenue and 12th Street, both covered under thoroughfare improvements, would aid freight movement considerably. Improvement in turning radius for trucks at the intersection of Park Avenue and 11th Street is covered under location specific improvements.

Intercity Rail, Bus and Air Travel

Currently, there is no passenger rail service, bus service or air service located in the City of Norton. The passenger bus service is available from Greyhound Bus Lines in Kingsport, Tennessee, 46 miles south, or Abingdon, Virginia, approximately 55 miles southeast of Norton. Kingsport, Tennessee, also houses the Tri City Airport for commercial air travel. Lonesome Pine Airport on Route 640 in Wise County provides a mix of private and corporate services to Wise, Scott, & Dickerson Counties. There is no passenger rail service located in Southwest Virginia. Even though there is a lack of intercity rail, bus and air travel facilities in the vicinity of Norton, no improvements are recommended at this time.

LOCAL ROADWAY PROJECTS

Rt. 619 from US 23 to SCL

The roadway is used to access the recreation areas of Flag Rock and High Knob. The roadway has a narrow pavement and has numerous deficient horizontal and vertical curves. It is recommended that the nearly three-mile section be rebuilt to current design standards and the pavement widened to 22 feet (2010). The estimated cost of construction of the roadway is \$2,328,750 (including right-of-way).

16th St. NW - Rt. 610 Connection

The need for this facility was examined in relation to the access to the Norton Community Hospital from the residences located along Needmore Road (Dorchester Rd.). Currently, all emergency vehicles have to travel in a circuitous fashion to access that part of the city. The proposed connection (2010) would significantly improve this access. The estimated cost of construction of roadway with 22 feet wide pavement is \$767,250 (includes \$86,000 for right-of-way).

Hawthorne Rd – Kentucky Ave Connection

Currently, for the industrial land uses located along Kentucky Avenue, there are two access points to Alt 58: Rte 681 east of corporate limits; and Coeburn Road. While the railroad bridge on Rte 681 has a clearance issue, the acute angle between Coeburn Road and Park Avenue poses turning radii problem to the trucks. A new connection between Alt 58 and Kentucky Road at Hawthorne Rd presents a potential for efficient ingress and egress to the industrial units (2010). The construction cost of this facility is estimated to be \$310,500 (includes \$103,000 for right-of-way).

12th St. SW – SR 790 (Main Avenue) Connection

This connection is proposed to provide an alternative route to trucks commuting between US 23 Bus (Norton – Appalachia Road) and US 23 (2020). Currently, the trucks approaching the City of Norton from the west travel on 23 Bus (Park Ave.), turn south on 11th St., and then turn west on 12th St. to access US 23. Projections of traffic (for 2010 and 2020) call for widening on Park Avenue and 11th Street (with considerable right-of-way impacts) to address the increased demand. The proposed connection would present an alternative route to the existing traffic commuting between US 23 Bus and US 23. All through traffic (including trucks) would access Main Avenue via Junction Road (S.R. 621) from US 23 Bus, continue on Main Avenue till past the City Shop Building, and turn south on a new road that would pass under US 23 and then turn west to join 12th Street at the intersection of Laurel Avenue. The 0.4 mile long 2-lane rural roadway (24' pavement without sidewalks or curb and gutter) has an estimated total cost of \$1,858,800 (including an underpass under US 23). The cost does not include improvements to Main Avenue or Route 621. This alternative should be evaluated along with improvements on 11th Street and 12th Street listed above.

ENVIRONMENTAL OVERVIEW

An environmental overview has been conducted for the roadway recommendations that included widening (providing additional travel lanes) or development of new roadway facilities for the City of Norton. The results of the environmental overview are included in the analysis of the recommended improvements for the Norton 2020 Transportation Plan Technical Report.

LOCAL COORDINATION & CITIZEN PARTICIPATION

The development of the Norton 2020 Transportation Plan included several coordination meetings with local staff members of the City and will include a public meeting to be held with VDOT representatives, PDC representatives, city officials, and residents of Norton. For information for all thoroughfare roadways, contact the City of Norton or visit the project web site at <http://www.vdoturbanplans.com>.

The coordination meetings consisted of a kick-off meeting, an existing conditions meeting, and a draft recommendations meeting. The kick-off meeting, held in May 1999, enabled the project team to discuss with local staff the purpose and scope of the study, the schedule for data collection and plan preparation, and the coordination process. The second meeting (existing conditions), held in February 2000, allowed the project team to present the results of baseline and horizon year traffic analysis and also allowed local staff to communicate desired transportation needs. Finally, at the draft recommendations meeting, held in September 2000, the project team presented and discussed with city officials the draft 2020 Transportation recommendations. The city staff provided input into the final recommendations.

A public meeting was held at the Norton Municipal Building on Thursday, November 15, 2001. The purpose of this meeting was to present the recommendations to city officials, citizens, and other interested parties, and to receive comments on the plan.

PLAN ADOPTION

The Norton City Council adopted the Norton 2020 Transportation Plan at the Council meeting held at the Municipal Building on 5 February 2002.

ADDITIONAL INFORMATION

More details on the development of the Norton 2020 Transportation Plan and the study recommendations are available in the Norton 2020 Transportation Plan Technical Report and the Norton 2020 Transportation Plan website, <http://www.vdoturbanplans.com/norton.htm>.

In addition to this 2020 transportation plan for the City of Norton, the Virginia Transportation Development Plan (VTDP) also addresses transportation needs. The VTDP is a comprehensive listing of transportation projects scheduled for construction or improvement over the next six fiscal years, as well as anticipated funding allocations. More information regarding the VTDP can be obtained on the Internet at the address <http://www.vdot.state.va.us/proj/projects.html>. VTDP projects in the City of Norton are found by selecting Volume 1, then selecting 'Urban System' under the Bristol District. Information on VTDP projects for the City of Norton can also be found by contacting the VDOT Resident Engineer at the Wise Residency Office in Wise, Virginia (540-328-9331).

NORTON TRANSPORTATION RECOMMENDATIONS

ROUTE	FACILITY NAME	FROM	TO	ROAD SEGMENT LENGTH (MILES)	REMARKS	COST (IN 2000 \$)	EXISTING TYPICAL SECTION (WIDTH)	RECOMMENDED TYPICAL SECTION (WIDTH)	1999 ADT	2020 ADT
US 23	RTE 23 BYPASS NORTON	RTE 619 ON RMP	ALT RTE 58 ON RMP	1.8	BUILD NORTHEAST CLOVER LEAF FOR FREE MOVEMENT FROM NORTHBOUND US 23 TO WESTBOUND ALT 58 (2010).	3,000,000	R4 (50')	R4 (50')	18000	33400
US 23 BUS	PARK AVE	WCL NORTON	14TH STREET	0.9	WIDEN PARK AVENUE TO 3 LANES (BASE YEAR); WIDEN TO 4 LANES AND CONSOLIDATE DRIVEWAYS (2010).	6,300,000	R2 (24')	U4 (48')	11600	17600
US 23 BUS	PARK AVE	14TH STREET	11TH STREET	0.3	RESTRIPE WESTBOUND CURB LANE AS THROUGH LANE (BASE YEAR); WIDEN TO 4-LANES (2010).	2,178,000	U3 (48')	U4 (48')	14600	20400
US 23 BUS	PARK AVE	11TH STREET	8TH STREET	0.3	CITYWIDE SIGNAL REPLACEMENT AS PART OF VIRGINIA TRANSPORTATION DEVELOPMENT PLAN (BASE YEAR).	1,344,000	U4 (56')	U4 (56')	12100	17600
US 23 BUS	PARK AVE	8TH STREET	COEBURN AVE	0.3	CITYWIDE SIGNAL REPLACEMENT AS PART OF VIRGINIA TRANSPORTATION DEVELOPMENT PLAN (BASE YEAR). COST INCLUDED IN PARK AVE, 11 TH ST. TO 8 TH ST. SECTION	0	U4 (56')	U4 (56')	14800	20700
US 23 BUS	PARK AVE	COEBURN AVE	BEG DIV HWY	0.1	WIDEN TO 4-LANE, PROJECT UNDER VIRGINIA TRANSPORTATION DEVELOPMENT PLAN (BASE YEAR). CITYWIDE SIGNAL REPLACEMENT UNDER VIRGINIA TRANSPORTATION DEVELOPMENT PLAN (BASE YEAR). COST OF SIGNAL UPGRADE INCLUDED IN PARK AVE, 11 TH ST. TO 8 TH ST. SECTION	1,433,000	U3 (40')	U4 (50')	16500	22950
US 23 BUS	PARK AVE	BEG DIV HWY	ROUTE 283	0.1	CITYWIDE SIGNAL REPLACEMENT AS PART OF VIRGINIA TRANSPORTATION DEVELOPMENT PLAN (BASE YEAR). COST INCLUDED IN PARK AVE, 11 TH ST. TO 8 TH ST. SECTION	0	U4 (50')	U4 (50')	16500	22950
US 23 BUS	E PARK AVE	ROUTE 283	8TH ST NE	1	WIDEN TO 4-LANE (2010).	7,200,000	U3 (36')	U4 (50')	7150	9950
US 23 BUS	E PARK AVE	8TH ST NE	12TH ST NE	0.5	WIDEN TO 4-LANE (2010).	3,600,000	R2 (22')	U4 (50')	6600	9500
	12TH ST SW	RTE 23 BYP	11TH ST	0.1	WIDEN TO 4-LANES (2020).	337,500	U3 (40')	U4 (48')	10250	15500
	11TH ST	KENTUCKY AVE	RTE23 BUS (PARK AVE)	0.2	WIDEN TO 4-LANES (2020).	3,708,000	U3 (38')	U4 (48')	10500	16000
VA 619	*RT 619	US 23 RAMPS	SCL	2.7	RECONSTRUCT ROADWAY WITH WIDER LANES AND REMOVE HORIZONTAL AND VERTICAL DEFICIENCIES (2010).	2,328,750	R2 (18')	R2 (22')	800	1250

ROUTE	FACILITY NAME	FROM	TO	ROAD SEGMENT LENGTH (MILES)	REMARKS	COST (IN 2000 \$)	EXISTING TYPICAL SECTION (WIDTH)	RECOMMENDED TYPICAL SECTION (WIDTH)	1999 ADT	2020 ADT
	*16 TH ST- RTE 610 CONN.	16TH ST NW	DORCHESTER RD	0.5	CONSTRUCT NEW 2-LANE ROADWAY CONNECTING 16TH ST TO DORCHESTER ROAD (2010).	767,250	NONE	R2 (22')	0	0
	*12TH ST SW-RTE 790 CONN.	12TH ST SW	MAIN-AVE SW	0.4	CONSTRUCT NEW 2-LANE ROADWAY CONNECTING MAIN ST TO 12TH ST SW SOUTH OF US 23 WITH AN UNDERPASS (2020).	1,858,800	NONE	R2 (24')	0	0
	*HAWTHORNE DR – RTE 681 CONN.	HAWTHORNE RD	KENTUCKY AVE	0.3	CONSTRUCT NEW 2-LANE ROADWAY CONNECTING HAWTHORNE RD TO KENTUCKY AVENUE (2010).	310,500	NONE	R2 (22')	0	0
NA	INTERSECTION	PARK AVENUE	11TH ST	NA	WIDEN RADIUS FOR TRUCKS TURNING RIGHT FROM EASTBOUND PARK AVENUE TO 11TH ST (BASE YEAR).	37,500	NA	NA	NA	NA
NA	INTERSECTION	PARK AVENUE	COEBURN AVENUE	NA	WIDEN RADIUS FOR TURNING MOVEMENT BETWEEN SOUTH AND EAST APPROACH; INTERSECTION TO BE IMPROVED AS PART OF WIDENING OF PARK AVENUE (BASE YEAR). COST OF IMPROVEMENT COVERED UNDER THOROUGHFARE IMPROVEMENTS.	0	NA	NA	NA	NA
NA	INTERSECTION	EAST PARK AVENUE	VA 283	NA	LOCATION HAS HIGH NUMBER OF ACCIDENTS. IMPROVEMENTS TO SIGNAL UNDER VIRGINIA TRANSPORTATION DEVELOPMENT PLAN (BASE YEAR). COST COVERED UNDER THOROUGHFARE IMPROVEMENTS.	0	NA	NA	NA	NA
NA	INTERSECTION	ALT RT 58	TRENT ST SE	NA	LOCATION HAS HIGH NUMBER OF ACCIDENTS. CONSTRUCT BARRIER ON ALT 58 TO PREVENT LEFT TURNS ON TO TRENT ST FOR THE TRAFFIC EXITING FROM NB US 23 AND RECONFIGURE SIGNAL (BASE YEAR). RECONFIGURE LANE GROUPS, PHASING, AND TIMING (2020). INSTALL SIGNAL ON THE SUBSEQUENT INTERSECTION OF ALT 58 AND SHOPPING CENTER ACCESS ROAD (BASE YEAR).	488,000	NA	NA	NA	NA
NA	INTERSECTION	ALT RT 58	HAWTHORNE DRIVE	NA	LOCATION HAS HIGH NUMBER OF ACCIDENTS. INTERSECTION PROJECTED TO HAVE LEVEL OF SERVICE PROBLEMS IN 2010. SIGNALIZE INTERSECTION AND RESTRIPE ALL LANE APPROACHES (BASE YEAR).	200,000	NA	NA	NA	NA
NA	INTERSECTION	KENTUCKY AVENUE	11TH ST	NA	INTERSECTION PROJECTED TO EXCEED CAPACITY BY 2020. SIGNAL IMPROVEMENTS ALONG WITH DUAL RIGHT FOR NORTH APPROACH AND DUAL LEFT FOR WEST APPROACH WOULD RESOLVE THE PROBLEM.	254,000	NA	NA	NA	NA

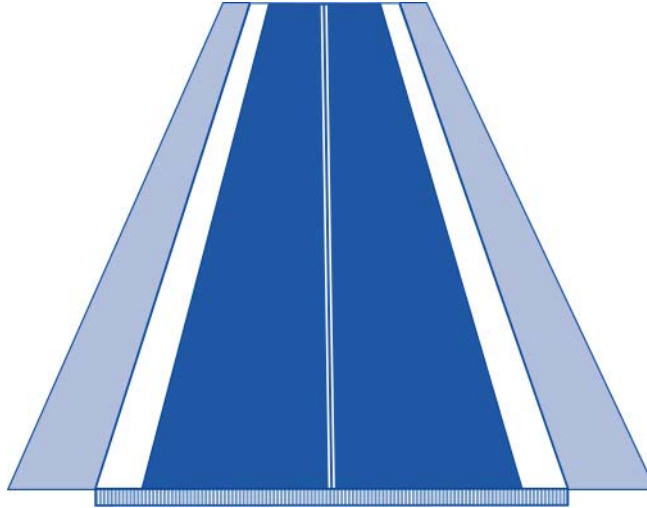
ROUTE	FACILITY NAME	FROM	TO	ROAD SEGMENT LENGTH (MILES)	REMARKS	COST (IN 2000 \$)	EXISTING TYPICAL SECTION (WIDTH)	RECOMMENDED TYPICAL SECTION (WIDTH)	1999 ADT	2020 ADT
NA	INTERSECTION	PARK AVENUE	15TH ST	NA	INSTALL SIGNAL ALONG WITH IMPROVING INTERSECTION GEOMETRY BY ADDING LEFT TURN LANES ON ALL APPROACHES AS WELL AS DEFINING ACCESS TO THE GAS-STATION AND OTHER RETAIL (BASE YEAR).	460,000	NA	NA	NA	NA
NA	INTERSECTION	PARK AVENUE	14TH ST	NA	ERECT SIGNAGE FOR RESTRICTING LEFT TURNS FROM 14TH ST ONTO PARK AVENUE (BASE YEAR).	5,000	NA	NA	NA	NA
NA	RAILROAD GRADE CROSSING	2ND ST NE	NORFOLK SOUTHERN	NA	INSTALL FLASHING LIGHTS AND GATES, PROJECT UNDER VIRGINIA TRANSPORTATION DEVELOPMENT PLAN (BASE YEAR).	90,000	NA	NA	NA	NA
NA	RAILROAD GRADE CROSSING	NORFOLK SOUTHERN	COEBURN AVENUE	NA	INSTALL GATES COVERING ALL THREE RAILROAD CROSSINGS ON COEBURN AVENUE (2010).	200,000	NA	NA	NA	NA
NA	RAILROAD GRADE CROSSING	NORFOLK SOUTHERN	COEBURN AVENUE	NA	ELIMINATE TWO HUMPED CROSSINGS (BASE YEAR).	100,000	NA	NA	NA	NA
NA	RAILROAD GRADE CROSSING	NORFOLK SOUTHERN	E PARK AVENUE	NA	INSTALL GATES (2010).	100,000	NA	NA	NA	NA
NA	BRIDGE	MAIN ST	11TH ST	NA	BRIDGE IN SATISFACTORY TO GOOD CONDITION. REPLACEMENT RECOMMENDED AS PART OF STREET WIDENING (2020).	2,268,000	NA	NA	NA	NA
TOTAL*						33,303,000				

Planning level cost estimates are based on statewide averages and include estimated right-of-way costs.

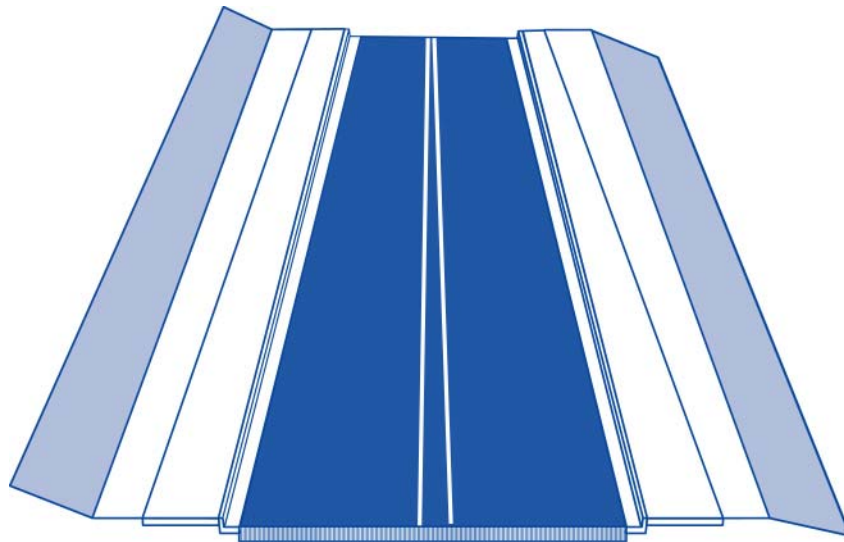
* Does not include the costs associated with 16th St – Route 610 Conn., 12th St SW – Route 790 Conn., Hawthorne Rd. – Route 681 Conn., and Rt 619 improvements since they are considered to be local initiatives.

TYPICAL SECTIONS¹

R2
Rural two-lane roadway with standard shoulders and ditches

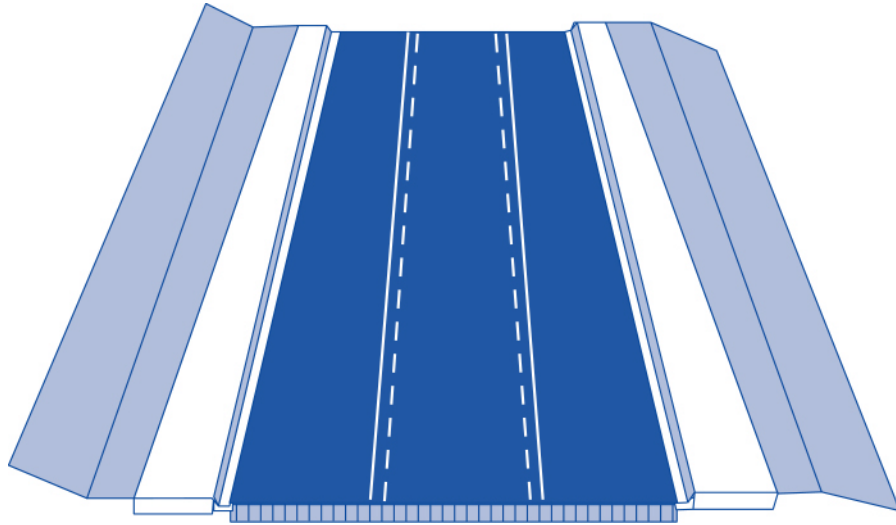


U2
Urban two-lane roadway with curb and gutter



¹ Recommended typical sections assume 12' wide travel lanes.

U3
Urban two-lane roadway with curb and gutter and center turn-lane



U4
Urban four-lane roadway with curb and gutter

