

Conceptual Greenway Plan

The following sections are comprised of specific recommendations for alignments, infrastructures and amenity development. General trail construction costs are examined as well as priority for planning and an outline for implementation. These recommendations are the direct result of the planning process, which has involved workshops with the workers' committee, field reconnaissance, design analysis, and public input (see planning process). The resulting recommendations and plans include locations for trail, trail type, trailheads, pocket parks, at grade crossing, underpasses, and other trail infrastructures. The recommendations shall serve as a tool for future planning and construction of individual phases of the Greenway System.

Design Recommendations

Corridor One – Interstate 81 to Route 11

Generally this corridor is located on open, gentle sloping land adjacent to Blacks Run. Much of the land was farmland and is currently zoned for industrial use. The section between Interstate 81 and Pleasant Valley Road is generally free of obstructions.

- ☒ Existing large trees and riparian vegetation should be preserved and enhanced where appropriate.
- ☒ Locate the trail outside flood prone areas to avoid damage to the trail.
- ☒ Provide the maximum possible distance between Blacks Run and the trail for establishment of biological buffers.
- ☒ Negotiate with adjacent landowners to establish easements that includes all land between the Run and the developable portion of their property.
- ☒ Create habitat with native plantings along the corridor and along the creek embankment.
- ☒ Utilize existing sewer easements where applicable.
- ☒ Provide a future aggregate trail from the Vocational Technical School towards the county.

- /// Provide hardsurface trails in all other portions of the corridor. Provide concrete trails within the flood plain, where higher velocities of flow are expected.
- /// Explore the possibility of creating a trailhead and park at the Vocational Technical School.
- /// Provide an underpass at Pleasant Valley Road.
- /// Provide a spur trail and access point at Pleasant Valley Elementary School.
- /// Examine the feasibility of an underpass under the railroad at Walker Manufacturing.
- /// Provide a spur trail and access point at Ramblewood Field. The park can also serve as an interim trailhead.
- /// Provide an underpass under interstate 81.
- /// Take full advantage of City owned property north of I-81 for location of the trail.
- /// Provide bank stabilization and habitat at appropriate locations between Skyline Building Systems and Purcell Park.
- /// Provide a bridge underpass at Stone Spring road.
- /// Provide an interim at grade crossing at the intersection of Stone Spring Road and Beery Road.
- /// Utilize existing trail corridors and opens spaces at Purcell Park where appropriate.
- /// Provide a trailhead at Purcell Park, utilizing and expanding existing parking.

Corridor Two – Route 11 to East Grace Street

Generally this corridor is challenging for trail development. It is characterized by Commercial, Industrial and Residential development.

- /// Examine the possibility of a future underpass or overpass for Rt. 11.
- /// Existing large trees and riparian vegetation should be preserved and enhanced where appropriate.
- /// Provide the maximum possible distance between Blacks Run and the trail where possible so that biological buffers may be established.
- /// Create habitat with native plantings along the corridor and along the creek embankment.
- /// Utilize the Route 11 right-of-way and negotiate easements with commercial and residential property owners by explaining that the trail can be developed to serve as a buffer between the properties and the road.
- /// Provide a well-marked urban intersection at South Avenue.

- /// Provide well-marked crossings at all roads, preferably at intersections rather than mid block.
- /// Provide a trailhead and park at Maryland Avenue and Central Avenue.
- /// Provide a spur trail to Keister Elementary School at the intersection of Maryland and Cantrell.
- /// Provide pulloffs and overlooks at appropriate locations.

Corridor Three – East Grace Street to North Main Street

This corridor is characterized by its close proximity to Downtown Harrisonburg. In this area, Blacks Run is constricted heavily and in many cases is culvertized, channelized and completely enclosed.

- /// Provide a retrofit at the Cantrell Avenue Bridge to include a safe pedestrian crossing that is separated from traffic.
- /// Examine the possibility of utilizing Chesapeake Avenue to access the Downtown area. Considerable negotiations and plans for improvements to this corridor will be required.
- /// Examine the possibility of utilizing Old South High Street as an alternate route.
- /// Provide a trail utilizing vacant urban lots and vestigial spaces through the heart of Downtown.
- /// Provide pocket parks and community spaces wherever possible in the downtown area.
- /// Provide wider path widths in the downtown area so that higher volumes of pedestrian traffic can be accommodated.
- /// Connect existing sidewalks to the Downtown trail.
- /// Create a trailhead for weekends and off hours at the County Government Center. Utilize existing parking spaces where appropriate.
- /// Provide a trail connection to Simms Recreation Center.
- /// Create habitat with native plantings along the corridor and along the creek embankment.
- /// Provide well-marked crossings at all roads, preferably at intersections rather than mid block.

Corridor Four – North Main Street to The Virginia Mennonite Retirement Community

This corridor is characterized by small lot residential development in the southern end and wide-open spaces in the northern end.

- /// Provide a well-marked crossing at Route 11.
- /// Purchase undevelopable lots and create a neighborhood park between Jefferson and North Liberty.

- ☒ Existing large trees and riparian vegetation should be preserved and enhanced where appropriate.
- ☒ Provide the maximum possible distance between Blacks Run and the trail where possible.
- ☒ Create habitat with native plantings along the corridor and along the creek embankment.
- ☒ Utilize existing sewer easements where applicable.
- ☒ Provide an at grade crossing of the railroad by utilizing the Acorn Drive right-of-way.
- ☒ Provide a trailhead and park at the Virginia Mennonite Retirement Community (VMRC) property.
- ☒ Provide a spur trail connection to the existing VMRC Development.
- ☒ Create a neighborhood access point at the VMRC and make connections to their existing trails.

Corridor Five – East Grace Street to Thomas Harrison Middle School and Hillandale Park

This corridor is characterized by Harrisonburg High School, Westover Park, Residential Development, and West Market Street (Route 33). The corridor would leave the main corridor along Blacks Run around East Grace Street. Access to and through Harrisonburg High School via open space corridors is limited here.

- ☒ Provide a well-defined crossing at East Grace Street and South High Street.
- ☒ Utilize right-of-way and school property along South High Street.
- ☒ Utilize the existing alley and trail along South High Street for the trail.
- ☒ Provide a neighborhood access point at Harrisonburg High School.
- ☒ Negotiate easements or purchase vacant property between South Willow and South Dogwood Streets and create a buffer around the trail.
- ☒ Utilize existing Westover Park land for trail development.
- ☒ Provide a trailhead at Westover Park.
- ☒ Use undeveloped property west of the Park. Negotiate easements here for a trail following natural features of the property.
- ☒ Provide a loop around Thomas Harrison Middle School.
- ☒ Provide a trailhead at the Middle School.
- ☒ Provide a spur trail connection to Hillandale Park.
- ☒ Examine the possibility of a spur trail to the new High School.

Corridor Six – Purcell Park to Lowes

The Seibert Creek, the JMU campus and Residential Development characterize this corridor.

- /// Utilize existing open spaces and Seibert Creek crossing within Purcell Park for the trail.
- /// Provide a neighborhood access point at Purcell Park and Butler Street.
- /// Coordinate final routing of trail with the new I-81 interchange design.
- /// Examine the possibility of an underpass under Port Republic road in conjunction with the new interchange design if possible.
- /// Provide an interim at grade crossing of Port Republic Road at the Entrance of JMU. Provide coordinated signals as appropriate.
- /// Utilize open spaces and existing service access between Newman Lake and the adjacent neighborhood for the trail.
- /// Provide a neighborhood access point near Bluestone Drive.
- /// Utilize and improve existing pedestrian paths in the JMU campus where appropriate.
- /// Route the trail through existing open spaces where possible.
- /// Use existing sewer easements where appropriate.
- /// Provide neighborhood access points at Country Club Ct. and Mountain View Drive.
- /// Provide an underpass at I-81 and Country Club Road.
- /// Provide an underpass at Route 33 and utilize the existing sewer easement where possible.

Conceptual Plans for Corridors 1-6

The following conceptual plans show each corridor's alignment, alternate alignment and proposed features. The maps illustrate the design alternatives discussed in this document and show the relationship of each trail alignment to existing conditions and resources. The conceptual plans are intended to be used as a planning tool to guide further planning and decision-making.

Cost Estimates for Corridors 1-6

The following cost estimates are organized by corridor. Each corridor estimate is broken down into the major elements required to complete the trail. In some cases, such as corridors one, three and five, specific phases of the corridors are examined. The corridors and their phases are prioritized based on the recommendations given in the phasing and priorities section of this document. The cost estimates are general in nature, although ranges of costs are based on actual construction estimates and bids from similar projects. The cost estimates are intended to provide a general magnitude of cost and are not intended to direct decision-making in regards to selecting specific priorities or phases. Detailed cost estimates will need to be prepared for each phase as more detailed planning and design is completed.

Blacks Run Greenway

Master Plan Cost Estimate

Construction Estimate		
Item	Corridor	Subtotal
1.0	Corridor 1	\$4,171,420.50
2.0	Corridor 2	\$703,860.00
3.0	Corridor 3	\$1,150,685.00
4.0	Corridor 4	\$1,011,420.00
5.0	Corridor 5	\$1,349,510.00
6.0	Corridor 6	\$1,825,522.50
Subtotal		\$10,212,418.00
Design & Engineering Fees (15%)		\$1,531,862.70
Mobilization (10%)		\$1,021,241.80
Contingency (10%)		\$1,021,241.80
Total for Blacks Run Greenway		\$13,786,764.30

Construction Priority		
Priority	Corridor	Subtotal
1	Corridor 3 Phase A (Demonstration Project)	\$523,352.50
2	Corridor 5 Phase A	\$359,940.00
3	Corridor 3 Phase B	\$507,085.00
4	Corridor 1 Phase A	\$1,109,060.00
5	Corridor 2	\$703,860.00
6	Corridor 1 Phase B	\$1,246,972.50
7	Corridor 5 Phase B	\$989,570.00
8	Corridor 3 Phase C	\$120,247.50
9	Corridor 4	\$1,011,420.00
10	Corridor 6	\$1,825,522.50
11	Corridor 1 Phase C	\$1,815,388.00
Subtotal		\$10,212,418.00
Design & Engineering Fees (15%)		\$1,531,862.70
Mobilization (10%)		\$1,021,241.80
Contingency (10%)		\$1,021,241.80
		\$13,786,764.30

Blacks Run Greenway

Master Plan Cost Estimate

Corridor 1 Construction Estimate					
Item	Phase A - Purcell Park to Ramblewoods	Quantity	Unit	Unit Price	Total Price
1.1	Surfacing: Hard Surface Trail	10,056	LF	\$72.50	\$729,060.00
	Streambank Stabilization	0	LF	\$500.00	\$0.00
	Slope Stabilization	0	LF	\$500.00	\$0.00
1.5	Bridge or Culvert Crossings	4	LS	\$5,000.00	\$20,000.00
1.6	Pedestrian Underpasses	2	LS	\$150,000.00	\$300,000.00
	At Grade Crossings	0	LS	\$2,000.00	\$0.00
	Urban Crossings	0	LS	\$5,000.00	\$0.00
	Neighborhood Access	0	LS	\$7,000.00	\$0.00
	Trailhead Trail Access	0	LS	\$7,000.00	\$0.00
Subtotal					\$1,049,060.00

Item	Phase A - Trailhead @ Purcell Park	Quantity	Unit	Unit Price	Total Price
1.19	Parking Area: Asphalt	1	LS	\$40,000.00	\$40,000.00
1.21	Playground	1	LS	\$15,000.00	\$15,000.00
1.22	Picnic Facilities	1	LS	\$3,000.00	\$3,000.00
1.23	Site Furnishings	1	LS	\$2,000.00	\$2,000.00
	Comfort Stations	0	LS	\$48,000.00	\$0.00
Subtotal					\$60,000.00

Item	Phase B - Ramblewoods to Pleasant Valley	Quantity	Unit	Unit Price	Total Price
1.1	Surfacing: Hard Surface Trail	9,019	LF	\$72.50	\$653,877.50
	Streambank Stabilization	0	LF	\$500.00	\$0.00
	Slope Stabilization	0	LF	\$500.00	\$0.00
1.5	Bridge or Culvert Crossings	1	LS	\$5,000.00	\$5,000.00
1.6	Pedestrian Underpasses	2	LS	\$150,000.00	\$300,000.00
1.7	At Grade Crossings	1	LS	\$2,000.00	\$2,000.00
	Urban Crossings	0	LS	\$5,000.00	\$0.00
	Neighborhood Access	0	LS	\$7,000.00	\$0.00
	Trailhead Trail Access	0	LS	\$7,000.00	\$0.00
Subtotal					\$960,877.50

Item	Phase B - Spur Alignment Elements	Quantity	Unit	Unit Price	Total Price
1.10	Surfacing: Hard Surface Trail	2222	LF	\$72.50	\$161,095.00
	Streambank Stabilization	0	LF	\$500.00	\$0.00
	Slope Stabilization	0	LF	\$500.00	\$0.00
1.15	Bridge or Culvert Crossings	0	LS	\$5,000.00	\$0.00
1.16	Pedestrian Underpasses	0	LS	\$150,000.00	\$0.00
1.17	At Grade Crossings	0	LS	\$2,000.00	\$0.00
1.18	Urban Crossings	0	LS	\$5,000.00	\$0.00
	Neighborhood Access	0	LS	\$7,000.00	\$0.00
1.18	Neighborhood Access	1	LS	\$7,000.00	\$7,000.00
Subtotal					\$168,095.00

Item	Phase B - Trailhead @ Vo Tech School	Quantity	Unit	Unit Price	Total Price
1.19	Parking Area: Asphalt	1	LS	\$50,000.00	\$50,000.00
1.21	Playground	1	LS	\$15,000.00	\$15,000.00
	Streambank Stabilization	0	LF	\$500.00	\$0.00
1.22	Picnic Facilities	1	LS	\$3,000.00	\$3,000.00
1.23	Site Furnishings	1	LS	\$2,000.00	\$2,000.00
1.24	Comfort Stations	1	LS	\$48,000.00	\$48,000.00
Subtotal					\$118,000.00

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Master Plan Cost Estimate

Corridor 1 Construction Estimate Continued					
Item	Phase C - Pleasant Valley to County	Quantity	Unit	Unit Price	Total Price
1.2	Surfacing: Soft Surface Trail	7984	LF	\$57.00	\$455,088.00
1.3	Streambank Stabilization	2821	LF	\$300.00	\$846,300.00
1.4	Slope Stabilization	1190	LF	\$300.00	\$357,000.00
1.5	Bridge or Culvert Crossings	1	LS	\$5,000.00	\$5,000.00
1.6	Pedestrian Underpasses	1	LS	\$150,000.00	\$150,000.00
1.7	At Grade Crossings	1	LS	\$2,000.00	\$2,000.00
	Urban Crossings	0	LS	\$5,000.00	\$0.00
	Neighborhood Access	0	LS	\$7,000.00	\$0.00
	Trailhead Trail Access	0	LS	\$7,000.00	\$0.00
Subtotal					\$1,815,388.00

Subtotal	\$4,171,420.50
Design & Engineering Fees (15%)	\$625,713.08
Mobilization (10%)	\$417,142.05
Contingency (10%)	\$417,142.05
Total	\$5,631,417.68

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Master Plan Cost Estimate

Corridor 2 Construction Estimate					
Item	South Main St. to South High St.	Quantity	Unit	Unit Price	Total Price
2.1	Surfacing: Hard Surface Trail	5736	LF	\$72.50	\$415,860.00
2.2	Streambank Stabilization	0	LF	\$300.00	\$0.00
2.4	Slope Stabilization	0	LF	\$300.00	\$0.00
2.5	Bridge or Culvert Crossings	1	LS	\$5,000.00	\$5,000.00
2.6	Pedestrian Underpasses	1	LS	\$150,000.00	\$150,000.00
2.7	At Grade Crossings	3	LS	\$2,000.00	\$6,000.00
2.8	Urban Crossings	1	LS	\$5,000.00	\$5,000.00
2.8	Pocket Park	0	LS	\$5,000.00	\$0.00
2.9	Neighborhood Access	2	LS	\$7,000.00	\$14,000.00
Subtotal					\$590,860.00
Item	Trailhead @ Keister Elementary	Quantity	Unit	Unit Price	Total Price
2.10	Parking Area: Asphalt	1	LS	\$40,000.00	\$40,000.00
2.12	Playground	1	LS	\$20,000.00	\$20,000.00
2.13	Fitness Course	1	LS	\$10,000.00	\$10,000.00
2.14	Picnic Facilities	1	LS	\$3,000.00	\$3,000.00
2.15	Site Furnishings	1	LS	\$2,000.00	\$2,000.00
2.16	Comfort Stations	1	LS	\$48,000.00	\$48,000.00
Subtotal					\$113,000.00
Subtotal					\$703,860.00
Design & Engineering Fees (15%)					\$105,579.00
Mobilization (10%)					\$70,386.00
Contingency (10%)					\$70,386.00
Total					\$950,211.00

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Master Plan Cost Estimate

Corridor 3 Construction Estimate					
Item	Phase A - West Elizabeth St. to Kratzer Ave.	Quantity	Unit	Unit Price	Total Price
3.1	Surfacing: Hard Surface Trail	1729	LF	\$72.50	\$125,352.50
3.4	Streambank Stabilization	1250	LF	\$300.00	\$375,000.00
3.5	Slope Stabilization	0	LF	\$300.00	\$0.00
3.6	Bridge or Culvert Crossings	0	LS	\$5,000.00	\$0.00
3.7	Pedestrian Underpasses	0	LS	\$150,000.00	\$0.00
3.8	At Grade Crossings	4	LS	\$2,000.00	\$8,000.00
3.9	Urban Crossings	1	LS	\$5,000.00	\$5,000.00
3.9	Pocket Park	2	LS	\$5,000.00	\$10,000.00
3.9	Neighborhood Access	0	LS	\$7,000.00	\$0.00
Subtotal					\$523,352.50
Item	Phase B - South High St. to West Elizabeth St.	Quantity	Unit	Unit Price	Total Price
3.1	Surfacing: Hard Surface Trail	5946	LF	\$72.50	\$431,085.00
3.4	Streambank Stabilization	0	LF	\$300.00	\$0.00
3.5	Slope Stabilization	0	LF	\$300.00	\$0.00
3.6	Bridge or Culvert Crossings	0	LS	\$5,000.00	\$0.00
3.7	Pedestrian Underpasses	0	LS	\$150,000.00	\$0.00
3.8	At Grade Crossings	8	LS	\$2,000.00	\$16,000.00
3.9	Urban Crossings	1	LS	\$5,000.00	\$5,000.00
3.9	Pocket Park	2	LS	\$5,000.00	\$10,000.00
3.9	Neighborhood Access	0	LS	\$7,000.00	\$0.00
Subtotal					\$447,085.00
Item	Phase B - Trailhead @ Harrisonburg High School	Quantity	Unit	Unit Price	Total Price
2.10	Parking Area: Asphalt	1	LS	\$40,000.00	\$40,000.00
2.12	Playground	1	LS	\$15,000.00	\$15,000.00
2.13	Fitness Course	0	LS	\$10,000.00	\$0.00
2.14	Picnic Facilities	1	LS	\$3,000.00	\$3,000.00
2.15	Site Furnishings	1	LS	\$2,000.00	\$2,000.00
2.16	Comfort Stations	0	LS	\$48,000.00	\$0.00
Subtotal					\$60,000.00
Item	Phase C - Kratzer Ave. to East Washington St.	Quantity	Unit	Unit Price	Total Price
3.1	Surfacing: Hard Surface Trail	1631	LF	\$72.50	\$118,247.50
3.4	Streambank Stabilization	0	LF	\$300.00	\$0.00
3.5	Slope Stabilization	0	LF	\$300.00	\$0.00
3.6	Bridge or Culvert Crossings	0	LS	\$5,000.00	\$0.00
3.7	Pedestrian Underpasses	0	LS	\$150,000.00	\$0.00
3.8	At Grade Crossings	1	LS	\$2,000.00	\$2,000.00
3.9	Urban Crossings	2	LS	\$5,000.00	\$10,000.00
3.9	Pocket Park	1	LS	\$5,000.00	\$5,000.00
3.9	Neighborhood Access	0	LS	\$7,000.00	\$0.00
Subtotal					\$120,247.50
Subtotal					\$1,150,685.00
Design & Engineering Fees (15%)					\$172,602.75
Mobilization (10%)					\$115,068.50
Contingency (10%)					\$115,068.50
Total					\$1,553,424.75

Blacks Run Greenway

Master Plan Cost Estimate

Corridor 4 Construction Estimate					
Item	East Washington St. to VMRC	Quantity	Unit	Unit Price	Total Price
4.1	Surfacing: Hard Surface Trail	9250	LF	\$72.50	\$670,625.00
	Streambank Stabilization	0	LF	\$300.00	\$0.00
	Slope Stabilization	0	LF	\$300.00	\$0.00
4.6	Bridge or Culvert Crossings	2	LS	\$5,000.00	\$10,000.00
	At Grade Crossings	0	LS	\$2,000.00	\$0.00
4.8	At Grade Crossings	6	LS	\$2,000.00	\$12,000.00
	Urban Crossings	0	LS	\$5,000.00	\$0.00
4.18	Pocket Park	1	LS	\$5,000.00	\$5,000.00
4.18	Neighborhood Access	1	LS	\$7,000.00	\$7,000.00
Subtotal					\$704,625.00

Item	Spur Alignment Elements	Quantity	Unit	Unit Price	Total Price
4.10	Surfacing: Hard Surface Trail	2342	LF	\$72.50	\$169,795.00
	Streambank Stabilization	0	LF	\$300.00	\$0.00
	Slope Stabilization	0	LF	\$300.00	\$0.00
	Bridge or Culvert Crossings	0	LS	\$5,000.00	\$0.00
	Pedestrian Underpasses	0	LS	\$150,000.00	\$0.00
4.17	At Grade Crossings	1	LS	\$2,000.00	\$2,000.00
	Urban Crossings	0	LS	\$5,000.00	\$0.00
4.18	Neighborhood Access	1	LS	\$7,000.00	\$7,000.00
Subtotal					\$178,795.00

Item	Trailhead @ VMRC	Quantity	Unit	Unit Price	Total Price
4.19	Parking Area: Asphalt	1	LS	\$50,000.00	\$50,000.00
4.21	Playground	1	LS	\$15,000.00	\$15,000.00
4.22	Fitness Course	1	LS	\$10,000.00	\$10,000.00
4.22	Picnic Facilities	1	LS	\$3,000.00	\$3,000.00
4.23	Site Furnishings	1	LS	\$2,000.00	\$2,000.00
4.24	Comfort Stations	1	LS	\$48,000.00	\$48,000.00
Subtotal					\$128,000.00

Subtotal	\$1,011,420.00
Design & Engineering Fees (15%)	\$151,713.00
Mobilization (10%)	\$101,142.00
Contingency (10%)	\$101,142.00
Total	\$1,365,417.00

Blacks Run Greenway

Master Plan Cost Estimate

Corridor 5 Construction Estimate					
Item	Phase A - South High St. to Westover Park	Quantity	Unit	Unit Price	Total Price
5.1	Surfacing: Hard Surface Trail	3944	LF	\$72.50	\$285,940.00
	Bicycle Lanes	0	LF	\$300.00	\$0.00
	Bicycle Paths	0	LF	\$300.00	\$0.00
	Bicycle Paths (with Dimensions)	0	LS	\$5,000.00	\$0.00
	Bicycle Underpasses	0	LS	\$150,000.00	\$0.00
5.8	At Grade Crossings	2	LS	\$2,000.00	\$4,000.00
5.9	Pocket Park	1	LS	\$5,000.00	\$5,000.00
5.9	Neighborhood Access	1	LS	\$5,000.00	\$5,000.00
Subtotal					\$299,940.00

Item	Phase A - Trailhead @ Westover Park	Quantity	Unit	Unit Price	Total Price
5.19	Parking Area: Asphalt	1	LS	\$40,000.00	\$40,000.00
5.21	Playground	1	LS	\$15,000.00	\$15,000.00
	Picnic Trail	0	LS	\$10,000.00	\$0.00
5.22	Picnic Facilities	1	LS	\$3,000.00	\$3,000.00
5.23	Site Furnishings	1	LS	\$2,000.00	\$2,000.00
	Light Stations	0	LS	\$15,000.00	\$0.00
Subtotal					\$60,000.00

Item	Phase B - Westover Park to Thomas Harrison M. S.	Quantity	Unit	Unit Price	Total Price
5.1	Surfacing: Hard Surface Trail	7819	LF	\$72.50	\$566,877.50
	Bicycle Lanes	0	LF	\$300.00	\$0.00
	Bicycle Paths	0	LF	\$300.00	\$0.00
	Bicycle Paths (with Dimensions)	0	LS	\$5,000.00	\$0.00
	Bicycle Underpasses	0	LS	\$150,000.00	\$0.00
5.8	At Grade Crossings	3	LS	\$2,000.00	\$6,000.00
	Pocket Park	0	LS	\$5,000.00	\$0.00
	Neighborhood Access	0	LS	\$5,000.00	\$0.00
5.9	Neighborhood Access	1	LS	\$5,000.00	\$5,000.00
Subtotal					\$577,877.50

Item	Phase B - Spur Alignment Elements	Quantity	Unit	Unit Price	Total Price
5.10	Surfacing: Hard Surface Trail	4713	LF	\$72.50	\$341,692.50
	Bicycle Lanes	0	LF	\$300.00	\$0.00
	Bicycle Paths	0	LF	\$300.00	\$0.00
	Bicycle Paths (with Dimensions)	0	LS	\$5,000.00	\$0.00
	Bicycle Underpasses	0	LS	\$150,000.00	\$0.00
	At Grade Crossings	0	LS	\$2,000.00	\$0.00
	Pocket Park	0	LS	\$5,000.00	\$0.00
	Neighborhood Access	0	LS	\$5,000.00	\$0.00
5.18	Neighborhood Access	2	LS	\$5,000.00	\$10,000.00
Subtotal					\$351,692.50

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Master Plan Cost Estimate

Corridor 5 Construction Estimate Continued					
Item	Phase B - Trailhead @ Thomas Harrison Middle School	Quantity	Unit	Unit Price	Total Price
5.19	Parking Area: Asphalt	1	LS	\$40,000.00	\$40,000.00
5.21	Playground	1	LS	\$15,000.00	\$15,000.00
	Picnic Trail	0	LS	\$10,000.00	\$0.00
5.22	Picnic Facilities	1	LS	\$3,000.00	\$3,000.00
5.23	Site Furnishings	1	LS	\$2,000.00	\$2,000.00
	Light Stations	0	LS	\$48,000.00	\$0.00
Subtotal					\$60,000.00
Subtotal					\$1,349,510.00
Design & Engineering Fees (15%)					\$202,426.50
Mobilization (10%)					\$134,951.00
Contingency (10%)					\$134,951.00
Total					\$1,821,838.50

Blacks Run Greenway

Master Plan Cost Estimate

Corridor 6 Construction Estimate

Item	Purcell Park to James Madison University	Quantity	Unit	Unit Price	Total Price
6.10	Surfacing: Hard Surface Trail	16071	LF	\$72.50	\$1,165,147.50
6.40	Streambank Stabilization	0	LF	\$300.00	\$0.00
6.40	Slope Stabilization	0	LF	\$300.00	\$0.00
6.60	Bridge or Culvert Crossings	1	LS	\$5,000.00	\$5,000.00
6.70	Pedestrian Underpasses	3	LS	\$150,000.00	\$450,000.00
6.80	At Grade Crossings	4	LS	\$2,000.00	\$8,000.00
6.90	Urban Crossings	1	LS	\$5,000.00	\$5,000.00
6.90	Pocket Park	0	LS	\$5,000.00	\$0.00
6.90	Neighborhood Access	4	LS	\$7,000.00	\$28,000.00
Subtotal					\$1,656,147.50

Item	Spur Alignment Elements	Quantity	Unit	Unit Price	Total Price
6.10	Surfacing: Hard Surface Trail	2575	LF	\$65.00	\$167,375.00
6.40	Streambank Stabilization	0	LF	\$300.00	\$0.00
6.40	Slope Stabilization	0	LF	\$300.00	\$0.00
6.60	Bridge or Culvert Crossings	0	LS	\$5,000.00	\$0.00
6.70	Pedestrian Underpasses	0	LS	\$150,000.00	\$0.00
6.17	At Grade Crossings	1	LS	\$2,000.00	\$2,000.00
6.18	Urban Crossings	0	LS	\$5,000.00	\$0.00
6.18	Pocket Park	0	LS	\$5,000.00	\$0.00
6.18	Neighborhood Access	0	LS	\$7,000.00	\$0.00
Subtotal					\$169,375.00

Subtotal \$1,825,522.50

Design & Engineering Fees (15%) \$273,828.38

Mobilization (10%) \$182,552.25

Contingency (10%) \$182,552.25

Total \$2,464,455.38

Phasing and Priorities

Corridor Merits

The Blacks Run Greenway System will ultimately create a means to provide connectivity between many of Harrisonburg's community resources. Each corridor in the system is different to the degree that it provides this connectivity. Each corridor is also different in terms of what types of resources are being connected. For example, some portions of the system make strong and well-defined connections between major city parks. Others connect neighborhoods to parks or to schools. The types of connections being made will have some bearing on how important or necessary the community feels that specific

corridor is. This master plan document will serve to point out some of the merits of each corridor and will attempt to recommend sections of the Greenway that may be considered priorities.

Corridor 1

This corridor connects Purcell Park to Ramblewood Fields and also provides a connection from Ramblewood Fields to Pleasant Valley Elementary School. The corridor will also offer access to the Greenway system in the area of South Avenue. This section offers the following advantages and disadvantages:

- ✂ The corridor will connect two popular parks.
- ✂ The corridor will connect Pleasant Valley Elementary School to Parks and to possible educational resources along Blacks Run.
- ✂ The corridor will offer neighborhood connections to Parks and the Greenway.
- ✂ The corridor is relatively easy to develop in terms of available space.
- ✂ The corridor will require negotiation with relatively few property owners.
- ✂ Many of the adjacent properties are owned by the City.
- ✂ The corridor is relatively long in-between connections.

Corridor 2

This corridor connects Purcell Park to two schools and to the downtown area. There are several commercial and residential areas along the corridor, providing several opportunities for access to the

Greenway system. This section offers the following advantages and disadvantages:

- ✂ The corridor will connect Purcell Park to Keister Elementary School and Harrisonburg High School.
- ✂ The corridor will allow several neighborhood connections to the greenway.
- ✂ The corridor will provide access to the south downtown area.
- ✂ The corridor offers the opportunity to create a neighborhood park.
- ✂ The corridor is relatively difficult to develop because of very limited space, many property owners, obstructions and several road crossings.
- ✂ Routing problems exist and the corridor may require significant infrastructure improvements.
- ✂ The corridor will require negotiation with many property owners.
- ✂ The corridor presents some safety issues with the crossing of several City streets.

Corridor 3

This corridor travels through the downtown area and offers connections to many downtown resources. The corridor offers the opportunity to create a well-defined linear urban park through the center of town. This section offers the following advantages and disadvantages:

- ✂ The corridor will connect many business and government facilities to the greenway.
- ✂ The corridor will provide access to many cultural resources.
- ✂ The corridor will provide access from neighborhoods to the downtown area.
- ✂ The corridor will create the opportunity to revitalize several degraded urban spaces.
- ✂ The resulting Greenway and pocket parks will create a desirable environment for businesses, government and their employees.
- ✂ The corridor has already created interest among several downtown business owners.
- ✂ The corridor is moderately difficult to develop, due to limited space, obstructions and several street crossings.
- ✂ The corridor will require significant infrastructure improvements.
- ✂ The corridor presents some safety issues with the crossing of several City streets.

Corridor 4

This corridor travels through neighborhood and industrial areas north of downtown. The corridor connects the Virginia Mennonite Retirement Community to the downtown area. This section offers the following advantages and disadvantages:

- ✘ The corridor provides access to neighborhoods north of downtown.
- ✘ The corridor will connect the VMRC property to the Greenway and the downtown area.
- ✘ The corridor will connect Eastern Mennonite High School to the Greenway.
- ✘ The corridor is relatively easy to develop in terms of available space.
- ✘ The corridor will require negotiations with a minimal number of property owners.
- ✘ The corridor will create public relations opportunities for adjacent businesses.
- ✘ The corridor creates the opportunity to create a neighborhood park.
- ✘ The corridor will require several at grade crossings and underpasses.
- ✘ The corridor presents some safety issues with the crossing of several City streets.

Corridor 5

This corridor travels between Harrisonburg High School, Westover Park and Thomas Harrison Middle School. This section offers the following advantages and disadvantages:

- ✘ The corridor will connect two schools with a major park and community center.
- ✘ The corridor will connect neighborhoods to schools.
- ✘ The corridor will connect neighborhoods to Westover Park and Hillandale Park.
- ✘ The corridor will require negotiations with relatively few property owners.
- ✘ Many of the properties along this corridor are owned by the City.
- ✘ The corridor is relatively easy to develop in terms of available space.
- ✘ The corridor will cross only one major City street.

Corridor 6

This corridor travels between Purcell Park through the JMU campus to residential and commercial areas to the north. This section offers the following advantages and disadvantages:

- ✘ The corridor will connect the University to recreational resources.
- ✘ The corridor will connect several housing areas to the University campus.
- ✘ A pattern of pedestrian and bicycle use already exists in this area.
- ✘ The corridor is relatively difficult to develop in terms of available space.
- ✘ The corridor will require significant infrastructure improvements.
- ✘ The corridor presents some safety issues with the crossing of several streets.

Priorities

It is important to consider the advantages and disadvantages of each corridor in developing a list of priorities for trail development. It is also important for the community to examine what is most important to them. For example, are corridors that provide general recreational resources more important than corridors that provide connectivity between different resources? For the purpose of this master plan, priority recommendations were made using the qualities listed below. It was assumed that connectivity between community resources was of the highest importance. The corridors were ranked on the presence of these qualities:

- ✘ Connects schools to neighborhoods.
- ✘ Connects neighborhoods to parks.
- ✘ Connects schools to parks.
- ✘ Connects parks to other parks.
- ✘ Provides recreational and cultural resources in urban areas.
- ✘ Provides general community recreation.
- ✘ Is relatively free of obstacles to development.
- ✘ Has created interest and action in the community

Demonstration Projects

Demonstration projects are typically specific portions of a project that are built with the intent of demonstrating the benefit or effect of the project for the community. A demonstration project is also

implemented to show immediate progress and to show results of previous planning efforts. Demonstration projects are not always selected based on how they fit into an overall phasing schedule. However, it is desirable to implement a demonstration project that can also serve as the first phase of development. The demonstration projects are often selected based on the level of visibility and the level of cooperation between interests. For example, a demonstration project that will involve the cooperation and support between advocacy groups, business owners, residents, and government is highly desirable because the effort demonstrates support and cooperation between many different interest groups. Demonstration projects may also be selected because of relative interest and momentum already established. The downtown section of the greenway between Elizabeth Street and Gay Street exhibits many of these qualities. This area has spurred much interest among downtown business owners and would be a highly visible project.

The following is a list of priorities ranked from highest to lowest and is based on the qualities listed above. It is important to note that each corridor has some very strong merits and the community may need to decide which merits are most important. The list does not consider the actual constructability or cost of each segment:

- I. Corridor 3 (phase A) demonstration project
- II. Corridor 5 (between Westover Park and Harrisonburg High School at Grace Street)
- III. Corridor 3 (between Grace Street and Elizabeth Street)
- IV. Corridor 1 (between Purcell Park and Ramblewood Fields Park)
- V. Corridor 2
- VI. Corridor 1 (between Ramblewood Fields and Pleasant Valley Elementary)
- VII. Corridor 5 (between Westover Park and Thomas Harrison Middle School)
- VIII. Corridor 3 (remaining portions)
- IX. Corridor 4
- X. Corridor 6
- XI. Corridor 1 (from Pleasant Valley Elementary to the County)

Corridor 3 (phase A) was selected as a demonstration project because it will be a highly visible portion of the system. The design and completion of this segment will involve the support and cooperation of many interest groups. This will build a broader base of support for the greenway. Much momentum, work and interest has been built in this area by adjacent business owners and the general

public. This segment of trail will serve as a downtown park. The segment will offer a tremendous resource to the downtown area.

Corridor 5 (phase A) was selected as the next priority because this segment provides connections between a major recreational center, a school, neighborhoods and the downtown area. This Corridor is relatively easy to develop. This section of greenway would also be very visible because of its proximity to the community center.

The implementation of Corridor 3 from Grace Street to Elizabeth Street will finish the connection between Corridor 5 and the demonstration project. This will create a continuous connection between the downtown area and the Community Center.

Phasing

The priorities section of this document suggests some general phases for the Greenway based on order of importance. General phasing suggestions have been outlined in the cost estimate section. Specific construction phasing will be examined during future planning efforts. Construction phasing will be based on detailed corridor study and design and construction cost estimates.

Implementation

Planning and Implementation Process

Much has been accomplished in terms of planning for the Blacks Run Greenway. The completion of the Conceptual Master Plan has set the stage for further planning, design and implementation. The following steps must be taken in order to make the Greenway a reality:

1. Presentation and adoption of Conceptual Master Plan.
2. Establish entity in charge of planning and implementation of the greenway.
3. Identification of specific planning phases.
4. Prepare detailed Phase I Master Plan. The Master Plan should include specific alignments, easement acquisition, facilities design, infrastructure improvements and detailed cost estimates.
5. Establish an ongoing program for fundraising.

6. Develop management and maintenance programs for the greenway.
7. Identification of the demonstration project.
8. Preparation and submittal of Grant Applications for design and construction.
9. Prepare design, environmental, and bid documents for the demonstration project.
10. Construct the demonstration project.
11. Prepare design and construction plans for Phase I or a portion of.
12. Negotiate easements, purchase property and record the proper documentation.
13. Construct Phase I.
14. Re-evaluate phasing and priorities.
15. Repeat steps 4, 8, 11, 12 and 13 for Phase II.

Funding Opportunities

The most frequently used funding sources for trail projects are the federal government, state government, local government, and the private sector. The following is a summary of several funding sources. Others may be available that are not outlined.

Federal Sources

☞ Transportation Enhancement Program (also known as TEA-21 Enhancement funds). To be eligible for this program the Blacks Run Greenway must fall under one of the following categories:

- ☞ Bicycle or pedestrian facility.
- ☞ Scenic easement and scenic or historic sites/preservation.
- ☞ Landscaping or other scenic beautification.
- ☞ Preservation of abandoned railway corridor.
- ☞ Environmental mitigation for wildlife protection.

Contact: VDOT at 1-800-444-7832. A 20% match is required to receive funding.

☞ Surface Transportation Program (also know as STP). To be eligible for this program the project must provide pedestrian

and bicycle transportation. Ten percent (10%) of STP funds are available only for transportation enhancement activities.

Contact: National Transportation Enhancements Clearinghouse at 1-800-388-6832. The federal share is 80% (sometimes higher in states with large amounts of federal land).

- ☒ Public Lands Highways Discretionary Program (also known as PLH). To be eligible for this program the project must be able to provide access to federal lands that are open to the public.

Contact: Federal Highway Administration at www.fhwa.dot.gov/discretionary. There is no local match required to obtain this funding.

- ☒ National Scenic Byways Program. To be eligible for this program the project must be related to designated scenic byways in one of the following ways:

- ☒ Constructing a bicycle and pedestrian facility along a scenic byway.
- ☒ Interpretive sites or information about the byway and overlooks along a scenic byway.
- ☒ Protection of resources (scenic, historical, natural, etc.) adjacent to a scenic byway.

Contact: Federal Highway Administration at www.fhwa.dot.gov/discretionary or www.byways.org. Awards are made with a local match of 20% and are based on an annual competitive grant application process.

- ☒ Community Development Block Grant Program. To be eligible for this program the project must be located in a low or moderate-income area. The funds may be used for neighborhood revitalization, economic development, and improvements to community facilities.

Contact: The U.S. Department of Housing and Urban Development.

- ☒ Land and Water Conservation Fund (also known as LWCF). These funds are used to provide park and recreation facilities to communities throughout the U.S.

Contact: State Parks Department or Conservation Agency. Funds are distributed annually and a 50% match must come from the community.

- ☒ Transportation and Community and System Preservation Pilot Program (also know as TCSP). To be eligible for this program the project must meet the following criteria:

- ☒ Make the transportation system more efficient.
- ☒ Reduce transportation impacts on the environment.
- ☒ Provide better access to jobs and services.

Contact: Federal Highway Administration at www.fhwa.dot.gov/tcsp. No local match needed for these funds.

- ☒ Recreational Trails Program. To be eligible for this program the trail or related facility must be open to the public. If the trail is on private land it is not eligible.

Contact: the Virginia Department of Conservation and Recreation at 804-786-3218. A local funding match of 20% is required.

State Sources

- ☒ Virginia Outdoors Fund. This program is for outdoor recreation land acquisition and development projects. Greenways and trails are eligible for funding through this program.

Contact: the Department of Conservation at 804-786-3218. A 50% match is required.

- ☒ Bike Ways.

Contact: the Virginia Department of Transportation. This program offers 100% funding.

- ☒ Urban and Community Forestry Assistance Grants. This program offers assistance for tree planting.

Contact: the Virginia Department of Forestry. This program requires a 100% match.

☞☞ Recreational Access Roads.

Contact: the Virginia Department of Transportation. This program offers 100% funding.

☞☞ Virginia Land Conservation Fund. This program is for land purchase assistance only.

Contact: the Virginia Department of Conservation and Recreation. This funding requires a 100% match.

☞☞ Virginia Recreational Trails Fund Program. This fund is for development.

Contact: the Virginia Department of Conservation and Recreation. This program requires a 100% match.

Local Sources

☞☞ Cities, towns, and counties can be used to meet the local match requirements for some grant programs. Local funds are good to use for taxes, impact fees, bond referenda, local capital improvements programs, development proffers, and railroad franchise agreements.

Private Sector Sources

Private sector contributions can help develop trails in the following ways:

- ☞☞ Land trusts.
- ☞☞ Local and national foundations.
- ☞☞ Local businesses.
- ☞☞ Service clubs.
- ☞☞ Individual sponsors.
- ☞☞ Volunteer work.

Long Term Responsibilities

Management and Maintenance

A successful project is dependent upon what agency is chosen to manage your trail. It is sometimes easiest to have just one agency managing the trail. With one agency the trail will typically be of a more comprehensive design, the trail surface will be uniform, the maintenance will be consistent throughout, and the regulations will be of a single set.

However, a group of agencies may be able to communicate effectively enough to manage a successful trail. This is most often accomplished by creating a management manual of some sort.

Management Options

Local Agency Management. The following departments of a city or town define this option:

- Parks department.
- Recreation department.
- Public works department.
- Board of supervisors.
- Clerk's office.

Nonprofit Agency Management. This option is usually chosen when a government entity cannot be found for the management. Because of the low budget and volunteer basis of this option, it is best used for partnering in the management process. Some examples of nonprofit agencies:

- Private foundations.
- Land trusts.
- Local citizen's organizations.

Private Sector Partnering. This option is defined by establishing a partnership between public and private sectors in a community. Examples:

- Local groups.
- Homeowners associations.
- Local companies.
- Trail user organizations.
- Community groups.
- Civic organizations.

These groups can be used to provide major or minor maintenance tasks, such as:

- ☒ Upkeep of flower plots.
- ☒ Litter removal.
- ☒ Regular mowing.

General Management Goals for Blacks Run Greenway

Maintenance Categories

Regular trail maintenance ensures the safety on the trail and extends the life of the trail. The following tasks will help ensure those issues are addressed:

- ☒ Signs in good condition.
- ☒ Clear and prominent pavement markings.
- ☒ Clear sight distances.
- ☒ Trim overgrown or dying vegetation to allow adequate clearances.
- ☒ Trail surface patches and repair.
- ☒ Remedy drainage problems. Clear culverts and catch basins after major storms.
- ☒ Manage icy and snowy trail surfaces.
- ☒ Sweep trail surface.
- ☒ Structure inspections.
- ☒ Keep lights clean and make necessary improvements.

Typical Maintenance Activity Schedule:

- ☒ Replace missing and damaged directional signs.
- ☒ Repaint worn pavement markings.
- ☒ Trim vegetation for clear sight distances.
- ☒ Patch potholes and fill cracks in trail pavement.
- ☒ Clean drainage systems.
- ☒ Sweep trail pavement.
- ☒ Mow regularly.
- ☒ Pick up trash and regularly empty trash receptacles.
- ☒ Maintain furniture and other structures.
- ☒ Clean restrooms and drinking fountains.
- ☒ Remove graffiti from all surfaces.
- ☒ Prune dense understory growth.
- ☒ Remove fallen or dying trees and limbs.
- ☒ Clean and replace lights.
- ☒ Spray for weed control.

- ~~☒~~ Remove snow and ice from trail surface.
- ~~☒~~ Maintain irrigation lines.
- ~~☒~~ Maintain emergency phones and citizen maintenance request lines.
- ~~☒~~ Install and remove snow fence.

RESOURCES

- Connecting Our Commonwealth: The Virginia Greenways and Trails Toolbox. Richmond, VA: Parsons Harland Bartholomew & Associates, Inc., 1999.
- Designing Sidewalks and Trails for Access Part 1: Review of Existing Guidelines and Practices. Axelson, Peter W., et al. U.S. Department of Transportation, Federal Highway Administration, 1999.
- Designing Sidewalks and Trails for Access Part 2: Best Practices Design Guide. Kirschbaum, Julie B., et al. U.S. Department of Transportation, Federal Highway Administration, 2001.
- Guide for the Development of Bicycle Facilities. Washington, DC: American Association of State Highway and Transportation Officials, 1999.
- Guide Specifications for Design of Pedestrian Bridges. Washington, DC: American Association of State Highway and Transportation Officials, 1997.
- Guide to Select Federal Funding Sources. Sidwell, Heather, Public Policy Associate. National Recreation and Park Association, 1999.
- Park Planning Guidelines. Fogg, George E. National Recreation & Park Association, 2000, Third Edition.
- Trails for the 21st Century: Planning, Design, and Management Manual for Multi-Use Trails. Flink, Charles A., Olka, Kristine, Searns, Robert M. Washington, DC: Rails-to-Trails Conservancy, 2001.

CONTACTS FOR TECHNICAL ASSISTANCE**Federal Agencies**

US Department of Transportation
Federal Highway Administration
Bicycle and Pedestrian Program – HEP 23
400 Seventh Street, SW
Washington, DC 20590
(202) 366-5007
(Intermodal Surface Transportation Efficiency Act Funds)

US Department of the Interior
National Park Service
Rivers and Trails Technical
Assistance Program
Post Office Box 37127
Washington, DC 20013-7127
(202) 343-9578
(Planning and Design Assistance only)

US Department of Housing and Urban Development
Office for Community Planning and Development
Main Street Program
Washington, DC 20410-7000
(CBDG project development only)

US Forest Service
Woodcrest Office Park
3205 John Knox Road, Suite F-100
Tallahassee, Florida 32303
(904) 422-1404
(Technical Assistance Forest Service related projects)

National Recreation and Parks Association
3101 Park Center Drive
Alexandria, VA 22302
(703) 820-4940
(Planning and Technical Assistance)

National Organizations

Rails-to-Trails Conservancy
1400 Sixteenth Street, NW
Suite 300
Washington, DC 22036
(202) 797-5400

National Trust for Historic Preservation
1785 Massachusetts Avenue, NW
Washington, DC 20036
(202) 673-4000
(Cultural resource protection identification)

American Greenways Program
The Conservation Fund
1800 North Kent Street
Suite 1120
Arlington, Virginia 22209
(703) 525-6300
(Small Grants/Greenway Projects)

Land Trust Alliance
900 17th Street, NW
Suite 410
Washington, DC 20006
(Technical Assistance)

Bicycle Federation of America
1818 R Street, NW
Washington, DC 20009
(202) 332-6986
(Technical Assistance)

American Trails
1400 Sixteenth Street, NW
Suite 300
Washington, DC 20036
(Technical Assistance)

State Organizations

Department of Conservation and Recreation
203 Governor Street, Suite 213
Richmond, VA 23219-2094
(804) 786-6140
Robert Munson, Env. Program Planner

Virginia Trails Association
PO Box 1132
Ashland VA 23005
(804) 798-4160
Angela LaCombe, Executive Director