

## B. Improvements: Confirming Attention to Safety and Equity

The figure below combines the graphic representation of the heat map produced from the crash data compiled from Upper Macungie Police Department in Chapter 6 with the safety improvements proposed in Chapter 7's Multimodal Safety Improvements Plan. (Note that improvements proposed outside of the high crash corridors have been

hidden from view to assess the improvements proposed in these specific locations.)

In areas of high crashes, the priority improvements seek to remove pedestrians and bicyclists from the cartway entirely.

The five (5) highest crash corridors and associated safety improvements are listed below:

Upper Macungie Township Crash Data Map 2017-2022



## High Crash Corridors

### Tilghman Street (Old SR 22)

This corridor represents a high concentration of retail and commercial establishments with little to no pedestrian accommodation in place along Tilghman Street. Little to no pedestrian connections exist from the residential areas to the north and south of Tilghman.

#### *Proposed Improvements:*

- Proposed sidewalks on both sides of Tilghman Street in the center-most commercial area
- Proposed sidewalk construction in the N-S directions connecting residential areas at Snowdrift Road and Mill Road/ Windsor Drive with Tilghman
- Proposed pedestrian crossings of Tilghman at Mill, Snowdrift, and Windsor

### Schantz Road

Schantz Road represents a top E-W connector road throughout Upper Macungie with direct access from Schantz to parks and open spaces. The combined volumes of motor vehicles and commercial truck and existing speed limit are inherent challenges on this street.

#### *Proposed Improvements:*

- Proposed sidewalk on the eastern section of Schantz. This sidewalk provides a collector to the existing sidewalks of the residential areas to the north
- Proposed sidepath construction for the remaining length of Schantz Road throughout the remainder of the Township
- Important N-S safety connections are proposed sidepath crossings of Schantz at Adams Road, Grim/ Cetronia, Industrial Boulevard and Windemere (providing access to Lone Lane Park.)

### Grim/ Cetronia Roads

Grim/ Cetronia represent the N-S corridor that connects the residential neighborhoods to the north of the industrial/ warehouse area to those to the south. The residential developments surrounding Cetronia near the Weilers and Acorn intersections form a hub of destinations including the Rodale Fitness/ Cycling Park and the Jandl Elementary School.

#### *Proposed Improvements:*

- Proposed sidepath on Grim and Cetronia
- Small pedestrian bridge crossing of the sidepath near Schantz Road
- Connection to N-S proposed sidepath on Mosser Road



## Hamilton Boulevard

Hamilton Boulevard represents a high priority planning corridor of the region, specifically noted as a long-term transportation priority of the Lehigh Valley Planning Commission to connect South Whitehall and Lower Macungie Townships.

### Proposed Improvements:

- Proposed sidewalks on the western reach of Hamilton containing important safety crossing at Schaeffer Run, Springwhite, Breinigsville Road and an active rail stretch. A sidewalk connection from Hamilton Boulevard south connects the denser residential communities of Breinigsville
- Proposed bike lanes east of Weilers Road
- Proposed sidepath along the bike lane to the eastern Township boundary

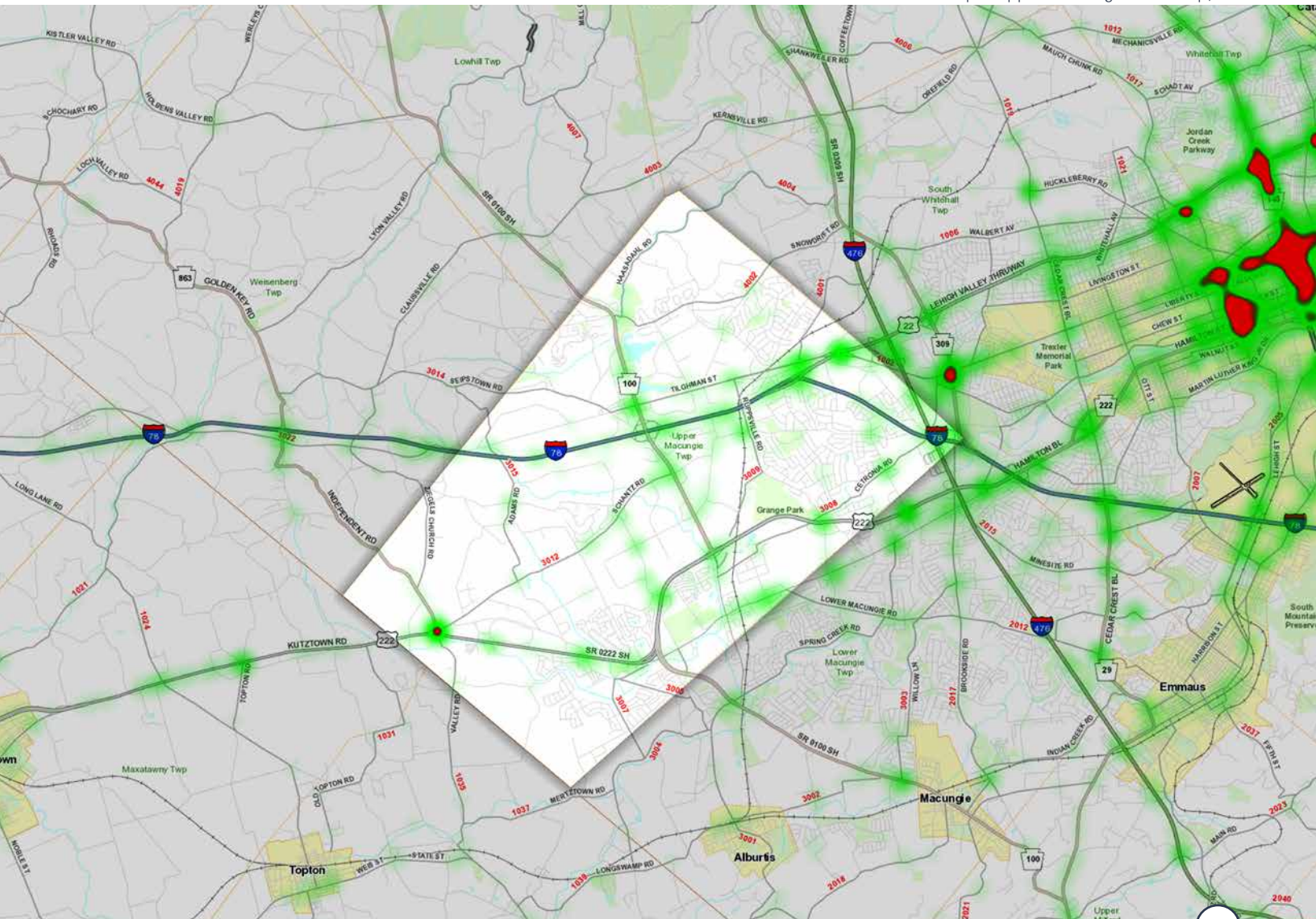
## SR 100

SR 100 represents the highest intensity of crashes in the Township. For that reason, improvements are proposed for short segments, giving emphasis to the safe pedestrian crossing proposed at key intersections noted below.

### Proposed Improvements:

- Proposed sidewalk between Industrial Boulevard and Schantz Road
- Proposed sidepath construction from Glenlivet Drive northward to Upper Macungie Park
- Two (2) pedestrian bridges proposed over SR 100 at Glenlivet Drive and Nursey Street
- Critical safe crossings proposed at: Industrial, Schantz, Tilghman, and Penn Drives

PennDOT Crash Data Heat Map: Upper Macungie Township, PA





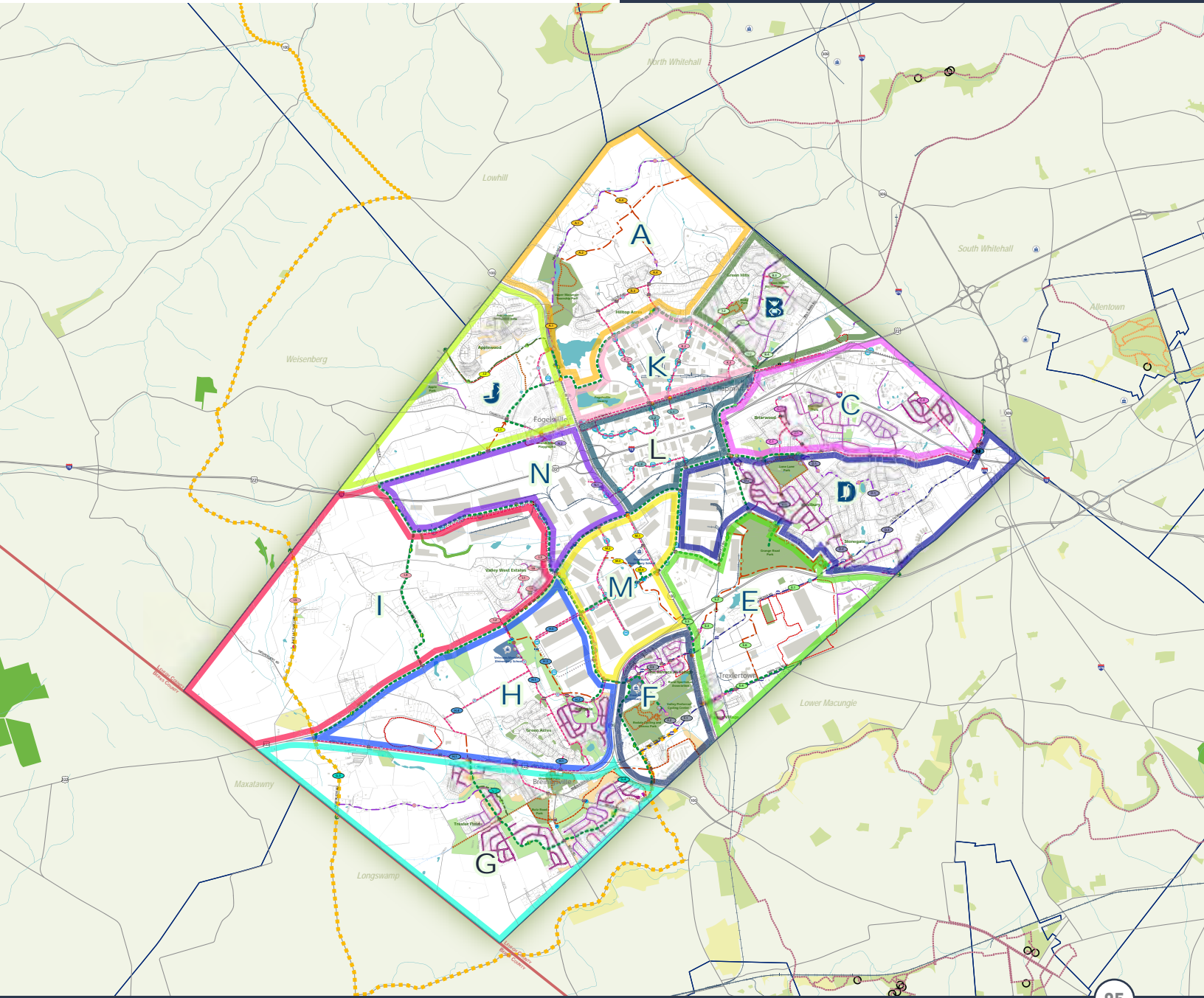
color-coded and named: Core Loop, Tilghman Street, Schantz Road, Grange Park, Grim Road/ Rodale Cycling & Fitness Park and Trexler Road.

Areas: Areas outside of the corridors where additional safety improvements are proposed. Fourteen (14) areas were established and color-coded alphabetically from 'A' through 'N'.

The total cost of corridors and areas represents the total cost of improvements proposed for Upper Macungie Township.

Cost Areas		
Subtotal:	\$	12,528,230.00
Design + Engineering	\$	1,879,234.50
Contingency	\$	1,252,823.00
Mobilization	\$	626,411.50
TOTAL:	\$	16,286,699.00

## Areas



# Corridor 1

Corridor 1: Core Loop	Item Description	Estimated Quantity		Unit Price	Total Item Amount
Segment 1.1-1.2	<i>Grim Rd.</i>				
Trail					\$210,000.00
	Side Path - 10'	2100	LF	\$ 100.00	\$210,000.00
Improvements					\$502,600.00
	Pedestrian Crosswalk	2	EA	\$ 1,300.00	\$2,600.00
	Small Pedestrian Bridge	1	EA	\$ 500,000.00	\$500,000.00
Total					<b>\$712,600.00</b>

Segment 1.2-1.3	<i>Nestle Way</i>				
Trail					\$1,368,000.00
	Side Path - 10'	8000	LF	\$ 100.00	\$800,000.00
	Sidewalk - 5'	8000	LF	\$ 71.00	\$568,000.00
Improvements					\$601,300.00
	Pedestrian Crosswalk	1	EA	\$ 1,300.00	\$1,300.00
	Railroad Crossing	1	EA	\$ 100,000.00	\$100,000.00
	Small Pedestrian Bridge	1	EA	\$ 500,000.00	\$500,000.00
Total					<b>\$1,969,300.00</b>

Segment 1.3-1.4	<i>Adams Rd.</i>				
Trail					\$286,000.00
	Side Path - 10'	2860	LF	\$ 100.00	\$286,000.00
Total					<b>\$286,000.00</b>

Segment 1.4-1.5	<i>Old U.S. 22</i>				
Trail					\$845,300.00
	Side Path - 10'	7920	LF	\$ 100.00	\$792,000.00
	Sidewalk - 5'	750	LF	\$ 71.00	\$53,250.00
Improvements					\$5,600.00
	Pedestrian Crosswalk	2	EA	\$ 1,300.00	\$2,600.00
	Hand Man	1	EA	\$ 3,000.00	\$3,000.00
Total					<b>\$850,900.00</b>

Segment 1.5-1.6	<i>Church St.</i>				
Trail					\$100,000.00
	Existing Condition	720	LF		
	Side Path - 10'	1000	LF	\$ 100.00	\$100,000.00
Improvements					\$1,300.00
	Pedestrian Crosswalk	1	EA	\$ 1,300.00	\$1,300.00
Total					<b>\$101,300.00</b>

Segment 1.6-1.7	<i>Glenlivet Dr. West (and Moyer Road) to Route 100</i>				
Trail					\$230,000.00
	Side Path - 10'	2300	LF	\$ 100.00	\$230,000.00
Improvements					\$1,701,300.00
	Pedestrian Crosswalk	1	EA	\$ 1,300.00	\$1,300.00
	Large Pedestrian Bridge	1	EA	\$ 1,700,000.00	\$1,700,000.00
Total					<b>\$1,931,300.00</b>

Segment 1.7-1.8	<i>Route 100, Glenlivet Dr. and Walker Way</i>				
Trail					\$380,000.00
	Side Path - 10'	3800	LF	\$ 100.00	\$380,000.00
Improvements					\$4,300.00
	Pedestrian Crosswalk	1	EA	\$ 1,300.00	\$1,300.00
	Hand Man	1	EA	\$ 3,000.00	\$3,000.00
Total					<b>\$384,300.00</b>

Segment 1.8-1.9	<i>Ambassador Dr.</i>				
Trail					\$473,000.00
	Side Path - 10'	4730	LF	\$ 100.00	\$473,000.00
Improvements					\$2,600.00
	Pedestrian Crosswalk	2	EA	\$ 1,300.00	\$2,600.00
Total					<b>\$475,600.00</b>

Segment 1.9-1.10	<i>Hickory Ln.</i>				
Trail					\$560,000.00
	Side Path - 10'	5600	LF	\$ 100.00	\$560,000.00
Improvements					\$4,100.00
	Pedestrian Crosswalk	2	EA	\$ 1,300.00	\$2,600.00
	Decorative Crosswalk	1	EA	\$ 1,500.00	\$1,500.00
Total					<b>\$564,100.00</b>

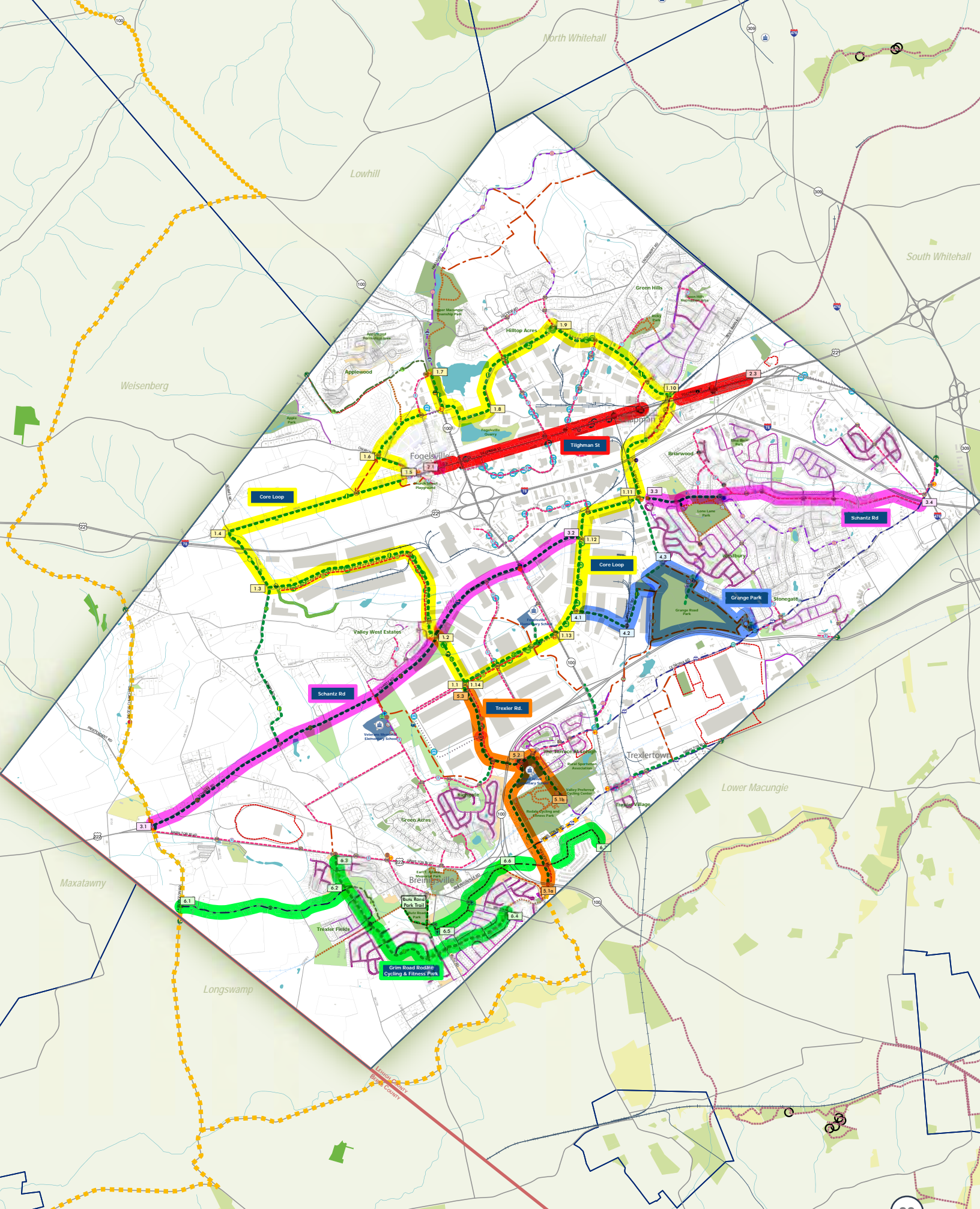
Segment 1.10-1.11	<i>Chapmans Rd. and Ruppville Rd to Schantz Rd.</i>				
Trail					\$387,800.00
	Side Path - 10'	2600	LF	\$ 100.00	\$260,000.00
	Sidewalk - 5'	1800	LF	\$ 71.00	\$127,800.00

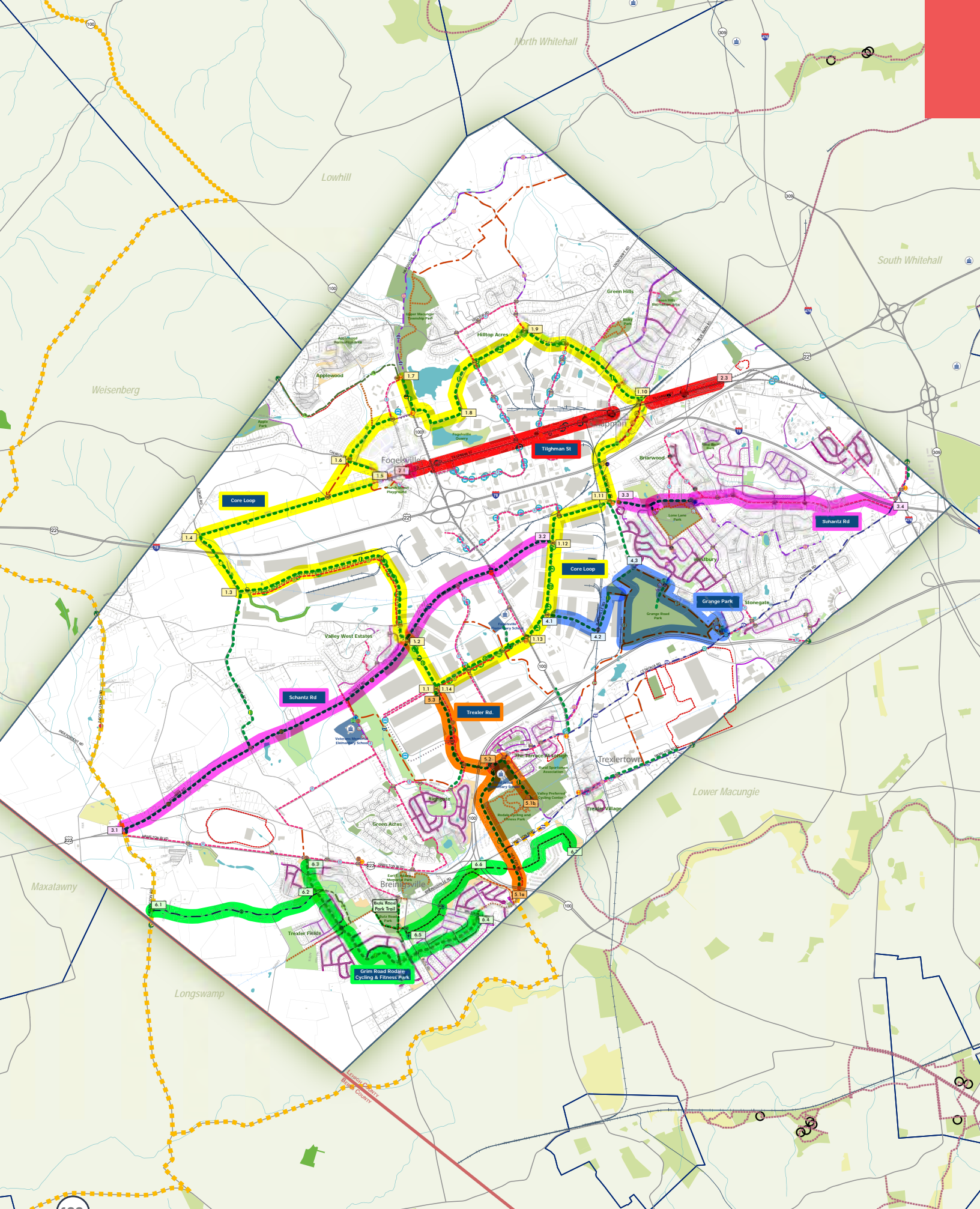
<b>Improvements</b>					<b>\$860,400.00</b>
	Pedestrian Crosswalk	1	EA	\$ 1,300.00	\$1,300.00
	Bike Lane	500	LF	\$ 5.00	\$2,500.00
	Sharrow Route	1300	LF	\$ 3.00	\$3,900.00
	Sidewalk	2150	LF	\$ 71.00	\$152,650.00
	Railroad Crossing	1	EA	\$ 100,000.00	\$100,000.00
	Lane Reduction/alignment through underpass	1	EA	\$ 600,000.00	\$600,000.00
<b>Total</b>					<b>\$1,248,200.00</b>

<b>Segment 1.11-1.12</b>	<i>Schantz Rd. from Ruppville Rd. to Industrial Blvd.</i>				
<b>Trail</b>					<b>\$320,000.00</b>
	Side Path - 10'	3200	LF	\$ 100.00	\$320,000.00
<b>Improvements</b>					<b>\$1,501,300.00</b>
	Pedestrian Crosswalk	1	EA	\$ 1,300.00	\$1,300.00
	Tunnel	1	EA	\$ 1,500,000.00	\$1,500,000.00
<b>Total</b>					<b>\$1,821,300.00</b>

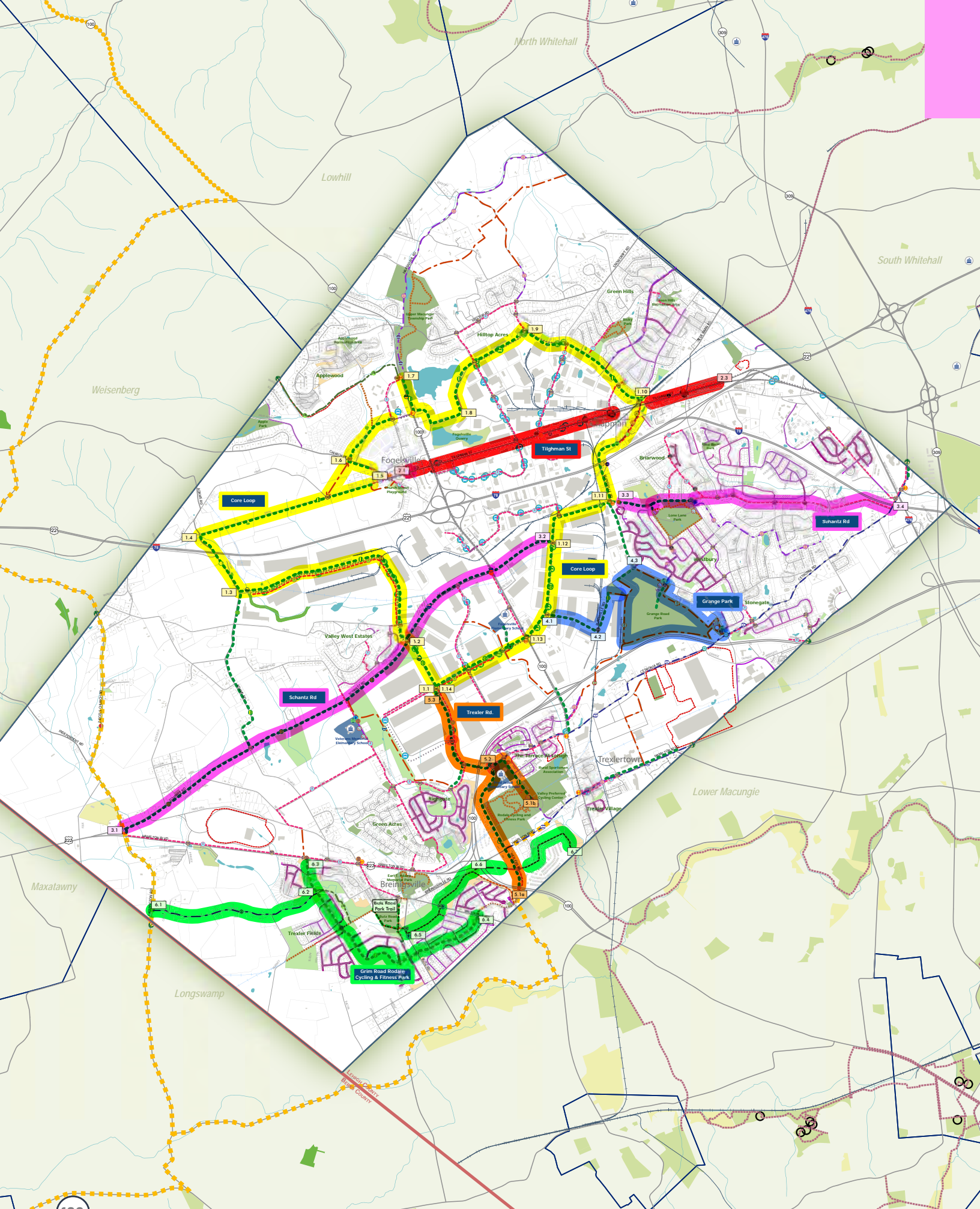
<b>Segment 1.12-1.13</b>	<i>Industrial Blvd. from Schantz Road to Route 100</i>				
<b>Trail</b>					<b>\$400,000.00</b>
	Side Path - 10'	4000	LF	\$ 100.00	\$400,000.00
<b>Improvements</b>					<b>\$2,000,000.00</b>
	Large Pedestrian Bridge	1	EA	\$ 2,000,000.00	\$2,000,000.00
<b>Total</b>					<b>\$2,400,000.00</b>

<b>Segment 1.13-1.14</b>	<i>Industrial Blvd. west of Route 100</i>				
<b>Trail</b>					<b>\$591,700.00</b>
	Side Path - 10'	4000	LF	\$ 100.00	\$400,000.00
	Sidewalk - 5'	2700	LF	\$ 71.00	\$191,700.00
<b>Improvements</b>					<b>\$2,534,300.00</b>
	Pedestrian Crosswalk	1	EA	\$ 1,300.00	\$1,300.00
	Rapid Flashing Beacon	1	EA	\$ 30,000.00	\$30,000.00
	Small Pedestrian Bridge	1	EA	\$ 500,000.00	\$500,000.00
	Large Pedestrian Bridge	1	EA	\$ 2,000,000.00	\$2,000,000.00
	Hand Man	1	EA	\$ 3,000.00	\$3,000.00
<b>Total</b>					<b>\$3,126,000.00</b>

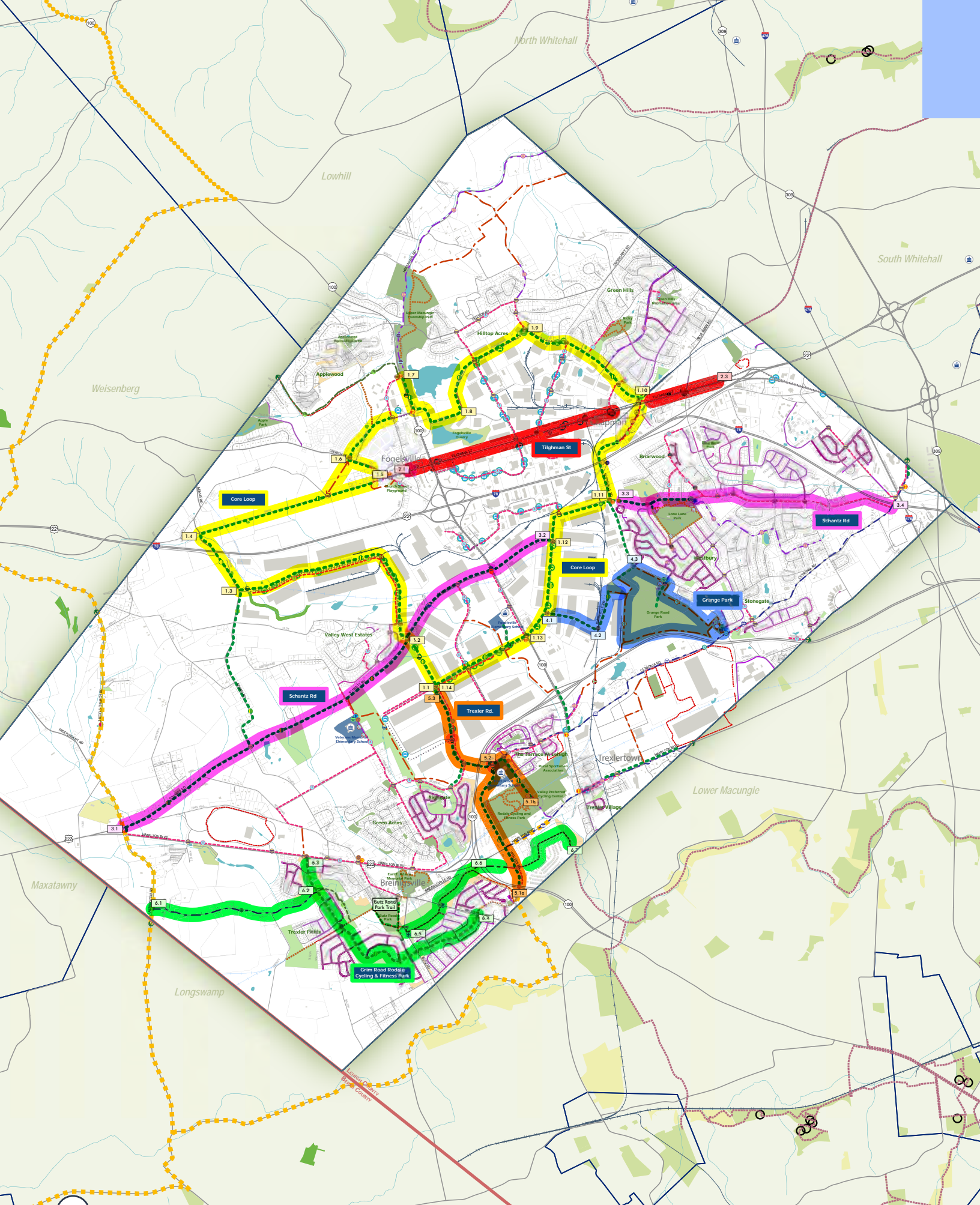




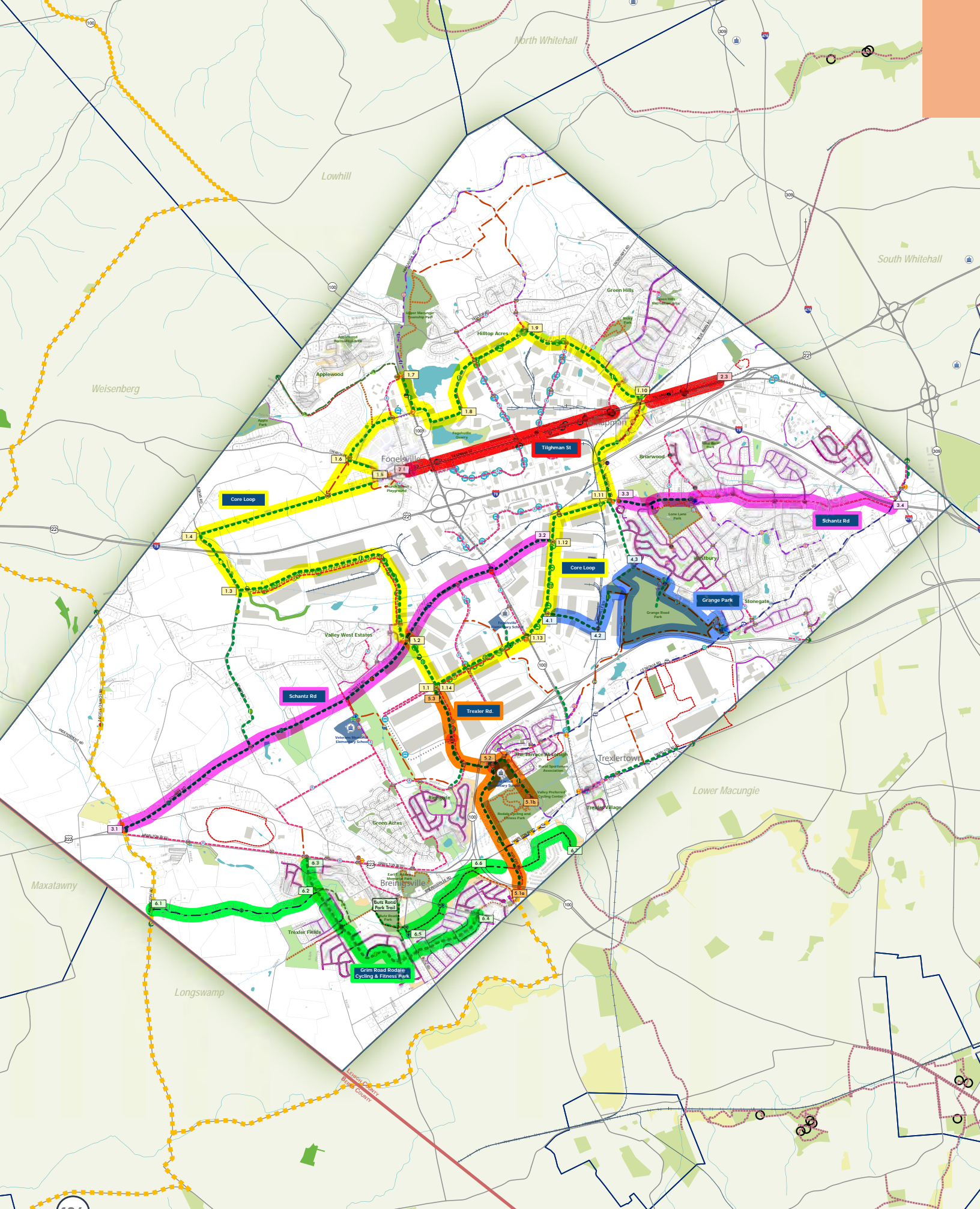
Corridor 2: Tilghman St.	Item Description	Estimated Quantity		Unit Price	Total Item Amount
Segment 2.1-2.2	<i>Tilghman</i>				<b>\$1,357,600.00</b>
Trail					\$1,349,000.00
	Sidewalk - 5'	19,000	LF	\$ 71.00	\$1,349,000.00
Improvements					\$8,600.00
	Pedestrian Crosswalk	2	EA	\$ 1,300.00	\$2,600.00
	Hand Man	2	EA	\$ 3,000.00	\$6,000.00
				Total	<b>\$1,357,600.00</b>



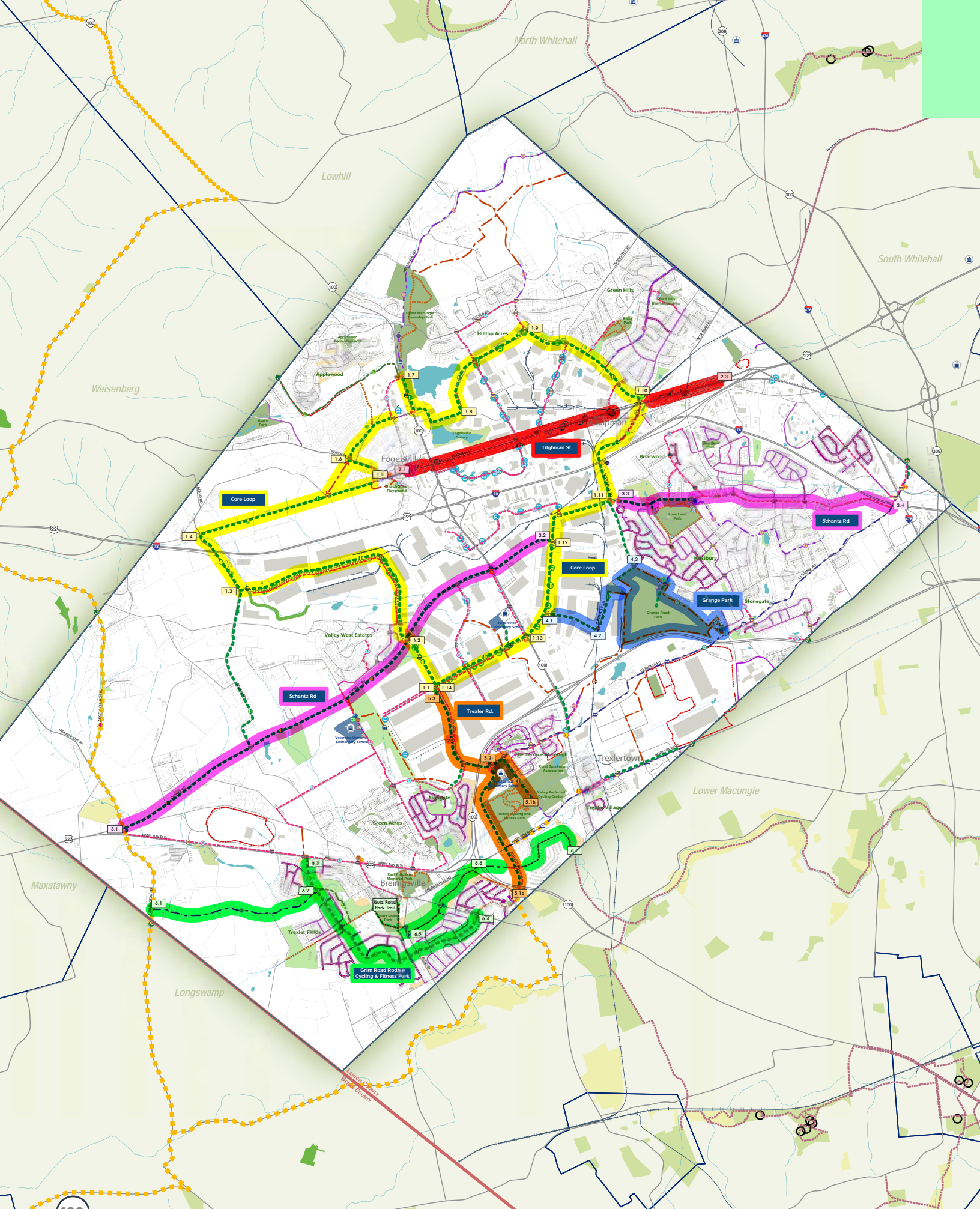
Corridor 3: Schantz Rd.	Item Description	Estimated Quantity		Unit Price	Total Item Amount
Segment 3.1-3.2	<i>Schantz Rd. from Farmington Rd to Route 100</i>				<b>\$1,563,900.00</b>
Trail					\$1,060,000.00
	Side Path - 10'	10,600	LF	\$ 100.00	\$1,060,000.00
Improvements					\$503,900.00
	Pedestrian Crosswalk	3	EA	\$ 1,300.00	\$3,900.00
	Small Pedestrian Bridge	1	EA	\$ 500,000.00	\$500,000.00
Segment 3.2-3.3	<i>Reference Segment 1.11 - 1.12 In corridor 1</i>				
Segment 3.3-3.4	<i>Schantz Rd. From Ruppsville Rd. to Centronia Rd.</i>				<b>\$943,100.00</b>
Trail					\$330,000.00
	Side Path - 10'	3300	LF	\$ 100.00	\$330,000.00
Improvements					\$32,800.00
	Pedestrian Crosswalk	1	EA	\$ 1,300.00	\$1,300.00
	DecorativeCrosswalk	1	EA	\$ 1,500.00	\$1,500.00
	Rapid Flashing Beacon	1	EA	\$ 30,000.00	\$30,000.00
Trail					\$575,100.00
	Sidewalk - 5'	8100	LF	\$ 71.00	\$575,100.00
Improvements					\$5,200.00
	Pedestrian Crosswalk	4	EA	\$ 1,300.00	\$5,200.00
				Total	<b>\$2,507,000.00</b>



Corridor 4: Grange Park Connection		Item Description	Estimated Quantity		Unit Price	Total Item Amount
Segment 4.1-4.2	<i>Morris Ct.</i>					<b>\$321,300.00</b>
Trail						\$220,000.00
	Side Path - 10'	2200	LF	\$	100.00	\$220,000.00
Improvements						\$101,300.00
	Pedestrian Crosswalk	1	EA	\$	1,300.00	\$1,300.00
	Special Crossing	1	EA	\$	100,000.00	\$100,000.00
Segment 4.2-4.3	<i>Ruppsville Rd. (Break on private prop)</i>					<b>\$311,300.00</b>
Trail						\$310,000.00
	Side Path - 10'	3100	LF	\$	100.00	\$310,000.00
Improvements						\$1,300.00
	Pedestrian Crosswalk	1	EA	\$	1,300.00	\$1,300.00
Grange Park						<b>\$1,623,500.00</b>
Trail						\$1,540,000.00
	Multi Use Trail (loop) - 10'	15,400	LF	\$	100.00	\$1,540,000.00
Improvements						\$83,500.00
	Decorative Crosswalk	2	EA	\$	1,500.00	\$3,000.00
	Speed Table	2	EA	\$	10,000.00	\$20,000.00
	Rapid Flashing Beacon	2	EA	\$	30,000.00	\$60,000.00
	Bike Box	1	EA	\$	500.00	\$500.00
					Total	<b>\$2,256,100.00</b>



<b>Corridor 5: Rodale Connections</b>	<b>Item Description</b>	<b>Estimated Quantity</b>		<b>Unit Price</b>	<b>Total Item Amount</b>
<b>Segment 5.1a-5.2</b>	<i>Weilers Rd.</i>				<b>\$605,000.00</b>
Trail					\$545,000.00
	Side Path - 10'	4700	LF	\$ 100.00	\$470,000.00
	Multi Use Trail	750	LF	\$ 100.00	\$75,000.00
<b>Improvements</b>					<b>\$60,000.00</b>
	Pedestrian Refuge Island	2	EA	\$ 15,000.00	\$30,000.00
	Rapid Flashing Beacon	1	EA	\$ 30,000.00	\$30,000.00
<b>Segment 5.2-5.3</b>	<i>Grim Rd.</i>				<b>\$2,671,100.00</b>
Trail					\$667,200.00
	Side Path - 10'	4400	LF	\$ 100.00	\$440,000.00
	Sidewalk - 5'	3200		\$ 71.00	\$227,200.00
<b>Improvements</b>					<b>\$2,003,900.00</b>
	Pedestrian Crosswalk	3	EA	\$ 1,300.00	\$3,900.00
	Large Pedestrian Bridge	1	EA	\$ 2,000,000.00	\$2,000,000.00
<b>Segment 5.1b-5.2</b>	<i>Mosser Rd. And Centronia Rd</i>				<b>\$250,000.00</b>
Trail					\$250,000.00
	Side Path - 10'	2500	LF	\$ 100.00	\$250,000.00
				<b>Total</b>	<b>\$3,526,100.00</b>



<b>Corridor 6: Trexler Rd &amp; Schaefer Run Rd.</b>		Item Description		Estimated Quantity	Unit Price	Total Item Amount
Segment 6.1-6.2	<i>Trexler Rd. from Farmington Rd. to Schaefer Run Rd.</i>					<b>\$21,000.00</b>
Trail						\$21,000.00
	Sharrow Route	7000	LF	\$ 3.00		\$21,000.00
Segment 6.3-6.4	<i>Schaefer Run Rd. from Hamilton Blvd. to Brookdale Rd.</i>					<b>\$1,302,600.00</b>
Trail						\$960,000.00
	Side Path - 10'	9600	LF	\$ 100.00		\$960,000.00
Improvements						\$72,600.00
	Speed Table	1	EA	\$ 10,000.00		\$10,000.00
	Pedestrian Crosswalk	2	EA	\$ 1,300.00		\$2,600.00
	Rapid Flashing Beacon	2	EA	\$ 30,000.00		\$60,000.00
<b>Schaefer Run Trail - Butz Road Park</b>						<b>\$270,000.00</b>
	Multi Use Trail	2700	LF	\$ 100.00		\$270,000.00
Segment 6.5 - 6.6	<b>Schaefer Run Trail from Butz Road Park to Route 100</b>					<b>\$522,600.00</b>
	Multi Use Trail - 10'	4000	LF	\$ 100.00		\$400,000.00
	Pedestrian Crosswalk	2	EA	\$ 1,300.00		\$2,600.00
	Rapid Flashing Beacon	4	EA	\$ 30,000.00		\$120,000.00
Segment 6.6-6.7	<b>Schaefer Run Trail East of Route 100</b>					<b>\$490,000.00</b>
	Multi Use Trail	4900	LF	\$ 100.00		\$490,000.00
					<b>Total</b>	<b>\$2,606,200.00</b>



<b>Area A:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$2,399,100.00

<b>Area B:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$316,170.00

<b>Area C:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$395,000.00

<b>Area D:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$584,500.00

<b>Area E:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$998,400.00

<b>Area F:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$195,000.00

<b>Area G:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$580,000.00

<b>Area H:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$3,254,200.00

<b>Area I:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$686,260.00

<b>Area J:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$490,000.00

<b>Area K:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$614,500.00

<b>Area L:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$795,200.00

<b>Area M:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$972,100.00

<b>Area N:</b>	Item Description	Estimated Quantity	Unit Price	Total Item Amount
			Total	\$247,800.00