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I. EXECUTIVE SUMMARY

In November of 2004, the residents of West Bloomfield Township voted to approve a 15-year authorized levy up to two-tenths (0.20) of one (1) mill for the construction and maintenance of non-motorized Pedestrian Safety Pathways. Approval of this Program includes the construction of up to 18 miles of a safety path to complete linkages in an effort to achieve a continuous pedestrian system on one side of the road along the major arterial roadways in West Bloomfield Township. In order to effectively and objectively plan for the design and construction of the program year-to-year, the Township Board authorized the preparation of a "Program Planning Report" on May 9, 2005.

Historically, safety path construction along arterial roadways was not a requirement for private development projects. More recently, with the adoption of ordinances which mandate construction of safety path system extensions, private development projects and individual residents have been required to extend safety paths along their frontage with the development of their property. In some cases, safety path construction has also been included with road improvement projects or been performed by the Township. Current ordinances allow either 8' wide concrete or bituminous safety paths in the Township and the existing system contains segments of safety path using both materials. For the millage proposal, the Township field evaluated the arterial roadway system and found continuous safety path segments on one side of the road in many locations. There were, however, many additional areas where safety paths did not exist on either side of the road, or where crossings of the road were required by pedestrians in impractical or unsafe areas. A segment completion map was prepared by the Township engineer to identify those "gap" segment areas for use in preparing program costs estimates to put before the voters last fall.

The voter approved millage specified that the linkage projects would be constructed with asphalt pavement, eight (8) feet in width, constructed at grade. Because of environmental conditions or severe grade changes, a number of the safety path segments will need to be constructed with elevated wooden boardwalk, or for a few segments, bridge structures. An easement will also need to be secured where limited right-of-way precludes the safe construction of the safety path segments.

This report includes the prioritization of individual safety path segments based on the application of objective criteria, the review of projected program revenues and expenses and recommendations for the first five (5) years of construction. It should be noted that recent field evaluations have identified a number of additional incomplete segments not originally included in the millage map.

Safety path construction required from private developments projects within the Township has been factored into both the segment ranking and the design / construction schedule for the projects that the Planning Department currently has on its books. With various road improvement projects planned within the Township over the next several years, consideration towards jointly completing many of the existing safety

path segment gaps as a part of the these projects should be considered and has been factored into the five (5) year design / construction schedule for the program. This was undertaken to leverage projected segment funding for their most cost-effective use, and to minimize construction inconvenience.

Based on projections provided by the Township's Finance Department, approximately \$746,000 will be generated through the millage for the first year of the program, with an estimated increase each year of 4 to 4.5% or approximately \$846,000 at year five (5) (2010). A summary of the revenue projections and estimated program design / construction costs are more detailed in Section IV - Millage Revenues.

Recommendations for the program's first five (5) years have been developed from the segment prioritization and are included in Table I-A. Estimated segment costs include design and construction engineering, easement acquisition, and construction costs. Details regarding the recommendation towards scheduling one segment over another and the development of these costs are provided in Section V, Program Costs and 5-Year Design Construction Plan.

It is further recommended that the safety path segment ranking be reviewed every two (2) years through the duration of the program. This evaluation would include an updated ranking inventory for remaining segments and a five (5) year-construction schedule. Further, it should be understood that minor administrative modifications to segment design and construction timing may also be necessary year-to-year if unforeseen design or construction issues arise. All changes would be provided in the form of an abbreviated, amended report issued to the Township every two (2) years through the duration of the program.

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PROGRAM
5-YEAR DESIGN CONSTRUCTION SUMMARY
TABLE I-A**

YEAR	LOCATION	SEGMENT #	DESIGN/ CONSTRUCTION	ESTIMATED COSTS
2006	Richardson Road (E. of Haggerty Road)	41	Design	\$89,000
	Maple Road (E. of Middlebelt Road)	2	Design	\$99,000
	Hiller Road (S. of Coomer Road)	46	Design/ Construction	\$167,000
	Orchard Lake Road (N. of Walnut Lake Rd.)	5	Design/ Construction	\$34,000
	14 Mile Road (W. of Farmington Rd.)	12	Construction	\$15,000
	Maple & Drake Roads (SW corner of Maple & Drake)	19	Construction	\$176,000
	Annual Segment Maintenance			\$50,000
			Total	\$630,000
2007	Walnut Lake Road (W. of Middlebelt Road)	4	Design	\$44,000
	Richardson Road (E. of Haggerty Road)	41	Construction	329,000
	Maple Road (E. of Middlebelt Road)	2	Construction	\$363,000
	Annual Segment Maintenance			\$52,000
			Total	\$788,000

YEAR	LOCATION	SEGMENT #	DESIGN/ CONSTRUCTION	ESTIMATED COSTS
2008	Cooley Lake & Hunt Roads (E. of Williams Lake)	44	Design	\$29,000
	Cooley Lake & Hunt Roads (E. of Williams Lake)	54	Design	\$54,000
	Walnut Lake Road (W. of Middlebelt Road)	4	Construction	\$150,000
	Maple Road (West of Farmington)	22	Construction	\$58,000
	Maple & Farmington (SW corner of Maple & Farmington)	23	Construction	\$117,000
	14 Mile & Northwestern intersection	10	Construction	\$54,000
	Maple Road (W. of Orchard Lake)	25	Construction	\$10,000
	Maple Road (E. of Orchard Lake)	26	Construction	\$99,000
	Annual Segment Maintenance			54,000
			Total	\$625,000
2009	Middelbelt Road (N. of Lone Pine)	52	Design	\$155,000
	Middlebelt Road (S. of Square Lake)	53	Design	\$69,000
	14 Mile Road (E. of Middlebelt Road)	9	Design/ Construction	\$98,000
	Cooley Lake & Hunt Roads (E. of Williams Lake)	44	Construction	\$106,000
	Cooley Lake & Hunt Roads (E. of Williams Lake)	54	Construction	\$198,000
	Haggerty Road (South of Maple Road)	15	Construction	\$90,000
	Haggerty/ Maple Roads (Northwest Corner)	16	Construction	\$171,000
	Annual Segment Maintenance			\$56,000
			Total	\$943,000

YEAR	LOCATION	SEGMENT #	DESIGN/ CONSTRUCTION	ESTIMATED COSTS
2010	Walnut Lake Road (S. of Inkster Road)	3	Design	\$18,000
	Middelbelt Road (N. of Lone Pine)	52	Construction	\$573,000
	Middlebelt Road (S. of Square Lake)	53	Construction	\$256,000
	Annual Segment Maintenance			\$59,000
				Total
2011	14 Mile Road (W. of Drake Road)	13	Design/ Construction	\$111,000
	Willow Road (E. of Weathervane Road)	43	Design/ Construction	\$13,000
	Orchard Lake Road (W. of Middlebelt)	56	Design/ Construction	\$46,000
	Middlebelt Road (S. of Square Lake Road)	51	Design	\$234,000
	Farmington Road (Potomic to Farview)	57	Design/ Construction	\$10,000
	Greer Road (West of Hiller Road)	61	Design/ Construction	\$38,000
	Lochaven Road (S. Hunt Road)	45	Design/ Construction	\$122,000
	Annual Segment Maintenance			\$61,000
				Total

For each program year, Table I-B identifies the approximate time frames proposed for each significant task. Depending on the number of easements required or the complexity of permit requirements this general task schedule could be amended.

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PROGRAM
PROGRAM TASK SCHEDULE
TABLE I-B**

TASK	START DATE (APPROXIMATE.)	COMPLETION (APPROXIMATE.)
SURVEY	September	October
DESIGN	October	December
EASEMENT ACQUISITION	November	March
MAINTENANCE EVALUATION	March	April
BID/ PROJECT AWARD	March	May
CONSTRUCTION	June	August

The approved Safety Path Construction program also includes a yearly safety path routine maintenance component. There are approximately 61 miles of existing safety paths along the arterial roadway system. The projected revenues allow for up to \$50,000 to be programmed for existing safety path system maintenance over the 15 years of the millage program. Maintenance revenues would increase at 4 to 4-1/2% per year consistent with the construction program.

Routine maintenance will typically include the following:

- Replacement of damaged or hazardous segments of safety path.
- Existing boardwalk and/or bridge safety path segment repair.
- Annual sweeping and tree/brush trimming on and along safety paths.

While it is not anticipated that any survey or design effort will be required for the maintenance component of the program, construction inspection of the contractors work effort will be required to assure proper completion and to document contractor payments.

Routine maintenance can either be competitively bid with the program year construction, or provided through the Township's maintenance contractor, depending on the amount and type of services that are needed to be performed for that year. It should also be noted that snow removal is not currently being performed during the winter season.

It is recommended that the Safety Path segment ranking be updated every two (2) years through the duration of the program. This evaluation would take place in the fall after the years' construction program has been completed. New private developments, petitions from residents, road projects, new facilities, etc. will all have an impact on remaining safety path segment rankings. This evaluation would be provided in the form

of an abbreviated, amended report to the Township Board with an updated segment ranking table. The five (5) year-construction schedule would likewise be updated on this two (2) year cycle.

In addition, it is possible that some adjustments to design or construction schedules will also be required should unforeseen conditions be encountered during the design process. Township administration will be apprised if they occur.

II. PRIORITIZATION SYSTEM DEVELOPMENT

The first step in the development of the Pedestrian Safety Path Program was to catalog the proposed linkage segments, develop objective criteria categories, and apply weighting factors to each of the criteria.

A. Segment Determination

The segments within the program were broken down based on potential construction segment lengths and their locations from the segment completion map approved by the voters. With the millage determining the amount of revenue available each year, segment determinations were made based on practical constructable lengths given past installation costs and construction methods. Segments were also grouped into “difficult” or “easy” segments. “Difficult” segments were those with severe topographic grade change or the existence of wetlands that would necessitate the use of either boardwalks or bridge structures to complete the segment. Additionally, the desire to provide a continuous network along one side of the roadway was a key factor in determining individual segment length in the overall segment selections.

The safety path segments have been broken into 62 segments based on the above rationale. Seven (7) additional segments are also included within the numbered segment total. These segments, which were not included in the original voter approved millage were found during recent field investigations of the existing 61 miles of safety path network and are delineated on the updated inventory map of the safety path network, included herein.

B. Prioritization Criteria Categories

A list of criteria categories was then developed to represent the most important factors in determining the construction prioritization of the various safety path segments. Ten (10) categories were chosen as the most significant criteria for determining segment prioritization. These ten (10) categories were then reviewed with the Township administration and approved for use in the prioritization process. The criteria are summarized as follows in no particular order of importance:

- Access to Schools
- Desire of Segment Completion
- Ease of Construction
- Other Funding Sources
- Places of Worship/ Parks/ Civic Buildings
- Population Density
- Private Development Potential
- Right-of-Way Availability
- Safety Issues
- Segment Completion

A complete description of each criteria category is included in Table II-A. A scoring range was established for each criteria to aid in either the field and office evaluation of each segment (Table II-C). This “scoring sheet” was then utilized for each safety path segment in the program to keep the field work as objective as possible.

C. Prioritization Criteria Weighting

The final step in developing an objective prioritization method was to establish weighting factors for each criteria category. Input from the Townships Trustees, Administrative staff, and consultants were used to develop the weighting factors. The methodology utilized included compiling and averaging all individual input for each of the categories (1-10) from most to least important. Second, weighting factors were determined for category 1 (being most important) to category 10 (least important). This process also included determining a representative and appropriate ratio of the most to least important category. It was determined that a ratio of 0.7 (most important) to 0.1 (least important) would be used based on the weighting feedback received. This means that the most important category is weighted seven (7) times higher than the least important category. The results of the weighting factors for the ten (10) criteria are summarized in rank order in Table II-B.

Table II-C illustrates the final inventory template used by field and office staff to evaluate each safety path segment.

**WEST BLOOMFIELD TOWNSHIP SAFETY PATH
SAFETY PATH PROGRAM
PRIORITIZATION CRITERIA CATEGORIES
TABLE II-A**

CATEGORY	DESCRIPTION
ACCESS TO SCHOOLS	Greater access to schools within a given area would be obtained once the proposed segment has been constructed. The number of schools within a one (1) square mile area of the proposed segment would be used. Those segments that allow for a greater access to the number of schools would be given higher points.
DESIRE OF SEGMENT COMPLETION	Desire of Township (through resident petitions, requests to Township administrative staff and other agencies) for installation of the segment will be evaluated. Those segments with the greatest interest / desire would be given higher points.
EASE OF CONSTRUCTION	The methods needed for construction of the safety path, including topography, environmental, bridges, and elevated boardwalk versus flat linear pathway. Those segments with the least amount of great grade change/ special construction methods would be given higher points.
OTHER FUNDING SOURCES	Other funding means or planned improvements for the proposed safety pathway segment outside of the planned millage. Such means could include: County, State, Federal sources, private funding, grants or combined program costs with other area projects. Those segments which have other funding means which reduce the percent of overall construction costs would be given higher points.
PLACES OF WORSHIP/ PARKS/ CIVIC BUILDINGS	The location of the proposed safety path in relation to existing places of worship/ park areas and civic buildings. Area of review would be the number of facilities within one (1) mile square of influence in each direction. Those segments with a higher number of facilities would be given higher points.
POPULATION DENSITY	The approximate number of resident / developments within a given area of the proposed safety path. Area of review for each segment would be a 1/4 section north / south & east / west of the planned segment. Those segments with higher density/ full development would be given higher points.
PRIVATE DEVELOPMENT POTENTIAL	Segments for which future development is in the planning stages and a safety path is planned within the millage program along the frontage of the planned development. The number of years for potential development to take place would be used towards the potential. Those segments with the <u>least</u> potential for development to take place would be given higher points.
RIGHT-OF-WAY AVAILABILITY	The availability of existing right-of-way for construction of and placement of, the safety path. Those segments with the <u>least</u> amount of right-of-way necessary for construction would be given higher points.
SAFETY ISSUES	Documented traffic incidences (car / pedestrian) through Township TIA (Transportation Improvement Association for Oakland County) for the proposed segments. Traffic volumes along road segments. Those segments with a larger number of traffic incidences and higher traffic volumes will be given greater points.
SEGMENT COMPLETION	Segment that allows for a greater continuous safety path network upon completion. The distance completed within each direction in miles would be used. Those segments that allow for a larger continuous safety path network would be given higher points.

**WEST BLOOMFIELD TOWNSHIP SAFETY PATH
SAFETY PATH PROGRAM
CRITERIA CATEGORIES - WEIGHTED
TABLE II-B**

CRITERIA CATEGORY	WEIGHTING
SAFETY ISSUES	0.70
DESIRE OF SEGMENT COMPLETION	0.45
EASE OF CONSTRUCTION	0.40
RIGHT-OF-WAY AVAILABILITY	0.40
SEGMENT COMPLETION	0.35
PLACES OF WORSHIP/ PAKS/ CIVIC BUILDINGS	0.30
POPULATION DENSITY	0.30
ACCESS TO SCHOOLS	0.25
PRIVATE DEVELOPMENT POTENTIAL	0.10
OTHER FUNDING SOURCES	0.10

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PROGRAM
PRIORITIZATION CRITERIA RANKING INVENTORY
TABLE II-C**

Date _____

Location# _____

LOCATION _____
CROSS STREETS _____

DESCRIPTION CATEGORY	WEIGHTED CRITERIA	RATING (POINTS)			POINTS SUB-TOTAL
DESIRE OF SEGMENTS COMPLETION	0.45	1	5	10	
		MINIMAL		LARGE	
SAFETY ISSUES	0.70	1	5	10	
		NONE		2 OR MORE	
RIGHT-OF-WAY AVAILABILITY	0.40	1	5	10	
		NONE		AVAILABLE	
EASE OF CONSTRUCTION	0.40	1	5	10	
		DIFFICULT		EASY	
SEGMENT COMPLETION	0.35	1	5	10	
		LESS THAN 1/2 MILE	1/2 MILE	MORE THAN 1 MILE	
ACCESS TO SCHOOLS	0.25	1	5	10	
		NONE		2 OR MORE	
POPULATION DENSITY	0.30	1	5	10	
		LOW DENSITY		HIGH DENSITY	
PLACES OF WORSHIP/ PARKS / CIVIC BUILDINGS	0.30	1	5	10	
		NONE		2 OR MORE	
OTHER FUNDING SOURCES	0.10	1	5	10	
		NONE		HIGH % OF ALTERNATIVE FUNDING	
PRIVATE DEVELOPMENT POTENTIAL	0.10	1	5	10	
		LESS THAN 5 YEARS	IN 6-10 YEARS	GREATER THAN 11 YEARS	

LENGTH OF SEGMENT COMPLETED _____

TOTAL POINTS SUMMARY _____

LENGTH DIFFICULT TO CONSTRUCT _____

COMMENTS _____



III. SEGMENT RANKING INVENTORY

Utilizing the Ranking Inventory Sheets, SDA staff evaluated each safety path segment. This evaluation was performed both in the field and by researching existing documentation in the office. Staff completed Inventory Sheets for each proposed segment of safety path by scoring each category using the Point Rating System on the Inventory Sheet. Pictures were obtained to further clarify each segment and the general conditions of the existing topography within the segment location. Weighting was applied to each category and the segments were tabulated based on the overall points generated by segment. Table III-A is a summary of the 62 segments sorted by total generated points. This table also includes segment location and length.

An updated Segment Completion Plan is included locating each of the 62 segments proposed for the program. The base information included with this plan shows the arterial road network with existing safety path segments along with proposed segments to be completed, distinguished the “difficult” segment. Segment numbering has been applied as a reference tool for program planning into the future. The additional field identified segments are denoted with an additional circle on the numbered segment. The abandoned railroad turned trail system that crosses the Township from west to east has partially been delineated as existing. Segment recommendations for construction of the first five (5) years of the Safety Path Program are also identified on this plan and further addressed in Section V.

Appendix A includes the final individual Inventory Sheets with total points summarized for each segment, sorted by segment number. Representative pictures have been taken and included for each segment. Segment inventory number, segment location, nearest cross streets, length of difficult pathway within the segment length, total overall segment length, and the points total are included for each Inventory Sheet.

Information with regard to the ten (10) criteria categories is also graphically represented in the two additional maps in Appendix A. Map III-B includes locations for pathway petitions, schools, civic buildings and places of worship in relationship to the existing and proposed pathway segments. Map III-C includes traffic incidents, wetlands, woodlands, proposed major developments, and planned road improvements in relationship to the existing and proposed pathway segments. These maps were used to supplement the segment rating sheets for the various program segments found within Appendix A for the various segment categories.

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PRIORITIZATION SUMMARY
TABLE III-A**

Number Ranking	Segment Number	Location	Cross Streets	Difficult Segment Length (ft.)	Total Segment Length (ft.)	Total Points Summary
1	41	Richardson Road (North Side)	E. of Haggerty Rd.	1800'	2000'	22.3
2	2	Maple Road (South Side)	E. of Middlebelt Rd.	2000'	2150'	21.2
3	46	Hiller Road (East Side)	S. of Coomer Rd.	125'	3000'	20.8
4	5	Orchard Lake Road (West Side)	N. of Walnut Lake Rd.	0'	700'	20.35
5	4	Walnut Lake Road (South Side)	W. of Middlebelt Rd.	800'	1150'	20.05
6	25	Maple Road (South Side)	W. of Orchard Lake Rd.	0'	250'	19.5
7	44	Cooley Lake Road & Hunt Road (South Side)	W. of Lochaven	0'	2500'	19.45
8	54	Cooley Lake Road (South Side)	E. of Williams Lake Road	400'	3400'	19.45
9	52	Middlebelt Road (East Side)	N. of Lone Pine	2800'	4200'	19.05

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PRIORITIZATION SUMMARY
TABLE III-A**

Number Ranking	Segment Number	Location	Cross Streets	Difficult Segment Length (ft.)	Total Segment Length (ft.)	Total Points Summary
10	53	Middlebelt Road (East Side)	S. of Square Lake Road	1400'	1400'	19.05
11	9	14 Mile Road (North Side)	E. of Middlebelt, W. of Woodridge	0'	1800'	18.45
12	26	Maple Road (North Side)	E. of Orchard Lake Rd. to Tamerlane	400'	1150'	18.35
13	3	Walnut Lake Road (South Side)	W. of Inkster Rd.	300'	500'	18.1
14	13	14 Mile Road (North Side)	W. of Drake Rd.	50'	2100'	17.9
15	43	Willow Road (North Side)	E. of Weathervane Road	0'	300'	17.9
16	56	Orchard Lake Road (South Side)	West of Middlebelt	0'	810'	17.75
17	51	Middlebelt Road (East Side)	S. of Square Lake Rd., N. of Long Lake	4240'	5300'	17.45
18	57	Farmington Road (East Side)	Potomic to Farview	0'	230'	17.35

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PRIORITIZATION SUMMARY
TABLE III-A**

Number Ranking	Segment Number	Location	Cross Streets	Difficult Segment Length (ft.)	Total Segment Length (ft.)	Total Points Summary
19	61	Greer Road (South Side)	W. of Hiller Rd.	0'	860	17
20	55	Long Lake Road (South Side)	Pine Center Dr. to Middlebelt Rd.	180'	664'	16.7
21	45	Lochaven Road (West Side)	S. of Hunt Rd.	0'	2150'	16.5
22	38	Oakley Park Road (South Side)	E. of Woodlore to Twin Beach Elementary School	1710'	1900'	16.45
23	7	Inkster Road (West Side)	S. of Maple, N. of Beacon Hill Dr.	300'	3400'	16.2
24	1	Orchard Lake Road (West Side)	N. of Walnut Lake Rd.	1000'	1250'	15.85
25	14	Halstead Road (West Side)	N. of 14 Mile Rd.	3000'	3100'	15.85
26	47	Commerce Road (North Side)	E. of Hiller Rd.	2065'	2950'	15.6
27	37	Pontiac Trail (South Side)	E. of Halstead Rd.	250'	1250'	15.5

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PRIORITIZATION SUMMARY
TABLE III-A**

Number Ranking	Segment Number	Location	Cross Streets	Difficult Segment Length (ft.)	Total Segment Length (ft.)	Total Points Summary
28	58	Drake Road (East Side)	S. of Pine Tree Dr.	320'	300'	15.35
29	10	14 Mile & Northwester Highway	14 Mile (N'western Hwy. to Middlebelt), N'wester Hwy. (14 Mile to Middlebelt)	50'	1150'	15
30	27	Middlebelt Road (East Side)	S. of Walnut Lake Rd., N. of Maple Rd.	1150'	4300'	14.8
31	22	Maple Road (North Side)	W. of Farmington	100'	1100'	14.7
32	50	Middlebelt Road (East Side)	S. of Orchard Lake Rd., N. of Square Lake Rd.	1485'	3300'	14.25
33	6	Lone Pine (South Side)	E. of Middleton Rd., W. of Wabeek Forest	250'	1500'	13.6
34	15	Haggerty (East Side)	S. of Maple Rd.	200'	1500'	13.45
35	24	Maple Road (South Side)	Across from Bauervic Rd.	0'	300'	13.1
36	18	Maple Road (North Side)	E. of Halstead Rd. starting from Catholic Chaldean Church	200'	850'	13

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PRIORITIZATION SUMMARY
TABLE III-A**

Number Ranking	Segment Number	Location	Cross Streets	Difficult Segment Length (ft.)	Total Segment Length (ft.)	Total Points Summary
37	42	Willow Road (South Side)	W. of Alden Rd.	630'	700'	12.9
38	8	Inkster Road (West Side)	Beacon Hill Dr. to S. Twp Limits	400'	2000'	12.85
39	17	Maple Road (South Side)	Crest Top Rd. to Maple Elementary School Driveway	500'	600'	12.8
40	16	Haggerty (East Side) & Maple (North Side)	Haggerty (N. of Maple), Maple (E. of Haggerty)	900'	1200'	12.5
41	28	Walnut Lake Road (North Side)	N. from Halstead to Pleasant Lake Rd.	2700'	2700'	12.5
42	39	Haggerty (East Side) & Oakley Park (South Side)	Haggerty S. of Oakley Park, Oakley Park E. of Haggerty	100'	600'	12.5
43	19	Maple Road (South Side) & Drake (West Side)	E. & W. of Drake on Maple, S. of Maple on Drake	500'	2900'	12.4
44	12	14 Mile Road (North Side)	W. of Farmington Rd. in front of Comerica Bank and Compuware	0'	400'	11.75
45	35	Pontiac Trail (North Side)	E. of Lake Crest Dr.	0'	200'	11.6

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PRIORITIZATION SUMMARY
TABLE III-A**

Number Ranking	Segment Number	Location	Cross Streets	Difficult Segment Length (ft.)	Total Segment Length (ft.)	Total Points Summary
46	31	Haggerty Road (East Side)	N. of Walnut Lake Rd., S. of Pontiac Trail	0'	1100'	11.4
47	59	14 Mile Road (North Side)	W. of Camelot Dr.	1917'	2130'	11.4
48	49	Willow Road (South Side)	E. of North Shore Dr., W. of Hiller Rd.	600'	1300'	11
49	48	Willow Road (South Side)	E. of Elizabeth Ln.	0'	400'	10.95
50	11	14 Mile Road (North Side)	W. of Finnegan	675'	2100'	10.85
51	29	Walnut Lake Road (South Side)	E. of Haggerty	25'	1400'	10.7
52	30	Haggerty Road (East Side)	S. of Walnut Lake Rd.	400'	2600'	10.65
53	23	Maple (South Side) & Farmington (East Side)	Maple E. of Farmington, Farmington S. of Maple	400'	1600'	10.3
54	40	Haggerty Road (East Side)	S. of Richardson, N. of Oakley Park Road	540'	2700'	9.3

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH PRIORITIZATION SUMMARY
TABLE III-A**

Number Ranking	Segment Number	Location	Cross Streets	Difficult Segment Length (ft.)	Total Segment Length (ft.)	Total Points Summary
55	34	Pontiac Trail (South Side)	E. of South River Ridge Dr.	600'	600'	9.1
56	32	Pontiac Trail (South Side)	E. of Haggerty Rd.	0'	1600'	8.85
57	20	Maple Road (South Side)	E. and W. of Nashway	1235'	1300'	8.65
58	36	Pontiac Trail (North Side)	E. of Haggerty Rd.	0'	500'	8.5
59	21	Maple Road (South Side)	W. of Shadowwood	200'	200'	8.25
60	62	Haggerty Road (East Side)	N. of Pontiac Trail	650'	815'	8.2
61	33	Pontiac Trail (South Side)	W. of South River Ridge Dr.	1260'	2100'	8
62	60	Maple Road (South Side)	E. of Haggerty Rd.	375'	960'	7.1

Safety Path Map A

IV. MILLAGE REVENUES

Funding for the Pedestrian Safety Path Connection Program is anticipated to be obtained through the levy of up to two-tenths (0.20) of one (1) mill for up to 15 years.

As previously stated, the program includes two components: First, the construction of up to 18 miles of 8 foot wide bituminous asphalt pathways, at-grade and elevated boardwalk, or bridge structures to complete linkages in an effort to achieve a continuous pedestrian system along the major arterial roadways in West Bloomfield Township. Second, a yearly budget is established for maintenance of the existing and constructed Safety Path System.

The budget for the program was estimated at \$7.01 million in 2004 dollars, which included allocations for engineering, construction and land (easement) acquisition. An additional \$960,000 was established for annual safety path maintenance of the existing and expanded system over the next 15 years. This amounts to total anticipated program expenditures of \$7.99 million in 2004 dollars.

The Township's Finance Department has provided a breakdown of program funding through millage revenues which is outlined in Table IV-A. The Finance Department has indicated that the program will be funded solely through the yearly generated millage and that the sale of bonds is not contemplated. The initial five (5)-year construction program has been based on these revenue projections.

It is estimated that \$746,000 will be generated in the first year of the millage, of which approximately \$50,000 will be used towards development of the overall program prioritization and summary report. This will leave approximately \$696,000 available for design, easement acquisition, and construction for the 2006 construction season. Based on projections provided by the Township's Finance Department, program revenues which are based on taxable value will increase yearly by approximately 4% to \$1,217,000 in year 2020, the program's final construction year.

The development of yearly design and construction projects will be based on the available revenue stream from the Township's millage. Section V will detail the first five (5) years of construction, but it is understood that a year-to-year accounting of program revenues will need to be made and that some program adjustments will be necessary year-to-year to fully utilize projected revenues.

**WEST BLOOMFIELD TOWNSHIP
SAFETY PATH CONSTRUCTION AND MAINTENANCE FUND
TABLE IV-A**

YEAR	2006	2007	2008	2009	2010	2011	2012	2013
*Estimated Taxable Value	\$3,806,883,600	\$3,959,158,944	\$4,117,525,302	\$4,302,813,940	\$4,496,440,568	\$4,698,780,393	\$4,910,225,511	\$5,131,185,659
Estimated Increase in Taxable Value Each Year	4.00%	4.00%	4.00%	4.50%	4.50%	4.50%	4.50%	4.50%
**Estimated Millage Rate (net of rollback)	0.2000	0.1980	0.1960	0.1941	0.1921	0.1902	0.1883	0.1864
Total Revenue	\$746,149	\$768,235	\$790,894	\$818,473	\$846,491	\$875,834	\$906,104	\$937,324

Subtotals (Approximate Funding)

Design/ Construction	\$696,149	\$716,235	\$736,894	\$762,473	\$787,491	\$814,834	\$843,104	\$872,324
Maintenance	\$ 50,000	\$ 52,000	\$ 54,000	\$ 56,000	\$ 59,000	\$ 61,000	\$ 63,000	\$ 65,000

YEAR	2014	2015	2016	2017	2018	2019	2020
*Estimated Taxable Value	\$5,362,089,014	\$5,603,383,019	\$5,883,552,170	\$6,177,729,779	\$6,486,616,268	\$6,810,947,081	\$7,151,494,435
Estimated Increase in Taxable Value Each Year	4.50%	4.50%	5.00%	5.00%	5.00%	5.00%	5.00%
**Estimated Millage Rate (net of rollback)	0.1845	0.1827	0.1809	0.1791	0.1773	0.1755	0.1737
Total Revenue	\$969,519	\$1,003,263	\$1,043,048	\$1,084,303	\$1,127,076	\$1,171,415	\$1,217,370

Subtotals (Approximate Funding)

Design/ Construction	\$901,835	\$933,882	\$ 970,291	\$1,008,103	\$1,052,363	\$1,089,117	\$1,132,715
Maintenance	\$ 68,000	\$ 70,000	\$ 73,000	\$ 76,000	\$ 79,000	\$ 82,000	\$ 85,000

Financial Information West Bloomfield Township, Finance Department

*Taxable value of West Bloomfield Township Property 2004 estimated at \$3,660,465,000

**Property Taxes (98.0% collection of total levy)



V. PROGRAM COSTS AND 5-YEAR DESIGN CONSTRUCTION PLAN

Estimated project costs for the Pedestrian Safety Path Connection Program have been grouped into two (2) broad categories:

1. At grade eight (8)-foot wide asphalt pathway at an average cost of \$49 per linear foot.
2. Elevated eight (8)-foot wide wooden boardwalk at an average cost of \$200 per linear foot.

The “unit” pricing identified above is based on 2005 construction comparables. For purposes of projecting future construction costs for the project, a 4% cost of inflation will be utilized. Allocated costs for project survey, design, project staking, construction engineering (inspection and construction administration) and a construction contingency have been estimated based on recent safety path projects and an industry evaluation. These project costs are identified in the following Table V-A Safety Path Project Costs, primarily as a “percentage of construction cost” for the program. It should be noted that actual design and construction costs could vary from these averages and standard percentages based on specific site conditions.

It is estimated that land acquisition costs (easement acquisition) will account for approximately 20% of the actual construction costs, averaged over all segments of the Safety Path Program. Easement requirements will vary by segment, some requiring minimal or no easements, others requiring easements along the entire length. Further, the location and size of each easement, in addition to the amount of disruption for construction, will have a direct impact on the final costs for each easement, within a given segment. The land acquisition cost will include the preparation of legal descriptions, appraisals and acquisition costs (easement negotiations). Although it is believed friendly negotiations will result in the Township securing most easements, it is possible that some may need to be secured through condemnation. An allocation for condemnation has been made in the overall easement acquisition cost structure, however, should condemnation be necessary a separate budgeting of these costs will need to be made due to the unknown costs for these services which can vary significantly from case-to-case. Overall program budgeting may be impacted by condemnation costs and adjustments in the annual program budget will need to be reviewed.

A Five (5)-Year Project Budgeting Plan (Table V-B) has been developed for segment construction based on the prioritization results, re-prioritization due to other jointly planned projects (see below), and the expected revenues available for the program balanced against the projected segment project costs. Yearly construction programs, which may contain one or more project segment, will be competitively bid and estimated project costs have been established on that basis.

The costs of construction and maintenance within the first five (5) years are based on a 4% rate of inflation. It should be noted that changes in costs for right-of-way and construction materials can affect the actual costs in a given year. Should the Township see a significant change over the course of the planned program, adjustments to the planned segments and methods for construction should be re-evaluated. It is recommended that the projected costs be re-evaluated annually, in order to ensure projected revenues and planned costs remain consistent.

Consideration has been given to building some of the safety path segments jointly with other planned road improvement projects (Road Commission for Oakland County, etc.) to achieve a cost savings for the Township and to minimize construction impacts. Budgeting for the design and construction of safety path segments proposed within these planned road improvement areas have been re-prioritized for those segments which fall into the 5-year plan and are reflected in Table I-A. Locations where this joint participation has been noted include the Northwestern Connector and Roundabout Program along Maple and Fourteen Mile Roads. Within these areas, segment design and/or construction has been shifted to allow for segment funding to coincide with the funding for design and construction of planned road improvements. The following list of planned projects and impacted safety path segments is provided:

	<u>Planned Road Improvement Project</u>	<u>Segment Impacted</u>	<u>Program Year</u>
1	Round-About Program – 14 Mile/ Farmington	12	2006
2	Round-About Program – Maple/ Drake	19	2006
3	Round-About Program – Maple/ Farmington	22 & 23	2008
4	Northwestern Connector – 14 Mile/ Orchard Lake	10	2008
5	Northwestern Connector – Maple/ Orchard Lake	25 & 26	2008
6	Round-About Program – Maple/ Haggerty	15 & 16	2009

Safety path maintenance will be completed annually within the program on the existing safety path network. Routine maintenance will typically include the following:

- Replacement or patching of damaged or hazardous segments of safety path.
- Existing boardwalk and/or bridge safety path segment repair.
- Annual sweeping and tree/brush trimming on and along safety paths.

Dependent on the type and amount of maintenance required from year to year the Township may want to competitively bid (combined with new safety path construction bidding) or use an existing Township contractor for the completion of this work.

It should be noted that safety path maintenance work has historically been completed by a Township retained contractor. With the type of maintenance anticipated throughout the existing system, utilization of the Townships contractor has been beneficial. Maintenance repair activities have been relatively small in size and staggered throughout the existing safety path network. As the system ages however,

more extensive repairs may warrant construction through a competitive bid process. It is recommended that a yearly evaluation of safety path maintenance needs to be performed in early spring to determine the years' budget and construction process.

Historically, approximately \$50,000 has been expended annually, with the new safety path program anticipated to retain this annual allocation over the 15 years of the millage program beginning in year 2006. While it is not anticipated that survey or design efforts will be required for the maintenance component of the program, construction inspection of the contractor's work effort will be required to assure proper completion and to document contractor payments.

It is further recommended that the safety path segment ranking be updated every two (2) years through the duration of the program. This evaluation would take place in the fall after the years construction program has been completed. New private developments, petitions from residents, road projects, new facilities, etc., will all have an impact on remaining segment rankings. This evaluation would be provided in the form of an abbreviated, amended report to the Township Board with an updated segment ranking table. This re-evaluated ranking will provide the Township the basis for scheduling segments for design and construction for the subsequent program year. Additionally, the five (5) year-construction schedule would likewise be updated on this two (2)-year cycle, thereby assuring that updated ranking of the remaining segments has been addressed.

**WEST BLOOMFIELD TOWNSHIP
NON-MOTORIZED PATHWAY PROGRAM
SAFETY PATH PROJECT COSTS
TABLE V-A**

DESCRIPTION	* PROGRAM PERCENTAGE	**TOTAL PROJECT COSTS
PATHWAY CONSTRUCTION		\$ 4,622,000
ENGINEERING (SURVEY, DESIGN, INSPECTION, BIDDING AND ADMINISTRATION)	22%	\$ 1,017,000
RIGHT-OF-WAY (EASEMENT ACQUISITION AND LEGAL)	20%	\$ 925,000
MAINTENANCE PROGRAM (EXISTING PATHWAY ANNUAL MAINTENANCE)		\$ 960,000
CONTINGENCY (PROJECT & ADMINSTRATIVE COSTS)		\$ 466,000
TOTAL		\$ 7,990,000

* As a Percentage of Construction Cost
 ** Based on 2004 Dollars

**WEST BLOOMFIELD TOWNSHIP
5 YEAR PROJECT BUDGETING PLAN
TABLE V-B**

Program Year	Seg Num	Segment Location	Segment (Difficult Length) FT.	Segment Total Length FT.	Program Costs		Revenue	Balance
					Design	Construction		
2005	Program Evaluation, Prioritization and Recommendation				\$ 50,000		0	\$ 50,000
2006	2006 Millage Proceeds Received						\$ 746,000	\$ 696,000
	41	Richardson Road (E. of Haggerty Road)	1800	2000	\$ 89,000			\$ 607,000
	2	Maple Road (E. of Middlebelt Road)	2000	2150	\$ 99,000			\$ 508,000
	46	Hiller Road (S. of Coomer Rd.)	125	3000	\$ 37,000	\$ 130,000		\$ 341,000
	5	Orchard Lake Road (W. of Walnut Lake Road)	0	700	\$ 7,000	\$ 27,000		\$ 307,000
	12	14 Mile (Northside) W. of Farmington	0	400		\$ 15,000		\$ 292,000
	19	Maple (Southside) & Drake (West)/ SW corner of Maple/ Drake	500	2900		\$ 176,000		\$ 116,000
	Existing Pathway Maintenance					\$ 50,000		\$ 66,000

**WEST BLOOMFIELD TOWNSHIP
5 YEAR PROJECT BUDGETING PLAN**

TABLE V-B

Program Year	Seg Num	Segment Location	Segment (Difficult Length) FT.	Segment Total Length FT.	Program Costs		Revenue	Balance
					Design	Construction		
2007	2007 Millage Proceeds Received						\$ 768,000	\$ 768,000
	Estimated Balance Forwarded from 2006						\$ 66,000	\$ 834,000
	4	Walnut Lake Road (W. of Middlebelt Road)	800	1150	\$ 44,000			\$ 790,000
	41	Richardson Road (E. of Haggerty Road)	1800	2000		\$ 329,000		\$ 461,000
	2	Maple Road (E. of Middlebelt Road)	2000	2150		\$ 363,000		\$ 98,000
	Existing Pathway Maintenance					\$ 52,000		\$ 46,000
	Estimated Balance Forwarded							\$ 46,000

**WEST BLOOMFIELD TOWNSHIP
5 YEAR PROJECT BUDGETING PLAN
TABLE V-B**

Program Year	Seg Num	Segment Location	Segment (Difficult Length) FT.	Segment Total Length FT.	Program Costs		Revenue	Balance
					Design	Construction		
2008	2008 Millage Proceeds Received						\$ 791,000	\$ 791,000
	Estimated Balance Forwarded from 2007						\$ 46,000	\$ 837,000
	44	Cooley Lake & Hunt Roads (E. of Willaims Lake Road)	0	2500	\$ 29,000			\$ 808,000
	54	Cooley Lake & Hunt Roads (E. of Willaims Lake Road)	400	3400	\$ 54,000			\$ 754,000
	4	Walnut Lake Road (W. of Middlebelt Road)	800	1150		\$150,000		\$ 604,000
	22	Maple Road (Northside) (West of Franklin)	100	1100		\$ 58,000		\$ 546,000
	23	Maple (Southside) & Farmington (East)/ SW corner of Maple/ Farmington	400	1600		\$ 117,000		\$ 429,000
	10	14 Mile & Northwestern Hwy. Intersection 14 Mile/ Middlebelt	50	1150		\$ 54,000		\$ 375,000
	25	Maple Road (W. of Orchard Road)	0	250		\$ 10,000		\$ 365,000
	26	Maple Road (E. of Orchard Lake Road)	400	1150		\$ 99,000		\$ 266,000
	Existing Pathway Maintenance					\$ 54,000		\$ 212,000
	Estimated Balance Forwarded							\$ 212,000

**WEST BLOOMFIELD TOWNSHIP
5 YEAR PROJECT BUDGETING PLAN
TABLE V-B**

Program Year	Seg Num	Segment Location	Segment (Difficult Length) FT.	Segment Total Length FT.	Program Costs		Revenue	Balance
					Design	Construction		
2009	2009 Millage Proceeds Received						\$ 818,000	\$ 818,000
	Estimated Balance Forwarded from 2008						\$ 212,000	\$ 1,030,000
	52	Middlebelt Road (N. of Lone Pine)	2800	4200	\$ 155,000			\$ 875,000
	53	Middlebelt Road (S. of Square Lake Road)	1400	1400	\$ 69,000			\$ 806,000
	9	14 Mile Road (E. of Middlebelt Road)	0	1800	\$ 22,000	\$ 76,000		\$ 708,000
	44	Cooley Lake & Hunt Roads (E. of Willaims Lake Road)	0	2500		\$ 106,000		\$ 602,000
	54	Cooley Lake & Hunt Roads (E. of Willaims Lake Road)	400	3400		\$ 198,000		\$ 404,000
	15	Haggerty (Eastside) South of Maple	200	1500		\$ 90,000		\$ 314,000
	16	Haggerty/ Maple (Northwest Corner)	900	1200		\$ 171,000		\$ 143,000
	Existing Pathway Maintenance					\$ 56,000		\$ 87,000
	Estimated Balance Forwarded							\$ 87,000

**WEST BLOOMFIELD TOWNSHIP
5 YEAR PROJECT BUDGETING PLAN
TABLE V-B**

Program Year	Seg Num	Segment Location	Segment (Difficult Length) FT.	Segment Total Length FT.	Program Costs		Revenue	Balance
					Design	Construction		
	2010 Millage Proceeds Received						\$ 846,000	\$ 846,000
2010	Estimated Balance Forwarded from 2009						\$ 87,000	\$ 933,000
	3	Walnut Lake Road (S. of Inkster Road)	300	500	\$ 18,000			\$ 915,000
	52	Middlebelt Road (N. of Lone Pine)	2800	4200		\$ 573,000		\$ 342,000
	53	Middlebelt Road (S. of Square Lake Road)	1400	1400		\$ 256,000		\$ 86,000
	Existing Pathway Maintenance					\$ 59,000		\$ 27,000
	Estimated Balance Forwarded							\$ 27,000

**WEST BLOOMFIELD TOWNSHIP
5 YEAR PROJECT BUDGETING PLAN
TABLE V-B**

Program Year	Seg Num	Segment Location	Segment (Difficult Length) FT.	Segment Total Length FT.	Program Costs		Revenue	Balance
					Design	Construction		
2011	2011 Millage Proceeds Received						\$ 875,000	\$ 875,000
	Estimated Balance Forwarded from 2010						\$ 27,000	\$ 902,000
	13	14 Mile Road (W. of Drake Road)	50	2100	\$ 31,000	\$ 111,000		\$ 760,000
	43	Willow Road (E. of Weathervane Road)	0	300	\$ 4,000	\$ 13,000		\$ 743,000
	56	Orchard Lake (Southside) West of Middlebelt	0	810	\$ 10,000	\$ 36,000		\$ 697,000
	51	Middlebelt Road (S. of Square Lake Road)	4300	5300	\$ 234,000			\$ 463,000
	57	Farmington Rd (Potomic to Farview)	0	230	\$ 3,000	\$ 10,000		\$ 450,000
	61	Greer Road (West of Hiller Road)	0	860	\$ 11,000	\$ 38,000		\$ 401,000
	45	Lochaven Road (S. Hunt Road)	0	2,150	\$ 27,000	\$ 95,000		\$ 279,000
	Existing Pathway Maintenance					\$ 61,000		\$ 218,000
	Estimated Balance Forwarded							\$ 218,000