

Benefit Cost Analysis - Main Street Revitalization Project

Project Year	Total Benefit*		Total Cost		Net Benefit		Discounted NPV Benefits	
							7%	3%
0	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	
1	\$ 528,500	\$ -	\$ 4,794,707	\$ (4,266,207)	\$ (3,987,109)	\$ (4,141,948)	\$ (4,141,948)	
2	\$ 953,500	\$ -	\$ 7,093,505	\$ (6,140,005)	\$ (5,362,918)	\$ (5,787,544)	\$ (5,787,544)	
3	\$ 862,565	\$ -	\$ 2,087,434	\$ (1,224,869)	\$ (999,858)	\$ (1,120,929)	\$ (1,120,929)	
4	\$ 2,899,999	\$ -	\$ -	\$ 2,899,999	\$ 2,212,396	\$ 2,576,612	\$ 2,576,612	
5	\$ 2,279,825	\$ -	\$ -	\$ 2,279,825	\$ 1,625,484	\$ 1,966,597	\$ 1,966,597	
6	\$ 1,613,061	\$ -	\$ -	\$ 1,613,061	\$ 1,074,851	\$ 1,350,913	\$ 1,350,913	
7	\$ 1,793,028	\$ -	\$ -	\$ 1,793,028	\$ 1,116,608	\$ 1,457,896	\$ 1,457,896	
8	\$ 3,590,272	\$ -	\$ -	\$ 3,590,272	\$ 2,089,571	\$ 2,834,194	\$ 2,834,194	
9	\$ 2,537,336	\$ -	\$ -	\$ 2,537,336	\$ 1,380,143	\$ 1,944,657	\$ 1,944,657	
10	\$ 1,158,061	\$ -	\$ -	\$ 1,158,061	\$ 588,700	\$ 861,706	\$ 861,706	
11	\$ 13,862,093	\$ -	\$ -	\$ 13,862,093	\$ 6,585,781	\$ 10,014,271	\$ 10,014,271	
12	\$ 13,631,904	\$ -	\$ -	\$ 13,631,904	\$ 6,052,728	\$ 9,561,143	\$ 9,561,143	
13	\$ 2,321,401	\$ -	\$ -	\$ 2,321,401	\$ 963,299	\$ 1,580,761	\$ 1,580,761	
14	\$ 1,392,126	\$ -	\$ -	\$ 1,392,126	\$ 539,891	\$ 920,359	\$ 920,359	
15	\$ 1,697,093	\$ -	\$ -	\$ 1,697,093	\$ 615,105	\$ 1,089,299	\$ 1,089,299	
16	\$ 1,338,001	\$ -	\$ -	\$ 1,338,001	\$ 453,227	\$ 833,798	\$ 833,798	
17	\$ 1,021,794	\$ -	\$ -	\$ 1,021,794	\$ 323,474	\$ 618,202	\$ 618,202	
18	\$ 1,021,794	\$ -	\$ -	\$ 1,021,794	\$ 302,312	\$ 600,196	\$ 600,196	
19	\$ 771,794	\$ -	\$ -	\$ 771,794	\$ 213,407	\$ 440,143	\$ 440,143	
20	\$ 1,021,794	\$ -	\$ -	\$ 1,021,794	\$ 264,051	\$ 565,742	\$ 565,742	
		\$ 13,975,646						
		Total aggregate benefits		\$ 42,320,295				
		Discounted net present total value				\$ 16,051,140 \$ 28,166,070		
		20 year cost benefit ratio				1.15 2.02		

*2019 dollars

BENEFITS (COSTS AVOIDED)

Expected REPAIR COST without BUILD Grant	Years\Period																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	
Main Street				\$ 2,087,434				\$ 2,087,434													\$ 4,174,868
Side Streets					\$ 1,217,260			\$ 1,217,260				\$ 1,217,260									\$ 3,651,779
7th Street						\$ 451,431			\$ 451,431				\$ 451,431								\$ 1,354,292
E Washington Ave							\$ 756,397			\$ 756,397					\$ 756,397						\$ 2,269,192
E Whiteaker Ave								\$ 566,208			\$ 566,208				\$ 566,208						\$ 1,698,623
N 7th Street								\$ 413,446			\$ 413,446										\$ 826,891
Benefits																					
<i>maintain freight route of main streets, reduce</i>																					
Woodson & Harrison bridges to maintain the freight route												\$ 12,125,000	\$ 12,125,000								
businesses		\$ 75,000			\$ 75,000			\$ 75,000			\$ 75,000			\$ 75,000			\$ 75,000			\$ 75,000	\$ 525,000
Water main replacements		\$ 175,000			\$ 175,000			\$ 175,000			\$ 175,000			\$ 175,000			\$ 175,000			\$ 175,000	\$ 1,225,000
Connections						\$ 150,000			150000			\$ 200,000			200000			\$ 200,000			\$ 900,000
DEQ fines due to combined sewer overflows			\$ 50,000			\$ 50,000			\$ 50,000			\$ 50,000			\$ 50,000			\$ 50,000			\$ 300,000
Storm drainage replacements per DEQ fines						\$ 95,000	\$ 170,000	\$ 50,000	\$ 70,000	\$ 70,000	\$ 40,000										\$ 495,000
fees		\$ 175,000	\$ 230,000	\$ 230,000	\$ 230,000	\$ 230,000	\$ 230,000	\$ 230,000													\$ 1,325,000
Cost of vehicle accidents, reducing by 50%	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 13,500	\$ 270,000
Avoid pedestrian deaths by replacing all sidewalks (1 death per 20 years)	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 10,000,000
Pedestrian injuries from uneven sidewalks	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 15,000	\$ 300,000
Economic improvements - (3) mixed use improvements on Whiteaker (5yr, 10yr, 15yr) @ \$7.5x10⁶ every 5 years results in tax revenue at \$7.2087/\$1000			\$ 54,065	\$ 54,065	\$ 54,065	\$ 108,131	\$ 108,131	\$ 108,131	\$ 108,131	\$ 108,131	\$ 162,196	\$ 162,196	\$ 162,196	\$ 162,196	\$ 162,196	\$ 243,294	\$ 243,294	\$ 243,294	\$ 243,294	\$ 243,294	\$ 2,730,295
																					\$ -
SUBTOTALS	\$ 528,500	\$ 953,500	\$ 862,565	\$ 2,899,999	\$ 2,279,825	\$ 1,613,061	\$ 1,793,028	\$ 3,590,272	\$ 2,537,336	\$ 1,158,061	\$ 13,862,093	\$ 13,631,904	\$ 2,321,401	\$ 1,392,126	\$ 1,697,093	\$ 1,338,001	\$ 1,021,794	\$ 1,021,794	\$ 771,794	\$ 1,021,794	\$ 56,295,941