



## MEMORANDUM

TO: Mayor and City Council  
FROM: Howard S. Lazarus, City Administrator  
DATE: April 3, 2019  
SUBJECT: Response to Council Resolution R-18-497 – Resolution to Address Crosswalk Improvements and Maintenance

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This memorandum is provided in response to approved Council Resolution [R-18-497](#) – Resolution to Address Crosswalk Improvements and Maintenance which directed the City Administrator to provide information about the cost to bring crosswalks into compliance with the crosswalk design guidelines. Specifically, the resolution states:

*Incorporate crosswalk infrastructure elements into the City's asset database and provide an estimate of the costs and schedule to bring significant crosswalks into substantial compliance with the guidelines. The cost and schedule data for the next two years will be presented as an attachment to the City Administrator's FY2020/2021 Financial Plan submittal to Council.*

Staff used the previously submitted "Draft Crosswalk Assessment" and added cost estimates, which show a 'typical' cost range to bring crosswalks into compliance with the targeted design standard. Of the 215 identified crosswalks:

- 139 crosswalks meet or exceed the target design and are not anticipated to need additional investment at this time.
- 63 crosswalks need further analysis and field verification to determine the existing design, the target design, or both. Staff will conduct this field work now that this compilation work and methodology has been completed. This work is expected to result in an increase to the estimates provided below.
- 13 crosswalks do not meet the target design. This analysis shows a **low-end estimate of \$148,687** and a **high-end cost estimate of \$557,153** to bring these crosswalks into compliance.

A few things to note about this estimate range:

- Costs vary widely because the exact treatment will be defined by the physical characteristics of the area and other relevant opportunities and constraints. The methodology for how these costs were derived is described in more detail below.
- While these costs are deemed reasonable by staff, it is important to re-emphasize that more detailed analysis will be warranted on a location-by-location basis and that this information is best used as a prioritization and programming tool.
- Estimates are based on the most recent costs available for these improvements. These costs have not been inflated for future years nor do they account for ongoing operations/maintenance or future replacement.

## Methodology for Crosswalk Cost Assignment

The methodology to develop these estimates is described below. It was developed in a stepwise fashion in which typical costs were developed (Attachment A) which informed cost ranges (Attachment B) which then was applied to the specific crosswalk location (Attachment C):

1. Device Cost Assignment (Attachment A) – recent expenditures on pedestrian enhancements were used to develop typical costs. Annual maintenance costs are also identified for informational purposes (note: this does not include replacement costs and other operation costs like electricity). The applicability of each device is also identified in the remaining fields based on the street type and crossing design type.
2. Treatment Cost Ranges (Attachment B) – the information from the “Device Cost Assignments” was then added up to determine a range of possible costs for each road type and crossing design type.
3. Crosswalk Cost Assignment (Attachment C) – the ranges from the Treatment Cost Ranges were then applied to the specific locations. Fields labeled as “Insufficient Data” or “Under Review” have costs identified as “TBD” since further investigation is warranted to determine the appropriate treatment.

In order to bring the identified crosswalks into substantial compliance with the crosswalk design guidelines, funding in the amount of **\$557,153** (the high-end cost estimate) will be programmed over the course of fiscal years 2020 and 2021 in the Washtenaw County Mental Health and Public Safety Millage budget. The high-end estimate is proposed because it provides greater flexibility to address cost increases and unforeseen engineering or construction challenges. Additionally, other locations (such as those ‘TBD’ crosswalks that require field verification) can be addressed if funds remain.

It is proposed that the improvements largely be completed with in-house staff resources with a focus to address the most deficient and high-risk crosswalk locations first. Based loosely on past implementation, staff believes it can address the deficient crosswalks over the course of the two identified fiscal years.

Lastly, we will continue to report in response to the additional items directed in the resolution. As always, please do not hesitate to contact me if I can be of further assistance.

## Attachments

cc: J Fournier  
R Hess  
S Higgins  
C Hupy  
N Hutchinson  
C Redinger

Attachment A  
Device Cost Assignment

Device	Installation Cost	Annual Maintenance Cost	Recommended Local Treatments			Recommended Minor/Major Collector Treatments			Recommended Minor/ Major Arterial ≤ 3 Lanes Treatments			Recommended Minor/ Major Arterial ≥ 3 Lanes Treatments		
			Standard	Standard+	High Risk	Standard	Standard+	High Risk	Standard	Standard+	High Risk	Standard	Standard+	High Risk
Pedestrian Warning Series (W11-2)	\$ 725.00	\$ 72.50			X		X			X		X		
School Warning Sign (S1-1)	\$ 770.00	\$ 77.00			X		X			X		X		
Bright Sides	\$ 340.00	\$ 34.00						X		X		X		
In-lane Signs (R1-6a)	\$ 930.00	\$ 325.00						X		X			X	
In-island Sign (R1-6a)	\$ 790.00	\$ 140.00						X		X			X	
Stop Here for Pedestrians (R1-5b)	\$ 410.00	\$ 41.00						X		X		X	X	
Pedestrian Hybrid Beacon (PHB)	\$ 48,000.00	\$ 480.00									X			X
RRFB Side Mount	\$ 19,000.00	\$ 35.00									X			X
RRFB Overhead	\$ 40,800.00	\$ 408.00												X
RRFB on Island	\$ 21,000.00	\$ 210.00												X
"Local Law" Overhead (R1-9a)	\$ 25,000.00	\$ 250.00												X
Pedestrian Signal	\$ 4,800.00	\$ 48.00									X			X
Pavement Markings*	\$ 123.00	\$ -		X										
High Visibility Markings*	\$ 328.00	\$ -			X	X			X			X		
Pedestrian Island	\$ 23,500.00	\$ -						X		X			X	
Bump Outs	\$ 20,000.00	\$ -						X		X			X	
Enhanced Lighting	\$ 8,250.00	\$ -									X			X

\*The average crosswalk length of 30ft was used

**Attachment B****Treatment Cost Ranges**

<b>Road Type</b>	<b>Standard</b>		<b>Standard+</b>		<b>High Risk</b>	
	<b>Minimum</b>	<b>Maximum</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Minimum</b>	<b>Maximum</b>
Local	0	0	\$ 123.00	\$ 123.00	\$ 1,053.00	\$ 1,098.00
Minor/Major Collector	\$ 328.00	\$ 328.00	\$ 725.00	\$ 770.00	\$ 1,202.50	\$ 26,047.00
Minor/Major Arterial ≤ 3 Lanes	\$ 328.00	\$ 328.00	\$ 1,995.00	\$ 26,740.00	\$ 19,431.50	\$ 56,826.00
Minor/Major Arterial ≥ 3 Lanes	\$ 1,053.00	\$ 1,848.00	\$ 862.50	\$ 24,811.00	\$ 21,397.50	\$ 81,727.00

Attachment C.1  
Crosswalk Cost Assignment

Street	Location	Road Type	Existing Design	Target Design Level*	Cost of Improvement (est)	
					Minimum	Maximum
Ann Arbor Saline Rd	318 ft northerly of the W Oakbrook Dr/Northbrook Dr intersection	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Ann Arbor Saline Rd	368 ft northerly of Village Oaks Ct	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Barton Dr	Barton Dr at Northside School	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Beakes St	Beakes St at N Fifth Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Beakes St	Beakes St at Carey St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Beakes St	Beakes St at E Summit St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Beakes St	Beakes St at N Fourth Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Brooks St	Brooks St at Pearl St	Local	Standard	Standard	No Improvement Anticipated	
Brooks St	Brooks St at W Summit St	Local	Standard	Standard	No Improvement Anticipated	
Catherine St	Catherine St at Detroit St	Local	Standard+	Insufficient Data	TBD	TBD
Catherine St	Catherine St at N Ingalls	Local	Standard+	Insufficient Data	TBD	TBD
Catherine St	Catherine St at N Thayer St	Local	Standard+	Insufficient Data	TBD	TBD
Catherine St	Catherine St near Zina Pitcher	Local	Standard+	Insufficient Data	TBD	TBD
Church St	Church St Mid-block	Local	High Risk	Insufficient Data	TBD	TBD
Commerce Dr	Commerce Dr at Pennsylvania	Local	Standard	Under review	TBD	TBD
Depot St	Depot St at N Fifth Ave	Minor/Major Arterial ≤ 3 Lanes	Under review	Standard+	TBD	TBD
Depot St	Depot St at N Fourth Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
Depot St	Depot St at Carey St	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
Dexter Ave	Dexter Ave at Veterans Memorial Park	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Dexter Ave	Dexter Ave at Doty Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Dexter Ave	Dexter Ave at Grandview Dr	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Dhu Varren Rd	Dhu Varren at Olson Park	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
Dhu Varren Rd	Dhu Varren and Carrot Way	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
E Eisenhower Pkwy	E Eisenhower Pkwy just west of Waymarket Dr	Minor/Major Arterial ≥ 3 Lanes	High Risk	Standard+	No Improvement Anticipated	
E Eisenhower Pkwy	E Eisenhower Pkwy at Plaza Rd	Minor/Major Arterial ≥ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
E Eisenhower Pkwy	E Eisenhower Pkwy just east of Waymarket Dr	Minor/Major Arterial ≥ 3 Lanes	High Risk	Standard+	No Improvement Anticipated	
E Ellsworth Rd	E Ellsworth Rd west of Jonathon Ct	Minor/Major Arterial ≤ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
E Hoover Ave	E Hoover Ave at S Division St	Minor/Major Collector	Standard	Under review	TBD	TBD
E Hoover Ave	E Hoover Ave at Sybil St	Minor/Major Collector	Standard	Under review	TBD	TBD
E Huron St	E Huron St at N Thayer St	Minor/Major Arterial ≥ 3 Lanes	Standard+	High Risk	\$ 21,397.50	\$ 81,727.00
E Kingsley St	E Kingsley St and N Ingalls St	Local	Standard+	Insufficient Data	TBD	TBD
E Kingsley St	E Kingsley St at N Thayer St	Local	Standard	Insufficient Data	TBD	TBD
E Madison St	E Madison St by UM West Quad	Minor/Major Collector	High Risk	Standard	No Improvement Anticipated	
E Stadium Blvd	E Stadium Blvd near Ferdon Rd	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
E Stadium Blvd	E Stadium Blvd near Baldwin Ave	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
E Stadium Blvd	E Stadium Blvd at Kipke Dr	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
E University Ave	E University Ave at Willard St	Local	Standard	Insufficient Data	TBD	TBD
E Washington St	E Washington - Division/State	Local	Standard+	Insufficient Data	TBD	TBD
Earhart Rd	Earhart Rd just north of Greenhills Dr	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Earhart Rd	Earhart Rd at north intersection with Pine Brae Dr	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Earhart Rd	Earhart Rd at Waldenwood Dr	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Earhart Rd	Earhart Rd just south of Greenhills Dr	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Earhart Rd	Earhart Rd just at Glazier Way	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Earhart Rd	Earhart Rd south of Kipling Dr at Glacier Hills	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Fletcher St	Fletcher St at University Health Services	Local	Standard+	Insufficient Data	TBD	TBD
Fletcher St	Fletcher St at E Washington St	Local	Standard	Insufficient Data	TBD	TBD
Fuller Ct	Fuller Ct at Huron Towners and VA Hospital	Local	High Risk	Standard+	No Improvement Anticipated	
Fuller Rd	Fuller Rd east of North Campus Blvd	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Fuller Rd	Fuller Rd west of Beal Ave	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Fuller Rd	Fuller Rd east of Cedar Bend Dr	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Fuller Rd	Fuller Rd at Gallup Park	Minor/Major Arterial ≤ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Fuller Rd	Fuller Rd at Fuller Park	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Geddes Ave	Geddes Ave at Geddes Ridge Ave	Minor/Major Arterial ≤ 3 Lanes	High Risk	Standard	No Improvement Anticipated	
Geddes Ave	Geddes Ave at Nichols Arboretum	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Geddes Ave	Geddes Ave at Hill St	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Geddes Ave	Geddes Ave at Hickory Ln	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Geddes Ave	Geddes Ave W of Huron Pkwy	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Geddes Ave	Geddes Ave at Linden	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Geddes Ave	Geddes Ave at Arlington Blvd	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Geddes Ave	Geddes Ave and Walnut St	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Glazier Way	Glazier Way at Tremont Ln	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Green Rd	Green Rd at Vintage Valley Rd	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
Green Rd	Green Rd at south intersection with Burbank Dr	Minor/Major Collector	High Risk	Standard +	No Improvement Anticipated	
Green Rd	Green Rd at Green Brier Blvd	Minor/Major Collector	Standard+	Standard+	No Improvement Anticipated	
Green Rd	Green Rd west of Kilburn Park Cir	Minor/Major Collector	High Risk	Standard+	No Improvement Anticipated	
Green Rd	Green Rd east of Whisperwood Dr	Minor/Major Collector	High Risk	Standard+	No Improvement Anticipated	
Green Rd	Mid-Block	Minor/Major Collector	High Risk	Standard+	No Improvement Anticipated	
Green Rd	Green Rd at Burbank Dr N	Minor/Major Collector	Standard+	Standard+	No Improvement Anticipated	
Greenview Dr	Greenview Dr at Glen Leven	Local	Standard+	Insufficient Data	TBD	TBD
Hill St	Hill St at Adams St	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
Hill St	Hill St and Oakland Ave	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
Hill St	Hill St and Tappan St	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
Hill St	Hill St and Oxford Rd	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
Hill St	Hill St and Ruthven Pl	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Hill St	Hill St and Onondaga St	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
Huron Pkwy	Huron Pkwy south of Lakehaven Dr at Huron High School Entrance	Minor/Major Arterial ≥ 3 Lanes	Under review	High Risk	TBD	TBD
Huron Pkwy	Huron Pkwy just south of Glazier Way	Minor/Major Arterial ≥ 3 Lanes	Under review	High Risk	TBD	TBD
Huron Pkwy	Huron Pkwy at Baxter	Minor/Major Arterial ≥ 3 Lanes	Under review	High Risk	TBD	TBD
Huron Pkwy	Huron Pkwy just north of Glazier Way	Minor/Major Arterial ≥ 3 Lanes	Under review	High Risk	TBD	TBD
Maiden Ln	Maiden Ln at Island Dr	Minor/Major Arterial ≤ 3 Lanes	Under review	Standard+	TBD	TBD
Maiden Ln	Maiden Ln at Nielsen Ct	Minor/Major Arterial ≤ 3 Lanes	Under review	Standard+	TBD	TBD
Miller Ave	Miller Ave east of Newport Rd	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave at Miner St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave at Gott St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave east of Saunders Cres	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave east of Fulmer St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave east of Hatcher Cres	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave at Pomona Rd	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave at Chapin St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave at Bruce St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave and Pine Tree Dr	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Ave	Miller Ave and Brooks St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Miller Rd	Miller Rd at Kuehnle Ave	Minor/Major Arterial ≤ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
N Division St	N Divisions St at Detroit St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
N Division St	N Division St at E Ann St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
N Division St	N Division St and Lawrence St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
N Fifth Ave	N Fifth Ave at Detroit St	Minor/Major Collector	Standard+	Under review	TBD	TBD
N Fifth Ave	N Fifth Ave at Detroit St	Minor/Major Collector	Standard+	Under review	TBD	TBD
N Fifth Ave	N Fifth Ave at Detroit St	Minor/Major Collector	Standard+	Under review	TBD	TBD
N Ingalls St	N Ingalls St at Lawrence	Local	Standard+	Insufficient Data	TBD	TBD
N Maple Rd	N Maple Rd at Maple Village Ct	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
N Seventh St	N Seventh St at Willow St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
N Seventh St	N Seventh St at Bath St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
N State St	N State St at Lawrence St	Minor/Major Collector	Standard+	Insufficient Data	TBD	TBD
N University Ave	N University Ave at Ingalls Mall	Minor/Major Collector	Standard+	Insufficient Data	TBD	TBD
N University Ave	N University Ave at U of M CCTC	Minor/Major Collector	Standard+	Insufficient Data	TBD	TBD
Newport Rd	Newport Rd north of Red Oak Rd	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Nixon Rd	Nixon Rd north of Plymouth Rd	Minor/Major Collector	High Risk	Standard+	No Improvement Anticipated	
Nixon Rd	Nixon Rd at Bluett Dr	Minor/Major Collector	High Risk	Standard+	No Improvement Anticipated	
Nixon Rd	Nixon Rd south of Traver Blvd	Minor/Major Collector	Standard+	Standard+	No Improvement Anticipated	
Nixon Rd	Nixon Rd at Aurora St	Minor/Major Collector	Standard	Standard+	\$ 725.00	\$ 770.00
Observatory St	Observatory St at Washington Hts	Local	Standard+	Standard	No Improvement Anticipated	

Attachment C.1  
Crosswalk Cost Assignment

Street	Location	Road Type	Existing Design	Target Design Level*	Cost of Improvement (est)	
					Minimum	Maximum
Observatory St	Observatory St N of Geddes Ave	Local	Standard+	Standard	No Improvement Anticipated	
Packard Rd	Packard Rd just east of Hikone Dr at Buhr Park	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Packard Rd	Packard Rd near Burton Rd	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Packard Rd	Packard Rd at Woodmanor Ct/Buhr Park	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Packard St	Packard St at Rosewood	Minor/Major Arterial ≥ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Packard St	Packard St NW of Stone School	Minor/Major Arterial ≥ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Packard St	Packard St and Morton Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St and Gardner Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St and Brooklyn Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St and Brooklyn Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St and Woodlawn Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St and Sylvan Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St and Brookwood Pl	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St and E University	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St and Vaughn St	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St and Arch St	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Packard St	Packard St at Coler	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard	No Improvement Anticipated	
Pauline Blvd	Pauline Blvd at Redeemer Ave	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Pauline Blvd	Pauline Blvd at Fifth St	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Pauline Blvd	Pauline Blvd west of W Stadium Blvd	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Pauline Blvd	Pauline Blvd at Hutchins Ave	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Pauline Blvd	Pauline Blvd at Edgewood	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
Pauline Blvd	Pauline Blvd at Arbordale St	Minor/Major Collector	Standard	Standard	No Improvement Anticipated	
Platt Rd	Platt Rd at Edgewood Dr	Minor/Major Arterial ≥ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Platt Rd	Platt Rd south of Redwood Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Platt Rd	Platt Rd north of Williamsburg Dr	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Platt Rd	Platt Rd north of Redwood Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
Platt Rd	At Summers Knoll school	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Plymouth Rd	Plymouth Rd east of Traverwood Dr	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Plymouth Rd	Plymouth Rd west of Commonwealth Blvd	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Plymouth Rd	Plymouth Rd west of Beal Ave	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Plymouth Rd	Plymouth Rd west of Bishop St	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Pontiac St	Pontiac Trl at Taylor St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Pontiac St	Pontiac St at Apple St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Pontiac St	Pontiac St at Bowen St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Pontiac St	Pontiac St at Moore/Longshore	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Pontiac Trl	Pontiac Trl south of Arrowwood Trl	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Pontiac Trl	Pontiac Trl at Montana Way	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
Pontiac Trl	Pontiac Trl at Polson St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard	No Improvement Anticipated	
S Ashley St	S Ashley St at W Jefferson	Minor/Major Collector	Under review	Insufficient Data	TBD	TBD
S Division St	S Division St at E Jefferson St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
S First St	S First St at W Jefferson	Minor/Major Collector	Standard+	Insufficient Data	TBD	TBD
S Forest Ave	S Forest Ave at Willard	Local	Standard+	Insufficient Data	TBD	TBD
S Industrial Blvd	S Industrial Blvd and Rosewood St	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
S Industrial Hwy	S Industrial Hwy at Jewett Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
S Industrial Hwy	S Industrial Hwy at Astor Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
S Main St	S Main St at W Oakbrook Dr	Minor/Major Arterial ≤ 3 Lanes	Under review	Under review	TBD	TBD
S Main St	S Main St at Fieldcrest St	Minor/Major Arterial ≤ 3 Lanes	Under review	Under review	TBD	TBD
S Main St	S Main St and E Hoover Ave	Minor/Major Arterial ≥ 3 Lanes	Under review	Under review	TBD	TBD
S Main St	S Main St at Keech Ave	Minor/Major Arterial ≥ 3 Lanes	Under review	Under review	TBD	TBD
S Maple Rd	S Maple Rd at Dicken Dr	Minor/Major Arterial ≤ 3 Lanes	Standard	Under review	TBD	TBD
S Maple Rd	S Maple Rd at Pennsylvania	Minor/Major Arterial ≤ 3 Lanes	Standard	Under review	TBD	TBD
S Maple Rd	S Maple Rd at Winewood Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Under review	TBD	TBD
S Seventh St	S Seventh St south of W Washington St	Minor/Major Arterial ≤ 3 Lanes	High Risk	Standard+	No Improvement Anticipated	
S Seventh St	S Seventh St near Pioneer High School	Minor/Major Arterial ≤ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
S Seventh St	S Seventh St at Lutz Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
S Seventh St	S Seventh St at Murray Ct	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
S Seventh St	S Seventh St at Princeton Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
S Seventh St	S Seventh St at W Davis St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
S Seventh St	S Seventh St at Franklin Blvd	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
S Seventh St	S Seventh St at Delaware Dr	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
S Seventh St	S Seventh St north of Jefferson	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
S Seventh St	S Seventh St at Potter	Minor/Major Arterial ≤ 3 Lanes	Standard+	Standard+	No Improvement Anticipated	
S State St	S State St at U of M Angell Hall	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St at Granger Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St Mid-Block at Stadium Bridge	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St Mid-Block near Michigan Union	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St at Arch St	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St at McKinley Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S University Ave	S University Ave and Walnut St	Local	Standard+	Insufficient Data	TBD	TBD
S University Ave	S University Ave and Linden St	Local	Standard+	Insufficient Data	TBD	TBD
S University Ave	S University Ave at Tappan St	Local	Standard+	Insufficient Data	TBD	TBD
Scio Church Rd	Scio Church Rd at Greenview Dr	Minor/Major Arterial ≤ 3 Lanes	High Risk	Under review	TBD	TBD
Scio Church Rd	Scio Church Rd and Chaucer Ct	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
Stone School Rd	Stone School Rd at Champagne	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Stone School Rd	Stone School Rd at Pheasant Run	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Stone School Rd	Stone School Rd at Birch Hollow Dr	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Stone School Rd	Stone School Rd at Pebble Creek	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Stone School Rd	Stone School Rd at Baylis N	Minor/Major Collector	Standard+	Standard	No Improvement Anticipated	
Thompson St	Thompson St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Insufficient Data	No Improvement Anticipated	
Traver Blvd	Traver Blvd west of Nixon Rd	Local	High Risk	Under review	TBD	TBD
Tuebingen Pkwy	Tuebingen Pkwy at Lancashire	Local	Standard	Insufficient Data	No Improvement Anticipated	
Victors Way	Victors Way at S State St	Local	Standard	Insufficient Data	No Improvement Anticipated	
W Liberty St	W Liberty St west of Dartmoor Rd	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St just west of Virginia Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St at Liberty Point Dr	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St just east of Virginia Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St at Crest Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St at Fourth St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St at Murray Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at Fourth St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at Fifth St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at Third St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at Second St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at S Ashley St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Oakbrook Dr	W Oakbrook Dr Midblock at Cranbrook Park	Minor/Major Collector	Under review	Under review	TBD	TBD
W Stadium Blvd	W Stadium Blvd at Greenview Dr	Minor/Major Arterial ≤ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
W Stadium Blvd	W Stadium Blvd at Edgewood Ave	Minor/Major Arterial ≤ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
W Stadium Blvd	W Stadium Blvd at Thaler Ave	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
W Stadium Blvd	W Stadium Blvd at Collingwood Dr	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
W Stadium Blvd	W Stadium Blvd at Kay Pkwy	Minor/Major Arterial ≤ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
W Stadium Blvd	W Stadium between W Liberty St and Federal Blvd	Minor/Major Arterial ≥ 3 Lanes	High Risk	High Risk	No Improvement Anticipated	
Washtenaw Ave	Washtenaw Ave at Tappan Middle School	Minor/Major Arterial ≥ 3 Lanes	High Risk	Under review	TBD	TBD

Total Cost Range: \$ 148,686.50 \$ 557,153.00

Attachment C.2

Crosswalk Cost Assignment

(abridged to only show crosswalks in need of improvement or possible improvement)

Street	Location	Road Type	Existing Design	Target Design Level*	Cost of Improvement (est)	
					Minimum	Maximum
Nixon Rd	Nixon Rd at Aurora St	Minor/Major Collector	Standard	Standard+	\$ 725.00	\$ 770.00
Depot St	Depot St at N Fourth Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
Depot St	Depot St at Carey St	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
S Industrial Blvd	S Industrial Blvd and Rosewood St	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
S Industrial Hwy	S Industrial Hwy at Jewett Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
S Industrial Hwy	S Industrial Hwy at Astor Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Standard+	\$ 1,995.00	\$ 26,740.00
S State St	S State St at U of M Angell Hall	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St at Granger Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St Mid-Block at Stadium Bridge	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St Mid-Block at Michigan Union	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St at Arch St	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
S State St	S State St at McKinley Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	High Risk	\$ 19,431.50	\$ 56,826.00
E Huron St	E Huron St at N Thayer St	Minor/Major Arterial ≥ 3 Lanes	Standard+	High Risk	\$ 21,397.50	\$ 81,727.00
Catherine St	Catherine St at Detroit St	Local	Standard+	Insufficient Data	TBD	TBD
Catherine St	Catherine St at N Ingalls	Local	Standard+	Insufficient Data	TBD	TBD
Catherine St	Catherine St at N Thayer St	Local	Standard+	Insufficient Data	TBD	TBD
Catherine St	Catherine St near Zina Pitcher	Local	Standard+	Insufficient Data	TBD	TBD
Church St	Church St Mid-block	Local	High Risk	Insufficient Data	TBD	TBD
Commerce Dr	Commerce Dr at Pennsylvania	Local	Standard	Under review	TBD	TBD
Depot St	Depot St at N Fifth Ave	Minor/Major Arterial ≤ 3 Lanes	Under review	Standard+	TBD	TBD
E Hoover Ave	E Hoover Ave at S Division St	Minor/Major Collector	Standard	Under review	TBD	TBD
E Hoover Ave	E Hoover Ave at Sybil St	Minor/Major Collector	Standard	Under review	TBD	TBD
E Kingsley St	E Kingsley St and N Ingalls St	Local	Standard+	Insufficient Data	TBD	TBD
E Kingsley St	E Kingsley St at N Thayer St	Local	Standard	Insufficient Data	TBD	TBD
E University Ave	E University Ave at Willard St	Local	Standard	Insufficient Data	TBD	TBD
E Washington St	E Washington - Division/State	Local	Standard+	Insufficient Data	TBD	TBD
Fletcher St	Fletcher St at University Health Services	Local	Standard+	Insufficient Data	TBD	TBD
Fletcher St	Fletcher St at E Washington St	Local	Standard	Insufficient Data	TBD	TBD
Greenview Dr	Greenview Dr at Glen Leven	Local	Standard+	Insufficient Data	TBD	TBD
Huron Pkwy	Huron Pkwy south of Lakehaven Dr at Huron High School Entrance	Minor/Major Arterial ≥ 3 Lanes	Under review	High Risk	TBD	TBD
Huron Pkwy	Huron Pkwy just south of Glazier Way	Minor/Major Arterial ≥ 3 Lanes	Under review	High Risk	TBD	TBD
Huron Pkwy	Huron Pkwy at Baxter	Minor/Major Arterial ≥ 3 Lanes	Under review	High Risk	TBD	TBD
Huron Pkwy	Huron Pkwy just north of Glazier Way	Minor/Major Arterial ≥ 3 Lanes	Under review	High Risk	TBD	TBD
Maiden Ln	Maiden Ln at Island Dr	Minor/Major Arterial ≤ 3 Lanes	Under review	Standard+	TBD	TBD
Maiden Ln	Maiden Ln at Nielsen Ct	Minor/Major Arterial ≤ 3 Lanes	Under review	Standard+	TBD	TBD
N Division St	N Divisions St at Detroit St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
N Division St	N Division St at E Ann St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
N Division St	N Division St and Lawrence St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
N Fifth Ave	N Fifth Ave at Detroit St	Minor/Major Collector	Standard+	Under review	TBD	TBD
N Fifth Ave	N Fifth Ave at Detroit St	Minor/Major Collector	Standard+	Under review	TBD	TBD
N Fifth Ave	N Fifth Ave at Detroit St	Minor/Major Collector	Standard+	Under review	TBD	TBD
N Ingalls St	N Ingalls St at Lawrence	Local	Standard+	Insufficient Data	TBD	TBD
N State St	N State St at Lawrence St	Minor/Major Collector	Standard+	Insufficient Data	TBD	TBD
N University Ave	N University Ave at Ingalls Mall	Minor/Major Collector	Standard+	Insufficient Data	TBD	TBD
N University Ave	N University Ave at U of M CCTC	Minor/Major Collector	Standard+	Insufficient Data	TBD	TBD
S Ashley St	S Ashley St at W Jefferson	Minor/Major Collector	Under review	Insufficient Data	TBD	TBD
S Division St	S Division St at E Jefferson St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
S First St	S First St at W Jefferson	Minor/Major Collector	Standard+	Insufficient Data	TBD	TBD
S Forest Ave	S Forest Ave at Willard	Local	Standard+	Insufficient Data	TBD	TBD
S Main St	S Main St at W Oakbrook Dr	Minor/Major Arterial ≤ 3 Lanes	Under review	Under review	TBD	TBD
S Main St	S Main St at Fieldcrest St	Minor/Major Arterial ≤ 3 Lanes	Under review	Under review	TBD	TBD
S Main St	S Main St and E Hoover Ave	Minor/Major Arterial ≥ 3 Lanes	Under review	Under review	TBD	TBD
S Main St	S Main St at Keech Ave	Minor/Major Arterial ≥ 3 Lanes	Under review	Under review	TBD	TBD
S Maple Rd	S Maple Rd at Dicken Dr	Minor/Major Arterial ≤ 3 Lanes	Standard	Under review	TBD	TBD
S Maple Rd	S Maple Rd at Pennsylvania	Minor/Major Arterial ≤ 3 Lanes	Standard	Under review	TBD	TBD
S Maple Rd	S Maple Rd at Winewood Ave	Minor/Major Arterial ≤ 3 Lanes	Standard	Under review	TBD	TBD
S University Ave	S University Ave and Walnut St	Local	Standard+	Insufficient Data	TBD	TBD
S University Ave	S University Ave and Linden St	Local	Standard+	Insufficient Data	TBD	TBD
S University Ave	S University Ave at Tappan St	Local	Standard+	Insufficient Data	TBD	TBD
Scio Church Rd	Scio Church Rd at Greenview Dr	Minor/Major Arterial ≤ 3 Lanes	High Risk	Under review	TBD	TBD
Scio Church Rd	Scio Church Rd and Chaucer Ct	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
Traver Blvd	Traver Blvd west of Nixon Rd	Local	High Risk	Under review	TBD	TBD
W Liberty St	W Liberty St west of Dartmoor Rd	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St just west of Virginia Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St at Liberty Point Dr	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St just east of Virginia Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St at Crest Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St at Fourth St	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Liberty St	W Liberty St at Murray Ave	Minor/Major Arterial ≤ 3 Lanes	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at Fourth St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at Fifth St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at Third St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at Second St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Madison St	W Madison St at S Ashley St	Minor/Major Collector	Standard+	Under review	TBD	TBD
W Oakbrook Dr	W Oakbrook Dr Midblock at Cranbrook Park	Minor/Major Collector	Under review	Under review	TBD	TBD
Washtenaw Ave	Washtenaw Ave at Tappan Middle School	Minor/Major Arterial ≥ 3 Lanes	High Risk	Under review	TBD	TBD
Total Cost Range:					\$ 148,686.50	\$ 557,153.00