

**CITY OF ELKHART | ADA DATA COLLECTION AND
TRANSITION PLAN IMPLEMENTATION**

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RACHEL PAGE**

**PURDUE ROAD SCHOOL
MARCH 10, 2020**



City of
Elkhart

Americans with Disabilities Act Transition Plan:
Pedestrian Facilities in the Public Right-of-Way

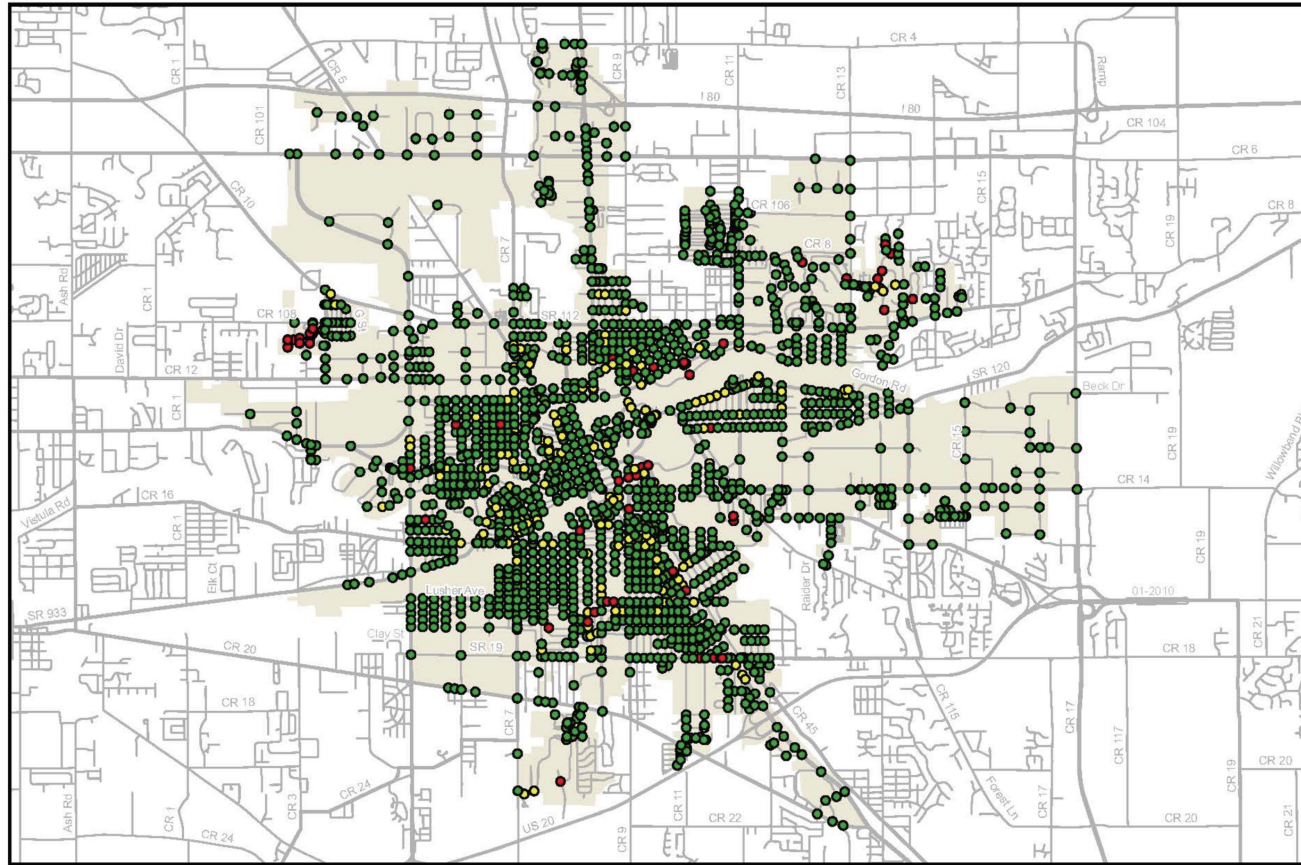


2011

HISTORY

- **PUBLIC RIGHT-OF-WAY TRANSITION PLAN WRITTEN IN 2011 WITH THE ASSISTANCE OF MICHIANA AREA COUNCIL OF GOVERNMENTS (MACOG)**
- **ADOPTED BY THE COMMON COUNCIL IN DECEMBER 2011**
- **FIRST ADA APPROPRIATION IN 2013 (\$400,000 ANNUALLY)**





ADA Priorities Map

City of Elkhart

0 20 40 80 120 160 Miles

Coordinate grid is based on Indiana East State Plane Coordinate System 1983 North American Datum.

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Legend

- Low
- Medium
- High



Date Printed: 3/14/2012
Source: MACOG ADA Database
Note: Database is constantly updated and may result in this map being out-of-date



Priority Matrix

Elkhart

Total Intersection Per Priority

Access Grade	Total Intersection Per Priority			Legend
	1	2	3	
	Locations serving Government Facilities	Locations serving Commercial & Employment Centers	Locations serving Other Areas	
E	10	7	38	High: 
D	11	58	92	Med: 
C	32	113	202	Low: 
B	47	170	288	
A	22	357	402	

66 “HIGH PRIORITY INTERSECTIONS”
295 “MEDIUM PRIORITY INTERSECTIONS”
1488 “LOW PRIORITY INTERSECTIONS”

HOW MUCH WILL THIS COST?

HOW LONG WILL IT TAKE?

WHERE DO WE START?



1849 INTERSECTIONS

EVALUATION FORM

LPA: _____ N/S: _____ E/W: _____ Ins: _____ Date: _____ ID: _____

g		h		h Width: _____ Passing: Y - N	Approach # of Lanes _____ Control: N-ST-SG _____ Median? Y - N _____ Median Width: _____ Median Warn? Y - N _____	a Width: _____ Passing: Y - N	a		b				
Cross %	Cross %	Cross %	Cross %				Cross %	Cross %					
Grade OK? Y - N	Grade OK? Y - N	Grade OK? Y - N	Grade OK? Y - N				Grade OK? Y - N	Grade OK? Y - N					
Surface OK? Y - N	Surface OK? Y - N	Surface OK? Y - N	Surface OK? Y - N				Surface OK? Y - N	Surface OK? Y - N					
Gap -	Gap -	Gap -	Gap -				Gap -	Gap -					
Grate OK? Y - N	Grate OK? Y - N	Grate OK? Y - N	Grate OK? Y - N				Grate OK? Y - N	Grate OK? Y - N					
Protrusion Y - N	Protrusion Y - N	Protrusion Y - N	Protrusion Y - N				Protrusion Y - N	Protrusion Y - N					
Prot. Height -	Prot. Height -	Prot. Height -	Prot. Height -				Prot. Height -	Prot. Height -					
Prot. Length -	Prot. Length -	Prot. Length -	Prot. Length -				Prot. Length -	Prot. Length -					
Prot. Barrier Y - N	Prot. Barrier Y - N	Prot. Barrier Y - N	Prot. Barrier Y - N				Prot. Barrier Y - N	Prot. Barrier Y - N					
Width: _____		Width: _____		Width: _____		Width: _____		Width: _____					
Passing: Y - N		Passing: Y - N		Passing: Y - N		Passing: Y - N		Passing: Y - N					
G				G Width: _____ Passing: Y - N	South Bound	A Width: _____ Passing: Y - N	Approach		Crosswalk				
# of Lanes	Marked? Y - N	Width	Length				# of Lanes	Marked? Y - N	Width	Length			
Control: N-ST-SG	Median? Y - N	Length	ft				Control: N-ST-SG	Median? Y - N	Length	ft			
Median Width	Cross %	Cross %	ft				Median Width	Cross %	Cross %	ft			
Median Warn? Y - N	Run %	Run %	ft				Median Warn? Y - N	Run %	Run %	ft			
Ped Signal? Y - N	Ped Time	Ped Time	sec				Ped Signal? Y - N	Ped Time	Ped Time	sec			
Ped Time	sec	sec	sec				Ped Time	sec	sec	sec			
H							H Width: _____ Passing: Y - N	East Bound	C Width: _____ Passing: Y - N	Approach		Crosswalk	
# of Lanes	Marked? Y - N	Width	Length							# of Lanes	Marked? Y - N	Width	Length
Control: N-ST-SG	Median? Y - N	Length	ft							Control: N-ST-SG	Median? Y - N	Length	ft
Median Width	Cross %	Cross %	ft	Median Width	Cross %	Cross %				ft			
Median Warn? Y - N	Run %	Run %	ft	Median Warn? Y - N	Run %	Run %				ft			
Ped Signal? Y - N	Ped Time	Ped Time	sec	Ped Signal? Y - N	Ped Time	Ped Time				sec			
Ped Time	sec	sec	sec	Ped Time	sec	sec				sec			
E				E Width: _____ Passing: Y - N	North Bound	D Width: _____ Passing: Y - N				Approach		Crosswalk	
# of Lanes	Marked? Y - N	Width	Length							# of Lanes	Marked? Y - N	Width	Length
Control: N-ST-SG	Median? Y - N	Length	ft							Control: N-ST-SG	Median? Y - N	Length	ft
Median Width	Cross %	Cross %	ft				Median Width	Cross %	Cross %	ft			
Median Warn? Y - N	Run %	Run %	ft				Median Warn? Y - N	Run %	Run %	ft			
Ped Signal? Y - N	Ped Time	Ped Time	sec				Ped Signal? Y - N	Ped Time	Ped Time	sec			
Ped Time	sec	sec	sec				Ped Time	sec	sec	sec			
F							F Width: _____ Passing: Y - N	West Bound	C Width: _____ Passing: Y - N	Approach		Crosswalk	
# of Lanes	Marked? Y - N	Width	Length							# of Lanes	Marked? Y - N	Width	Length
Control: N-ST-SG	Median? Y - N	Length	ft							Control: N-ST-SG	Median? Y - N	Length	ft
Median Width	Cross %	Cross %	ft	Median Width	Cross %	Cross %				ft			
Median Warn? Y - N	Run %	Run %	ft	Median Warn? Y - N	Run %	Run %				ft			
Ped Signal? Y - N	Ped Time	Ped Time	sec	Ped Signal? Y - N	Ped Time	Ped Time				sec			
Ped Time	sec	sec	sec	Ped Time	sec	sec				sec			
C				C Width: _____ Passing: Y - N	South Bound	A Width: _____ Passing: Y - N				Approach		Crosswalk	
# of Lanes	Marked? Y - N	Width	Length							# of Lanes	Marked? Y - N	Width	Length
Control: N-ST-SG	Median? Y - N	Length	ft							Control: N-ST-SG	Median? Y - N	Length	ft
Median Width	Cross %	Cross %	ft				Median Width	Cross %	Cross %	ft			
Median Warn? Y - N	Run %	Run %	ft				Median Warn? Y - N	Run %	Run %	ft			
Ped Signal? Y - N	Ped Time	Ped Time	sec				Ped Signal? Y - N	Ped Time	Ped Time	sec			
Ped Time	sec	sec	sec				Ped Time	sec	sec	sec			
D							D Width: _____ Passing: Y - N	East Bound	C Width: _____ Passing: Y - N	Approach		Crosswalk	
# of Lanes	Marked? Y - N	Width	Length							# of Lanes	Marked? Y - N	Width	Length
Control: N-ST-SG	Median? Y - N	Length	ft							Control: N-ST-SG	Median? Y - N	Length	ft
Median Width	Cross %	Cross %	ft	Median Width	Cross %	Cross %				ft			
Median Warn? Y - N	Run %	Run %	ft	Median Warn? Y - N	Run %	Run %				ft			
Ped Signal? Y - N	Ped Time	Ped Time	sec	Ped Signal? Y - N	Ped Time	Ped Time				sec			
Ped Time	sec	sec	sec	Ped Time	sec	sec				sec			
E				E Width: _____ Passing: Y - N	North Bound	D Width: _____ Passing: Y - N				Approach		Crosswalk	
# of Lanes	Marked? Y - N	Width	Length							# of Lanes	Marked? Y - N	Width	Length
Control: N-ST-SG	Median? Y - N	Length	ft							Control: N-ST-SG	Median? Y - N	Length	ft
Median Width	Cross %	Cross %	ft				Median Width	Cross %	Cross %	ft			
Median Warn? Y - N	Run %	Run %	ft				Median Warn? Y - N	Run %	Run %	ft			
Ped Signal? Y - N	Ped Time	Ped Time	sec				Ped Signal? Y - N	Ped Time	Ped Time	sec			
Ped Time	sec	sec	sec				Ped Time	sec	sec	sec			
F							F Width: _____ Passing: Y - N	West Bound	C Width: _____ Passing: Y - N	Approach		Crosswalk	
# of Lanes	Marked? Y - N	Width	Length							# of Lanes	Marked? Y - N	Width	Length
Control: N-ST-SG	Median? Y - N	Length	ft							Control: N-ST-SG	Median? Y - N	Length	ft
Median Width	Cross %	Cross %	ft	Median Width	Cross %	Cross %				ft			
Median Warn? Y - N	Run %	Run %	ft	Median Warn? Y - N	Run %	Run %				ft			
Ped Signal? Y - N	Ped Time	Ped Time	sec	Ped Signal? Y - N	Ped Time	Ped Time				sec			
Ped Time	sec	sec	sec	Ped Time	sec	sec				sec			

Curb Ramps												
	Type	Width	Landing	Clear Space	Run %	Cross %	Gutter %	Edge Type	Flare %	Surface OK?	Warning OK?	Grd Brk OK?
A	PE - PA - BT - N	"	"	"	%	%	%	N - F - R	%	Y - N	Y - N	Y - N
B	PE - PA - BT - N	"	"	"	%	%	%	N - F - R	%	Y - N	Y - N	Y - N
C	PE - PA - BT - N	"	"	"	%	%	%	N - F - R	%	Y - N	Y - N	Y - N
D	PE - PA - BT - N	"	"	"	%	%	%	N - F - R	%	Y - N	Y - N	Y - N
E	PE - PA - BT - N	"	"	"	%	%	%	N - F - R	%	Y - N	Y - N	Y - N
F	PE - PA - BT - N	"	"	"	%	%	%	N - F - R	%	Y - N	Y - N	Y - N
G	PE - PA - BT - N	"	"	"	%	%	%	N - F - R	%	Y - N	Y - N	Y - N
H	PE - PA - BT - N	"	"	"	%	%	%	N - F - R	%	Y - N	Y - N	Y - N

**1849 INTERSECTIONS X
2 STAFF MEMBERS X
1 HOUR PER WORKSHEET =
3698 STAFF HOURS**





START COLLECTING DATA ...

SUMMER 2013

SUMMER 2014

SUMMER 2015

SUMMER 2016

SUMMER 2017

SUMMER 2018

... FINISH COLLECTING DATA

Hello
my name is

INTERN



City of Elkhart
Engineering

4202 CURB RAMPS ...

EACH WITH 49 MEASUREMENTS ...

205,898 TOTAL MEASUREMENTS ...

**EACH MUST BE COMPARED TO A STANDARD TO
DETERMINE “COMPLIANT” OR “NOT COMPLIANT”**



6:47 PM 50%

Legend

- Partial Compliance (Fix grade break or domes)
- Needs Inspected
- + Needs Reconstruction
- + Needs Reconstruction
- + Nonexistent
- × Retired

ADA_Curb_Ramp_Compliant

-

Road_Centerline

- /

6:48 PM 49%

Curb Ramp: B (NE corner & We...
 41.680551°N 85.976510°W 6.4 mi

Reason Non Compliant
 RampRunSlope>8.3%,

Comments
 -

Status
 Active

Compliant
 No

Compliant PAR
 -

Ramp Status
 Ramp

Direction
 B (NE corner & West facing)

6:46 PM 52%

GPS accuracy 15.1 ft

6:47 PM 50%

GPS accuracy 48.6 ft • 30 ft required



Proposed Accessibility Guidelines
for Pedestrian Facilities
in the Public Right-of-Way

July 26, 2011

UNITED STATES ACCESS BOARD
A FEDERAL AGENCY COMMITTED TO ACCESSIBLE DESIGN

PROWAG: UNITED STATES ACCESS BOARD PROPOSED GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY



ESRI ARCGIS



- COMPLIANT
- NOT COMPLIANT
- PARTIALLY COMPLIANT

MEASURED FEATURES FOR EACH CURB RAMP

RAMP TYPE	PERPENDICULAR, BLENDED, DIAGONAL, PARALLEL, BUILT-UP, ISLAND (48" MIN LANDING LENGTH)
COMPLIANT DOMES	Y/N
PAR FLARES	Y/N
PAR FLARE SLOPE	0-10%
RAMP WIDTH(IN)	> 4FT
RAMP CROSS SLOPE	0-2%
RAMP RUN SLOPE	0-8.33%
TOP LAND LENGTH(IN)	>36"
TOP LAND CROSS SLOPE	0-2%
TOP LAND RUN SLOPE	0-2%
COMPLIANT BOTTOM LAND	Y/N OR NONE
COMPLIANT TURN SPACE	Y/N
CURB TYPE	ROLLED, STRAIGHT, OTHER, NULL
COUNTER SLOPE	0-5%
PAR OBSTRUCTION	LIST: MANHOLE, SIGN, SIGNAL OR OTHER
RAMP OBSTRUCTION	LIST: MANHOLE, SIGN, SIGNAL OR OTHER

MEASURED FEATURES FOR EACH SIDEWALK APPROACH AND CROSSWALK

WIDTH(IN.) > 4FT
 CROSS SLOPE 0-2%
 RUN SLOPE 0-5%
 COMPLIANT RUN SLOPE Y/N
 GRADE BREAK(IN.) < 1/2"
 BEVEL SLOPE < 50%

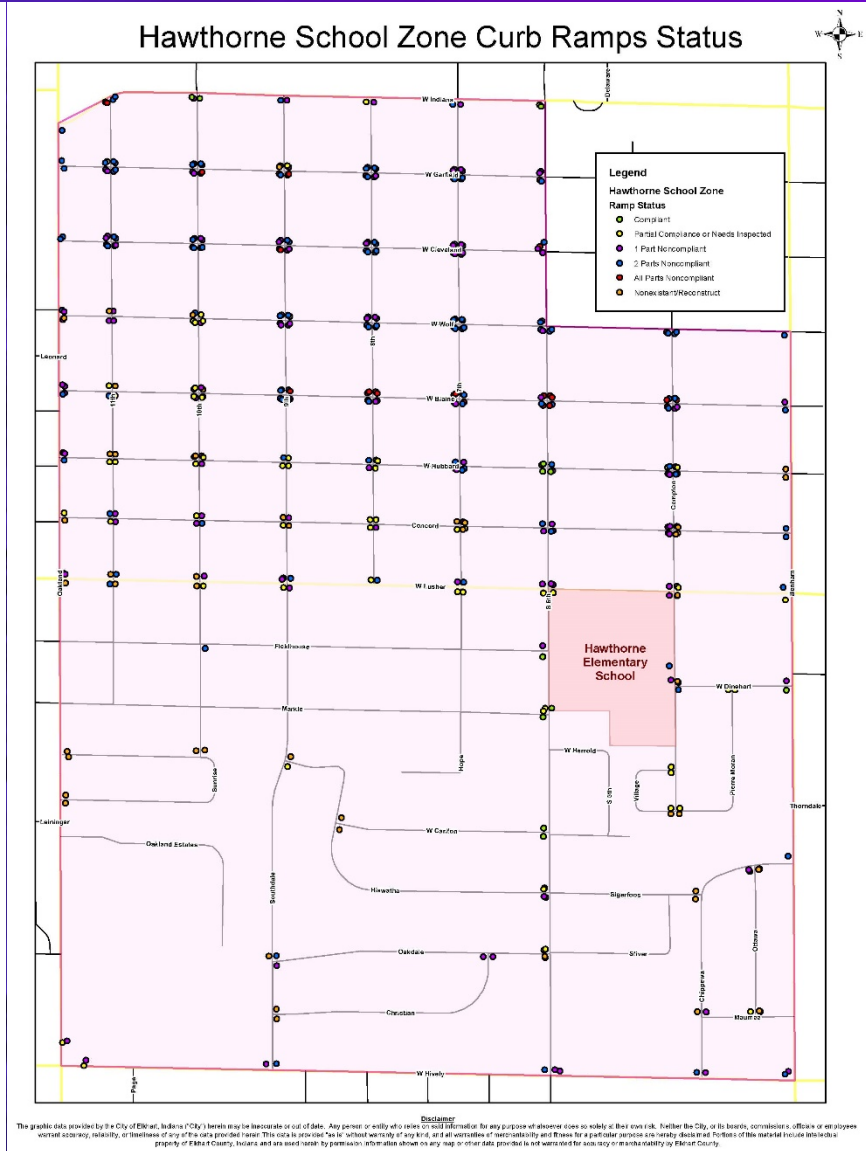
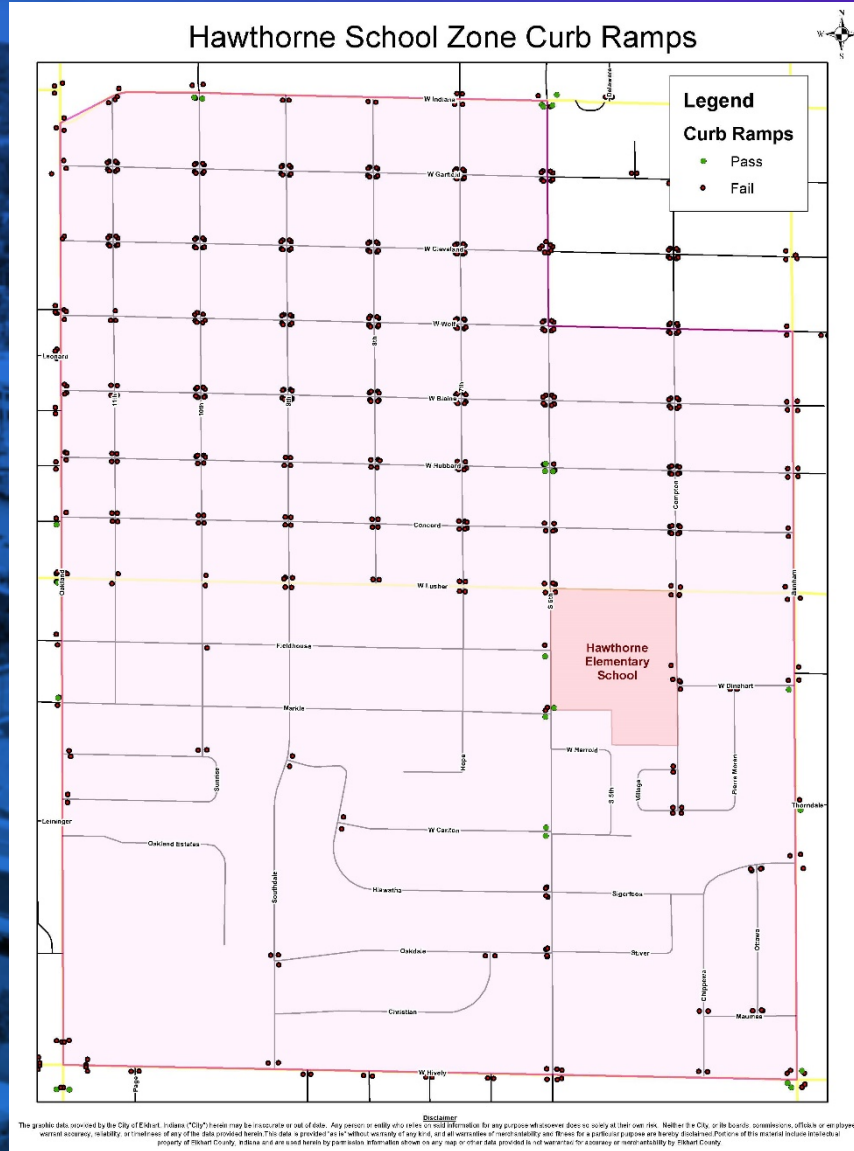
(IF 1/4-1/2" MUST HAVE BEVEL NO
 GREATER THAN 50% SLOPE)

STOP CONTROL
 MEDIAN Y/N
 MEDIAN WIDTH
 MEDIAN WARNING
 PAINT MARKING Y/N, FADED
 CROSS WIDTH
 CURB-TO-CURB(FT.)
 CROSS SLOPE 0-2%
 RUN SLOPE 0-5%

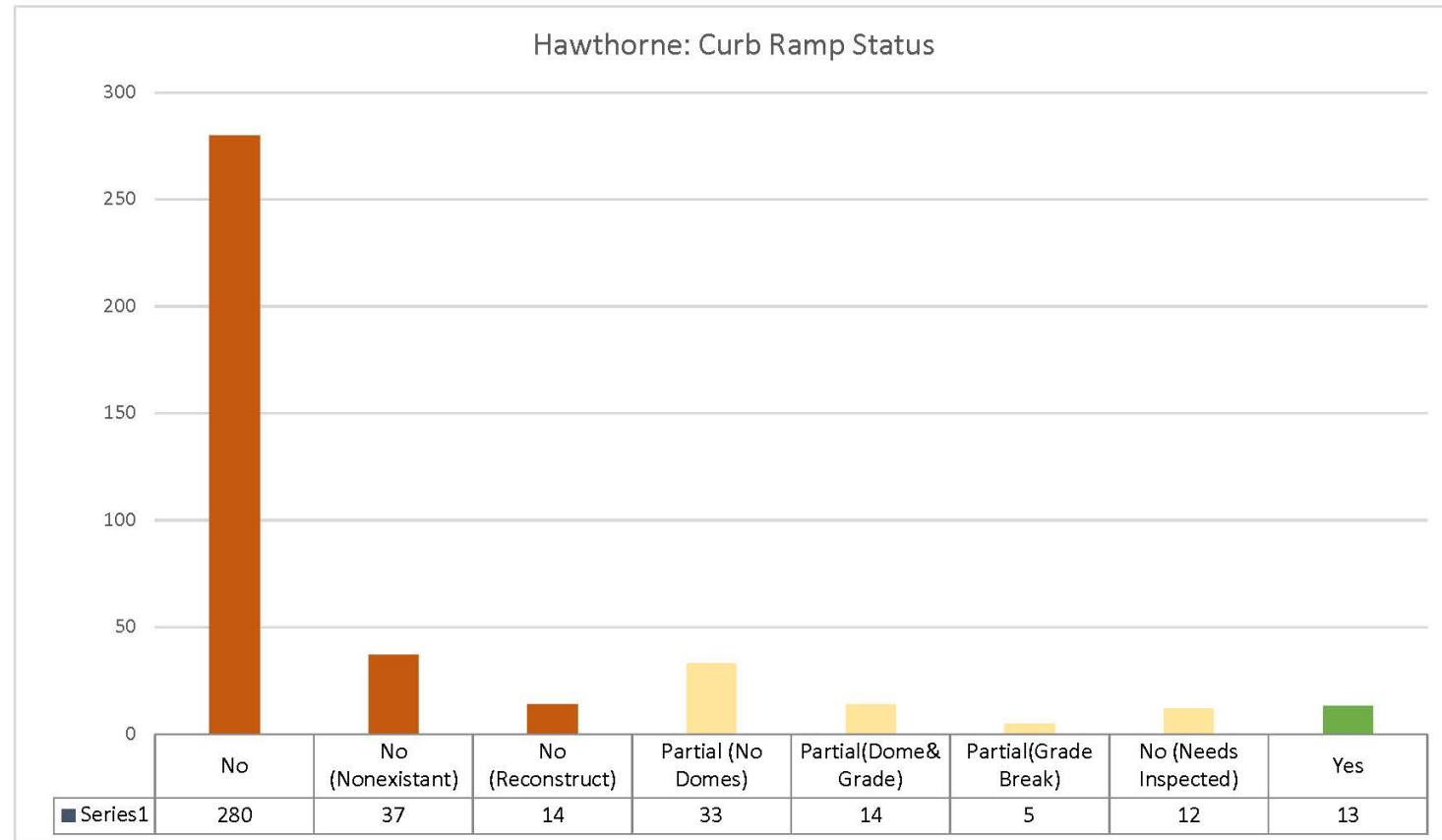
STOP SIGN, YIELD SIGN, SIGNAL, NONE, NULL



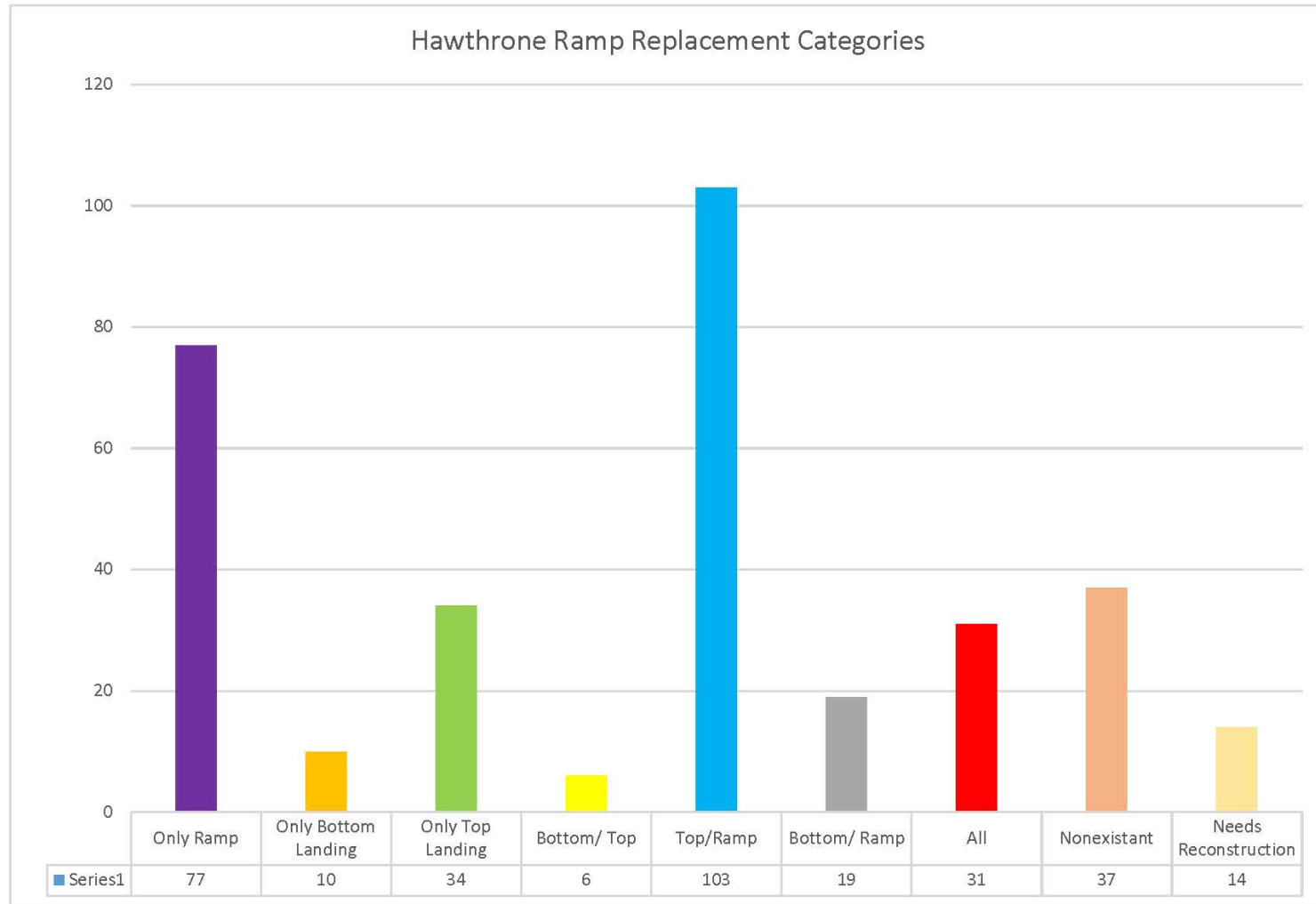
RESULTS



RESULTS



RESULTS



FINAL THOUGHTS ON DATA COLLECTION AND PROCESS

- **MAKE A LONG-TERM PLAN FOR DATA COLLECTION; DEVELOP A METHODOLOGY TO PRIORITIZE BY LOCATION**
- **UNDERSTAND PROWAG REQUIREMENTS AND USE THOSE REQUIREMENTS TO SET UP THE DATA COLLECTION PROCESS**
- **DEVELOP A WAY TO COMMUNICATE THE RESULTS EASILY**

DETERMINING COSTS

408 TOTAL CURB RAMPS LOCATIONS

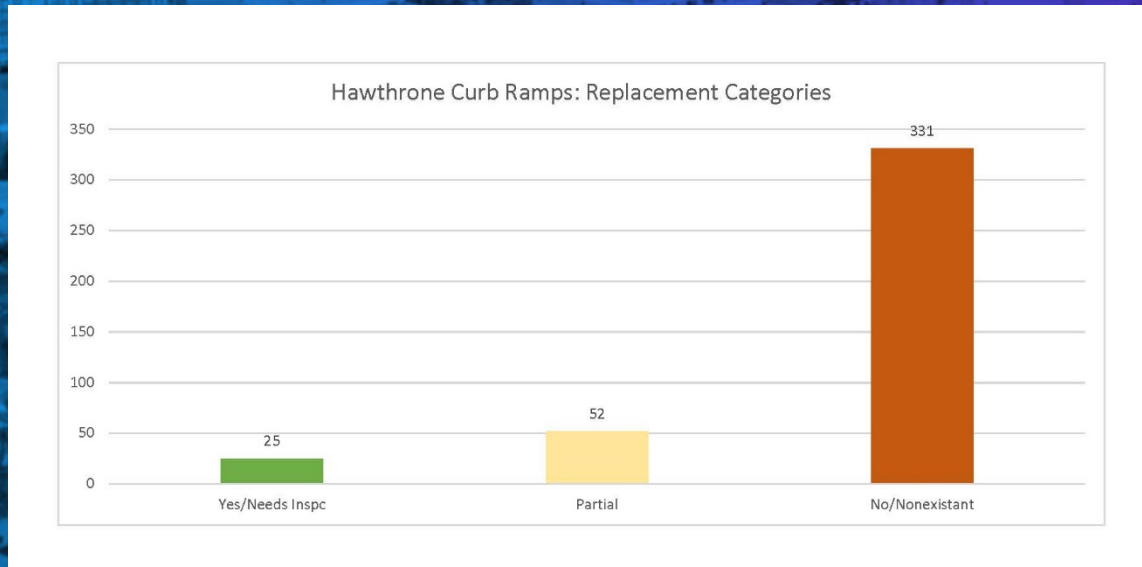
13 COMPLIANT CURB RAMPS

12 REQUIRE ADDITIONAL INSPECTION

52 REQUIRE PARTIAL RECONSTRUCTION

37 MISSING CURB RAMP LOCATIONS

294 REQUIRE TOTAL RECONSTRUCTION



DETERMINING COSTS

EASY CALCULATIONS

25 COMPLIANT CURB RAMPS X \$0 PER RAMP = \$0

37 MISSING CURB RAMPS X \$2000 PER RAMP = \$74,000

MORE NUANCED CALCULATIONS

52 PARTIALLY-COMPLIANT CURB RAMPS X \$1000 PER RAMP = \$52,000

294 NON-COMPLIANT CURB RAMPS X \$3000 PER CURB RAMP = \$882,000



PARTNERSHIP RELATIONSHIP WITH CONTRACTORS

- **ADOPTED FROM A PROCESS USED BY THE CITY OF AUSTIN, TEXAS**
- **DECISIONS ARE MADE IN THE FIELD WITH LIMITED OR NO CONSTRUCTION PLANS**
- **DESIGN IS MARKED IN THE FIELD IN PAINT; PRE-POUR INSPECTION OCCURS AFTER FORMWORK IS PLACED**
- **PAYMENT IS BASED ON UNIT PRICE CONTRACT**

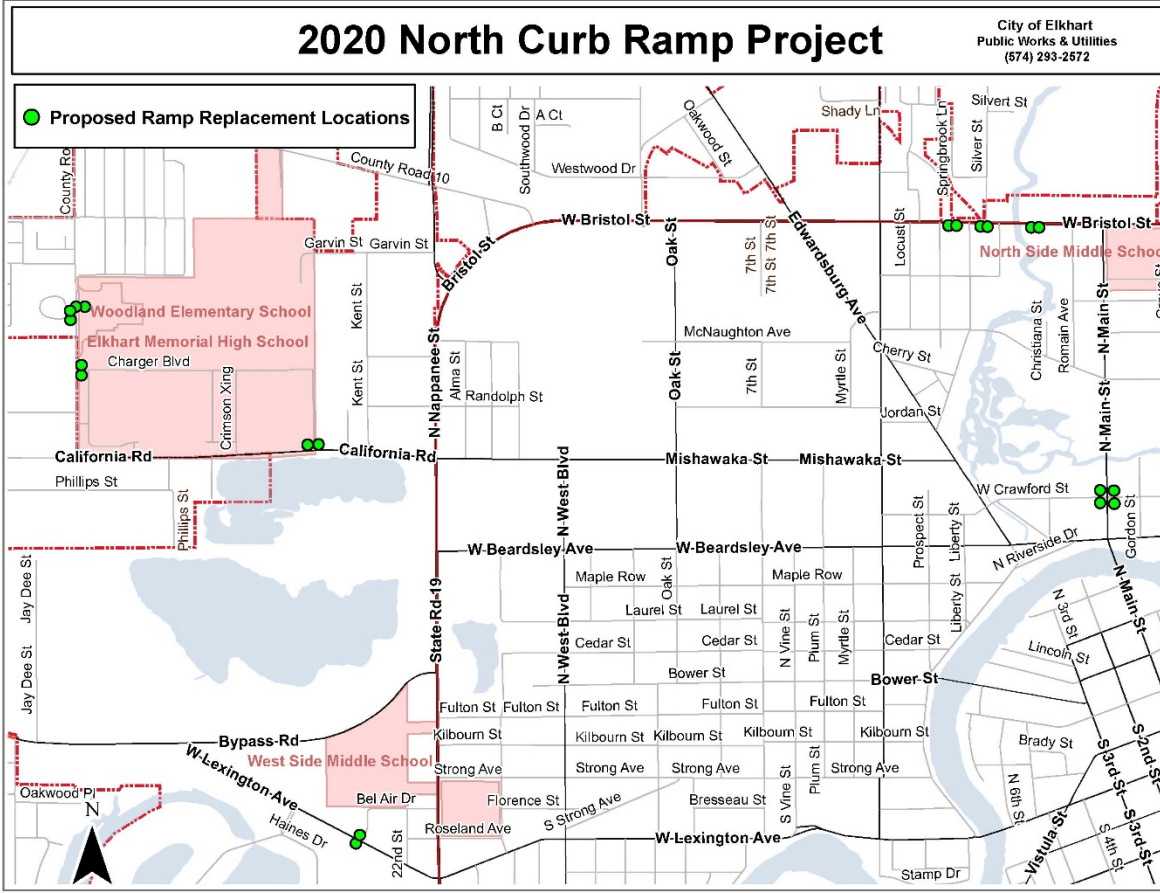


FIELD DECISIONS



- **WHAT TYPE OF CURB RAMP, STANDARD OR BLENDED TRANSITION?**
- **WHAT ARE THE EXTENTS OF THE RAMP?**
- **WHAT IS THE ELEVATION ABOVE THE CURB AT THE HIGH END OF THE RAMP (MEASURED IN INCHES ABOVE THE GUTTER LINE)?**
- **HOW WILL THE NEW RAMP BE CONNECTED TO THE EXISTING SIDEWALK?**
- **HOW ARE THE BACK EDGES HANDLED?**

CONSTRUCTION CONTRACT



City of Elkhart
Public Works & Utilities
(674) 293-2572

● Proposed Ramp Replacement Locations

CITY OF ELKHART 2020 NORTH CURB RAMP PROJECT ITEMIZED PROPOSAL BID 20-08

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT COST	TOTAL COST
1	Mobilization and Demobilization, Maintenance of Traffic Maximum 10%	1	LS		
2	Remove Pavement (as needed)	200	SF		
3	Remove Concrete Sidewalk/Ramp	3000	SF		
4	Remove Curb & Gutter (as needed)	200	LFT		
5	Install 6" Driveway Approach (as needed)	200	SF		
6	Install 8" Driveway Approach (as needed)	200	SF		
7	Install ADA Curb Ramp/Landing	2000	SF		
8	Install Sidewalk	1000	SF		
9	Install Truncated Dome Plate	30	EA		
10	Install Concrete Curb	250	LFT		
	TOTAL				



CONSTRUCTION LANGUAGE

THE CONTRACTOR SHALL BE RESPONSIBLE FOR REFERRING TO THE CURRENT VERSION OF THE CITY OF ELKHART SPECIFICATIONS (INCLUDING “PROPOSED GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY”, WHICH IS INCORPORATED BY REFERENCE) AND THE INDOT SPECIFICATIONS. THE ELKHART SPECIFICATIONS CAN BE FOUND AND DOWNLOADED AT WWW.ELKHARTINDIANA.ORG/PUBLICWORKS. A CURRENT VERSION CAN ALSO BE OBTAINED AT THE DEPARTMENT OF PUBLIC WORKS & UTILITIES.

1) GENERAL DESCRIPTION OF WORK:

THIS PUBLIC WORKS PROJECT WILL INCLUDE: REMOVAL OF NON-COMPLIANT CURB RAMPS, CURB & GUTTER, AND PORTIONS OF SIDEWALK IN ORDER TO INSTALL ADA COMPLIANT CURB RAMPS ACCORDING TO THE “PROPOSED GUIDELINES FOR PEDESTRIAN FACILITIES IN THE PUBLIC RIGHT-OF-WAY.”

2) REFERENCES:

SEE ATTACHED MAP FOR RAMP LOCATIONS AND PRIORITY LEVEL OF RAMP REPLACEMENT.

3) PRIORITY OF WORK

THIS PROJECT HAS A FIXED BUDGET. WORK ON RAMPS WILL CONTINUE UNTIL THE CONTRACTOR’S BID AMOUNT AND/OR THE PROJECT BUDGET AMOUNT HAS BEEN REACHED.



CONSTRUCTION CONTRACT

CITY OF ELKHART
2020 NORTH CURB RAMP PROJECT
ITEMIZED PROPOSAL BID 20-08

ITEM NO.	DESCRIPTION	ESTIMATED QUANTITY	UNITS	UNIT COST	TOTAL COST
1	Mobilization and Demobilization, Maintenance of Traffic Maximum 10%	1	LS		
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4	Remove Curb & Gutter (as needed)	200	LFT		
5	Install 6" Driveway Approach (as needed)	200	SF		
6	Install 9" Driveway Approach (as needed)	200	SF		
7	Install ADA Curb Ramp/Landing	2000	SF		
8	Install Sidewalk	1000	SF		
9	Install Truncated Dome Plate	30	EA		
10	Install Concrete Curb	250	LF		
	TOTAL				



SOURCES OF FUNDS

MOTOR VEHICLE HIGHWAY / LOCAL ROAD AND STREET

APPROPRIATED SPECIFICALLY FOR ADA

UTILITY PROJECTS / TIF PROJECTS / CCMG PROJECTS



FINAL THOUGHTS ON CONSTRUCTION

- **SEEK OUT AND PROVIDE INITIAL TRAINING ON PROWAG REQUIREMENTS**
 - **US ACCESS BOARD**
 - **GREAT LAKE ADA CENTER**
- **MAKE SURE PROWAG STANDARDS ARE EASILY AVAILABLE TO ANYONE WHO IS PART OF CONSTRUCTION**
- **SET AN ANNUAL BUDGET FOR CONSTRUCTION IN THE RIGHT-OF-WAY**
- **TRACK CONSTRUCTION ON A WEEKLY BASIS**
- **BE CONSISTENT WITH ENFORCEMENT, EVEN ON IN-HOUSE CONSTRUCTION**

QUESTIONS?

