



Sign Design Training

Sign CAD Software V9.1 Updates

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Rick Sunstrom

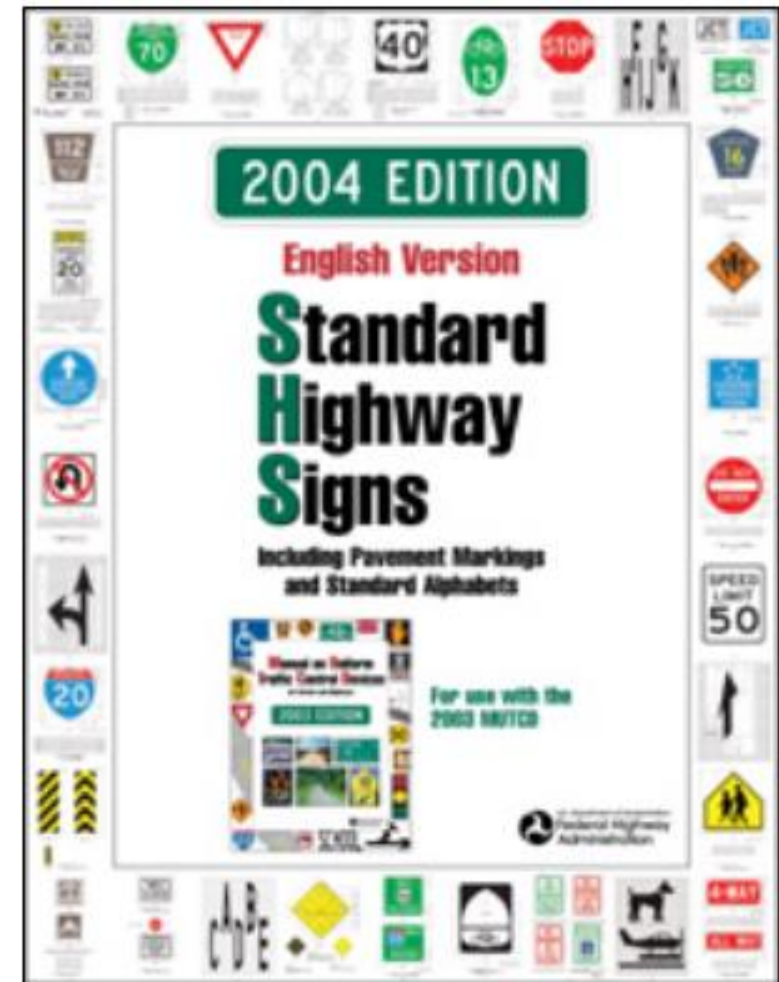
Josie Tayse

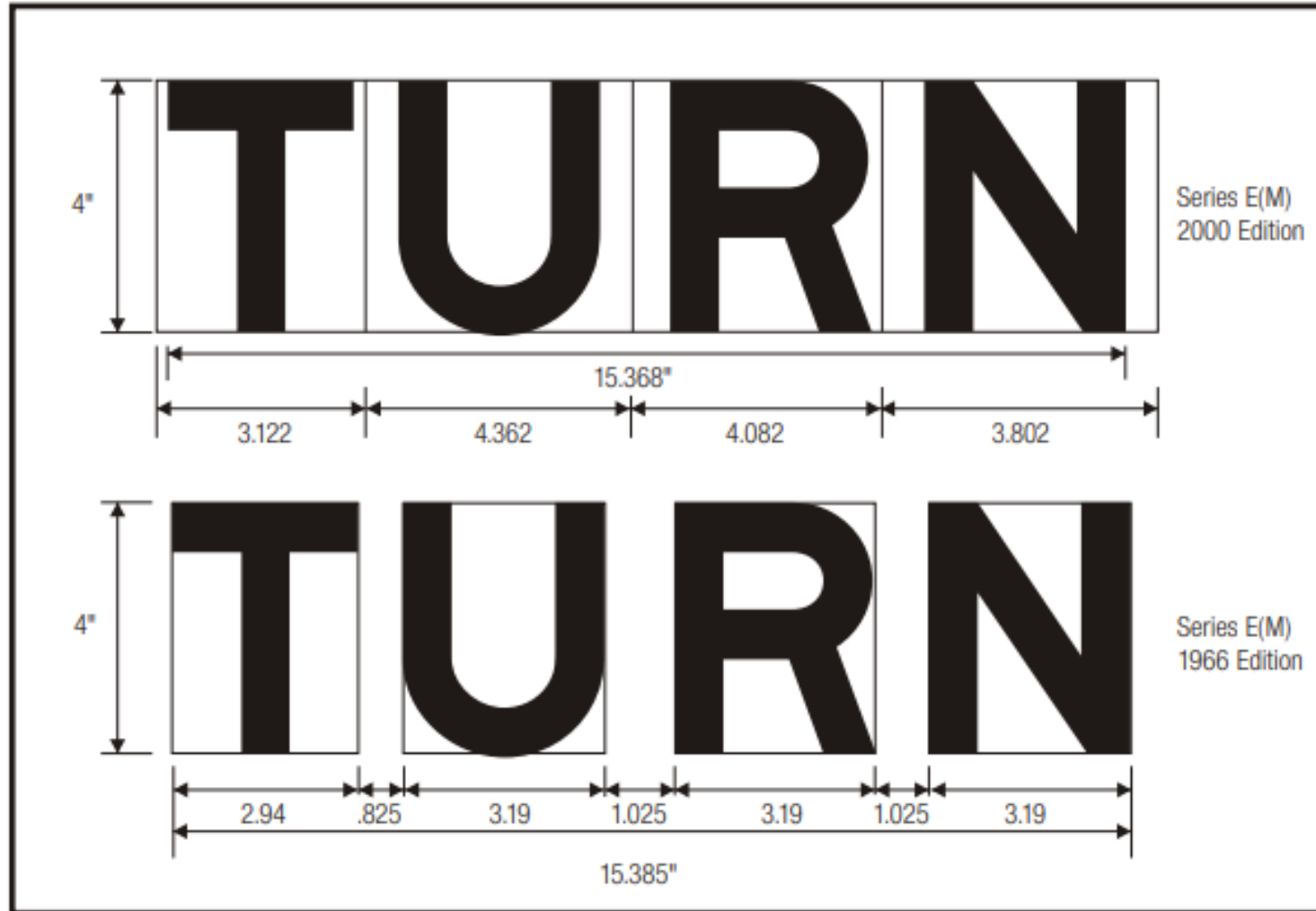
- Skype functions
- Questions:
 - Type “?” to verbally ask
 - Type in comment

Agenda


- 2K font
- Sign CAD version 9.1 Updates
- Sign Design
 - Sign Charts
 - Examples

- 2004 FHWA Standard Signs Book updated to 2k font
 - Standardize spacing
 - Software capabilities vs. hand applying
- B, C, D, E, F and E MOD series
 - No D MOD series





- [2020 MnDOT Standard Sign and Marking Summary & Manual](#)
 - Changes to Sign Codes, Sizes and Designs

R2-4a	R2-4b		Black on White	CR-SL, ML	24 x 48	33269
				E, O	36 x 72	57575
				F	48 x 96	33270

- Sign CAD version 9.1
- Begin using with projects let July 2020

- Standard Sign Changes Impacts:
 - Cell Library
 - Plan tabulations – Note for 2020 SSMM
 - Marker/Delineator Pay Items
 - 2564.602/02360 Delineator / Marker Sign
 - 2564.602/02350 Delineator / Marker Panel

- Brian present Sign CAD version 9.1 updates
 - Templates
 - Buttons
- Update files to 2K font

- Charts
 - Guidelines for Conventional Roads and Expressway Guide Sign Legend Size
 - Guidelines for Freeway Guide Sign Legend Size
 - Recommended Spacing for Objects in Sign CAD
 - [Guide Sign Border and Radii - SSMM](#)
 - [Arrow Size - SSMM](#)

- Conventional Road
 - Single lane = two-lane, two-way trunk highway.
 - Multi-lane = undivided highway with more than 1 lane in each direction of travel and having a posted speed limit equal to or less than 60 mph or a divided highway with more than one lane in each direction of travel and having a posted speed limit equal to or less than 55 mph.
- Expressway
 - Multi-lane divided highway with a posted speed greater than 55 mph.
- Freeway
 - Divided highway with full control of access.

Guide Sign

- Distance



- Junction



Guide Sign

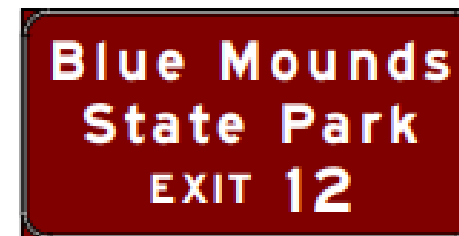
- Destination



- Directional



- Supplemental



#1 Walker High School

- 35 mph
- Multi-lane Roadway



Conventional/ Expressway


Freeway

Guidelines for Conventional Road and Expressway Guide Sign Legend Size						
Sign Type		Conventional Roads			Expressway*	
		<45mph	45-60 mph	45-60 mph	60 mph	65 mph
		Single Lane and Multilane	Single Lane	Multilane	Divided Multilane	Divided Multilane
Distance	CARDINAL DIRECTION					
	FIRST LETTER	6	6	7	7	12
	REST OF WORD	5	5	6	6	10
	Route Marker					
	2 Digit	18 x 18	18 x 18	24 x 24	24 x 24	24 x 24
	3 Digit	22.5 x 18	22.5 x 18	30 x 24	30 x 24	30 x 24
	City/Street Name	6	6	8	8	8
	Number					
	Numerical	6	6	8	8	8
	Fraction	6	6	9	9	9
	Fraction Numerical	4	4	6	6	6
Junction	JCT	8	8	8	8	10
	CARDINAL DIRECTION					
	FIRST LETTER	10	10	10	10	10
	REST OF WORD	8	8	8	8	8
	Route Marker					
	2 Digit	24 x 24	24 x 24	24 x 24	24 x 24	24 x 24
	3 Digit	30 x 24	30 x 24	30 x 24	30 x 24	30 x 24
	ACTION MESSAGE	8	8	8	8	10
	Number					
	Numerical	12	12	12	12	15
Destination & Directional	CARDINAL DIRECTION					
	FIRST LETTER	7	10	10	10	12
	REST OF WORD	6	8	8	8	10
	Route Marker					
	2 Digit	18 x 18	24 x 24	24 x 24	24 x 24	36 x 36
	3 Digit	22.5 x 18	30 x 24	30 x 24	30 x 24	36 x 45
	City/Street Name	6	8	10.7	10.7	13.3
	ACTION MESSAGE	5	6	8	8	10
	Arrow Size					
	with City/Street Name	3 or 13 head	5 or 14 head	6 or 15 head	6 or 15 head	7 or 16 head
Supplemental	without City/Street Name	3 or 13 head	5 or 14 head	5 or 14 head	5 or 14 head	6 or 15 head
	GENERIC	6	6	8	8	8
	Proper Name	6	6	8	8	10.7
	ACTION MESSAGE	5	5	6	6	8
	Arrow Size	3 or 13 head	3 or 13 head	5 or 14 head	5 or 14 head	6 or 15 head

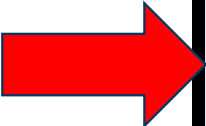
Guidelines for Freeway Guide Sign Legend Size					
Sign Type		Overhead Mounted Signs	Ground Mounted Signs		
			Interstates	US & MN Freeways	Ramp
Guide Advance Guide Exit Direction Overhead Guide Signs	CARDINAL DIRECTION				
	FIRST LETTER	15	15	15	10
	REST OF WORD	12	12	12	8
	Aux/Alt Route Legend	12	12	12	8
	Route Marker				
	2 Digit	36 x 36	36 x 36	36 x 36	24 x 24
	3 Digit	45 x 36	45 x 36	45 x 36	30 x 24
	City/Street Name	16	20	16	8
	Arrow Size	17 - 36	17 - 36	17 - 36	5-13 or 14-18
	EXIT ONLY	12	N/A	N/A	N/A
	Diagonal 45 Degree Arrow	17-36			
	Down Arrow	22 - 32			
	Distance				
	Numerical	15	18	15	8
	Fraction	15	18	15	9
	Fraction Numerals	10	12	10	4.5
	WORDS	10	12	10	6
Distance	CARDINAL DIRECTION				N/A
	FIRST LETTER	12	12	12	
	REST OF WORD	10	10	10	
	Route Marker				
	2 Digit	24 x 24	24 x 24	24 x 24	
	3 Digit	30 x 24	30 x 24	30 x 24	
	City/Street Name	13.3	13.3	13.3	
	Number				
	Numerals	13.3	13.3	13.3	
	Fraction	15	15	15	
	Fraction Numerals	10	10	10	
Supplemental	GENERIC	12	12	12	6
	Proper Name	13.3	13.3	13.3	8
	ACTION MESSAGE	10	10	10	6
	Arrow Size	10	10	10	5-13 or 14-18
	WORD	15	15	15	6
Exit Panel	WORD	10	10	10	N/A
	Numerical	15	15	15	
	LETTER	15	15	15	

#1 Walker High School

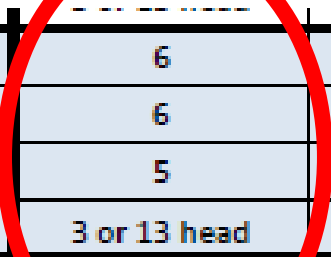
Guidelines for Conventional Road and Expressway Guide Sign Legend Size



Sign Type	Conventional Roads			Expressway*	
	<45mph	45-60 mph	45-60 mph	60 mph	65 mph
	Single Lane and Multilane	Single Lane	Multilane	Divided Multilane	Divided Multilane



Supplemental	GENERIC	6	6	8	8	8
	Proper Name	6	6	8	8	10.7
	ACTION MESSAGE	5	5	6	6	8
	Arrow Size	3 or 13 head	3 or 13 head	5 or 14 head	5 or 14 head	6 or 15 head



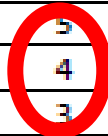
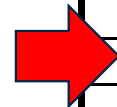
#1 Walker High School

- Text Size: 6
- Spacing: 4

Recommended Spacing for Objects in Signcad

2020

Text Size (IN)	Recommended spacing (IN)
20	12
16	10
15	9
13.333	8
12	7.5
10.667	6
10	6
8	5
6	4
4	3



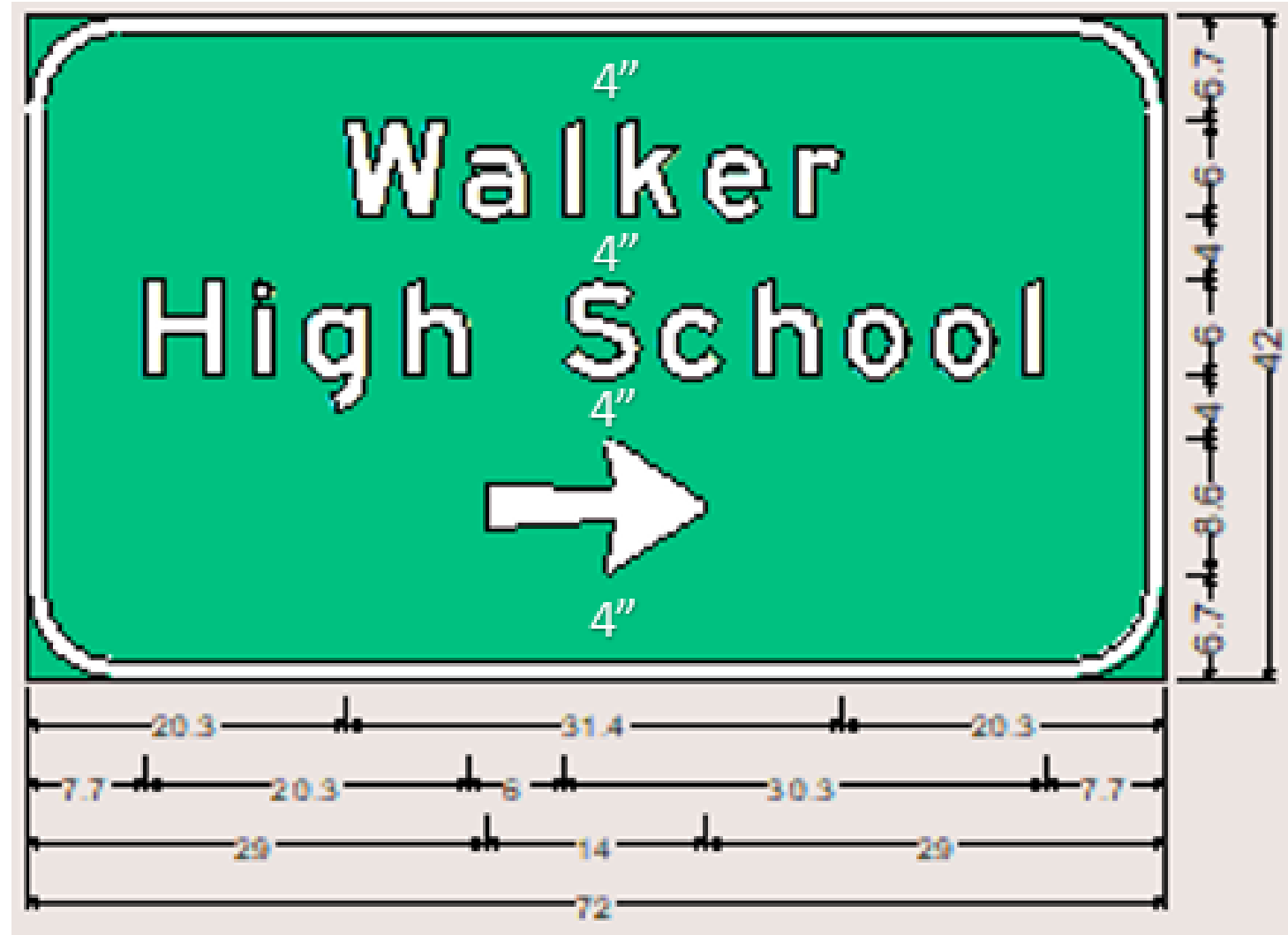
* for panels with only shield & arrows

Shield (IN)	Text Size in Shield (IN)	Recommended Spacing (IN)
36	15	9
24	10	6
18	7	4

NOTES: Text size is Primary Designation Text, not ACTION MESSAGE text size
Final object spacing must meet at least 50% of text size and should not exceed 75% of text size.

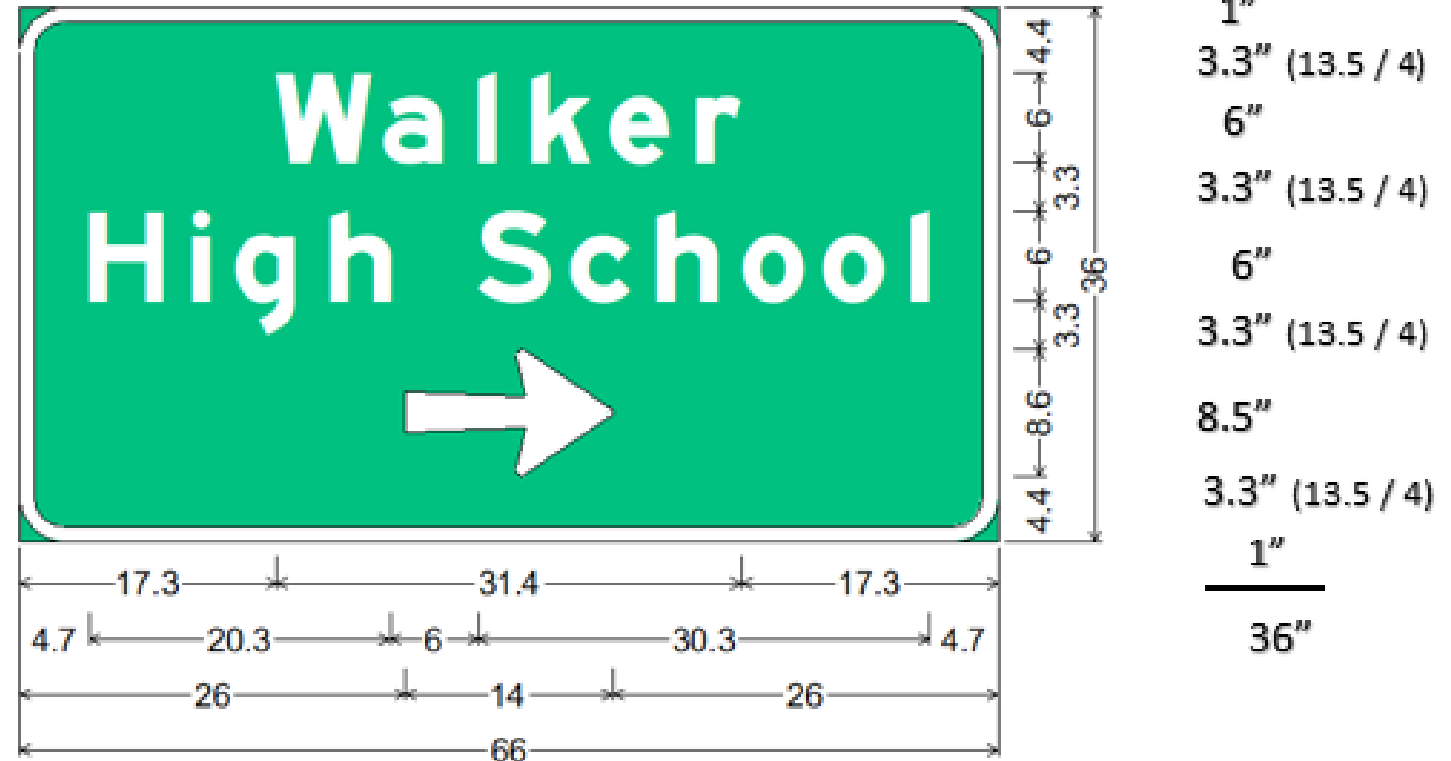
#1 Walker High School

- Vertical spacing:
 - $1.25 + 4 + 6 + 4 + 6 + 4 + 8.6 + 4 + 1.25 = 39.1''$
 - Sign CAD rounds to next 6'' increment = 42''
- $6.7 - 1.25 = 5.45'' > 75\%$ of text
- $39.1'' - 3.1'' = 36''$ tall panel



#1 Walker High School

- Removing 3.1" of vertical spacing can be achieved numerous ways



#2 Cannon Falls

- 65 mph
- Divided multi-lane roadway
- Interchange
- Ground Mounted



Conventional/ Expressway

Freeway

Guidelines for Conventional Road and Expressway Guide Sign Legend Size						
Sign Type		Conventional Roads			Expressway*	
		<45mph	45-60 mph	45-60 mph	60 mph	65 mph
		Single Lane and Multilane	Single Lane	Multilane	Divided Multilane	Divided Multilane
Distance	CARDINAL DIRECTION					
	FIRST LETTER	6	6	7	7	12
	REST OF WORD	5	5	6	6	10
	Route Marker					
	2 Digit	18 x 18	18 x 18	24 x 24	24 x 24	24 x 24
	3 Digit	22.5 x 18	22.5 x 18	30 x 24	30 x 24	30 x 24
	City/Street Name	6	6	8	8	8
	Number					
	Numerical	6	6	8	8	8
	Fraction	6	6	9	9	9
	Fraction Numerical	4	4	6	6	6
Junction	JCT	8	8	8	8	10
	CARDINAL DIRECTION					
	FIRST LETTER	10	10	10	10	10
	REST OF WORD	8	8	8	8	8
	Route Marker					
	2 Digit	24 x 24	24 x 24	24 x 24	24 x 24	24 x 24
	3 Digit	30 x 24	30 x 24	30 x 24	30 x 24	30 x 24
	ACTION MESSAGE	8	8	8	8	10
	Number					
	Numerical	12	12	12	12	15
Destination & Directional	CARDINAL DIRECTION					
	FIRST LETTER	7	10	10	10	12
	REST OF WORD	6	8	8	8	10
	Route Marker					
	2 Digit	18 x 18	24 x 24	24 x 24	24 x 24	36 x 36
	3 Digit	22.5 x 18	30 x 24	30 x 24	30 x 24	36 x 45
	City/Street Name	6	8	10.7	10.7	13.3
	ACTION MESSAGE	5	6	8	8	10
	Arrow Size					
	with City/Street Name	3 or 13 head	5 or 14 head	6 or 15 head	6 or 15 head	7 or 16 head
Supplemental	without City/Street Name	3 or 13 head	5 or 14 head	5 or 14 head	5 or 14 head	6 or 15 head
	GENERIC	6	6	8	8	8
	Proper Name	6	6	8	8	10.7
	ACTION MESSAGE	5	5	6	6	8
	Arrow Size	3 or 13 head	3 or 13 head	5 or 14 head	5 or 14 head	6 or 15 head

Guidelines for Freeway Guide Sign Legend Size					
Sign Type		Overhead Mounted Signs	Ground Mounted Signs		
			Interstates	US & MN Freeways	Ramp
Guide Advance Guide Exit Direction Overhead Guide Signs	CARDINAL DIRECTION				
	FIRST LETTER	15	15	15	10
	REST OF WORD	12	12	12	8
	Aux/Alt Route Legend	12	12	12	8
	Route Marker				
	2 Digit	36 x 36	36 x 36	36 x 36	24 x 24
	3 Digit	45 x 36	45 x 36	45 x 36	30 x 24
	City/Street Name	16	20	16	8
	Arrow Size	17 - 36	17 - 36	17 - 36	5-13 or 14-18
	EXIT ONLY	12	N/A	N/A	N/A
	Diagonal 45 Degree Arrow	17-36			
	Down Arrow	22 - 32			
	Distance				
	Numerical	15	18	15	8
	Fraction	15	18	15	9
	Fraction Numerals	10	12	10	4.5
	WORDS	10	12	10	6
Distance	CARDINAL DIRECTION				N/A
	FIRST LETTER	12	12	12	
	REST OF WORD	10	10	10	
	Route Marker				
	2 Digit	24 x 24	24 x 24	24 x 24	
	3 Digit	30 x 24	30 x 24	30 x 24	
	City/Street Name	13.3	13.3	13.3	
	Number				
	Numerals	13.3	13.3	13.3	
	Fraction	15	15	15	
	Fraction Numerals	10	10	10	
Supplemental	GENERIC	12	12	12	6
	Proper Name	13.3	13.3	13.3	8
	ACTION MESSAGE	10	10	10	6
	Arrow Size	10	10	10	5-13 or 14-18
	WORD	15	15	15	6
Exit Panel	WORD	10	10	10	N/A
	Numerical	15	15	15	
	LETTER	15	15	15	

#2 Cannon Falls

Legend Size		
	Expressway*	
h	60 mph	65 mph
e	Divided Multilane	Divided Multilane

*Ground Mounted signs for Expressways interchanges use Guidelines for Freeway Guide Sign Legend Size, US & MN Highways column. All overhead signs use Guidelines for Freeway Guide Sign Legend Size, Overhead Mounted Signs column.

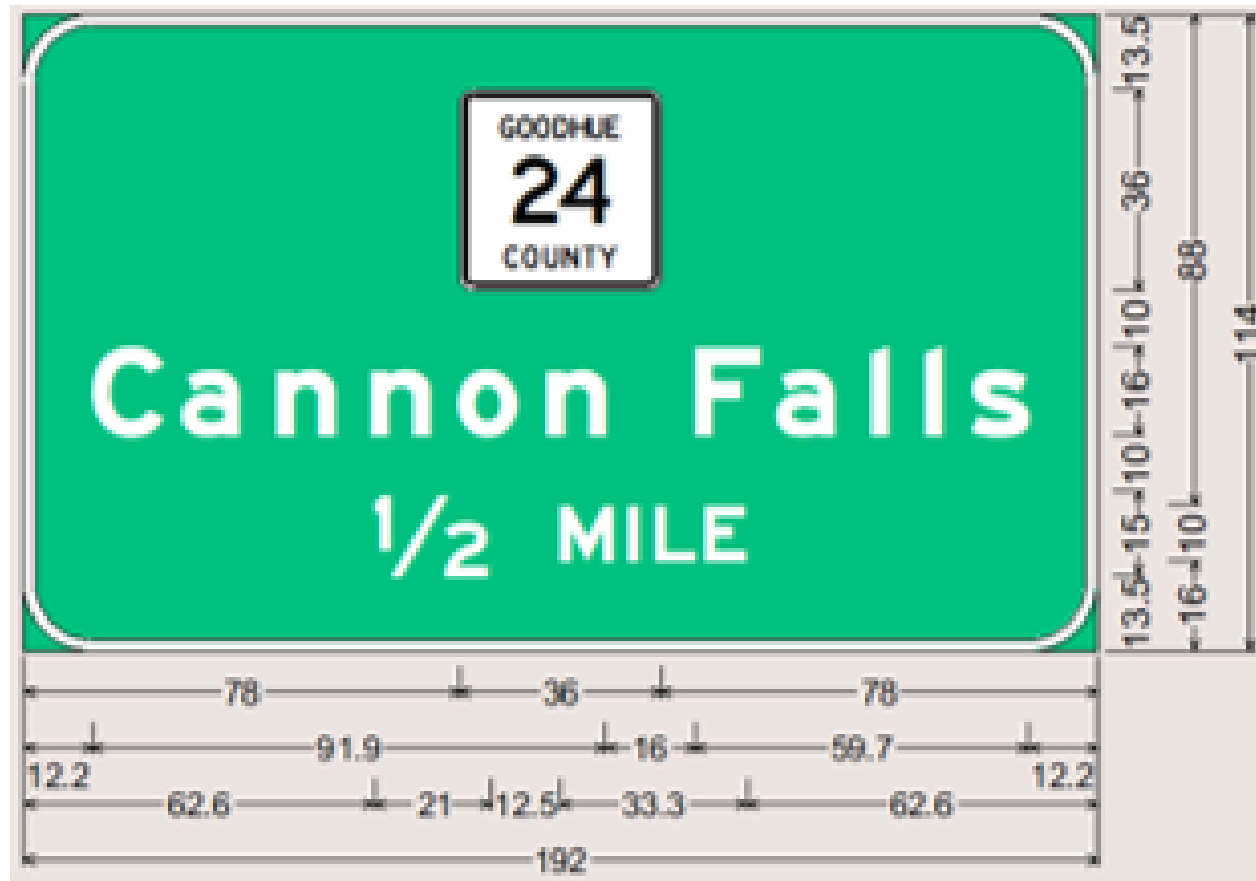
#2 Cannon Falls

Guidelines for Freeway Guide Sign Legend Size					
Sign Type		Overhead Mounted Signs	Ground Mounted Signs		
			Interstates	US & MN Freeways	Ramp
Guide Advance Guide Exit Direction Overhead Guide Signs	CARDINAL DIRECTION				
	FIRST LETTER	15	15	15	10
	REST OF WORD	12	12	12	8
	Aux/Alt Route Legend	12	12	12	8
	Route Marker				
	2 Digit	36 x 36	36 x 36	36 x 36	24 x 24
	3 Digit	45 x 36	45 x 36	45 x 36	30 x 24
	City/Street Name	16	20	16	8
	Arrow Size	17 - 36	17 - 36	17 - 36	5-13 or 14-18
	EXIT ONLY	12	N/A	N/A	N/A
	Diagonal Upward Pointing Arrow	17-36			
	Down Arrow	22 - 32			
	Distance				
	Numerals	15	18	15	8
	Fraction	15	18	15	9
	Fraction Numerals	10	12	10	4.5
	WORDS	10	12	10	6
Distance	CARDINAL DIRECTION				
	FIRST LETTER	12	12	12	

#2 Cannon Falls

- Text Size
- Shield Size
- Fraction Size
- MILE Size:
- Spacing Size:

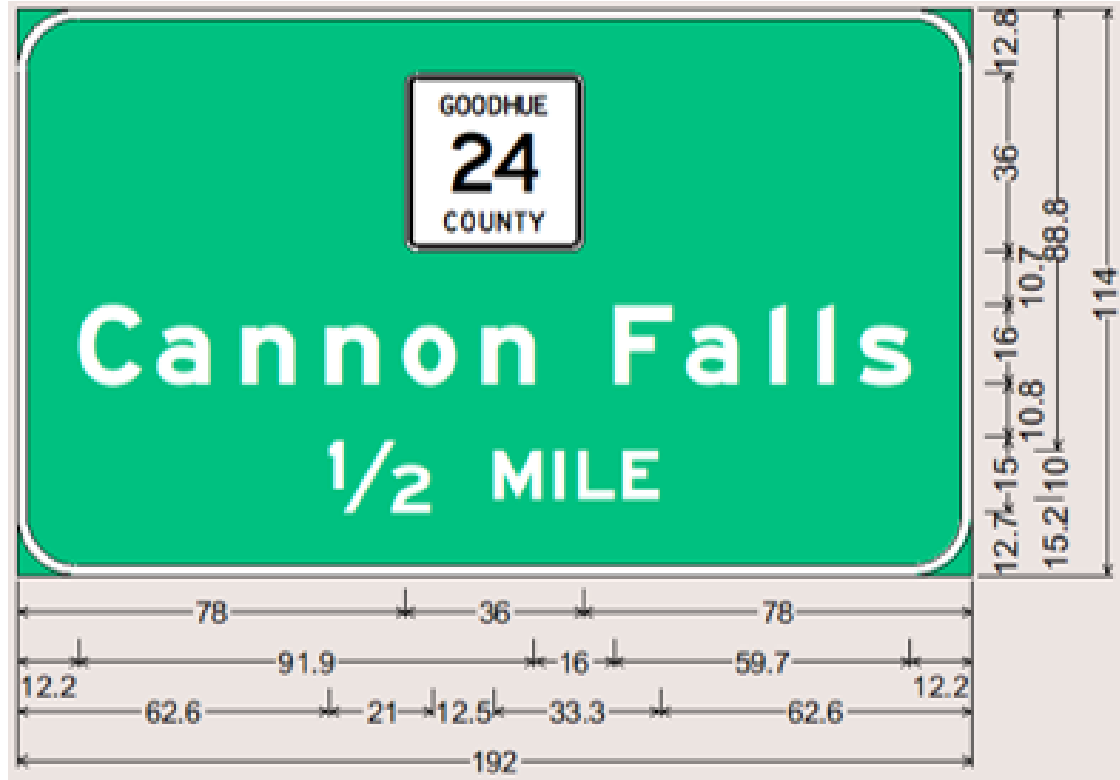




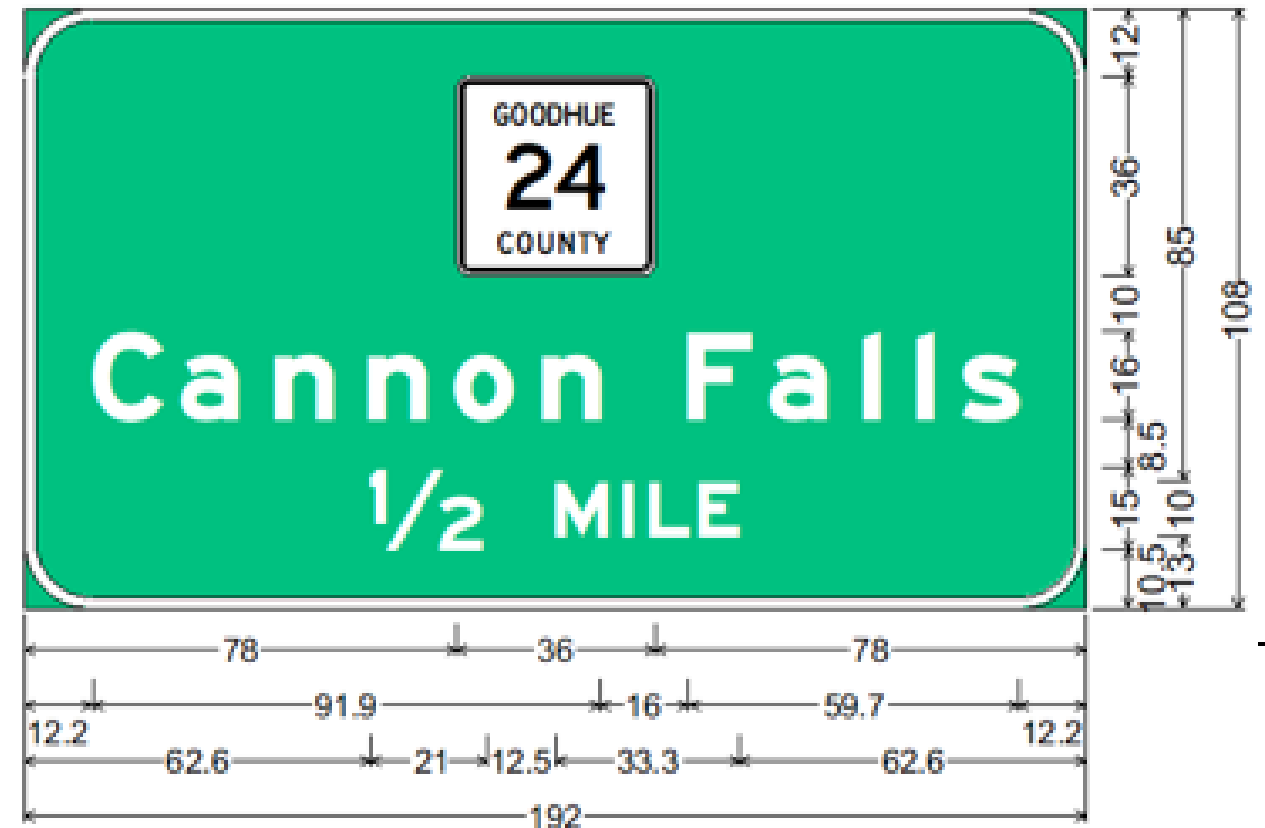
2" border
 10" space
 36" shield
 10" space
 16" Text
 10" space
 15" Text * Fraction
 10" space
 2" border

111 in total

Adjust Spacing



Reduce Panel Height



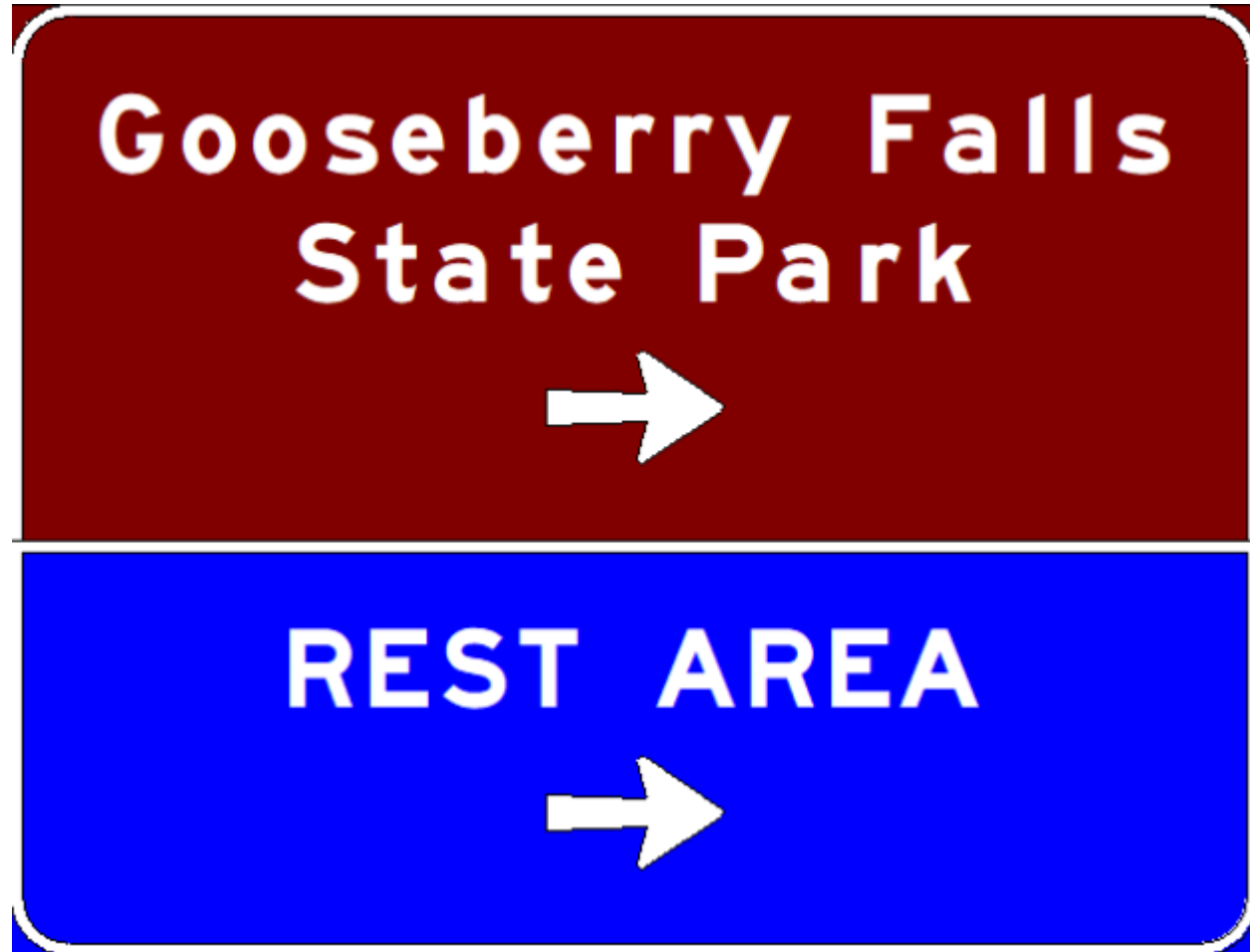
#3 182nd Avenue

- 55 mph
- Multi-lane Undivided Roadway



#4 Supplemental Guide Sign Split Panel

- 55 mph
- Multi-lane roadway



#5 Interchange Exit Direction Lane Drop

- Overhead Sign



#6 Advance Guide Sign w/Exit Only Panel

- Overhead Sign



Thank you again!

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