



Minnesota Department of Transportation

Office of Transportation System Management
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TO: Gene Hicks, PE
Section Director
Traffic Forecasting and Analysis, MS 450

DATE: 6/27/2023

SUBJECT: Traffic Forecast for Cumulative ESALs

Author: Adam Wick
Author's District: D2
District: D2
Letting Date: 2/1/2025
County: Koochiching
Program Category: RC
Project Manager: Jim Bittman

Forecast #: F2-2310
SP#: 3604-80
Route Num: 11
Route Type: MN Trunk
Beg Reference Post: 168+00.918
End Reference Post: 170+00.027
Miles: 1.12

Project Limits: MN 11 From 2.23 MI W of CR 83 to 3.34 MI W of CR 83

ESAL SUMMARY:

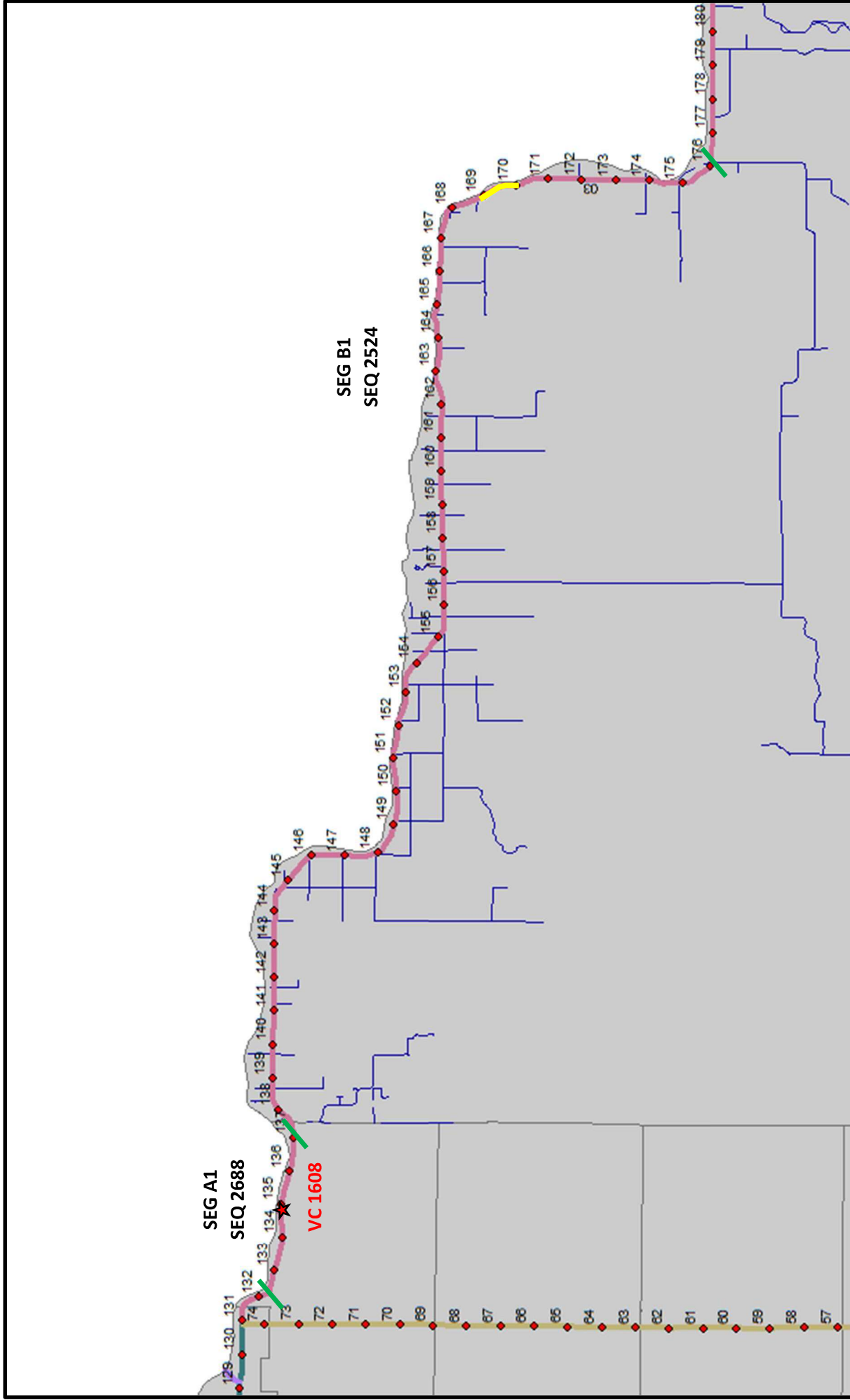
Seq #	Segment Location	AADT		20 YEAR		35 YEAR	
		2025	2045	BESAL	CESAL	BESAL	CESAL
2688	CSAH 35 to CSAH 18	850	930	520,000	766,000	922,000	1,354,000
2524	CSAH 18 to CSAH 32	560	610	421,000	617,000	746,000	1,089,000

REMARKS:

Used VC Year 1993 for split percentage: 36.3%

TH 11, MN 11 From 2.23 MI W of CR 83 to 3.34 MI W of CR 83.

F2-2310 SP 3604-80



- ★ VC Location
- TH Reference Posts
- Forecasted Construction Project

CUMULATIVE ESAL REPORT

SEGMENT A1

ROUTE #: MN 11 DISTRICT: D2 DATE: 06/27/23
 FORECAST #: F2-2310 COUNTY: Koochiching SP#: 3604-80
 LOCATION: CSAH 35 to CSAH 18
 AUTHOR: Adam Wick AUTHOR'S DISTRICT: D2

BASE YEAR NUMBER OF LANES: 2

TRAFFIC SUMMARY	BASE YEAR	DESIGN YEAR	YEARLY
TWO-WAY	2025	2045	GROWTH
			(SIMPLE %)
AADT:	850	930	0.47%
DESIGN LANE:	430	470	0.47%
HCADT:	155	170	0.48%
SINGLE UNITS:	60	65	0.42%
TST'S:	85	95	0.59%
5 Ax+:	50	55	0.50%

ESAL SUMMARY

ANNUAL DESIGN LANE ESAL

FLEXIBLE:	21114	23126
RIGID:	31228	33924

**CUMULATIVE DESIGN-LANE ESALS (10 TON)
FOR VARIABLE TIME PERIODS**

Design-lane factor: **0.5**

BASE YEAR	DESIGN YEAR	TIME PERIOD	DESIGN-LANE TST'S	ESALS	
				FLEXIBLE	RIGID
2025	2035	10 Year	45	266,000	393,000
2025	2040	15 Year	46	392,000	578,000
2025	2045	20 Year	48	520,000	766,000
2025	2050	25 Year	49	651,000	958,000
2025	2055	30 Year	50	785,000	1,154,000
2025	2060	35 Year	51	922,000	1,354,000

APPROVED BY Gene Hicks, PE DATE _____

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Date: 2023.06.27 13:42:16 -05'00'

CUMULATIVE ESAL REPORT

SEGMENT B1

CORRESPONDS: SEGMENT A1

ROUTE #: MN 11 DISTRICT: D2 DATE: 6/27/2023
 FORECAST #: F2-2310 COUNTY: Koochiching SP#: 3604-80
 LOCATION: CSAH 18 to CSAH 32
 AUTHOR: Adam Wick AUTHOR'S DISTRICT: D2

BASE YEAR NUMBER OF LANES: 2

TRAFFIC SUMMARY	BASE YEAR	DESIGN YEAR	YEARLY GROWTH
TWO-WAY	2025	2045	(SIMPLE %)
AADT:	560	610	0.45%
DESIGN LANE:	280	310	0.54%
HCADT:	125	140	0.60%
SINGLE UNITS:	45	50	0.56%
TST'S:	75	80	0.33%
5 Ax+:	45	45	0.00%

ESAL SUMMARY

ANNUAL DESIGN LANE ESAL

FLEXIBLE:	17106	18703
RIGID:	25207	27280

CUMULATIVE DESIGN-LANE ESALS (10 TON)
FOR VARIABLE TIME PERIODS

Design-lane factor: 0.5

BASE YEAR	DESIGN YEAR	TIME PERIOD	DESIGN-LANE TST'S	ESALS	
				FLEXIBLE	RIGID
2025	2035	10 Year	39	216,000	317,000
2025	2040	15 Year	39	317,000	466,000
2025	2045	20 Year	40	421,000	617,000
2025	2050	25 Year	41	527,000	772,000
2025	2055	30 Year	41	636,000	929,000
2025	2060	35 Year	42	746,000	1,089,000

Gene Hicks, PE

APPROVED BY _____ DATE _____

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Date: 2023.06.27 13:42:58 -05'00'

MN 11 From 2.23 MI W of CR 83 to 3.34 MI W of CR 83
 SP 3604-80
 Koochiching County
 RP 168.918-170.027
 Letting Date: 2/1/2025

Project Manager: Jim Bittmann
 F2-2310
 Base Year: 2025, Forecast Year: 2045
 VC 1608
 Years: 2019, 2017, 2013 & 2007

<u>SEQ 2688</u>		<u>SEQ 2152</u>	
2019 -	820	2022 -	548
2017 -	870	2021 -	670
2015 -	940	2018 -	710
2013 -	910	2016 -	640
2011 -	830	2014 -	580
2009 -	890	2012 -	660
2006 -	800	2010 -	790
2004 -	900	2008 -	790
2002 -	840	2006 -	760
2000 -	900	2004 -	760
1998 -	800	2002 -	770
1996 -	820	2000 -	680
1994 -	910	1998 -	680
1992 -	950	1996 -	860
<hr/>		<hr/>	
2025 -	850	1994 -	620
2045 -	930	1992 -	410
R ² -	0.01	2025 -	560
GR -	0.47%	2045 -	610
		R ² -	0.00
		GR -	0.45%

Legend

- Project Loc. -
- Seg. Breaks -
- ATR Site Loc. -

