

APPENDIX V

Downline Analysis

Contents

List of Tables.....	ii
List of Figures.....	x
Appendix V Downline Analysis	V-1
V.1 Transportation.....	V-1
V.1.1 Grade-Crossing Safety.....	V-1
V.1.2 Grade-Crossing Delay.....	V-79
V.2 Air Quality.....	V-221
V.2.1 Inputs	V-221
V.2.2 Emissions Calculations	V-222
V.3 Noise and Vibration	V-402
V.3.1 Changes in Rail Noise Due to Changes in Rail Traffic.....	V-402
V.3.2 Quiet Zone Analysis: Downline Segment 20 (Fargo to Willmar)	V-402
V.4 Environmental Justice	V-407
V.4.1 Minority Populations	V-407
V.4.2 Low-Income Populations	V-408
V.5 References	V-410

Tables

Table V.1-1. Grade Crossing Safety, Segment 4 – Northern from Nichols, MT to Miles City, MT, Colstrip and Colstrip East Alternatives – 50.5 trains per day (Year 2037)	V-3
Table V.1-2. Grade Crossing Safety, Segment 4 – Northern from Nichols, MT to Miles City, MT, Moon Creek and Moon Creek East Alternatives – 50.5 trains per day (Year 2037)	V-4
Table V.1-3. Grade Crossing Safety, Segment 4 – Northern from Nichols, MT to Miles City, MT, Tongue River, Tongue River East, Tongue River Road, and Tongue River Road East Alternatives – 50.5 trains per day (Year 2037)	V-4
Table V.1-4. Grade Crossing Safety, Segment 4 - Southern from Nichols, MT to Miles City, MT, Analysis Year 2037	V-5
Table V.1-5. Grade Crossing Safety, Segment 5 from Nichols, MT to Huntley, MT, Analysis Year 2037	V-6
Table V.1-6. Grade Crossing Safety, Segment 6 from Spring Creek, MT to Dutch, WY, Analysis Year 2037	V-8
Table V.1-7. Grade Crossing Safety, Segment 7 from Dutch, WY to Huntley, MT, Analysis Year 2037	V-9
Table V.1-8. Grade Crossing Safety, Segment 9 - Northern from Dutch, WY to Donkey Creek, WY, Analysis Year 2030	V-12
Table V.1-9. Grade Crossing Safety, Segment 9 - Southern from Dutch, WY to Donkey Creek, WY, Analysis Year 2037	V-13
Table V.1-10. Grade Crossing Safety, Segment 10 from Donkey Creek, WY to Edgemont, SD, Analysis Year 2037	V-14
Table V.1-11. Grade Crossing Safety, Segment 11 from Edgemont, SD to Crawford, NE, Analysis Year 2037	V-15
Table V.1-12. Grade Crossing Safety, Segment 12 from Crawford, NE to Alliance, NE, Analysis Year 2037	V-16
Table V.1-13. Grade Crossing Safety, Segment 16 - Northern from Miles City, MT to Glendive, MT, Analysis Year 2037	V-18
Table V.1-14. Grade Crossing Safety, Segment 16 - Southern from Miles City, MT to Glendive, MT, Analysis Year 2037	V-20
Table V.1-15. Grade Crossing Safety, Segment 17 - Northern from Glendive, MT to Mandan, ND, Analysis Year 2037	V-22
Table V.1-16. Grade Crossing Safety, Segment 17 - Southern from Glendive, MT to Mandan, ND, Analysis Year 2037	V-27
Table V.1-17. Grade Crossing Safety, Segment 18 - Northern from Mandan, ND to Fargo, ND, Analysis Year 2037	V-32
Table V.1-18. Grade Crossing Safety, Segment 18 - Southern from Mandan, ND to Fargo, ND, Analysis Year 2037	V-40
Table V.1-19. Grade Crossing Safety, Segment 20 - Northern from Fargo, ND to Willmar, MN, Analysis Year 2037	V-48

Table V.1-20. Grade Crossing Safety, Segment 20 - Southern from Fargo, ND to Willmar, MN, Analysis Year 2037	V-56
Table V.1-21. Grade Crossing Safety, Segment 21 from Willmar, MN to St Paul, MN, Analysis Year 2023	V-64
Table V.1-22. Grade Crossing Safety, Segment 23 from St Paul, MN to N La Crosse, WI, Analysis Year 2023	V-68
Table V.1-23. Grade Crossing Safety, Segment 24 from N La Crosse, WI to Aurora, IL, Analysis Year 2023	V-71
Table V.1-24. Grade-Crossing Delay, Segment 4, Colstrip and Colstrip East Alternatives – 50.5 trains per day (Year 2037)	V-81
Table V.1-25. Grade-Crossing Delay, Segment 4, Moon Creek and Moon Creek East Alternatives – 50.5 trains per day (Year 2037)	V-82
Table V.1-26. Grade-Crossing Delay, Segment 4, Tongue River, Tongue River East, Tongue River Road, and Tongue River Road East Alternatives – 50.5 trains per day (Year 2037)	V-83
Table V.1-27. Grade-Crossing Delay, Segment 4 - Southern from Nichols, MT to Miles City, MT, Analysis Year 2037	V-84
Table V.1-28. Grade-Crossing Delay, Segment 5 from Nichols, MT to Huntley, MT, Analysis Year 2037	V-85
Table V.1-29. Grade-Crossing Delay, Segment 6 from Spring Creek, MT to Dutch, WY, Analysis Year 2037	V-89
Table V.1-30. Grade-Crossing Delay, Segment 7 from Dutch, WY to Huntley, MT, Analysis Year 2037	V-89
Table V.1-31. Grade-Crossing Delay, Segment 9 - Northern from Dutch, WY to Donkey Creek, WY, Analysis Year 2030	V-94
Table V.1-32. Grade-Crossing Delay, Segment 9 - Southern from Dutch, WY to Donkey Creek, WY, Analysis Year 2037	V-96
Table V.1-33. Grade-Crossing Delay, Segment 10 from Donkey Creek, WY to Edgemont, SD, Analysis Year 2037	V-98
Table V.1-34. Grade-Crossing Delay, Segment 11 from Edgemont, SD to Crawford, NE, Analysis Year 2037	V-100
Table V.1-35. Grade-Crossing Delay, Segment 12 from Crawford, NE to Alliance, NE, Analysis Year 2037	V-102
Table V.1-36. Grade-Crossing Delay, Segment 16 - Northern from Miles City, MT to Glendive, MT, Analysis Year 2037	V-105
Table V.1-37. Grade-Crossing Delay, Segment 16 - Southern from Miles City, MT to Glendive, MT, Analysis Year 2037	V-108
Table V.1-38. Grade-Crossing Delay, Segment 17 - Northern from Glendive, MT to Mandan, ND, Analysis Year 2037	V-111
Table V.1-39. Grade-Crossing Delay, Segment 17 - Southern from Glendive, MT to Mandan, ND, Analysis Year 2037	V-121
Table V.1-40. Grade-Crossing Delay, Segment 18 - Northern from Mandan, ND to Fargo, ND, Analysis Year 2037	V-131

Table V.1-41. Grade-Crossing Delay, Segment 18 - Southern from Mandan, ND to Fargo, ND, Analysis Year 2037	V-147
Table V.1-42. Grade-Crossing Delay, Segment 20 - Northern from Fargo, ND to Willmar, MN, Analysis Year 2037	V-163
Table V.1-43. Grade-Crossing Delay, Segment 20 - Southern from Fargo, ND to Willmar, MN, Analysis Year 2037	V-179
Table V.1-44. Grade-Crossing Delay, Segment 21 from Willmar, MN to St Paul, MN Analysis Year 2023	V-194
Table V.1-45. Grade-Crossing Delay, Segment 23 from St Paul, MN to N La Crosse, WI, Analysis Year 2023	V-201
Table V.1-46. Grade-Crossing Delay, Segment 24 from N La Crosse, WI to Aurora, IL, Analysis Year 2023	V-206
Table V.2-1. Segment Counties	V-221
Table V.2-2. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Colstrip Alternative, Hazardous Pollutants.....	V-223
Table V.2-3. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Colstrip Alternative, Greenhouse Gas Emissions	V-223
Table V.2-4. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Moon Creek Alternative, Criteria Pollutants.....	V-224
Table V.2-5. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Moon Creek Alternative, Hazardous Pollutants.....	V-224
Table V.2-6. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Moon Creek Alternative, Greenhouse Gas Emissions	V-224
Table V.2-7. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Tongue River Alternative and Tongue River Road Alternative, Criteria Pollutants.....	V-225
Table V.2-8. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Tongue River Alternative and Tongue River Road Alternative, Hazardous Pollutants	V-225
Table V.2-9. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Tongue River Alternative and Tongue River Road Alternative, Greenhouse Gas Emissions	V-225
Table V.2-10. Grade Crossing Emissions, Segment 4 – Southern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037, Criteria Pollutants	V-226
Table V.2-11. Grade Crossing Emissions, Segment 4 – Southern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037, Hazardous Pollutants	V-226
Table V.2-12. Grade Crossing Emissions, Segment 4 – Southern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-227

Table V.2-13. Grade Crossing Emissions, Segment 5 from Nichols, MT to Huntley, MT, Downline Analysis, Year 2037, Criteria Pollutants	V-228
Table V.2-14. Grade Crossing Emissions, Segment 5 from Nichols, MT to Huntley, MT, Downline Analysis, Year 2037, Hazardous Pollutants	V-229
Table V.2-15. Grade Crossing Emissions, Segment 5 from Nichols, MT to Huntley, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-231
Table V.2-16. Grade Crossing Emissions, Segment 6 from Spring Creek, MT to Dutch, WY, Downline Analysis, Year 2037, Criteria Pollutants	V-232
Table V.2-17. Grade Crossing Emissions, Segment 6 from Spring Creek, MT to Dutch, WY, Downline Analysis, Year 2037, Hazardous Pollutants	V-232
Table V.2-18. Grade Crossing Emissions, Segment 6 from Spring Creek, MT to Dutch, WY, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-232
Table V.2-19. Grade Crossing Emissions, Segment 7 from Dutch, WY to Huntley, MT, Downline Analysis, Year 2037, Criteria Pollutants	V-233
Table V.2-20. Grade Crossing Emissions, Segment 7 from Dutch, WY to Huntley, MT, Downline Analysis, Year 2037, Hazardous Pollutants	V-235
Table V.2-21. Grade Crossing Emissions, Segment 7 from Dutch, WY to Huntley, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-237
Table V.2-22. Grade Crossing Emissions, Segment 9 – Northern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2030, Criteria Pollutants.....	V-239
Table V.2-23. Grade Crossing Emissions, Segment 9 – Northern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2030, Hazardous Pollutants	V-239
Table V.2-24. Grade Crossing Emissions, Segment 9 – Northern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2030, Greenhouse Gas Emissions	V-240
Table V.2-25. Grade Crossing Emissions, Segment 9 – Southern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2037, Criteria Pollutants.....	V-240
Table V.2-26. Grade Crossing Emissions, Segment 9 – Southern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2037, Hazardous Pollutants	V-241
Table V.2-27. Grade Crossing Emissions, Segment 9 – Southern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-241
Table V.2-28. Grade Crossing Emissions, Segment 10 from Donkey Creek, WY to Edgemont, SD, Downline Analysis, Year 2037, Criteria Pollutants.....	V-242
Table V.2-29. Grade Crossing Emissions, Segment 10 from Donkey Creek, WY to Edgemont, SD, Downline Analysis, Year 2037, Hazardous Pollutants.....	V-242
Table V.2-30. Grade Crossing Emissions, Segment 10 from Donkey Creek, WY to Edgemont, SD, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-243
Table V.2-31. Grade Crossing Emissions, Segment 11 from Edgemont, SD to Crawford, NE, Downline Analysis, Year 2037, Criteria Pollutants	V-244
Table V.2-32. Grade Crossing Emissions, Segment 11 from Edgemont, SD to Crawford, NE, Downline Analysis, Year 2037, Hazardous Pollutants.....	V-245
Table V.2-33. Grade Crossing Emissions, Segment 11 from Edgemont, SD to Crawford, NE, Downline Analysis, Year 2037, Greenhouse Gas Emissions.....	V-246
Table V.2-34. Grade Crossing Emissions, Segment 12 from Crawford, NE to Alliance, NE, Downline Analysis, Year 2037, Criteria Pollutants	V-247

Table V.2-35. Grade Crossing Emissions, Segment 12 from Crawford, NE to Alliance, NE, Downline Analysis, Year 2037, Hazardous Pollutants.....	V-248
Table V.2-36. Grade Crossing Emissions, Segment 12 from Crawford, NE to Alliance, NE, Downline Analysis, Year 2037, Greenhouse Gas Emissions.....	V-249
Table V.2-37. Grade Crossing Emissions, Segment 16 – Northern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Criteria Pollutants.....	V-250
Table V.2-38. Grade Crossing Emissions, Segment 16 – Northern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Hazardous Pollutants	V-251
Table V.2-39. Grade Crossing Emissions, Segment 16 – Northern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-252
Table V.2-40. Grade Crossing Emissions, Segment 16 – Southern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Criteria Pollutants.....	V-253
Table V.2-41. Grade Crossing Emissions, Segment 16 – Southern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Hazardous Pollutants	V-254
Table V.2-42. Grade Crossing Emissions, Segment 16 – Southern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-255
Table V.2-43. Grade Crossing Emissions, Segment 17 – Northern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Criteria Pollutants.....	V-256
Table V.2-44. Grade Crossing Emissions, Segment 17 – Northern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Hazardous Pollutants.....	V-259
Table V.2-45. Grade Crossing Emissions, Segment 17 – Northern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-263
Table V.2-46. Grade Crossing Emissions, Segment 17 – Southern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Criteria Pollutants.....	V-266
Table V.2-47. Grade Crossing Emissions, Segment 17 – Southern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Hazardous Pollutants.....	V-269
Table V.2-48. Grade Crossing Emissions, Segment 17 – Southern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-273
Table V.2-49. Grade Crossing Emissions, Segment 18 – Northern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Criteria Pollutants	V-276
Table V.2-50. Grade Crossing Emissions, Segment 18 – Northern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Hazardous Pollutants	V-280
Table V.2-51. Grade Crossing Emissions, Segment 18 – Northern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Greenhouse Gas Emissions	V-286
Table V.2-52. Grade Crossing Emissions, Segment 18 – Southern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Criteria Pollutants	V-290
Table V.2-53. Grade Crossing Emissions, Segment 18 – Southern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Hazardous Pollutants	V-294
Table V.2-54. Grade Crossing Emissions, Segment 18 – Southern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Greenhouse Gas Emissions.....	V-300
Table V.2-55. Grade Crossing Emissions, Segment 20 – Northern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Criteria Pollutants.....	V-304
Table V.2-56. Grade Crossing Emissions, Segment 20 – Northern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Hazardous Pollutants.....	V-308

Table V.2-57. Grade Crossing Emissions, Segment 20 – Northern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Greenhouse Gas Emissions.....	V-314
Table V.2-58. Grade Crossing Emissions, Segment 20 – Southern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Criteria Pollutants.....	V-318
Table V.2-59. Grade Crossing Emissions, Segment 20 – Southern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Hazardous Pollutants.....	V-322
Table V.2-60. Grade Crossing Emissions, Segment 20 – Southern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Greenhouse Gas Emissions.....	V-328
Table V.2-61. Grade Crossing Emissions, Segment 21 from Willmar, MN to St Paul, MN, Downline Analysis, Year 2023, Criteria Pollutants	V-332
Table V.2-62. Grade Crossing Emissions, Segment 21 from Willmar, MN to St Paul, MN, Downline Analysis, Year 2023, Hazardous Pollutants	V-334
Table V.2-63. Grade Crossing Emissions, Segment 21 from Willmar, MN to St Paul, MN, Downline Analysis, Year 2023, Greenhouse Gas Emissions	V-337
Table V.2-64. Grade Crossing Emissions, Segment 23 from St Paul, MN to N La Crosse, WI, Downline Analysis, Year 2023, Criteria Pollutants	V-339
Table V.2-65. Grade Crossing Emissions, Segment 23 from St Paul, MN to N La Crosse, WI, Downline Analysis, Year 2023, Hazardous Pollutants	V-341
Table V.2-66. Grade Crossing Emissions, Segment 23 from St Paul, MN to N La Crosse, WI, Downline Analysis, Year 2023, Greenhouse Gas Emissions	V-343
Table V.2-67. Grade Crossing Emissions, Segment 24 from N La Crosse, WI to Aurora, IL, Downline Analysis, Year 2023, Criteria Pollutants.....	V-345
Table V.2-68. Grade Crossing Emissions, Segment 24 from N La Crosse, WI to Aurora, IL, Downline Analysis, Year 2023, Hazardous Pollutants.....	V-349
Table V.2-69. Grade Crossing Emissions, Segment 24 from N La Crosse, WI to Aurora, IL, Downline Analysis, Year 2023, Greenhouse Gas Emissions	V-354
Table V.2-70. Summary of Segment Grade Crossing Emissions, Criteria Pollutants.....	V-358
Table V.2-71. Summary of Segment Grade Crossing Emissions, Hazardous Pollutants.....	V-359
Table V.2-72. Summary of Segment Grade Crossing Emissions, Greenhouse Gas Emissions	V-360
Table V.2-73. Construction Supply Train Emissions, Downline ¹ , Criteria Pollutants.....	V-361
Table V.2-74. Construction Supply Train Emissions, Downline ¹ , Hazardous Pollutants.....	V-363
Table V.2-75. Construction Supply Train Emissions, Downline ¹ , Greenhouse Gases.....	V-365
Table V.2-76. Estimated Annual Average Downline Operational Emissions: Criteria Pollutants Summary for Maximum Increase in Trains per Day.....	V-367
Table V.2-77. Estimated Annual Average Downline Operational Emissions: Hazardous Air Pollutants Summary for Maximum Increase in Trains per Day	V-369
Table V.2-78. Estimated Annual Average Downline Operational Emissions: Greenhouse Gases Summary for Maximum Increase in Trains per Day.....	V-371
Table V.2-79. Estimated Annual Average Downline Operational Emissions: Nonattainment and Maintenance Areas Summary for Maximum Increase in Trains per Day	V-373

Table V.2-80. Estimated Annual Average Downline Operational Emissions: Segment 3 – Colstrip, MT – Nichols, MT, 2037	V-374
Table V.2-81. Estimated Annual Average Downline Operational Emissions: Segment 4 – Nichols, MT – Miles City, MT, 2037	V-375
Table V.2-82. Estimated Annual Average Downline Operational Emissions: Segment 5 – Nichols, MT – Huntley, MT, 2037	V-376
Table V.2-83. Estimated Annual Average Downline Operational Emissions: Segment 6 – Spring Creek, MT – Dutch, WY, 2037	V-377
Table V.2-84. Estimated Annual Average Downline Operational Emissions: Segment 7a – Dutch, WY – Huntley, MT, 2037	V-378
Table V.2-85. Estimated Annual Average Downline Operational Emissions: Segment 7b – Dutch, WY – Huntley, MT, 2037	V-379
Table V.2-86. Estimated Annual Average Downline Operational Emissions: Segment 7c – Dutch, WY – Huntley, MT, 2037	V-380
Table V.2-87. Estimated Annual Average Downline Operational Emissions: Segment 9 – Dutch, WY – Donkey Creek, WY, 2030 (Northern) and 2037 (Southern)	V-381
Table V.2-88. Estimated Annual Average Downline Operational Emissions: Segment 10 – Donkey Creek, WY – Edgemont, SD, 2037	V-382
Table V.2-89. Estimated Annual Average Downline Operational Emissions: Segment 11 – Edgemont, SD – Crawford, NE, 2037	V-383
Table V.2-90. Estimated Annual Average Downline Operational Emissions: Segment 12 – Crawford, NE – Alliance, NE, 2037	V-384
Table V.2-91. Estimated Annual Average Downline Operational Emissions: Segment 16 – Miles City, MT – Glendive, MT, 2037	V-385
Table V.2-92. Estimated Annual Average Downline Operational Emissions: Segment 17 – Glendive, MT – Mandan, ND, 2037	V-386
Table V.2-93. Estimated Annual Average Downline Operational Emissions: Segment 18 – Mandan, ND – Fargo, ND, 2037	V-387
Table V.2-94. Estimated Annual Average Downline Operational Emissions: Segment 20 – Fargo, ND – Willmar, MN, 2037	V-388
Table V.2-95. Estimated Annual Average Downline Operational Emissions: Segment 21a – Willmar, MN – St Paul, MN, 2023	V-389
Table V.2-96. Estimated Annual Average Downline Operational Emissions: Segment 21b – Willmar, MN – St Paul, MN, 2023	V-390
Table V.2-97. Estimated Annual Average Downline Operational Emissions: Segment 21c – Willmar, MN – St Paul, MN, 2023	V-391
Table V.2-98. Estimated Annual Average Downline Operational Emissions: Segment 21d – Willmar, MN – St Paul, MN, 2023	V-392
Table V.2-99. Estimated Annual Average Downline Operational Emissions: Segment 23a – St. Paul, MN – N La Crosse, WI, 2023	V-393
Table V.2-100. Estimated Annual Average Downline Operational Emissions: Segment 23b – St. Paul, MN – N La Crosse, WI, 2023	V-394
Table V.2-101. Estimated Annual Average Downline Operational Emissions: Segment 24a – N La Crosse, WI – Aurora, IL, 2023	V-395

Table V.2-102. Estimated Annual Average Downline Operational Emissions: Segment 24b – N La Crosse, WI – Aurora, IL, 2023	V-396
Table V.2-103. Estimated Annual Average Downline Operational Emissions: Segment 24a – N La Crosse, WI – Aurora, IL, 2023	V-397
Table V.2-104. General Conformity Comparison: Estimated Annual Average Downline Operational Emissions: Maximum Increase in Trains per Day Summary	V-398
Table V.2-105. Estimated Annual Average Downline Operational Emissions and Comparison to County Level Emissions.....	V-400
Table V.3-1. Fargo to Willmar Quiet Zone Analysis ^{a,b}	V-403
Table V.4-1. Demographics in the Downline Study Area.....	V-407
Table V.4-2. Minority Populations in the Downline Study Area.....	V-407
Table V.4-3. Low-Income Characteristics of the Downline Study Area	V-408
Table V.4-4. Low-Income Populations in the Downline Study Area	V-409

Figures

All figures are compiled at the end of the appendix.

Figures V-1 through V-31. Downline Noise Contours and Environmental Justice Populations, Segment 20

Acronyms and Abbreviations

AADT	annual average daily traffic
dba	A-weighted decibel
DNL	day-night average noise level
FRA	Federal Railway Administration
LOS	level of service

This appendix provides data, methods, and figures that support the analysis of the downline environmental impacts. OEA analyzed downline impacts on transportation, air quality, noise and vibration, and environmental justice (Chapter 17, *Downline Impacts*).

V.1 Transportation

V.1.1 Grade-Crossing Safety

OEA analyzed traffic safety downline from the points where the proposed rail line would join existing mainlines. This analysis focused on existing public, at-grade rail/roadway crossings using 5-year accident history at each crossing. OEA calculated the potential change in the predicted accident frequency (accidents per year) from the No-Action Alternative to the expected train traffic levels under each build alternative. The train traffic levels for all alternatives were derived from the coal production scenarios (low, medium, high) described in Appendix C, *Coal Production and Markets*. OEA used Federal Railway Administration (FRA) data on public at-grade crossings (Federal Railway Administration 2013a) for past accident frequency future train traffic and average daily traffic (AADT) using state transportation department traffic maps and reports (Montana Department of Transportation 2012, Wyoming Department of Transportation 2012, North Dakota Department of Transportation 2011, Wisconsin Department of Transportation 2012, Illinois Department of Transportation 2010 and 2011, Iowa Department of Transportation 2012, South Dakota Department of Transportation 2012, Minnesota Department of Transportation 2012, Nebraska Department of Roads 2012). Where current AADT values were not available from state agency traffic maps, OEA used AADT values from FRA (2013a).

OEA calculated the predicted accident frequency using the FRA GradeDec.Net Model. This free and open-source model was released in January 2003 and integrates several modeling capabilities into a single package. It analyzes the following components.

- Grade-crossing safety
- Cost-benefit for future investments
- High-speed rail corridors

GradeDec.Net allows the user to import up to 600 grade crossings and accepts the following data to calculate the annual accident prediction rate.

- Number of freight and passenger trains
- AADT

- Train length
- Train speed
- Crossing devices

GradeDec.Net uses two safety prediction models, the U.S. Department of Transportation Accident Prediction and Severity Model and the Volpe National Transportation System Center High-Speed Rail Accident Severity Model. OEA used the results of the accident prediction and severity model, which reports accident prediction rates for injuries, fatalities, property damage only, and total accidents (Federal Railroad Administration 2013b).

Tables V.1-1 through V.1-4 show the analysis for existing grade crossings in Segment 4. Tables V.1-5 through V.1-23 show the results of the grade-crossing safety analysis for the other downline segments, all of which would have new grade crossings.

Table V.1-1 Grade Crossing Safety, Segment 4 – Northern from Nichols, MT to Miles City, MT, Colstrip and Colstrip East Alternatives – 50.5 trains per day (Year 2037)

STREET	FRA Crossing ID	Milepost	Number of Lanes	AADT	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	
4TH ST	092658M	007872	2	1,785	60	6154	34.5	0.02316	43	60	6745	50.5	0.026535	38	
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6154	34.5	0.01402	71	60	6745	50.5	0.015821	63	
MILES CITY SW 2MI	092654K	008073	1	103	60	6154	34.5	0.01668	60	60	6745	50.5	0.019800	51	
MILES CITY SW 5MI	092653D	008290	1	15	60	6154	34.5	0.00766	130	60	6745	50.5	0.009278	108	
ROSEBUD E 0.2MI	092644E	011115	2	59	50	6154	34.5	0.01319	76	50	6745	50.5	0.015779	63	
ROSEBUD	092643X	011143	2	457	50	6154	34.5	0.01886	53	50	6745	50.5	0.021784	46	
18TH AVE	087402Y	012310	2	1,859	60	6154	34.5	0.02333	43	60	6745	50.5	0.026731	37	
10TH AVE	087403F	012365	2	3,983	60	6154	34.5	0.03417	29	60	6745	50.5	0.038388	26	
Average Predicted Accident Frequency and Interval (No Action)								0.016937	59	Average Predicted Accident Frequency and Interval (Proposed Action)				0.019520	51

Table V.1-2. Grade Crossing Safety, Segment 4 – Northern from Nichols, MT to Miles City, MT, Moon Creek and Moon Creek East Alternatives – 50.5 trains per day (Year 2037)

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency				
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
4TH ST	092658M	007872	2	1,785	60	6154	34.5	0.02316	43	60	6745	50.5	0.026535	38
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6154	34.5	0.01402	71	60	6745	50.5	0.015821	63
MILES CITY SW 2MI	092654K	008073	1	103	60	6154	34.5	0.01668	60	60	6745	50.5	0.019800	51
MILES CITY SW 5MI	092653D	008290	1	15	60	6154	34.5	0.00766	130	60	6745	50.5	0.009278	108
Average Predicted Accident Frequency and Interval (No Action)								0.013794	72	Average Predicted Accident Frequency and Interval (Proposed Action)				
													0.016017	62

Table V.1-3. Grade Crossing Safety, Segment 4 – Northern from Nichols, MT to Miles City, MT, Tongue River, Tongue River East, Tongue River Road, and Tongue River Road East Alternatives – 50.5 trains per day (Year 2037)

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency				
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
4TH ST	092658M	007872	2	1,785	60	6154	34.5	0.02316	43	60	6745	50.5	0.026535	38
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6154	34.5	0.01402	71	60	6745	50.5	0.015821	63
Average Predicted Accident Frequency and Interval (No Action)								0.016672	60	Average Predicted Accident Frequency and Interval (Proposed Action)				
													0.018994	53

Table V.1-4. Grade Crossing Safety, Segment 4 - Southern from Nichols, MT to Miles City, MT, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	
4TH ST	092658M	007872	2	1,785	60	6154	34.5	0.02316	43	60	6745	43.5	0.025173	40	
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6154	34.5	0.01402	71	60	6745	43.5	0.015099	66	
MILES CITY SW 2MI	092654K	008073	1	103	60	6154	34.5	0.01668	60	60	6745	43.5	0.018528	54	
MILES CITY SW 5MI	092653D	008290	1	15	60	6154	34.5	0.00766	130	60	6745	43.5	0.008612	116	
ROSEBUD E 0.2MI	092644E	011115	2	59	50	6154	34.5	0.01319	76	50	6745	43.5	0.014719	68	
ROSEBUD	092643X	011143	2	457	50	6154	34.5	0.01886	53	50	6745	43.5	0.020601	49	
18TH AVE	087402Y	012310	2	1,859	60	6154	34.5	0.02333	43	60	6745	43.5	0.025363	39	
10TH AVE	087403F	012365	2	3,983	60	6154	34.5	0.03417	29	60	6745	43.5	0.036711	27	
Average Predicted Accident Frequency and Interval (No Action)								0.01694	59	Average Predicted Accident Frequency and Interval (Proposed Action)				0.018476	54

Table V.1-5. Grade Crossing Safety, Segment 5 from Nichols, MT to Huntley, MT, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
FORSYTH W 8MI	087412E	013278	2	118	60	6154	30.9	0.01678	60	60	6613	39.9	0.018212	55
SANDERS E 4MI	087421D	014085	1	15	60	6154	30.9	0.00645	155	60	6613	39.9	0.007351	136
SANDERS E 2.5MI	087422K	014233	1	44	60	6154	30.9	0.01182	85	60	6613	39.9	0.013362	75
SANDERS	087425F	014409	1	15	60	6154	30.9	0.00759	132	60	6613	39.9	0.008629	116
SANDERS	087426M	014437	1	15	60	6154	30.9	0.00759	132	60	6613	39.9	0.008629	116
SANDERS W 0.8MI	087428B	014541	2	15	60	6154	30.9	0.00846	118	60	6613	39.9	0.009607	104
SANDERS W 1.5MI	087429H	014611	2	59	60	6154	30.9	0.01298	77	60	6613	39.9	0.014650	68
HYSHAM E 3.5MI	087430C	014709	1	103	60	6154	30.9	0.01599	63	60	6613	39.9	0.017965	56
HYSHAM E 2.5MI	087431J	014810	1	177	60	6154	30.9	0.01937	52	60	6613	39.9	0.021661	46
HYSHAM E 1.9MI	087432R	014867	1	133	60	6154	30.9	0.01770	57	60	6613	39.9	0.019841	50
HYSHAM SW 3MI	087439N	015403	2	89	60	6154	30.9	0.01572	64	60	6613	39.9	0.017674	57
HYSHAM SW 5MI	087441P	015680	2	280	60	6154	30.9	0.01407	71	60	6613	39.9	0.015597	64
S-310	087297A	017225	2	443	60	6154	30.9	0.01589	63	60	6613	39.9	0.017574	57
POMPEYS PILLAR N	087330X	019431	1	30	60	6154	30.9	0.00846	118	60	6613	39.9	0.010654	94
POMPEYS PILLAR W	087331E	019534	1	44	60	6154	30.9	0.01067	94	60	6613	39.9	0.013362	75
OLD FLY CREEK RD	087334A	019637	2	15	60	6154	30.9	0.00540	185	60	6613	39.9	0.006807	147
S 28TH RD	087336N	019790	2	236	60	6154	30.9	0.03054	33	60	6613	39.9	0.036329	28
S 26TH RD	087337V	019888	2	89	60	6154	30.9	0.02331	43	60	6613	39.9	0.028252	35
S 25TH RD	087338C	019944	2	74	60	6154	30.9	0.02153	46	60	6613	39.9	0.026188	38
S 24TH RD	087339J	019996	2	59	60	6154	30.9	0.02037	49	60	6613	39.9	0.024944	40
S 23RD RD	087340D	020048	1	59	60	6154	30.9	0.02001	50	60	6613	39.9	0.024485	41

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
NIBBE W 3MI S 22N	087341K	020101	2	74	60	6154	30.9	0.02153	46	60	6613	39.9	0.024485	41
S 21ST RD	087342S	020153	2	44	60	6154	30.9	0.01880	53	60	6613	39.9	0.023127	43
WORDEN E 2.5MI	087343Y	020205	2	59	60	6154	30.9	0.02055	49	60	6613	39.9	0.025091	40
S 18TH RD	087344F	020308	2	103	60	6154	30.9	0.02367	42	60	6613	39.9	0.028652	35
S 16TH RD	087345M	020421	2	856	60	6154	30.9	0.01954	51	60	6613	39.9	0.023133	43
3RD ST	087369B	020462	2	1,328	60	6154	30.9	0.02441	41	60	6613	39.9	0.028594	35
WORDEN SW 1MI	087367M	020534	2	118	60	6154	30.9	0.02509	40	60	6613	39.9	0.030268	33
S 12TH RD	087366F	020656	2	325	60	6154	30.9	0.00767	130	60	6613	39.9	0.009406	106
S 10TH RD	087365Y	020774	2	89	60	6154	30.9	0.02240	45	60	6613	39.9	0.027165	37
WORDEN SW 4MI	087364S	020831	2	133	60	6154	30.9	0.02604	38	60	6613	39.9	0.031354	32
8TH RD 4MI E HUN	087363K	020932	2	369	60	6154	30.9	0.00813	123	60	6613	39.9	0.009947	101
HUNTLEY NE 3.5MI	087362D	020938	2	207	60	6154	30.9	0.01188	84	60	6613	39.9	0.014303	70
FORSYTH W 10MI	087413L	013466	2	44	60	6154	30.9	0.00388	258	60	6613	39.9	0.014754	68
HYSHAM ROUTE 79	087434E	015059	2	221	60	6154	30.9	0.04197	24	60	6613	39.9	0.086910	12
PUMPHOUSE RD	087435L	015109	2	266	60	6154	30.9	0.00402	249	60	6613	39.9	0.010735	93
HUNTLEY-CEMETERY	087359V	087359V	2	207	60	6154	30.9	0.03163	32	60	6613	39.9	0.03477	29
S 6TH RD	087361W	087361W	2	118	60	6154	30.9	0.02681	37	60	6613	39.9	0.02967	34
HYSHAM E 4MI	104010V	104010V	2	398	60	6154	30.9	0.01755	57	60	6613	39.9	0.01937	52
Average Predicted Accident Frequency and Interval (No Action)								0.01708	59	Proposed Action		0.021372	47	

Table V.1-6. Grade Crossing Safety, Segment 6 from Spring Creek, MT to Dutch, WY, Analysis Year 2037

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
TAYLOR ROAD	098817M	000673	1	103	25	6154	28.7	0.00909	110	25	6741	55.4	0.01201	83
Average Predicted Accident Frequency and Interval (No Action)								0.00909	110	Proposed Action			0.01201	83

Table V.1-7. Grade Crossing Safety, Segment 7 from Dutch, WY to Huntley, MT, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
ABERDEEN CO. RD 7	103868L	073149	2	103	50	6154	40.1	0.01815	55	50	6925	49.1	0.01984	50
LITTLE HORN RD	103862V	073663	2	457	50	6154	40.1	0.01072	93	50	6925	49.1	0.01147	87
MAIN ST	103861N	073706	2	15	50	6154	40.1	0.00360	278	50	6925	49.1	0.00394	254
WYOLA N 5MI	103855K	074184	2	74	50	6154	40.1	0.04995	20	50	6925	49.1	0.05277	19
LODGE GRASS S 4.5	103848A	074546	1	118	50	6154	40.1	0.07560	13	50	6925	49.1	0.07993	13
S OF LODGE GRASS	103841C	074936	1	89	50	6154	40.1	0.07134	14	50	6925	49.1	0.07548	13
MT 463	103840V	075014	2	4,086	50	6154	40.1	0.11725	9	50	6925	49.1	0.12250	8
SAND CREEK	104080K	075647	2	148	50	6154	40.1	0.02052	49	50	6925	49.1	0.02238	45
GARRYOWEN S 4.5MI	104084M	076005	1	44	50	6154	40.1	0.01432	70	50	6925	49.1	0.01573	64
GARRYOWEN S 2MI	103837M	076292	2	44	50	6154	40.1	0.01394	72	50	6925	49.1	0.01532	65
SHOULDER BLADE CR	103839B	076485	2	310	50	6154	40.1	0.01605	62	50	6925	49.1	0.01737	58
MAKAWASHA AVE	104062M	077098	2	7,021	50	6154	40.1	0.03273	31	50	6925	49.1	0.03487	29
CROW AGENCY N 0.4	104061F	077143	2	546	50	6154	40.1	0.01139	88	50	6925	49.1	0.01218	82
CROW AGENCY N 2MI	104059E	077296	2	44	50	6154	40.1	0.01420	70	50	6925	49.1	0.01560	64
WEST DUNMORE S 0.	104055C	077605	1	30	50	6154	40.1	0.01193	84	50	6925	49.1	0.01314	76
DUNMORE	104054V	077689	2	118	50	6154	40.1	0.01875	53	50	6925	49.1	0.02049	49
DUNMORE 1MI NW	104052G	077809	2	89	50	6154	40.1	0.02756	36	50	6925	49.1	0.02983	34
HARDIN E 1.5MI	104045W	078189	2	148	50	6154	40.1	0.01317	76	50	6925	49.1	0.01429	70
SLAUGHTERHO USE RD	104041U	078297	2	89	50	6154	40.1	0.01693	59	50	6925	49.1	0.01854	54
E 3RD ST	104039T	078355	2	4,676	50	6154	40.1	0.06412	16	50	6925	49.1	0.06673	15
CENTER AVE	104038L	078382	2	1,829	50	6154	40.1	0.02456	41	50	6925	49.1	0.02637	38

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
HWY 313	104037E	078477	2	2,345	50	6154	40.1	0.02596	39	50	6925	49.1	0.02784	36
HARDIN SW 1.5MI	104035R	078642	2	103	50	6154	40.1	0.01862	54	50	6925	49.1	0.02035	49
HARDIN SW 2MI	103982L	078694	2	89	50	6154	40.1	0.01749	57	50	6925	49.1	0.01914	52
FLY CREEK RD	103973M	080932	2	251	50	6154	40.1	0.02423	41	50	6925	49.1	0.02632	38
BALLANTINE E 4.5M	103963G	081586	1	15	50	6154	40.1	0.00420	238	50	6925	49.1	0.00467	214
S 24TH RD	103962A	081653	2	59	50	6154	40.1	0.01565	64	50	6925	49.1	0.01717	58
S 22ND RD	103960L	081752	2	44	50	6154	40.1	0.01279	78	50	6925	49.1	0.01407	71
BALLANTINE E 2MI	103959S	081854	2	59	50	6154	40.1	0.01502	67	50	6925	49.1	0.01649	61
BALLANTINE E 1MI	103956W	081922	2	221	50	6154	40.1	0.01463	68	50	6925	49.1	0.01586	63
OLD DUMP RD	103955P	082008	1	15	50	6154	40.1	0.00865	116	50	6925	49.1	0.00956	105
5TH ST	103954H	082063	2	1,696	50	6154	40.1	0.02414	41	50	6925	49.1	0.02592	39
BALLANTINE SW 1.5	103952U	082185	2	59	50	6154	40.1	0.01449	69	50	6925	49.1	0.01586	63
S 13 RD	103951M	082239	2	162	50	6154	40.1	0.00744	134	50	6925	49.1	0.00800	125
S 12 RD	103950F	082295	2	59	50	6154	40.1	0.01445	69	50	6925	49.1	0.01586	63
HUNTLEY NE 3.7MI	103946R	082517	2	236	50	6154	40.1	0.05101	20	50	6925	49.1	0.05349	19
HUNTLEY CEMETERY	103941G	082735	2	74	50	6154	40.1	0.01632	61	50	6925	49.1	0.01788	56
WAKLEY ROAD	098854P	069326	2	133	50	6154	40.1	0.01442	69	50	6925	49.1	0.01565	64
1ST STREET	104173E	069836	1	3,142	50	6154	40.1	0.02768	36	50	6925	49.1	0.02965	34
5TH ST/WYO 336	104171R	069864	2	14,544	50	6154	40.1	0.04137	24	50	6925	49.1	0.04375	23
SALE BARN HWY	103877K	069994	2	457	50	6154	40.1	0.02494	40	50	6925	49.1	0.02679	37
339/DECKER R	104137J	070424	2	354	50	6154	40.1	0.01632	61	50	6925	49.1	0.01768	57
KLEENBURN ROAD	104166U	070734	1	59	60	6154	40.1	0.00856	117	60	6925	49.1	0.00934	107

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
MONARCH ROAD	104164F	070809	2	251	60	6154	40.1	0.01488	67	60	6925	49.1	0.01613	62
COOL ROAD	104159J	071120	1	74	60	6154	40.1	0.00923	108	60	6925	49.1	0.01007	99
STATE HWY 343	104141Y	072146	1	516	60	6154	40.1	0.01781	56	60	6925	49.1	0.01926	52
PASS CREEK RD	086364N	072638	2	295	50	6154	40.1	0.01549	65	50	6925	49.1	0.01679	60
Average Predicted Accident Frequency and Interval (No Action)								0.02389	42	Proposed Action			0.02558	39

Table V.1-8. Grade Crossing Safety, Segment 9 - Northern from Dutch, WY to Donkey Creek, WY, Analysis Year 2030

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	098871F	068007	2	69	50	6154	41.9	0.01632	61	50	6758	50.8	0.017769	56
MEADE ST	098898P	066066	2	59	50	6154	41.9	0.02003	50	50	6758	50.8	0.020999	48
ARVADA ROAD	098763J	064271	2	63	50	6154	41.9	0.01084	92	50	6758	50.8	0.011311	88
PEACEFUL VALLEY	098837Y	060204	2	319	50	6154	41.9	0.01912	52	50	6758	50.8	0.020058	50
MCKENZIE ROAD	098836S	060079	2	10,656	50	6154	41.9	0.02028	49	50	6758	50.8	0.021266	47
FOOTHILLS BLVD	095097L	059953	2	354	60	6154	41.9	0.02986	33	60	6875	50.8	0.031130	32
BURMA AVENUE	064976Y	059797	2	459	60	6154	41.9	0.03972	25	60	6875	50.8	0.041170	24
GARNER LAKE RD	064970H	059443	4	466	60	6154	41.9	0.10848	9	60	6875	50.8	0.111219	9
AMERICAN RANCH RD	064966T	059075	2	154	60	6154	41.9	0.02483	40	60	6875	50.8	0.025963	39
POTTER AVE	064969N	059348	2	460	60	6154	41.9	0.01884	53	60	6875	50.8	0.020281	49
Average Predicted Accident Frequency and Interval (No Action)								0.03083	32	Proposed Action			0.032116	31

Table V.1-9. Grade Crossing Safety, Segment 9 - Southern from Dutch, WY to Donkey Creek, WY, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	098871F	068007	2	89	50	6154	44.8	0.01632	61	50	6758	59.9	0.019570	51
MEADE ST	098898P	066066	2	413	50	6154	44.8	0.02003	50	50	6758	59.9	0.02233	45
ARVADA ROAD	098763J	064271	2	457	50	6154	44.8	0.01084	92	50	6758	59.9	0.01196	84
PEACEFUL VALLEY	098837Y	060204	2	561	50	6154	44.8	0.01912	52	50	6758	59.9	0.02134	47
MCKENZIE ROAD	098836S	060079	2	723	50	6154	44.8	0.02028	49	50	6758	59.9	0.02261	44
FOOTHILLS BLVD	095097L	059953	2	2,257	60	6154	44.8	0.02986	33	60	6875	59.9	0.03284	30
BURMA AVENUE	064976Y	059797	2	9,691	60	6154	44.8	0.03972	25	60	6875	59.9	0.04310	23
GARNER LAKE RD	064970H	059443	4	21,166	60	6154	44.8	0.10848	9	60	6875	59.9	0.11482	9
AMERICAN RANCH RD	064966T	059075	2	1,755	60	6154	44.8	0.02483	40	60	6875	59.9	0.02750	36
POTTER AVE	064969N	059348	2	590	60	6154	44.8	0.01884	53	50	6875	59.9	0.02158	46
Average Predicted Accident Frequency and Interval (No Action)								0.03083	32	Proposed Action			0.033764	30

Table V.1-10. Grade Crossing Safety, Segment 10 from Donkey Creek, WY to Edgemont, SD, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
CO RD 769	064904V	049587	2	103	50	6154	64.9	0.02018	50	50	6631	80.3	0.02208	45
BURDOCK LOOP ROAD	064899B	048993	1	118	50	6154	64.9	0.02252	44	50	6631	80.3	0.02458	41
	064898U	048943	2	339	50	6154	64.9	0.02893	35	50	6631	80.3	0.03135	32
	064892D	048518	2	339	50	6154	64.9	0.02893	35	50	6631	80.3	0.03135	32
A ST	064884L	047651	2	575	50	6154	64.9	0.06789	15	50	6631	80.3	0.07143	14
SVALINA RD	064960C	058382	2	295	50	6154	64.9	0.02670	37	50	6631	80.3	0.02874	35
ADON RD	064958B	058218	2	1446	50	6154	64.9	0.03722	27	50	6631	80.3	0.03964	25
STEWART RD	064956M	057914	1	192	50	6154	64.9	0.05140	19	50	6631	80.3	0.05406	18
TEXACO RD	064953S	057520	2	354	50	6154	64.9	0.02228	45	50	6631	80.3	0.02408	42
SHIPWHEEL RD	064950W	057101	2	148	50	6154	64.9	0.01777	56	50	6631	80.3	0.01929	52
WARBONNET RD	064947N	056785	1	74	50	6154	64.9	0.01340	75	50	6631	80.3	0.01461	68
BUFFALO CREEK RD	064944T	056446	1	133	50	6154	64.9	0.01555	64	50	6631	80.3	0.01692	59
SKULL CREEK RD	064933F	053559	2	472	50	6154	64.9	0.02364	42	50	6631	80.3	0.02551	39
OIL CREEK RD	064926V	052683	2	207	50	6154	64.9	0.01983	50	50	6631	80.3	0.02149	47
2ND AVENUE	064922T	052149	2	1313	50	6154	64.9	0.07455	13	50	6631	80.3	0.07847	13
WALKER AVE	064921L	052108	2	1239	50	6154	64.9	0.02959	34	50	6631	80.3	0.03175	31
MAIN STREET	064920E	052074	4	8673	50	6154	64.9	0.05020	20	50	6631	80.3	0.05278	19
Average Predicted Accident Frequency and Interval (No Action)								0.03239	31	Proposed Action			0.03460	29

Table V.1-11. Grade Crossing Safety, Segment 11 from Edgemont, SD to Crawford, NE, Analysis Year 2037

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
CO RD 78	064863T	045735	2	1003	60	6154	59.3	0.04199	24	60	6601	74.7	0.044913	22
CO RD 7B	064864A	045879	2	959	60	6154	59.3	0.04035	25	60	6601	74.7	0.044484	22
CO RD 6412	064872S	046607	2	620	60	6154	59.3	0.03572	28	60	6601	74.7	0.039685	25
WALLACE AVE	064873Y	046701	2	15	60	6154	59.3	0.00515	194	60	6601	74.7	0.005394	185
1ST STREET	064835P	042310	2	848	60	6154	59.3	0.09123	11	60	6584	74.7	0.090023	11
E W SEC	064836W	042477	2	74	60	6154	59.3	0.04377	23	60	6584	74.7	0.046970	21
E W SEC	064837D	042578	2	89	60	6154	59.3	0.04919	20	60	6584	74.7	0.052436	19
E W SEC	064839S	042789	1	103	60	6154	59.3	0.05343	19	60	6584	74.7	0.056664	18
COTTONWOOD DR	064840L	042840	1	118	60	6154	59.3	0.05524	18	60	6584	74.7	0.058451	17
SANDCREEK	064842A	043364	2	457	60	6154	59.3	0.03388	30	60	6584	74.7	0.036807	27
TOADSTOOL PARK	064846C	043770	2	192	60	6154	59.3	0.02627	38	60	6584	74.7	0.028814	35
COUNTY ROAD	064847J	043881	2	59	60	6154	59.3	0.01673	60	60	6584	74.7	0.017433	57
	064848R	044011	2	2876	60	6154	59.3	0.04305	23	60	6584	74.7	0.044292	23
COUNTY ROAD	064854U	044797	2	74	60	6154	59.3	0.02682	37	60	6584	74.7	0.002940	340
	064903N	049493	1	148	60	6154	59.3	0.02206	45	60	6584	74.7	0.02442	41
MAIN ST	188572X	043259	2	797	60	6154	59.3	0.04369	23	60	6584	74.7	0.04702	21
Average Predicted Accident Frequency and Interval (No Action)								0.03929	25	Proposed Action		0.04005	25	

Table V.1-12. Grade Crossing Safety, Segment 12 from Crawford, NE to Alliance, NE, Analysis Year 2037

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
W 25TH STREET	064773U	036794	1	502	50	6154	61.3	0.02414	41	50	6607	76.7	0.026214	38
MADISON RD	064774B	036911	1	1475	50	6154	61.3	0.04432	23	50	6607	76.7	0.047536	21
LOGAN RD	064775H	037029	2	2213	50	6154	61.3	0.04132	24	50	6607	76.7	0.044478	22
LINCOLN RD	064778D	037147	2	30	50	6154	61.3	0.01262	79	50	6607	76.7	0.014090	71
COUNTY ROAD	064779K	037185	2	2213	50	6154	61.3	0.04132	24	50	6607	76.7	0.044478	22
KEITH ROAD	064781L	037373	2	2213	50	6154	61.3	0.04132	24	50	6607	76.7	0.044478	22
JEFFERSON RD	064784G	037609	1	649	50	6154	61.3	0.02507	40	50	6607	76.7	0.027195	37
HAYES	064786V	037726	2	11195	50	6154	61.3	0.05672	18	50	6607	76.7	0.059916	17
N S SEC	064788J	037918	2	89	50	6154	61.3	0.04919	20	50	6607	76.7	0.052436	19
GRANT	064789R	037962	2	2213	50	6154	61.3	0.04132	24	50	6607	76.7	0.044478	22
N-S SEC	064791S	038108	2	103	50	6154	61.3	0.11675	9	50	6607	76.7	0.123231	8
FRANKLIN RD	064792Y	038196	2	2213	50	6154	61.3	0.04141	24	50	6607	76.7	0.044940	22
FILMORE RD	064793F	038313	2	2213	50	6154	61.3	0.04141	24	50	6607	76.7	0.044940	22
NIOBRARA AVE.	064794M	038441	1	1173	50	6154	61.3	0.02906	34	50	6607	76.7	0.031654	32
BOX BUTTE AVE	064795U	038463	2	6343	50	6154	61.3	0.04365	23	50	6554	76.7	0.046720	21
COUNTY ROAD	064796B	038578	1	15	50	6154	61.3	0.01688	59	50	6554	76.7	0.018964	53
DAKOTA	064797H	038633	2	2876	50	6154	61.3	0.04993	20	50	6554	76.7	0.053547	19
N S SEC	064798P	038695	2	74	50	6154	61.3	0.09935	10	50	6554	76.7	0.105787	9
N S SEC	064799W	038811	2	74	50	6154	61.3	0.04377	23	50	6554	76.7	0.047341	21
COUNTY ROAD	064802C	039043	1	30	50	6154	61.3	0.02545	39	50	6554	76.7	0.028243	35
COUNTY ROAD	064811B	040048	2	59	50	6154	61.3	0.01673	60	50	6554	76.7	0.018798	53

No Action - Annual Predicted Accident Frequency										Proposed Action - Annual Predicted Accident Frequency				
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
NJCT US20	064812H	040098	1	162	50	6154	61.3	0.01798	56	50	6554	76.7	0.019856	50
COUNTY ROAD	064822N	041487	2	2213	50	6154	61.3	0.03943	25	50	6554	76.7	0.038182	26
SAW LOG RD	064825J	041861	2	1519	50	6154	61.3	0.04266	23	50	6554	76.7	0.041380	24
ANNIN ST	064832U	042246	2	848	50	6154	61.3	0.02712	37	50	6554	76.7	0.029609	34
Average Predicted Accident Frequency and Interval (No Action)								0.04116	24	Proposed Action		0.043940	23	

Table V.1-13. Grade Crossing Safety, Segment 16 - Northern from Miles City, MT to Glendive, MT, Analysis Year 2037

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
GLENDIVE SW 2.7MI	092880J	000366	2	605	60	6154	34.5	0.01785	56	60	6759	50.5	0.020656	48
FALLON E 1.5MI	092892D	002808	1	15	60	6154	34.5	0.00920	109	60	6759	50.5	0.011104	90
FAS 340	092893K	002913	2	192	60	6154	34.5	0.00864	116	60	6759	50.5	0.009878	101
BROADWAY ST	092894S	002964	2	177	60	6154	34.5	0.01486	67	60	6759	50.5	0.017287	58
E CITY LIMITS	092904V	003873	2	797	60	6154	34.5	0.01432	70	60	6759	50.5	0.016145	62
LOGAN AVE	092906J	003926	2	280	60	6154	34.5	0.01005	100	60	6759	50.5	0.011448	87
HOAGLAND ST	092908X	003977	2	74	60	6154	34.5	0.01200	83	60	6732	50.5	0.014033	71
TERRY W 3.5MI	092910Y	004346	1	44	60	6154	34.5	0.01334	75	60	6732	50.5	0.015952	63
SHIRLEY NE 4MI -	092918D	005512	1	44	60	6154	34.5	0.01246	80	60	6732	50.5	0.014934	67
SHIRLEY NE 3MI-EL	092919K	005636	1	15	60	6154	34.5	0.00683	146	60	6732	50.5	0.008280	121
SHIRLEY	092921L	005832	1	15	60	6154	34.5	0.00894	112	60	6732	50.5	0.010790	93
SHIRLEY	092922T	005966	1	30	60	6154	34.5	0.01013	99	60	6732	50.5	0.012203	82
MILES CITY NE 7MI	098944N	007004	2	192	60	6154	34.5	0.01346	74	60	6732	50.5	0.015703	64
MILES CITY NE 4MI	092671B	007359	2	89	60	6154	34.5	0.04006	25	60	6732	50.5	0.043423	23
MILES CITY NE 3MI	092669A	007469	1	59	60	6154	34.5	0.00381	262	60	6732	50.5	0.004415	226
MILE CITY NE WHYT	092668T	007515	2	354	60	6154	34.5	0.00921	109	60	6732	50.5	0.010521	95
MILES CITY NE 0.5	092665X	007625	2	1047	60	6154	34.5	0.01347	74	60	6732	50.5	0.016017	62
LEIGHTON BLVD	092664R	007777	2	6461	60	6154	34.5	0.03398	29	60	6732	50.5	0.038187	26
10TH ST	092662C	007829	2	1932	60	6154	34.5	0.02642	38	60	6745	50.5	0.030098	33
8TH ST	092660N	007842	2	3393	60	6154	34.5	0.03311	30	60	6745	50.5	0.037258	27

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
ISMAY MAIN OR 3RD	394089U	104375	1	207	60	6154	34.5	0.01890	53	60	6732	50.5	0.022231	45
LINDSAY 8M W RIM	060606G	003038	1	74	60	6154	34.5	0.01100	91	60	6759	50.5	0.013159	76
Average Predicted Accident Frequency and Interval (No Action)								0.01555	64	Proposed Action			0.017896	56

Table V.1-14. Grade Crossing Safety, Segment 16 - Southern from Miles City, MT to Glendive, MT, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
GLENDIVE SW 2.7MI	092880J	000366	2	605	60	6154	34.5	0.01785	56	60	6759	43.5	0.019520	51
FALLON E 1.5MI	092892D	002808	1	15	60	6154	34.5	0.00920	109	60	6759	43.5	0.010322	97
FAS 340	092893K	002913	2	192	60	6154	34.5	0.00864	116	60	6759	43.5	0.009376	107
BROADWAY ST	092894S	002964	2	177	60	6154	34.5	0.01486	67	60	6759	43.5	0.016299	61
E CITY LIMITS	092904V	003873	2	797	60	6154	34.5	0.01432	70	60	6759	43.5	0.015413	65
LOGAN AVE	092906J	003926	2	280	60	6154	34.5	0.01005	100	60	6759	43.5	0.010881	92
HOAGLAND ST	092908X	003977	2	74	60	6154	34.5	0.01200	83	60	6732	43.5	0.013203	76
TERRY W 3.5MI	092910Y	004346	1	44	60	6154	34.5	0.01334	75	60	6732	43.5	0.014882	67
SHIRLEY NE 4MI -	092918D	005512	1	44	60	6154	34.5	0.01246	80	60	6732	43.5	0.013922	72
SHIRLEY NE 3MI-EL	092919K	005636	1	15	60	6154	34.5	0.00683	146	60	6732	43.5	0.007680	130
SHIRLEY	092921L	005832	1	15	60	6154	34.5	0.00894	112	60	6732	43.5	0.010026	100
SHIRLEY	092922T	005966	1	30	60	6154	34.5	0.01013	99	60	6732	43.5	0.011352	88
MILES CITY NE 7MI	098944N	007004	2	192	60	6154	34.5	0.01346	74	60	6732	43.5	0.014789	68
MILES CITY NE 4MI	092671B	007359	2	89	60	6154	34.5	0.04006	25	60	6732	43.5	0.042051	24
MILES CITY NE 3MI	092669A	007469	1	59	60	6154	34.5	0.00381	262	60	6732	43.5	0.004170	240
MILE CITY NE WHYT	092668T	007515	2	354	60	6154	34.5	0.00921	109	60	6732	43.5	0.009993	100
MILES CITY NE 0.5	092665X	007625	2	1047	60	6154	34.5	0.01347	74	60	6732	43.5	0.014515	69
LEIGHTON BLVD	092664R	007777	2	6461	60	6154	34.5	0.03398	29	60	6732	43.5	0.036514	27
10TH ST	092662C	007829	2	1932	60	6154	34.5	0.02642	38	60	6745	43.5	0.028623	35
8TH ST	092660N	007842	2	3393	60	6154	34.5	0.03311	30	60	6745	43.5	0.035603	28

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
ISMAY MAIN OR 3RD	394089U	104375	1	207	60	6154	34.5	0.01890	53	60	6732	43.5	0.02083	48
LINDSAY 8M W RIM	060606G	003038	1	74	60	6154	34.5	0.01100	91	60	6759	43.5	0.01224	82
Average Predicted Accident Frequency and Interval (No Action)								0.01555	64	Proposed Action			0.016918	59

Table V.1-15. Grade Crossing Safety, Segment 17 - Northern from Glendive, MT to Mandan, ND, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
STATE AVE	060412B	011074	2	10893	50	6154	26	0.03453	29	50	6584	42.0	0.038759	26
6TH AVE EAST	060413H	010909	2	6623	45	6154	26	0.03125	32	45	6584	42.0	0.035291	28
SCHNELL CROSSING	060414P	010854	2	1401	50	6154	26	0.02134	47	50	6584	42.0	0.024537	41
30TH AVE SW	060417K	011181	1	251	50	6154	26	0.01274	78	50	6584	42.0	0.014884	67
115TH AVE SW	060419Y	011383	1	199	50	6154	26	0.02175	46	50	6584	42.0	0.025537	39
116TH AVE SW	060420T	011487	1	384	50	6154	26	0.01410	71	50	6584	42.0	0.016430	61
120TH AVE SW	060424V	011899	1	30	50	6154	26	0.00969	103	50	6584	42.0	0.011682	86
4TH STREET CMC	060425C	011962	2	1807	50	6154	26	0.02646	38	50	6607	42.0	0.030145	33
122ND AVE SW	060426J	012101	1	44	50	6154	26	0.01204	83	50	6607	42.0	0.014444	69
124TH AVE SW	060428X	012308	1	15	50	6154	26	0.00766	130	50	6607	42.0	0.009278	108
125 1/2 AVE SW	060430Y	012477	1	74	50	6154	26	0.01514	66	50	6607	42.0	0.018031	55
128TH AVE SW	060431F	012727	2	74	50	6154	26	0.01048	95	50	6607	42.0	0.012300	81
MAIN STREET	060433U	012981	2	15495	50	6154	26	0.04436	23	50	6607	42.0	0.048938	20
135TH AVE SW	060439K	013515	1	103	50	6154	26	0.01607	62	50	6607	42.0	0.017375	58
37TH ST SW	060441L	014064	1	8290	50	6154	26	0.03244	31	50	6607	42.0	0.036552	27
EAST RIVER ROAD	060442T	014896	2	3230	50	6154	26	0.02644	38	50	6607	42.0	0.030119	33
CHATEAU DEMORES	060443A	014964	2	1726	50	6154	26	0.02297	44	50	6607	42.0	0.026328	38
WEST RIVER RD	060445N	015266	1	59	50	6154	26	0.01409	71	50	6607	42.0	0.015763	63
34TH ST SW	060449R	016464	1	44	50	6154	26	0.01125	89	50	6607	42.0	0.012635	79
MARTIN ST	060451S	016570	2	89	50	6154	26	0.01078	93	50	6607	42.0	0.012644	79
CMC 1711 WEST ST	060452Y	016586	2	192	50	6154	26	0.01373	73	50	6607	42.0	0.016007	62

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
164TH AVE SW	060456B	016930	1	44	50	6154	26	0.01204	83	50	6607	42.0	0.014444	69
165TH AVE SW	060457H	017045	1	59	50	6154	26	0.01379	73	50	6607	42.0	0.016471	61
PRAIRIE TRAIL	060458P	017137	1	30	50	6154	26	0.00969	103	50	6607	42.0	0.011682	86
FIELD SEC LINE	060459W	017236	1	30	50	6154	26	0.00969	103	50	6607	42.0	0.011682	86
HWY 16	060460R	017333	2	1158	50	6154	26	0.02397	42	50	6607	42.0	0.027433	36
2ND AVE SE	060461X	017412	2	1342	50	6154	26	0.02512	40	50	6607	42.0	0.031522	32
3RD AVE E	060549V	010930	2	2449	45	6154	26	0.02561	39	45	6554	42.0	0.030200	33
132 1/2 AVE SW	086287R	013175	1	2272	45	6154	26	0.08520	12	45	6554	42.0	0.089336	11
	087496C	005417	1	44	60	6154	26	0.00965	104	60	6554	42.0	0.012200	82
ND HWY 49	087497J	005534	2	1342	60	6154	26	0.02196	46	60	6554	42.0	0.026118	38
	087499X	005722	2	1578	60	6154	26	0.02340	43	60	6554	42.0	0.027728	36
B ST.	087500P	005747	2	4381	60	6154	26	0.02905	34	60	6554	42.0	0.033975	29
B ST.	087501W	005749	2	4381	60	6154	26	0.01962	51	60	6554	42.0	0.022416	45
	087503K	005826	1	103	60	6154	26	0.01325	75	60	6554	42.0	0.016579	60
	087505Y	006032	1	59	60	6154	26	0.01050	95	60	6554	42.0	0.013236	76
	087508U	006401	1	30	60	6154	26	0.00842	119	60	6554	42.0	0.010677	94
	087510V	006441	2	89	60	6154	26	0.01204	83	60	6554	42.0	0.015123	66
	087514X	006737	1	74	60	6154	26	0.01133	88	60	6554	42.0	0.014251	70
	087515E	006847	1	74	60	6154	26	0.01133	88	60	6554	42.0	0.014251	70
ELM ST	087518A	006992	2	4337	60	6154	26	0.02603	38	60	6554	42.0	0.030658	33
ELK ST	087523W	007021	2	1165	60	6154	26	0.02125	47	60	6554	42.0	0.025305	40
WEST ST	087524D	007036	2	5885	60	6154	26	0.03089	32	60	6554	42.0	0.035980	28

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	087525K	007253	1	89	60	6154	26	0.01268	79	60	6554	42.0	0.015891	63
	087526S	007407	1	44	60	6154	26	0.00965	104	60	6554	42.0	0.012200	82
	087527Y	007450	1	30	60	6154	26	0.03572	28	60	6554	42.0	0.039794	25
	087529M	007565	1	59	60	6154	26	0.01050	95	60	6554	42.0	0.013236	76
	087531N	007788	1	133	60	6154	26	0.01425	70	60	6554	42.0	0.015628	64
	087533C	008013	1	15	60	6154	26	0.00664	151	60	6554	42.0	0.008462	118
	087534J	008113	2	89	60	6154	26	0.01204	83	60	6554	42.0	0.015123	66
	087535R	008179	1	30	60	6154	26	0.00842	119	60	6554	42.0	0.010677	94
	087537E	008226	1	15	60	6154	26	0.00664	151	60	6554	42.0	0.008462	118
ST HWY 8	087540M	008459	2	531	60	6154	26	0.01545	65	60	6554	42.0	0.018660	54
B-ST.	087541U	008496	2	4381	45	6154	26	0.03230	31	45	6759	42.0	0.037500	27
B-ST.	087542B	008495	2	4381	45	6154	26	0.02523	40	45	6759	42.0	0.028330	35
	087544P	008560	1	74	45	6154	26	0.01133	88	45	6759	42.0	0.014251	70
	087545W	008756	1	192	45	6154	26	0.01617	62	45	6759	42.0	0.020067	50
	087547K	000696	1	280	40	6154	26	0.01036	97	40	6759	42.0	0.012661	79
	087550T	000930	1	192	40	6154	26	0.00936	107	40	6759	42.0	0.011463	87
	087551A	001003	1	192	40	6154	26	0.00936	107	40	6732	42.0	0.011463	87
OFF SYSTEM- HWY 83	087554V	001498	1	207	40	6154	26	0.01036	97	40	6732	42.0	0.012661	79
	087563U	002156	2	664	40	6154	26	0.01487	67	40	6732	42.0	0.017976	56
	087565H	002361	1	162	40	6154	26	0.01353	74	40	6732	42.0	0.016917	59
CMC 3033	087569K	002769	2	236	40	6154	26	0.01263	79	40	6732	42.0	0.015355	65
5TH STREET	087573A	002796	2	1313	60	6154	26	0.02459	41	60	6732	42.0	0.029057	34

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	087574G	002869	1	89	60	6154	26	0.01268	79	60	6732	42.0	0.015891	63
	087576V	003067	1	30	60	6154	26	0.00842	119	60	6732	42.0	0.010677	94
ALMONT	087580K	003269	2	900	60	6154	26	0.01769	57	60	6732	42.0	0.021250	47
	087584M	003471	1	44	60	6154	26	0.00965	104	60	6732	42.0	0.012200	82
	087590R	003870	1	15	60	6154	26	0.00664	151	60	6732	42.0	0.008462	118
	087591X	003984	1	103	60	6154	26	0.01325	75	60	6732	42.0	0.016579	60
15TH AVE SW	087690V	000092	2	332	40	6154	26	0.01406	71	40	6745	42.0	0.017028	59
	087691C	000213	2	1047	40	6154	26	0.01652	61	40	6745	42.0	0.019901	50
	087694X	000302	2	649	40	6154	26	0.01682	59	40	6745	42.0	0.020241	49
MARMOT SCHOOL	087695E	000346	1	1785	40	6154	26	0.01858	54	40	6745	42.0	0.022265	45
	087909U	008858	1	44	45	6154	26	0.00965	104	45	6745	42.0	0.012200	82
	087910N	008967	1	89	45	6154	26	0.01204	83	45	6745	42.0	0.015123	66
	087912C	009615	1	30	45	6154	26	0.00757	132	45	6745	42.0	0.009622	104
	087919A	010510	1	192	45	6154	26	0.01465	68	45	6745	42.0	0.018266	55
	087920U	010566	2	1401	45	6154	26	0.01773	56	45	6745	42.0	0.021422	47
COUNTY ROAD	087923P	009832	2	1682	45	6154	26	0.02269	44	45	6745	42.0	0.026933	37
	087925D	009074	2	649	45	6154	26	0.01666	60	45	6745	42.0	0.020057	50
	087926K	009185	1	44	45	6154	26	0.00869	115	45	6745	42.0	0.011012	91
	087928Y	009409	1	89	45	6154	26	0.01087	92	45	6745	42.0	0.013693	73
	087929F	009512	1	44	45	6154	26	0.00869	115	45	6745	42.0	0.011012	91
CENTRAL	092843G	017426	2	3304	45	6154	26	0.02691	37	45	6745	42.0	0.032113	31
CENTRAL	092844N	017426	2	3393	45	6154	26	0.01783	56	45	6745	42.0	0.020487	49

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
4TH ST NW	092845V	017513	2	148	50	6154	26	0.01100	91	50	6745	42.0	0.013423	74
	092846C	017577	1	59	50	6154	26	0.00979	102	50	6745	42.0	0.012373	81
	098701L	011279	2	325	50	6154	26	0.03070	33	50	6745	42.0	0.037295	27
	098708J	012930	2	59	50	6154	26	0.00979	102	50	6745	42.0	0.011961	84
	098743X	013584	2	516	50	6154	26	0.01436	70	50	6745	42.0	0.017388	58
HILLCREST ST	092869J	021490	2	2036	50	6154	26	0.02417	41	50	6439	42.0	0.028596	35
ANDERSON AVE	092870D	021503	2	3127	50	6154	26	0.04655	21	50	6439	42.0	0.053280	19
HODGES-COUNTY RD	092862L	019566	2	30	50	6154	26	0.00900	111	50	6439	42.0	0.011396	88
WIBAUX W 5 MI	092860X	019057	2	44	50	6154	26	0.01057	95	50	6439	42.0	0.013332	75
BEAVER HILL STATI	092859D	018769	2	15	50	6154	26	0.00426	235	50	6439	42.0	0.005471	183
1ST AVE S	092854U	018440	2	148	50	6154	26	0.01587	63	50	6439	42.0	0.019710	51
G ST	092857P	018529	2	266	50	6154	26	0.01295	77	50	6439	42.0	0.015727	64
	092853M	018422	1	30	50	6154	26	0.00842	119	50	6439	42.0	0.010677	94
WIBAUX E 1 MI	092852F	018334	2	133	50	6154	26	0.01626	61	50	6439	42.0	0.020182	50
N. D. BORDER W 1.	092848R	017804	2	89	50	6154	26	0.02131	47	50	6439	42.0	0.026084	38
	060438D	013406	1	15	45	6154	26	0.00554	181	45	6439	42.0	0.007082	141
	060551W	010917	2	59	45	6154	26	0.00747	134	45	6439	42.0	0.009509	105
COUNTY ROAD	091672E	004334	1	59	40	6154	26	0.00832	120	40	6439	42.0	0.010553	95
MAIN STREET	091662Y	003482	2	531	40	6154	26	0.01875	53	40	6439	42.0	0.023113	43
Average Predicted Accident Frequency and Interval (No Action)								0.01678	60	Proposed Action			0.019890	50

Table V.1-16. Grade Crossing Safety, Segment 17 - Southern from Glendive, MT to Mandan, ND, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
STATE AVE	060412B	011074	2	10893	50	6154	26	0.03453	29	50	6584	35.0	0.037075	27
6TH AVE EAST	060413H	010909	2	6623	45	6154	26	0.03125	32	45	6584	35.0	0.033679	30
SCHNELL CROSSING	060414P	010854	2	1401	50	6154	26	0.02134	47	50	6584	35.0	0.023247	43
30TH AVE SW	060417K	011181	1	251	50	6154	26	0.01274	78	50	6584	35.0	0.014011	71
115TH AVE SW	060419Y	011383	1	199	50	6154	26	0.02175	46	50	6584	35.0	0.024001	42
116TH AVE SW	060420T	011487	1	384	50	6154	26	0.01410	71	50	6584	35.0	0.015482	65
120TH AVE SW	060424V	011899	1	30	50	6154	26	0.00969	103	50	6584	35.0	0.010862	92
4TH STREET CMC	060425C	011962	2	1807	50	6154	26	0.02646	38	50	6607	35.0	0.028668	35
122ND AVE SW	060426J	012101	1	44	50	6154	26	0.01204	83	50	6607	35.0	0.013459	74
124TH AVE SW	060428X	012308	1	15	50	6154	26	0.00766	130	50	6607	35.0	0.008612	116
125 1/2 AVE SW	060430Y	012477	1	74	50	6154	26	0.01514	66	50	6607	35.0	0.016848	59
128TH AVE SW	060431F	012727	2	74	50	6154	26	0.01048	95	50	6607	35.0	0.011558	87
MAIN STREET	060433U	012981	2	15495	50	6154	26	0.04436	23	50	6607	35.0	0.047138	21
135TH AVE SW	060439K	013515	1	103	50	6154	26	0.01607	62	50	6607	35.0	0.016228	62
37TH ST SW	060441L	014064	1	8290	50	6154	26	0.03244	31	50	6607	35.0	0.034912	29
EAST RIVER ROAD	060442T	014896	2	3230	50	6154	26	0.02644	38	50	6607	35.0	0.028643	35
CHATEAU DEMORES	060443A	014964	2	1726	50	6154	26	0.02297	44	50	6607	35.0	0.024975	40
WEST RIVER RD	060445N	015266	1	59	50	6154	26	0.01409	71	50	6607	35.0	0.014704	68
34TH ST SW	060449R	016464	1	44	50	6154	26	0.01125	89	50	6607	35.0	0.011758	85
MARTIN ST	060451S	016570	2	89	50	6154	26	0.01078	93	50	6607	35.0	0.011885	84

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
CMC 1711 WEST ST	060452Y	016586	2	192	50	6154	26	0.01373	73	50	6607	35.0	0.015079	66
164TH AVE SW	060456B	016930	1	44	50	6154	26	0.01204	83	50	6607	35.0	0.013459	74
165TH AVE SW	060457H	017045	1	59	50	6154	26	0.01379	73	50	6607	35.0	0.015373	65
PRAIRIE TRAIL FIELD SEC LINE	060458P	017137	1	30	50	6154	26	0.00969	103	50	6607	35.0	0.010862	92
	060459W	017236	1	30	50	6154	26	0.00969	103	50	6607	35.0	0.010862	92
HWY 16	060460R	017333	2	1158	50	6154	26	0.02397	42	50	6607	35.0	0.026041	38
2ND AVE SE	060461X	017412	2	1342	50	6154	26	0.02512	40	50	6607	35.0	0.030006	33
3RD AVE E	060549V	010930	2	2449	45	6154	26	0.02561	39	45	6554	35.0	0.028400	35
132 1/2 AVE SW	086287R	013175	1	2272	45	6154	26	0.08520	12	45	6554	35.0	0.085083	12
	087496C	005417	1	44	60	6154	26	0.00965	104	60	6554	35.0	0.011169	90
ND HWY 49	087497J	005534	2	1342	60	6154	26	0.02196	46	60	6554	35.0	0.024480	41
	087499X	005722	2	1578	60	6154	26	0.02340	43	60	6554	35.0	0.026023	38
B ST.	087500P	005747	2	4381	60	6154	26	0.02905	34	60	6554	35.0	0.032050	31
B ST.	087501W	005749	2	4381	60	6154	26	0.01962	51	60	6554	35.0	0.021329	47
	087503K	005826	1	103	60	6154	26	0.01325	75	60	6554	35.0	0.015239	66
	087505Y	006032	1	59	60	6154	26	0.01050	95	60	6554	35.0	0.012128	82
	087508U	006401	1	30	60	6154	26	0.00842	119	60	6554	35.0	0.009761	102
	087510V	006441	2	89	60	6154	26	0.01204	83	60	6554	35.0	0.013882	72
	087514X	006737	1	74	60	6154	26	0.01133	88	60	6554	35.0	0.013071	77
	087515E	006847	1	74	60	6154	26	0.01133	88	60	6554	35.0	0.013071	77
ELM ST	087518A	006992	2	4337	60	6154	26	0.02603	38	60	6554	35.0	0.028842	35
ELK ST	087523W	007021	2	1165	60	6154	26	0.02125	47	60	6554	35.0	0.023702	42

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
WEST ST	087524D	007036	2	5885	60	6154	26	0.03089	32	60	6554	35.0	0.033997	29
	087525K	007253	1	89	60	6154	26	0.01268	79	60	6554	35.0	0.014596	69
	087526S	007407	1	44	60	6154	26	0.00965	104	60	6554	35.0	0.011169	90
	087527Y	007450	1	30	60	6154	26	0.03572	28	60	6554	35.0	0.038143	26
	087529M	007565	1	59	60	6154	26	0.01050	95	60	6554	35.0	0.012128	82
	087531N	007788	1	133	60	6154	26	0.01425	70	60	6554	35.0	0.014351	70
	087533C	008013	1	15	60	6154	26	0.00664	151	60	6554	35.0	0.007719	130
	087534J	008113	2	89	60	6154	26	0.01204	83	60	6554	35.0	0.013882	72
	087535R	008179	1	30	60	6154	26	0.00842	119	60	6554	35.0	0.009761	102
	087537E	008226	1	15	60	6154	26	0.00664	151	60	6554	35.0	0.007719	130
ST HWY 8	087540M	008459	2	531	60	6154	26	0.01545	65	60	6554	35.0	0.017384	58
B-ST.	087541U	008496	2	4381	45	6154	26	0.03230	31	45	6759	35.0	0.035477	28
B-ST.	087542B	008495	2	4381	45	6154	26	0.02523	40	45	6759	35.0	0.027139	37
	087544P	008560	1	74	45	6154	26	0.01133	88	45	6759	35.0	0.013071	77
	087545W	008756	1	192	45	6154	26	0.01617	62	45	6759	35.0	0.018505	54
	087547K	000696	1	280	40	6154	26	0.01036	97	40	6759	35.0	0.011738	85
	087550T	000930	1	192	40	6154	26	0.00936	107	40	6759	35.0	0.010617	94
	087551A	001003	1	192	40	6154	26	0.00936	107	40	6732	35.0	0.010617	94
OFF SYSTEM- HWY 83	087554V	001498	1	207	40	6154	26	0.01036	97	40	6732	35.0	0.011738	85
	087563U	002156	2	664	40	6154	26	0.01487	67	40	6732	35.0	0.016736	60
	087565H	002361	1	162	40	6154	26	0.01353	74	40	6732	35.0	0.015554	64
CMC 3033	087569K	002769	2	236	40	6154	26	0.01263	79	40	6732	35.0	0.014266	70

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
5TH STREET	087573A	002796	2	1313	60	6154	26	0.02459	41	60	6732	35.0	0.027300	37
	087574G	002869	1	89	60	6154	26	0.01268	79	60	6732	35.0	0.014596	69
	087576V	003067	1	30	60	6154	26	0.00842	119	60	6732	35.0	0.009761	102
ALMONT	087580K	003269	2	900	60	6154	26	0.01769	57	60	6732	35.0	0.019838	50
	087584M	003471	1	44	60	6154	26	0.00965	104	60	6732	35.0	0.011169	90
	087590R	003870	1	15	60	6154	26	0.00664	151	60	6732	35.0	0.007719	130
	087591X	003984	1	103	60	6154	26	0.01325	75	60	6732	35.0	0.015239	66
15TH AVE SW	087690V	000092	2	332	40	6154	26	0.01406	71	40	6745	35.0	0.015842	63
	087691C	000213	2	1047	40	6154	26	0.01652	61	40	6745	35.0	0.018558	54
	087694X	000302	2	649	40	6154	26	0.01682	59	40	6745	35.0	0.018880	53
MARMOT SCHOOL	087695E	000346	1	1785	40	6154	26	0.01858	54	40	6745	35.0	0.020803	48
	087909U	008858	1	44	45	6154	26	0.00965	104	45	6745	35.0	0.011169	90
	087910N	008967	1	89	45	6154	26	0.01204	83	45	6745	35.0	0.013882	72
	087912C	009615	1	30	45	6154	26	0.00757	132	45	6745	35.0	0.008787	114
	087919A	010510	1	192	45	6154	26	0.01465	68	45	6745	35.0	0.016816	59
	087920U	010566	2	1401	45	6154	26	0.01773	56	45	6745	35.0	0.020002	50
COUNTY ROAD	087923P	009832	2	1682	45	6154	26	0.02269	44	45	6745	35.0	0.025260	40
	087925D	009074	2	649	45	6154	26	0.01666	60	45	6745	35.0	0.018705	53
	087926K	009185	1	44	45	6154	26	0.00869	115	45	6745	35.0	0.010070	99
	087928Y	009409	1	89	45	6154	26	0.01087	92	45	6745	35.0	0.012553	80
	087929F	009512	1	44	45	6154	26	0.00869	115	45	6745	35.0	0.010070	99
CENTRAL	092843G	017426	2	3304	45	6154	26	0.02691	37	45	6745	35.0	0.030248	33

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency				
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
CENTRAL	092844N	017426	2	3393	45	6154	26	0.01783	56	45	6745	35.0	0.019450	51
4TH ST NW	092845V	017513	2	148	50	6154	26	0.01100	91	50	6745	35.0	0.012452	80
	092846C	017577	1	59	50	6154	26	0.00979	102	50	6745	35.0	0.011328	88
	098701L	011279	2	325	50	6154	26	0.03070	33	50	6745	35.0	0.034957	29
	098708J	012930	2	59	50	6154	26	0.00979	102	50	6745	35.0	0.010946	91
	098743X	013584	2	516	50	6154	26	0.01436	70	50	6745	35.0	0.016183	62
HILLCREST ST	092869J	021490	2	2036	50	6154	26	0.02417	41	50	6439	35.0	0.02686	37
ANDERSON AVE	092870D	021503	2	3127	50	6154	26	0.04655	21	50	6439	35.0	0.05072	20
HODGES-COUNTY RD	092862L	019566	2	30	50	6154	26	0.00900	111	50	6439	35.0	0.01042	96
WIBAUX W 5 MI	092860X	019057	2	44	50	6154	26	0.01057	95	50	6439	35.0	0.01222	82
BEAVER HILL STATI	092859D	018769	2	15	50	6154	26	0.00426	235	50	6439	35.0	0.00498	201
1ST AVE S	092854U	018440	2	148	50	6154	26	0.01587	63	50	6439	35.0	0.01817	55
G ST	092857P	018529	2	266	50	6154	26	0.01295	77	50	6439	35.0	0.01462	68
	092853M	018422	1	30	50	6154	26	0.00842	119	50	6439	35.0	0.00976	102
WIBAUX E 1 MI	092852F	018334	2	133	50	6154	26	0.01626	61	50	6439	35.0	0.01861	54
N. D. BORDER W 1.	092848R	017804	2	89	50	6154	26	0.02131	47	50	6439	35.0	0.02419	41
	060438D	013406	1	15	45	6154	26	0.00554	181	45	6439	35.0	0.00645	155
	060551W	010917	2	59	45	6154	26	0.00747	134	45	6439	35.0	0.00868	115
COUNTY ROAD	091672E	004334	1	59	40	6154	26	0.00832	120	40	6439	35.0	0.00965	104
MAIN STREET	091662Y	003482	2	531	40	6154	26	0.01875	53	40	6439	35.0	0.02137	47
Average Predicted Accident Frequency and Interval (No Action)								0.01678	60	Proposed Action			0.018615	54

Table V.1-17. Grade Crossing Safety, Segment 18 - Northern from Mandan, ND to Fargo, ND, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	071122Y	003122	2	59	60	6154	23.9	0.01007	99	60	6745	39.9	0.013236	76
	071123F	003206	2	59	60	6154	23.9	0.01007	99	60	6745	39.9	0.013236	76
	071124M	003305	1	44	60	6154	23.9	0.00926	108	60	6745	39.9	0.012200	82
	071126B	003407	2	693	60	6154	23.9	0.01669	60	60	6745	39.9	0.020748	48
	071129W	003507	1	59	60	6154	23.9	0.01007	99	60	6745	39.9	0.013236	76
	071131X	003608	2	103	60	6154	23.9	0.01273	79	60	6745	39.9	0.016579	60
	071132E	003709	2	59	60	6154	23.9	0.01007	99	60	6745	39.9	0.013236	76
	071133L	003807	2	74	60	6154	23.9	0.01156	86	60	6745	39.9	0.015123	66
	071134T	003907	2	59	60	6154	23.9	0.01007	99	60	6745	39.9	0.013236	76
	071136G	004007	2	59	60	6154	23.9	0.01007	99	60	6745	39.9	0.013236	76
HWY 3	071138V	004110	2	192	60	6154	23.9	0.01121	89	60	6745	39.9	0.014153	71
	071140W	004209	1	59	60	6154	23.9	0.01007	99	60	6745	39.9	0.013236	76
	071142K	004309	2	118	60	6154	23.9	0.01369	73	60	6745	39.9	0.017780	56
WILCOX AV	071144Y	004385	2	1387	60	6154	23.9	0.02147	47	60	6745	39.9	0.026323	38
ST HWY 38	071145F	004405	2	1460	60	6154	23.9	0.02440	41	60	6745	39.9	0.029676	34
	071146M	004508	2	59	60	6154	23.9	0.01007	99	60	6745	39.9	0.013236	76
	071147U	004606	2	44	60	6154	23.9	0.00926	108	60	6745	39.9	0.012200	82
	071149H	004706	2	59	60	6154	23.9	0.01087	92	60	6745	39.9	0.014251	70
	071150C	004806	1	30	60	6154	23.9	0.00807	124	60	6745	39.9	0.010677	94
	071152R	004907	2	59	60	6154	23.9	0.01087	92	60	6745	39.9	0.014251	70
MAIN ST	071154E	004966	2	9226	60	6154	23.9	0.03293	30	60	6745	39.9	0.039132	26

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
BROADWAY	071156T	004973	2	2640	60	6154	23.9	0.02528	40	60	6745	39.9	0.030674	33
RAILROAD ST	071158G	005003	2	8533	60	6154	23.9	0.02916	34	60	6745	39.9	0.035005	29
	071160H	005204	2	59	60	6154	23.9	0.01007	99	60	6745	39.9	0.013236	76
	071161P	005304	1	30	60	6154	23.9	0.00807	124	60	6745	39.9	0.010677	94
	071162W	005404	2	30	60	6154	23.9	0.00807	124	60	6689	39.9	0.010677	94
ND HWY 32	071163D	005504	2	1018	60	6154	23.9	0.01762	57	60	6719	39.9	0.021845	46
MAIN ST	071164K	005522	2	9226	60	6154	23.9	0.02964	34	60	6689	39.9	0.035537	28
	071165S	005604	2	59	60	6154	23.9	0.01007	99	60	6689	39.9	0.013236	76
	071166Y	005701	2	177	60	6154	23.9	0.01555	64	60	6689	39.9	0.020067	50
	071167F	005801	2	103	60	6154	23.9	0.01273	79	60	6689	39.9	0.016579	60
	071171V	006109	2	738	60	6154	23.9	0.01697	59	60	6689	39.9	0.021070	47
	071173J	006204	1	44	60	6154	23.9	0.00926	108	60	6761	39.9	0.011396	88
	071174R	006268	2	192	60	6154	23.9	0.01587	63	60	6761	39.9	0.019229	52
	071175X	006305	2	162	60	6154	23.9	0.01521	66	60	6761	39.9	0.018454	54
	071180U	006824	2	59	60	6154	23.9	0.01007	99	60	6689	39.9	0.013236	76
	071185D	007131	2	59	60	6154	23.9	0.01087	92	60	6689	39.9	0.014251	70
	071188Y	007335	2	74	60	6154	23.9	0.01156	86	60	6689	39.9	0.015123	66
	071190A	007531	1	89	60	6154	23.9	0.01217	82	60	6761	39.9	0.015891	63
4TH ST	071191G	007608	2	1755	60	6154	23.9	0.02306	43	60	6689	39.9	0.028153	36
1ST STREET	071192N	007632	2	1608	60	6154	23.9	0.02260	44	60	6761	39.9	0.027629	36
	071224S	007731	2	59	60	6154	23.9	0.01007	99	60	6689	39.9	0.013236	76
	071226F	007830	2	59	60	6154	23.9	0.01007	99	60	6689	39.9	0.013236	76

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
	071228U	008030	2	44	60	6154	23.9	0.00926	108	60	6689	39.9	0.012200	82
	071229B	008133	2	413	60	6154	23.9	0.01470	68	60	6689	39.9	0.018376	54
	071232J	008343	2	74	60	6154	23.9	0.01156	86	60	6761	39.9	0.015123	66
	071233R	008443	2	44	60	6154	23.9	0.00926	108	60	6689	39.9	0.012200	82
	071235E	008512	2	59	60	6154	23.9	0.01087	92	60	6689	39.9	0.014251	70
	071236L	008543	2	811	60	6154	23.9	0.01527	65	60	6689	39.9	0.019054	52
	071238A	008744	2	44	60	6154	23.9	0.00926	108	60	6689	39.9	0.012200	82
	071239G	008843	2	752	60	6154	23.9	0.01702	59	60	6689	39.9	0.021137	47
SALISBURY ST	071240B	008908	2	1519	60	6154	23.9	0.02194	46	60	6752	39.9	0.026870	37
	071242P	009046	2	30	60	6154	23.9	0.00807	124	60	6752	39.9	0.010677	94
	071244D	009266	2	44	60	6154	23.9	0.00926	108	60	6689	39.9	0.012200	82
	071246S	009473	2	74	60	6154	23.9	0.01156	86	60	6689	39.9	0.015123	66
	071248F	009476	2	988	60	6154	23.9	0.01607	62	60	6689	39.9	0.020006	50
	071249M	009688	2	1151	60	6154	23.9	0.01890	53	60	6689	39.9	0.023348	43
	071250G	009748	2	59	60	6154	23.9	0.01007	99	60	6761	39.9	0.013236	76
7 AVE NE	071253C	009243	2	6180	60	6154	23.9	0.03035	33	60	6689	39.9	0.036317	28
2ND AVE NW	071258L	009293	2	8419	40	6154	23.9	0.03233	31	40	6689	39.9	0.038482	26
17TH SW	071260M	009425	2	457	40	6154	23.9	0.02412	41	40	6689	39.9	0.029358	34
	071261U	009642	2	148	40	6154	23.9	0.01085	92	40	6689	39.9	0.013978	72
	086394F	008944	2	59	60	6154	23.9	0.01087	92	60	6719	39.9	0.014251	70
	087633G	016299	1	30	60	6154	23.9	0.00807	124	60	6719	39.9	0.010677	94
	087634N	016382	1	59	60	6154	23.9	0.01007	99	60	6719	39.9	0.013236	76

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	087635V	016593	1	59	60	6154	23.9	0.01087	92	60	6761	39.9	0.014251	70
OFF SYSTEM	087636C	016869	2	413	60	6154	23.9	0.01290	78	60	6719	39.9	0.016204	62
	087641Y	017072	1	30	50	6154	23.9	0.00807	124	50	6719	39.9	0.010677	94
	087642F	017282	1	118	50	6154	23.9	0.01369	73	50	6790	39.9	0.017780	56
	087643M	017609	2	207	50	6154	23.9	0.01214	82	50	6719	39.9	0.014977	67
	087644U	017815	1	15	50	6154	23.9	0.00636	157	50	6719	39.9	0.008247	121
	087646H	018014	1	30	50	6154	23.9	0.00807	124	50	6719	39.9	0.010412	96
BISMARCK AVE	087647P	018116	2	103	50	6154	23.9	0.01273	79	50	6790	39.9	0.016193	62
	087648W	018170	2	1254	50	6154	23.9	0.03048	33	50	6719	39.9	0.036813	27
	087649D	018217	2	575	50	6154	23.9	0.04583	22	50	6790	39.9	0.051570	19
	087651E	018387	1	44	50	6154	23.9	0.00926	108	50	6719	39.9	0.011902	84
119TH ST	087652L	018548	1	708	50	6154	23.9	0.01424	70	50	6790	39.9	0.017463	57
106TH STREET SE	087654A	018660	2	531	50	6154	23.9	0.01493	67	50	6790	39.9	0.018284	55
	087655G	017385	1	15	50	6154	23.9	0.00636	157	50	6719	39.9	0.008247	121
	087656N	017391	1	15	50	6154	23.9	0.00636	157	50	6719	39.9	0.008216	122
	087657V	017501	1	30	50	6154	23.9	0.00807	124	50	6719	39.9	0.010412	96
	087658C	018765	2	974	50	6154	23.9	0.01598	63	50	6790	39.9	0.019516	51
	087659J	018965	2	177	50	6154	23.9	0.01026	97	50	6790	39.9	0.012720	79
26TH ST	087660D	019286	2	4602	50	6154	23.9	0.07111	14	50	6719	39.9	0.080468	12
24TH ST	087661K	019306	2	1401	50	6154	23.9	0.02756	36	50	6719	39.9	0.032690	31
FRONT ST	087662S	019312	2	2434	50	6154	23.9	0.03425	29	50	6790	39.9	0.038107	26
19TH	087665M	019340	4	11225	50	6154	23.9	0.04100	24	50	6719	39.9	0.047096	21

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
12TH ST	087667B	019393	2	11402	50	6154	23.9	0.03738	27	50	6790	39.9	0.043287	23
5TH ST	087674L	019443	2	6549	50	6154	23.9	0.02713	37	50	6719	39.9	0.032217	31
3RD ST	087675T	019457	2	19411	50	6154	23.9	0.08174	12	50	6719	39.9	0.091996	11
	087683K	019858	2	988	50	6154	23.9	0.02321	43	50	6719	39.9	0.026302	38
	087684S	019829	1	3702	50	6154	23.9	0.01945	51	50	6719	39.9	0.023544	42
	087702M	014171	1	44	60	6154	23.9	0.00926	108	60	6790	39.9	0.011902	84
ND HWY 3	087704B	014314	2	2154	60	6154	23.9	0.02109	47	60	6719	39.9	0.025421	39
	087705H	014366	1	74	60	6154	23.9	0.07121	14	60	6719	39.9	0.079536	13
	087706P	014666	1	118	60	6154	23.9	0.01369	73	60	6790	39.9	0.017371	58
3RD AVE.	087709K	015085	2	2043	60	6154	23.9	0.02387	42	60	6719	39.9	0.028573	35
	087710E	015578	1	30	60	6154	23.9	0.00807	124	60	6719	39.9	0.010412	96
	087713A	016080	1	59	60	6154	23.9	0.01007	99	60	6719	39.9	0.012916	77
MITCHELL AVE	087715N	015106	2	1416	60	6154	23.9	0.01911	52	60	6719	39.9	0.023156	43
HILLS AVE W	087716V	015135	2	413	60	6154	23.9	0.01280	78	60	6719	39.9	0.015764	63
MITCHELL AVE	087717C	015186	1	1416	60	6154	23.9	0.12307	8	60	6790	39.9	0.139790	7
	087718J	015274	1	74	60	6154	23.9	0.01156	86	60	6719	39.9	0.014765	68
	087719R	015375	2	118	60	6154	23.9	0.01369	73	60	6719	39.9	0.017371	58
	087720K	015475	1	74	60	6154	23.9	0.01156	86	60	6719	39.9	0.014765	68
	087721S	015680	2	89	60	6154	23.9	0.01217	82	60	6719	39.9	0.015517	64
	087722Y	015879	2	59	60	6154	23.9	0.01007	99	60	6719	39.9	0.012916	77
MAIN ST	087725U	016183	2	9226	60	6154	23.9	0.02964	34	60	6790	39.9	0.034978	29
YEGAN ROAD	087726B	019165	2	5539	50	6154	23.9	0.02657	38	50	6719	39.9	0.031599	32

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
1ST AVE	087760H	009723	2	59	40	6154	23.9	0.00946	106	40	6790	39.9	0.013911	72
	087762W	009933	1	15	40	6154	23.9	0.00550	182	40	6790	39.9	0.008247	121
	087764K	009984	2	9698	40	6154	23.9	0.02995	33	40	6719	39.9	0.035318	28
	087766Y	010239	1	162	40	6154	23.9	0.01521	66	40	6719	39.9	0.019207	52
	087768M	010639	1	74	40	6154	23.9	0.01923	52	40	6790	39.9	0.024001	42
BROADWAY	087769U	010743	1	15	40	6154	23.9	0.00636	157	40	6790	39.9	0.008247	121
	087781B	010903	2	2640	40	6154	23.9	0.02528	40	40	6719	39.9	0.030156	33
	087782H	011588	1	59	60	6154	23.9	0.01087	92	60	6790	39.9	0.013911	72
	087783P	012156	2	9226	60	6154	23.9	0.03640	27	60	6790	39.9	0.042256	24
	087784W	012146	2	1490	60	6154	23.9	0.02269	44	60	6790	39.9	0.027242	37
HAYES ST	087785D	011940	1	59	60	6154	23.9	0.01007	99	60	6790	39.9	0.012916	77
	087786K	011737	1	162	60	6154	23.9	0.01485	67	60	6790	39.9	0.018773	53
	087787S	011501	1	103	60	6154	23.9	0.01323	76	60	6719	39.9	0.016806	60
	087788Y	011334	1	89	60	6154	23.9	0.01217	82	60	6719	39.9	0.015517	64
	087790A	011285	2	1151	60	6154	23.9	0.01890	53	60	6790	39.9	0.022915	44
EUCLID AVE	087791G	011234	1	103	40	6154	23.9	0.01237	81	40	6790	39.9	0.015752	63
	087792N	010950	1	74	40	6154	23.9	0.01080	93	40	6719	39.9	0.013817	72
	087793V	012245	1	59	60	6154	23.9	0.01007	99	60	6790	39.9	0.012916	77
	087794C	012346	1	310	60	6154	23.9	0.01841	54	60	6719	39.9	0.023033	43
	087795J	012449	1	30	60	6154	23.9	0.00807	124	60	6719	39.9	0.010412	96
	087798E	012994	2	236	60	6154	23.9	0.01107	90	60	6790	39.9	0.013686	73
	087799L	013270	1	44	60	6154	23.9	0.00926	108	60	6719	39.9	0.011902	84

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
	087800D	013471	2	162	60	6154	23.9	0.04795	21	60	6790	39.9	0.055147	18
	087801K	013571	2	44	60	6154	23.9	0.00926	108	60	6790	39.9	0.011902	84
4TH ST	087804F	013771	2	974	60	6154	23.9	0.01598	63	60	6790	39.9	0.019516	51
FRONT ST	087668H	019390	2	4219	60	6154	23.9	0.05372	19	60	6439	39.9	0.060824	16
	087699G	013670	1	30	60	6154	23.9	0.00807	124	60	6719	39.9	0.010159	98
1ST AVE N	071257E	009287	4	11166	60	6154	23.9	0.09430	11	60	6689	39.9	0.106340	9
2ND AVE NE	071256X	009279	2	1981	60	6154	23.9	0.02370	42	60	6689	39.9	0.028887	35
7TH ST SE	103805G	004050	2	44	60	6154	23.9	0.01381	72	60	6439	39.9	0.017534	57
3RD ST SE	103730K	000094	2	4226	60	6154	23.9	0.02504	40	60	6439	39.9	0.029909	33
COUNTY RD CR 23/CMC 0927	071241H	008944	2	59	60	6154	23.9	0.00876	114	60	6439	39.9	0.010896	92
	071120K	003018	2	103	60	6154	23.9	0.01058	95	60	6439	39.9	0.013110	76
154TH AVE SE	071109K	002917	2	74	60	6154	23.9	0.01166	86	60	6439	39.9	0.014895	67
3RD AV	071108D	002800	2	605	60	6154	23.9	0.01758	57	60	6439	39.9	0.021397	47
6TH AV	071105H	002778	2	1357	60	6154	23.9	0.02138	47	60	6439	39.9	0.025772	39
LANGER AV/ ND 18	071103U	002770	2	6947	60	6154	23.9	0.03064	33	60	6439	39.9	0.036094	28
15TH AVE	071101F	002716	2	221	60	6154	23.9	0.01541	65	60	6439	39.9	0.018861	53
157TH AVE SE	071100Y	002615	2	59	60	6154	23.9	0.01019	98	60	6439	39.9	0.013085	76
158TH AVE SE	071099G	002520	2	207	60	6154	23.9	0.01217	82	60	6439	39.9	0.015025	67
159TH AVE SE	071098A	002419	1	30	60	6154	23.9	0.00807	124	60	6439	39.9	0.010425	96
177TH AVE SE	071097T	002318	2	30	60	6154	23.9	0.00807	124	60	6601	39.9	0.010425	96
161ST AVE SE	071095E	002217	2	74	60	6154	23.9	0.01166	86	60	6601	39.9	0.014895	67
7TH AV/CMC0941	071092J	002016	2	3717	60	6154	23.9	0.02683	37	60	6439	39.9	0.031906	31

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
164TH AVE SE	071089B	001918	1	74	60	6154	23.9	0.01323	76	60	6439	39.9	0.016826	59
CMC														
0941SPUR	071087M	001817	2	693	60	6154	23.9	0.01714	58	60	6439	39.9	0.020884	48
166TH AVE														
FIELD	071086F	001717	1	30	60	6154	23.9	0.00926	108	60	6439	39.9	0.011916	84
38TH STREET														
W	071085Y	001616	2	162	60	6154	23.9	0.01157	86	60	6439	39.9	0.014300	70
26TH ST W	071084S	001515	2	162	60	6154	23.9	0.01157	86	60	6439	39.9	0.014300	70
9TH ST EAST	071009F	001208	2	1387	60	6154	23.9	0.01980	51	60	6439	39.9	0.023965	42
27TH ST N	070828T	000915	2	21978	60	6154	23.9	0.03602	28	60	6439	39.9	0.041883	24
8TH ST	070810H	000771	4	7213	60	6154	23.9	0.03707	27	60	6439	39.9	0.042994	23
BROADWAY	070809N	000757	2	7626	60	6154	23.9	0.12174	8	60	6439	39.9	0.136013	7
4TH ST N	070807A	000742	4	10723	60	6154	23.9	0.14487	7	60	6439	39.9	0.160620	6
4TH AV NW	080763E	021811	2	679	60	6154	23.9	0.03264	31	60	6439	39.9	0.039209	26
5TH ST S	070798D	000683	3	5576	60	6154	23.9	0.03232	31	60	6595	39.9	0.037923	26
8TH ST S	062952D	000661	5	18747	60	6154	23.9	0.04785	21	60	6595	39.9	0.054078	18
11TH ST	062949V	000639	4	6785	60	6154	23.9	0.08701	11	60	6595	39.9	0.097604	10
11TH ST	062931K	002207	2	17287	60	6154	23.9	0.03095	32	60	6595	39.9	0.036404	27
11TH ST	062932S	000639	2	18320	60	6154	23.9	0.03431	29	60	6595	39.9	0.040063	25
11TH ST N	062930D	002207	4	7434	60	6154	23.9	0.03402	29	60	6595	39.9	0.039746	25
14TH ST N	062927V	002180	3	3319	60	6154	23.9	0.02652	38	60	6439	39.9	0.031563	32
14TH ST	062946A	000614	4	6623	60	6154	23.9	0.08671	12	60	6439	39.9	0.097338	10
2ND AVE NE	071256X	009279	2	1981	60	6154	23.9	0.02370	42	60	6689	39.9	0.028887	35
1ST AVE N	071257E	009287	4	11166	60	6154	23.9	0.09430	11	60	6689	39.9	0.106340	9
Average Predicted Accident Frequency and Interval (No Action)								0.02145	47	Proposed Action		0.025729	39	

Table V.1-18. Grade Crossing Safety, Segment 18 - Southern from Mandan, ND to Fargo, ND, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	071122Y	003122	2	59	60	6154	23.9	0.01007	99	60	6745	32.9	0.012128	82
	071123F	003206	2	59	60	6154	23.9	0.01007	99	60	6745	32.9	0.012128	82
	071124M	003305	1	44	60	6154	23.9	0.00926	108	60	6745	32.9	0.011169	90
	071126B	003407	2	693	60	6154	23.9	0.01669	60	60	6745	32.9	0.019361	52
	071129W	003507	1	59	60	6154	23.9	0.01007	99	60	6745	32.9	0.012128	82
	071131X	003608	2	103	60	6154	23.9	0.01273	79	60	6745	32.9	0.015239	66
	071132E	003709	2	59	60	6154	23.9	0.01007	99	60	6745	32.9	0.012128	82
	071133L	003807	2	74	60	6154	23.9	0.01156	86	60	6745	32.9	0.013882	72
	071134T	003907	2	59	60	6154	23.9	0.01007	99	60	6745	32.9	0.012128	82
	071136G	004007	2	59	60	6154	23.9	0.01007	99	60	6745	32.9	0.012128	82
HWY 3	071138V	004110	2	192	60	6154	23.9	0.01121	89	60	6745	32.9	0.013137	76
	071140W	004209	1	59	60	6154	23.9	0.01007	99	60	6745	32.9	0.012128	82
	071142K	004309	2	118	60	6154	23.9	0.01369	73	60	6745	32.9	0.016360	61
WILCOX AV	071144Y	004385	2	1387	60	6154	23.9	0.02147	47	60	6745	32.9	0.024675	41
ST HWY 38	071145F	004405	2	1460	60	6154	23.9	0.02440	41	60	6745	32.9	0.027895	36
	071146M	004508	2	59	60	6154	23.9	0.01007	99	60	6745	32.9	0.012128	82
	071147U	004606	2	44	60	6154	23.9	0.00926	108	60	6745	32.9	0.011169	90
	071149H	004706	2	59	60	6154	23.9	0.01087	92	60	6745	32.9	0.013071	77
	071150C	004806	1	30	60	6154	23.9	0.00807	124	60	6745	32.9	0.009761	102
	071152R	004907	2	59	60	6154	23.9	0.01087	92	60	6745	32.9	0.013071	77
MAIN ST	071154E	004966	2	9226	60	6154	23.9	0.03293	30	60	6745	32.9	0.037072	27

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
BROADWAY	071156T	004973	2	2640	60	6154	23.9	0.02528	40	60	6745	32.9	0.028857	35
RAILROAD ST	071158G	005003	2	8533	60	6154	23.9	0.02916	34	60	6745	32.9	0.033050	30
	071160H	005204	2	59	60	6154	23.9	0.01007	99	60	6745	32.9	0.012128	82
	071161P	005304	1	30	60	6154	23.9	0.00807	124	60	6745	32.9	0.009761	102
	071162W	005404	2	30	60	6154	23.9	0.00807	124	60	6689	32.9	0.009761	102
ND HWY 32	071163D	005504	2	1018	60	6154	23.9	0.01762	57	60	6719	32.9	0.020403	49
MAIN ST	071164K	005522	2	9226	60	6154	23.9	0.02964	34	60	6689	32.9	0.033567	30
	071165S	005604	2	59	60	6154	23.9	0.01007	99	60	6689	32.9	0.012128	82
	071166Y	005701	2	177	60	6154	23.9	0.01555	64	60	6689	32.9	0.018505	54
	071167F	005801	2	103	60	6154	23.9	0.01273	79	60	6689	32.9	0.015239	66
	071171V	006109	2	738	60	6154	23.9	0.01697	59	60	6689	32.9	0.019667	51
	071173J	006204	1	44	60	6154	23.9	0.00926	108	60	6761	32.9	0.010424	96
	071174R	006268	2	192	60	6154	23.9	0.01587	63	60	6761	32.9	0.017718	56
	071175X	006305	2	162	60	6154	23.9	0.01521	66	60	6761	32.9	0.016991	59
	071180U	006824	2	59	60	6154	23.9	0.01007	99	60	6689	32.9	0.012128	82
	071185D	007131	2	59	60	6154	23.9	0.01087	92	60	6689	32.9	0.013071	77
	071188Y	007335	2	74	60	6154	23.9	0.01156	86	60	6689	32.9	0.013882	72
	071190A	007531	1	89	60	6154	23.9	0.01217	82	60	6761	32.9	0.014596	69
4TH ST	071191G	007608	2	1755	60	6154	23.9	0.02306	43	60	6689	32.9	0.026430	38
1ST STREET	071192N	007632	2	1608	60	6154	23.9	0.02260	44	60	6761	32.9	0.025928	39
	071224S	007731	2	59	60	6154	23.9	0.01007	99	60	6689	32.9	0.012128	82
	071226F	007830	2	59	60	6154	23.9	0.01007	99	60	6689	32.9	0.012128	82

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	071228U	008030	2	44	60	6154	23.9	0.00926	108	60	6689	32.9	0.011169	90
	071229B	008133	2	413	60	6154	23.9	0.01470	68	60	6689	32.9	0.017115	58
	071232J	008343	2	74	60	6154	23.9	0.01156	86	60	6761	32.9	0.013882	72
	071233R	008443	2	44	60	6154	23.9	0.00926	108	60	6689	32.9	0.011169	90
	071235E	008512	2	59	60	6154	23.9	0.01087	92	60	6689	32.9	0.013071	77
	071236L	008543	2	811	60	6154	23.9	0.01527	65	60	6689	32.9	0.017756	56
	071238A	008744	2	44	60	6154	23.9	0.00926	108	60	6689	32.9	0.011169	90
	071239G	008843	2	752	60	6154	23.9	0.01702	59	60	6689	32.9	0.019731	51
SALISBURY ST	071240B	008908	2	1519	60	6154	23.9	0.02194	46	60	6752	32.9	0.025200	40
	071242P	009046	2	30	60	6154	23.9	0.00807	124	60	6752	32.9	0.009761	102
	071244D	009266	2	44	60	6154	23.9	0.00926	108	60	6689	32.9	0.011169	90
	071246S	009473	2	74	60	6154	23.9	0.01156	86	60	6689	32.9	0.013882	72
	071248F	009476	2	988	60	6154	23.9	0.01607	62	60	6689	32.9	0.018658	54
	071249M	009688	2	1151	60	6154	23.9	0.01890	53	60	6689	32.9	0.021834	46
	071250G	009748	2	59	60	6154	23.9	0.01007	99	60	6761	32.9	0.012128	82
7 AVE NE	071253C	009243	2	6180	60	6154	23.9	0.03035	33	60	6689	32.9	0.034324	29
2ND AVE NE	071256X	009279	2	1981	60	6154	23.9	0.02370	42	60	6689	32.9	0.027137	37
1ST AVE N	071257E	009287	4	11166	60	6154	23.9	0.09430	11	60	6689	32.9	0.102399	10
2ND AVE NW	071258L	009293	2	8419	40	6154	23.9	0.03233	31	40	6689	32.9	0.036436	27
17TH SW	071260M	009425	2	457	40	6154	23.9	0.02412	41	40	6689	32.9	0.027590	36
	071261U	009642	2	148	40	6154	23.9	0.01085	92	40	6689	32.9	0.012972	77
	086394F	008944	2	59	60	6154	23.9	0.01087	92	60	6719	32.9	0.013071	77

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	087633G	016299	1	30	60	6154	23.9	0.00807	124	60	6719	32.9	0.009761	102
	087634N	016382	1	59	60	6154	23.9	0.01007	99	60	6719	32.9	0.012128	82
	087635V	016593	1	59	60	6154	23.9	0.01087	92	60	6761	32.9	0.013071	77
OFF SYSTEM	087636C	016869	2	413	60	6154	23.9	0.01290	78	60	6719	32.9	0.015066	66
	087641Y	017072	1	30	50	6154	23.9	0.00807	124	50	6719	32.9	0.009761	102
	087642F	017282	1	118	50	6154	23.9	0.01369	73	50	6790	32.9	0.016360	61
	087643M	017609	2	207	50	6154	23.9	0.01214	82	50	6719	32.9	0.013852	72
	087644U	017815	1	15	50	6154	23.9	0.00636	157	50	6719	32.9	0.007482	134
	087646H	018014	1	30	50	6154	23.9	0.00807	124	50	6719	32.9	0.009466	106
	087647P	018116	2	103	50	6154	23.9	0.01273	79	50	6790	32.9	0.014805	68
BISMARCK AVE	087648W	018170	2	1254	50	6154	23.9	0.03048	33	50	6719	32.9	0.034358	29
	087649D	018217	2	575	50	6154	23.9	0.04583	22	50	6790	32.9	0.049295	20
	087651E	018387	1	44	50	6154	23.9	0.00926	108	50	6719	32.9	0.010836	92
119TH ST	087652L	018548	1	708	50	6154	23.9	0.01424	70	50	6790	32.9	0.016185	62
106TH STREET SE	087654A	018660	2	531	50	6154	23.9	0.01493	67	50	6790	32.9	0.016957	59
	087655G	017385	1	15	50	6154	23.9	0.00636	157	50	6719	32.9	0.007482	134
	087656N	017391	1	15	50	6154	23.9	0.00636	157	50	6719	32.9	0.007482	134
	087657V	017501	1	30	50	6154	23.9	0.00807	124	50	6719	32.9	0.009466	106
	087658C	018765	2	974	50	6154	23.9	0.01598	63	50	6790	32.9	0.018119	55
	087659J	018965	2	177	50	6154	23.9	0.01026	97	50	6790	32.9	0.011741	85
26TH ST	087660D	019286	2	4602	50	6154	23.9	0.07111	14	50	6719	32.9	0.076847	13
24TH ST	087661K	019306	2	1401	50	6154	23.9	0.02756	36	50	6719	32.9	0.030698	33

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
FRONT ST	087662S	019312	2	2434	50	6154	23.9	0.03425	29	50	6790	32.9	0.035613	28
19TH	087665M	019340	4	11225	50	6154	23.9	0.04100	24	50	6719	32.9	0.044786	22
12TH ST	087667B	019393	2	11402	50	6154	23.9	0.03738	27	50	6790	32.9	0.041026	24
5TH ST	087674L	019443	2	6549	50	6154	23.9	0.02713	37	50	6719	32.9	0.030241	33
3RD ST	087675T	019457	2	19411	50	6154	23.9	0.08174	12	50	6719	32.9	0.088053	11
	087683K	019858	2	988	50	6154	23.9	0.02321	43	50	6719	32.9	0.024290	41
	087684S	019829	1	3702	50	6154	23.9	0.01945	51	50	6719	32.9	0.021935	46
	087702M	014171	1	44	60	6154	23.9	0.00926	108	60	6790	32.9	0.010836	92
ND HWY 3	087704B	014314	2	2154	60	6154	23.9	0.02109	47	60	6719	32.9	0.023723	42
	087705H	014366	1	74	60	6154	23.9	0.07121	14	60	6719	32.9	0.076197	13
	087706P	014666	1	118	60	6154	23.9	0.01369	73	60	6790	32.9	0.015901	63
3RD AVE.	087709K	015085	2	2043	60	6154	23.9	0.02387	42	60	6719	32.9	0.026735	37
	087710E	015578	1	30	60	6154	23.9	0.00807	124	60	6719	32.9	0.009466	106
	087713A	016080	1	59	60	6154	23.9	0.01007	99	60	6719	32.9	0.011771	85
MITCHELL AVE	087715N	015106	2	1416	60	6154	23.9	0.01911	52	60	6719	32.9	0.021566	46
HILLS AVE W	087716V	015135	2	413	60	6154	23.9	0.01280	78	60	6719	32.9	0.014589	69
MITCHELL AVE	087717C	015186	1	1416	60	6154	23.9	0.12307	8	60	6790	32.9	0.133317	8
	087718J	015274	1	74	60	6154	23.9	0.01156	86	60	6719	32.9	0.013480	74
	087719R	015375	2	118	60	6154	23.9	0.01369	73	60	6719	32.9	0.015901	63
	087720K	015475	1	74	60	6154	23.9	0.01156	86	60	6719	32.9	0.013480	74
	087721S	015680	2	89	60	6154	23.9	0.01217	82	60	6719	32.9	0.014178	71
	087722Y	015879	2	59	60	6154	23.9	0.01007	99	60	6719	32.9	0.011771	85

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
MAIN ST	087725U	016183	2	9226	60	6154	23.9	0.02964	34	60	6790	32.9	0.032911	30
YEGAN ROAD	087726B	019165	2	5539	50	6154	23.9	0.02657	38	50	6719	32.9	0.029646	34
	087760H	009723	2	59	40	6154	23.9	0.00946	106	40	6790	32.9	0.012690	79
	087762W	009933	1	15	40	6154	23.9	0.00550	182	40	6790	32.9	0.007482	134
1ST AVE	087764K	009984	2	9698	40	6154	23.9	0.02995	33	40	6719	32.9	0.033240	30
	087766Y	010239	1	162	40	6154	23.9	0.01521	66	40	6719	32.9	0.017614	57
	087768M	010639	1	74	40	6154	23.9	0.01923	52	40	6790	32.9	0.022115	45
	087769U	010743	1	15	40	6154	23.9	0.00636	157	40	6790	32.9	0.007482	134
BROADWAY	087781B	010903	2	2640	40	6154	23.9	0.02528	40	40	6719	32.9	0.028255	35
	087782H	011588	1	59	60	6154	23.9	0.01087	92	60	6790	32.9	0.012690	79
MAIN	087783P	012156	2	9226	60	6154	23.9	0.03640	27	60	6790	32.9	0.040013	25
HAYES ST	087784W	012146	2	1490	60	6154	23.9	0.02269	44	60	6790	32.9	0.025461	39
	087785D	011940	1	59	60	6154	23.9	0.01007	99	60	6790	32.9	0.011771	85
	087786K	011737	1	162	60	6154	23.9	0.01485	67	60	6790	32.9	0.017208	58
	087787S	011501	1	103	60	6154	23.9	0.01323	76	60	6719	32.9	0.015376	65
	087788Y	011334	1	89	60	6154	23.9	0.01217	82	60	6719	32.9	0.014178	71
EUCLID AVE	087790A	011285	2	1151	60	6154	23.9	0.01890	53	60	6790	32.9	0.021338	47
	087791G	011234	1	103	40	6154	23.9	0.01237	81	40	6790	32.9	0.014396	69
	087792N	010950	1	74	40	6154	23.9	0.01080	93	40	6719	32.9	0.012604	79
	087793V	012245	1	59	60	6154	23.9	0.01007	99	60	6790	32.9	0.011771	85
	087794C	012346	1	310	60	6154	23.9	0.01841	54	60	6719	32.9	0.021202	47
	087795J	012449	1	30	60	6154	23.9	0.00807	124	60	6719	32.9	0.009466	106

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
	087798E	012994	2	236	60	6154	23.9	0.01107	90	60	6790	32.9	0.012643	79
	087799L	013270	1	44	60	6154	23.9	0.00926	108	60	6719	32.9	0.010836	92
	087800D	013471	2	162	60	6154	23.9	0.04795	21	60	6790	32.9	0.052278	19
	087801K	013571	2	44	60	6154	23.9	0.00926	108	60	6790	32.9	0.010836	92
4TH ST	087804F	013771	2	974	60	6154	23.9	0.01598	63	60	6790	32.9	0.018119	55
FRONT ST	087668H	019390	2	4219	60	6154	23.9	0.05372	19	60	6439	32.9	0.05818	17
	087699G	013670	1	30	60	6154	23.9	0.00807	124	60	6719	32.9	0.00947	106
1ST AVE N	071257E	009287	4	11166	60	6154	23.9	0.09430	11	60	6689	32.9	0.10107	10
2ND AVE NE	071256X	009279	2	1981	60	6154	23.9	0.02370	42	60	6689	32.9	0.02656	38
7TH ST SE	103805G	004050	2	44	60	6154	23.9	0.01381	72	60	6439	32.9	0.01606	62
3RD ST SE	103730K	000094	2	4226	60	6154	23.9	0.02504	40	60	6439	32.9	0.02802	36
COUNTY RD	071241H	008944	2	59	60	6154	23.9	0.00876	114	60	6439	32.9	0.01004	100
CR 23/CMC 0927	071120K	003018	2	103	60	6154	23.9	0.01058	95	60	6439	32.9	0.01211	83
154TH AVE SE	071109K	002917	2	74	60	6154	23.9	0.01166	86	60	6439	32.9	0.01360	74
3RD AV	071108D	002800	2	605	60	6154	23.9	0.01758	57	60	6439	32.9	0.01990	50
6TH AV	071105H	002778	2	1357	60	6154	23.9	0.02138	47	60	6439	32.9	0.02406	42
LANGER AV/ ND 18	071103U	002770	2	6947	60	6154	23.9	0.03064	33	60	6439	32.9	0.03400	29
15TH AVE	071101F	002716	2	221	60	6154	23.9	0.01541	65	60	6439	32.9	0.01751	57
157TH AVE SE	071100Y	002615	2	59	60	6154	23.9	0.01019	98	60	6439	32.9	0.01193	84
158TH AVE SE	071099G	002520	2	207	60	6154	23.9	0.01217	82	60	6439	32.9	0.01390	72
159TH AVE SE	071098A	002419	1	30	60	6154	23.9	0.00807	124	60	6439	32.9	0.00948	105
177TH AVE SE	071097T	002318	2	30	60	6154	23.9	0.00807	124	60	6601	32.9	0.00948	105

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
161ST AVE SE 7TH AV/CMC0941	071095E	002217	2	74	60	6154	23.9	0.01166	86	60	6601	32.9	0.01360	74
	071092J	002016	2	3717	60	6154	23.9	0.02683	37	60	6439	32.9	0.02995	33
164TH AVE SE CMC 0941SPUR	071089B	001918	1	74	60	6154	23.9	0.01323	76	60	6439	32.9	0.01540	65
	071087M	001817	2	693	60	6154	23.9	0.01714	58	60	6439	32.9	0.01942	52
166TH AVE FIELD	071086F	001717	1	30	60	6154	23.9	0.00926	108	60	6439	32.9	0.01085	92
38TH STREET W	071085Y	001616	2	162	60	6154	23.9	0.01157	86	60	6439	32.9	0.01322	76
26TH ST W	071084S	001515	2	162	60	6154	23.9	0.01157	86	60	6439	32.9	0.01322	76
9TH ST EAST	071009F	001208	2	1387	60	6154	23.9	0.01980	51	60	6439	32.9	0.02234	45
27TH ST N	070828T	000915	2	21978	60	6154	23.9	0.03602	28	60	6439	32.9	0.03965	25
8TH ST	070810H	000771	4	7213	60	6154	23.9	0.03707	27	60	6439	32.9	0.04074	25
BROADWAY	070809N	000757	2	7626	60	6154	23.9	0.12174	8	60	6439	32.9	0.13054	8
4TH ST N	070807A	000742	4	10723	60	6154	23.9	0.14487	7	60	6439	32.9	0.15466	6
4TH AV NW	080763E	021811	2	679	60	6154	23.9	0.03264	31	60	6439	32.9	0.03669	27
5TH ST S	070798D	000683	3	5576	60	6154	23.9	0.03232	31	60	6595	32.9	0.03578	28
8TH ST S	062952D	000661	5	18747	60	6154	23.9	0.04785	21	60	6595	32.9	0.05175	19
11TH ST	062949V	000639	4	6785	60	6154	23.9	0.08701	11	60	6595	32.9	0.09355	11
11TH ST	062931K	002207	2	17287	60	6154	23.9	0.03095	32	60	6595	32.9	0.03430	29
11TH ST	062932S	000639	2	18320	60	6154	23.9	0.03431	29	60	6595	32.9	0.03787	26
11TH ST N	062930D	002207	4	7434	60	6154	23.9	0.03402	29	60	6595	32.9	0.03756	27
14TH ST N	062927V	002180	3	3319	60	6154	23.9	0.02652	38	60	6439	32.9	0.02962	34
14TH ST	062946A	000614	4	6623	60	6154	23.9	0.08671	12	60	6439	32.9	0.09330	11
Average Predicted Accident Frequency and Interval (No Action)								0.02145	47	Proposed Action			0.024115	41

Table V.1-19. Grade Crossing Safety, Segment 20 - Northern from Fargo, ND to Willmar, MN, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
28TH AVE SO	062577F	004102	2	752	60	6154	10.8	0.07440	13	60	6719	26.6	0.092804	11
40TH AVE SO	062579U	004001	4	4366	60	6154	10.8	0.02318	43	60	6719	26.6	0.035998	28
50 AVE S	062580N	003902	2	103	60	6154	10.8	0.00987	101	60	6790	26.6	0.018333	55
60TH AVE S	062582C	003793	2	2345	60	6154	10.8	0.01587	63	60	6790	26.6	0.025954	39
70 AVE S	062584R	003691	2	30	60	6154	10.8	0.00564	177	60	6790	26.6	0.010897	92
80 AVE S	062585X	003592	2	74	60	6154	10.8	0.00863	116	60	6719	26.6	0.016212	62
90 AVE S	062586E	003492	2	30	60	6154	10.8	0.00620	161	60	6719	26.6	0.011916	84
100 AVE S	062587L	003396	2	89	60	6154	10.8	0.00931	107	60	6719	26.6	0.017391	58
108 AVE S	062588T	003320	2	89	60	6154	10.8	0.00931	107	60	6790	26.6	0.017391	58
110 AVE S	062589A	003299	2	325	60	6154	10.8	0.06343	16	60	6790	26.6	0.091112	11
120TH AVE SO	062590U	003201	2	15	60	6154	10.8	0.00422	237	60	6719	26.6	0.008257	121
130 AVE S	062591B	003103	2	59	60	6154	10.8	0.00824	121	60	6719	26.6	0.015535	64
140TH AVE	062592H	003005	1	30	60	6154	10.8	0.00620	161	60	6719	26.6	0.011916	84
150TH AVE S	062594W	002905	2	15	60	6154	10.8	0.00312	321	60	6719	26.6	0.006170	162
BROADWAY/160 AVE	062596K	002801	2	1387	60	6154	10.8	0.01579	63	60	6719	26.6	0.025840	39
170TH AVE S	062597S	002702	2	59	60	6154	10.8	0.00781	128	60	6719	26.6	0.014782	68
100TH ST	062598Y	002603	2	74	60	6154	10.8	0.00898	111	60	6790	26.6	0.016826	59
110TH ST	062600X	002503	1	30	60	6154	10.8	0.00564	177	60	6719	26.6	0.010897	92
120TH ST	062601E	002402	2	44	60	6154	10.8	0.00732	137	60	6719	26.6	0.013926	72
130TH ST	062602L	002301	2	103	60	6154	10.8	0.00958	104	60	6790	26.6	0.017841	56
140TH ST	062604A	002198	2	74	60	6154	10.8			60	6719	26.6	0.016826	59

No Action - Annual Predicted Accident Frequency														Proposed Action - Annual Predicted Accident Frequency	
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	
								0.00898	111						
LIND AVE	062605G	002130	2	89	60	6154	10.8	0.00931	107	60	6719	26.6	0.017391	58	
150TH ST	062606N	002093	2	575	60	6154	10.8	0.01443	69	60	6780	26.6	0.023854	42	
160TH ST	062607V	001989	2	30	60	6154	10.8	0.00620	161	60	6780	26.6	0.011916	84	
170TH ST	062608C	001887	2	59	60	6154	10.8	0.00824	121	60	6780	26.6	0.015535	64	
180TH ST	062610D	001781	2	59	60	6154	10.8	0.00781	128	60	6780	26.6	0.014782	68	
190TH ST	062611K	001681	2	44	60	6154	10.8	0.00732	137	60	6719	26.6	0.013926	72	
200TH ST	062612S	001579	1	148	60	6154	10.8	0.01111	90	60	6719	26.6	0.020399	49	
210TH ST	062614F	001477	2	236	60	6154	10.8	0.02171	46	60	6719	26.6	0.036360	28	
220TH ST	062616U	001369	2	15	60	6154	10.8	0.00422	237	60	6780	26.6	0.008257	121	
3RD ST	062620J	001232	2	679	60	6154	10.8	0.02911	34	60	6719	26.6	0.045924	22	
235TH ST	062621R	001213	2	664	60	6154	10.8	0.01149	87	60	6719	26.6	0.019420	51	
150TH AVE	062622X	001139	2	30	60	6154	10.8	0.00538	186	60	6719	26.6	0.010425	96	
250TH ST	062624L	001053	2	30	60	6154	10.8	0.00538	186	60	6790	26.6	0.010425	96	
270TH ST	062629V	000837	1	15	60	6154	10.8	0.00422	237	60	6719	26.6	0.008257	121	
280TH ST	062631W	000730	2	575	60	6154	10.8	0.01265	79	60	6719	26.6	0.021197	47	
30TH AVE S	103817B	004077	4	10827	60	6154	10.8	0.02833	35	60	6719	26.6	0.042476	24	
450TH AVE	060917H	015230	2	44	40	6154	10.8	0.00274	364	40	6719	26.6	0.004560	219	
265TH ST	060919W	015109	2	59	40	6154	10.8	0.00720	139	40	6689	26.6	0.013702	73	
6TH ST	060922E	014869	2	2272	40	6154	10.8	0.01785	56	40	6689	26.6	0.028784	35	
LAKE AVE	060923L	014817	2	369	40	6154	10.8	0.01277	78	40	6689	26.6	0.021377	47	
310TH ST	060926G	014505	2	74	40	6154	10.8	0.00729	137	40	6689	26.6	0.013878	72	

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
60TH ST NE	061081U	009807	2	184	40	6154	10.8	0.00957	105	40	6689	26.6	0.016407	61
19TH ST N	061088S	010332	2	2109	40	6154	10.8	0.01753	57	40	6741	26.6	0.028334	35
30TH ST NW	061089Y	010405	3	11358	40	6154	10.8	0.03251	31	40	6741	26.6	0.047421	21
CO RD 5 W	061091A	010447	2	785	40	6154	10.8	0.02764	36	40	6741	26.6	0.044112	23
45TH ST NW	061094V	010518	2	273	40	6154	10.8	0.01241	81	40	6741	26.6	0.022529	44
60TH ST NW	061096J	010621	2	221	40	6154	10.8	0.01856	54	40	6732	26.6	0.031911	31
75TH ST NW ATLANTIC AVE	061098X	010726	2	575	40	6154	10.8	0.04048	25	40	6732	26.6	0.054322	18
	061099E	010860	2	679	40	6154	10.8	0.02602	38	40	6732	26.6	0.042063	24
11TH ST	061100W	010895	2	1918	40	6154	10.8	0.11397	9	40	6732	26.6	0.147504	7
105TH ST NW	061101D	010941	2	679	40	6154	10.8	0.02602	38	40	6732	26.6	0.042063	24
120TH ST	061103S	011045	2	162	40	6154	10.8	0.01713	58	40	6732	26.6	0.029820	34
135TH ST NW	061104Y	011151	2	1003	40	6154	10.8	0.01279	78	40	6732	26.6	0.021411	47
KANDI-SWIFT RD	061106M	011253	2	236	40	6154	10.8	0.01910	52	40	6732	26.6	0.032702	31
175TH AVE SE	061107U	011305	2	44	40	6154	10.8	0.00600	167	40	6732	26.6	0.011557	87
165TH AVE SE	061109H	011418	2	30	40	6154	10.8	0.00508	197	40	6732	26.6	0.009867	101
140TH	061122W	011592	1	15	40	6154	10.8	0.00571	175	40	6732	26.6	0.011020	91
9TH ST	061123D	011630	2	679	40	6154	10.8	0.01501	67	40	6732	26.6	0.024714	40
14TH ST	061125S	011666	2	1490	40	6154	10.8	0.01606	62	40	6732	26.6	0.026294	38
150TH ST	067426H	017818	2	133	40	6154	10.8	0.00927	108	40	6792	26.6	0.017307	58
160TH ST	067427P	017930	2	74	40	6154	10.8	0.00749	134	40	6732	26.6	0.014217	70
PRICE AVE	067430X	018065	2	59	40	6154	10.8	0.00677	148	40	6732	26.6	0.012937	77
GRISWOLD AVE	067431E	018109	2	339	40	6154	10.8	0.01254	80	40	6792	26.6	0.021020	48

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
180TH ST	067432L	018169	2	15	40	6154	10.8	0.00642	156	40	6732	26.6	0.012304	81
190TH ST	067434A	018288	1	44	40	6154	10.8	0.00634	158	40	6732	26.6	0.012175	82
200TH ST	067436N	018408	2	74	40	6154	10.8	0.01334	75	40	6732	26.6	0.024008	42
210TH ST	067437V	018526	1	30	40	6154	10.8	0.00536	187	40	6732	26.6	0.010387	96
340TH AVE	067438C	018739	1	30	40	6154	10.8	0.00536	187	40	6741	26.6	0.010387	96
CSAH 18	067439J	018767	2	30	40	6154	10.8	0.00536	187	40	6741	26.6	0.009600	104
CNTY 93	067440D	018931	1	74	40	6154	10.8	0.01283	78	40	6741	26.6	0.023202	43
490TH	067441K	018998	2	44	40	6154	10.8	0.01016	98	40	6741	26.6	0.018815	53
TWN 197	067443Y	019120	1	30	40	6154	10.8	0.00465	215	40	6741	26.6	0.009068	110
OAK ST	067445M	019246	2	679	40	6154	10.8	0.02602	38	40	6741	26.6	0.042063	24
4TH ST	067446U	019271	2	369	40	6154	10.8	0.00976	103	40	6741	26.6	0.016704	60
460TH	067447B	019370	1	133	40	6154	10.8	0.00947	106	40	6741	26.6	0.017660	57
MNTH 55	067449P	019485	2	1608	40	6154	10.8	0.01054	95	40	6760	26.6	0.016173	62
500TH ST	067450J	019602	1	30	40	6154	10.8	0.00465	215	40	6741	26.6	0.009068	110
290TH AVE	067451R	019698	2	59	40	6154	10.8	0.00699	143	40	6741	26.6	0.013332	75
490TH ST	067452X	019723	1	74	40	6154	10.8	0.01283	78	40	6741	26.6	0.023202	43
480TH ST	067453E	019826	1	44	40	6154	10.8	0.00634	158	40	6741	26.6	0.012175	82
470TH ST	067455T	019944	1	266	40	6154	10.8	0.01190	84	40	6732	26.6	0.021703	46
5TH ST	067456A	019982	2	900	40	6154	10.8	0.02064	48	40	6732	26.6	0.032632	31
450TH ST	067460P	020182	1	30	40	6154	10.8	0.00465	215	40	6732	26.6	0.009068	110
440TH ST	067462D	020316	1	103	40	6154	10.8	0.00832	120	40	6732	26.6	0.015682	64
430TH ST	067463K	020437	2	59	40	6154	10.8	0.00714	140	40	6732	26.6	0.013612	73

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
FIELD ENT	067465Y	020563	1	133	40	6154	10.8	0.00832	120	40	6732	26.6	0.015682	64
TH 9	067467M	020665	2	1696	40	6154	10.8	0.01463	68	40	6732	26.6	0.020786	48
5TH ST	067468U	020697	2	162	40	6154	10.8	0.01713	58	40	6732	26.6	0.025326	39
230TH AVE	067469B	020746	2	30	40	6154	10.8	0.00536	187	40	6732	26.6	0.008482	118
400TH ST	067470V	020790	2	30	40	6154	10.8	0.00487	205	40	6732	26.6	0.007731	129
390TH ST	067473R	020921	2	59	40	6154	10.8	0.01228	81	40	6732	26.6	0.018658	54
380TH ST	067475E	021052	2	59	40	6154	10.8	0.00714	140	40	6732	26.6	0.011187	89
210TH ST	067545S	015832	2	1224	40	6154	10.8	0.01936	52	40	6732	26.6	0.028278	35
200TH ST	067546Y	015947	2	325	40	6154	10.8	0.02095	48	40	6732	26.6	0.030327	33
180TH ST	067549U	016198	2	162	40	6154	10.8	0.01019	98	40	6732	26.6	0.015681	64
170TH ST	067551V	016316	1	30	40	6154	10.8	0.00465	215	40	6732	26.6	0.007386	135
520TH AVE	067554R	016502	2	74	40	6154	10.8	0.00749	134	40	6732	26.6	0.011699	85
3RD ST	067557L	016570	2	679	40	6154	10.8	0.02600	38	40	6732	26.6	0.036636	27
4TH ST.	067558T	016576	2	679	40	6154	10.8	0.01157	86	40	6732	26.6	0.016674	60
140TH ST	067560U	016662	2	679	40	6154	10.8	0.04965	20	40	6732	26.6	0.063806	16
130TH ST	067562H	016775	2	74	40	6154	10.8	0.00780	128	40	6732	26.6	0.012166	82
120TH ST	067564W	016909	2	59	40	6154	10.8	0.00720	139	40	6732	26.6	0.011263	89
100TH ST	067567S	017175	2	133	40	6154	10.8	0.00947	106	40	6732	26.6	0.014632	68
260TH AVE	067568Y	017203	1	74	40	6154	10.8	0.01283	78	40	6732	26.6	0.019440	51
270 AVE	067569F	017339	2	74	40	6154	10.8	0.01334	75	40	6732	26.6	0.020148	50
280TH AVE	067572N	017491	2	133	40	6154	10.8	0.01600	62	40	6732	26.6	0.023807	42
130TH ST	067573V	017576	2	679	40	6154	10.8	0.01616	62	40	6732	26.6	0.024017	42

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
3RD ST	067574C	017610	2	679	40	6154	10.8	0.02600	38	40	6732	26.6	0.036636	27
5TH ST W	067575J	017620	2	2758	40	6154	10.8	0.02107	47	40	6732	26.6	0.029120	34
140TH ST	067576R	017696	2	74	40	6154	10.8	0.00749	134	40	6732	26.6	0.011699	85
130TH AVE SE	067889F	011824	2	74	40	6154	10.8	0.01175	85	40	6732	26.6	0.019752	51
80TH ST SE	067890A	011917	2	30	40	6154	10.8	0.00948	105	40	6732	26.6	0.014647	68
120TH AVE SE	067891G	011932	2	30	40	6154	10.8	0.00536	187	40	6732	26.6	0.008482	118
HOLLIS ST	067895J	012074	2	1121	40	6154	10.8	0.01499	67	40	6732	26.6	0.021251	47
SHAAF ST.	067896R	012093	2	620	40	6154	10.8	0.01123	89	40	6732	26.6	0.016211	62
100TH AVE	067898E	012160	2	133	40	6154	10.8	0.01567	64	40	6732	26.6	0.023365	43
60TH ST SE	067900D	012248	2	30	40	6154	10.8	0.00887	113	40	6714	26.6	0.013739	73
80TH AVE SE	067901K	012398	2	177	40	6154	10.8	0.01029	97	40	6714	26.6	0.015823	63
3RD ST	067903Y	012516	2	679	40	6154	10.8	0.01318	76	40	6714	26.6	0.018848	53
4TH ST	067904F	012523	2	915	40	6154	10.8	0.01422	70	40	6714	26.6	0.020236	49
40TH ST SE	067906U	012636	2	44	40	6154	10.8	0.01096	91	40	6714	26.6	0.016789	60
50TH AVE SE	067907B	012815	2	103	40	6154	10.8	0.00865	116	40	6732	26.6	0.013423	74
40TH AVE SE	067909P	012933	2	74	40	6154	10.8	0.00749	134	40	6706	26.6	0.011699	85
30TH AVE SE	067911R	013053	2	103	40	6154	10.8	0.01418	71	40	6706	26.6	0.021314	47
20TH AVE SE	067912X	013162	2	325	40	6154	10.8	0.02111	47	40	6706	26.6	0.030532	33
330TH ST	067915T	014269	1	103	40	6154	10.8	0.00832	120	40	6706	26.6	0.012942	77
60TH AVE NW	067918N	014110	2	30	40	6154	10.8	0.00553	181	40	6706	26.6	0.008748	114
70TH ST NW	067919V	014030	2	89	40	6154	10.8	0.00784	128	40	6723	26.6	0.012229	82
GRACE AVE	067921W	013852	2	1121	40	6154	10.8	0.01315	76	40	6723	26.6	0.018815	53

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
TWN 305	067924S	013584	2	30	40	6154	10.8	0.00465	215	40	6723	26.6	0.007386	135
20TH ST NW	067925Y	013430	2	2596	40	6154	10.8	0.01626	62	40	6723	26.6	0.022919	44
14TH ST	067927M	013270	4	13246	40	6154	10.8	0.03285	30	40	6723	26.6	0.042939	23
13TH ST	067928U	013263	2	679	40	6154	10.8	0.01317	76	40	6723	26.6	0.018840	53
12TH ST.	067929B	013256	2	679	40	6154	10.8	0.01317	76	40	6723	26.6	0.021279	47
7TH ST	067931C	015729	2	4204	40	6154	10.8	0.02331	43	40	6723	26.6	0.031801	31
6TH ST	067932J	015722	2	1224	40	6154	10.8	0.01738	58	40	6723	26.6	0.024366	41
5TH ST	067933R	015714	2	7434	40	6154	10.8	0.02648	38	40	6723	26.6	0.035601	28
FIRST ST INDUSTRIAL BLVD	067934X	015686	2	2832	40	6154	10.8	0.02128	47	40	6723	26.6	0.029300	34
	067936L	015537	2	959	40	6154	10.8	0.01441	69	40	6723	26.6	0.020486	49
240TH AVE	085912V	020583	2	44	40	6154	10.8	0.00607	165	40	6723	26.6	0.009567	105
460TH ST	085968P	020063	2	59	40	6154	10.8	0.00677	148	40	6723	26.6	0.010618	94
12TH AV S	062576Y	004202	3	9219	60	6154	10.8	0.03779	26	60	6615	26.6	0.048128	21
1ST AVE S	062925G	002147	2	1224	60	6154	10.8	0.01581	63	60	6615	26.6	0.022183	45
20TH ST S & MAIN	062923T	004254	4	33601	60	6154	10.8	0.07096	14	60	6615	26.6	0.081484	12
PARK AVE	067930V	015782	2	2345	60	6154	10.8	0.02294	44	60	6615	26.6	0.031347	32
210TH AVE	067577X	021067	2	103	60	6154	10.8	0.01418	71	60	6732	26.6	0.021314	47
370TH ST	067578E	021177	2	30	60	6154	10.8	0.00852	117	60	6615	26.6	0.013229	76
74TH ST SE	062634S	000516	2	59	60	6154	10.8	0.00525	191	60	6615	26.6	0.008309	120
75TH ST SE	062635Y	000417	2	428	60	6154	10.8	0.00951	105	60	6615	26.6	0.008309	120
76TH ST SE	062638U	000317	2	325	60	6154	10.8	0.00881	114	60	6615	26.6	0.012865	78
77TH ST SE	062639B	000219	2	295	60	6154	10.8	0.00924	108	60	6615	26.6	0.013478	74

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
16TH AVE N	062640V	000117	2	1328	60	6154	10.8	0.01282	78	60	6615	26.6	0.018372	54
79TH ST SE	062641C	000070	2	236	60	6154	10.8	0.00918	109	60	6615	26.6	0.014207	70
	062642J	000018	2	472	60	6154	10.8	0.01156	86	60	6615	26.6	0.017647	57
12TH STREET N	094014S	021601	2	885	60	6154	10.8	0.01142	88	60	6615	26.6	0.016470	61
11TH ST HWY 127	062496F	021600	2	9322	60	6154	10.8	0.02211	45	60	6615	26.6	0.030328	33
6TH ST S	062494S	021570	2	5222	60	6154	10.8	0.01809	55	60	6615	26.6	0.025285	40
5TH ST S	062491W	021560	2	708	60	6154	10.8	0.01085	92	60	6615	26.6	0.015700	64
4TH ST	062489V	021550	2	3437	60	6154	10.8	0.01632	61	60	6615	26.6	0.022999	43
3RD ST	062487G	021554	2	1136	60	6154	10.8	0.01255	80	60	6615	26.6	0.018002	56
POPE ST	062484L	021501	2	679	60	6154	10.8	0.01464	68	60	6615	26.6	0.021957	46
150TH AVE SO	080759P	021980	2	221	60	6154	10.8	0.02125	47	60	6615	26.6	0.039259	25
Average Predicted Accident Frequency and Interval (No Action)								0.01437	70	Proposed Action			0.021969	46

Table V.1-20. Grade Crossing Safety, Segment 20 - Southern from Fargo, ND to Willmar, MN, Analysis Year 2037

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
28TH AVE SO	062577F	004102	2	752	60	6154	10.7	0.07440	13	60	6719	19.6	0.088155	11
40TH AVE SO	062579U	004001	4	4366	60	6154	10.7	0.02318	43	60	6719	19.6	0.033874	30
50 AVE S	062580N	003902	2	103	60	6154	10.7	0.00987	101	60	6790	19.6	0.016779	60
60TH AVE S	062582C	003793	2	2345	60	6154	10.7	0.01587	63	60	6790	19.6	0.024209	41
70 AVE S	062584R	003691	2	30	60	6154	10.7	0.00564	177	60	6790	19.6	0.009899	101
80 AVE S	062585X	003592	2	74	60	6154	10.7	0.00863	116	60	6719	19.6	0.014805	68
90 AVE S	062586E	003492	2	30	60	6154	10.7	0.00620	161	60	6719	19.6	0.010836	92
100 AVE S	062587L	003396	2	89	60	6154	10.7	0.00931	107	60	6719	19.6	0.015901	63
108 AVE S	062588T	003320	2	89	60	6154	10.7	0.00931	107	60	6790	19.6	0.015901	63
110 AVE S	062589A	003299	2	325	60	6154	10.7	0.06343	16	60	6790	19.6	0.086510	12
120TH AVE SO	062590U	003201	2	15	60	6154	10.7	0.00422	237	60	6719	19.6	0.007482	134
130 AVE S	062591B	003103	2	59	60	6154	10.7	0.00824	121	60	6719	19.6	0.014178	71
140TH AVE	062592H	003005	1	30	60	6154	10.7	0.00620	161	60	6719	19.6	0.010836	92
150TH AVE S	062594W	002905	2	15	60	6154	10.7	0.00312	321	60	6719	19.6	0.005579	179
BROADWAY/160 AVE	062596K	002801	2	1387	60	6154	10.7	0.01579	63	60	6719	19.6	0.024101	41
170TH AVE S	062597S	002702	2	59	60	6154	10.7	0.00781	128	60	6719	19.6	0.013480	74
100TH ST	062598Y	002603	2	74	60	6154	10.7	0.00898	111	60	6790	19.6	0.015376	65
110TH ST	062600X	002503	1	30	60	6154	10.7	0.00564	177	60	6719	19.6	0.009899	101
120TH ST	062601E	002402	2	44	60	6154	10.7	0.00732	137	60	6719	19.6	0.012690	79
130TH ST	062602L	002301	2	103	60	6154	10.7	0.00958	104	60	6790	19.6	0.016320	61
140TH ST	062604A	002198	2	74	60	6154	10.7	0.00898	111	60	6719	19.6	0.015376	65

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
LIND AVE	062605G	002130	2	89	60	6154	10.7	0.00931	107	60	6719	19.6	0.015901	63
150TH ST	062606N	002093	2	575	60	6154	10.7	0.01443	69	60	6780	19.6	0.022210	45
160TH ST	062607V	001989	2	30	60	6154	10.7	0.00620	161	60	6780	19.6	0.010836	92
170TH ST	062608C	001887	2	59	60	6154	10.7	0.00824	121	60	6780	19.6	0.014178	71
180TH ST	062610D	001781	2	59	60	6154	10.7	0.00781	128	60	6780	19.6	0.013480	74
190TH ST	062611K	001681	2	44	60	6154	10.7	0.00732	137	60	6719	19.6	0.012690	79
200TH ST	062612S	001579	1	148	60	6154	10.7	0.01111	90	60	6719	19.6	0.018707	53
210TH ST	062614F	001477	2	236	60	6154	10.7	0.02171	46	60	6719	19.6	0.033889	30
220TH ST	062616U	001369	2	15	60	6154	10.7	0.00422	237	60	6780	19.6	0.007482	134
3RD ST	062620J	001232	2	679	60	6154	10.7	0.02911	34	60	6719	19.6	0.043224	23
235TH ST	062621R	001213	2	664	60	6154	10.7	0.01149	87	60	6719	19.6	0.018012	56
150TH AVE	062622X	001139	2	30	60	6154	10.7	0.00538	186	60	6719	19.6	0.009466	106
250TH ST	062624L	001053	2	30	60	6154	10.7	0.00538	186	60	6790	19.6	0.009466	106
270TH ST	062629V	000837	1	15	60	6154	10.7	0.00422	237	60	6719	19.6	0.007482	134
280TH ST	062631W	000730	2	575	60	6154	10.7	0.01265	79	60	6719	19.6	0.019690	51
30TH AVE S	103817B	004077	4	10827	60	6154	10.7	0.02833	35	60	6719	19.6	0.040200	25
450TH AVE	060917H	015230	2	44	40	6154	10.7	0.00274	364	40	6719	19.6	0.004237	236
265TH ST	060919W	015109	2	59	40	6154	10.7	0.00720	139	40	6689	19.6	0.012500	80
6TH ST	060922E	014869	2	2272	40	6154	10.7	0.01785	56	40	6689	19.6	0.026943	37
LAKE AVE	060923L	014817	2	369	40	6154	10.7	0.01277	78	40	6689	19.6	0.019883	50
310TH ST	060926G	014505	2	74	40	6154	10.7	0.00729	137	40	6689	19.6	0.012663	79
60TH ST NE	061081U	009807	2	184	40	6154	10.7	0.00957	105	40	6689	19.6	0.015195	66

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
19TH ST N	061088S	010332	2	2109	40	6154	10.7	0.01753	57	40	6741	19.6	0.026512	38
30TH ST NW	061089Y	010405	3	11358	40	6154	10.7	0.03251	31	40	6741	19.6	0.045114	22
CO RD 5 W	061091A	010447	2	785	40	6154	10.7	0.02764	36	40	6741	19.6	0.041482	24
45TH ST NW	061094V	010518	2	273	40	6154	10.7	0.01241	81	40	6741	19.6	0.020732	48
60TH ST NW	061096J	010621	2	221	40	6154	10.7	0.01856	54	40	6732	19.6	0.029643	34
75TH ST NW	061098X	010726	2	575	40	6154	10.7	0.04048	25	40	6732	19.6	0.051893	19
ATLANTIC AVE	061099E	010860	2	679	40	6154	10.7	0.02602	38	40	6732	19.6	0.039475	25
11TH ST	061100W	010895	2	1918	40	6154	10.7	0.11397	9	40	6732	19.6	0.141774	7
105TH ST NW	061101D	010941	2	679	40	6154	10.7	0.02602	38	40	6732	19.6	0.039475	25
120TH ST	061103S	011045	2	162	40	6154	10.7	0.01713	58	40	6732	19.6	0.027642	36
135TH ST NW	061104Y	011151	2	1003	40	6154	10.7	0.01279	78	40	6732	19.6	0.019915	50
KANDI-SWIFT RD	061106M	011253	2	236	40	6154	10.7	0.01910	52	40	6732	19.6	0.030402	33
175TH AVE SE	061107U	011305	2	44	40	6154	10.7	0.00600	167	40	6732	19.6	0.010521	95
165TH AVE SE	061109H	011418	2	30	40	6154	10.7	0.00508	197	40	6732	19.6	0.008968	112
140TH	061122W	011592	1	15	40	6154	10.7	0.00571	175	40	6732	19.6	0.010027	100
9TH ST	061123D	011630	2	679	40	6154	10.7	0.01501	67	40	6732	19.6	0.023053	43
14TH ST	061125S	011666	2	1490	40	6154	10.7	0.01606	62	40	6732	19.6	0.024831	40
150TH ST	067426H	017818	2	133	40	6154	10.7	0.00927	108	40	6792	19.6	0.015845	63
160TH ST	067427P	017930	2	74	40	6154	10.7	0.00749	134	40	6732	19.6	0.012977	77
PRICE AVE	067430X	018065	2	59	40	6154	10.7	0.00677	148	40	6732	19.6	0.011793	85
GRISWOLD AVE	067431E	018109	2	339	40	6154	10.7	0.01254	80	40	6792	19.6	0.019545	51
180TH ST	067432L	018169	2	15	40	6154	10.7	0.00642	156	40	6732	19.6	0.011210	89

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
190TH ST	067434A	018288	1	44	40	6154	10.7	0.00634	158	40	6732	19.6	0.011090	90
200TH ST	067436N	018408	2	74	40	6154	10.7	0.01334	75	40	6732	19.6	0.022126	45
210TH ST	067437V	018526	1	30	40	6154	10.7	0.00536	187	40	6732	19.6	0.009445	106
340TH AVE	067438C	018739	1	30	40	6154	10.7	0.00536	187	40	6741	19.6	0.009445	106
CSAH 18	067439J	018767	2	30	40	6154	10.7	0.00536	187	40	6741	19.6	0.008840	113
CNTY 93	067440D	018931	1	74	40	6154	10.7	0.01283	78	40	6741	19.6	0.021367	47
490TH	067441K	018998	2	44	40	6154	10.7	0.01016	98	40	6741	19.6	0.017251	58
TWN 197	067443Y	019120	1	30	40	6154	10.7	0.00465	215	40	6741	19.6	0.008235	121
OAK ST	067445M	019246	2	679	40	6154	10.7	0.02602	38	40	6741	19.6	0.039475	25
4TH ST	067446U	019271	2	369	40	6154	10.7	0.00976	103	40	6741	19.6	0.015474	65
460TH	067447B	019370	1	133	40	6154	10.7	0.00947	106	40	6741	19.6	0.016174	62
MNTH 55	067449P	019485	2	1608	40	6154	10.7	0.01054	95	40	6760	19.6	0.015233	66
500TH ST	067450J	019602	1	30	40	6154	10.7	0.00465	215	40	6741	19.6	0.008235	121
290TH AVE	067451R	019698	2	59	40	6154	10.7	0.00699	143	40	6741	19.6	0.012158	82
490TH ST	067452X	019723	1	74	40	6154	10.7	0.01283	78	40	6741	19.6	0.021367	47
480TH ST	067453E	019826	1	44	40	6154	10.7	0.00634	158	40	6741	19.6	0.011090	90
470TH ST	067455T	019944	1	266	40	6154	10.7	0.01190	84	40	6732	19.6	0.019956	50
5TH ST	067456A	019982	2	900	40	6154	10.7	0.02064	48	40	6732	19.6	0.030647	33
450TH ST	067460P	020182	1	30	40	6154	10.7	0.00465	215	40	6732	19.6	0.008235	121
440TH ST	067462D	020316	1	103	40	6154	10.7	0.00832	120	40	6732	19.6	0.014336	70
430TH ST	067463K	020437	2	59	40	6154	10.7	0.00714	140	40	6732	19.6	0.012417	81
FIELD ENT	067465Y	020563	1	133	40	6154	10.7	0.00832	120	40	6732	19.6	0.014336	70

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
TH 9	067467M	020665	2	1696	40	6154	10.7	0.01463	68	40	6732	19.6	0.018506	54
5TH ST	067468U	020697	2	162	40	6154	10.7	0.01713	58	40	6732	19.6	0.022278	45
230TH AVE	067469B	020746	2	30	40	6154	10.7	0.00536	187	40	6732	19.6	0.007272	138
400TH ST	067470V	020790	2	30	40	6154	10.7	0.00487	205	40	6732	19.6	0.006621	151
390TH ST	067473R	020921	2	59	40	6154	10.7	0.01228	81	40	6732	19.6	0.016244	62
380TH ST	067475E	021052	2	59	40	6154	10.7	0.00714	140	40	6732	19.6	0.009629	104
210TH ST	067545S	015832	2	1224	40	6154	10.7	0.01936	52	40	6732	19.6	0.024989	40
200TH ST	067546Y	015947	2	325	40	6154	10.7	0.02095	48	40	6732	19.6	0.026886	37
180TH ST	067549U	016198	2	162	40	6154	10.7	0.01019	98	40	6732	19.6	0.013591	74
170TH ST	067551V	016316	1	30	40	6154	10.7	0.00465	215	40	6732	19.6	0.006321	158
520TH AVE	067554R	016502	2	74	40	6154	10.7	0.00749	134	40	6732	19.6	0.010077	99
3RD ST	067557L	016570	2	679	40	6154	10.7	0.02600	38	40	6732	19.6	0.032802	30
4TH ST.	067558T	016576	2	679	40	6154	10.7	0.01157	86	40	6732	19.6	0.014763	68
140TH ST	067560U	016662	2	679	40	6154	10.7	0.04965	20	40	6732	19.6	0.058525	17
130TH ST	067562H	016775	2	74	40	6154	10.7	0.00780	128	40	6732	19.6	0.010488	95
120TH ST	067564W	016909	2	59	40	6154	10.7	0.00720	139	40	6732	19.6	0.009696	103
100TH ST	067567S	017175	2	133	40	6154	10.7	0.00947	106	40	6732	19.6	0.012661	79
260TH AVE	067568Y	017203	1	74	40	6154	10.7	0.01283	78	40	6732	19.6	0.016946	59
270 AVE	067569F	017339	2	74	40	6154	10.7	0.01334	75	40	6732	19.6	0.017582	57
280TH AVE	067572N	017491	2	133	40	6154	10.7	0.01600	62	40	6732	19.6	0.020893	48
130TH ST	067573V	017576	2	679	40	6154	10.7	0.01616	62	40	6732	19.6	0.021085	47
3RD ST	067574C	017610	2	679	40	6154	10.7	0.02600	38	40	6732	19.6	0.032802	30

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
5TH ST W	067575J	017620	2	2758	40	6154	10.7	0.02107	47	40	6732	19.6	0.026217	38
140TH ST	067576R	017696	2	74	40	6154	10.7	0.00749	134	40	6732	19.6	0.010077	99
130TH AVE SE	067889F	011824	2	74	40	6154	10.7	0.01175	85	40	6732	19.6	0.017226	58
80TH ST SE	067890A	011917	2	30	40	6154	10.7	0.00948	105	40	6732	19.6	0.012674	79
120TH AVE SE	067891G	011932	2	30	40	6154	10.7	0.00536	187	40	6732	19.6	0.007272	138
HOLLIS ST	067895J	012074	2	1121	40	6154	10.7	0.01499	67	40	6732	19.6	0.018930	53
SHAAF ST.	067896R	012093	2	620	40	6154	10.7	0.01123	89	40	6732	19.6	0.143434	7
100TH AVE	067898E	012160	2	133	40	6154	10.7	0.01567	64	40	6732	19.6	0.020491	49
60TH ST SE	067900D	012248	2	30	40	6154	10.7	0.00887	113	40	6714	19.6	0.011873	84
80TH AVE SE	067901K	012398	2	177	40	6154	10.7	0.01029	97	40	6714	19.6	0.013717	73
3RD ST	067903Y	012516	2	679	40	6154	10.7	0.01318	76	40	6714	19.6	0.016736	60
4TH ST	067904F	012523	2	915	40	6154	10.7	0.01422	70	40	6714	19.6	0.018002	56
40TH ST SE	067906U	012636	2	44	40	6154	10.7	0.01096	91	40	6714	19.6	0.014575	69
50TH AVE SE	067907B	012815	2	103	40	6154	10.7	0.00865	116	40	6732	19.6	0.011594	86
40TH AVE SE	067909P	012933	2	74	40	6154	10.7	0.00749	134	40	6706	19.6	0.010077	99
30TH AVE SE	067911R	013053	2	103	40	6154	10.7	0.01418	71	40	6706	19.6	0.018633	54
20TH AVE SE	067912X	013162	2	325	40	6154	10.7	0.02111	47	40	6706	19.6	0.027077	37
330TH ST	067915T	014269	1	103	40	6154	10.7	0.00832	120	40	6706	19.6	0.011170	90
60TH AVE NW	067918N	014110	2	30	40	6154	10.7	0.00553	181	40	6706	19.6	0.007503	133
70TH ST NW	067919V	014030	2	89	40	6154	10.7	0.00784	128	40	6723	19.6	0.010543	95
GRACE AVE	067921W	013852	2	1121	40	6154	10.7	0.01315	76	40	6723	19.6	0.016706	60
TWN 305	067924S	013584	2	30	40	6154	10.7	0.00465	215	40	6723	19.6	0.006321	158

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
20TH ST NW	067925Y	013430	2	2596	40	6154	10.7	0.01626	62	40	6723	19.6	0.020461	49
14TH ST	067927M	013270	4	13246	40	6154	10.7	0.03285	30	40	6723	19.6	0.039393	25
13TH ST	067928U	013263	2	679	40	6154	10.7	0.01317	76	40	6723	19.6	0.016728	60
12TH ST.	067929B	013256	2	679	40	6154	10.7	0.01317	76	40	6723	19.6	0.018956	53
7TH ST	067931C	015729	2	4204	40	6154	10.7	0.02331	43	40	6723	19.6	0.028734	35
6TH ST	067932J	015722	2	1224	40	6154	10.7	0.01738	58	40	6723	19.6	0.021796	46
5TH ST	067933R	015714	2	7434	40	6154	10.7	0.02648	38	40	6723	19.6	0.032334	31
FIRST ST	067934X	015686	2	2832	40	6154	10.7	0.02128	47	40	6723	19.6	0.026385	38
INDUSTRIAL BLVD	067936L	015537	2	959	40	6154	10.7	0.01441	69	40	6723	19.6	0.018230	55
240TH AVE	085912V	020583	2	44	40	6154	10.7	0.00607	165	40	6723	19.6	0.008215	122
460TH ST	085968P	020063	2	59	40	6154	10.7	0.00677	148	40	6723	19.6	0.009132	110
12TH AV S	062576Y	004202	3	9219	60	6154	10.7	0.03779	26	60	6615	19.6	0.04447	22
1ST AVE S	062925G	002147	2	1224	60	6154	10.7	0.01581	63	60	6615	19.6	0.01979	51
20TH ST S & MAIN	062923T	004254	4	33601	60	6154	10.7	0.07096	14	60	6615	19.6	0.07788	13
PARK AVE	067930V	015782	2	2345	60	6154	10.7	0.02294	44	60	6615	19.6	0.02831	35
210TH AVE	067577X	021067	2	103	60	6154	10.7	0.01418	71	60	6732	19.6	0.01863	54
370TH ST	067578E	021177	2	30	60	6154	10.7	0.00852	117	60	6615	19.6	0.01142	88
74TH ST SE	062634S	000516	2	59	60	6154	10.7	0.00525	191	60	6615	19.6	0.00712	140
75TH ST SE	062635Y	000417	2	428	60	6154	10.7	0.00951	105	60	6615	19.6	0.01221	82
76TH ST SE	062638U	000317	2	325	60	6154	10.7	0.00881	114	60	6615	19.6	0.01133	88
77TH ST SE	062639B	000219	2	295	60	6154	10.7	0.00924	108	60	6615	19.6	0.01188	84
16TH AVE N	062640V	000117	2	1328	60	6154	10.7	0.01282	78	60	6615	19.6	0.01630	61

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
79TH ST SE	062641C	000070	2	236	60	6154	10.7	0.00918	109	60	6615	19.6	0.01229	81
	062642J	000018	2	472	60	6154	10.7	0.01156	86	60	6615	19.6	0.01534	65
12TH STREET N	094014S	021601	2	885	60	6154	10.7	0.01142	88	60	6615	19.6	0.01458	69
11TH ST HWY 127	062496F	021600	2	9322	60	6154	10.7	0.02211	45	60	6615	19.6	0.02735	37
6TH ST S	062494S	021570	2	5222	60	6154	10.7	0.01809	55	60	6615	19.6	0.02265	44
5TH ST S	062491W	021560	2	708	60	6154	10.7	0.01085	92	60	6615	19.6	0.01388	72
4TH ST	062489V	021550	2	3437	60	6154	10.7	0.01632	61	60	6615	19.6	0.02054	49
3RD ST	062487G	021554	2	1136	60	6154	10.7	0.01255	80	60	6615	19.6	0.01597	63
POPE ST	062484L	021501	2	679	60	6154	10.7	0.01464	68	60	6615	19.6	0.01921	52
150TH AVE SO	080759P	021980	2	221	60	6154	10.7	0.02125	47	60	6615	19.6	0.02725	37
Average Predicted Accident Frequency and Interval (No Action)								0.01437	70	Proposed Action			0.020924	48

Table V.1-21. Grade Crossing Safety, Segment 21 from Willmar, MN to St Paul, MN, Analysis Year 2023

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
OAKLAND RD	061033E	002055	2	3,649	50	6154	17.3	0.02080	48	50	6723	25.5	0.024355	41
CROSBY RD	061035T	002230	2	2,798	50	6154	17.3	0.01953	51	50	6723	25.5	0.022932	44
ARLINGTON CIR	061037G	002348	2	9,057	50	6154	17.3	0.02518	40	50	6723	25.5	0.029222	34
BARRY AVE	061039V	002430	2	1,696	50	6154	17.3	0.01701	59	50	6723	25.5	0.020077	50
FERNDALE RD	061040P	002452	3	7,080	50	6154	17.3	0.03006	33	50	6723	25.5	0.034538	29
BUDD AVE	061051C	003167	2	3,717	50	6154	17.3	0.02054	49	50	6723	25.5	0.024067	42
CO HWY 90	061054X	003320	2	870	50	6154	17.3	0.01435	70	50	6723	25.5	0.017018	59
VALLEY ROAD	061056L	003448	2	1,033	50	6154	17.3	0.01498	67	50	6723	25.5	0.017764	56
LAKE SARAH RD	061057T	003516	2	3,879	50	6154	17.3	0.02074	48	50	6723	25.5	0.024298	41
MUD LAKE RD	061058A	003562	1	30	50	6154	17.3	0.00787	127	50	6723	25.5	0.009761	102
WEST CO LINE	061064D	003768	2	10,930	50	6154	17.3	0.02888	35	50	6723	25.5	0.033262	30
3RD ST	061068F	008914	2	693	60	6154	17.3	0.01348	74	60	6723	25.5	0.016036	62
COUNTY HWY 4 NE	061071N	009202	2	1,121	60	6154	17.3	0.01040	96	60	6723	25.5	0.012040	83
135TH ST NE	061073C	009306	2	148	60	6154	17.3	0.04432	23	60	6723	25.5	0.049619	20
120TH ST NE	061075R	009405	2	133	60	6154	17.3	0.01274	78	60	6723	25.5	0.015607	64
98TH ST NE	061078L	009558	2	37	60	6154	17.3	0.00879	114	60	6723	25.5	0.010868	92
4TH ST	061079T	009660	2	2,360	60	6154	17.3	0.01875	53	60	6723	25.5	0.022054	45
71ST ST NE	061080M	009726	2	56	60	6154	17.3	0.01011	99	60	6723	25.5	0.012460	80
HARRISON ST NE	061312A	000985	4	2,109	50	6154	17.3	0.02529	40	50	6723	25.5	0.029338	34
E. ISLAND AVE	061313G	001061	2	1,342	50	6154	17.3	0.01293	77	50	6723	25.5	0.014856	67
W. ISLAND AVE	061314N	001079	2	1,342	50	6154	17.3	0.01293	77	50	6723	25.5	0.014856	67

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
3RD ST S	067789B	006519	2	679	50	6154	17.3	0.01348	74	50	6723	25.5	0.016027	62
4TH ST S	067790V	006524	2	2,345	50	6154	17.3	0.01840	54	50	6723	25.5	0.021653	46
713TH AVE	067791C	006634	2	192	50	6154	17.3	0.01347	74	50	6706	25.5	0.015425	65
708TH AVE	067794X	006681	2	192	50	6154	17.3	0.01091	92	50	6792	25.5	0.013044	77
237TH ST	067798A	006840	2	310	50	6154	17.3	0.02703	37	50	6706	25.5	0.031968	31
1ST ST	067800Y	007034	2	3,230	50	6154	17.3	0.01987	50	50	6706	25.5	0.023317	43
COUNTY HWY 9	067803U	007199	2	785	50	6154	17.3	0.00944	106	50	6706	25.5	0.010936	91
650TH AVE	067804B	007296	2	192	50	6154	17.3	0.02248	44	50	6706	25.5	0.025377	39
S DAVIS AVE	067807W	007586	2	2,832	50	6154	17.3	0.06982	14	50	6792	25.5	0.077472	13
HOLCOMBE AVE	067808D	007622	2	1,947	50	6154	17.3	0.02242	45	50	6706	25.5	0.026172	38
SIBLEY AVE	067809K	007637	2	13,408	60	6154	17.3	0.03394	29	60	6706	25.5	0.038689	26
SWIFT AVE N	067810E	007659	2	3,319	60	6154	17.3	0.02830	35	60	6706	25.5	0.032637	31
CSAH 1	067811L	007716	2	2,803	60	6154	17.3	0.06366	16	60	6706	25.5	0.069081	14
273RD ST	067815N	007935	2	1,918	60	6154	17.3	0.01783	56	60	6706	25.5	0.021012	48
560TH AVE	067820K	008223	2	133	60	6154	17.3	0.01284	78	60	6706	25.5	0.015716	64
2ND ST	067821S	008402	2	649	60	6154	17.3	0.01521	66	60	6706	25.5	0.018017	56
STATE HWY 4	067823F	008438	2	1,770	60	6154	17.3	0.01749	57	60	6706	25.5	0.020621	48
515TH AVE	067827H	008697	2	177	60	6154	17.3	0.01432	70	60	6706	25.5	0.017471	57
KANDI MEEKER RD	067830R	008794	2	457	60	6154	17.3	0.01912	52	60	6706	25.5	0.023052	43
MAIN ST	067837N	008898	2	2,670	60	6154	17.3	0.01898	53	60	6706	25.5	0.022311	45
72ND ST SE	067840W	004011	2	339	60	6154	17.3	0.01129	89	60	6706	25.5	0.013493	74
DARROW AVE SE	067841D	004039	1	15	60	6154	17.3	0.00510	196	60	6723	25.5	0.006366	157

No Action - Annual Predicted Accident Frequency									Proposed Action - Annual Predicted Accident Frequency					
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
DAGUE AVE SE	067843S	004100	2	148	60	6154	17.3	0.01328	75	60	6714	25.5	0.016237	62
BUFFALO AVE	067850C	004531	2	6,151	60	6154	17.3	0.02307	43	60	6714	25.5	0.026898	37
CLEMENTA AVE SW	067851J	004632	2	325	50	6154	17.3	0.01115	90	50	6714	25.5	0.013322	75
58TH ST SW	067853X	004711	1	295	50	6154	17.3	0.01666	60	50	6714	25.5	0.020204	49
4TH ST	067855L	004804	2	3,673	50	6154	17.3	0.02021	49	50	6714	25.5	0.023702	42
CO RD 8 SW	067857A	004879	2	3,036	50	6154	17.3	0.01991	50	50	6714	25.5	0.023364	43
TWN 588	067862W	005104	1	148	50	6154	17.3	0.01328	75	50	6714	25.5	0.016237	62
COUNTY ROAD 7	067865S	005254	3	37,925	50	6154	17.3	0.03783	26	50	6714	25.5	0.042781	23
13TH AVE	067868M	005351	2	693	50	6154	17.3	0.02163	46	50	6714	25.5	0.025911	39
CO RD 5 SW	067871V	005557	2	785	50	6154	17.3	0.01625	62	50	6706	25.5	0.019187	52
MORRISON AVE	067873J	005707	2	295	50	6154	17.3	0.01666	60	50	6706	25.5	0.020204	49
BROADWAY ST	067876E	005928	2	7,847	50	6154	17.3	0.02731	37	50	6706	25.5	0.031553	32
JACKSON ST	067877L	005944	2	3,806	50	6154	17.3	0.02325	43	50	6706	25.5	0.027091	37
QUIMBY AVE SW	067879A	006056	2	487	50	6154	17.3	0.09337	11	50	6706	25.5	0.103955	10
RHOADES AVE SW	067883P	006186	2	221	50	6154	17.3	0.01519	66	50	6706	25.5	0.018487	54
745TH AVE	067886K	006311	2	118	50	6154	17.3	0.01216	82	50	6706	25.5	0.014911	67
POLY DOME DR	917424T	007540	2	1,210	50	6154	17.3	0.01773	56	50	6706	25.5	0.020901	48
10TH ST W	067836G	010278	2	3,098	60	6154	17.3	0.03494	29	60	6615	25.5	0.039259	25
7TH ST NW	067834T	010254	2	4,204	60	6154	17.3	0.02709	37	60	6615	25.5	0.030881	32
LAKELAND DRIVE	067831X	010110	2	6,490	60	6154	17.3	0.03301	30	60	6615	25.5	0.037223	27
PRIVATE	067795E	006716	2	15	50	6154	17.3	0.00538	186	50	6615	25.5	0.006572	152
CR B2 FLOWER ST	689022F	001467	3	1,785	50	6154	17.3	0.01933	52	50	6615	25.5	0.022362	45

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
13TH AV N.	187052K	000930	2	1,018	50	6154	17.3	0.02852	35	50	6615	25.5	0.033080	30
4TH ST N	185181T	001237	2	325	50	6154	17.3	0.01750	57	50	6615	25.5	0.020793	48
Average Predicted Accident Frequency and Interval (No Action)								0.02149	47	Proposed Action			0.024925	40

Table V.1-22. Grade Crossing Safety, Segment 23 from St Paul, MN to N La Crosse, WI, Analysis Year 2023

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency				
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
2ND AVE	079897G	030302	2	11,048	60	6154	41.4	0.03682	27	60	6714	48.7	0.041882	24
IRVIN ST	079898N	030361	2	5,000	60	6154	41.4	0.02862	35	60	6714	48.7	0.033118	30
	079899V	030629	2	3,879	60	6154	41.4	0.02670	37	60	6706	48.7	0.031025	32
	079900M	030734	2	6,003	60	6154	41.4	0.02931	34	60	6706	48.7	0.033869	30
LYTLE RD	079906D	031113	2	6,338	60	6154	41.4	0.03065	33	60	6706	48.7	0.035317	28
FREMONT ST	079910T	031691	2	1,446	60	6154	41.4	0.02149	47	60	6706	48.7	0.025249	40
BREEZY POINT LA	079915C	032969	2	29,589	60	6154	41.4	0.04068	25	60	6706	48.7	0.045900	22
MILL ST	079918X	033327	2	782	60	6154	41.4	0.01854	54	60	6706	48.7	0.021916	46
BOAT YARD RD	079923U	033465	2	988	60	6154	41.4	0.01912	52	60	6706	48.7	0.022575	44
PARK RD	079924B	033640	2	310	60	6154	41.4	0.01411	71	60	6706	48.7	0.016848	59
INDIAN CREEK RD	079926P	033748	2	4,558	60	6154	41.4	0.02774	36	60	6706	48.7	0.032161	31
PRAIRIE MOON RD	079931L	034042	2	4,558	60	6154	41.4	0.02774	36	60	6706	48.7	0.032161	31
WISCONSIN ST	079934G	034263	2	1,416	60	6154	41.4	0.02143	47	60	6736	48.7	0.025181	40
5TH ST	079935N	034304	2	2,050	60	6154	41.4	0.02617	38	60	6736	48.7	0.030442	33
MAIN ST RD	079938J	034403	2	5,266	60	6154	41.4	0.02862	35	60	6736	48.7	0.033118	30
CEMETERY RD	079939R	034497	2	4,558	60	6154	41.4	0.02774	36	60	6736	48.7	0.032161	31
FOEGEN RD	079940K	034536	1	546	60	6154	41.4	0.02407	42	60	6736	48.7	0.028808	35
GREAT RIVER ACC R	079943F	034630	2	708	60	6154	41.4	0.01813	55	60	6736	48.7	0.021450	47
	079944M	034692	2	4,558	60	6154	41.4	0.02774	36	60	6736	48.7	0.032161	31
DAIRYLAND ST	079945U	034997	2	4,558	60	6154	41.4	0.02774	36	60	6736	48.7	0.032161	31
BEACH & HARBOR RD	079951X	035227	2	487	60	6154	41.4	0.01492	67	60	6736	48.7	0.018074	55

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
THIRD ST	079956G	035869	2	649	60	6154	41.4	0.03656	27	60	6736	48.7	0.043013	23
	079957N	035906	2	8,865	60	6154	41.4	0.03157	32	60	6736	48.7	0.036767	27
SMITH LAKE LA	079960W	036491	1	4,558	60	6154	41.4	0.03682	27	60	6736	48.7	0.032161	31
FIRST ST	079961D	036595	2	487	60	6154	41.4	0.01792	56	60	6736	48.7	0.021552	46
LAKE ST	079962K	036612	2	5,679	60	6154	41.4	0.02867	35	60	6736	48.7	0.033618	30
LAKEPORT RD	079984K	036803	1	4,558	60	6154	41.4	0.04054	25	60	6736	48.7	0.032161	31
DEER ISLAND RD	079986Y	036936	2	4,558	60	6154	41.4	0.02734	37	60	6736	48.7	0.032161	31
SPRING ST	080014B	037259	2	5,679	60	6154	41.4	0.02867	35	60	6736	48.7	0.033618	30
WABASH ST	080022T	038635	2	5,679	60	6154	41.4	0.02867	35	60	6736	48.7	0.033618	30
830TH ST	080027C	039169	2	5,679	60	6154	41.4	0.02867	35	60	6736	48.7	0.033618	30
	080029R	039327	2	354	60	6154	41.4	0.01492	67	60	6736	48.7	0.018074	55
LOWER RIVER RD	080030K	039378	2	295	60	6154	41.4	0.04555	22	60	6736	48.7	0.050903	20
985TH ST	080033F	039640	2	546	60	6154	41.4	0.01792	56	60	6736	48.7	0.021552	46
CHESTER ST	086467N	037875	2	339	60	6154	41.4	0.01387	72	60	6736	48.7	0.016848	59
KINNICKINNIC ST	098035Y	040761	2	974	60	6154	41.4	0.04952	20	60	6736	48.7	0.055537	18
HASTINGS AVE	061138T	042160	2	89	60	6154	41.4	0.00586	171	60	6615	48.7	0.006245	160
BROADWAY AVE	061136E	042110	2	2,198	60	6154	41.4	0.02498	40	60	6615	48.7	0.026550	38
9TH AVE	061135X	042071	2	1,947	60	6154	41.4	0.02429	41	60	6615	48.7	0.025832	39
PULLMAN AVE	061134R	042032	2	4,927	60	6154	41.4	0.02975	34	60	6615	48.7	0.031492	32
115TH ST	061129U	041541	2	339	60	6154	41.4	0.01657	60	60	6615	48.7	0.017729	56
FLORIDA ST	184364H	052878	2	162	60	6154	41.4	0.02439	41	60	6615	48.7	0.026185	38
MAXWELL AVE	379544X	NONE00	3	11,387	60	6154	41.4	0.06175	16	60	6615	48.7	0.064051	16

					No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency				
STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
Average Predicted Accident Frequency and Interval (No Action)								0.02728	37	Proposed Action			0.030671	33

Table V.1-23. Grade Crossing Safety, Segment 24 from N La Crosse, WI to Aurora, IL, Analysis Year 2023

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Predicted Intervals Between Accidents (years)	Proposed Action - Annual Predicted Accident Frequency				Predicted Intervals Between Accidents (years)
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate		Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
AMES LA	069928B	019699	2	59	60	6154	38.7	0.01225	82	60	6736	46	0.009996	100
PARK LA	069929H	019734	2	487	60	6154	38.7	0.01760	57	60	6736	46	0.014921	67
JACK OAK RD	069936T	021139	2	443	60	6154	38.7	0.01760	57	60	6736	46	0.014921	67
CRAWFORD ST	069937A	021282	2	472	60	6154	38.7	0.02102	48	60	6736	46	0.017920	56
WALL ST	069939N	021310	2	561	60	6154	38.7	0.01860	54	60	6736	46	0.015792	63
WYOTA ST	069941P	021358	2	221	60	6154	38.7	0.01483	67	60	6736	46	0.012502	80
STONEFIELD RD	069944K	021503	2	546	60	6154	38.7	0.01860	54	60	6736	46	0.015792	63
CO PARK ACCESS RD	069947F	022271	2	369	60	6154	38.7	0.01640	61	60	6736	46	0.013873	72
WILLOW LA	069949U	022793	2	472	60	6154	38.7	0.01860	54	60	6736	46	0.015792	63
BAILEY LA	069950N	022832	2	59	60	6154	38.7	0.05955	17	60	6736	46	0.052995	19
BOHRINGER LA	069953J	022941	1	310	60	6154	38.7	0.02431	41	60	6736	46	0.020331	49
WYALUSING AREA RD	069954R	023204	2	310	60	6154	38.7	0.01740	57	60	6736	46	0.014743	68
WYALUSING PARK RD	069957L	023414	2	280	60	6154	38.7	0.01731	58	60	6736	46	0.014659	68
PARRISH ST	069960U	023831	2	2109	60	6154	38.7	0.02714	37	60	6736	46	0.023398	43
MOONEY ST	069963P	023887	2	2109	60	6154	38.7	0.02714	37	60	6716	46	0.023398	43
WEBSTER ST	069964W	023912	2	1947	60	6154	38.7	0.02667	37	60	6716	46	0.022977	44
IOWA ST	069965D	023929	2	8894	70	6154	38.7	0.08611	12	70	6716	46	0.078051	13
WISCONSIN ST	069966K	023938	2	7434	70	6154	38.7	0.03518	28	70	6716	46	0.030783	32
BLACKHAWK AVE	069967S	023948	2	8245	70	6154	38.7	0.03589	28	70	6716	46	0.031442	32
HAYDEN ST	069968Y	023963	2	1578	70	6154	38.7	0.02838	35	70	6716	46	0.024113	41
WASHINGTON ST	069969F	023980	2	2434	70	6154	38.7	0.02799	36	70	6716	46	0.024170	41
FREDERICK ST	069970A	024037	2	1947	70	6154	38.7			70	6680	46	0.072449	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency						
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	
								0.08009	12						14
HAYDEN ST	069972N	023963	2	1578	70	6154	38.7	0.01708	59	70	6680	46	0.015016	67	
LIMERY RD	079847D	024190	2	310	70	6154	38.7	0.01740	57	70	6680	46	0.014743	68	
LOCK & DAM #9 RD	079848K	024327	2	752	70	6154	38.7	0.02104	48	70	6680	46	0.017938	56	
	079857J	025125	2	4338	70	6154	38.7	0.03207	31	70	6680	46	0.027902	36	
RIVER ST	079859X	025436	1	6062	70	6154	38.7	0.05161	19	70	6680	46	0.043822	23	
DEPOT RD	079860S	025447	2	89	70	6154	38.7	0.02655	38	70	6680	46	0.020993	48	
MARKET ST	079862F	026242	4	46544	70	6154	38.7	0.04903	20	70	6680	46	0.044026	23	
BATTLE ISLAND RD	079868W	027318	2	634	70	6154	38.7	0.02041	49	70	6680	46	0.017385	58	
BOAT LANDING RD	079870X	027432	1	664	70	6154	38.7	0.03223	31	70	6680	46	0.025888	39	
CENTER ST	079878C	028685	2	516	70	6154	38.7	0.02102	48	70	6680	46	0.017920	56	
GOOSE ISLAND RD	079879J	029164	2	1460	70	6154	38.7	0.02503	40	70	6680	46	0.021501	47	
BROADVIEW PL	079883Y	029455	2	5989	70	6154	38.7	0.03371	30	70	6680	46	0.029419	34	
WARD AVE	079884F	029546	2	12287	70	6154	38.7	0.03867	26	70	6680	46	0.034061	29	
FARNAM ST	079886U	029648	2	6785	70	6154	38.7	0.07671	13	70	6680	46	0.069333	14	
	093705W	018675	2	693	70	6154	38.7	0.03281	30	70	6680	46	0.028587	35	
FALLING ROCK RD	093864D	024989	2	236	70	6154	38.7	0.01945	51	70	6680	46	0.017194	58	
33RD ST	098033K	029356	2	6151	70	6154	38.7	0.01615	62	70	6680	46	0.013649	73	
WELLS ST	391942E	023681	2	1047	60	6154	38.7	0.03389	30	60	6680	46	0.029584	34	
LAKE ST	069716X	003941	4	40872	70	6154	38.7	0.03358	30	70	6680	46	0.027079	37	
TERRY	069717E	004024	2	4455	60	6154	38.7	0.02899	34	60	6680	46	0.024675	41	
EDGE LAWN AVE	069718L	004141	2	5015	60	6154	38.7	0.02973	34	60	6680	46	0.025341	39	
PRAIRIE ST	069719T	004200	2	2994	60	6154	38.7	0.02620	38	60	6680	46	0.022552	44	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
BARNES RD	069720M	004291	2	1696	60	6154	38.7	0.02308	43	60	6680	46	0.019758	51
GORDON LN	069721U	004476	1	2758	60	6154	38.7	0.02308	43	60	6680	46	0.019752	51
MAIN ST	069725W	004719	2	1460	60	6154	38.7	0.06564	15	60	6680	46	0.059279	17
DUGAN RD	069728S	004897	2	1696	60	6154	38.7	0.02308	43	60	6680	46	0.019758	51
RHODES ST	069734V	005101	2	1696	60	6154	38.7	0.02308	43	60	6680	46	0.022284	45
SHAW ROAD 7	069736J	005311	1	251	60	6154	38.7	0.01275	78	60	6680	46	0.010715	93
W COUNTY LINE RD	069737R	005463	2	1387	60	6154	38.7	0.02199	45	60	6680	46	0.018782	53
REES ST	069739E	005498	2	1859	60	6154	38.7	0.02357	42	60	6680	46	0.020188	50
OAK ST	069741F	005512	2	649	60	6154	38.7	0.05801	17	60	6680	46	0.052482	19
SYCAMORE ST	069742M	005571	2	1136	60	6154	38.7	0.02102	48	60	6680	46	0.017924	56
SOMONAUK RD	069744B	005615	2	4130	60	6154	38.7	0.02028	49	60	6680	46	0.017973	56
GOV. BEVERIDGE HW	069748D	005744	2	162	60	6154	38.7	0.01301	77	60	6680	46	0.010935	91
HOWISON RD	069752T	006000	1	457	60	6154	38.7	0.01489	67	60	6680	46	0.012556	80
CREGO RD	069753A	006101	1	44	60	6154	38.7	0.00797	126	60	6680	46	0.006638	151
SH IL 23	069754G	006202	1	3393	60	6154	38.7	0.02421	41	60	6697	46	0.020764	48
ELM ST	069755N	006212	2	900	60	6154	38.7	0.01985	50	60	6697	46	0.016893	59
BIRCH ST	069757C	006375	2	900	60	6154	38.7	0.01985	50	60	6697	46	0.016893	59
LELAND RD	069758J	006390	2	738	60	6154	38.7	0.03431	29	60	6757	46	0.031482	32
KANE RD	069760K	006584	1	44	60	6154	38.7	0.01317	76	60	6697	46	0.010765	93
UNIVERSITY RD	069761S	006624	1	133	60	6154	38.7	0.01066	94	60	6757	46	0.008923	112
INDIAN RD	069763F	006697	1	44	60	6154	38.7	0.01317	76	60	6697	46	0.010765	93
PONTIAC ST	069764M	006711	2	413	60	6154	38.7	0.02102	48	60	6697	46	0.017920	56
ILLINI ST	069765U	006725	2	1298	60	6154	38.7			60	6697	46	0.020919	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency						
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	
								0.02438	41						48
SHABBONA RD	069767H	006889	2	2994	60	6154	38.7	0.02926	34	60	6697	46	0.025327	39	
CHALLAND RD	069768P	006997	1	44	60	6154	38.7	0.01317	76	60	6697	46	0.010765	93	
TOWER RD	069770R	007119	1	44	60	6154	38.7	0.00797	126	60	6697	46	0.006638	151	
LEE RD	069771X	007150	2	1298	60	6154	38.7	0.01429	70	60	6757	46	0.012470	80	
NISSEN STIGEN	069772E	007158	2	89	60	6154	38.7	0.00640	156	60	6697	46	0.005478	183	
KIRKE GATE	069773L	007166	2	1298	60	6154	38.7	0.01654	60	60	6697	46	0.014518	69	
VIKING VIE	069775A	007227	2	1136	60	6154	38.7	0.01369	73	60	6697	46	0.011928	84	
HERMAN RD.	069776G	007253	1	133	60	6154	38.7	0.01066	94	60	6697	46	0.008923	112	
MC GIRR RD	069779C	007392	1	133	60	6154	38.7	0.01066	94	60	6697	46	0.008923	112	
WOODLAWN RD	069780W	007443	2	162	60	6154	38.7	0.01301	77	60	6697	46	0.010935	91	
REYNOLDS RD.	069782K	007573	1	44	60	6154	38.7	0.00797	126	60	6697	46	0.008801	114	
PAW PAW RD.	069785F	007733	2	89	60	6154	38.7	0.01086	92	60	6697	46	0.012456	80	
MAIN ST	069787U	007741	2	2434	60	6154	38.7	0.06561	15	60	6697	46	0.069401	14	
STEWARD RD.	069790C	007851	2	974	60	6154	38.7	0.01301	77	60	6697	46	0.014022	71	
ELVA RD.	069791J	008110	2	133	60	6154	38.7	0.01066	94	60	6697	46	0.015150	66	
STEWARD RD	069794E	008135	2	2183	60	6154	38.7	0.03050	33	60	6697	46	0.032876	30	
STEAM PLANT RD	069796T	008294	2	1696	60	6154	38.7	0.02894	35	60	6697	46	0.031248	32	
FIRST AVE	069797A	008324	2	6225	60	6154	38.7	0.03398	29	60	6697	46	0.036487	27	
MAIN ST	069798G	008331	2	6225	60	6154	38.7	0.03398	29	60	6697	46	0.036487	27	
WASHINGTON	069799N	008343	2	8408	60	6154	38.7	0.03602	28	60	6697	46	0.038595	26	
9TH ST	069801M	008369	2	1696	60	6154	38.7	0.02590	39	60	6697	46	0.028059	36	
15TH ST	069803B	008645	1	5015	60	6154	38.7	0.07362	14	60	6697	46	0.077815	13	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					Predicted Intervals Between Accidents (years)
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	
FLAGG RD.	069805P	008664	2	6549	60	6154	38.7	0.03095	32	60	6697	46	0.033345	30
CENTER RD.	069806W	008735	2	738	60	6154	38.7	0.01183	85	60	6697	46	0.012769	78
FOWLER RD.	069808K	008844	1	620	60	6154	38.7	0.00953	105	60	6697	46	0.010328	97
SKARE RD.	069810L	008918	2	811	60	6154	38.7	0.01225	82	60	6697	46	0.013218	76
HEMSTOCK RD.	069811T	008935	2	369	60	6154	38.7	0.00932	107	60	6697	46	0.010097	99
KNOLL RD.	069812A	009084	1	133	60	6154	38.7	0.01066	94	60	6697	46	0.011739	85
GRIST MILL RD.	069813G	009156	1	325	60	6154	38.7	0.00762	131	60	6757	46	0.008274	121
STONE HILL RD	069814N	009234	1	89	60	6154	38.7	0.00454	220	60	6757	46	0.004956	202
CHANA RD	069815V	009241	2	1696	60	6154	38.7	0.02894	35	60	6697	46	0.031248	32
HONEY CREEK RD	069818R	009364	2	457	60	6154	38.7	0.01902	53	60	6757	46	0.020759	48
ROCKY HOLLOW RD	069819X	009387	1	133	60	6154	38.7	0.01852	54	60	6697	46	0.020505	49
MARSH RD	069822F	009613	1	457	60	6154	38.7	0.00855	117	60	6757	46	0.009270	108
BLACKHAWK RD.	069823M	009766	1	295	60	6154	38.7	0.01328	75	60	6697	46	0.014580	69
DEVILS BACKBONE R	069827P	009887	2	738	60	6154	38.7	0.05905	17	60	6757	46	0.062457	16
HARMONY RD	069831E	010419	1	207	60	6154	38.7	0.01218	82	60	6697	46	0.013388	75
FOREST RD.	069834A	010739	1	162	60	6154	38.7	0.02016	50	60	6697	46	0.022272	45
LOWELL PARK RD	069835G	010840	2	1623	60	6154	38.7	0.06670	15	60	6757	46	0.070552	14
VALENTINE RD.	069836N	010941	1	44	60	6154	38.7	0.00915	109	60	6697	46	0.010095	99
EVERGREEN	069837V	010998	1	30	60	6154	38.7	0.00974	103	60	6757	46	0.010909	92
OREGON TRAIL RD	069838C	011065	1	133	60	6154	38.7	0.00531	188	60	6697	46	0.005787	173
UNION RD.	069843Y	011191	1	1387	60	6154	38.7	0.01261	79	60	6757	46	0.013595	74
FREEPORT RD.	069848H	011689	2	1549	60	6154	38.7	0.02256	44	60	6697	46	0.024523	41
WILSON MILL RD	069851R	011789	1	89	60	6154	38.7			60	6757	46	0.018121	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency						
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	
								0.01632	61						55
BROOKVILLE (OGLE)	069853E	011813	2	162	60	6154	38.7	0.00824	121	60	6697	46	0.008943	112	
GRANDVIEW RD	069857G	011902	1	44	60	6154	38.7	0.00797	126	60	6697	46	0.008801	114	
MAIN AVE	069868U	012299	2	3230	60	6154	38.7	0.02665	38	60	6697	46	0.028847	35	
OTTER CREEK DR	069869B	012520	2	457	60	6154	38.7	0.01902	53	60	6757	46	0.020759	48	
LIVINGOOD RD	069876L	012727	2	133	60	6154	38.7	0.01209	83	60	6757	46	0.013299	75	
PROWANT RD	069877T	012896	1	44	60	6154	38.7	0.00797	126	60	6697	46	0.008801	114	
SCHOOL	069880B	012941	2	221	60	6154	38.7	0.01483	67	60	6697	46	0.016253	62	
MAIN ST	069881H	012994	2	1062	60	6154	38.7	0.02610	38	60	6697	46	0.028267	35	
BIG HILL RD	069882P	013114	2	325	60	6154	38.7	0.01760	57	60	6697	46	0.019243	52	
OAKVILLE RD	069883W	013229	1	133	60	6154	38.7	0.00531	188	60	6697	46	0.005787	173	
BLACK OAK ROAD	069887Y	013315	2	133	60	6154	38.7	0.01209	83	60	6697	46	0.013299	75	
AIRPORT RD	069895R	013791	1	89	60	6154	38.7	0.00956	105	60	6680	46	0.010539	95	
HICKORY GROVE R	069898L	014069	1	44	60	6154	38.7	0.00797	126	60	6680	46	0.008801	114	
SAVANNA MARINA	069904M	014559	2	664	60	6154	38.7	0.02079	48	60	6680	46	0.022649	44	
DIVISION ST.	069907H	014587	2	811	60	6154	38.7	0.02190	46	60	6680	46	0.023828	42	
RANDOLPH ST.	069908P	014607	2	811	60	6154	38.7	0.02190	46	60	6680	46	0.023828	42	
MISS PAL ST PK RD	069910R	015230	2	207	60	6154	38.7	0.01569	64	60	6680	46	0.017187	58	
CRIM DR	069913L	015818	2	295	60	6154	38.7	0.01705	59	60	6680	46	0.018646	54	
RIVER RD	069917N	016516	1	251	60	6154	38.7	0.00813	123	60	6680	46	0.008820	113	
RIVER RD	069921D	016907	2	89	60	6154	38.7	0.01632	61	60	6680	46	0.018121	55	
RIVER RD	069922K	016944	1	89	60	6154	38.7	0.04995	20	60	6680	46	0.053192	19	
FERRY LANDING	306912J	017701	2	738	60	6154	38.7	0.02137	47	60	6680	46	0.023266	43	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	No Action - Annual Predicted Accident Frequency					Proposed Action - Annual Predicted Accident Frequency					
				AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
BARGE HARBOR RD	306915E	018162	2	900	60	6154	38.7	0.01985	50	60	6680	46	0.021647	46
BARGE HARBOR RD	306916L	018233	2	900	60	6154	38.7	0.01985	50	60	6680	46	0.059542	17
FRENTRESS LAKE	306917T	018242	2	2021	60	6154	38.7	0.01644	61	60	6680	46	0.017623	57
FRENTRESS LAKE	306918A	018279	2	2021	60	6154	38.7	0.01644	61	60	6680	46	0.017623	57
6TH ST	306924D	018461	2	974	60	6154	38.7	0.03189	31	60	6680	46	0.034317	29
4TH ST	306926S	018482	1	1224	60	6154	38.7	0.02420	41	60	6680	46	0.025741	39
2ND ST	306928F	016700	2	649	60	6154	38.7	0.06273	16	60	6680	46	0.065436	15
FALLING ROCK RD	093864D	024989	2	236	75	6154	38.7	0.01854	54	75	6680	46	0.020167	50
FREDERICK ST	910786F	024037	2	1623	75	6154	38.7	0.01405	71	75	6615	46	0.015359	65
WASHINGTON ST	086445N	023980	2	1151	75	6154	38.7	0.09905	10	75	6615	46	0.103899	10
WASHINGTON ST	069971G	023980	2	5118	75	6154	38.7	0.01054	95	75	6615	46	0.011566	86
MARQUETTE RD	079843B	023977	2	19264	75	6154	38.7	0.03002	33	75	6615	46	0.032271	31
LOCKWOOD ST	391938P	023681	2	1047	75	6154	38.7	0.03052	33	75	6615	46	0.032794	30
PINE RD	391872S	019700	2	74	75	6154	38.7	0.01154	87	75	6615	46	0.012649	79
MUD CREEK RD	070076W	010494	2	2670	75	6154	38.7	0.01451	69	75	6615	46	0.015855	63
GALE RD	070083G	010091	2	207	75	6154	38.7	0.04135	24	75	6615	46	0.043347	23
PINES RD	070084N	010016	2	3968	75	6154	38.7	0.04300	23	75	6615	46	0.045620	22
DEVILS BACKBONE R	070085V	010010	2	738	75	6154	38.7	0.05303	19	75	6615	46	0.055696	18
MAIN ST	175119F	007476	2	3230	75	6154	38.7	0.04068	25	75	6615	46	0.043264	23
ILL 30	175780L	003884	2	5576	75	6154	38.7	0.02631	38	75	6615	46	0.028396	35
HEMSTOCK RD.	070049A	000197	2	900	75	6154	38.7	0.01054	95	75	6615	46	0.011566	86
RATHBONE AV	069620H	000015	2	369	75	6154	38.7	0.02094	48	75	6615	46	0.023018	43

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	No Action - Annual Predicted Accident Frequency				Proposed Action - Annual Predicted Accident Frequency					
					Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)	Train Speed (mph)	Train Length (feet)	Trains per Day	Rate	Predicted Intervals Between Accidents (years)
Average Predicted Accident Frequency and Interval (No Action)					0.02445	41	Proposed Action				0.023889	42		

V.1.2 Grade-Crossing Delay

For each at-grade crossing analyzed, OEA estimated the time that each passing train would block a particular crossing and estimated the average delay per vehicle at that crossing in a 24-hour period. OEA used the average delay per vehicle at signalized intersections to determine the level of service (LOS) and to provide a conservative estimate of potential delay impacts. LOS designations provide a qualitative measure of traffic flow. While a designation of A indicates free-flowing traffic, a designation of F indicates that traffic is constantly slowed at that location. OEA also estimated the average traffic delays for all vehicles over a 24-hour period and used the average delay per vehicle to determine LOS for each grade crossing.

OEA used the following calculations to estimate traffic delay for public, at-grade crossings. The traffic delay at a crossing includes the time for the train to pass, and the time for any warning device to engage and disengage. For simplification purposes, it is assumed that both rail and road traffic would be uniform throughout the day.

The first step includes the calculation of gate-down time per train event (T).

$$T = T_w + \frac{L}{V}$$

Where:

T_w = Gate warning time

L = Average train length

V = Average train speed

The number of stopped vehicles delayed per day (N_v) can be calculated as follows:

$$N_v = \frac{T}{24} * N * ADT$$

Where:

N = Number of trains per day

$AADT$ = Average daily traffic

24 = Hours per day

The average delay per vehicle in a 24-hour period (D_v) is:

$$D_v = \frac{N_v}{AADT} * \frac{T * \frac{R_D}{R_D - R_A}}{2}$$

Where:

R_D = Departure rate (vehicles/lane/hour)¹

R_A = Arrival rate, average daily traffic converted to vehicles/lane-hour

2 = Denominator to reflect that vehicles do not experience the entire time the train is blocking the grade crossing. They are assumed to arrive on average at the midpoint of the train crossing period.

Total vehicle delay (D) is the product of average delay per vehicle (D_v) and the average daily traffic (ADT).

$$D = D_v * ADT$$

Tables V.1-24 through V.1-46 show the results of the grade-crossing delay analysis for downline segments.

¹ The vehicle departure rate depends on a wide range of factors such as the presence or absence of signals, number and type of lanes, lane width, grade, sight distances, type and peak of vehicle traffic, and curve radius. Data on these factors are not readily available for the grade crossings included in this analysis and, thus, calculation of crossing-specific departure rates is not feasible. Based on the *Highway Capacity Manual* (Transportation Research Board 2000), departure rates (in vehicles/lane-hour) are the following: highways (1,800), arterials (1,400), collectors (900), and local roads (700).

Table V.1-24. Grade-Crossing Delay, Segment 4, Colstrip and Colstrip East Alternatives – 50.5 trains per day (Year 2037)

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
4TH ST	092658M	007872	2	1,785	60	6154	34.5	1.67	0.88	71	2.11	A	62.63	--	--	--
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6154	34.5	1.67	0.86	47	2.07	A	40.64	--	--	--
MILES CITY SW 2MI	092654K	008073	1	103	60	6154	34.5	1.67	0.84	4	2.01	A	3.45	--	--	--
MILES CITY SW 5MI	092653D	008290	1	15	60	6154	34.5	1.67	0.83	1	2.00	A	0.49	--	--	--
ROSEBUD E 0.2MI	092644E	011115	2	59	50	6154	34.5	1.90	0.95	3	2.60	A	2.55	--	--	--
ROSEBUD	092643X	011143	2	457	50	6154	34.5	1.90	0.96	21	2.63	A	20.02	--	--	--
18TH AVE	087402Y	012310	2	1,859	60	6154	34.5	1.67	0.88	74	2.11	A	65.37	--	--	--
10TH AVE	087403F	012365	2	3,983	60	6154	34.5	1.67	0.94	159	2.26	A	150.13	--	--	--
Proposed Action																
4TH ST	092658M	007872	2	1,785	60	6745	50.5	3.44	1.82	106	3.22	A	95.72	35	2	1.11
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6745	50.5	3.44	1.78	70	3.16	A	62.10	23	2	1.09
MILES CITY SW 2MI	092654K	008073	1	103	60	6745	50.5	3.44	1.73	6	3.07	A	5.28	2	2	1.06
MILES CITY SW 5MI	092653D	008290	1	15	60	6745	50.5	3.44	1.72	1	3.05	A	0.75	0	2	1.05
ROSEBUD E 0.2MI	092644E	011115	2	59	50	6745	50.5	3.93	1.97	4	3.98	A	3.91	1	2	1.38
ROSEBUD	092643X	011143	2	457	50	6745	50.5	3.93	1.99	31	4.02	A	30.66	10	2	1.40
18TH AVE	087402Y	012310	2	1,859	60	6745	50.5	3.44	1.82	111	3.23	A	99.91	37	2	1.11
10TH AVE	087403F	012365	2	3,983	60	6745	50.5	3.44	1.95	238	3.46	A	229.44	79	2	1.19

Table V.1-25. Grade-Crossing Delay, Segment 4, Moon Creek and Moon Creek East Alternatives – 50.5 trains per day (Year 2037)

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
4TH ST	092658M	00787	2	1,785	60	6154	34.5	1.67	0.88	71	2.11	A	62.63	--	--	--
SPOTTED EAGLE LN	092656Y	00790	2	1,180	60	6154	34.5	1.67	0.86	47	2.07	A	40.64	--	--	--
MILES CITY SW 2MI	092654K	00807	1	103	60	6154	34.5	1.67	0.84	4	2.01	A	3.45	--	--	--
MILES CITY SW 5MI	092653D	00829	1	15	60	6154	34.5	1.67	0.83	1	2.00	A	0.49	--	--	--
Proposed Action																
4TH ST	092658M	007872	2	1,785	60	6745	50.5	3.44	1.82	106	3.22	A	95.72	35	2	1.11
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6745	50.5	3.44	1.78	70	3.16	A	62.10	23	2	1.09
MILES CITY SW 2MI	092654K	008073	1	103	60	6745	50.5	3.44	1.73	6	3.07	A	5.28	2	2	1.06
MILES CITY SW 5MI	092653D	008290	1	15	60	6745	50.5	3.44	1.72	1	3.05	A	0.75	0	2	1.05

Table V.1-26. Grade-Crossing Delay, Segment 4, Tongue River, Tongue River East, Tongue River Road, and Tongue River Road East Alternatives – 50.5 trains per day (Year 2037)

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
4TH ST	092658M	007872	2	1,785	60	6154	34.5	1.67	0.88	71	2.11	A	62.63	--	--	--
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6154	34.5	1.67	0.86	47	2.07	A	40.64	--	--	--
Proposed Action																
4TH ST	092658M	007872	2	1,785	60	6745	50.5	3.44	1.82	106	3.22	A	95.72	35	2	1.11
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6745	50.5	3.44	1.78	70	3.16	A	62.10	23	2	1.09

Table V.1-27. Grade-Crossing Delay, Segment 4 - Southern from Nichols, MT to Miles City, MT, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
4TH ST	092658M	007872	2	1,785	60	6154	34.5	1.67	0.88	71	2.11	A	62.63	--	--	--
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6154	34.5	1.67	0.86	47	2.07	A	40.64	--	--	--
MILES CITY SW 2MI	092654K	008073	1	103	60	6154	34.5	1.67	0.84	4	2.01	A	3.45	--	--	--
MILES CITY SW 5MI	092653D	008290	1	15	60	6154	34.5	1.67	0.83	1	2.00	A	0.49	--	--	--
ROSEBUD E 0.2MI	092644E	011115	2	59	50	6154	34.5	1.90	0.95	3	2.60	A	2.55	--	--	--
ROSEBUD	092643X	011143	2	457	50	6154	34.5	1.90	0.96	21	2.63	A	20.02	--	--	--
18TH AVE	087402Y	012310	2	1,859	60	6154	34.5	1.67	0.88	74	2.11	A	65.37	--	--	--
10TH AVE	087403F	012365	2	3,983	60	6154	34.5	1.67	0.94	159	2.26	A	150.13	--	--	--
Proposed Action																
4TH ST	092658M	007872	2	1,785	60	6745	43.5	3.44	1.82	91	2.73	A	81.24	20	1	0.63
SPOTTED EAGLE LN	092656Y	007907	2	1,180	60	6745	43.5	3.44	1.78	60	2.68	A	52.71	13	1	0.61
MILES CITY SW 2MI	092654K	008073	1	103	60	6745	43.5	3.44	1.73	5	2.60	A	4.48	1	1	0.60
MILES CITY SW 5MI	092653D	008290	1	15	60	6745	43.5	3.44	1.72	1	2.59	A	0.64	0	1	0.59
ROSEBUD E 0.2MI	092644E	011115	2	59	50	6745	43.5	3.93	1.97	3	3.37	A	3.32	1	1	0.78
ROSEBUD	092643X	011143	2	457	50	6745	43.5	3.93	1.99	27	3.41	A	26.00	6	1	0.79
18TH AVE	087402Y	012310	2	1,859	60	6745	43.5	3.44	1.82	95	2.74	A	84.80	21	1	0.63
10TH AVE	087403F	012365	2	3,983	60	6745	43.5	3.44	1.95	203	2.93	A	194.74	44	1	0.67

Table V.1-28. Grade-Crossing Delay, Segment 5 from Nichols, MT to Huntley, MT, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
FORSYTH W 8MI	087412E	013278	2	118	60	6154	30.9	1.67	0.84	4	1.79	A	3.52	--	--	--
SANDERS E 4MI	087421D	014085	1	15	60	6154	30.9	1.67	0.83	1	1.79	A	0.44	--	--	--
SANDERS E 2.5MI	087422K	014233	1	44	60	6154	30.9	1.67	0.83	2	1.79	A	1.32	--	--	--
SANDERS	087425F	014409	1	15	60	6154	30.9	1.67	0.83	1	1.79	A	0.44	--	--	--
SANDERS	087426M	014437	1	15	60	6154	30.9	1.67	0.83	1	1.79	A	0.44	--	--	--
SANDERS W 0.8MI	087428B	014541	2	15	60	6154	30.9	1.67	0.83	1	1.79	A	0.44	--	--	--
SANDERS W 1.5MI	087429H	014611	2	59	60	6154	30.9	1.67	0.83	2	1.79	A	1.76	--	--	--
HYSHAM E 3.5MI	087430C	014709	1	103	60	6154	30.9	1.67	0.84	4	1.80	A	3.09	--	--	--
HYSHAM E 2.5MI	087431J	014810	1	177	60	6154	30.9	1.67	0.84	6	1.80	A	5.32	--	--	--
HYSHAM E 1.9MI	087432R	014867	1	133	60	6154	30.9	1.67	0.84	5	1.80	A	3.98	--	--	--
HYSHAM SW 3MI	087439N	015403	2	89	60	6154	30.9	1.67	0.83	3	1.79	A	2.64	--	--	--
HYSHAM SW 5MI	087441P	015680	2	280	60	6154	30.9	1.67	0.84	10	1.80	A	8.40	--	--	--
S-310	087297A	017225	2	443	60	6154	30.9	1.67	0.84	16	1.80	A	13.31	--	--	--
POMPEYS PILLAR N	087330X	019431	1	30	60	6154	30.9	1.67	0.83	1	1.79	A	0.88	--	--	--
POMPEYS PILLAR W	087331E	019534	1	44	60	6154	30.9	1.67	0.83	2	1.79	A	1.32	--	--	--
OLD FLY CREEK RD	087334A	019637	2	15	60	6154	30.9	1.67	0.83	1	1.79	A	0.44	--	--	--
S 28TH RD	087336N	019790	2	236	60	6154	30.9	1.67	0.84	8	1.80	A	7.07	--	--	--
S 26TH RD	087337V	019888	2	89	60	6154	30.9	1.67	0.83	3	1.79	A	2.64	--	--	--
S 25TH RD	087338C	019944	2	74	60	6154	30.9	1.67	0.83	3	1.79	A	2.20	--	--	--
S 24TH RD	087339J	019996	2	59	60	6154	30.9	1.67	0.83	2	1.79	A	1.76	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
S 23RD RD	087340D	020048	1	59	60	6154	30.9	1.67	0.84	2	1.79	A	1.76	--	--	--
NIBBE W 3MI S 22N	087341K	020101	2	74	60	6154	30.9	1.67	0.83	3	1.79	A	2.20	--	--	--
S 21ST RD	087342S	020153	2	44	60	6154	30.9	1.67	0.83	2	1.79	A	1.32	--	--	--
WORDEN E 2.5MI	087343Y	020205	2	59	60	6154	30.9	1.67	0.83	2	1.79	A	1.76	--	--	--
S 18TH RD	087344F	020308	2	103	60	6154	30.9	1.67	0.84	4	1.79	A	3.08	--	--	--
S 16TH RD	087345M	020421	2	856	60	6154	30.9	1.67	0.85	31	1.83	A	26.13	--	--	--
3RD ST	087369B	020462	2	1,328	60	6154	30.9	1.67	0.86	47	1.84	A	40.76	--	--	--
WORDEN SW 1MI	087367M	020534	2	118	60	6154	30.9	1.67	0.84	4	1.79	A	3.52	--	--	--
S 12TH RD	087366F	020656	2	325	60	6154	30.9	1.67	0.84	12	1.80	A	9.75	--	--	--
S 10TH RD	087365Y	020774	2	89	60	6154	30.9	1.67	0.83	3	1.79	A	2.64	--	--	--
WORDEN SW 4MI	087364S	020831	2	133	60	6154	30.9	1.67	0.84	5	1.79	A	3.97	--	--	--
8TH RD 4MI E HUN	087363K	020932	2	369	60	6154	30.9	1.67	0.84	13	1.81	A	11.10	--	--	--
HUNTLEY NE 3.5MI	087362D	020938	2	207	60	6154	30.9	1.67	0.84	7	1.80	A	6.18	--	--	--
FORSYTH W 10MI	087413L	013466	2	44	60	6154	30.9	1.75	0.88	2	1.98	A	1.46	--	--	--
HYSHAM ROUTE 79	087434E	015059	2	221	60	6154	30.9	1.75	0.88	8	1.99	A	7.34	--	--	--
PUMPHOUSE RD	087435L	015109	2	266	60	6154	30.9	1.75	0.88	10	1.99	A	8.82	--	--	--
HUNTLEY-CEMETERY	087359V	021123	2	140	60	6154	30.9	1.75	0.88	5	1.99	A	4.63	--	--	--
S 6TH RD	087361W	021007	2	80	60	6154	30.9	1.75	0.88	3	1.98	A	2.64	--	--	--
HYSHAM E 4MI	104010V	000017	2	270	60	6154	30.9	1.75	0.88	10	1.99	A	8.95	--	--	--
Proposed Action																
FORSYTH W 8MI	087412E	013278	2	118	60	6613	39.9	3.42	1.72	6	2.37	A	4.66	1	1	0.58
SANDERS E 4MI	087421D	014085	1	15	60	6613	39.9	3.42	1.71	1	2.36	A	0.58	0	1	0.58

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
SANDERS E 2.5MI	087422K	014233	1	44	60	6613	39.9	3.42	1.71	2	2.37	A	1.75	0	1	0.58
SANDERS	087425F	014409	1	15	60	6613	39.9	3.42	1.71	1	2.36	A	0.58	0	1	0.58
SANDERS	087426M	014437	1	15	60	6613	39.9	3.42	1.71	1	2.36	A	0.58	0	1	0.58
SANDERS W 0.8MI	087428B	014541	2	15	60	6613	39.9	3.42	1.71	1	2.36	A	0.58	0	1	0.58
SANDERS W 1.5MI	087429H	014611	2	59	60	6613	39.9	3.42	1.71	3	2.37	A	2.33	1	1	0.58
HYSHAM E 3.5MI	087430C	014709	1	103	60	6613	39.9	3.42	1.72	5	2.38	A	4.09	1	1	0.58
HYSHAM E 2.5MI	087431J	014810	1	177	60	6613	39.9	3.42	1.73	8	2.39	A	7.04	2	1	0.58
HYSHAM E 1.9MI	087432R	014867	1	133	60	6613	39.9	3.42	1.72	6	2.38	A	5.27	1	1	0.58
HYSHAM SW 3MI	087439N	015403	2	89	60	6613	39.9	3.42	1.71	4	2.37	A	3.49	1	1	0.58
HYSHAM SW 5MI	087441P	015680	2	280	60	6613	39.9	3.42	1.72	13	2.38	A	11.10	3	1	0.58
S-310 POMPEYS PILLAR N	087297A	017225	2	443	60	6613	39.9	3.42	1.73	21	2.39	A	17.60	5	1	0.58
POMPEYS PILLAR W	087330X	019431	1	30	60	6613	39.9	3.42	1.71	1	2.36	A	1.16	0	1	0.58
OLD FLY CREEK RD	087331E	019534	1	44	60	6613	39.9	3.42	1.71	2	2.37	A	1.75	0	1	0.58
	087334A	019637	2	15	60	6613	39.9	3.42	1.71	1	2.36	A	0.58	0	1	0.58
S 28TH RD	087336N	019790	2	236	60	6613	39.9	3.42	1.72	11	2.38	A	9.35	3	1	0.58
S 26TH RD	087337V	019888	2	89	60	6613	39.9	3.42	1.71	4	2.37	A	3.49	1	1	0.58
S 25TH RD	087338C	019944	2	74	60	6613	39.9	3.42	1.71	3	2.37	A	2.91	1	1	0.58
S 24TH RD	087339J	019996	2	59	60	6613	39.9	3.42	1.71	3	2.37	A	2.33	1	1	0.58
S 23RD RD NIBBE W 3MI S 22N	087340D	020048	1	59	60	6613	39.9	3.42	1.72	3	2.37	A	2.33	1	1	0.58
	087341K	020101	2	74	60	6613	39.9	3.42	1.71	3	2.37	A	2.91	1	1	0.58
S 21ST RD	087342S	020153	2	44	60	6613	39.9	3.42	1.71	2	2.36	A	1.74	0	1	0.58
WORDEN E 2.5MI	087343Y	020205	2	59	60	6613	39.9	3.42	1.71	3	2.37	A	2.33	1	1	0.58

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
S 18TH RD	087344F	020308	2	103	60	6613	39.9	3.42	1.71	5	2.37	A	4.08	1	1	0.58
S 16TH RD	087345M	020421	2	856	60	6613	39.9	3.42	1.75	40	2.42	A	34.55	9	1	0.59
3RD ST	087369B	020462	2	1,328	60	6613	39.9	3.42	1.76	62	2.44	A	53.91	15	1	0.59
WORDEN SW 1MI	087367M	020534	2	118	60	6613	39.9	3.42	1.72	6	2.37	A	4.66	1	1	0.58
S 12TH RD	087366F	020656	2	325	60	6613	39.9	3.42	1.73	15	2.38	A	12.90	4	1	0.58
S 10TH RD	087365Y	020774	2	89	60	6613	39.9	3.42	1.71	4	2.37	A	3.49	1	1	0.58
WORDEN SW 4MI	087364S	020831	2	133	60	6613	39.9	3.42	1.72	6	2.37	A	5.25	1	1	0.58
8TH RD 4MI E	087363K	020932	2	369	60	6613	39.9	3.42	1.73	17	2.39	A	14.68	4	1	0.58
HUN HUNTLEY NE 3.5MI	087362D	020938	2	207	60	6613	39.9	3.42	1.72	10	2.38	A	8.18	2	1	0.58
FORSYTH W 10MI	087413L	013466	2	44	60	6613	39.9	3.53	1.77	2	2.57	A	1.90	0	1	0.59
HYSHAM ROUTE 79	087434E	015059	2	221	60	6613	39.9	3.53	1.78	11	2.59	A	9.54	2	1	0.60
PUMPHOUSE RD	087435L	015109	2	266	60	6613	39.9	3.53	1.78	13	2.59	A	11.46	3	1	0.60
HUNTLEY-CEMETERY	087359V	021123	2	140	60	6613	39.9	3.50	1.76	7	2.56	A	5.98	2	1	0.58
S 6TH RD	087361W	021007	2	80	60	6613	39.9	3.50	1.76	4	2.56	A	3.41	1	1	0.58
HYSHAM E 4MII	104010V	000017	2	270	60	6613	39.9	3.50	1.76	13	2.57	A	11.56	3	1	0.58

Table V.1-29. Grade-Crossing Delay, Segment 6 from Spring Creek, MT to Dutch, WY, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
TAYLOR ROAD	098817M	000673	1	103	25	6154	28.7	3.30	1.66	7	6.54	A	11.26	--	--	--
Proposed Action																
TAYLOR ROAD	098817M	000673	1	103	25	6741	55.4	6.86	3.45	14	13.65	B	23.49	7	6.61	7.11

Table V.1-30. Grade-Crossing Delay, Segment 7 from Dutch, WY to Huntley, MT, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
ABERDEEN CO. RD 7	103868L	073149	2	103	50	6154	40.1	1.90	0.95	5	3.02	A	5.19	--	--	--
LITTLE HORN RD	103862V	073663	2	457	50	6154	40.1	1.90	0.96	24	3.03	A	23.11	--	--	--
MAIN ST	103861N	073706	2	15	50	6154	40.1	1.90	0.95	1	3.01	A	0.74	--	--	--
WYOLA N 5MI	103855K	074184	2	74	50	6154	40.1	1.90	0.95	4	3.01	A	3.71	--	--	--
LODGE GRASS S 4.5	103848A	074546	1	118	50	6154	40.1	1.90	0.95	6	3.02	A	5.94	--	--	--
S OF LODGE GRASS	103841C	074936	1	89	50	6154	40.1	1.90	0.95	5	3.02	A	4.45	--	--	--
MT 463	103840V	075014	2	4,086	50	6154	40.1	1.90	1.01	216	3.21	A	218.35	--	--	--
SAND CREEK GARRYOWEN S 4.5MI	104080K	075647	2	148	50	6154	40.1	1.90	0.95	8	3.02	A	7.42	--	--	--
GARRYOWEN S 2MI	104084M	076005	1	44	50	6154	40.1	1.90	0.95	2	3.02	A	2.22	--	--	--
	103837M	076292	2	44	50	6154	40.1	1.90	0.95	2	3.01	A	2.22	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
SHOULDER BLADE CR	103839B	076485	2	310	50	6154	40.1	1.90	0.95	16	3.03	A	15.62	--	--	--
MAKAWASHA AVE	104062M	077098	2	7,021	50	6154	40.1	1.90	1.06	371	3.36	A	393.51	--	--	--
CROW AGENCY N 0.4	104061F	077143	2	546	50	6154	40.1	1.90	0.96	29	3.04	A	27.62	--	--	--
CROW AGENCY N 2MI	104059E	077296	2	44	50	6154	40.1	1.90	0.95	2	3.01	A	2.22	--	--	--
WEST DUNMORE S 0.	104055C	077605	1	30	50	6154	40.1	1.90	0.95	2	3.01	A	1.48	--	--	--
DUNMORE	104054V	077689	2	118	50	6154	40.1	1.90	0.95	6	3.02	A	5.93	--	--	--
DUNMORE 1MI NW	104052G	077809	2	89	50	6154	40.1	1.90	0.95	5	3.02	A	4.45	--	--	--
HARDIN E 1.5MI	104045W	078189	2	148	50	6154	40.1	1.90	0.95	8	3.02	A	7.42	--	--	--
SLAUGHTERHOUSE RD	104041U	078297	2	89	50	6154	40.1	1.90	0.95	5	3.02	A	4.45	--	--	--
E 3RD ST	104039T	078355	2	4,676	50	6154	40.1	1.90	1.02	247	3.24	A	252.24	--	--	--
CENTER AVE	104038L	078382	2	1,829	50	6154	40.1	1.90	0.98	97	3.10	A	94.37	--	--	--
HWY 313	104037E	078477	2	2,345	50	6154	40.1	1.90	0.98	124	3.12	A	121.97	--	--	--
HARDIN SW 1.5MI	104035R	078642	2	103	50	6154	40.1	1.90	0.95	5	3.02	A	5.19	--	--	--
HARDIN SW 2MI	103982L	078694	2	89	50	6154	40.1	1.90	0.95	5	3.02	A	4.45	--	--	--
FLY CREEK RD	103973M	080932	2	251	50	6154	40.1	1.90	0.95	13	3.02	A	12.63	--	--	--
BALLANTINE E 4.5M	103963G	081586	1	15	50	6154	40.1	1.90	0.95	1	3.01	A	0.74	--	--	--
S 24TH RD	103962A	081653	2	59	50	6154	40.1	1.90	0.95	3	3.01	A	2.96	--	--	--
S 22ND RD	103960L	081752	2	44	50	6154	40.1	1.90	0.95	2	3.01	A	2.22	--	--	--
BALLANTINE E 2MI	103959S	081854	2	59	50	6154	40.1	1.90	0.95	3	3.01	A	2.96	--	--	--
BALLANTINE E 1MI	103956W	081922	2	221	50	6154	40.1	1.90	0.95	12	3.02	A	11.14	--	--	--
OLD DUMP RD	103955P	082008	1	15	50	6154	40.1	1.90	0.95	1	3.01	A	0.74	--	--	--
5TH ST	103954H	082063	2	1,696	50	6154	40.1	1.90	0.97	90	3.09	A	87.34	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
BALLANTINE SW 1.5	103952U	082185	2	59	50	6154	40.1	1.90	0.95	3	3.01	A	2.96	--	--	--
S 13 RD	103951M	082239	2	162	50	6154	40.1	1.90	0.95	9	3.02	A	8.16	--	--	--
S 12 RD	103950F	082295	2	59	50	6154	40.1	1.90	0.95	3	3.01	A	2.96	--	--	--
HUNTLEY NE 3.7MI	103946R	082517	2	236	50	6154	40.1	1.90	0.95	12	3.02	A	11.89	--	--	--
HUNTLEY CEMETERY	103941G	082735	2	74	50	6154	40.1	1.90	0.95	4	3.01	A	3.71	--	--	--
WAKLEY ROAD	098854P	069326	2	133	50	6154	40.1	1.90	0.95	7	3.02	A	6.69	--	--	--
1ST STREET	104173E	069836	2	3,142	50	6154	40.1	1.90	1.02	166	3.25	A	170.06	--	--	--
5TH ST/WYO 336	104171R	069864	2	14,544	50	6154	40.1	1.90	1.21	769	3.84	A	931.58	--	--	--
SALE BARN HWY	103877K	069994	2	457	50	6154	40.1	1.90	0.96	24	3.05	A	23.27	--	--	--
339/DECKER R	104137J	070424	2	354	50	6154	40.1	1.90	0.96	19	3.04	A	17.91	--	--	--
KLEENBURN ROAD	104166U	070734	1	59	50	6154	40.1	1.90	0.95	3	3.02	A	2.97	--	--	--
MONARCH ROAD	104164F	070809	2	251	50	6154	40.1	1.90	0.96	13	3.03	A	12.68	--	--	--
COOL ROAD	104159J	071120	1	74	50	6154	40.1	1.90	0.95	4	3.02	A	3.72	--	--	--
STATE HWY 343	104141Y	072146	2	516	50	6154	40.1	1.90	0.96	27	3.05	A	26.23	--	--	--
PASS CREEK RD	086364N	072638	2	295	50	6154	40.1	1.90	0.96	16	3.03	A	14.91	--	--	--
Proposed Action																
ABERDEEN CO. RD 7	103868L	073149	2	103	50	6636	49.1	3.91	1.96	7	3.77	A	6.49	1	1	0.76
LITTLE HORN RD	103862V	073663	2	457	50	6636	49.1	3.91	1.97	30	3.79	A	28.91	6	1	0.76
MAIN ST	103861N	073706	2	15	50	6636	49.1	3.91	1.95	1	3.77	A	0.93	0	1	0.76
WYOLA N 5MI	103855K	074184	2	74	50	6636	49.1	3.91	1.96	5	3.77	A	4.64	1	1	0.76
LODGE GRASS S 4.5	103848A	074546	1	118	50	6636	49.1	3.91	1.96	8	3.78	A	7.44	1	1	0.76
S OF LODGE GRASS	103841C	074936	1	89	50	6636	49.1	3.91	1.96	6	3.78	A	5.57	1	1	0.76

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
MT 463	103840V	075014	2	4,086	50	6636	49.1	3.91	2.08	267	4.01	A	273.18	51	1	0.81
SAND CREEK GARRYOWEN S 4.5MI	104080K	075647	2	148	50	6636	49.1	3.91	1.96	10	3.78	A	9.28	2	1	0.76
GARRYOWEN S 2MI	104084M	076005	1	44	50	6636	49.1	3.91	1.96	3	3.77	A	2.78	1	1	0.76
SHOULDER	103837M	076292	2	44	50	6636	49.1	3.91	1.95	3	3.77	A	2.78	1	1	0.76
BLADE CR	103839B	076485	2	310	50	6636	49.1	3.91	1.96	20	3.79	A	19.54	4	1	0.76
MAKAWASHA AVE	104062M	077098	2	7,021	50	6636	49.1	3.91	2.18	459	4.21	A	492.33	88	1	0.84
CROW AGENCY N 0.4	104061F	077143	2	546	50	6636	49.1	3.91	1.97	36	3.80	A	34.55	7	1	0.76
CROW AGENCY N 2MI	104059E	077296	2	44	50	6636	49.1	3.91	1.95	3	3.77	A	2.78	1	1	0.76
WEST DUNMORE S 0.	104055C	077605	1	30	50	6636	49.1	3.91	1.96	2	3.77	A	1.85	0	1	0.76
DUNMORE	104054V	077689	2	118	50	6636	49.1	3.91	1.96	8	3.77	A	7.42	1	1	0.76
DUNMORE 1MI NW	104052G	077809	2	89	50	6636	49.1	3.91	1.96	6	3.77	A	5.56	1	1	0.76
HARDIN E 1.5MI	104045W	078189	2	148	50	6636	49.1	3.91	1.96	10	3.78	A	9.28	2	1	0.76
SLAUGHTERHOUSE RD	104041U	078297	2	89	50	6636	49.1	3.91	1.96	6	3.77	A	5.56	1	1	0.76
E 3RD ST	104039T	078355	2	4,676	50	6636	49.1	3.91	2.10	306	4.05	A	315.57	59	1	0.81
CENTER AVE	104038L	078382	2	1,829	50	6636	49.1	3.91	2.01	120	3.87	A	118.07	23	1	0.78
HWY 313	104037E	078477	2	2,345	50	6636	49.1	3.91	2.02	153	3.90	A	152.60	29	1	0.78
HARDIN SW 1.5MI	104035R	078642	2	103	50	6636	49.1	3.91	1.96	7	3.77	A	6.49	1	1	0.76
HARDIN SW 2MI	103982L	078694	2	89	50	6636	49.1	3.91	1.96	6	3.77	A	5.56	1	1	0.76
FLY CREEK RD	103973M	080932	2	251	50	6636	49.1	3.91	1.96	16	3.78	A	15.80	3	1	0.76
BALLANTINE E 4.5M	103963G	081586	1	15	50	6636	49.1	3.91	1.95	1	3.77	A	0.93	0	1	0.76
S 24TH RD	103962A	081653	2	59	50	6636	49.1	3.91	1.96	4	3.77	A	3.71	1	1	0.76
S 22ND RD	103960L	081752	2	44	50	6636	49.1	3.91	1.95	3	3.77	A	2.78	1	1	0.76

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
BALLANTINE E 2MI	103959S	081854	2	59	50	6636	49.1	3.91	1.96	4	3.77	A	3.71	1	1	0.76
BALLANTINE E 1MI	103956W	081922	2	221	50	6636	49.1	3.91	1.96	14	3.78	A	13.94	3	1	0.76
OLD DUMP RD	103955P	082008	1	15	50	6636	49.1	3.91	1.95	1	3.77	A	0.93	0	1	0.76
5TH ST	103954H	082063	2	1,696	50	6636	49.1	3.91	2.00	111	3.87	A	109.28	21	1	0.78
BALLANTINE SW 1.5	103952U	082185	2	59	50	6636	49.1	3.91	1.96	4	3.77	A	3.71	1	1	0.76
S 13 RD	103951M	082239	2	162	50	6636	49.1	3.91	1.96	11	3.78	A	10.21	2	1	0.76
S 12 RD	103950F	082295	2	59	50	6636	49.1	3.91	1.96	4	3.77	A	3.71	1	1	0.76
HUNTLEY NE 3.7MI	103946R	082517	2	236	50	6636	49.1	3.91	1.96	15	3.78	A	14.87	3	1	0.76
HUNTLEY CEMETERY	103941G	082735	2	74	50	6636	49.1	3.91	1.96	5	3.77	A	4.64	1	1	0.76
WAKLEY ROAD	098854P	069326	2	133	50	6636	49.1	3.91	1.96	9	3.78	A	8.37	2	1	0.76
1ST STREET	104173E	069836	2	3,142	50	6636	49.1	3.91	2.11	206	4.06	A	212.76	39	1	0.82
5TH ST/WYO 336	104171R	069864	2	14,544	50	6636	49.1	3.91	2.49	951	4.81	A	1,165.51	183	1	0.97
SALE BARN HWY	103877K	069994	2	457	50	6636	49.1	3.91	1.98	30	3.82	A	29.11	6	1	0.77
339/DECKER R	104137J	070424	2	354	50	6636	49.1	3.91	1.97	23	3.80	A	22.41	4	1	0.76
KLEENBURN ROAD	104166U	070734	1	59	50	6636	49.1	3.91	1.96	4	3.78	A	3.72	1	1	0.76
MONARCH ROAD	104164F	070809	2	251	50	6636	49.1	3.91	1.97	16	3.80	A	15.86	3	1	0.76
COOL ROAD	104159J	071120	1	74	50	6636	49.1	3.91	1.96	5	3.78	A	4.65	1	1	0.76
STATE HWY 343	104141Y	072146	2	516	50	6636	49.1	3.91	1.98	34	3.81	A	32.81	6	1	0.77
PASS CREEK RD	086364N	072638	2	295	50	6636	49.1	3.91	1.97	19	3.79	A	18.65	4	1	0.76

Table V.1-31. Grade-Crossing Delay, Segment 9 - Northern from Dutch, WY to Donkey Creek, WY, Analysis Year 2030

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
	098871F	068007	2	89	50	6154	41.9	1.90	0.95	5	3.16	A	4.65	--	--	--
MEADE ST	098898P	066066	2	413	50	6154	41.9	1.90	0.96	23	3.19	A	21.93	--	--	--
ARVADA ROAD	098763J	064271	2	457	50	6154	41.9	1.90	0.96	25	3.18	A	24.24	--	--	--
PEACEFUL VALLEY	098837Y	060204	2	561	50	6154	41.9	1.90	0.97	31	3.20	A	29.89	--	--	--
MCKENZIE ROAD	098836S	060079	2	723	50	6154	41.9	1.90	0.97	40	3.22	A	38.74	--	--	--
FOOTHILLS BLVD	095097L	059953	2	2,257	60	6154	41.9	1.67	0.88	109	2.55	A	96.10	--	--	--
BURMA AVENUE	064976Y	059797	2	9,691	60	6154	41.9	1.67	1.07	470	3.12	A	504.20	--	--	--
GARNER LAKE RD	064970H	059443	4	21,166	60	6154	41.9	1.67	0.99	1026	2.87	A	1,013.90	--	--	--
AMERICAN RANCH RD	064966T	059075	2	1,755	60	6154	41.9	1.67	0.88	85	2.55	A	74.74	--	--	--
POTTER AVE	064969N	059348	2	460	60	6154	41.9	1.67	0.85	29	2.52	A	24.82	--	--	--
Proposed Action																
	098871F	068007	2	89	50	6758	50.8	3.93	1.97	6	3.93	A	5.79	1	1	0.77
MEADE ST	098898P	066066	2	413	50	6758	50.8	3.93	1.99	28	3.96	A	27.29	5	1	0.78
ARVADA ROAD	098763J	064271	2	457	50	6758	50.8	3.93	1.99	31	3.96	A	30.16	6	1	0.78
PEACEFUL VALLEY	098837Y	060204	2	561	50	6758	50.8	3.93	2.00	38	3.98	A	37.20	7	1	0.78
MCKENZIE ROAD	098836S	060079	2	723	50	6758	50.8	3.93	2.01	49	4.00	A	48.20	9	1	0.79
FOOTHILLS BLVD	095097L	059953	2	2,257	60	6875	50.8	3.47	1.83	135	3.19	A	119.99	25	1	0.64
BURMA AVENUE	064976Y	059797	2	9,691	60	6875	50.8	3.47	2.24	578	3.90	A	629.58	108	1	0.78
GARNER LAKE RD	064970H	059443	4	21,166	60	6875	50.8	3.47	2.06	1,262	3.59	A	1,266.03	236	1	0.71

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
AMERICAN RANCH RD	064966T	059075	2	1,755	60	6875	50.8	3.47	1.83	105	3.19	A	93.33	20	1	0.64
POTTER AVE	064969N	059348	2	460	60	6875	50.8	3.47	1.76	35	3.07	A	30.16	6	1	0.54

Table V.1-32. Grade-Crossing Delay, Segment 9 - Southern from Dutch, WY to Donkey Creek, WY, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
	098871F	068007	2	89	50	6154	44.8	1.90	0.95	5	3.37	A	4.98	--	--	--
MEADE ST	098898P	066066	2	413	50	6154	44.8	1.90	0.96	24	3.41	A	23.45	--	--	--
ARVADA ROAD	098763J	064271	2	457	50	6154	44.8	1.90	0.96	27	3.40	A	25.91	--	--	--
PEACEFUL VALLEY	098837Y	060204	2	561	50	6154	44.8	1.90	0.97	33	3.42	A	31.96	--	--	--
MCKENZIE ROAD	098836S	060079	2	723	50	6154	44.8	1.90	0.97	43	3.44	A	41.42	--	--	--
FOOTHILLS BLVD	095097L	059953	2	2,257	60	6154	44.8	1.67	0.88	117	2.73	A	102.75	--	--	--
BURMA AVENUE	064976Y	059797	2	9,691	60	6154	44.8	1.67	1.07	502	3.34	A	539.10	--	--	--
GARNER LAKE RD	064970H	059443	4	21,166	60	6154	44.8	1.67	0.99	1097	3.07	A	1,084.07	--	--	--
AMERICAN RANCH RD	064966T	059075	2	1,755	60	6154	44.8	1.67	0.88	91	2.73	A	79.92	--	--	--
POTTER AVE	064969N	059348	2	460	60	6154	44.8	1.67	0.85	31	2.64	A	25.91	--	--	--
Proposed Action																
	098871F	068007	2	89	50	6758	59.9	3.93	1.97	7	4.68	A	6.90	2	2	1.31
MEADE ST	098898P	066066	2	413	50	6758	59.9	3.93	1.99	33	4.73	A	32.53	9	2	1.32
ARVADA ROAD	098763J	064271	2	457	50	6758	59.9	3.93	1.99	37	4.72	A	35.96	10	2	1.32
PEACEFUL VALLEY	098837Y	060204	2	561	50	6758	59.9	3.93	2.00	45	4.75	A	44.35	12	2	1.33
MCKENZIE ROAD	098836S	060079	2	723	50	6758	59.9	3.93	2.01	58	4.77	A	57.47	15	2	1.33
FOOTHILLS BLVD	095097L	059953	2	2,257	60	6875	59.9	3.47	1.83	160	3.81	A	143.29	43	2	1.08
BURMA AVENUE	064976Y	059797	2	9,691	60	6875	59.9	3.47	2.24	685	4.65	A	751.82	183	2	1.32
GARNER LAKE RD	064970H	059443	4	21,166	60	6875	59.9	3.47	2.06	1,497	4.29	A	1,511.84	400	2	1.21
AMERICAN RANCH RD	064966T	059075	2	1,755	60	6875	59.9	3.47	1.83	124	3.81	A	111.45	33	2	1.08

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24- hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
POTTER AVE	064969N	059348	2	460	60	6875	59.9	3.33	1.70	41	3.52	A	34.65	10	2	0.89

Table V.1-33. Grade-Crossing Delay, Segment 10 from Donkey Creek, WY to Edgemont, SD, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
CO RD 769	064904V	049587	2	103	50	6154	64.9	1.90	0.95	9	4.89	A	8.41	--	--	--
BURDOCK LOOP ROAD	064899B	048993	1	118	50	6154	64.9	1.90	0.96	10	4.91	A	9.65	--	--	--
	064898U	048943	2	339	50	6154	64.9	1.90	0.96	29	4.91	A	27.78	--	--	--
	064892D	048518	2	339	50	6154	64.9	1.90	0.96	29	4.91	A	27.78	--	--	--
A ST	064884L	047651	2	575	50	6154	64.9	1.90	0.97	49	4.96	A	47.54	--	--	--
SVALINA RD	064960C	058382	2	295	50	6154	64.9	1.90	0.96	25	4.92	A	24.18	--	--	--
ADON RD	064958B	058218	2	1446	50	6154	64.9	1.90	0.98	124	5.04	A	121.49	--	--	--
STEWART RD	064956M	057914	1	192	50	6154	64.9	1.90	0.96	16	4.93	A	15.76	--	--	--
TEXACO RD	064953S	057520	2	354	50	6154	64.9	1.90	0.96	30	4.91	A	28.99	--	--	--
SHIPWHEEL RD	064950W	057101	2	148	50	6154	64.9	1.90	0.95	13	4.89	A	12.02	--	--	--
WARBONNET RD	064947N	056785	1	74	50	6154	64.9	1.90	0.95	6	4.90	A	6.02	--	--	--
BUFFALO CREEK RD	064944T	056446	1	133	50	6154	64.9	1.90	0.96	11	4.90	A	10.85	--	--	--
SKULL CREEK RD	064933F	053559	2	472	50	6154	64.9	1.90	0.96	40	4.93	A	38.77	--	--	--
OIL CREEK RD	064926V	052683	2	207	50	6154	64.9	1.90	0.95	18	4.90	A	16.86	--	--	--
2ND AVENUE	064922T	052149	2	1313	50	6154	64.9	1.90	0.99	112	5.07	A	110.98	--	--	--
WALKER AVE	064921L	052108	2	1239	50	6154	64.9	1.90	0.99	106	5.06	A	104.50	--	--	--
MAIN STREET	064920E	052074	4	8673	50	6154	64.9	1.90	1.01	742	5.21	A	753.14	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
Proposed Action																
CO RD 769 BURDOCK LOOP ROAD	064904V	049587	2	103	50	6631	80.3	3.91	1.96	11	6.19	A	10.64	2	2	1.30
	064899B	048993	1	118	50	6631	80.3	3.91	1.97	13	6.21	A	12.21	3	2	1.30
	064898U	048943	2	339	50	6631	80.3	3.91	1.97	36	6.22	A	35.14	7	2	1.30
	064892D	048518	2	339	50	6631	80.3	3.91	1.97	36	6.22	A	35.14	7	2	1.30
A ST	064884L	047651	2	575	50	6631	80.3	3.91	1.99	62	6.27	A	60.15	12	2	1.31
SVALINA RD	064960C	058382	2	295	50	6631	80.3	3.91	1.97	32	6.22	A	30.59	6	2	1.30
ADON RD	064958B	058218	2	1446	50	6631	80.3	3.91	2.02	155	6.38	A	153.70	31	2	1.34
STEWART RD	064956M	057914	1	192	50	6631	80.3	3.91	1.98	21	6.24	A	19.93	4	2	1.31
TEXACO RD	064953S	057520	2	354	50	6631	80.3	3.91	1.97	38	6.22	A	36.68	8	2	1.30
SHIPWHEEL RD	064950W	057101	2	148	50	6631	80.3	3.91	1.96	16	6.19	A	15.21	3	2	1.30
WARBONNET RD BUFFALO CREEK RD SKULL CREEK RD	064947N	056785	1	74	50	6631	80.3	3.91	1.96	8	6.19	A	7.61	2	2	1.30
	064944T	056446	1	133	50	6631	80.3	3.91	1.96	14	6.20	A	13.73	3	2	1.30
	064933F	053559	2	472	50	6631	80.3	3.91	1.97	51	6.23	A	49.04	10	2	1.31
OIL CREEK RD	064926V	052683	2	207	50	6631	80.3	3.91	1.96	22	6.20	A	21.32	4	2	1.30
2ND AVENUE	064922T	052149	2	1313	50	6631	80.3	3.91	2.03	141	6.42	A	140.40	28	2	1.34
WALKER AVE	064921L	052108	2	1239	50	6631	80.3	3.91	2.03	133	6.40	A	132.21	27	2	1.34
MAIN STREET	064920E	052074	4	8673	50	6631	80.3	3.91	2.09	928	6.59	A	952.84	186	2	1.38

Table V.1-34. Grade-Crossing Delay, Segment 11 from Edgemont, SD to Crawford, NE, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
CO RD 78	064863T	045735	2	1003	60	6154	59.3	1.67	0.85	69	3.51	A	58.65	--	--	--
CO RD 7B	064864A	045879	2	959	60	6154	59.3	1.67	0.86	66	3.53	A	56.37	--	--	--
CO RD 6412	064872S	046607	2	620	60	6154	59.3	1.67	0.84	42	3.48	A	35.90	--	--	--
WALLACE AVE	064873Y	046701	2	15	60	6154	59.3	1.67	0.83	1	3.43	A	0.84	--	--	--
1ST STREET	064835P	042310	2	848	60	6154	59.3	1.67	0.85	58	3.52	A	49.70	--	--	--
E W SEC	064836W	042477	2	74	60	6154	59.3	1.67	0.83	5	3.43	A	4.22	--	--	--
E W SEC	064837D	042578	2	89	60	6154	59.3	1.67	0.83	6	3.44	A	5.07	--	--	--
E W SEC	064839S	042789	1	103	60	6154	59.3	1.67	0.84	7	3.45	A	5.93	--	--	--
COTTONWOOD DR	064840L	042840	1	118	60	6154	59.3	1.67	0.84	8	3.45	A	6.79	--	--	--
SANDCREEK	064842A	043364	2	457	60	6154	59.3	1.67	0.84	31	3.47	A	26.48	--	--	--
TOADSTOOL PARK	064846C	043770	2	192	60	6154	59.3	1.67	0.84	13	3.45	A	11.02	--	--	--
COUNTY ROAD	064847J	043881	2	59	60	6154	59.3	1.67	0.83	4	3.43	A	3.38	--	--	--
	064848R	044011	2	2876	60	6154	59.3	1.67	0.89	197	3.67	A	176.00	--	--	--
COUNTY ROAD	064854U	044797	2	74	60	6154	59.3	1.67	0.83	5	3.43	A	4.22	--	--	--
	064903N	049493	1	148	60	6154	59.3	1.67	0.84	10	3.46	A	8.50	--	--	--
MAIN ST	188572X	043259	2	797	60	6154	59.3	1.67	0.85	55	3.51	A	46.60	--	--	--
Proposed Action																
CO RD 78	064863T	045735	2	1003	60	6601	74.7	1.75	88	4.51	A	75.47	19	2	1.01	1.75
CO RD 7B	064864A	045879	2	959	60	6601	74.7	1.76	84	4.54	A	72.53	18	2	1.01	1.76
CO RD 6412	064872S	046607	2	620	60	6601	74.7	1.73	54	4.47	A	46.19	12	2	1.00	1.73

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
WALLACE AVE	064873Y	046701	2	15	60	6601	74.7	1.71	1	4.41	A	1.08	0	2	0.98	1.71
1ST STREET	064835P	042310	2	848	60	6584	74.7	1.75	74	4.52	A	63.90	16	2	1.00	1.75
E W SEC	064836W	042477	2	74	60	6584	74.7	1.71	6	4.41	A	5.42	1	2	0.98	1.71
E W SEC	064837D	042578	2	89	60	6584	74.7	1.71	8	4.42	A	6.52	2	2	0.98	1.71
E W SEC	064839S	042789	1	103	60	6584	74.7	1.72	9	4.43	A	7.63	2	2	0.99	1.72
COTTONWOOD DR	064840L	042840	1	118	60	6584	74.7	1.72	10	4.44	A	8.73	2	2	0.99	1.72
SANDCREEK TOADSTOOL PARK	064842A	043364	2	457	60	6584	74.7	1.73	40	4.47	A	34.04	9	2	0.99	1.73
	064846C	043770	2	192	60	6584	74.7	1.72	17	4.43	A	14.16	4	2	0.98	1.72
COUNTY ROAD	064847J	043881	2	59	60	6584	74.7	1.71	5	4.41	A	4.34	1	2	0.98	1.71
	064848R	044011	2	2876	60	6584	74.7	1.83	251	4.72	A	226.29	54	2	1.05	1.83
COUNTY ROAD	064854U	044797	2	74	60	6584	74.7	1.71	6	4.41	A	5.43	1	2	0.98	1.71
	064903N	049493	1	148	60	6584	74.7	1.72	13	4.45	A	10.93	3	2	0.99	1.72
MAIN ST	188572X	043259	2	797	60	6584	74.7	1.75	70	4.51	A	59.91	15	2	1.00	1.75

Table V.1-35. Grade-Crossing Delay, Segment 12 from Crawford, NE to Alliance, NE, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
W 25TH STREET	064773U	036794	1	502	50	6154	61.3	1.90	0.98	41	4.75	A	39.66	--	--	--
MADISON RD	064774B	036911	1	1475	50	6154	61.3	1.90	1.04	119	5.05	A	124.07	--	--	--
LOGAN RD	064775H	037029	2	2213	50	6154	61.3	1.90	1.02	179	4.93	A	181.73	--	--	--
LINCOLN RD	064778D	037147	2	30	50	6154	61.3	1.90	0.95	2	4.61	A	2.27	--	--	--
COUNTY ROAD	064779K	037185	2	2213	50	6154	61.3	1.90	1.02	179	4.93	A	181.73	--	--	--
KEITH ROAD	064781L	037373	2	2213	50	6154	61.3	1.90	1.02	179	4.93	A	181.73	--	--	--
JEFFERSON RD	064784G	037609	1	649	50	6154	61.3	1.90	0.99	52	4.79	A	51.80	--	--	--
HAYES	064786V	037726	2	1119 5	50	6154	61.3	1.90	1.28	905	6.21	A	1,159.4 6	--	--	--
N S SEC	064788J	037918	2	89	50	6154	61.3	1.90	0.95	7	4.62	A	6.81	--	--	--
GRANT	064789R	037962	2	2213	50	6154	61.3	1.90	1.02	179	4.93	A	181.73	--	--	--
N-S SEC	064791S	038108	2	103	50	6154	61.3	1.90	0.95	8	4.62	A	7.95	--	--	--
FRANKLIN RD	064792Y	038196	2	2213	50	6154	61.3	1.90	1.02	179	4.93	A	181.73	--	--	--
FILMORE RD	064793F	038313	2	2213	50	6154	61.3	1.90	1.00	179	4.85	A	178.92	--	--	--
NIOBRARA AVE.	064794M	038441	1	1173	50	6154	61.3	1.90	1.02	95	4.95	A	96.72	--	--	--
BOX BUTTE AVE	064795U	038463	2	6343	50	6154	61.3	1.90	1.17	513	5.67	A	599.88	--	--	--
COUNTY ROAD	064796B	038578	1	15	50	6154	61.3	1.90	0.95	1	4.61	A	1.13	--	--	--
DAKOTA	064797H	038633	2	2876	50	6154	61.3	1.90	1.04	232	5.03	A	241.35	--	--	--
N S SEC	064798P	038695	2	74	50	6154	61.3	1.90	0.95	6	4.61	A	5.66	--	--	--
N S SEC	064799W	038811	2	74	50	6154	61.3	1.90	0.95	6	4.61	A	5.67	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
COUNTY ROAD	064802C	039043	1	30	50	6154	61.3	1.90	0.95	2	4.61	A	2.27	--	--	--
COUNTY ROAD	064811B	040048	2	59	50	6154	61.3	1.90	0.95	5	4.61	A	4.53	--	--	--
NJCT US20	064812H	040098	1	162	50	6154	61.3	1.90	0.96	13	4.65	A	12.57	--	--	--
COUNTY ROAD	064822N	041487	2	2213	50	6154	61.3	1.90	1.02	179	4.93	A	181.73	--	--	--
SAW LOG RD	064825J	041861	2	1519	50	6154	61.3	1.90	0.98	123	4.77	A	120.82	--	--	--
ANNIN ST	064832U	042246	2	848	50	6154	61.3	1.90	0.97	69	4.72	A	66.76	--	--	--
Proposed Action																
W 25TH STREET	064773U	036794	1	502	50	6607	76.7	3.90	2.01	51	6.1	A	50.74	11	2	1.32
MADISON RD	064774B	036911	1	1475	50	6607	76.7	3.90	2.14	151	6.5	A	158.71	32	2	1.41
LOGAN RD	064775H	037029	2	2213	50	6607	76.7	3.90	2.09	226	6.3	A	232.47	47	2	1.38
LINCOLN RD	064778D	037147	2	30	50	6607	76.7	3.90	1.95	3	5.9	A	2.90	1	2	1.29
COUNTY ROAD	064779K	037185	2	2213	50	6607	76.7	3.90	2.09	226	6.3	A	232.47	47	2	1.38
KEITH ROAD	064781L	037373	2	2213	50	6607	76.7	3.90	2.09	226	6.3	A	232.47	47	2	1.38
JEFFERSON RD	064784G	037609	1	649	50	6607	76.7	3.90	2.03	66	6.1	A	66.26	14	2	1.34
HAYES	064786V	037726	2	1119 5	50	6607	76.7	3.90	2.63	1,144	7.9	A	1,483.2 0	240	2	1.74
N S SEC	064788J	037918	2	89	50	6607	76.7	3.90	1.96	9	5.9	A	8.71	2	2	1.29
GRANT	064789R	037962	2	2213	50	6607	76.7	3.90	2.09	226	6.3	A	232.47	47	2	1.38
N-S SEC	064791S	038108	2	103	50	6607	76.7	3.90	1.96	11	5.9	A	10.17	2	2	1.29
FRANKLIN RD	064792Y	038196	2	2213	50	6607	76.7	3.90	2.09	226	6.3	A	232.47	47	2	1.38
FILMORE RD	064793F	038313	2	2213	50	6607	76.7	3.90	2.06	226	6.2	A	228.88	47	2	1.35
NIOBRARA AVE.	064794M	038441	1	1173	50	6607	76.7	3.90	2.10	120	6.3	A	123.73	25	2	1.38
BOX BUTTE AVE	064795U	038463	2	6343	50	6554	76.7					A			2	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
								3.89	2.40	648	7.2		765.34	135		1.57
COUNTY ROAD	064796B	038578	1	15	50	6554	76.7	3.89	1.95	2	5.9	A	1.45	0	2	1.27
DAKOTA	064797H	038633	2	2876	50	6554	76.7	3.89	2.13	294	6.4	A	307.92	61	2	1.39
N S SEC	064798P	038695	2	74	50	6554	76.7	3.89	1.95	8	5.9	A	7.23	2	2	1.27
N S SEC	064799W	038811	2	74	50	6554	76.7	3.89	1.95	8	5.9	A	7.24	2	2	1.27
COUNTY ROAD	064802C	039043	1	30	50	6554	76.7	3.89	1.95	3	5.9	A	2.89	1	2	1.27
COUNTY ROAD	064811B	040048	2	59	50	6554	76.7	3.89	1.95	6	5.9	A	5.79	1	2	1.27
NJCT US20	064812H	040098	1	162	50	6554	76.7	3.89	1.96	17	5.9	A	16.04	3	2	1.28
COUNTY ROAD	064822N	041487	2	2213	50	6554	76.7	3.89	2.08	226	6.3	A	231.85	47	2	1.36
SAW LOG RD	064825J	041861	2	1519	50	6554	76.7	3.89	2.01	155	6.1	A	154.14	32	2	1.32
ANNIN ST	064832U	042246	2	848	50	6554	76.7	3.89	1.99	87	6.0	A	85.17	18	2	1.30

Table V.1-36. Grade-Crossing Delay, Segment 16 - Northern from Miles City, MT to Glendive, MT, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
GLENDIVE SW 2.7MI	092880J	000366	2	605	60	6154	34.5	1.67	0.84	24	2.02	A	20.38	--	--	--
FALLON E 1.5MI	092892D	002808	1	15	60	6154	34.5	1.67	0.83	1	2.00	A	0.49	--	--	--
FAS 340	092893K	002913	2	192	60	6154	34.5	1.67	0.84	8	2.00	A	6.40	--	--	--
BROADWAY ST	092894S	002964	2	177	60	6154	34.5	1.67	0.84	7	2.00	A	5.91	--	--	--
E CITY LIMITS	092904V	003873	2	797	60	6154	34.5	1.67	0.85	32	2.03	A	26.96	--	--	--
LOGAN AVE	092906J	003926	2	280	60	6154	34.5	1.67	0.84	11	2.01	A	9.39	--	--	--
HOAGLAND ST	092908X	003977	2	74	60	6154	34.5	1.67	0.83	3	2.00	A	2.46	--	--	--
TERRY W 3.5MI	092910Y	004346	1	44	60	6154	34.5	1.67	0.83	2	2.00	A	1.47	--	--	--
SHIRLEY NE 4MI - SHIRLEY NE 3MI-EL	092918D	005512	1	44	60	6154	34.5	1.67	0.83	2	2.00	A	1.47	--	--	--
	092919K	005636	1	15	60	6154	34.5	1.67	0.83	1	2.00	A	0.49	--	--	--
SHIRLEY	092921L	005832	1	15	60	6154	34.5	1.67	0.83	1	2.00	A	0.49	--	--	--
SHIRLEY	092922T	005966	1	30	60	6154	34.5	1.67	0.83	1	2.00	A	0.98	--	--	--
MILES CITY NE 7MI	098944N	007004	2	192	60	6154	34.5	1.67	0.84	8	2.01	A	6.41	--	--	--
MILES CITY NE 4MI	092671B	007359	2	89	60	6154	34.5	1.67	0.83	4	2.00	A	2.95	--	--	--
MILES CITY NE 3MI	092669A	007469	1	59	60	6154	34.5	1.67	0.84	2	2.00	A	1.97	--	--	--
MILE CITY NE WHYT	092668T	007515	2	354	60	6154	34.5	1.67	0.84	14	2.02	A	11.89	--	--	--
MILES CITY NE 0.5	092665X	007625	2	1047	60	6154	34.5	1.67	0.85	42	2.04	A	35.66	--	--	--
LEIGHTON BLVD	092664R	007777	2	6461	60	6154	34.5	1.67	0.92	258	2.21	A	237.52	--	--	--
10TH ST	092662C	007829	2	1932	60	6154	34.5	1.67	0.87	77	2.09	A	67.22	--	--	--
8TH ST	092660N	007842	2	3393	60	6154	34.5	1.67	0.90	135	2.16	A	122.34	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
ISMAY MAIN OR 3RD	394089U	104375	1	207	60	6154	34.5	1.67	0.84	8	2.02	A	6.95	--	--	--
LINDSAY 8M W RIM	060606G	003038	1	74	60	6154	34.5	1.67	0.84	3	2.00	A	2.46	--	--	--
Proposed Action																
GLENDIVE SW 2.7MI	092880J	000366	2	605	60	6759	50.5	3.45	1.75	36	3.09	A	31.18	12	2	1.07
FALLON E 1.5MI	092892D	002808	1	15	60	6759	50.5	3.45	1.72	1	3.05	A	0.75	0	2	1.06
FAS 340	092893K	002913	2	192	60	6759	50.5	3.45	1.73	11	3.06	A	9.79	4	2	1.06
BROADWAY ST	092894S	002964	2	177	60	6759	50.5	3.45	1.73	11	3.07	A	9.05	4	2	1.06
E CITY LIMITS	092904V	003873	2	797	60	6759	50.5	3.45	1.76	48	3.11	A	41.25	16	2	1.08
LOGAN AVE	092906J	003926	2	280	60	6759	50.5	3.45	1.74	17	3.08	A	14.37	6	2	1.07
HOAGLAND ST	092908X	003977	2	74	60	6732	50.5	3.44	1.72	4	3.05	A	3.75	1	2	1.05
TERRY W 3.5MI	092910Y	004346	1	44	60	6732	50.5	3.44	1.72	3	3.05	A	2.25	1	2	1.05
SHIRLEY NE 4MI - SHIRLEY NE 3MI-EL	092918D	005512	1	44	60	6732	50.5	3.44	1.72	3	3.05	A	2.25	1	2	1.05
	092919K	005636	1	15	60	6732	50.5	3.44	1.72	1	3.05	A	0.75	0	2	1.05
SHIRLEY	092921L	005832	1	15	60	6732	50.5	3.44	1.72	1	3.05	A	0.75	0	2	1.05
SHIRLEY	092922T	005966	1	30	60	6732	50.5	3.44	1.72	2	3.05	A	1.50	1	2	1.05
MILES CITY NE 7MI	098944N	007004	2	192	60	6732	50.5	3.44	1.73	11	3.06	A	9.78	4	2	1.06
MILES CITY NE 4MI	092671B	007359	2	89	60	6732	50.5	3.44	1.72	5	3.05	A	4.50	2	2	1.05
MILES CITY NE 3MI	092669A	007469	1	59	60	6732	50.5	3.44	1.73	4	3.05	A	3.00	1	2	1.05
MILE CITY NE WHYT	092668T	007515	2	354	60	6732	50.5	3.44	1.74	21	3.08	A	18.15	7	2	1.06
MILES CITY NE 0.5	092665X	007625	2	1047	60	6732	50.5	3.44	1.76	62	3.12	A	54.45	21	2	1.08
LEIGHTON BLVD	092664R	007777	2	6461	60	6732	50.5	3.44	1.90	385	3.37	A	362.63	127	2	1.16
10TH ST	092662C	007829	2	1932	60	6745	50.5	3.44	1.80	115	3.19	A	102.72	38	2	1.10

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
8TH ST	092660N	007842	2	3393	60	6745	50.5	3.44	1.87	202	3.31	A	186.96	67	2	1.14
ISMAY MAIN OR 3RD	394089U	104375	1	207	60	6732	50.5	3.44	1.78	43	3.13	A	40.03	35	17	1.11
LINDSAY 8M W RIM	060606G	003038	1	74	60	6759	50.5	3.44	1.76	26	3.09	A	23.93	23	32	1.09

Table V.1-37. Grade-Crossing Delay, Segment 16 - Southern from Miles City, MT to Glendive, MT, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
GLENDIVE SW 2.7MI	092880J	000366	2	605	60	6154	34.5	1.67	0.84	24	2.02	A	20.38	--	--	--
FALLON E 1.5MI	092892D	002808	1	15	60	6154	34.5	1.67	0.83	1	2.00	A	0.49	--	--	--
FAS 340	092893K	002913	2	192	60	6154	34.5	1.67	0.84	8	2.00	A	6.40	--	--	--
BROADWAY ST	092894S	002964	2	177	60	6154	34.5	1.67	0.84	7	2.00	A	5.91	--	--	--
E CITY LIMITS	092904V	003873	2	797	60	6154	34.5	1.67	0.85	32	2.03	A	26.96	--	--	--
LOGAN AVE	092906J	003926	2	280	60	6154	34.5	1.67	0.84	11	2.01	A	9.39	--	--	--
HOAGLAND ST	092908X	003977	2	74	60	6154	34.5	1.67	0.83	3	2.00	A	2.46	--	--	--
TERRY W 3.5MI	092910Y	004346	1	44	60	6154	34.5	1.67	0.83	2	2.00	A	1.47	--	--	--
SHIRLEY NE 4MI - SHIRLEY NE 3MI-EL	092918D	005512	1	44	60	6154	34.5	1.67	0.83	2	2.00	A	1.47	--	--	--
	092919K	005636	1	15	60	6154	34.5	1.67	0.83	1	2.00	A	0.49	--	--	--
SHIRLEY	092921L	005832	1	15	60	6154	34.5	1.67	0.83	1	2.00	A	0.49	--	--	--
SHIRLEY	092922T	005966	1	30	60	6154	34.5	1.67	0.83	1	2.00	A	0.98	--	--	--
MILES CITY NE 7MI	098944N	007004	2	192	60	6154	34.5	1.67	0.84	8	2.01	A	6.41	--	--	--
MILES CITY NE 4MI	092671B	007359	2	89	60	6154	34.5	1.67	0.83	4	2.00	A	2.95	--	--	--
MILES CITY NE 3MI	092669A	007469	1	59	60	6154	34.5	1.67	0.84	2	2.00	A	1.97	--	--	--
MILE CITY NE WHYT	092668T	007515	2	354	60	6154	34.5	1.67	0.84	14	2.02	A	11.89	--	--	--
MILES CITY NE 0.5	092665X	007625	2	1047	60	6154	34.5	1.67	0.85	42	2.04	A	35.66	--	--	--
LEIGHTON BLVD	092664R	007777	2	6461	60	6154	34.5	1.67	0.92	258	2.21	A	237.52	--	--	--
10TH ST	092662C	007829	2	1932	60	6154	34.5	1.67	0.87	77	2.09	A	67.22	--	--	--
8TH ST	092660N	007842	2	3393	60	6154	34.5	1.67	0.90	135	2.16	A	122.34	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
ISMA Y MAIN OR 3RD LINDSAY 8M W RIM	394089U	104375	1	207	60	6154	34.5	1.67	0.84	8	2.02	A	6.95	--	--	--
	060606G	003038	1	74	60	6154	34.5	1.67	0.84	3	2.00	A	2.46	--	--	--
Proposed Action																
GLENDIVE SW 2.7MI	092880J	000366	2	605	60	6759	43.5	3.45	1.75	31	2.62	A	26.45	7	1	0.60
FALLON E 1.5MI	092892D	002808	1	15	60	6759	43.5	3.45	1.72	1	2.59	A	0.64	0	1	0.59
FAS 340	092893K	002913	2	192	60	6759	43.5	3.45	1.73	10	2.60	A	8.31	2	1	0.60
BROADWAY ST	092894S	002964	2	177	60	6759	43.5	3.45	1.73	9	2.60	A	7.67	2	1	0.60
E CITY LIMITS	092904V	003873	2	797	60	6759	43.5	3.45	1.76	41	2.64	A	35.00	9	1	0.61
LOGAN AVE	092906J	003926	2	280	60	6759	43.5	3.45	1.74	14	2.61	A	12.19	3	1	0.60
HOAGLAND ST	092908X	003977	2	74	60	6732	43.5	3.44	1.72	4	2.59	A	3.18	1	1	0.59
TERRY W 3.5MI	092910Y	004346	1	44	60	6732	43.5	3.44	1.72	2	2.59	A	1.91	0	1	0.59
SHIRLEY NE 4MI - SHIRLEY NE 3MI-EL	092918D	005512	1	44	60	6732	43.5	3.44	1.72	2	2.59	A	1.91	0	1	0.59
	092919K	005636	1	15	60	6732	43.5	3.44	1.72	1	2.59	A	0.64	0	1	0.59
SHIRLEY	092921L	005832	1	15	60	6732	43.5	3.44	1.72	1	2.59	A	0.64	0	1	0.59
SHIRLEY MILES CITY NE 7MI	092922T	005966	1	30	60	6732	43.5	3.44	1.72	2	2.59	A	1.27	0	1	0.59
	098944N	007004	2	192	60	6732	43.5	3.44	1.73	10	2.60	A	8.31	2	1	0.59
MILES CITY NE 4MI	092671B	007359	2	89	60	6732	43.5	3.44	1.72	5	2.59	A	3.82	1	1	0.59
MILES CITY NE 3MI	092669A	007469	1	59	60	6732	43.5	3.44	1.73	3	2.59	A	2.55	1	1	0.59
MILE CITY NE WHYT	092668T	007515	2	354	60	6732	43.5	3.44	1.74	18	2.61	A	15.41	4	1	0.60
MILES CITY NE 0.5	092665X	007625	2	1047	60	6732	43.5	3.44	1.76	53	2.65	A	46.23	12	1	0.61
LEIGHTON BLVD	092664R	007777	2	6461	60	6732	43.5	3.44	1.90	329	2.86	A	307.90	72	1	0.65
10TH ST	092662C	007829	2	1932	60	6745	43.5	3.44	1.80	99	2.71	A	87.19	21	1	0.62

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
8TH ST	092660N	007842	2	3393	60	6745	43.5	3.44	1.87	173	2.81	A	158.69	38	1	0.64
ISMAY MAIN OR 3RD	394089U	104375	1	207	60	6732	43.5	3.44	1.74	11	2.62	A	9.01	2	1	0.60
LINDSAY 8M W RIM	060606G	003038	1	74	60	6759	43.5	3.45	1.73	4	2.60	A	3.19	1	1	0.60

Table V.1-38. Grade-Crossing Delay, Segment 17 - Northern from Glendive, MT to Mandan, ND, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
STATE AVE	060412B	011074	2	10893	50	6154	26	1.90	1.13	373	2.33	A	423.07	--	--	--
6TH AVE EAST	060413H	010909	2	6623	45	6154	26	2.05	1.28	246	2.85	A	314.18	--	--	--
SCHNELL CROSSING	060414P	010854	2	1401	50	6154	26	1.90	0.99	48	2.04	A	47.59	--	--	--
30TH AVE SW	060417K	011181	1	251	50	6154	26	1.90	0.96	9	1.98	A	8.28	--	--	--
114TH AVE SW	060418S	011279	2	207	50	6154	26	1.90	0.96	7	1.96	A	6.76	--	--	--
115TH AVE SW	060419Y	011383	1	199	50	6154	26	1.90	0.96	7	1.98	A	6.56	--	--	--
116TH AVE SW	060420T	011487	1	384	50	6154	26	1.90	0.97	13	1.99	A	12.71	--	--	--
120TH AVE SW	060424V	011899	1	30	50	6154	26	1.90	0.95	1	1.96	A	0.96	--	--	--
4TH STREET CMC	060425C	011962	2	1807	50	6154	26	1.90	0.99	62	2.04	A	61.37	--	--	--
122ND AVE SW	060426J	012101	1	44	50	6154	26	1.90	0.95	2	1.96	A	1.44	--	--	--
124TH AVE SW	060428X	012308	1	15	50	6154	26	1.90	0.95	1	1.95	A	0.48	--	--	--
125 1/2 AVE SW	060430Y	012477	1	74	50	6154	26	1.90	0.95	3	1.96	A	2.41	--	--	--
128TH AVE SW	060431F	012727	2	74	50	6154	26	1.90	0.95	3	1.96	A	2.41	--	--	--
MAIN STREET	060433U	012981	2	15495	50	6154	26	1.90	1.76	531	3.62	A	935.82	--	--	--
135TH AVE SW	060439K	013515	1	103	50	6154	26	1.90	0.96	4	1.96	A	3.38	--	--	--
37TH ST SW	060441L	014064	1	8290	50	6154	26	1.90	1.54	284	3.17	A	437.78	--	--	--
EAST RIVER ROAD	060442T	014896	2	3230	50	6154	26	1.90	1.03	111	2.11	A	113.62	--	--	--
CHATEAU DEMORES	060443A	014964	2	1726	50	6154	26	1.90	1.00	59	2.06	A	59.20	--	--	--
WEST RIVER RD	060445N	015266	1	59	50	6154	26	1.90	0.95	2	1.96	A	1.93	--	--	--
34TH ST SW	060449R	016464	1	44	50	6154	26	1.90	0.95	2	1.96	A	1.44	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
MARTIN ST	060451S	016570	2	89	50	6154	26	1.90	0.95	3	1.96	A	2.89	--	--	--
CMC 1711 WEST ST	060452Y	016586	2	192	50	6154	26	1.90	0.95	7	1.96	A	6.27	--	--	--
164TH AVE SW	060456B	016930	1	44	50	6154	26	1.90	0.95	2	1.96	A	1.44	--	--	--
165TH AVE SW	060457H	017045	1	59	50	6154	26	1.90	0.95	2	1.96	A	1.93	--	--	--
PRAIRIE TRAIL	060458P	017137	1	30	50	6154	26	1.90	0.95	1	1.96	A	0.96	--	--	--
FIELD SEC LINE	060459W	017236	1	30	50	6154	26	1.90	0.95	1	1.96	A	0.96	--	--	--
HWY 16	060460R	017333	2	1158	50	6154	26	1.90	0.96	40	1.98	A	38.19	--	--	--
2ND AVE SE	060461X	017412	2	1342	50	6154	26	1.90	0.99	46	2.03	A	45.50	--	--	--
3RD AVE E	060549V	010930	2	2449	45	6154	26	2.05	1.11	91	2.46	A	100.59	--	--	--
132 1/2 AVE SW	086287R	013175	1	2272	45	6154	26	2.05	1.19	84	2.64	A	100.05	--	--	--
	087496C	005417	1	44	60	6154	26	1.67	0.83	1	1.51	A	1.11	--	--	--
ND HWY 49	087497J	005534	2	1342	60	6154	26	1.67	0.85	40	1.53	A	34.14	--	--	--
	087499X	005722	2	1578	60	6154	26	1.67	0.86	47	1.56	A	41.02	--	--	--
B ST.	087500P	005747	2	4381	60	6154	26	1.67	0.96	132	1.73	A	126.16	--	--	--
B ST.	087501W	005749	2	4381	60	6154	26	1.67	0.96	132	1.73	A	126.16	--	--	--
	087503K	005826	1	103	60	6154	26	1.67	0.84	3	1.51	A	2.60	--	--	--
	087505Y	006032	1	59	60	6154	26	1.67	0.84	2	1.51	A	1.48	--	--	--
	087508U	006401	1	30	60	6154	26	1.67	0.83	1	1.51	A	0.74	--	--	--
	087510V	006441	2	89	60	6154	26	1.67	0.83	3	1.51	A	2.22	--	--	--
	087514X	006737	1	74	60	6154	26	1.67	0.84	2	1.51	A	1.86	--	--	--
	087515E	006847	1	74	60	6154	26	1.67	0.84	2	1.51	A	1.86	--	--	--
ELM ST	087518A	006992	2	4337	60	6154	26	1.67	0.93	130	1.67	A	120.72	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
ELK ST	087523W	007021	2	1165	60	6154	26	1.67	0.86	35	1.56	A	30.23	--	--	--
WEST ST	087524D	007036	2	5885	60	6154	26	1.67	1.01	177	1.82	A	178.68	--	--	--
	087525K	007253	1	89	60	6154	26	1.67	0.84	3	1.51	A	2.23	--	--	--
	087526S	007407	1	44	60	6154	26	1.67	0.83	1	1.51	A	1.11	--	--	--
	087527Y	007450	1	30	60	6154	26	1.67	0.83	1	1.51	A	0.74	--	--	--
	087529M	007565	1	59	60	6154	26	1.67	0.84	2	1.51	A	1.48	--	--	--
	087531N	007788	1	133	60	6154	26	1.67	0.84	4	1.51	A	3.35	--	--	--
	087533C	008013	1	15	60	6154	26	1.67	0.83	0	1.50	A	0.37	--	--	--
	087534J	008113	2	89	60	6154	26	1.67	0.83	3	1.51	A	2.22	--	--	--
	087535R	008179	1	30	60	6154	26	1.67	0.83	1	1.51	A	0.74	--	--	--
	087537E	008226	1	15	60	6154	26	1.67	0.83	0	1.50	A	0.37	--	--	--
ST HWY 8	087540M	008459	2	531	60	6154	26	1.67	0.84	16	1.51	A	13.38	--	--	--
B-ST.	087541U	008496	2	4381	45	6154	26	2.05	1.18	162	2.63	A	191.87	--	--	--
B-ST.	087542B	008495	2	4381	45	6154	26	2.05	1.18	162	2.63	A	191.87	--	--	--
	087544P	008560	1	74	45	6154	26	2.05	1.03	3	2.30	A	2.82	--	--	--
	087545W	008756	1	192	45	6154	26	2.05	1.04	7	2.31	A	7.39	--	--	--
	087547K	000696	1	280	40	6154	26	2.25	1.14	11	2.78	A	13.01	--	--	--
	087550T	000930	1	192	40	6154	26	2.25	1.14	8	2.77	A	8.85	--	--	--
	087551A	001003	1	192	40	6154	26	2.25	1.14	8	2.77	A	8.85	--	--	--
OFF SYSTEM-HWY 83	087554V	001498	1	207	40	6154	26	2.25	1.13	8	2.75	A	9.47	--	--	--
	087563U	002156	2	664	40	6154	26	2.25	1.14	27	2.78	A	30.76	--	--	--
	087565H	002361	1	162	40	6154	26	2.25	1.14	7	2.76	A	7.48	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
--	087569K	002769	2	236	40	6154	26	2.25	1.13	10	2.75	A	10.83	--	--	--
5TH STREET	087573A	002796	2	1313	60	6154	26	1.67	0.87	39	1.56	A	34.21	--	--	--
	087574G	002869	1	89	60	6154	26	1.67	0.84	3	1.51	A	2.23	--	--	--
	087576V	003067	1	30	60	6154	26	1.67	0.83	1	1.51	A	0.74	--	--	--
ALMONT	087580K	003269	2	900	60	6154	26	1.67	0.85	27	1.53	A	23.01	--	--	--
	087584M	003471	1	44	60	6154	26	1.67	0.83	1	1.51	A	1.11	--	--	--
	087589W	003769	2	1195	60	6154	26	1.67	0.86	36	1.56	A	31.02	--	--	--
	087590R	003870	1	15	60	6154	26	1.67	0.83	0	1.50	A	0.37	--	--	--
	087591X	003984	1	103	60	6154	26	1.67	0.84	3	1.51	A	2.60	--	--	--
15TH AVE SW	087690V	000092	2	332	40	6154	26	2.25	1.14	13	2.77	A	15.30	--	--	--
	087691C	000213	2	1047	40	6154	26	2.25	1.16	43	2.83	A	49.33	--	--	--
	087694X	000302	2	649	40	6154	26	2.25	1.14	26	2.76	A	29.91	--	--	--
MARMOT SCHOOL	087695E	000346	1	1785	40	6154	26	2.25	1.26	72	3.06	A	91.13	--	--	--
	087909U	008858	1	44	45	6154	26	2.05	1.03	2	2.29	A	1.69	--	--	--
	087910N	008967	1	89	45	6154	26	2.05	1.03	3	2.30	A	3.39	--	--	--
	087912C	009615	1	30	45	6154	26	2.05	1.03	1	2.29	A	1.13	--	--	--
	087919A	010510	1	192	45	6154	26	2.05	1.04	7	2.31	A	7.39	--	--	--
	087920U	010566	2	1401	45	6154	26	2.05	1.06	52	2.36	A	55.16	--	--	--
COUNTY ROAD	087923P	009832	2	1682	45	6154	26	2.05	1.07	62	2.38	A	66.64	--	--	--
	087925D	009074	2	649	45	6154	26	2.05	1.04	24	2.32	A	25.10	--	--	--
	087926K	009185	1	44	45	6154	26	2.05	1.03	2	2.29	A	1.69	--	--	--
	087928Y	009409	1	89	45	6154	26	2.05	1.03	3	2.30	A	3.39	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
	087929F	009512	1	44	45	6154	26	2.05	1.03	2	2.29	A	1.69	--	--	--
CENTRAL	092843G	017426	2	3304	45	6154	26	2.05	1.14	123	2.53	A	139.57	--	--	--
CENTRAL	092844N	017426	2	3393	45	6154	26	2.05	1.14	126	2.54	A	143.73	--	--	--
4TH ST NW	092845V	017513	2	148	50	6154	26	1.90	0.95	5	1.96	A	4.82	--	--	--
	092846C	017577	1	59	50	6154	26	1.90	0.95	2	1.96	A	1.93	--	--	--
	098701L	011279	2	325	50	6154	26	1.90	0.96	11	1.97	A	10.66	--	--	--
	098708J	012930	2	59	50	6154	26	1.90	0.95	2	1.96	A	1.92	--	--	--
	098743X	013584	2	516	50	6154	26	1.90	0.96	18	1.98	A	17.06	--	--	--
HILLCREST ST	092869J	021490	2	2036	50	6154	26	1.90	1.01	70	2.08	A	70.51	--	--	--
ANDERSON AVE HODGES- COUNTY RD	092870D	021503	2	3127	50	6154	26	1.90	1.05	107	2.15	A	112.21	--	--	--
	092862L	019566	2	30	50	6154	26	1.90	0.95	1	1.95	A	0.96	--	--	--
WIBAUX W 5 MI BEAVER HILL STATI	092860X	019057	2	44	50	6154	26	1.90	0.95	2	1.96	A	1.44	--	--	--
	092859D	018769	2	15	50	6154	26	1.90	0.95	1	1.95	A	0.48	--	--	--
1ST AVE S	092854U	018440	2	148	50	6154	26	1.90	0.95	5	1.96	A	4.82	--	--	--
G ST	092857P	018529	2	266	50	6154	26	1.90	0.96	9	1.97	A	8.71	--	--	--
	092853M	018422	1	30	50	6154	26	1.90	0.95	1	1.96	A	0.96	--	--	--
WIBAUX E 1 MI N. D. BORDER W 1.	092852F	018334	2	133	50	6154	26	1.90	0.95	5	1.96	A	4.34	--	--	--
	092848R	017804	2	89	50	6154	26	1.90	0.95	3	1.96	A	2.89	--	--	--
	060438D	013406	1	15	45	6154	26	2.05	1.03	1	2.29	A	0.56	--	--	--
	060551W	010917	2	59	45	6154	26	2.05	1.03	2	2.29	A	2.25	--	--	--
COUNTY ROAD	091672E	004334	1	59	40	6154	26	2.25	1.13	2	2.75	A	2.70	--	--	--
MAIN STREET	091662Y	003482	2	531	40	6154	26	2.25	1.13	22	2.76	A	24.42	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
Proposed Action																
STATE AVE	060412B	011074	2	10893	50	6689	42.0	3.92	2.34	618	3.95	A	717.81	244	2	1.62
6TH AVE EAST	060413H	010909	2	6623	45	6719	42.0	4.25	2.65	407	4.85	A	535.30	162	2	2.00
SCHNELL CROSSING	060414P	010854	2	1401	50	6689	42.0	3.92	2.04	79	3.46	A	80.74	31	2	1.42
30TH AVE SW	060417K	011181	1	251	50	6689	42.0	3.92	1.99	14	3.36	A	14.06	6	2	1.38
114TH AVE SW	060418S	011279	2	207	50	6689	42.0	3.92	1.97	12	3.33	A	11.47	5	2	1.37
115TH AVE SW	060419Y	011383	1	199	50	6689	42.0	3.92	1.98	11	3.35	A	11.13	4	2	1.38
116TH AVE SW	060420T	011487	1	384	50	6689	42.0	3.92	1.99	22	3.37	A	21.56	9	2	1.38
120TH AVE SW	060424V	011899	1	30	50	6689	42.0	3.92	1.96	2	3.32	A	1.63	1	2	1.36
4TH STREET CMC	060425C	011962	2	1807	50	6689	42.0	3.92	2.04	102	3.46	A	104.12	41	2	1.42
122ND AVE SW	060426J	012101	1	44	50	6689	42.0	3.92	1.96	3	3.32	A	2.45	1	2	1.36
124TH AVE SW	060428X	012308	1	15	50	6689	42.0	3.92	1.96	1	3.32	A	0.82	0	2	1.36
125 1/2 AVE SW	060430Y	012477	1	74	50	6689	42.0	3.92	1.97	4	3.32	A	4.09	2	2	1.36
128TH AVE SW	060431F	012727	2	74	50	6689	42.0	3.92	1.96	4	3.32	A	4.08	2	2	1.36
MAIN STREET	060433U	012981	2	15495	50	6689	42.0	3.92	3.64	879	6.15	A	1,587.76	348	2	2.52
135TH AVE SW	060439K	013515	1	103	50	6689	42.0	3.92	1.97	6	3.33	A	5.74	2	2	1.37
37TH ST SW	060441L	014064	1	8290	50	6689	42.0	3.92	3.18	470	5.38	A	742.76	186	2	2.21
EAST RIVER ROAD	060442T	014896	2	3230	50	6689	42.0	3.92	2.12	183	3.58	A	192.77	73	2	1.47
CHATEAU DEMORES	060443A	014964	2	1726	50	6689	42.0	3.92	2.07	98	3.49	A	100.45	39	2	1.43
WEST RIVER RD	060445N	015266	1	59	50	6689	42.0	3.92	1.96	3	3.32	A	3.27	1	2	1.36
34TH ST SW	060449R	016464	1	44	50	6689	42.0	3.92	1.96	3	3.32	A	2.45	1	2	1.36
MARTIN ST	060451S	016570	2	89	50	6689	42.0	3.92	1.96	5	3.32	A	4.90	2	2	1.36

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CMC 1711 WEST ST	060452Y	016586	2	192	50	6689	42.0	3.92	1.97	11	3.33	A	10.63	4	2	1.37
164TH AVE SW	060456B	016930	1	44	50	6689	42.0	3.92	1.96	3	3.32	A	2.45	1	2	1.36
165TH AVE SW	060457H	017045	1	59	50	6689	42.0	3.92	1.96	3	3.32	A	3.27	1	2	1.36
PRAIRIE TRAIL	060458P	017137	1	30	50	6689	42.0	3.92	1.96	2	3.32	A	1.63	1	2	1.36
FIELD SEC LINE	060459W	017236	1	30	50	6689	42.0	3.92	1.96	2	3.32	A	1.63	1	2	1.36
HWY 16	060460R	017333	2	1158	50	6689	42.0	3.92	1.99	66	3.36	A	64.80	26	2	1.38
2ND AVE SE	060461X	017412	2	1342	50	6689	42.0	3.92	2.04	76	3.45	A	77.20	30	2	1.42
3RD AVE E	060549V	010930	2	2449	45	6719	42.0	4.25	2.29	151	4.20	A	171.39	60	2	1.73
132 1/2 AVE SW	086287R	013175	1	2272	45	6719	42.0	4.25	2.46	140	4.50	A	170.46	55	2	1.86
	087496C	005417	1	44	60	6719	42.0	3.44	1.72	2	2.56	A	1.89	1	2	1.05
ND HWY 49	087497J	005534	2	1342	60	6719	42.0	3.44	1.75	67	2.59	A	57.94	26	2	1.06
	087499X	005722	2	1578	60	6719	42.0	3.44	1.78	79	2.65	A	69.61	31	2	1.09
B ST.	087500P	005747	2	4381	60	6719	42.0	3.44	1.98	218	2.93	A	214.08	86	2	1.20
B ST.	087501W	005749	2	4381	60	6719	42.0	3.44	1.98	218	2.93	A	214.08	86	2	1.20
	087503K	005826	1	103	60	6719	42.0	3.44	1.73	5	2.57	A	4.41	2	2	1.05
	087505Y	006032	1	59	60	6719	42.0	3.44	1.73	3	2.56	A	2.52	1	2	1.05
	087508U	006401	1	30	60	6719	42.0	3.44	1.72	1	2.55	A	1.26	1	2	1.05
	087510V	006441	2	89	60	6719	42.0	3.44	1.72	4	2.56	A	3.77	2	2	1.05
	087514X	006737	1	74	60	6719	42.0	3.44	1.73	4	2.56	A	3.15	1	2	1.05
	087515E	006847	1	74	60	6719	42.0	3.44	1.73	4	2.56	A	3.15	1	2	1.05
ELM ST	087518A	006992	2	4337	60	6719	42.0	3.44	1.91	216	2.83	A	204.85	85	2	1.16
ELK ST	087523W	007021	2	1165	60	6719	42.0	3.44	1.78	58	2.64	A	51.30	23	2	1.08

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WEST ST	087524D	007036	2	5885	60	6719	42.0	3.44	2.08	293	3.09	A	303.21	116	2	1.27
	087525K	007253	1	89	60	6719	42.0	3.44	1.73	4	2.56	A	3.78	2	2	1.05
	087526S	007407	1	44	60	6719	42.0	3.44	1.72	2	2.56	A	1.89	1	2	1.05
	087527Y	007450	1	30	60	6719	42.0	3.44	1.72	1	2.55	A	1.26	1	2	1.05
	087529M	007565	1	59	60	6719	42.0	3.44	1.73	3	2.56	A	2.52	1	2	1.05
	087531N	007788	1	133	60	6719	42.0	3.44	1.73	7	2.57	A	5.68	3	2	1.05
	087533C	008013	1	15	60	6719	42.0	3.44	1.72	1	2.55	A	0.63	0	2	1.05
	087534J	008113	2	89	60	6719	42.0	3.44	1.72	4	2.56	A	3.77	2	2	1.05
	087535R	008179	1	30	60	6719	42.0	3.44	1.72	1	2.55	A	1.26	1	2	1.05
	087537E	008226	1	15	60	6719	42.0	3.44	1.72	1	2.55	A	0.63	0	2	1.05
ST HWY 8	087540M	008459	2	531	60	6719	42.0	3.44	1.73	26	2.57	A	22.71	10	2	1.05
B-ST.	087541U	008496	2	4381	45	6719	42.0	4.25	2.44	269	4.48	A	326.91	107	2	1.85
B-ST.	087542B	008495	2	4381	45	6719	42.0	4.25	2.44	269	4.48	A	326.91	107	2	1.85
	087544P	008560	1	74	45	6719	42.0	4.25	2.13	5	3.91	A	4.81	2	2	1.62
	087545W	008756	1	192	45	6719	42.0	4.25	2.15	12	3.94	A	12.59	5	2	1.63
OFF SYSTEM-HWY 83	087547K	000696	1	280	40	6719	42.0	4.66	2.37	19	4.75	A	22.19	8	3	1.97
	087550T	000930	1	192	40	6719	42.0	4.66	2.36	13	4.73	A	15.10	5	3	1.96
	087551A	001003	1	192	40	6719	42.0	4.66	2.36	13	4.73	A	15.10	5	3	1.96
	087554V	001498	1	207	40	6719	42.0	4.66	2.34	14	4.69	A	16.16	6	3	1.94
	087563U	002156	2	664	40	6719	42.0	4.66	2.36	45	4.74	A	52.49	18	3	1.96
CMC 3033	087565H	002361	1	162	40	6719	42.0	4.66	2.35	11	4.72	A	12.76	4	3	1.95
	087569K	002769	2	236	40	6719	42.0	4.66	2.34	16	4.70	A	18.48	6	3	1.94

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
5TH STREET	087573A	002796	2	1313	60	6719	42.0	3.44	1.79	65	2.65	A	58.06	26	2	1.09
	087574G	002869	1	89	60	6719	42.0	3.44	1.73	4	2.56	A	3.78	2	2	1.05
	087576V	003067	1	30	60	6719	42.0	3.44	1.72	1	2.55	A	1.26	1	2	1.05
ALMONT	087580K	003269	2	900	60	6719	42.0	3.44	1.76	45	2.60	A	39.05	18	2	1.07
	087584M	003471	1	44	60	6719	42.0	3.44	1.72	2	2.56	A	1.89	1	2	1.05
	087589W	003769	2	1195	60	6719	42.0	3.44	1.78	59	2.64	A	52.64	24	2	1.09
	087590R	003870	1	15	60	6719	42.0	3.44	1.72	1	2.55	A	0.63	0	2	1.05
	087591X	003984	1	103	60	6719	42.0	3.44	1.73	5	2.57	A	4.41	2	2	1.05
15TH AVE SW	087690V	000092	2	332	40	6719	42.0	4.66	2.35	22	4.72	A	26.10	9	3	1.95
	087691C	000213	2	1047	40	6719	42.0	4.66	2.40	71	4.82	A	84.17	28	3	2.00
MARMOT SCHOOL	087694X	000302	2	649	40	6719	42.0	4.66	2.35	44	4.72	A	51.03	17	3	1.95
	087695E	000346	1	1785	40	6719	42.0	4.66	2.61	120	5.23	A	155.49	48	3	2.16
	087909U	008858	1	44	45	6719	42.0	4.25	2.13	3	3.90	A	2.88	1	2	1.61
	087910N	008967	1	89	45	6719	42.0	4.25	2.14	5	3.91	A	5.77	2	2	1.62
	087912C	009615	1	30	45	6719	42.0	4.25	2.13	2	3.90	A	1.92	1	2	1.61
COUNTY ROAD	087919A	010510	1	192	45	6719	42.0	4.25	2.15	12	3.94	A	12.59	5	2	1.63
	087920U	010566	2	1401	45	6719	42.0	4.25	2.20	86	4.02	A	93.98	34	2	1.66
	087923P	009832	2	1682	45	6719	42.0	4.25	2.21	103	4.05	A	113.54	41	2	1.67
	087925D	009074	2	649	45	6719	42.0	4.25	2.16	40	3.95	A	42.76	16	2	1.63
	087926K	009185	1	44	45	6719	42.0	4.25	2.13	3	3.90	A	2.88	1	2	1.61
	087928Y	009409	1	89	45	6719	42.0	4.25	2.14	5	3.91	A	5.77	2	2	1.62
	087929F	009512	1	44	45	6719	42.0	4.25	2.13	3	3.90	A	2.88	1	2	1.61

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
CENTRAL	092843G	017426	2	3304	45	6719	42.0	4.25	2.36	203	4.32	A	237.80	81	2	1.78
CENTRAL	092844N	017426	2	3393	45	6719	42.0	4.25	2.36	209	4.33	A	244.88	83	2	1.79
4TH ST NW	092845V	017513	2	148	50	6689	42.0	3.92	1.97	8	3.32	A	8.17	3	2	1.36
	092846C	017577	1	59	50	6689	42.0	3.92	1.97	3	3.32	A	3.27	1	2	1.37
	098701L	011279	2	325	50	6689	42.0	3.92	1.98	18	3.35	A	18.09	7	2	1.37
	098708J	012930	2	59	50	6689	42.0	3.92	1.96	3	3.32	A	3.26	1	2	1.36
	098743X	013584	2	516	50	6689	42.0	3.92	1.99	29	3.36	A	28.95	12	2	1.38
HILLCREST ST	092869J	021490	2	2036	50	6689	42.0	3.92	2.09	115	3.53	A	119.64	46	2	1.45
ANDERSON AVE	092870D	021503	2	3127	50	6689	42.0	3.92	2.16	177	3.65	A	190.38	70	2	1.50
HODGES-COUNTY RD	092862L	019566	2	30	50	6689	42.0	3.92	1.96	2	3.32	A	1.63	1	2	1.36
WIBAUX W 5 MI	092860X	019057	2	44	50	6689	42.0	3.92	1.96	3	3.32	A	2.45	1	2	1.36
BEAVER HILL STATI	092859D	018769	2	15	50	6689	42.0	3.92	1.96	1	3.31	A	0.81	0	2	1.36
1ST AVE S	092854U	018440	2	148	50	6689	42.0	3.92	1.97	8	3.33	A	8.18	3	2	1.37
G ST	092857P	018529	2	266	50	6689	42.0	3.92	1.97	15	3.34	A	14.78	6	2	1.37
	092853M	018422	1	30	50	6689	42.0	3.92	1.96	2	3.32	A	1.63	1	2	1.36
WIBAUX E 1 MI	092852F	018334	2	133	50	6689	42.0	3.92	1.97	8	3.33	A	7.36	3	2	1.37
N. D. BORDER W 1.	092848R	017804	2	89	50	6689	42.0	3.92	1.96	5	3.32	A	4.90	2	2	1.36
	060438D	013406	1	15	45	6719	42.0	4.25	2.13	1	3.90	A	0.96	0	2	1.61
	060551W	010917	2	59	45	6719	42.0	4.25	2.13	4	3.90	A	3.84	1	2	1.61
COUNTY ROAD	091672E	004334	1	59	40	6719	42.0	4.66	2.34	4	4.69	A	4.61	2	3	1.94
MAIN STREET	091662Y	003482	2	531	40	6719	42.0	4.66	2.35	36	4.71	A	41.68	14	3	1.95

Table V.1-39. Grade-Crossing Delay, Segment 17 - Southern from Glendive, MT to Mandan, ND, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
STATE AVE	060412B	011074	2	10893	50	6154	26	1.90	1.13	373	2.33	A	423.07	--	--	--
6TH AVE EAST	060413H	010909	2	6623	45	6154	26	2.05	1.28	246	2.85	A	314.18	--	--	--
SCHNELL CROSSING	060414P	010854	2	1401	50	6154	26	1.90	0.99	48	2.04	A	47.59	--	--	--
30TH AVE SW	060417K	011181	1	251	50	6154	26	1.90	0.96	9	1.98	A	8.28	--	--	--
114TH AVE SW	060418S	011279	2	207	50	6154	26	1.90	0.96	7	1.96	A	6.76	--	--	--
115TH AVE SW	060419Y	011383	1	199	50	6154	26	1.90	0.96	7	1.98	A	6.56	--	--	--
116TH AVE SW	060420T	011487	1	384	50	6154	26	1.90	0.97	13	1.99	A	12.71	--	--	--
120TH AVE SW	060424V	011899	1	30	50	6154	26	1.90	0.95	1	1.96	A	0.96	--	--	--
4TH STREET CMC	060425C	011962	2	1807	50	6154	26	1.90	0.99	62	2.04	A	61.37	--	--	--
122ND AVE SW	060426J	012101	1	44	50	6154	26	1.90	0.95	2	1.96	A	1.44	--	--	--
124TH AVE SW	060428X	012308	1	15	50	6154	26	1.90	0.95	1	1.95	A	0.48	--	--	--
125 1/2 AVE SW	060430Y	012477	1	74	50	6154	26	1.90	0.95	3	1.96	A	2.41	--	--	--
128TH AVE SW	060431F	012727	2	74	50	6154	26	1.90	0.95	3	1.96	A	2.41	--	--	--
MAIN STREET	060433U	012981	2	15495	50	6154	26	1.90	1.76	531	3.62	A	935.82	--	--	--
135TH AVE SW	060439K	013515	1	103	50	6154	26	1.90	0.96	4	1.96	A	3.38	--	--	--
37TH ST SW	060441L	014064	1	8290	50	6154	26	1.90	1.54	284	3.17	A	437.78	--	--	--
EAST RIVER ROAD	060442T	014896	2	3230	50	6154	26	1.90	1.03	111	2.11	A	113.62	--	--	--
CHATEAU DEMORES	060443A	014964	2	1726	50	6154	26	1.90	1.00	59	2.06	A	59.20	--	--	--
WEST RIVER RD	060445N	015266	1	59	50	6154	26	1.90	0.95	2	1.96	A	1.93	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
34TH ST SW	060449R	016464	1	44	50	6154	26	1.90	0.95	2	1.96	A	1.44	--	--	--
MARTIN ST	060451S	016570	2	89	50	6154	26	1.90	0.95	3	1.96	A	2.89	--	--	--
CMC 1711 WEST ST	060452Y	016586	2	192	50	6154	26	1.90	0.95	7	1.96	A	6.27	--	--	--
164TH AVE SW	060456B	016930	1	44	50	6154	26	1.90	0.95	2	1.96	A	1.44	--	--	--
165TH AVE SW	060457H	017045	1	59	50	6154	26	1.90	0.95	2	1.96	A	1.93	--	--	--
PRAIRIE TRAIL	060458P	017137	1	30	50	6154	26	1.90	0.95	1	1.96	A	0.96	--	--	--
FIELD SEC LINE	060459W	017236	1	30	50	6154	26	1.90	0.95	1	1.96	A	0.96	--	--	--
HWY 16	060460R	017333	2	1158	50	6154	26	1.90	0.96	40	1.98	A	38.19	--	--	--
2ND AVE SE	060461X	017412	2	1342	50	6154	26	1.90	0.99	46	2.03	A	45.50	--	--	--
3RD AVE E	060549V	010930	2	2449	45	6154	26	2.05	1.11	91	2.46	A	100.59	--	--	--
132 1/2 AVE SW	086287R	013175	1	2272	45	6154	26	2.05	1.19	84	2.64	A	100.05	--	--	--
	087496C	005417	1	44	60	6154	26	1.67	0.83	1	1.51	A	1.11	--	--	--
ND HWY 49	087497J	005534	2	1342	60	6154	26	1.67	0.85	40	1.53	A	34.14	--	--	--
	087499X	005722	2	1578	60	6154	26	1.67	0.86	47	1.56	A	41.02	--	--	--
B ST.	087500P	005747	2	4381	60	6154	26	1.67	0.96	132	1.73	A	126.16	--	--	--
B ST.	087501W	005749	2	4381	60	6154	26	1.67	0.96	132	1.73	A	126.16	--	--	--
	087503K	005826	1	103	60	6154	26	1.67	0.84	3	1.51	A	2.60	--	--	--
	087505Y	006032	1	59	60	6154	26	1.67	0.84	2	1.51	A	1.48	--	--	--
	087508U	006401	1	30	60	6154	26	1.67	0.83	1	1.51	A	0.74	--	--	--
	087510V	006441	2	89	60	6154	26	1.67	0.83	3	1.51	A	2.22	--	--	--
	087514X	006737	1	74	60	6154	26	1.67	0.84	2	1.51	A	1.86	--	--	--
	087515E	006847	1	74	60	6154	26	1.67	0.84	2	1.51	A	1.86	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
ELM ST	087518A	006992	2	4337	60	6154	26	1.67	0.93	130	1.67	A	120.72	--	--	--
ELK ST	087523W	007021	2	1165	60	6154	26	1.67	0.86	35	1.56	A	30.23	--	--	--
WEST ST	087524D	007036	2	5885	60	6154	26	1.67	1.01	177	1.82	A	178.68	--	--	--
	087525K	007253	1	89	60	6154	26	1.67	0.84	3	1.51	A	2.23	--	--	--
	087526S	007407	1	44	60	6154	26	1.67	0.83	1	1.51	A	1.11	--	--	--
	087527Y	007450	1	30	60	6154	26	1.67	0.83	1	1.51	A	0.74	--	--	--
	087529M	007565	1	59	60	6154	26	1.67	0.84	2	1.51	A	1.48	--	--	--
	087531N	007788	1	133	60	6154	26	1.67	0.84	4	1.51	A	3.35	--	--	--
	087533C	008013	1	15	60	6154	26	1.67	0.83	0	1.50	A	0.37	--	--	--
	087534J	008113	2	89	60	6154	26	1.67	0.83	3	1.51	A	2.22	--	--	--
	087535R	008179	1	30	60	6154	26	1.67	0.83	1	1.51	A	0.74	--	--	--
	087537E	008226	1	15	60	6154	26	1.67	0.83	0	1.50	A	0.37	--	--	--
ST HWY 8	087540M	008459	2	531	60	6154	26	1.67	0.84	16	1.51	A	13.38	--	--	--
B-ST.	087541U	008496	2	4381	45	6154	26	2.05	1.18	162	2.63	A	191.87	--	--	--
B-ST.	087542B	008495	2	4381	45	6154	26	2.05	1.18	162	2.63	A	191.87	--	--	--
	087544P	008560	1	74	45	6154	26	2.05	1.03	3	2.30	A	2.82	--	--	--
	087545W	008756	1	192	45	6154	26	2.05	1.04	7	2.31	A	7.39	--	--	--
	087547K	000696	1	280	40	6154	26	2.25	1.14	11	2.78	A	13.01	--	--	--
	087550T	000930	1	192	40	6154	26	2.25	1.14	8	2.77	A	8.85	--	--	--
	087551A	001003	1	192	40	6154	26	2.25	1.14	8	2.77	A	8.85	--	--	--
OFF SYSTEM- HWY 83	087554V	001498	1	207	40	6154	26	2.25	1.13	8	2.75	A	9.47	--	--	--
	087563U	002156	2	664	40	6154	26	2.25	1.14	27	2.78	A	30.76	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
	087565H	002361	1	162	40	6154	26	2.25	1.14	7	2.76	A	7.48	--	--	--
CMC 3033	087569K	002769	2	236	40	6154	26	2.25	1.13	10	2.75	A	10.83	--	--	--
5TH STREET	087573A	002796	2	1313	60	6154	26	1.67	0.87	39	1.56	A	34.21	--	--	--
	087574G	002869	1	89	60	6154	26	1.67	0.84	3	1.51	A	2.23	--	--	--
	087576V	003067	1	30	60	6154	26	1.67	0.83	1	1.51	A	0.74	--	--	--
ALMONT	087580K	003269	2	900	60	6154	26	1.67	0.85	27	1.53	A	23.01	--	--	--
	087584M	003471	1	44	60	6154	26	1.67	0.83	1	1.51	A	1.11	--	--	--
	087589W	003769	2	1195	60	6154	26	1.67	0.86	36	1.56	A	31.02	--	--	--
	087590R	003870	1	15	60	6154	26	1.67	0.83	0	1.50	A	0.37	--	--	--
	087591X	003984	1	103	60	6154	26	1.67	0.84	3	1.51	A	2.60	--	--	--
15TH AVE SW	087690V	000092	2	332	40	6154	26	2.25	1.14	13	2.77	A	15.30	--	--	--
	087691C	000213	2	1047	40	6154	26	2.25	1.16	43	2.83	A	49.33	--	--	--
	087694X	000302	2	649	40	6154	26	2.25	1.14	26	2.76	A	29.91	--	--	--
MARMOT SCHOOL	087695E	000346	1	1785	40	6154	26	2.25	1.26	72	3.06	A	91.13	--	--	--
	087909U	008858	1	44	45	6154	26	2.05	1.03	2	2.29	A	1.69	--	--	--
	087910N	008967	1	89	45	6154	26	2.05	1.03	3	2.30	A	3.39	--	--	--
	087912C	009615	1	30	45	6154	26	2.05	1.03	1	2.29	A	1.13	--	--	--
	087919A	010510	1	192	45	6154	26	2.05	1.04	7	2.31	A	7.39	--	--	--
	087920U	010566	2	1401	45	6154	26	2.05	1.06	52	2.36	A	55.16	--	--	--
COUNTY ROAD	087923P	009832	2	1682	45	6154	26	2.05	1.07	62	2.38	A	66.64	--	--	--
	087925D	009074	2	649	45	6154	26	2.05	1.04	24	2.32	A	25.10	--	--	--
	087926K	009185	1	44	45	6154	26	2.05	1.03	2	2.29	A	1.69	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
	087928Y	009409	1	89	45	6154	26	2.05	1.03	3	2.30	A	3.39	--	--	--
	087929F	009512	1	44	45	6154	26	2.05	1.03	2	2.29	A	1.69	--	--	--
CENTRAL	092843G	017426	2	3304	45	6154	26	2.05	1.14	123	2.53	A	139.57	--	--	--
CENTRAL	092844N	017426	2	3393	45	6154	26	2.05	1.14	126	2.54	A	143.73	--	--	--
4TH ST NW	092845V	017513	2	148	50	6154	26	1.90	0.95	5	1.96	A	4.82	--	--	--
	092846C	017577	1	59	50	6154	26	1.90	0.95	2	1.96	A	1.93	--	--	--
	098701L	011279	2	325	50	6154	26	1.90	0.96	11	1.97	A	10.66	--	--	--
	098708J	012930	2	59	50	6154	26	1.90	0.95	2	1.96	A	1.92	--	--	--
	098743X	013584	2	516	50	6154	26	1.90	0.96	18	1.98	A	17.06	--	--	--
HILLCREST ST	092869J	021490	2	2036	50	6154	26	1.90	1.01	70	2.08	A	70.51	--	--	--
ANDERSON AVE	092870D	021503	2	3127	50	6154	26	1.90	1.05	107	2.15	A	112.21	--	--	--
HODGES-COUNTY RD	092862L	019566	2	30	50	6154	26	1.90	0.95	1	1.95	A	0.96	--	--	--
WIBAUX W 5 MI	092860X	019057	2	44	50	6154	26	1.90	0.95	2	1.96	A	1.44	--	--	--
BEAVER HILL STATI	092859D	018769	2	15	50	6154	26	1.90	0.95	1	1.95	A	0.48	--	--	--
1ST AVE S	092854U	018440	2	148	50	6154	26	1.90	0.95	5	1.96	A	4.82	--	--	--
G ST	092857P	018529	2	266	50	6154	26	1.90	0.96	9	1.97	A	8.71	--	--	--
	092853M	018422	1	30	50	6154	26	1.90	0.95	1	1.96	A	0.96	--	--	--
WIBAUX E 1 MI	092852F	018334	2	133	50	6154	26	1.90	0.95	5	1.96	A	4.34	--	--	--
N. D. BORDER W 1.	092848R	017804	2	89	50	6154	26	1.90	0.95	3	1.96	A	2.89	--	--	--
	060438D	013406	1	15	45	6154	26	2.05	1.03	1	2.29	A	0.56	--	--	--
	060551W	010917	2	59	45	6154	26	2.05	1.03	2	2.29	A	2.25	--	--	--
COUNTY ROAD	091672E	004334	1	59	40	6154	26	2.25	1.13	2	2.75	A	2.70	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
MAIN STREET	091662Y	003482	2	531	40	6154	26	2.25	1.13	22	2.76	A	24.42	--	--	--
Proposed Action																
STATE AVE	060412B	011074	2	10893	50	6689	35.0	3.92	2.34	511	3.24	A	588.86	138	1	0.91
6TH AVE EAST	060413H	010909	2	6623	45	6719	35.0	4.25	2.65	337	3.97	A	438.56	91	1	1.13
SCHNELL CROSSING	060414P	010854	2	1401	50	6689	35.0	3.92	2.04	66	2.84	A	66.23	18	1	0.80
30TH AVE SW	060417K	011181	1	251	50	6689	35.0	3.92	1.99	12	2.76	A	11.53	3	1	0.78
114TH AVE SW	060418S	011279	2	207	50	6689	35.0	3.92	1.97	10	2.73	A	9.41	3	1	0.77
115TH AVE SW	060419Y	011383	1	199	50	6689	35.0	3.92	1.98	9	2.75	A	9.13	3	1	0.77
116TH AVE SW	060420T	011487	1	384	50	6689	35.0	3.92	1.99	18	2.77	A	17.69	5	1	0.78
120TH AVE SW	060424V	011899	1	30	50	6689	35.0	3.92	1.96	1	2.72	A	1.34	0	1	0.77
4TH STREET CMC	060425C	011962	2	1807	50	6689	35.0	3.92	2.04	85	2.84	A	85.42	23	1	0.80
122ND AVE SW	060426J	012101	1	44	50	6689	35.0	3.92	1.96	2	2.72	A	2.01	1	1	0.77
124TH AVE SW	060428X	012308	1	15	50	6689	35.0	3.92	1.96	1	2.72	A	0.67	0	1	0.77
125 1/2 AVE SW	060430Y	012477	1	74	50	6689	35.0	3.92	1.97	3	2.73	A	3.35	1	1	0.77
128TH AVE SW	060431F	012727	2	74	50	6689	35.0	3.92	1.96	3	2.72	A	3.35	1	1	0.77
MAIN STREET	060433U	012981	2	15495	50	6689	35.0	3.92	2.84	598	4.44	A	1,007.33	66	0	0.81
135TH AVE SW	060439K	013515	1	103	50	6689	35.0	3.92	2.83	199	3.38	A	370.10	196	189	1.42
37TH ST SW	060441L	014064	1	8290	50	6689	35.0	3.92	2.56	285	3.94	A	439.10	1	0	0.77
EAST RIVER ROAD	060442T	014896	2	3230	50	6689	35.0	3.92	2.67	215	3.35	A	285.17	105	3	1.24
CHATEAU DEMORES	060443A	014964	2	1726	50	6689	35.0	3.92	2.09	100	2.89	A	103.73	41	2	0.83
WEST RIVER RD	060445N	015266	1	59	50	6689	35.0	3.92	2.02	24	2.76	A	25.13	22	37	0.81
34TH ST SW	060449R	016464	1	44	50	6689	35.0	3.92	1.96	2	2.73	A	2.20	1	2	0.77

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
MARTIN ST	060451S	016570	2	89	50	6689	35.0	3.92	1.96	4	2.72	A	3.45	1	1	0.77
CMC 1711 WEST ST	060452Y	016586	2	192	50	6689	35.0	3.92	2.17	78	2.88	A	93.69	72	37	0.92
164TH AVE SW	060456B	016930	1	44	50	6689	35.0	3.92	1.96	3	2.72	A	2.58	1	3	0.77
165TH AVE SW	060457H	017045	1	59	50	6689	35.0	3.92	1.97	4	2.73	A	4.38	2	4	0.77
PRAIRIE TRAIL	060458P	017137	1	30	50	6689	35.0	3.92	1.96	2	2.72	A	1.53	1	2	0.77
FIELD SEC LINE	060459W	017236	1	30	50	6689	35.0	3.92	1.96	2	2.72	A	1.72	1	3	0.77
HWY 16	060460R	017333	2	1158	50	6689	35.0	3.92	1.97	40	2.75	A	38.57	0	0	0.77
2ND AVE SE	060461X	017412	2	1342	50	6689	35.0	3.92	2.00	46	2.80	A	45.88	0	0	0.77
3RD AVE E	060549V	010930	2	2449	45	6719	35.0	4.07	2.13	105	3.24	A	115.56	15	1	0.78
132 1/2 AVE SW	086287R	013175	1	2272	45	6719	35.0	4.07	2.24	101	3.44	A	117.88	17	1	0.80
	087496C	005417	1	44	60	6719	35.0	3.86	2.02	35	2.48	A	40.93	34	76	0.98
ND HWY 49	087497J	005534	2	1342	60	6719	35.0	3.86	3.17	284	3.44	A	600.14	243	18	1.92
	087499X	005722	2	1578	60	6719	35.0	3.86	2.13	79	2.61	A	80.63	31	2	1.05
B ST.	087500P	005747	2	4381	60	6719	35.0	3.44	1.85	132	2.32	A	126.59	0	0	0.59
B ST.	087501W	005749	2	4381	60	6719	35.0	3.44	1.86	147	2.33	A	139.54	15	0	0.60
	087503K	005826	1	103	60	6719	35.0	3.44	1.76	21	2.12	A	18.68	17	17	0.61
	087505Y	006032	1	59	60	6719	35.0	3.44	1.85	50	2.19	A	50.94	49	82	0.68
	087508U	006401	1	30	60	6719	35.0	3.44	1.85	49	2.18	A	50.20	49	165	0.68
	087510V	006441	2	89	60	6719	35.0	3.44	1.73	4	2.10	A	3.24	1	1	0.59
	087514X	006737	1	74	60	6719	35.0	3.44	1.73	3	2.10	A	2.44	1	1	0.59
	087515E	006847	1	74	60	6719	35.0	3.44	1.72	3	2.10	A	2.15	0	0	0.59
ELM ST	087518A	006992	2	4337	60	6719	35.0	3.44	1.84	144	2.28	A	132.88	13	0	0.61

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
ELK ST	087523W	007021	2	1165	60	6719	35.0	3.44	1.75	36	2.15	A	31.10	1	0	0.59
WEST ST	087524D	007036	2	5885	60	6719	35.0	3.44	1.90	178	2.41	A	179.41	1	0	0.59
	087525K	007253	1	89	60	6719	35.0	3.44	1.73	3	2.10	A	2.96	1	1	0.59
	087526S	007407	1	44	60	6719	35.0	3.44	1.82	49	2.16	A	48.44	48	109	0.65
	087527Y	007450	1	30	60	6719	35.0	3.44	1.75	14	2.12	A	12.59	13	44	0.61
	087529M	007565	1	59	60	6719	35.0	3.44	1.91	67	2.22	A	71.53	65	111	0.71
	087531N	007788	1	133	60	6719	35.0	3.44	1.73	5	2.10	A	4.22	1	1	0.59
	087533C	008013	1	15	60	6719	35.0	3.44	1.72	1	2.09	A	0.81	0	3	0.59
	087534J	008113	2	89	60	6719	35.0	3.44	1.72	3	2.10	A	2.51	0	0	0.59
	087535R	008179	1	30	60	6719	35.0	3.44	1.72	2	2.10	A	1.32	1	2	0.59
	087537E	008226	1	15	60	6719	35.0	3.44	1.73	2	2.10	A	1.68	1	10	0.59
ST HWY 8	087540M	008459	2	531	60	6719	35.0	3.44	1.72	16	2.10	A	13.52	0	0	0.59
B-ST.	087541U	008496	2	4381	45	6719	35.0	3.83	2.07	163	3.22	A	192.75	1	0	0.59
B-ST.	087542B	008495	2	4381	45	6719	35.0	3.83	2.07	163	3.22	A	192.16	0	0	0.59
	087544P	008560	1	74	45	6719	35.0	3.83	1.95	16	2.91	A	14.98	13	18	0.61
	087545W	008756	1	192	45	6719	35.0	3.83	1.93	7	2.90	A	7.53	0	0	0.59
	087547K	000696	1	280	40	6719	35.0	4.02	2.03	17	3.38	A	18.25	6	2	0.59
	087550T	000930	1	192	40	6719	35.0	4.44	2.40	68	3.81	A	84.81	60	31	1.04
	087551A	001003	1	192	40	6719	35.0	4.44	2.40	68	3.81	A	84.81	60	31	1.04
OFF SYSTEM- HWY 83	087554V	001498	1	207	40	6719	35.0	4.44	2.23	9	3.66	A	10.59	1	0	0.91
	087563U	002156	2	664	40	6719	35.0	4.44	2.25	30	3.70	A	33.69	3	0	0.92
	087565H	002361	1	162	40	6719	35.0	4.66	2.36	11	3.87	A	12.64	4	3	1.11

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
CMC 3033	087569K	002769	2	236	40	6719	35.0	4.66	2.35	12	3.85	A	14.35	3	1	1.10
5TH STREET	087573A	002796	2	1313	60	6719	35.0	4.07	2.08	42	2.66	A	37.73	3	0	1.10
	087574G	002869	1	89	60	6719	35.0	4.07	2.05	6	2.60	A	5.99	3	4	1.09
	087576V	003067	1	30	60	6719	35.0	4.07	2.06	11	2.61	A	12.96	10	34	1.10
ALMONT	087580K	003269	2	900	60	6719	35.0	4.07	2.07	29	2.63	A	25.98	2	0	1.10
	087584M	003471	1	44	60	6719	35.0	4.07	2.05	5	2.60	A	5.41	4	8	1.09
	087589W	003769	2	1195	60	6719	35.0	3.44	1.79	50	2.17	A	44.44	15	1	0.61
	087590R	003870	1	15	60	6719	35.0	3.44	1.72	1	2.10	A	1.24	1	7	0.59
	087591X	003984	1	103	60	6719	35.0	3.44	1.73	3	2.10	A	2.89	0	0	0.59
15TH AVE SW	087690V	000092	2	332	40	6719	35.0	4.02	2.04	23	3.37	A	24.32	10	3	0.60
	087691C	000213	2	1047	40	6719	35.0	4.02	2.05	43	3.42	A	49.76	0	0	0.59
	087694X	000302	2	649	40	6719	35.0	4.02	2.05	40	3.38	A	42.07	13	2	0.61
MARMOT SCHOOL	087695E	000346	1	1785	40	6719	35.0	4.02	2.14	73	3.65	A	91.27	0	0	0.59
	087909U	008858	1	44	45	6719	35.0	3.83	1.92	3	2.88	A	2.71	1	3	0.59
	087910N	008967	1	89	45	6719	35.0	4.46	2.28	21	3.43	A	25.85	18	20	1.13
	087912C	009615	1	30	45	6719	35.0	4.46	2.38	56	3.51	A	75.21	55	186	1.22
	087919A	010510	1	192	45	6719	35.0	4.46	2.26	12	3.41	A	13.47	5	3	1.10
	087920U	010566	2	1401	45	6719	35.0	4.46	2.30	68	3.48	A	74.76	16	1	1.12
COUNTY ROAD	087923P	009832	2	1682	45	6719	35.0	4.46	2.28	72	3.48	A	78.52	10	1	1.10
	087925D	009074	2	649	45	6719	35.0	4.46	2.39	51	3.54	A	61.30	27	4	1.22
	087926K	009185	1	44	45	6719	35.0	4.25	2.13	2	3.20	A	2.36	1	1	0.91
	087928Y	009409	1	89	45	6719	35.0	4.25	2.14	4	3.21	A	4.73	1	1	0.91

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
	087929F	009512	1	44	45	6719	35.0	4.25	2.13	2	3.20	A	2.14	0	1	0.91
CENTRAL	092843G	017426	2	3304	45	6719	35.0	4.25	2.28	139	3.47	A	158.25	16	0	0.94
CENTRAL	092844N	017426	2	3393	45	6719	35.0	4.25	2.25	128	3.46	A	146.65	3	0	0.92
4TH ST NW	092845V	017513	2	148	50	6689	35.0	4.10	2.09	24	2.89	A	26.65	19	13	0.94
	092846C	017577	1	59	50	6689	35.0	4.10	2.09	18	2.90	A	20.61	16	28	0.94
	098701L	011279	2	325	50	6689	35.0	4.10	2.10	34	2.91	A	37.05	23	7	0.94
	098708J	012930	2	59	50	6689	35.0	4.10	2.07	11	2.87	A	11.86	9	15	0.92
	098743X	013584	2	516	50	6689	35.0	4.10	2.07	18	2.89	A	17.73	1	0	0.91
HILLCREST ST	092869J	021490	2	2036	50	6689	35.0	4.10	2.11	71	2.99	A	71.86	1	0	0.91
ANDERSON AVE	092870D	021503	2	3127	50	6689	35.0	4.10	2.15	108	3.06	A	112.88	1	0	0.91
HODGES-COUNTY RD	092862L	019566	2	30	50	6689	35.0	4.10	2.17	46	2.96	A	56.21	45	154	1.00
WIBAUX W 5 MI	092860X	019057	2	44	50	6689	35.0	4.10	2.17	48	2.96	A	58.34	47	105	1.01
BEAVER HILL STATI	092859D	018769	2	15	50	6689	35.0	3.92	1.96	2	2.72	A	2.37	2	13	0.77
1ST AVE S	092854U	018440	2	148	50	6689	35.0	3.92	1.97	6	2.73	A	5.58	1	1	0.77
G ST	092857P	018529	2	266	50	6689	35.0	3.92	1.98	13	2.74	A	12.89	4	2	0.77
	092853M	018422	1	30	50	6689	35.0	3.92	1.96	2	2.72	A	1.72	1	3	0.77
WIBAUX E 1 MI	092852F	018334	2	133	50	6689	35.0	3.92	1.98	11	2.74	A	11.02	7	5	0.78
N. D. BORDER W 1.	092848R	017804	2	89	50	6689	35.0	3.92	2.03	29	2.77	A	30.52	26	29	0.81
	060438D	013406	1	15	45	6719	35.0	4.07	2.14	40	3.13	A	44.53	39	268	0.84
	060551W	010917	2	59	45	6719	35.0	4.07	2.04	3	3.06	A	2.63	0	1	0.77
COUNTY ROAD	091672E	004334	1	59	40	6719	35.0	4.27	2.14	3	3.51	A	3.27	1	1	0.77
MAIN STREET	091662Y	003482	2	531	40	6719	35.0	4.27	2.14	22	3.53	A	24.61	0	0	0.77

Table V.1-40. Grade-Crossing Delay, Segment 18 - Northern from Mandan, ND to Fargo, ND, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
HWY 3	071122Y	003122	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071123F	003206	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071124M	003305	1	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071126B	003407	2	693	60	6154	23.9	1.67	0.85	19	1.40	A	16.22	--	--	--
	071129W	003507	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	071131X	003608	2	103	60	6154	23.9	1.67	0.84	3	1.39	A	2.38	--	--	--
	071132E	003709	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071133L	003807	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
	071134T	003907	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071136G	004007	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071138V	004110	2	192	60	6154	23.9	1.67	0.83	5	1.38	A	4.42	--	--	--
	071140W	004209	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	071142K	004309	2	118	60	6154	23.9	1.67	0.84	3	1.39	A	2.73	--	--	--
	071144Y	004385	2	1387	60	6154	23.9	1.67	0.87	38	1.44	A	33.29	--	--	--
	071145F	004405	2	1460	60	6154	23.9	1.67	0.85	40	1.40	A	34.19	--	--	--
WILCOX AV	071146M	004508	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071147U	004606	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071149H	004706	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071150C	004806	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	071152R	004907	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
MAIN ST	071154E	004966	2	9226	60	6154	23.9		1.15	255		A		--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
								1.67			1.90		292.78			
BROADWAY	071156T	004973	2	2640	60	6154	23.9	1.67	0.90	73	1.50	A	65.96	--	--	--
RAILROAD ST	071158G	005003	2	8533	60	6154	23.9	1.67	1.04	236	1.72	A	244.78	--	--	--
	071160H	005204	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071161P	005304	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	071162W	005404	2	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
ND HWY 32	071163D	005504	2	1018	60	6154	23.9	1.67	0.84	28	1.40	A	23.71	--	--	--
MAIN ST	071164K	005522	2	9226	60	6154	23.9	1.67	1.15	255	1.90	A	292.78	--	--	--
	071165S	005604	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071166Y	005701	2	177	60	6154	23.9	1.67	0.84	5	1.39	A	4.10	--	--	--
	071167F	005801	2	103	60	6154	23.9	1.67	0.84	3	1.39	A	2.38	--	--	--
	071171V	006109	2	738	60	6154	23.9	1.67	0.85	20	1.41	A	17.27	--	--	--
	071173J	006204	1	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071174R	006268	2	192	60	6154	23.9	1.67	0.84	5	1.39	A	4.44	--	--	--
	071175X	006305	2	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.75	--	--	--
	071180U	006824	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071185D	007131	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071188Y	007335	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
	071190A	007531	1	89	60	6154	23.9	1.67	0.84	2	1.39	A	2.05	--	--	--
4TH ST	071191G	007608	2	1755	60	6154	23.9	1.67	0.88	49	1.46	A	42.63	--	--	--
1ST STREET	071192N	007632	2	1608	60	6154	23.9	1.67	0.86	44	1.43	A	38.44	--	--	--
	071224S	007731	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071226F	007830	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
SALISBURY ST	071228U	008030	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071229B	008133	2	413	60	6154	23.9	1.67	0.84	11	1.39	A	9.60	--	--	--
	071232J	008343	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
	071233R	008443	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071235E	008512	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071236L	008543	2	811	60	6154	23.9	1.67	0.85	22	1.41	A	19.03	--	--	--
	071238A	008744	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071239G	008843	2	752	60	6154	23.9	1.67	0.85	21	1.41	A	17.62	--	--	--
	071240B	008908	2	1519	60	6154	23.9	1.67	0.87	42	1.45	A	36.63	--	--	--
	071242P	009046	2	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	071244D	009266	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071246S	009473	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
	071248F	009476	2	988	60	6154	23.9	1.67	0.85	27	1.41	A	23.28	--	--	--
	071249M	009688	2	1151	60	6154	23.9	1.67	0.85	32	1.41	A	26.95	--	--	--
	071250G	009748	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
7 AVE NE	071253C	009243	2	6180	60	6154	23.9	1.67	0.92	171	1.52	A	156.68	--	--	--
2ND AVE NW	071258L	009293	2	8419	40	6154	23.9	2.25	1.29	314	2.88	A	403.76	--	--	--
17TH SW	071260M	009425	2	457	40	6154	23.9	2.25	1.14	17	2.54	A	19.39	--	--	--
	071261U	009642	2	148	40	6154	23.9	2.25	1.13	6	2.53	A	6.21	--	--	--
	086394F	008944	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	087633G	016299	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	087634N	016382	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	087635V	016593	1	59	60	6154	23.9		0.84	2		A		--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
								1.67			1.39		1.36			
OFF SYSTEM	087636C	016869	2	413	60	6154	23.9	1.67	0.84	11	1.40	A	9.63	--	--	--
	087641Y	017072	1	30	50	6154	23.9	1.90	0.95	1	1.80	A	0.88	--	--	--
	087642F	017282	1	118	50	6154	23.9	1.90	0.96	4	1.81	A	3.55	--	--	--
	087643M	017609	2	207	50	6154	23.9	1.90	0.95	7	1.80	A	6.21	--	--	--
	087644U	017815	1	15	50	6154	23.9	1.90	0.95	0	1.80	A	0.44	--	--	--
	087646H	018014	1	30	50	6154	23.9	1.90	0.95	1	1.80	A	0.88	--	--	--
	087647P	018116	2	103	50	6154	23.9	1.90	0.95	3	1.80	A	3.10	--	--	--
BISMARCK AVE	087648W	018170	2	1254	50	6154	23.9	1.90	0.99	40	1.86	A	38.96	--	--	--
	087649D	018217	2	575	50	6154	23.9	1.90	0.96	18	1.82	A	17.44	--	--	--
	087651E	018387	1	44	50	6154	23.9	1.90	0.95	1	1.80	A	1.33	--	--	--
119TH ST	087652L	018548	1	708	50	6154	23.9	1.90	0.99	22	1.87	A	22.11	--	--	--
106TH STREET SE	087654A	018660	2	531	50	6154	23.9	1.90	0.96	17	1.82	A	16.14	--	--	--
	087655G	017385	1	15	50	6154	23.9	1.90	0.95	0	1.80	A	0.44	--	--	--
	087656N	017391	1	15	50	6154	23.9	1.90	0.95	0	1.80	A	0.44	--	--	--
	087657V	017501	1	30	50	6154	23.9	1.90	0.95	1	1.80	A	0.88	--	--	--
	087658C	018765	2	974	50	6154	23.9	1.90	0.97	31	1.84	A	29.79	--	--	--
	087659J	018965	2	177	50	6154	23.9	1.90	0.95	6	1.80	A	5.32	--	--	--
26TH ST	087660D	019286	2	4602	50	6154	23.9	1.90	1.06	145	2.01	A	154.08	--	--	--
24TH ST	087661K	019306	2	1401	50	6154	23.9	1.90	0.99	44	1.87	A	43.74	--	--	--
FRONT ST	087662S	019312	2	2434	50	6154	23.9	1.90	1.02	77	1.94	A	78.49	--	--	--
19TH	087665M	019340	4	11225	50	6154	23.9	1.90	1.04	354	1.96	A	366.39	--	--	--
12TH ST	087667B	019393	2	11402	50	6154	23.9	1.90	1.29	359	2.44	A	463.38	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
5TH ST	087674L	019443	2	6549	50	6154	23.9	1.90	1.05	206	1.99	A	217.07	--	--	--
3RD ST	087675T	019457	2	19411	50	6154	23.9	1.90	1.33	612	2.52	A	816.54	--	--	--
	087683K	019858	2	988	50	6154	23.9	1.90	0.98	31	1.85	A	30.46	--	--	--
	087684S	019829	1	3702	50	6154	23.9	1.90	1.22	117	2.30	A	142.06	--	--	--
	087702M	014171	1	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
ND HWY 3	087704B	014314	2	2154	60	6154	23.9	1.67	0.85	60	1.42	A	50.84	--	--	--
	087705H	014366	1	74	60	6154	23.9	1.67	0.84	2	1.39	A	1.71	--	--	--
	087706P	014666	1	118	60	6154	23.9	1.67	0.84	3	1.39	A	2.74	--	--	--
3RD AVE.	087709K	015085	2	2043	60	6154	23.9	1.67	0.87	56	1.45	A	49.36	--	--	--
	087710E	015578	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	087713A	016080	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
MITCHELL AVE	087715N	015106	2	1416	60	6154	23.9	1.67	0.86	39	1.43	A	33.70	--	--	--
HILLS AVE W	087716V	015135	2	413	60	6154	23.9	1.67	0.84	11	1.40	A	9.63	--	--	--
MITCHELL AVE	087717C	015186	1	1416	60	6154	23.9	1.67	0.91	39	1.51	A	35.60	--	--	--
	087718J	015274	1	74	60	6154	23.9	1.67	0.84	2	1.39	A	1.71	--	--	--
	087719R	015375	2	118	60	6154	23.9	1.67	0.84	3	1.38	A	2.72	--	--	--
	087720K	015475	1	74	60	6154	23.9	1.67	0.84	2	1.39	A	1.71	--	--	--
	087721S	015680	2	89	60	6154	23.9	1.67	0.83	2	1.38	A	2.04	--	--	--
	087722Y	015879	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
MAIN ST	087725U	016183	2	9226	60	6154	23.9	1.67	1.06	255	1.76	A	270.07	--	--	--
YEGAN ROAD	087726B	019165	2	5539	50	6154	23.9	1.90	1.14	175	2.15	A	198.39	--	--	--
	087760H	009723	2	59	40	6154	23.9	2.25	1.13	2	2.52	A	2.48	--	--	--
	087762W	009933	1	15	40	6154	23.9		1.13	1		A		--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
								2.25			2.52		0.62			
1ST AVE	087764K	009984	2	9698	40	6154	23.9	2.25	1.45	362	3.25	A	524.58	--	--	--
	087766Y	010239	1	162	40	6154	23.9	2.25	1.14	6	2.54	A	6.87	--	--	--
	087768M	010639	1	74	40	6154	23.9	2.25	1.13	3	2.53	A	3.11	--	--	--
	087769U	010743	1	15	40	6154	23.9	2.25	1.13	1	2.52	A	0.62	--	--	--
BROADWAY	087781B	010903	2	2640	40	6154	23.9	2.25	1.22	99	2.73	A	120.20	--	--	--
	087782H	011588	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
MAIN	087783P	012156	2	9226	60	6154	23.9	1.67	1.15	255	1.90	A	292.78	--	--	--
HAYES ST	087784W	012146	2	1490	60	6154	23.9	1.67	0.86	41	1.43	A	35.52	--	--	--
	087785D	011940	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	087786K	011737	1	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.77	--	--	--
	087787S	011501	1	103	60	6154	23.9	1.67	0.84	3	1.39	A	2.39	--	--	--
	087788Y	011334	1	89	60	6154	23.9	1.67	0.84	2	1.39	A	2.05	--	--	--
EUCLID AVE	087790A	011285	2	1151	60	6154	23.9	1.67	0.86	32	1.42	A	27.21	--	--	--
	087791G	011234	1	103	40	6154	23.9	2.25	1.13	4	2.53	A	4.36	--	--	--
	087792N	010950	1	74	40	6154	23.9	2.25	1.13	3	2.53	A	3.10	--	--	--
	087793V	012245	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	087794C	012346	1	310	60	6154	23.9	1.67	0.84	9	1.40	A	7.23	--	--	--
	087795J	012449	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	087798E	012994	2	236	60	6154	23.9	1.67	0.84	7	1.39	A	5.46	--	--	--
	087799L	013270	1	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	087800D	013471	2	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.75	--	--	--
	087801K	013571	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
4TH ST	087804F	013771	2	974	60	6154	23.9	1.67	0.85	27	1.41	A	22.93	--	--	--
FRONT ST	087668H	019390	2	4219	50	6154	23.9	1.90	1.01	133	1.92	A	134.65	--	--	--
	087699G	013670	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
1ST AVE N	071257E	009287	4	11166	60	6154	23.9	1.67	0.89	309	1.48	A	274.79	--	--	--
2ND AVE NE	071256X	009279	2	1981	60	6154	23.9	1.67	0.87	55	1.45	A	47.79	--	--	--
7TH ST SE	103805G	004050	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
3RD ST SE	103730K	000094	2	4226	60	6154	23.9	1.67	0.89	117	1.47	A	103.81	--	--	--
COUNTY RD	071241H	008944	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
CR 23/CMC 0927	071120K	003018	2	103	60	6154	23.9	1.67	0.84	3	1.39	A	2.38	--	--	--
154TH AVE SE	071109K	002917	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
3RD AV	071108D	002800	2	605	60	6154	23.9	1.67	0.85	17	1.41	A	14.18	--	--	--
6TH AV	071105H	002778	2	1357	60	6154	23.9	1.67	0.87	38	1.44	A	32.55	--	--	--
LANGER AV/ ND 18	071103U	002770	2	6947	60	6154	23.9	1.67	0.93	192	1.54	A	178.37	--	--	--
15TH AVE	071101F	002716	2	221	60	6154	23.9	1.67	0.84	6	1.39	A	5.13	--	--	--
157TH AVE SE	071100Y	002615	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
158TH AVE SE	071099G	002520	2	207	60	6154	23.9	1.67	0.84	6	1.39	A	4.78	--	--	--
159TH AVE SE	071098A	002419	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
177TH AVE SE	071097T	002318	2	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
161ST AVE SE	071095E	002217	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
7TH AV/CMC0941	071092J	002016	2	3717	60	6154	23.9	1.67	0.94	103	1.55	A	96.21	--	--	--
164TH AVE SE	071089B	001918	1	74	60	6154	23.9	1.67	0.84	2	1.39	A	1.71	--	--	--
CMC 0941SPUR	071087M	001817	2	693	60	6154	23.9	1.67	0.85	19	1.41	A	16.30	--	--	--
166TH AVE FIELD	071086F	001717	1	30	60	6154	23.9		0.83	1		A		--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
								1.67			1.38		0.68			
38TH STREET W	071085Y	001616	2	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.75	--	--	--
26TH ST W	071084S	001515	2	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.75	--	--	--
9TH ST EAST	071009F	001208	2	1387	60	6154	23.9	1.67	0.85	38	1.41	A	32.59	--	--	--
27TH ST N	070828T	000915	2	21978	60	6154	23.9	1.67	1.24	608	2.05	A	751.80	--	--	--
8TH ST	070810H	000771	4	7213	60	6154	23.9	1.67	0.91	199	1.51	A	181.16	--	--	--
BROADWAY	070809N	000757	2	7626	60	6154	23.9	1.67	0.94	211	1.56	A	198.02	--	--	--
4TH ST N	070807A	000742	4	10723	60	6154	23.9	1.67	0.90	296	1.50	A	268.26	--	--	--
4TH AV NW	080763E	021811	2	679	60	6154	23.9	1.67	0.85	19	1.41	A	15.94	--	--	--
5TH ST S	070798D	000683	3	5576	60	6154	23.9	1.67	0.94	154	1.55	A	144.31	--	--	--
8TH ST S	062952D	000661	5	18747	60	6154	23.9	1.67	0.94	518	1.55	A	485.77	--	--	--
11TH ST	062949V	000639	4	6785	60	6154	23.9	1.67	0.88	188	1.45	A	164.50	--	--	--
11TH ST	062931K	002207	2	17287	60	6154	23.9	1.67	1.12	478	1.86	A	535.78	--	--	--
11TH ST	062932S	000639	2	18320	60	6154	23.9	1.67	1.14	506	1.90	A	579.77	--	--	--
11TH ST N	062930D	002207	4	7434	60	6154	23.9	1.67	0.88	205	1.46	A	181.15	--	--	--
14TH ST N	062927V	002180	3	3319	60	6154	23.9	1.67	0.86	92	1.43	A	79.00	--	--	--
14TH ST	062946A	000614	4	6623	60	6154	23.9	1.67	0.88	183	1.45	A	160.36	--	--	--
2ND AVE NE	071256X	009279	2	1981	60	6154	23.9	1.67	0.87	55	1.45	A	47.79	--	--	--
1ST AVE N	071257E	009287	4	11166	60	6154	23.9	1.67	0.89	309	1.48	A	274.79	--	--	--
Proposed Action																
	071122Y	003122	2	59	60	6741	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071123F	003206	2	59	60	6741	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071124M	003305	1	44	60	6741	39.9	3.44	1.73	2	2.44	A	1.80	1	2	1.05

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
HWY 3	071126B	003407	2	693	60	6741	39.9	3.44	1.75	33	2.47	A	28.57	14	2	1.07
	071129W	003507	1	59	60	6732	39.9	3.44	1.73	3	2.44	A	2.40	1	2	1.05
	071131X	003608	2	103	60	6732	39.9	3.44	1.73	5	2.44	A	4.20	2	2	1.05
	071132E	003709	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071133L	003807	2	74	60	6732	39.9	3.44	1.72	3	2.44	A	2.99	1	2	1.05
	071134T	003907	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071136G	004007	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071138V	004110	2	192	60	6732	39.9	3.44	1.72	9	2.44	A	7.79	4	2	1.05
	071140W	004209	1	59	60	6732	39.9	3.44	1.73	3	2.44	A	2.40	1	2	1.05
	071142K	004309	2	118	60	6732	39.9	3.44	1.73	6	2.44	A	4.80	2	2	1.05
WILCOX AV	071144Y	004385	2	1387	60	6732	39.9	3.44	1.79	66	2.54	A	58.60	27	2	1.10
ST HWY 38	071145F	004405	2	1460	60	6732	39.9	3.44	1.75	69	2.47	A	60.19	29	2	1.07
MAIN ST	071146M	004508	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071147U	004606	2	44	60	6732	39.9	3.44	1.72	2	2.43	A	1.80	1	2	1.05
	071149H	004706	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071150C	004806	1	30	60	6732	39.9	3.44	1.72	1	2.44	A	1.20	1	2	1.05
	071152R	004907	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071154E	004966	2	9226	60	6732	39.9	3.44	2.37	437	3.35	A	515.38	182	2	1.45
	071156T	004973	2	2640	60	6732	39.9	3.44	1.87	125	2.64	A	116.11	52	2	1.14
	071158G	005003	2	8533	60	6732	39.9	3.44	2.14	404	3.03	A	430.88	168	2	1.31
	071160H	005204	2	59	60	6741	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071161P	005304	1	30	60	6741	39.9	3.44	1.72	1	2.44	A	1.20	1	2	1.05
	071162W	005404	2	30	60	6741	39.9					A			2	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
								3.44	1.72	1	2.44		1.20	1		1.05
ND HWY 32	071163D	005504	2	1018	60	6741	39.9	3.44	1.74	48	2.46	A	41.77	20	2	1.06
MAIN ST	071164K	005522	2	9226	60	6741	39.9	3.44	2.37	437	3.35	A	515.82	182	2	1.45
	071165S	005604	2	59	60	6741	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071166Y	005701	2	177	60	6741	39.9	3.44	1.73	8	2.45	A	7.22	3	2	1.06
	071167F	005801	2	103	60	6741	39.9	3.44	1.73	5	2.44	A	4.20	2	2	1.06
	071171V	006109	2	738	60	6741	39.9	3.44	1.75	35	2.48	A	30.43	15	2	1.07
	071173J	006204	1	44	60	6741	39.9	3.44	1.73	2	2.44	A	1.80	1	2	1.05
	071174R	006268	2	192	60	6741	39.9	3.44	1.73	9	2.45	A	7.82	4	2	1.06
	071175X	006305	2	162	60	6741	39.9	3.44	1.73	8	2.45	A	6.61	3	2	1.06
	071180U	006824	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071185D	007131	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071188Y	007335	2	74	60	6732	39.9	3.44	1.72	3	2.44	A	3.00	1	2	1.05
	071190A	007531	1	89	60	6732	39.9	3.44	1.73	4	2.44	A	3.61	2	2	1.06
4TH ST	071191G	007608	2	1755	60	6732	39.9	3.44	1.82	83	2.57	A	75.05	35	2	1.11
1ST STREET	071192N	007632	2	1608	60	6732	39.9	3.44	1.79	76	2.53	A	67.67	32	2	1.09
	071224S	007731	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071226F	007830	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071228U	008030	2	44	60	6732	39.9	3.44	1.72	2	2.43	A	1.80	1	2	1.05
	071229B	008133	2	413	60	6732	39.9	3.44	1.74	20	2.45	A	16.90	8	2	1.06
	071232J	008343	2	74	60	6732	39.9	3.44	1.72	3	2.44	A	3.00	1	2	1.05
	071233R	008443	2	44	60	6732	39.9	3.44	1.72	2	2.43	A	1.80	1	2	1.05
	071235E	008512	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
SALISBURY ST	071236L	008543	2	811	60	6732	39.9	3.44	1.75	38	2.48	A	33.50	16	2	1.07
	071238A	008744	2	44	60	6732	39.9	3.44	1.72	2	2.43	A	1.80	1	2	1.05
	071239G	008843	2	752	60	6732	39.9	3.44	1.75	36	2.47	A	31.02	15	2	1.07
	071240B	008908	2	1519	60	6732	39.9	3.44	1.80	72	2.55	A	64.48	30	2	1.10
	071242P	009046	2	30	60	6732	39.9	3.44	1.72	1	2.43	A	1.20	1	2	1.05
	071244D	009266	2	44	60	6732	39.9	3.44	1.72	2	2.43	A	1.80	1	2	1.05
	071246S	009473	2	74	60	6732	39.9	3.44	1.72	3	2.44	A	3.00	1	2	1.05
	071248F	009476	2	988	60	6732	39.9	3.44	1.76	47	2.49	A	40.98	19	2	1.07
	071249M	009688	2	1151	60	6732	39.9	3.44	1.75	54	2.47	A	47.43	23	2	1.07
7 AVE NE	071250G	009748	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	071253C	009243	2	6180	60	6732	39.9	3.44	1.89	293	2.68	A	275.80	122	2	1.16
	071258L	009293	2	8419	40	6714	39.9	4.66	2.66	539	5.09	A	713.67	225	3	2.21
17TH SW	071260M	009425	2	457	40	6714	39.9	4.66	2.35	29	4.50	A	34.27	12	3	1.95
	071261U	009642	2	148	40	6714	39.9	4.66	2.34	9	4.47	A	10.98	4	3	1.94
OFF SYSTEM	086394F	008944	2	59	60	6732	39.9	4.07	4.10	569	6.63	A	1,856.96	568	962	5.25
	087633G	016299	1	30	60	6706	39.9	4.07	2.29	155	3.72	A	224.85	154	523	2.33
	087634N	016382	1	59	60	6706	39.9	3.44	1.72	3	2.44	A	2.40	1	2	1.05
	087635V	016593	1	59	60	6706	39.9	3.44	1.72	2	2.43	A	1.88	1	1	1.05
	087636C	016869	2	413	60	6706	39.9	3.44	1.73	13	2.45	A	10.66	1	0	1.05
	087641Y	017072	1	30	50	6723	39.9	3.67	1.84	2	2.85	A	1.91	1	4	1.05
	087642F	017282	1	118	50	6723	39.9	3.67	1.85	12	2.86	A	10.83	8	7	1.06
	087643M	017609	2	207	50	6723	39.9	3.93	1.97	7	3.18	A	6.88	1	0	1.37
	087644U	017815	1	15	50	6723	39.9					A			18	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
								3.93	1.97	3	3.18		3.16	3		1.38
	087646H	018014	1	30	50	6723	39.9	3.93	1.97	6	3.18	A	5.62	5	16	1.38
	087647P	018116	2	103	50	6723	39.9	3.93	1.97	4	3.17	A	3.44	0	0	1.37
BISMARCK AVE	087648W	018170	2	1254	50	6723	39.9	3.93	2.00	40	3.24	A	39.63	1	0	1.37
	087649D	018217	2	575	50	6723	39.9	3.93	1.98	20	3.19	A	19.81	2	0	1.38
	087651E	018387	1	44	50	6723	39.9	3.93	2.01	30	3.22	A	31.08	28	64	1.42
119TH ST	087652L	018548	1	708	50	6723	39.9	3.93	2.02	35	3.26	A	35.43	13	2	1.39
106TH STREET SE	087654A	018660	2	531	50	6723	39.9	3.93	1.98	18	3.20	A	17.15	1	0	1.37
	087655G	017385	1	15	50	6723	39.9	3.93	2.01	16	3.23	A	17.33	16	108	1.43
	087656N	017391	1	15	50	6723	39.9	3.93	1.98	12	3.19	A	12.77	12	81	1.39
	087657V	017501	1	30	50	6723	39.9	3.93	1.97	1	3.17	A	1.22	0	1	1.37
	087658C	018765	2	974	50	6723	39.9	3.93	1.99	31	3.21	A	30.13	0	0	1.37
	087659J	018965	2	177	50	6723	39.9	3.93	1.97	6	3.18	A	6.00	1	0	1.37
26TH ST	087660D	019286	2	4602	50	6723	39.9	3.93	2.10	167	3.41	A	176.84	22	0	1.40
24TH ST	087661K	019306	2	1401	50	6723	39.9	3.93	2.01	48	3.25	A	47.81	4	0	1.38
FRONT ST	087662S	019312	2	2434	50	6723	39.9	3.93	2.16	180	3.47	A	196.17	104	4	1.53
19TH	087665M	019340	4	11225	50	6723	39.9	3.93	2.09	385	3.39	A	399.79	32	0	1.43
12TH ST	087667B	019393	2	11402	50	6723	39.9	3.93	2.38	414	3.92	A	523.33	55	0	1.48
5TH ST	087674L	019443	2	6549	50	6723	39.9	3.93	2.16	459	3.48	A	496.88	253	4	1.50
3RD ST	087675T	019457	2	19411	50	6723	39.9	3.93	2.71	869	4.39	A	1,170.43	257	1	1.86
	087683K	019858	2	988	50	6723	39.9	3.93	2.10	179	3.37	A	196.24	148	15	1.52
	087684S	019829	1	3702	50	6723	39.9	3.93	2.64	554	4.23	A	765.66	437	12	1.93
	087702M	014171	1	44	60	6706	39.9	3.69	1.88	23	2.80	A	24.28	22	50	1.41

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ND HWY 3	087704B	014314	2	2154	60	6706	39.9	3.69	2.15	143	3.17	A	159.33	83	4	1.76
	087705H	014366	1	74	60	6706	39.9	3.44	1.72	3	2.43	A	2.48	1	1	1.05
	087706P	014666	1	118	60	6706	39.9	3.44	1.75	46	2.46	A	41.18	42	36	1.07
3RD AVE.	087709K	015085	2	2043	60	6706	39.9	3.44	1.76	58	2.50	A	50.65	1	0	1.05
	087710E	015578	1	30	60	6706	39.9	3.44	1.73	3	2.44	A	2.75	2	8	1.05
	087713A	016080	1	59	60	6706	39.9	3.44	1.76	42	2.48	A	38.68	40	68	1.10
MITCHELL AVE	087715N	015106	2	1416	60	6706	39.9	3.44	1.75	40	2.47	A	34.22	1	0	1.05
HILLS AVE W	087716V	015135	2	413	60	6706	39.9	3.44	1.73	13	2.45	A	10.66	1	0	1.05
MITCHELL AVE	087717C	015186	1	1416	60	6706	39.9	3.44	1.82	67	2.59	A	61.08	28	2	1.08
	087718J	015274	1	74	60	6706	39.9	3.44	1.73	10	2.44	A	8.98	8	11	1.06
	087719R	015375	2	118	60	6706	39.9	3.44	1.80	31	2.53	A	29.64	28	24	1.14
	087720K	015475	1	74	60	6706	39.9	3.44	1.73	3	2.44	A	2.99	1	2	1.05
	087721S	015680	2	89	60	6706	39.9	3.44	1.72	5	2.43	A	4.10	2	3	1.05
	087722Y	015879	2	59	60	6706	39.9	3.44	1.72	3	2.43	A	2.65	1	2	1.05
MAIN ST	087725U	016183	2	9226	60	6706	39.9	3.44	1.95	257	2.80	A	271.61	2	0	1.05
YEGAN ROAD	087726B	019165	2	5539	50	6723	39.9	3.67	2.02	176	3.20	A	199.42	1	0	1.05
	087760H	009723	2	59	40	6714	39.9	4.02	2.25	184	3.85	A	206.67	181	308	1.33
	087762W	009933	1	15	40	6714	39.9	4.28	2.34	125	4.16	A	152.13	125	846	1.64
1ST AVE	087764K	009984	2	9698	40	6714	39.9	4.66	2.66	363	5.18	A	526.49	2	0	1.94
	087766Y	010239	1	162	40	6714	39.9	4.66	2.34	6	4.48	A	7.35	0	0	1.93
	087768M	010639	1	74	40	6714	39.9	4.66	2.68	262	5.02	A	405.76	259	352	2.49
BROADWAY	087769U	010743	1	15	40	6714	39.9	4.66	2.34	5	4.47	A	5.89	4	29	1.95
	087781B	010903	2	2640	40	6714	39.9					A			0	

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								4.66	2.43	100	4.67		122.58	2		1.94
	087782H	011588	1	59	60	6706	39.9	4.07	2.04	2	3.32	A	1.84	0	1	1.93
MAIN	087783P	012156	2	9226	60	6706	39.9	4.07	2.45	326	4.00	A	385.04	71	1	2.10
HAYES ST	087784W	012146	2	1490	60	6706	39.9	3.44	1.75	42	2.48	A	36.55	1	0	1.05
	087785D	011940	1	59	60	6706	39.9	3.44	2.06	183	2.83	A	222.73	181	308	1.44
	087786K	011737	1	162	60	6706	39.9	3.44	1.76	34	2.48	A	30.63	29	18	1.08
	087787S	011501	1	103	60	6706	39.9	3.44	1.73	4	2.44	A	3.42	1	1	1.05
	087788Y	011334	1	89	60	6706	39.9	3.44	1.73	6	2.44	A	4.90	3	4	1.05
EUCLID AVE	087790A	011285	2	1151	60	6706	39.9	3.44	1.75	34	2.47	A	29.02	2	0	1.05
	087791G	011234	1	103	40	6714	39.9	4.02	2.02	6	3.58	A	5.91	2	2	1.05
	087792N	010950	1	74	40	6714	39.9	4.02	2.04	25	3.60	A	23.68	23	31	1.07
	087793V	012245	1	59	60	6706	39.9	4.07	2.05	4	3.33	A	4.71	3	5	1.94
	087794C	012346	1	310	60	6706	39.9	4.07	2.05	11	3.34	A	9.62	2	1	1.94
	087795J	012449	1	30	60	6706	39.9	3.44	1.72	2	2.43	A	1.71	1	4	1.05
	087798E	012994	2	236	60	6706	39.9	3.44	1.74	13	2.45	A	10.93	6	3	1.06
	087799L	013270	1	44	60	6706	39.9	3.44	1.72	2	2.43	A	1.54	1	1	1.05
	087800D	013471	2	162	60	6706	39.9	3.44	1.73	9	2.44	A	7.88	5	3	1.05
	087801K	013571	2	44	60	6706	39.9	3.44	1.72	2	2.43	A	1.79	1	2	1.05
4TH ST	087804F	013771	2	974	60	6706	39.9	3.44	1.74	30	2.46	A	25.76	3	0	1.05
FRONT ST	087668H	019390	2	4219	50	6723	39.9	3.67	1.90	134	2.96	A	135.42	1	0	1.05
	087699G	013670	1	30	60	6706	39.9	3.44	1.74	20	2.45	A	18.02	19	65	1.07
1ST AVE N	071257E	009287	4	11166	60	6732	39.9	3.69	1.97	404	2.94	A	377.63	95	1	1.46
2ND AVE NE	071256X	009279	2	1981	60	6732	39.9	3.44	1.76	55	2.49	A	48.31	1	0	1.05

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
7TH ST SE	103805G	004050	2	44	60	6732	39.9	3.44	1.78	221	2.51	A	209.94	220	498	1.12
3RD ST SE	103730K	000094	2	4226	60	6732	39.9	3.44	1.82	156	2.57	A	140.15	39	1	1.10
COUNTY RD	071241H	008944	2	59	60	6732	39.9	3.44	1.72	3	2.44	A	2.14	1	1	1.05
CR 23/CMC 0927	071120K	003018	2	103	60	6741	39.9	3.44	1.78	86	2.51	A	81.31	83	81	1.12
154TH AVE SE	071109K	002917	2	74	60	6741	39.9	3.44	1.72	3	2.44	A	2.74	1	2	1.05
3RD AV	071108D	002800	2	605	60	6741	39.9	3.44	1.74	19	2.46	A	15.99	2	0	1.06
6TH AV	071105H	002778	2	1357	60	6741	39.9	3.44	1.76	39	2.49	A	33.85	1	0	1.05
LANGER AV/ ND 18	071103U	002770	2	6947	60	6741	39.9	3.44	1.83	204	2.61	A	189.17	12	0	1.07
15TH AVE	071101F	002716	2	221	60	6741	39.9	3.44	1.76	33	2.49	A	29.93	27	12	1.10
157TH AVE SE	071100Y	002615	2	59	60	6741	39.9	3.44	1.82	139	2.56	A	137.24	137	232	1.17
158TH AVE SE	071099G	002520	2	207	60	6741	39.9	3.44	1.73	10	2.45	A	8.69	4	2	1.06
159TH AVE SE	071098A	002419	1	30	60	6741	39.9	3.44	1.72	2	2.44	A	1.72	1	4	1.05
177TH AVE SE	071097T	002318	2	30	60	6741	39.9	3.44	1.73	5	2.44	A	4.32	4	14	1.06
161ST AVE SE	071095E	002217	2	74	60	6741	39.9	3.44	1.72	3	2.44	A	2.22	1	1	1.05
7TH AV/CMC0941	071092J	002016	2	3717	60	6741	39.9	3.44	1.83	103	2.61	A	96.73	1	0	1.05
164TH AVE SE	071089B	001918	1	74	60	6741	39.9	3.44	1.73	3	2.44	A	3.00	1	2	1.05
CMC 0941SPUR	071087M	001817	2	693	60	6741	39.9	3.44	1.85	93	2.59	A	89.59	73	11	1.18
166TH AVE FIELD	071086F	001717	1	30	60	6741	39.9	3.44	1.73	2	2.44	A	1.98	1	5	1.06
38TH STREET W	071085Y	001616	2	162	60	6741	39.9	3.44	1.74	18	2.46	A	16.17	14	8	1.07
26TH ST W	071084S	001515	2	162	60	6741	39.9	3.44	1.73	5	2.44	A	4.27	1	0	1.05
9TH ST EAST	071009F	001208	2	1387	60	6741	39.9	3.44	1.74	42	2.47	A	35.45	3	0	1.06
27TH ST N	070828T	000915	2	21978	60	6741	39.9	3.44	2.13	611	3.11	A	754.66	3	0	1.06
8TH ST	070810H	000771	4	7213	60	6741	39.9					A			0	

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
								3.44	1.82	227	2.58		205.99	27		1.07
BROADWAY	070809N	000757	2	7626	60	6741	39.9	3.44	2.26	645	3.12	A	770.73	434	6	1.56
4TH ST N	070807A	000742	4	10723	60	6741	39.9	3.44	1.87	439	2.65	A	406.26	142	1	1.15
4TH AV NW	080763E	021811	2	679	60	6741	39.9	3.44	1.85	169	2.60	A	166.79	151	22	1.19
5TH ST S	070798D	000683	3	5576	60	6741	39.9	3.44	1.90	366	2.70	A	348.67	212	4	1.14
8TH ST S	062952D	000661	5	18747	60	6741	39.9	3.44	1.84	532	2.63	A	497.92	13	0	1.07
11TH ST	062949V	000639	4	6785	60	6741	39.9	3.44	1.88	298	2.64	A	274.43	110	2	1.18
11TH ST	062931K	002207	2	17287	60	6741	39.9	3.44	2.12	848	3.04	A	905.84	370	2	1.18
11TH ST	062932S	000639	2	18320	60	6741	39.9	3.44	2.08	640	3.01	A	705.08	134	1	1.11
11TH ST N	062930D	002207	4	7434	60	6741	39.9	3.44	2.08	547	2.88	A	589.30	341	5	1.42
14TH ST N	062927V	002180	3	3319	60	6741	39.9	3.44	2.08	453	2.87	A	520.66	362	11	1.45
14TH ST	062946A	000614	4	6623	60	6741	39.9	3.44	1.82	330	2.57	A	298.36	147	2	1.11
2ND AVE NE	071256X	009279	2	1981	60	6732	39.9	3.44	1.79	120	2.54	A	107.97	66	3	1.09
1ST AVE N	071257E	009287	4	11166	60	6732	39.9	3.44	1.82	439	2.58	A	396.95	131	1	1.11

Table V.1-41. Grade-Crossing Delay, Segment 18 - Southern from Mandan, ND to Fargo, ND, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
	071122Y	003122	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071123F	003206	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071124M	003305	1	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071126B	003407	2	693	60	6154	23.9	1.67	0.85	19	1.40	A	16.22	--	--	--
	071129W	003507	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	071131X	003608	2	103	60	6154	23.9	1.67	0.84	3	1.39	A	2.38	--	--	--
	071132E	003709	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071133L	003807	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
	071134T	003907	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071136G	004007	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
HWY 3	071138V	004110	2	192	60	6154	23.9	1.67	0.83	5	1.38	A	4.42	--	--	--
	071140W	004209	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	071142K	004309	2	118	60	6154	23.9	1.67	0.84	3	1.39	A	2.73	--	--	--
WILCOX AV	071144Y	004385	2	1387	60	6154	23.9	1.67	0.87	38	1.44	A	33.29	--	--	--
ST HWY 38	071145F	004405	2	1460	60	6154	23.9	1.67	0.85	40	1.40	A	34.19	--	--	--
	071146M	004508	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071147U	004606	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071149H	004706	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071150C	004806	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	071152R	004907	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
MAIN ST	071154E	004966	2	9226	60	6154	23.9	1.67	1.15	255	1.90	A	292.78	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
BROADWAY	071156T	004973	2	2640	60	6154	23.9	1.67	0.90	73	1.50	A	65.96	--	--	--
RAILROAD ST	071158G	005003	2	8533	60	6154	23.9	1.67	1.04	236	1.72	A	244.78	--	--	--
	071160H	005204	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071161P	005304	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	071162W	005404	2	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
ND HWY 32	071163D	005504	2	1018	60	6154	23.9	1.67	0.84	28	1.40	A	23.71	--	--	--
MAIN ST	071164K	005522	2	9226	60	6154	23.9	1.67	1.15	255	1.90	A	292.78	--	--	--
	071165S	005604	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071166Y	005701	2	177	60	6154	23.9	1.67	0.84	5	1.39	A	4.10	--	--	--
	071167F	005801	2	103	60	6154	23.9	1.67	0.84	3	1.39	A	2.38	--	--	--
	071171V	006109	2	738	60	6154	23.9	1.67	0.85	20	1.41	A	17.27	--	--	--
	071173J	006204	1	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071174R	006268	2	192	60	6154	23.9	1.67	0.84	5	1.39	A	4.44	--	--	--
	071175X	006305	2	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.75	--	--	--
	071180U	006824	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071185D	007131	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071188Y	007335	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
	071190A	007531	1	89	60	6154	23.9	1.67	0.84	2	1.39	A	2.05	--	--	--
4TH ST	071191G	007608	2	1755	60	6154	23.9	1.67	0.88	49	1.46	A	42.63	--	--	--
1ST STREET	071192N	007632	2	1608	60	6154	23.9	1.67	0.86	44	1.43	A	38.44	--	--	--
	071224S	007731	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071226F	007830	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071228U	008030	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
SALISBURY ST	071229B	008133	2	413	60	6154	23.9	1.67	0.84	11	1.39	A	9.60	--	--	--
	071232J	008343	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
	071233R	008443	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071235E	008512	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	071236L	008543	2	811	60	6154	23.9	1.67	0.85	22	1.41	A	19.03	--	--	--
	071238A	008744	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071239G	008843	2	752	60	6154	23.9	1.67	0.85	21	1.41	A	17.62	--	--	--
	071240B	008908	2	1519	60	6154	23.9	1.67	0.87	42	1.45	A	36.63	--	--	--
	071242P	009046	2	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	071244D	009266	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	071246S	009473	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
	071248F	009476	2	988	60	6154	23.9	1.67	0.85	27	1.41	A	23.28	--	--	--
	071249M	009688	2	1151	60	6154	23.9	1.67	0.85	32	1.41	A	26.95	--	--	--
	071250G	009748	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
7 AVE NE	071253C	009243	2	6180	60	6154	23.9	1.67	0.92	171	1.52	A	156.68	--	--	--
2ND AVE NE	071256X	009279	2	1981	40	6154	23.9	1.67	0.87	55	1.45	A	47.79	--	--	--
1ST AVE N	071257E	009287	4	11166	40	6154	23.9	1.67	0.89	309	1.48	A	274.79	--	--	--
2ND AVE NW	071258L	009293	2	8419	40	6154	23.9	2.25	1.29	314	2.88	A	403.76	--	--	--
17TH SW	071260M	009425	2	457	60	6154	23.9	2.25	1.14	17	2.54	A	19.39	--	--	--
	071261U	009642	2	148	60	6154	23.9	2.25	1.13	6	2.53	A	6.21	--	--	--
	086394F	008944	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
	087633G	016299	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	087634N	016382	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
OFF SYSTEM	087635V	016593	1	59	50	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	087636C	016869	2	413	50	6154	23.9	1.67	0.84	11	1.40	A	9.63	--	--	--
	087641Y	017072	1	30	50	6154	23.9	1.90	0.95	1	1.80	A	0.88	--	--	--
	087642F	017282	1	118	50	6154	23.9	1.90	0.96	4	1.81	A	3.55	--	--	--
	087643M	017609	2	207	50	6154	23.9	1.90	0.95	7	1.80	A	6.21	--	--	--
	087644U	017815	1	15	50	6154	23.9	1.90	0.95	0	1.80	A	0.44	--	--	--
BISMARCK AVE	087646H	018014	1	30	50	6154	23.9	1.90	0.95	1	1.80	A	0.88	--	--	--
	087647P	018116	2	103	50	6154	23.9	1.90	0.95	3	1.80	A	3.10	--	--	--
	087648W	018170	2	1254	50	6154	23.9	1.90	0.99	40	1.86	A	38.96	--	--	--
	087649D	018217	2	575	50	6154	23.9	1.90	0.96	18	1.82	A	17.44	--	--	--
	087651E	018387	1	44	50	6154	23.9	1.90	0.95	1	1.80	A	1.33	--	--	--
	087652L	018548	1	708	50	6154	23.9	1.90	0.99	22	1.87	A	22.11	--	--	--
119TH ST 106TH STREET SE	087654A	018660	2	531	50	6154	23.9	1.90	0.96	17	1.82	A	16.14	--	--	--
	087655G	017385	1	15	50	6154	23.9	1.90	0.95	0	1.80	A	0.44	--	--	--
	087656N	017391	1	15	50	6154	23.9	1.90	0.95	0	1.80	A	0.44	--	--	--
	087657V	017501	1	30	50	6154	23.9	1.90	0.95	1	1.80	A	0.88	--	--	--
	087658C	018765	2	974	50	6154	23.9	1.90	0.97	31	1.84	A	29.79	--	--	--
	087659J	018965	2	177	50	6154	23.9	1.90	0.95	6	1.80	A	5.32	--	--	--
26TH ST	087660D	019286	2	4602	50	6154	23.9	1.90	1.06	145	2.01	A	154.08	--	--	--
24TH ST	087661K	019306	2	1401	50	6154	23.9	1.90	0.99	44	1.87	A	43.74	--	--	--
FRONT ST	087662S	019312	2	2434	50	6154	23.9	1.90	1.02	77	1.94	A	78.49	--	--	--
19TH	087665M	019340	4	11225	50	6154	23.9	1.90	1.04	354	1.96	A	366.39	--	--	--
12TH ST	087667B	019393	2	11402	50	6154	23.9	1.90	1.29	359	2.44	A	463.38	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
5TH ST	087674L	019443	2	6549	50	6154	23.9	1.90	1.05	206	1.99	A	217.07	--	--	--
3RD ST	087675T	019457	2	19411	50	6154	23.9	1.90	1.33	612	2.52	A	816.54	--	--	--
	087683K	019858	2	988	60	6154	23.9	1.90	0.98	31	1.85	A	30.46	--	--	--
	087684S	019829	1	3702	60	6154	23.9	1.90	1.22	117	2.30	A	142.06	--	--	--
	087702M	014171	1	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
ND HWY 3	087704B	014314	2	2154	60	6154	23.9	1.67	0.85	60	1.42	A	50.84	--	--	--
	087705H	014366	1	74	60	6154	23.9	1.67	0.84	2	1.39	A	1.71	--	--	--
	087706P	014666	1	118	60	6154	23.9	1.67	0.84	3	1.39	A	2.74	--	--	--
3RD AVE.	087709K	015085	2	2043	60	6154	23.9	1.67	0.87	56	1.45	A	49.36	--	--	--
	087710E	015578	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	087713A	016080	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
MITCHELL AVE	087715N	015106	2	1416	60	6154	23.9	1.67	0.86	39	1.43	A	33.70	--	--	--
HILLS AVE W	087716V	015135	2	413	60	6154	23.9	1.67	0.84	11	1.40	A	9.63	--	--	--
MITCHELL AVE	087717C	015186	1	1416	60	6154	23.9	1.67	0.91	39	1.51	A	35.60	--	--	--
	087718J	015274	1	74	60	6154	23.9	1.67	0.84	2	1.39	A	1.71	--	--	--
	087719R	015375	2	118	60	6154	23.9	1.67	0.84	3	1.38	A	2.72	--	--	--
	087720K	015475	1	74	60	6154	23.9	1.67	0.84	2	1.39	A	1.71	--	--	--
	087721S	015680	2	89	60	6154	23.9	1.67	0.83	2	1.38	A	2.04	--	--	--
	087722Y	015879	2	59	50	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
MAIN ST	087725U	016183	2	9226	40	6154	23.9	1.67	1.06	255	1.76	A	270.07	--	--	--
YEGAN ROAD	087726B	019165	2	5539	40	6154	23.9	1.90	1.14	175	2.15	A	198.39	--	--	--
	087760H	009723	2	59	40	6154	23.9	2.25	1.13	2	2.52	A	2.48	--	--	--
	087762W	009933	1	15	40	6154	23.9	2.25	1.13	1	2.52	A	0.62	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
1ST AVE	087764K	009984	2	9698	40	6154	23.9	2.25	1.45	362	3.25	A	524.58	--	--	--
	087766Y	010239	1	162	40	6154	23.9	2.25	1.14	6	2.54	A	6.87	--	--	--
	087768M	010639	1	74	40	6154	23.9	2.25	1.13	3	2.53	A	3.11	--	--	--
	087769U	010743	1	15	60	6154	23.9	2.25	1.13	1	2.52	A	0.62	--	--	--
BROADWAY	087781B	010903	2	2640	60	6154	23.9	2.25	1.22	99	2.73	A	120.20	--	--	--
	087782H	011588	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
MAIN	087783P	012156	2	9226	60	6154	23.9	1.67	1.15	255	1.90	A	292.78	--	--	--
HAYES ST	087784W	012146	2	1490	60	6154	23.9	1.67	0.86	41	1.43	A	35.52	--	--	--
	087785D	011940	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	087786K	011737	1	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.77	--	--	--
	087787S	011501	1	103	60	6154	23.9	1.67	0.84	3	1.39	A	2.39	--	--	--
EUCLID AVE	087788Y	011334	1	89	40	6154	23.9	1.67	0.84	2	1.39	A	2.05	--	--	--
	087790A	011285	2	1151	40	6154	23.9	1.67	0.86	32	1.42	A	27.21	--	--	--
	087791G	011234	1	103	60	6154	23.9	2.25	1.13	4	2.53	A	4.36	--	--	--
	087792N	010950	1	74	60	6154	23.9	2.25	1.13	3	2.53	A	3.10	--	--	--
	087793V	012245	1	59	60	6154	23.9	1.67	0.84	2	1.39	A	1.36	--	--	--
	087794C	012346	1	310	60	6154	23.9	1.67	0.84	9	1.40	A	7.23	--	--	--
	087795J	012449	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
	087798E	012994	2	236	60	6154	23.9	1.67	0.84	7	1.39	A	5.46	--	--	--
	087799L	013270	1	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	087800D	013471	2	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.75	--	--	--
4TH ST	087801K	013571	2	44	50	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
	087804F	013771	2	974	60	6154	23.9	1.67	0.85	27	1.41	A	22.93	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
FRONT ST	087668H	019390	2	4219	60	6154	23.9	1.90	1.01	133	1.92	A	134.65	--	--	--
	087699G	013670	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
1ST AVE N	071257E	009287	4	11166	60	6154	23.9	1.67	0.89	309	1.48	A	274.79	--	--	--
2ND AVE NE	071256X	009279	2	1981	60	6154	23.9	1.67	0.87	55	1.45	A	47.79	--	--	--
7TH ST SE	103805G	004050	2	44	60	6154	23.9	1.67	0.83	1	1.38	A	1.02	--	--	--
3RD ST SE	103730K	000094	2	4226	60	6154	23.9	1.67	0.89	117	1.47	A	103.81	--	--	--
COUNTY RD	071241H	008944	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
CR 23/CMC 0927	071120K	003018	2	103	60	6154	23.9	1.67	0.84	3	1.39	A	2.38	--	--	--
154TH AVE SE	071109K	002917	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
3RD AV	071108D	002800	2	605	60	6154	23.9	1.67	0.85	17	1.41	A	14.18	--	--	--
6TH AV	071105H	002778	2	1357	60	6154	23.9	1.67	0.87	38	1.44	A	32.55	--	--	--
LANGER AV/ ND 18	071103U	002770	2	6947	60	6154	23.9	1.67	0.93	192	1.54	A	178.37	--	--	--
15TH AVE	071101F	002716	2	221	60	6154	23.9	1.67	0.84	6	1.39	A	5.13	--	--	--
157TH AVE SE	071100Y	002615	2	59	60	6154	23.9	1.67	0.83	2	1.38	A	1.36	--	--	--
158TH AVE SE	071099G	002520	2	207	60	6154	23.9	1.67	0.84	6	1.39	A	4.78	--	--	--
159TH AVE SE	071098A	002419	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
177TH AVE SE	071097T	002318	2	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
161ST AVE SE	071095E	002217	2	74	60	6154	23.9	1.67	0.83	2	1.38	A	1.70	--	--	--
7TH AV/CMC0941	071092J	002016	2	3717	60	6154	23.9	1.67	0.94	103	1.55	A	96.21	--	--	--
164TH AVE SE	071089B	001918	1	74	60	6154	23.9	1.67	0.84	2	1.39	A	1.71	--	--	--
CMC 0941SPUR	071087M	001817	2	693	60	6154	23.9	1.67	0.85	19	1.41	A	16.30	--	--	--
166TH AVE FIELD	071086F	001717	1	30	60	6154	23.9	1.67	0.83	1	1.38	A	0.68	--	--	--
38TH STREET W	071085Y	001616	2	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.75	--	--	--

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26TH ST W	071084S	001515	2	162	60	6154	23.9	1.67	0.84	4	1.39	A	3.75	--	--	--
9TH ST EAST	071009F	001208	2	1387	60	6154	23.9	1.67	0.85	38	1.41	A	32.59	--	--	--
27TH ST N	070828T	000915	2	21978	60	6154	23.9	1.67	1.24	608	2.05	A	751.80	--	--	--
8TH ST	070810H	000771	4	7213	60	6154	23.9	1.67	0.91	199	1.51	A	181.16	--	--	--
BROADWAY	070809N	000757	2	7626	60	6154	23.9	1.67	0.94	211	1.56	A	198.02	--	--	--
4TH ST N	070807A	000742	4	10723	60	6154	23.9	1.67	0.90	296	1.50	A	268.26	--	--	--
4TH AV NW	080763E	021811	2	679	60	6154	23.9	1.67	0.85	19	1.41	A	15.94	--	--	--
5TH ST S	070798D	000683	3	5576	60	6154	23.9	1.67	0.94	154	1.55	A	144.31	--	--	--
8TH ST S	062952D	000661	5	18747	60	6154	23.9	1.67	0.94	518	1.55	A	485.77	--	--	--
11TH ST	062949V	000639	4	6785	60	6154	23.9	1.67	0.88	188	1.45	A	164.50	--	--	--
11TH ST	062931K	002207	2	17287	60	6154	23.9	1.67	1.12	478	1.86	A	535.78	--	--	--
11TH ST	062932S	000639	2	18320	60	6154	23.9	1.67	1.14	506	1.90	A	579.77	--	--	--
11TH ST N	062930D	002207	4	7434	60	6154	23.9	1.67	0.88	205	1.46	A	181.15	--	--	--
14TH ST N	062927V	002180	3	3319	60	6154	23.9	1.67	0.86	92	1.43	A	79.00	--	--	--
14TH ST	062946A	000614	4	6623	60	6154	23.9	1.67	0.88	183	1.45	A	160.36	--	--	--
Proposed Action																
	071122Y	003122	2	59	60	6741	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071123F	003206	2	59	60	6741	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071124M	003305	1	44	60	6741	32.9	3.44	1.73	2	1.98	A	1.46	0	1	0.59
	071126B	003407	2	693	60	6741	32.9	3.44	1.75	27	2.01	A	23.17	8	1	0.60
	071129W	003507	1	59	60	6732	32.9	3.44	1.73	2	1.98	A	1.95	1	1	0.59
	071131X	003608	2	103	60	6732	32.9	3.44	1.73	4	1.98	A	3.40	1	1	0.59
	071132E	003709	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59

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HWY 3	071133L	003807	2	74	60	6732	32.9	3.44	1.72	3	1.98	A	2.43	1	1	0.59
	071134T	003907	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071136G	004007	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071138V	004110	2	192	60	6732	32.9	3.44	1.72	7	1.98	A	6.32	2	1	0.59
	071140W	004209	1	59	60	6732	32.9	3.44	1.73	2	1.98	A	1.95	1	1	0.59
	071142K	004309	2	118	60	6732	32.9	3.44	1.73	5	1.98	A	3.89	1	1	0.59
WILCOX AV	071144Y	004385	2	1387	60	6732	32.9	3.44	1.79	54	2.06	A	47.53	15	1	0.62
ST HWY 38	071145F	004405	2	1460	60	6732	32.9	3.44	1.75	57	2.01	A	48.82	16	1	0.60
MAIN ST	071146M	004508	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071147U	004606	2	44	60	6732	32.9	3.44	1.72	2	1.97	A	1.46	0	1	0.59
	071149H	004706	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071150C	004806	1	30	60	6732	32.9	3.44	1.72	1	1.98	A	0.97	0	1	0.59
	071152R	004907	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071154E	004966	2	9226	60	6732	32.9	3.44	2.37	357	2.72	A	417.99	102	1	0.81
BROADWAY	071156T	004973	2	2640	60	6732	32.9	3.44	1.87	102	2.14	A	94.17	29	1	0.64
RAILROAD ST	071158G	005003	2	8533	60	6732	32.9	3.44	2.14	331	2.46	A	349.46	95	1	0.74
ND HWY 32	071160H	005204	2	59	60	6741	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071161P	005304	1	30	60	6741	32.9	3.44	1.72	1	1.98	A	0.97	0	1	0.59
	071162W	005404	2	30	60	6741	32.9	3.44	1.72	1	1.97	A	0.97	0	1	0.59
	071163D	005504	2	1018	60	6741	32.9	3.44	1.74	39	2.00	A	33.87	11	1	0.60
	071164K	005522	2	9226	60	6741	32.9	3.44	2.37	357	2.72	A	418.24	102	1	0.82
	071165S	005604	2	59	60	6741	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071166Y	005701	2	177	60	6741	32.9	3.44	1.73	7	1.98	A	5.85	2	1	0.59

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4TH ST 1ST STREET	071167F	005801	2	103	60	6741	32.9	3.44	1.73	4	1.98	A	3.41	1	1	0.59
	071171V	006109	2	738	60	6741	32.9	3.44	1.75	29	2.01	A	24.67	8	1	0.60
	071173J	006204	1	44	60	6741	32.9	3.44	1.73	2	1.98	A	1.46	0	1	0.59
	071174R	006268	2	192	60	6741	32.9	3.44	1.73	7	1.98	A	6.34	2	1	0.60
	071175X	006305	2	162	60	6741	32.9	3.44	1.73	6	1.98	A	5.36	2	1	0.59
	071180U	006824	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071185D	007131	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071188Y	007335	2	74	60	6732	32.9	3.44	1.72	3	1.98	A	2.43	1	1	0.59
	071190A	007531	1	89	60	6732	32.9	3.44	1.73	3	1.98	A	2.92	1	1	0.59
	071191G	007608	2	1755	60	6732	32.9	3.44	1.82	68	2.08	A	60.87	19	1	0.62
	071192N	007632	2	1608	60	6732	32.9	3.44	1.79	62	2.05	A	54.88	18	1	0.61
	071224S	007731	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071226F	007830	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071228U	008030	2	44	60	6732	32.9	3.44	1.72	2	1.97	A	1.46	0	1	0.59
	071229B	008133	2	413	60	6732	32.9	3.44	1.74	16	1.99	A	13.70	5	1	0.60
	071232J	008343	2	74	60	6732	32.9	3.44	1.72	3	1.98	A	2.43	1	1	0.59
SALISBURY ST	071233R	008443	2	44	60	6732	32.9	3.44	1.72	2	1.97	A	1.46	0	1	0.59
	071235E	008512	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	071236L	008543	2	811	60	6732	32.9	3.44	1.75	31	2.01	A	27.17	9	1	0.60
	071238A	008744	2	44	60	6732	32.9	3.44	1.72	2	1.97	A	1.46	0	1	0.59
	071239G	008843	2	752	60	6732	32.9	3.44	1.75	29	2.01	A	25.16	8	1	0.60
	071240B	008908	2	1519	60	6732	32.9	3.44	1.80	59	2.07	A	52.30	17	1	0.62
	071242P	009046	2	30	60	6732	32.9	3.44	1.72	1	1.97	A	0.97	0	1	0.59

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
	071244D	009266	2	44	60	6732	32.9	3.44	1.72	2	1.97	A	1.46	0	1	0.59
	071246S	009473	2	74	60	6732	32.9	3.44	1.72	3	1.98	A	2.43	1	1	0.59
	071248F	009476	2	988	60	6732	32.9	3.44	1.76	38	2.02	A	33.24	11	1	0.60
	071249M	009688	2	1151	60	6732	32.9	3.44	1.75	45	2.01	A	38.47	13	1	0.60
	071250G	009748	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
7 AVE NE	071253C	009243	2	6180	60	6732	32.9	3.44	1.89	239	2.17	A	223.69	69	1	0.65
2ND AVE NE	071256X	009279	2	1981	40	6732	32.9	3.44	1.80	77	2.07	A	68.23	22	1	0.62
1ST AVE N	071257E	009287	4	11166	40	6732	32.9	3.44	1.84	433	2.11	A	392.32	124	1	0.63
2ND AVE NW	071258L	009293	2	8419	40	6714	32.9	4.66	2.66	441	4.12	A	578.09	127	2	1.24
17TH SW	071260M	009425	2	457	60	6714	32.9	4.66	2.35	24	3.64	A	27.76	7	2	1.10
	071261U	009642	2	148	60	6714	32.9	4.66	2.34	8	3.62	A	8.90	2	2	1.09
	086394F	008944	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	087633G	016299	1	30	60	6706	32.9	3.44	1.72	1	1.97	A	0.97	0	1	0.59
	087634N	016382	1	59	60	6706	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	087635V	016593	1	59	50	6706	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
OFF SYSTEM	087636C	016869	2	413	50	6706	32.9	3.44	1.74	16	1.99	A	13.72	5	1	0.59
	087641Y	017072	1	30	50	6723	32.9	3.93	1.97	1	2.57	A	1.26	0	1	0.77
	087642F	017282	1	118	50	6723	32.9	3.93	1.98	5	2.58	A	5.08	1	1	0.78
	087643M	017609	2	207	50	6723	32.9	3.93	1.97	9	2.58	A	8.87	3	1	0.77
	087644U	017815	1	15	50	6723	32.9	3.93	1.96	1	2.57	A	0.63	0	1	0.77
	087646H	018014	1	30	50	6723	32.9	3.93	1.97	1	2.57	A	1.26	0	1	0.77
	087647P	018116	2	103	50	6723	32.9	3.93	1.97	5	2.57	A	4.43	1	1	0.77
BISMARCK AVE	087648W	018170	2	1254	50	6723	32.9	3.93	2.04	55	2.67	A	55.70	16	1	0.80

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
119TH ST 106TH STREET SE	087649D	018217	2	575	50	6723	32.9	3.93	1.99	25	2.60	A	24.93	7	1	0.78
	087651E	018387	1	44	50	6723	32.9	3.93	1.97	2	2.57	A	1.90	1	1	0.77
	087652L	018548	1	708	50	6723	32.9	3.93	2.05	31	2.68	A	31.61	9	1	0.80
	087654A	018660	2	531	50	6723	32.9	3.93	1.99	23	2.61	A	23.07	7	1	0.78
	087655G	017385	1	15	50	6723	32.9	3.93	1.96	1	2.57	A	0.63	0	1	0.77
	087656N	017391	1	15	50	6723	32.9	3.93	1.96	1	2.57	A	0.63	0	1	0.77
	087657V	017501	1	30	50	6723	32.9	3.93	1.97	1	2.57	A	1.26	0	1	0.77
	087658C	018765	2	974	50	6723	32.9	3.93	2.01	43	2.63	A	42.59	12	1	0.79
26TH ST	087659J	018965	2	177	50	6723	32.9	3.93	1.97	8	2.58	A	7.61	2	1	0.78
	087660D	019286	2	4602	50	6723	32.9	3.93	2.20	203	2.87	A	220.27	58	1	0.86
	087661K	019306	2	1401	50	6723	32.9	3.93	2.05	62	2.68	A	62.53	18	1	0.80
	087662S	019312	2	2434	50	6723	32.9	3.93	2.12	108	2.77	A	112.21	31	1	0.83
	087665M	019340	4	11225	50	6723	32.9	3.93	2.14	496	2.80	A	523.78	142	1	0.84
	087667B	019393	2	11402	50	6723	32.9	3.93	2.67	504	3.49	A	662.45	145	1	1.05
	087674L	019443	2	6549	50	6723	32.9	3.93	2.18	289	2.84	A	310.32	83	1	0.85
	087675T	019457	2	19411	50	6723	32.9	3.93	2.76	858	3.61	A	1,167.32	246	1	1.08
3RD ST	087683K	019858	2	988	60	6723	32.9	3.93	2.02	44	2.64	A	43.54	13	1	0.79
	087684S	019829	1	3702	60	6723	32.9	3.93	2.52	164	3.29	A	203.09	47	1	0.99
	087702M	014171	1	44	60	6706	32.9	3.44	1.72	2	1.97	A	1.46	0	1	0.59
	087704B	014314	2	2154	60	6706	32.9	3.44	1.76	83	2.02	A	72.46	24	1	0.60
	087705H	014366	1	74	60	6706	32.9	3.44	1.73	3	1.98	A	2.43	1	1	0.59
	087706P	014666	1	118	60	6706	32.9	3.44	1.73	5	1.98	A	3.90	1	1	0.59
	087709K	015085	2	2043	60	6706	32.9	3.44	1.80	79	2.07	A	70.36	23	1	0.62

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
	087710E	015578	1	30	60	6706	32.9	3.44	1.72	1	1.97	A	0.97	0	1	0.59
	087713A	016080	1	59	60	6706	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
MITCHELL AVE	087715N	015106	2	1416	60	6706	32.9	3.44	1.78	55	2.04	A	48.03	16	1	0.61
HILLS AVE W	087716V	015135	2	413	60	6706	32.9	3.44	1.74	16	1.99	A	13.72	5	1	0.59
MITCHELL AVE	087717C	015186	1	1416	60	6706	32.9	3.44	1.88	55	2.15	A	50.74	16	1	0.64
	087718J	015274	1	74	60	6706	32.9	3.44	1.73	3	1.98	A	2.43	1	1	0.59
	087719R	015375	2	118	60	6706	32.9	3.44	1.72	5	1.97	A	3.88	1	1	0.59
	087720K	015475	1	74	60	6706	32.9	3.44	1.73	3	1.98	A	2.43	1	1	0.59
	087721S	015680	2	89	60	6706	32.9	3.44	1.72	3	1.97	A	2.91	1	1	0.59
	087722Y	015879	2	59	50	6706	32.9	3.44	1.72	2	1.97	A	1.94	1	1	0.59
MAIN ST	087725U	016183	2	9226	40	6706	32.9	3.44	2.18	357	2.50	A	384.92	102	1	0.75
YEGAN ROAD	087726B	019165	2	5539	40	6723	32.9	3.93	2.35	245	3.07	A	283.62	70	1	0.92
	087760H	009723	2	59	40	6714	32.9	4.66	2.33	3	3.61	A	3.55	1	2	1.09
	087762W	009933	1	15	40	6714	32.9	4.66	2.33	1	3.61	A	0.89	0	2	1.09
1ST AVE	087764K	009984	2	9698	40	6714	32.9	4.66	3.00	508	4.65	A	751.08	146	2	1.40
	087766Y	010239	1	162	40	6714	32.9	4.66	2.35	8	3.64	A	9.84	2	2	1.10
	087768M	010639	1	74	40	6714	32.9	4.66	2.34	4	3.62	A	4.45	1	2	1.09
	087769U	010743	1	15	60	6714	32.9	4.66	2.33	1	3.61	A	0.89	0	2	1.09
BROADWAY	087781B	010903	2	2640	60	6714	32.9	4.66	2.53	138	3.91	A	172.09	40	2	1.18
	087782H	011588	1	59	60	6706	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
MAIN	087783P	012156	2	9226	60	6706	32.9	3.44	2.37	357	2.71	A	417.30	102	1	0.81
HAYES ST	087784W	012146	2	1490	60	6706	32.9	3.44	1.78	58	2.04	A	50.63	16	1	0.61
	087785D	011940	1	59	60	6706	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
EUCLID AVE	087786K	011737	1	162	60	6706	32.9	3.44	1.73	6	1.99	A	5.38	2	1	0.59
	087787S	011501	1	103	60	6706	32.9	3.44	1.73	4	1.98	A	3.41	1	1	0.59
	087788Y	011334	1	89	40	6706	32.9	3.44	1.73	3	1.98	A	2.92	1	1	0.59
	087790A	011285	2	1151	40	6706	32.9	3.44	1.76	45	2.02	A	38.78	13	1	0.60
	087791G	011234	1	103	60	6714	32.9	4.66	2.34	5	3.63	A	6.24	2	2	1.09
	087792N	010950	1	74	60	6714	32.9	4.66	2.34	4	3.62	A	4.44	1	2	1.09
	087793V	012245	1	59	60	6706	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
	087794C	012346	1	310	60	6706	32.9	3.44	1.74	12	2.00	A	10.31	3	1	0.60
	087795J	012449	1	30	60	6706	32.9	3.44	1.72	1	1.97	A	0.97	0	1	0.59
	087798E	012994	2	236	60	6706	32.9	3.44	1.73	9	1.98	A	7.79	3	1	0.59
4TH ST	087799L	013270	1	44	60	6706	32.9	3.44	1.72	2	1.97	A	1.46	0	1	0.59
	087800D	013471	2	162	60	6706	32.9	3.44	1.72	6	1.98	A	5.34	2	1	0.59
	087801K	013571	2	44	50	6706	32.9	3.44	1.72	2	1.97	A	1.45	0	1	0.59
	087804F	013771	2	974	60	6706	32.9	3.44	1.76	38	2.01	A	32.68	11	1	0.60
FRONT ST	087668H	019390	2	4219	60	6723	32.9	3.93	2.09	186	2.74	A	192.49	53	1	0.82
	087699G	013670	1	30	60	6706	32.9	3.44	1.72	1	1.97	A	0.97	0	1	0.59
1ST AVE N	071257E	009287	4	11166	60	6732	32.9	3.44	1.84	433	2.11	A	392.32	124	1	0.63
2ND AVE NE	071256X	009279	2	1981	60	6732	32.9	3.44	1.80	77	2.07	A	68.23	22	1	0.62
7TH ST SE	103805G	004050	2	44	60	6732	32.9	3.44	1.72	2	1.97	A	1.46	0	1	0.59
3RD ST SE	103730K	000094	2	4226	60	6732	32.9	3.44	1.84	164	2.10	A	148.20	47	1	0.63
COUNTY RD	071241H	008944	2	59	60	6732	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
CR 23/CMC 0927	071120K	003018	2	103	60	6741	32.9	3.44	1.73	4	1.98	A	3.41	1	1	0.59
154TH AVE SE	071109K	002917	2	74	60	6741	32.9	3.44	1.72	3	1.98	A	2.43	1	1	0.59

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
3RD AV	071108D	002800	2	605	60	6741	32.9	3.44	1.75	23	2.01	A	20.25	7	1	0.60
6TH AV	071105H	002778	2	1357	60	6741	32.9	3.44	1.79	53	2.06	A	46.50	15	1	0.62
LANGER AV/ ND 18	071103U	002770	2	6947	60	6741	32.9	3.44	1.92	269	2.20	A	254.80	77	1	0.66
15TH AVE	071101F	002716	2	221	60	6741	32.9	3.44	1.73	9	1.99	A	7.32	2	1	0.60
157TH AVE SE	071100Y	002615	2	59	60	6741	32.9	3.44	1.72	2	1.98	A	1.94	1	1	0.59
158TH AVE SE	071099G	002520	2	207	60	6741	32.9	3.44	1.73	8	1.99	A	6.83	2	1	0.60
159TH AVE SE	071098A	002419	1	30	60	6741	32.9	3.44	1.72	1	1.98	A	0.97	0	1	0.59
177TH AVE SE	071097T	002318	2	30	60	6741	32.9	3.44	1.72	1	1.97	A	0.97	0	1	0.59
161ST AVE SE	071095E	002217	2	74	60	6741	32.9	3.44	1.72	3	1.98	A	2.43	1	1	0.59
7TH AV/CMC0941	071092J	002016	2	3717	60	6741	32.9	3.44	1.94	144	2.22	A	137.44	41	1	0.67
164TH AVE SE	071089B	001918	1	74	60	6741	32.9	3.44	1.73	3	1.98	A	2.44	1	1	0.59
CMC 0941SPUR	071087M	001817	2	693	60	6741	32.9	3.44	1.76	27	2.01	A	23.28	8	1	0.60
166TH AVE FIELD	071086F	001717	1	30	60	6741	32.9	3.44	1.72	1	1.98	A	0.97	0	1	0.59
38TH STREET W	071085Y	001616	2	162	60	6741	32.9	3.44	1.73	6	1.98	A	5.36	2	1	0.59
26TH ST W	071084S	001515	2	162	60	6741	32.9	3.44	1.73	6	1.98	A	5.36	2	1	0.59
9TH ST EAST	071009F	001208	2	1387	60	6741	32.9	3.44	1.76	54	2.01	A	46.55	15	1	0.60
27TH ST N	070828T	000915	2	21978	60	6741	32.9	3.44	2.56	852	2.93	A	1,073.95	244	1	0.88
8TH ST	070810H	000771	4	7213	60	6741	32.9	3.44	1.88	279	2.15	A	258.79	80	1	0.65
BROADWAY	070809N	000757	2	7626	60	6741	32.9	3.44	1.94	295	2.23	A	282.87	85	1	0.67
4TH ST N	070807A	000742	4	10723	60	6741	32.9	3.44	1.87	415	2.14	A	383.20	119	1	0.64
4TH AV NW	080763E	021811	2	679	60	6741	32.9	3.44	1.76	26	2.01	A	22.77	8	1	0.60
5TH ST S	070798D	000683	3	5576	60	6741	32.9	3.44	1.94	216	2.22	A	206.15	62	1	0.67
8TH ST S	062952D	000661	5	18747	60	6741	32.9	3.44	1.94	726	2.22	A	693.93	208	1	0.67

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
11TH ST	062949V	000639	4	6785	60	6741	32.9	3.44	1.81	263	2.08	A	234.98	75	1	0.62
11TH ST	062931K	002207	2	17287	60	6741	32.9	3.44	2.32	670	2.66	A	765.36	192	1	0.80
11TH ST	062932S	000639	2	18320	60	6741	32.9	3.44	2.37	710	2.71	A	828.21	203	1	0.81
11TH ST N	062930D	002207	4	7434	60	6741	32.9	3.44	1.82	288	2.09	A	258.78	83	1	0.63
14TH ST N	062927V	002180	3	3319	60	6741	32.9	3.44	1.78	129	2.04	A	112.85	37	1	0.61
14TH ST	062946A	000614	4	6623	60	6741	32.9	3.44	1.81	257	2.08	A	229.07	74	1	0.62

Table V.1-42. Grade-Crossing Delay, Segment 20 - Northern from Fargo, ND to Willmar, MN, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
28TH AVE SO	062577F	004102	2	752	60	6154	1.67	0.85	9	0.64	A	7.96	1.67	--	--	--
40TH AVE SO	062579U	004001	4	4366	60	6154	1.67	0.89	55	0.67	A	48.57	1.67	--	--	--
50 AVE S	062580N	003902	2	103	60	6154	1.67	0.84	1	0.63	A	1.08	1.67	--	--	--
60TH AVE S	062582C	003793	2	2345	60	6154	1.67	0.90	29	0.67	A	26.23	1.67	--	--	--
70 AVE S	062584R	003691	2	30	60	6154	1.67	0.83	0	0.62	A	0.31	1.67	--	--	--
80 AVE S	062585X	003592	2	74	60	6154	1.67	0.83	1	0.63	A	0.77	1.67	--	--	--
90 AVE S	062586E	003492	2	30	60	6154	1.67	0.83	0	0.62	A	0.31	1.67	--	--	--
100 AVE S	062587L	003396	2	89	60	6154	1.67	0.83	1	0.63	A	0.92	1.67	--	--	--
108 AVE S	062588T	003320	2	89	60	6154	1.67	0.83	1	0.63	A	0.92	1.67	--	--	--
110 AVE S	062589A	003299	2	325	60	6154	1.67	0.84	4	0.63	A	3.41	1.67	--	--	--
120TH AVE SO	062590U	003201	2	15	60	6154	1.67	0.83	0	0.62	A	0.15	1.67	--	--	--
130 AVE S	062591B	003103	2	59	60	6154	1.67	0.83	1	0.63	A	0.61	1.67	--	--	--
140TH AVE	062592H	003005	1	30	60	6154	1.67	0.83	0	0.63	A	0.31	1.67	--	--	--
150TH AVE S	062594W	002905	2	15	60	6154	1.67	0.83	0	0.62	A	0.15	1.67	--	--	--
BROADWAY/160 AVE	062596K	002801	2	1387	60	6154	1.67	0.85	17	0.64	A	14.73	1.67	--	--	--
170TH AVE S	062597S	002702	2	59	60	6154	1.67	0.83	1	0.63	A	0.61	1.67	--	--	--
100TH ST	062598Y	002603	2	74	60	6154	1.67	0.83	1	0.63	A	0.77	1.67	--	--	--
110TH ST	062600X	002503	1	30	60	6154	1.67	0.83	0	0.63	A	0.31	1.67	--	--	--
120TH ST	062601E	002402	2	44	60	6154	1.67	0.83	1	0.62	A	0.46	1.67	--	--	--
130TH ST	062602L	002301	2	103	60	6154	1.67	0.84	1	0.63	A	1.08	1.67	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
140TH ST	062604A	002198	2	74	60	6154	1.67	0.83	1	0.63	A	0.77	1.67	--	--	--
LIND AVE	062605G	002130	2	89	60	6154	1.67	0.83	1	0.63	A	0.92	1.67	--	--	--
150TH ST	062606N	002093	2	575	60	6154	1.67	0.84	7	0.63	A	6.06	1.67	--	--	--
160TH ST	062607V	001989	2	30	60	6154	1.67	0.83	0	0.62	A	0.31	1.67	--	--	--
170TH ST	062608C	001887	2	59	60	6154	1.67	0.83	1	0.63	A	0.61	1.67	--	--	--
180TH ST	062610D	001781	2	59	60	6154	1.67	0.83	1	0.63	A	0.61	1.67	--	--	--
190TH ST	062611K	001681	2	44	60	6154	1.67	0.83	1	0.62	A	0.46	1.67	--	--	--
200TH ST	062612S	001579	1	148	60	6154	1.67	0.84	2	0.63	A	1.55	1.67	--	--	--
210TH ST	062614F	001477	2	236	60	6154	1.67	0.84	3	0.63	A	2.47	1.67	--	--	--
220TH ST	062616U	001369	2	15	60	6154	1.67	0.83	0	0.62	A	0.15	1.67	--	--	--
3RD ST	062620J	001232	2	679	60	6154	1.67	0.85	8	0.64	A	7.20	1.67	--	--	--
235TH ST	062621R	001213	2	664	60	6154	1.67	0.85	8	0.63	A	7.01	1.67	--	--	--
150TH AVE	062622X	001139	2	30	60	6154	1.67	0.83	0	0.62	A	0.31	1.67	--	--	--
250TH ST	062624L	001053	2	30	60	6154	1.67	0.83	0	0.62	A	0.31	1.67	--	--	--
270TH ST	062629V	000837	1	15	60	6154	1.67	0.83	0	0.62	A	0.15	1.67	--	--	--
280TH ST	062631W	000730	2	575	60	6154	1.67	0.84	7	0.63	A	6.06	1.67	--	--	--
30TH AVE S	103817B	004077	4	10827	60	6154	1.67	0.91	135	0.68	A	122.49	1.67	--	--	--
450TH AVE	060917H	015230	2	44	40	6154	2.25	1.13	1	1.14	A	0.84	2.25	--	--	--
265TH ST	060919W	015109	2	59	40	6154	2.25	1.13	1	1.14	A	1.12	2.25	--	--	--
6TH ST	060922E	014869	2	2272	40	6154	2.25	1.19	38	1.20	A	45.45	2.25	--	--	--
LAKE AVE	060923L	014817	2	369	40	6154	2.25	1.14	6	1.15	A	7.07	2.25	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
310TH ST	060926G	014505	2	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
60TH ST NE	061081U	009807	2	184	40	6154	2.25	1.13	3	1.14	A	3.51	2.25	--	--	--
19TH ST N	061088S	010332	2	2109	40	6154	2.25	1.18	36	1.20	A	42.03	2.25	--	--	--
30TH ST NW	061089Y	010405	3	11358	40	6154	2.25	1.36	192	1.38	A	261.04	2.25	--	--	--
CO RD 5 W	061091A	010447	2	785	40	6154	2.25	1.15	13	1.16	A	15.24	2.25	--	--	--
45TH ST NW	061094V	010518	2	273	40	6154	2.25	1.13	5	1.15	A	5.21	2.25	--	--	--
60TH ST NW	061096J	010621	2	221	40	6154	2.25	1.13	4	1.14	A	4.22	2.25	--	--	--
75TH ST NW	061098X	010726	2	575	40	6154	2.25	1.14	10	1.16	A	11.09	2.25	--	--	--
ATLANTIC AVE	061099E	010860	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
11TH ST	061100W	010895	2	1918	40	6154	2.25	1.18	32	1.19	A	38.04	2.25	--	--	--
105TH ST NW	061101D	010941	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
120TH ST	061103S	011045	2	162	40	6154	2.25	1.13	3	1.14	A	3.09	2.25	--	--	--
135TH ST NW	061104Y	011151	2	1003	40	6154	2.25	1.15	17	1.16	A	19.46	2.25	--	--	--
KANDI-SWIFT RD	061106M	011253	2	236	40	6154	2.25	1.13	4	1.15	A	4.51	2.25	--	--	--
175TH AVE SE	061107U	011305	2	44	40	6154	2.25	1.13	1	1.14	A	0.84	2.25	--	--	--
165TH AVE SE	061109H	011418	2	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
140TH	061122W	011592	1	15	40	6154	2.25	1.13	0	1.14	A	0.28	2.25	--	--	--
9TH ST	061123D	011630	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
14TH ST	061125S	011666	2	1490	40	6154	2.25	1.16	25	1.18	A	29.25	2.25	--	--	--
150TH ST	067426H	017818	2	133	40	6154	2.25	1.13	2	1.14	A	2.53	2.25	--	--	--
160TH ST	067427P	017930	2	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
PRICE AVE	067430X	018065	2	59	40	6154	2.25	1.13	1	1.14	A	1.12	2.25	--	--	--
GRISWOLD AVE	067431E	018109	2	339	40	6154	2.25	1.13	6	1.15	A	6.48	2.25	--	--	--
180TH ST	067432L	018169	2	15	40	6154	2.25	1.12	0	1.14	A	0.28	2.25	--	--	--
190TH ST	067434A	018288	1	44	40	6154	2.25	1.13	1	1.14	A	0.84	2.25	--	--	--
200TH ST	067436N	018408	2	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
210TH ST	067437V	018526	1	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
340TH AVE	067438C	018739	1	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
CSAH 18	067439J	018767	2	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
CNTY 93	067440D	018931	1	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
490TH	067441K	018998	2	44	40	6154	2.25	1.13	1	1.14	A	0.84	2.25	--	--	--
TWN 197	067443Y	019120	1	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
OAK ST	067445M	019246	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
4TH ST	067446U	019271	2	369	40	6154	2.25	1.13	6	1.15	A	7.05	2.25	--	--	--
460TH	067447B	019370	1	133	40	6154	2.25	1.13	2	1.15	A	2.54	2.25	--	--	--
MNTH 55	067449P	019485	2	1608	40	6154	2.25	1.15	27	1.17	A	31.22	2.25	--	--	--
500TH ST	067450J	019602	1	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
290TH AVE	067451R	019698	2	59	40	6154	2.25	1.13	1	1.14	A	1.12	2.25	--	--	--
490TH ST	067452X	019723	1	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
480TH ST	067453E	019826	1	44	40	6154	2.25	1.13	1	1.14	A	0.84	2.25	--	--	--
470TH ST	067455T	019944	1	266	40	6154	2.25	1.14	4	1.16	A	5.11	2.25	--	--	--
5TH ST	067456A	019982	2	900	40	6154	2.25	1.15	15	1.16	A	17.42	2.25	--	--	--
450TH ST	067460P	020182	1	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
440TH ST	067462D	020316	1	103	40	6154	2.25	1.13	2	1.14	A	1.97	2.25	--	--	--
430TH ST	067463K	020437	2	59	40	6154	2.25	1.13	1	1.14	A	1.12	2.25	--	--	--
FIELD ENT	067465Y	020563	1	133	40	6154	2.25	1.13	2	1.15	A	2.54	2.25	--	--	--
TH 9	067467M	020665	2	1696	40	6154	2.25	1.15	29	1.17	A	32.99	2.25	--	--	--
5TH ST	067468U	020697	2	162	40	6154	2.25	1.13	3	1.14	A	3.09	2.25	--	--	--
230TH AVE	067469B	020746	2	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
400TH ST	067470V	020790	2	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
390TH ST	067473R	020921	2	59	40	6154	2.25	1.13	1	1.14	A	1.12	2.25	--	--	--
380TH ST	067475E	021052	2	59	40	6154	2.25	1.13	1	1.14	A	1.12	2.25	--	--	--
210TH ST	067545S	015832	2	1224	40	6154	2.25	1.17	21	1.18	A	24.08	2.25	--	--	--
200TH ST	067546Y	015947	2	325	40	6154	2.25	1.14	5	1.15	A	6.21	2.25	--	--	--
180TH ST	067549U	016198	2	162	40	6154	2.25	1.13	3	1.14	A	3.09	2.25	--	--	--
170TH ST	067551V	016316	1	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
520TH AVE	067554R	016502	2	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
3RD ST	067557L	016570	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
4TH ST.	067558T	016576	2	679	40	6154	2.25	1.14	11	1.16	A	13.07	2.25	--	--	--
140TH ST	067560U	016662	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
130TH ST	067562H	016775	2	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
120TH ST	067564W	016909	2	59	40	6154	2.25	1.13	1	1.14	A	1.12	2.25	--	--	--
100TH ST	067567S	017175	2	133	40	6154	2.25	1.13	2	1.14	A	2.53	2.25	--	--	--
260TH AVE	067568Y	017203	1	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
270 AVE	067569F	017339	2	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
280TH AVE	067572N	017491	2	133	40	6154	2.25	1.13	2	1.14	A	2.53	2.25	--	--	--
130TH ST	067573V	017576	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
3RD ST	067574C	017610	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
5TH ST W	067575J	017620	2	2758	40	6154	2.25	1.17	47	1.19	A	54.52	2.25	--	--	--
140TH ST	067576R	017696	2	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
130TH AVE SE	067889F	011824	2	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
80TH ST SE	067890A	011917	2	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
120TH AVE SE	067891G	011932	2	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
HOLLIS ST	067895J	012074	2	1121	40	6154	2.25	1.16	19	1.18	A	21.98	2.25	--	--	--
SHAAF ST.	067896R	012093	2	620	40	6154	2.25	1.15	10	1.16	A	11.96	2.25	--	--	--
100TH AVE	067898E	012160	2	133	40	6154	2.25	1.13	2	1.14	A	2.53	2.25	--	--	--
60TH ST SE	067900D	012248	2	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
80TH AVE SE	067901K	012398	2	177	40	6154	2.25	1.13	3	1.14	A	3.37	2.25	--	--	--
3RD ST	067903Y	012516	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
4TH ST	067904F	012523	2	915	40	6154	2.25	1.15	15	1.16	A	17.71	2.25	--	--	--
40TH ST SE	067906U	012636	2	44	40	6154	2.25	1.13	1	1.14	A	0.84	2.25	--	--	--
50TH AVE SE	067907B	012815	2	103	40	6154	2.25	1.13	2	1.14	A	1.96	2.25	--	--	--
40TH AVE SE	067909P	012933	2	74	40	6154	2.25	1.13	1	1.14	A	1.40	2.25	--	--	--
30TH AVE SE	067911R	013053	2	103	40	6154	2.25	1.13	2	1.14	A	1.96	2.25	--	--	--
20TH AVE SE	067912X	013162	2	325	40	6154	2.25	1.14	5	1.15	A	6.21	2.25	--	--	--
330TH ST	067915T	014269	1	103	40	6154	2.25	1.13	2	1.14	A	1.97	2.25	--	--	--
60TH AVE NW	067918N	014110	2	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
70TH ST NW	067919V	014030	2	89	40	6154	2.25	1.13	1	1.14	A	1.68	2.25	--	--	--
GRACE AVE	067921W	013852	2	1121	40	6154	2.25	1.15	19	1.17	A	21.82	2.25	--	--	--
TWN 305	067924S	013584	2	30	40	6154	2.25	1.13	0	1.14	A	0.56	2.25	--	--	--
20TH ST NW	067925Y	013430	2	2596	40	6154	2.25	1.20	44	1.21	A	52.35	2.25	--	--	--
14TH ST	067927M	013270	4	13246	40	6154	2.25	1.25	223	1.26	A	278.53	2.25	--	--	--
13TH ST	067928U	013263	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
12TH ST.	067929B	013256	2	679	40	6154	2.25	1.15	11	1.16	A	13.13	2.25	--	--	--
7TH ST	067931C	015729	2	4204	40	6154	2.25	1.20	71	1.21	A	85.00	2.25	--	--	--
6TH ST	067932J	015722	2	1224	40	6154	2.25	1.17	21	1.18	A	24.08	2.25	--	--	--
5TH ST	067933R	015714	2	7434	40	6154	2.25	1.26	125	1.28	A	158.44	2.25	--	--	--
FIRST ST	067934X	015686	2	2832	40	6154	2.25	1.17	48	1.19	A	56.04	2.25	--	--	--
INDUSTRIAL BLVD	067936L	015537	2	959	40	6154	2.25	1.16	16	1.17	A	18.71	2.25	--	--	--
240TH AVE	085912V	020583	2	44	40	6154	2.25	1.13	1	1.14	A	0.84	2.25	--	--	--
460TH ST	085968P	020063	2	59	40	6154	2.25	1.13	1	1.14	A	1.12	2.25	--	--	--
12TH AV S	062576Y	004202	3	9219	60	6154	1.67	0.92	115	0.69	A	105.55	1.67	--	--	--
1ST AVE S	062925G	002147	2	1224	60	6154	1.67	0.86	15	0.65	A	13.22	1.67	--	--	--
20TH ST S & MAIN	062923T	004254	4	33601	60	6154	1.67	1.11	420	0.83	A	466.04	1.67	--	--	--
PARK AVE	067930V	015782	2	2345	60	6154	1.67	0.86	29	0.65	A	25.28	1.67	--	--	--
210TH AVE	067577X	021067	2	103	40	6154	2.25	1.13	2	1.14	A	1.96	2.25	--	--	--
370TH ST	067578E	021177	2	30	60	6154	1.67	0.83	0	0.62	A	0.31	1.67	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
74TH ST SE	062634S	000516	2	59	60	6154	1.67	0.83	1	0.63	A	0.61	1.67	--	--	--
75TH ST SE	062635Y	000417	2	428	60	6154	1.67	0.84	5	0.63	A	4.51	1.67	--	--	--
76TH ST SE	062638U	000317	2	325	60	6154	1.67	0.84	4	0.63	A	3.41	1.67	--	--	--
77TH ST SE	062639B	000219	2	295	60	6154	1.67	0.84	4	0.63	A	3.10	1.67	--	--	--
16TH AVE N	062640V	000117	2	1328	60	6154	1.67	0.86	17	0.64	A	14.25	1.67	--	--	--
79TH ST SE	062641C	000070	2	236	60	6154	1.67	0.84	3	0.63	A	2.47	1.67	--	--	--
	062642J	000018	2	472	60	6154	1.67	0.84	6	0.63	A	4.98	1.67	--	--	--
12TH STREET N	094014S	021601	2	885	60	6154	1.67	0.86	11	0.64	A	9.46	1.67	--	--	--
11TH ST HWY 127	062496F	021600	2	9322	60	6154	1.67	0.97	116	0.72	A	112.59	1.67	--	--	--
6TH ST S	062494S	021570	2	5222	60	6154	1.67	0.90	65	0.68	A	58.89	1.67	--	--	--
5TH ST S	062491W	021560	2	708	60	6154	1.67	0.85	9	0.64	A	7.52	1.67	--	--	--
4TH ST	062489V	021550	2	3437	60	6154	1.67	0.90	43	0.68	A	38.84	1.67	--	--	--
3RD ST	062487G	021554	2	1136	60	6154	1.67	0.86	14	0.65	A	12.23	1.67	--	--	--
POPE ST	062484L	021501	2	679	60	6154	1.67	0.85	8	0.64	A	7.20	1.67	--	--	--
150TH AVE SO	080759P	021980	2	221	60	6154	1.67	0.84	3	0.63	A	2.32	1.67	--	--	--
Proposed Action																
28TH AVE SO	062577F	004102	2	752	60	6736	26.6	3.44	1.75	24	1.69	A	21.21	15	2	1.06
40TH AVE SO	062579U	004001	4	4366	60	6736	26.6	3.44	1.84	140	1.78	A	129.34	85	2	1.11
50 AVE S	062580N	003902	2	103	60	6736	26.6	3.44	1.73	3	1.67	A	2.87	2	2	1.04
60TH AVE S	062582C	003793	2	2345	60	6736	26.6	3.44	1.85	75	1.79	A	69.84	46	2	1.12
70 AVE S	062584R	003691	2	30	60	6736	26.6	3.44	1.72	1	1.66	A	0.82	1	2	1.04
80 AVE S	062585X	003592	2	74	60	6736	26.6	3.44	1.72	2	1.66	A	2.05	1	2	1.04

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
90 AVE S	062586E	003492	2	30	60	6736	26.6	3.44	1.72	1	1.66	A	0.82	1	2	1.04
100 AVE S	062587L	003396	2	89	60	6736	26.6	3.44	1.73	3	1.67	A	2.46	2	2	1.04
108 AVE S	062588T	003320	2	89	60	6736	26.6	3.44	1.73	3	1.67	A	2.46	2	2	1.04
110 AVE S	062589A	003299	2	325	60	6736	26.6	3.44	1.74	10	1.68	A	9.08	6	2	1.05
120TH AVE SO	062590U	003201	2	15	60	6736	26.6	3.44	1.72	0	1.66	A	0.41	0	2	1.04
130 AVE S	062591B	003103	2	59	60	6736	26.6	3.44	1.72	2	1.66	A	1.64	1	2	1.04
140TH AVE	062592H	003005	1	30	60	6736	26.6	3.44	1.72	1	1.66	A	0.82	1	2	1.04
150TH AVE S	062594W	002905	2	15	60	6736	26.6	3.44	1.72	0	1.66	A	0.41	0	2	1.04
BROADWAY/160 AVE	062596K	002801	2	1387	60	6736	26.6	3.44	1.76	44	1.70	A	39.22	27	2	1.06
170TH AVE S	062597S	002702	2	59	60	6736	26.6	3.44	1.72	2	1.66	A	1.64	1	2	1.04
100TH ST	062598Y	002603	2	74	60	6736	26.6	3.44	1.72	2	1.67	A	2.05	1	2	1.04
110TH ST	062600X	002503	1	30	60	6736	26.6	3.44	1.72	1	1.66	A	0.82	1	2	1.04
120TH ST	062601E	002402	2	44	60	6736	26.6	3.44	1.72	1	1.66	A	1.23	1	2	1.04
130TH ST	062602L	002301	2	103	60	6736	26.6	3.44	1.73	3	1.67	A	2.87	2	2	1.04
140TH ST	062604A	002198	2	74	60	6736	26.6	3.44	1.72	2	1.67	A	2.05	1	2	1.04
LIND AVE	062605G	002130	2	89	60	6736	26.6	3.44	1.73	3	1.67	A	2.46	2	2	1.04
150TH ST	062606N	002093	2	575	60	6736	26.6	3.44	1.74	18	1.68	A	16.15	11	2	1.05
160TH ST	062607V	001989	2	30	60	6736	26.6	3.44	1.72	1	1.66	A	0.82	1	2	1.04
170TH ST	062608C	001887	2	59	60	6736	26.6	3.44	1.72	2	1.66	A	1.64	1	2	1.04
180TH ST	062610D	001781	2	59	60	6736	26.6	3.44	1.72	2	1.66	A	1.64	1	2	1.04
190TH ST	062611K	001681	2	44	60	6736	26.6	3.44	1.72	1	1.66	A	1.23	1	2	1.04
200TH ST	062612S	001579	1	148	60	6736	26.6	3.44	1.74	5	1.68	A	4.12	3	2	1.05

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210TH ST	062614F	001477	2	236	60	6736	26.6	3.44	1.73	8	1.67	A	6.57	5	2	1.04
220TH ST	062616U	001369	2	15	60	6736	26.6	3.44	1.72	0	1.66	A	0.41	0	2	1.04
3RD ST	062620J	001232	2	679	60	6736	26.6	3.44	1.76	22	1.70	A	19.18	13	2	1.06
235TH ST	062621R	001213	2	664	60	6736	26.6	3.44	1.75	21	1.69	A	18.67	13	2	1.05
150TH AVE	062622X	001139	2	30	60	6736	26.6	3.44	1.72	1	1.66	A	0.82	1	2	1.04
250TH ST	062624L	001053	2	30	60	6736	26.6	3.44	1.72	1	1.66	A	0.82	1	2	1.04
270TH ST	062629V	000837	1	15	60	6736	26.6	3.44	1.72	0	1.66	A	0.41	0	2	1.04
280TH ST	062631W	000730	2	575	60	6736	26.6	3.44	1.74	18	1.68	A	16.15	11	2	1.05
30TH AVE S	103817B	004077	4	10827	60	6736	26.6	3.44	1.87	346	1.81	A	326.17	211	2	1.13
450TH AVE	060917H	015230	2	44	40	6716	26.6	4.66	2.33	2	3.05	A	2.25	1	3	1.91
265TH ST	060919W	015109	2	59	40	6716	26.6	4.66	2.33	3	3.05	A	3.00	2	3	1.91
6TH ST	060922E	014869	2	2272	40	6716	26.6	4.66	2.46	98	3.21	A	121.71	60	3	2.01
LAKE AVE	060923L	014817	2	369	40	6680	26.6	4.65	2.35	16	3.06	A	18.83	10	3	1.91
310TH ST	060926G	014505	2	74	40	6680	26.6	4.65	2.33	3	3.04	A	3.73	2	3	1.90
60TH ST NE	061081U	009807	2	184	40	6680	26.6	4.65	2.34	8	3.05	A	9.36	5	3	1.90
19TH ST N	061088S	010332	2	2109	40	6680	26.6	4.65	2.44	91	3.19	A	111.98	55	3	1.99
30TH ST NW	061089Y	010405	3	11358	40	6680	26.6	4.65	2.82	490	3.67	A	695.41	299	3	2.29
CO RD 5 W	061091A	010447	2	785	40	6680	26.6	4.65	2.38	34	3.10	A	40.59	21	3	1.94
45TH ST NW	061094V	010518	2	273	40	6680	26.6	4.65	2.34	12	3.05	A	13.89	7	3	1.91
60TH ST NW	061096J	010621	2	221	40	6680	26.6	4.65	2.34	10	3.05	A	11.25	6	3	1.91
75TH ST NW	061098X	010726	2	575	40	6680	26.6	4.65	2.36	25	3.08	A	29.55	15	3	1.93
ATLANTIC AVE	061099E	010860	2	679	40	6680	26.6	4.65	2.37	29	3.09	A	34.97	18	3	1.93

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11TH ST	061100W	010895	2	1918	40	6680	26.6	4.65	2.43	83	3.17	A	101.33	50	3	1.98
105TH ST NW	061101D	010941	2	679	40	6680	26.6	4.65	2.37	29	3.09	A	34.97	18	3	1.93
120TH ST	061103S	011045	2	162	40	6680	26.6	4.65	2.33	7	3.04	A	8.23	4	3	1.90
135TH ST NW	061104Y	011151	2	1003	40	6680	26.6	4.65	2.38	43	3.10	A	51.85	26	3	1.94
KANDI-SWIFT RD	061106M	011253	2	236	40	6680	26.6	4.65	2.34	10	3.05	A	12.00	6	3	1.91
175TH AVE SE	061107U	011305	2	44	40	6680	26.6	4.65	2.33	2	3.03	A	2.24	1	3	1.90
165TH AVE SE	061109H	011418	2	30	40	6680	26.6	4.65	2.33	1	3.03	A	1.49	1	3	1.89
140TH	061122W	011592	1	15	40	6680	26.6	4.65	2.33	1	3.03	A	0.75	0	3	1.89
9TH ST	061123D	011630	2	679	40	6680	26.6	4.65	2.37	29	3.09	A	34.97	18	3	1.93
14TH ST	061125S	011666	2	1490	40	6680	26.6	4.65	2.41	64	3.14	A	77.92	39	3	1.96
150TH ST	067426H	017818	2	133	40	6680	26.6	4.65	2.33	6	3.04	A	6.73	3	3	1.90
160TH ST	067427P	017930	2	74	40	6680	26.6	4.65	2.33	3	3.04	A	3.73	2	3	1.90
PRICE AVE	067430X	018065	2	59	40	6697	26.6	4.65	2.33	3	3.04	A	2.99	2	3	1.90
GRISWOLD AVE	067431E	018109	2	339	40	6697	26.6	4.65	2.34	15	3.06	A	17.31	9	3	1.92
180TH ST	067432L	018169	2	15	40	6697	26.6	4.65	2.33	1	3.04	A	0.75	0	3	1.90
190TH ST	067434A	018288	1	44	40	6697	26.6	4.65	2.33	2	3.05	A	2.25	1	3	1.91
200TH ST	067436N	018408	2	74	40	6697	26.6	4.65	2.33	3	3.04	A	3.74	2	3	1.90
210TH ST	067437V	018526	1	30	40	6697	26.6	4.65	2.33	1	3.04	A	1.50	1	3	1.90
340TH AVE	067438C	018739	1	30	40	6697	26.6	4.65	2.33	1	3.04	A	1.50	1	3	1.90
CSAH 18	067439J	018767	2	30	40	6697	26.6	4.65	2.33	1	3.04	A	1.49	1	3	1.90
CNTY 93	067440D	018931	1	74	40	6697	26.6	4.65	2.34	3	3.05	A	3.75	2	3	1.91
490TH	067441K	018998	2	44	40	6697	26.6	4.65	2.33	2	3.04	A	2.24	1	3	1.90

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TWN 197	067443Y	019120	1	30	40	6697	26.6	4.65	2.33	1	3.04	A	1.50	1	3	1.90
OAK ST	067445M	019246	2	679	40	6697	26.6	4.65	2.37	29	3.10	A	35.06	18	3	1.94
4TH ST	067446U	019271	2	369	40	6697	26.6	4.65	2.35	16	3.06	A	18.83	10	3	1.92
460TH	067447B	019370	1	133	40	6697	26.6	4.65	2.34	6	3.06	A	6.77	3	3	1.92
MNTH 55	067449P	019485	2	1608	40	6697	26.6	4.65	2.38	69	3.11	A	83.39	42	3	1.95
500TH ST	067450J	019602	1	30	40	6697	26.6	4.65	2.33	1	3.04	A	1.50	1	3	1.90
290TH AVE	067451R	019698	2	59	40	6697	26.6	4.65	2.33	3	3.04	A	2.99	2	3	1.90
490TH ST	067452X	019723	1	74	40	6697	26.6	4.65	2.34	3	3.05	A	3.75	2	3	1.91
480TH ST	067453E	019826	1	44	40	6697	26.6	4.65	2.33	2	3.05	A	2.25	1	3	1.91
470TH ST	067455T	019944	1	266	40	6697	26.6	4.65	2.36	11	3.09	A	13.66	7	3	1.93
5TH ST	067456A	019982	2	900	40	6697	26.6	4.65	2.37	39	3.10	A	46.52	24	3	1.94
450TH ST	067460P	020182	1	30	40	6697	26.6	4.65	2.33	1	3.04	A	1.50	1	3	1.90
440TH ST	067462D	020316	1	103	40	6697	26.6	4.65	2.34	4	3.06	A	5.26	3	3	1.91
430TH ST	067463K	020437	2	59	40	6697	26.6	4.65	2.33	3	3.04	A	2.99	2	3	1.90
FIELD ENT	067465Y	020563	1	133	40	6697	26.6	4.65	2.34	6	3.06	A	6.77	3	3	1.92
TH 9	067467M	020665	2	1696	40	6697	26.6	4.65	2.39	73	3.12	A	88.10	45	3	1.95
5TH ST	067468U	020697	2	162	40	6697	26.6	4.65	2.34	7	3.05	A	8.25	4	3	1.91
230TH AVE	067469B	020746	2	30	40	6697	26.6	4.65	2.33	1	3.04	A	1.49	1	3	1.90
400TH ST	067470V	020790	2	30	40	6697	26.6	4.65	2.33	1	3.04	A	1.49	1	3	1.90
390TH ST	067473R	020921	2	59	40	6697	26.6	4.65	2.33	3	3.04	A	2.99	2	3	1.90
380TH ST	067475E	021052	2	59	40	6697	26.6	4.65	2.33	3	3.04	A	2.99	2	3	1.90
210TH ST	067545S	015832	2	1224	40	6697	26.6	4.65	2.41	53	3.15	A	64.32	32	3	1.97

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200TH ST	067546Y	015947	2	325	40	6697	26.6	4.65	2.35	14	3.07	A	16.59	9	3	1.92
180TH ST	067549U	016198	2	162	40	6697	26.6	4.65	2.33	7	3.05	A	8.25	4	3	1.91
170TH ST	067551V	016316	1	30	40	6697	26.6	4.65	2.33	1	3.04	A	1.50	1	3	1.90
520TH AVE	067554R	016502	2	74	40	6697	26.6	4.65	2.33	3	3.04	A	3.74	2	3	1.90
3RD ST	067557L	016570	2	679	40	6697	26.6	4.65	2.37	29	3.10	A	35.06	18	3	1.94
4TH ST.	067558T	016576	2	679	40	6697	26.6	4.65	2.36	29	3.09	A	34.90	18	3	1.93
140TH ST	067560U	016662	2	679	40	6697	26.6	4.65	2.37	29	3.10	A	35.06	18	3	1.94
130TH ST	067562H	016775	2	74	40	6697	26.6	4.65	2.33	3	3.04	A	3.74	2	3	1.90
120TH ST	067564W	016909	2	59	40	6697	26.6	4.65	2.33	3	3.04	A	2.99	2	3	1.90
100TH ST	067567S	017175	2	133	40	6697	26.6	4.65	2.33	6	3.05	A	6.75	3	3	1.91
260TH AVE	067568Y	017203	1	74	40	6697	26.6	4.65	2.34	3	3.05	A	3.75	2	3	1.91
270 AVE	067569F	017339	2	74	40	6697	26.6	4.65	2.33	3	3.04	A	3.74	2	3	1.90
280TH AVE	067572N	017491	2	133	40	6697	26.6	4.65	2.33	6	3.05	A	6.75	3	3	1.91
130TH ST	067573V	017576	2	679	40	6697	26.6	4.65	2.37	29	3.10	A	35.06	18	3	1.94
3RD ST	067574C	017610	2	679	40	6697	26.6	4.65	2.37	29	3.10	A	35.06	18	3	1.94
5TH ST W	067575J	017620	2	2758	40	6697	26.6	4.65	2.43	119	3.17	A	145.62	73	3	1.98
140TH ST	067576R	017696	2	74	40	6697	26.6	4.65	2.33	3	3.04	A	3.74	2	3	1.90
130TH AVE SE	067889F	011824	2	74	40	6680	26.6	4.65	2.33	3	3.04	A	3.73	2	3	1.90
80TH ST SE	067890A	011917	2	30	40	6680	26.6	4.65	2.33	1	3.03	A	1.49	1	3	1.89
120TH AVE SE	067891G	011932	2	30	40	6680	26.6	4.65	2.33	1	3.03	A	1.49	1	3	1.89
HOLLIS ST	067895J	012074	2	1121	40	6680	26.6	4.65	2.40	48	3.13	A	58.56	29	3	1.96
SHAAF ST.	067896R	012093	2	620	40	6680	26.6	4.65	2.37	27	3.09	A	31.87	16	3	1.93

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
100TH AVE	067898E	012160	2	133	40	6680	26.6	4.65	2.33	6	3.04	A	6.73	3	3	1.90
60TH ST SE	067900D	012248	2	30	40	6680	26.6	4.65	2.33	1	3.03	A	1.49	1	3	1.89
80TH AVE SE	067901K	012398	2	177	40	6680	26.6	4.65	2.34	8	3.05	A	8.99	5	3	1.90
3RD ST	067903Y	012516	2	679	40	6680	26.6	4.65	2.37	29	3.09	A	34.97	18	3	1.93
4TH ST	067904F	012523	2	915	40	6680	26.6	4.65	2.37	39	3.10	A	47.18	24	3	1.93
40TH ST SE	067906U	012636	2	44	40	6680	26.6	4.65	2.33	2	3.03	A	2.24	1	3	1.89
50TH AVE SE	067907B	012815	2	103	40	6680	26.6	4.65	2.33	4	3.04	A	5.23	3	3	1.90
40TH AVE SE	067909P	012933	2	74	40	6680	26.6	4.65	2.33	3	3.04	A	3.73	2	3	1.90
30TH AVE SE	067911R	013053	2	103	40	6680	26.6	4.65	2.33	4	3.04	A	5.23	3	3	1.90
20TH AVE SE	067912X	013162	2	325	40	6680	26.6	4.65	2.35	14	3.06	A	16.55	9	3	1.91
330TH ST	067915T	014269	1	103	40	6716	26.6	4.66	2.34	4	3.06	A	5.27	3	3	1.92
60TH AVE NW	067918N	014110	2	30	40	6716	26.6	4.66	2.33	1	3.05	A	1.50	1	3	1.91
70TH ST NW	067919V	014030	2	89	40	6716	26.6	4.66	2.33	4	3.05	A	4.50	2	3	1.91
GRACE AVE	067921W	013852	2	1121	40	6716	26.6	4.66	2.39	49	3.13	A	58.42	30	3	1.96
TWN 305	067924S	013584	2	30	40	6716	26.6	4.66	2.33	1	3.05	A	1.50	1	3	1.91
20TH ST NW	067925Y	013430	2	2596	40	6716	26.6	4.66	2.48	112	3.24	A	140.21	69	3	2.03
14TH ST	067927M	013270	4	13246	40	6716	26.6	4.66	2.58	573	3.38	A	745.92	350	3	2.12
13TH ST	067928U	013263	2	679	40	6716	26.6	4.66	2.38	29	3.11	A	35.15	18	3	1.95
12TH ST.	067929B	013256	2	679	40	6716	26.6	4.66	2.38	29	3.11	A	35.15	18	3	1.95
7TH ST	067931C	015729	2	4204	40	6716	26.6	4.66	2.48	182	3.25	A	227.64	111	3	2.04
6TH ST	067932J	015722	2	1224	40	6716	26.6	4.66	2.42	53	3.16	A	64.50	32	3	1.98
5TH ST	067933R	015714	2	7434	40	6716	26.6	4.66	2.62	322	3.42	A	424.33	196	3	2.15

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
FIRST ST	067934X	015686	2	2832	40	6716	26.6	4.66	2.43	123	3.18	A	150.09	75	3	1.99
INDUSTRIAL BLVD	067936L	015537	2	959	40	6716	26.6	4.66	2.40	41	3.14	A	50.10	25	3	1.96
240TH AVE	085912V	020583	2	44	40	6716	26.6	4.66	2.33	2	3.05	A	2.25	1	3	1.91
460TH ST	085968P	020063	2	59	40	6716	26.6	4.66	2.33	3	3.05	A	3.00	2	3	1.91
12TH AV S	062576Y	004202	3	9219	60	6736	26.6	3.44	1.89	295	1.83	A	281.07	180	2	1.14
1ST AVE S	062925G	002147	2	1224	60	6736	26.6	3.44	1.79	39	1.72	A	35.19	24	2	1.08
20TH ST S & MAIN	062923T	004254	4	33601	60	6736	26.6	3.44	2.29	1,074	2.22	A	1,241.01	655	2	1.38
PARK AVE	067930V	015782	2	2345	60	6716	26.6	3.44	1.78	75	1.72	A	67.14	46	2	1.07
210TH AVE	067577X	021067	2	103	40	6697	26.6	4.65	2.33	4	3.05	A	5.24	3	3	1.91
370TH ST	067578E	021177	2	30	60	6716	26.6	3.44	1.72	1	1.66	A	0.82	1	2	1.03
74TH ST SE	062634S	000516	2	59	60	6736	26.6	3.44	1.72	2	1.66	A	1.64	1	2	1.04
75TH ST SE	062635Y	000417	2	428	60	6736	26.6	3.44	1.74	14	1.68	A	12.00	8	2	1.05
76TH ST SE	062638U	000317	2	325	60	6736	26.6	3.44	1.74	10	1.68	A	9.08	6	2	1.05
77TH ST SE	062639B	000219	2	295	60	6736	26.6	3.44	1.74	9	1.68	A	8.24	6	2	1.05
16TH AVE N	062640V	000117	2	1328	60	6736	26.6	3.44	1.78	42	1.71	A	37.94	26	2	1.07
79TH ST SE	062641C	000070	2	236	60	6736	26.6	3.44	1.73	8	1.67	A	6.58	5	2	1.05
	062642J	000018	2	472	60	6736	26.6	3.44	1.75	15	1.69	A	13.26	9	2	1.05
12TH STREET N	094014S	021601	2	885	60	6736	26.6	3.44	1.77	28	1.71	A	25.18	17	2	1.07
11TH ST HWY 127	062496F	021600	2	9322	60	6736	26.6	3.44	2.00	298	1.93	A	299.81	182	2	1.21
6TH ST S	062494S	021570	2	5222	60	6736	26.6	3.44	1.87	167	1.80	A	156.82	102	2	1.13
5TH ST S	062491W	021560	2	708	60	6736	26.6	3.44	1.76	23	1.70	A	20.03	14	2	1.06
4TH ST	062489V	021550	2	3437	60	6736	26.6	3.44	1.87	110	1.81	A	103.43	67	2	1.13

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
3RD ST	062487G	021554	2	1136	60	6736	26.6	3.44	1.78	36	1.72	A	32.56	22	2	1.07
POPE ST	062484L	021501	2	679	60	6736	26.6	3.44	1.76	22	1.70	A	19.18	13	2	1.06
150TH AVE SO	080759P	021980	2	221	60	6736	26.6	3.44	1.73	7	1.67	A	6.17	4	2	1.04

Table V.1-43. Grade-Crossing Delay, Segment 20 - Southern from Fargo, ND to Willmar, MN, Analysis Year 2037

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
28TH AVE SO	062577F	004102	2	752	60	6154	10.8	1.67	0.85	9	0.63	A	7.89	--	--	--
40TH AVE SO	062579U	004001	4	4366	60	6154	10.8	1.67	0.89	54	0.66	A	48.12	--	--	--
50 AVE S	062580N	003902	2	103	60	6154	10.8	1.67	0.84	1	0.62	A	1.07	--	--	--
60TH AVE S	062582C	003793	2	2345	60	6154	10.8	1.67	0.90	29	0.66	A	25.98	--	--	--
70 AVE S	062584R	003691	2	30	60	6154	10.8	1.67	0.83	0	0.62	A	0.30	--	--	--
80 AVE S	062585X	003592	2	74	60	6154	10.8	1.67	0.83	1	0.62	A	0.76	--	--	--
90 AVE S	062586E	003492	2	30	60	6154	10.8	1.67	0.83	0	0.62	A	0.30	--	--	--
100 AVE S	062587L	003396	2	89	60	6154	10.8	1.67	0.83	1	0.62	A	0.91	--	--	--
108 AVE S	062588T	003320	2	89	60	6154	10.8	1.67	0.83	1	0.62	A	0.91	--	--	--
110 AVE S	062589A	003299	2	325	60	6154	10.8	1.67	0.84	4	0.62	A	3.38	--	--	--
120TH AVE SO	062590U	003201	2	15	60	6154	10.8	1.67	0.83	0	0.62	A	0.15	--	--	--
130 AVE S	062591B	003103	2	59	60	6154	10.8	1.67	0.83	1	0.62	A	0.61	--	--	--
140TH AVE	062592H	003005	1	30	60	6154	10.8	1.67	0.83	0	0.62	A	0.30	--	--	--
150TH AVE S	062594W	002905	2	15	60	6154	10.8	1.67	0.83	0	0.62	A	0.15	--	--	--
BROADWAY/160 AVE	062596K	002801	2	1387	60	6154	10.8	1.67	0.85	17	0.63	A	14.59	--	--	--
170TH AVE S	062597S	002702	2	59	60	6154	10.8	1.67	0.83	1	0.62	A	0.61	--	--	--
100TH ST	062598Y	002603	2	74	60	6154	10.8	1.67	0.83	1	0.62	A	0.76	--	--	--
110TH ST	062600X	002503	1	30	60	6154	10.8	1.67	0.83	0	0.62	A	0.30	--	--	--
120TH ST	062601E	002402	2	44	60	6154	10.8	1.67	0.83	1	0.62	A	0.46	--	--	--
130TH ST	062602L	002301	2	103	60	6154	10.8	1.67	0.84	1	0.62	A	1.07	--	--	--
140TH ST	062604A	002198	2	74	60	6154	10.8	1.67	0.83	1	0.62	A	0.76	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
LIND AVE	062605G	002130	2	89	60	6154	10.8	1.67	0.83	1	0.62	A	0.91	--	--	--
150TH ST	062606N	002093	2	575	60	6154	10.8	1.67	0.84	7	0.63	A	6.01	--	--	--
160TH ST	062607V	001989	2	30	60	6154	10.8	1.67	0.83	0	0.62	A	0.30	--	--	--
170TH ST	062608C	001887	2	59	60	6154	10.8	1.67	0.83	1	0.62	A	0.61	--	--	--
180TH ST	062610D	001781	2	59	60	6154	10.8	1.67	0.83	1	0.62	A	0.61	--	--	--
190TH ST	062611K	001681	2	44	60	6154	10.8	1.67	0.83	1	0.62	A	0.46	--	--	--
200TH ST	062612S	001579	1	148	60	6154	10.8	1.67	0.84	2	0.62	A	1.53	--	--	--
210TH ST	062614F	001477	2	236	60	6154	10.8	1.67	0.84	3	0.62	A	2.45	--	--	--
220TH ST	062616U	001369	2	15	60	6154	10.8	1.67	0.83	0	0.62	A	0.15	--	--	--
3RD ST	062620J	001232	2	679	60	6154	10.8	1.67	0.85	8	0.63	A	7.14	--	--	--
235TH ST	062621R	001213	2	664	60	6154	10.8	1.67	0.85	8	0.63	A	6.95	--	--	--
150TH AVE	062622X	001139	2	30	60	6154	10.8	1.67	0.83	0	0.62	A	0.30	--	--	--
250TH ST	062624L	001053	2	30	60	6154	10.8	1.67	0.83	0	0.62	A	0.30	--	--	--
270TH ST	062629V	000837	1	15	60	6154	10.8	1.67	0.83	0	0.62	A	0.15	--	--	--
280TH ST	062631W	000730	2	575	60	6154	10.8	1.67	0.84	7	0.63	A	6.01	--	--	--
30TH AVE S	103817B	004077	4	10827	60	6154	10.8	1.67	0.91	134	0.67	A	121.36	--	--	--
450TH AVE	060917H	015230	2	44	40	6154	10.8	2.25	1.13	1	1.13	A	0.83	--	--	--
265TH ST	060919W	015109	2	59	40	6154	10.8	2.25	1.13	1	1.13	A	1.11	--	--	--
6TH ST	060922E	014869	2	2272	40	6154	10.8	2.25	1.19	38	1.19	A	45.03	--	--	--
LAKE AVE	060923L	014817	2	369	40	6154	10.8	2.25	1.14	6	1.14	A	7.00	--	--	--
310TH ST	060926G	014505	2	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
60TH ST NE	061081U	009807	2	184	40	6154	10.8	2.25	1.13	3	1.13	A	3.48	--	--	--
19TH ST N	061088S	010332	2	2109	40	6154	10.8	2.25	1.18	35	1.18	A	41.65	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
30TH ST NW	061089Y	010405	3	11358	40	6154	10.8	2.25	1.36	190	1.37	A	258.62	--	--	--
CO RD 5 W	061091A	010447	2	785	40	6154	10.8	2.25	1.15	13	1.15	A	15.10	--	--	--
45TH ST NW	061094V	010518	2	273	40	6154	10.8	2.25	1.13	5	1.14	A	5.17	--	--	--
60TH ST NW	061096J	010621	2	221	40	6154	10.8	2.25	1.13	4	1.13	A	4.18	--	--	--
75TH ST NW	061098X	010726	2	575	40	6154	10.8	2.25	1.14	10	1.15	A	10.99	--	--	--
ATLANTIC AVE	061099E	010860	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
11TH ST	061100W	010895	2	1918	40	6154	10.8	2.25	1.18	32	1.18	A	37.68	--	--	--
105TH ST NW	061101D	010941	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
120TH ST	061103S	011045	2	162	40	6154	10.8	2.25	1.13	3	1.13	A	3.06	--	--	--
135TH ST NW	061104Y	011151	2	1003	40	6154	10.8	2.25	1.15	17	1.15	A	19.28	--	--	--
KANDI-SWIFT RD	061106M	011253	2	236	40	6154	10.8	2.25	1.13	4	1.13	A	4.46	--	--	--
175TH AVE SE	061107U	011305	2	44	40	6154	10.8	2.25	1.13	1	1.13	A	0.83	--	--	--
165TH AVE SE	061109H	011418	2	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
140TH	061122W	011592	1	15	40	6154	10.8	2.25	1.13	0	1.13	A	0.28	--	--	--
9TH ST	061123D	011630	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
14TH ST	061125S	011666	2	1490	40	6154	10.8	2.25	1.16	25	1.17	A	28.98	--	--	--
150TH ST	067426H	017818	2	133	40	6154	10.8	2.25	1.13	2	1.13	A	2.50	--	--	--
160TH ST	067427P	017930	2	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
PRICE AVE	067430X	018065	2	59	40	6154	10.8	2.25	1.13	1	1.13	A	1.11	--	--	--
GRISWOLD AVE	067431E	018109	2	339	40	6154	10.8	2.25	1.13	6	1.14	A	6.42	--	--	--
180TH ST	067432L	018169	2	15	40	6154	10.8	2.25	1.12	0	1.13	A	0.28	--	--	--
190TH ST	067434A	018288	1	44	40	6154	10.8	2.25	1.13	1	1.13	A	0.83	--	--	--
200TH ST	067436N	018408	2	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
210TH ST	067437V	018526	1	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
340TH AVE	067438C	018739	1	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
CSAH 18	067439J	018767	2	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
CNTY 93	067440D	018931	1	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
490TH	067441K	018998	2	44	40	6154	10.8	2.25	1.13	1	1.13	A	0.83	--	--	--
TWN 197	067443Y	019120	1	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
OAK ST	067445M	019246	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
4TH ST	067446U	019271	2	369	40	6154	10.8	2.25	1.13	6	1.14	A	6.98	--	--	--
460TH	067447B	019370	1	133	40	6154	10.8	2.25	1.13	2	1.14	A	2.51	--	--	--
MNTH 55	067449P	019485	2	1608	40	6154	10.8	2.25	1.15	27	1.15	A	30.93	--	--	--
500TH ST	067450J	019602	1	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
290TH AVE	067451R	019698	2	59	40	6154	10.8	2.25	1.13	1	1.13	A	1.11	--	--	--
490TH ST	067452X	019723	1	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
480TH ST	067453E	019826	1	44	40	6154	10.8	2.25	1.13	1	1.13	A	0.83	--	--	--
470TH ST	067455T	019944	1	266	40	6154	10.8	2.25	1.14	4	1.14	A	5.07	--	--	--
5TH ST	067456A	019982	2	900	40	6154	10.8	2.25	1.15	15	1.15	A	17.26	--	--	--
450TH ST	067460P	020182	1	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
440TH ST	067462D	020316	1	103	40	6154	10.8	2.25	1.13	2	1.13	A	1.95	--	--	--
430TH ST	067463K	020437	2	59	40	6154	10.8	2.25	1.13	1	1.13	A	1.11	--	--	--
FIELD ENT	067465Y	020563	1	133	40	6154	10.8	2.25	1.13	2	1.14	A	2.51	--	--	--
TH 9	067467M	020665	2	1696	40	6154	10.8	2.25	1.15	28	1.16	A	32.68	--	--	--
5TH ST	067468U	020697	2	162	40	6154	10.8	2.25	1.13	3	1.13	A	3.06	--	--	--
230TH AVE	067469B	020746	2	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
400TH ST	067470V	020790	2	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
390TH ST	067473R	020921	2	59	40	6154	10.8	2.25	1.13	1	1.13	A	1.11	--	--	--
380TH ST	067475E	021052	2	59	40	6154	10.8	2.25	1.13	1	1.13	A	1.11	--	--	--
210TH ST	067545S	015832	2	1224	40	6154	10.8	2.25	1.17	20	1.17	A	23.86	--	--	--
200TH ST	067546Y	015947	2	325	40	6154	10.8	2.25	1.14	5	1.14	A	6.15	--	--	--
180TH ST	067549U	016198	2	162	40	6154	10.8	2.25	1.13	3	1.13	A	3.06	--	--	--
170TH ST	067551V	016316	1	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
520TH AVE	067554R	016502	2	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
3RD ST	067557L	016570	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
4TH ST.	067558T	016576	2	679	40	6154	10.8	2.25	1.14	11	1.14	A	12.95	--	--	--
140TH ST	067560U	016662	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
130TH ST	067562H	016775	2	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
120TH ST	067564W	016909	2	59	40	6154	10.8	2.25	1.13	1	1.13	A	1.11	--	--	--
100TH ST	067567S	017175	2	133	40	6154	10.8	2.25	1.13	2	1.13	A	2.50	--	--	--
260TH AVE	067568Y	017203	1	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
270 AVE	067569F	017339	2	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
280TH AVE	067572N	017491	2	133	40	6154	10.8	2.25	1.13	2	1.13	A	2.50	--	--	--
130TH ST	067573V	017576	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
3RD ST	067574C	017610	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
5TH ST W	067575J	017620	2	2758	40	6154	10.8	2.25	1.17	46	1.18	A	54.02	--	--	--
140TH ST	067576R	017696	2	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
130TH AVE SE	067889F	011824	2	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
80TH ST SE	067890A	011917	2	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
120TH AVE SE	067891G	011932	2	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
HOLLIS ST	067895J	012074	2	1121	40	6154	10.8	2.25	1.16	19	1.17	A	21.78	--	--	--
SHAAF ST.	067896R	012093	2	620	40	6154	10.8	2.25	1.15	10	1.15	A	11.85	--	--	--
100TH AVE	067898E	012160	2	133	40	6154	10.8	2.25	1.13	2	1.13	A	2.50	--	--	--
60TH ST SE	067900D	012248	2	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
80TH AVE SE	067901K	012398	2	177	40	6154	10.8	2.25	1.13	3	1.13	A	3.34	--	--	--
3RD ST	067903Y	012516	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
4TH ST	067904F	012523	2	915	40	6154	10.8	2.25	1.15	15	1.15	A	17.55	--	--	--
40TH ST SE	067906U	012636	2	44	40	6154	10.8	2.25	1.13	1	1.13	A	0.83	--	--	--
50TH AVE SE	067907B	012815	2	103	40	6154	10.8	2.25	1.13	2	1.13	A	1.95	--	--	--
40TH AVE SE	067909P	012933	2	74	40	6154	10.8	2.25	1.13	1	1.13	A	1.39	--	--	--
30TH AVE SE	067911R	013053	2	103	40	6154	10.8	2.25	1.13	2	1.13	A	1.95	--	--	--
20TH AVE SE	067912X	013162	2	325	40	6154	10.8	2.25	1.14	5	1.14	A	6.15	--	--	--
330TH ST	067915T	014269	1	103	40	6154	10.8	2.25	1.13	2	1.13	A	1.95	--	--	--
60TH AVE NW	067918N	014110	2	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
70TH ST NW	067919V	014030	2	89	40	6154	10.8	2.25	1.13	1	1.13	A	1.67	--	--	--
GRACE AVE	067921W	013852	2	1121	40	6154	10.8	2.25	1.15	19	1.16	A	21.61	--	--	--
TWN 305	067924S	013584	2	30	40	6154	10.8	2.25	1.13	0	1.13	A	0.55	--	--	--
20TH ST NW	067925Y	013430	2	2596	40	6154	10.8	2.25	1.20	43	1.20	A	51.87	--	--	--
14TH ST	067927M	013270	4	13246	40	6154	10.8	2.25	1.25	221	1.25	A	275.95	--	--	--
13TH ST	067928U	013263	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
12TH ST.	067929B	013256	2	679	40	6154	10.8	2.25	1.15	11	1.15	A	13.00	--	--	--
7TH ST	067931C	015729	2	4204	40	6154	10.8	2.25	1.20	70	1.20	A	84.22	--	--	--

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6TH ST	067932J	015722	2	1224	40	6154	10.8	2.25	1.17	20	1.17	A	23.86	--	--	--
5TH ST	067933R	015714	2	7434	40	6154	10.8	2.25	1.26	124	1.27	A	156.98	--	--	--
FIRST ST	067934X	015686	2	2832	40	6154	10.8	2.25	1.17	47	1.18	A	55.53	--	--	--
INDUSTRIAL BLVD	067936L	015537	2	959	40	6154	10.8	2.25	1.16	16	1.16	A	18.53	--	--	--
240TH AVE	085912V	020583	2	44	40	6154	10.8	2.25	1.13	1	1.13	A	0.83	--	--	--
460TH ST	085968P	020063	2	59	40	6154	10.8	2.25	1.13	1	1.13	A	1.11	--	--	--
12TH AV S	062576Y	004202	3	9219	60	6154	10.8	1.67	0.92	114	0.68	A	104.57	--	--	--
1ST AVE S	062925G	002147	2	1224	60	6154	10.8	1.67	0.86	15	0.64	A	13.09	--	--	--
20TH ST S & MAIN	062923T	004254	4	33601	60	6154	10.8	1.67	1.11	416	0.82	A	461.72	--	--	--
PARK AVE	067930V	015782	2	2345	60	6154	10.8	1.67	0.86	29	0.64	A	25.04	--	--	--
210TH AVE	067577X	021067	2	103	40	6154	10.8	2.25	1.13	2	1.13	A	1.95	--	--	--
370TH ST	067578E	021177	2	30	60	6154	10.8	1.67	0.83	0	0.62	A	0.30	--	--	--
74TH ST SE	062634S	000516	2	59	60	6154	10.8	1.67	0.83	1	0.62	A	0.61	--	--	--
75TH ST SE	062635Y	000417	2	428	60	6154	10.8	1.67	0.84	5	0.63	A	4.47	--	--	--
76TH ST SE	062638U	000317	2	325	60	6154	10.8	1.67	0.84	4	0.62	A	3.38	--	--	--
77TH ST SE	062639B	000219	2	295	60	6154	10.8	1.67	0.84	4	0.62	A	3.07	--	--	--
16TH AVE N	062640V	000117	2	1328	60	6154	10.8	1.67	0.86	16	0.64	A	14.12	--	--	--
79TH ST SE	062641C	000070	2	236	60	6154	10.8	1.67	0.84	3	0.62	A	2.45	--	--	--
	062642J	000018	2	472	60	6154	10.8	1.67	0.84	6	0.63	A	4.93	--	--	--
12TH STREET N	094014S	021601	2	885	60	6154	10.8	1.67	0.86	11	0.64	A	9.37	--	--	--
11TH ST HWY 127	062496F	021600	2	9322	60	6154	10.8	1.67	0.97	115	0.72	A	111.55	--	--	--
6TH ST S	062494S	021570	2	5222	60	6154	10.8	1.67	0.90	65	0.67	A	58.35	--	--	--
5TH ST S	062491W	021560	2	708	60	6154	10.8	1.67	0.85	9	0.63	A	7.45	--	--	--

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4TH ST	062489V	021550	2	3437	60	6154	10.8	1.67	0.90	43	0.67	A	38.48	--	--	--
3RD ST	062487G	021554	2	1136	60	6154	10.8	1.67	0.86	14	0.64	A	12.11	--	--	--
POPE ST	062484L	021501	2	679	60	6154	10.8	1.67	0.85	8	0.63	A	7.14	--	--	--
150TH AVE SO	080759P	021980	2	221	60	6154	10.8	1.67	0.84	3	0.62	A	2.30	--	--	--
Proposed Action																
28TH AVE SO	062577F	004102	2	752	60	6736	19.6	3.44	1.75	18	1.22	A	15.35	8	1	0.59
40TH AVE SO	062579U	004001	4	4366	60	6736	19.6	3.44	1.84	102	1.29	A	93.62	48	1	0.63
50 AVE S	062580N	003902	2	103	60	6736	19.6	3.44	1.73	2	1.21	A	2.08	1	1	0.59
60TH AVE S	062582C	003793	2	2345	60	6736	19.6	3.44	1.85	55	1.29	A	50.55	26	1	0.63
70 AVE S	062584R	003691	2	30	60	6736	19.6	3.44	1.72	1	1.20	A	0.59	0	1	0.59
80 AVE S	062585X	003592	2	74	60	6736	19.6	3.44	1.72	2	1.21	A	1.48	1	1	0.59
90 AVE S	062586E	003492	2	30	60	6736	19.6	3.44	1.72	1	1.20	A	0.59	0	1	0.59
100 AVE S	062587L	003396	2	89	60	6736	19.6	3.44	1.73	2	1.21	A	1.78	1	1	0.59
108 AVE S	062588T	003320	2	89	60	6736	19.6	3.44	1.73	2	1.21	A	1.78	1	1	0.59
110 AVE S	062589A	003299	2	325	60	6736	19.6	3.44	1.74	8	1.21	A	6.57	4	1	0.59
120TH AVE SO	062590U	003201	2	15	60	6736	19.6	3.44	1.72	0	1.20	A	0.30	0	1	0.58
130 AVE S	062591B	003103	2	59	60	6736	19.6	3.44	1.72	1	1.21	A	1.19	1	1	0.59
140TH AVE	062592H	003005	1	30	60	6736	19.6	3.44	1.72	1	1.21	A	0.59	0	1	0.59
150TH AVE S	062594W	002905	2	15	60	6736	19.6	3.44	1.72	0	1.20	A	0.30	0	1	0.58
BROADWAY/160 AVE	062596K	002801	2	1387	60	6736	19.6	3.44	1.76	32	1.23	A	28.38	15	1	0.60
170TH AVE S	062597S	002702	2	59	60	6736	19.6	3.44	1.72	1	1.21	A	1.19	1	1	0.59
100TH ST	062598Y	002603	2	74	60	6736	19.6	3.44	1.72	2	1.21	A	1.48	1	1	0.59
110TH ST	062600X	002503	1	30	60	6736	19.6	3.44	1.72	1	1.21	A	0.59	0	1	0.59

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120TH ST	062601E	002402	2	44	60	6736	19.6	3.44	1.72	1	1.20	A	0.89	0	1	0.59
130TH ST	062602L	002301	2	103	60	6736	19.6	3.44	1.73	2	1.21	A	2.08	1	1	0.59
140TH ST	062604A	002198	2	74	60	6736	19.6	3.44	1.72	2	1.21	A	1.48	1	1	0.59
LIND AVE	062605G	002130	2	89	60	6736	19.6	3.44	1.73	2	1.21	A	1.78	1	1	0.59
150TH ST	062606N	002093	2	575	60	6736	19.6	3.44	1.74	13	1.22	A	11.69	6	1	0.59
160TH ST	062607V	001989	2	30	60	6736	19.6	3.44	1.72	1	1.20	A	0.59	0	1	0.59
170TH ST	062608C	001887	2	59	60	6736	19.6	3.44	1.72	1	1.21	A	1.19	1	1	0.59
180TH ST	062610D	001781	2	59	60	6736	19.6	3.44	1.72	1	1.21	A	1.19	1	1	0.59
190TH ST	062611K	001681	2	44	60	6736	19.6	3.44	1.72	1	1.20	A	0.89	0	1	0.59
200TH ST	062612S	001579	1	148	60	6736	19.6	3.44	1.74	3	1.21	A	2.98	2	1	0.59
210TH ST	062614F	001477	2	236	60	6736	19.6	3.44	1.73	6	1.21	A	4.76	3	1	0.59
220TH ST	062616U	001369	2	15	60	6736	19.6	3.44	1.72	0	1.20	A	0.30	0	1	0.58
3RD ST	062620J	001232	2	679	60	6736	19.6	3.44	1.76	16	1.23	A	13.88	7	1	0.60
235TH ST	062621R	001213	2	664	60	6736	19.6	3.44	1.75	15	1.22	A	13.52	7	1	0.59
150TH AVE	062622X	001139	2	30	60	6736	19.6	3.44	1.72	1	1.20	A	0.59	0	1	0.59
250TH ST	062624L	001053	2	30	60	6736	19.6	3.44	1.72	1	1.20	A	0.59	0	1	0.59
270TH ST	062629V	000837	1	15	60	6736	19.6	3.44	1.72	0	1.20	A	0.30	0	1	0.59
280TH ST	062631W	000730	2	575	60	6736	19.6	3.44	1.74	13	1.22	A	11.69	6	1	0.59
30TH AVE S	103817B	004077	4	10827	60	6736	19.6	3.44	1.87	253	1.31	A	236.09	119	1	0.64
450TH AVE	060917H	015230	2	44	40	6716	19.6	4.66	2.33	1	2.20	A	1.63	1	1	1.08
265TH ST	060919W	015109	2	59	40	6716	19.6	4.66	2.33	2	2.21	A	2.17	1	1	1.08
6TH ST	060922E	014869	2	2272	40	6716	19.6	4.66	2.46	72	2.32	A	87.99	34	1	1.13
LAKE AVE	060923L	014817	2	369	40	6680	19.6	4.65	2.35	12	2.22	A	13.63	5	1	1.08

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310TH ST	060926G	014505	2	74	40	6680	19.6	4.65	2.33	2	2.20	A	2.70	1	1	1.07
60TH ST NE	061081U	009807	2	184	40	6680	19.6	4.65	2.34	6	2.20	A	6.78	3	1	1.07
19TH ST N	061088S	010332	2	2109	40	6680	19.6	4.65	2.44	66	2.31	A	81.04	31	1	1.12
30TH ST NW	061089Y	010405	3	11358	40	6680	19.6	4.65	2.82	358	2.66	A	503.30	168	1	1.29
CO RD 5 W	061091A	010447	2	785	40	6680	19.6	4.65	2.38	25	2.25	A	29.38	12	1	1.09
45TH ST NW	061094V	010518	2	273	40	6680	19.6	4.65	2.34	9	2.21	A	10.05	4	1	1.07
60TH ST NW	061096J	010621	2	221	40	6680	19.6	4.65	2.34	7	2.21	A	8.14	3	1	1.07
75TH ST NW	061098X	010726	2	575	40	6680	19.6	4.65	2.36	18	2.23	A	21.39	9	1	1.08
ATLANTIC AVE	061099E	010860	2	679	40	6680	19.6	4.65	2.37	21	2.24	A	25.31	10	1	1.09
11TH ST	061100W	010895	2	1918	40	6680	19.6	4.65	2.43	60	2.29	A	73.33	28	1	1.12
105TH ST NW	061101D	010941	2	679	40	6680	19.6	4.65	2.37	21	2.24	A	25.31	10	1	1.09
120TH ST	061103S	011045	2	162	40	6680	19.6	4.65	2.33	5	2.20	A	5.96	2	1	1.07
135TH ST NW	061104Y	011151	2	1003	40	6680	19.6	4.65	2.38	32	2.24	A	37.53	15	1	1.09
KANDI-SWIFT RD	061106M	011253	2	236	40	6680	19.6	4.65	2.34	7	2.21	A	8.69	3	1	1.07
175TH AVE SE	061107U	011305	2	44	40	6680	19.6	4.65	2.33	1	2.20	A	1.62	1	1	1.07
165TH AVE SE	061109H	011418	2	30	40	6680	19.6	4.65	2.33	1	2.19	A	1.08	0	1	1.07
140TH	061122W	011592	1	15	40	6680	19.6	4.65	2.33	0	2.19	A	0.54	0	1	1.07
9TH ST	061123D	011630	2	679	40	6680	19.6	4.65	2.37	21	2.24	A	25.31	10	1	1.09
14TH ST	061125S	011666	2	1490	40	6680	19.6	4.65	2.41	47	2.27	A	56.39	22	1	1.10
150TH ST	067426H	017818	2	133	40	6680	19.6	4.65	2.33	4	2.20	A	4.87	2	1	1.07
160TH ST	067427P	017930	2	74	40	6680	19.6	4.65	2.33	2	2.20	A	2.70	1	1	1.07
PRICE AVE	067430X	018065	2	59	40	6697	19.6	4.65	2.33	2	2.20	A	2.16	1	1	1.07
GRISWOLD AVE	067431E	018109	2	339	40	6697	19.6	4.65	2.34	11	2.21	A	12.52	5	1	1.08

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
180TH ST	067432L	018169	2	15	40	6697	19.6	4.65	2.33	0	2.20	A	0.54	0	1	1.07
190TH ST	067434A	018288	1	44	40	6697	19.6	4.65	2.33	1	2.20	A	1.62	1	1	1.07
200TH ST	067436N	018408	2	74	40	6697	19.6	4.65	2.33	2	2.20	A	2.71	1	1	1.07
210TH ST	067437V	018526	1	30	40	6697	19.6	4.65	2.33	1	2.20	A	1.08	0	1	1.07
340TH AVE	067438C	018739	1	30	40	6697	19.6	4.65	2.33	1	2.20	A	1.08	0	1	1.07
CSAH 18	067439J	018767	2	30	40	6697	19.6	4.65	2.33	1	2.20	A	1.08	0	1	1.07
CNTY 93	067440D	018931	1	74	40	6697	19.6	4.65	2.34	2	2.21	A	2.71	1	1	1.08
490TH	067441K	018998	2	44	40	6697	19.6	4.65	2.33	1	2.20	A	1.62	1	1	1.07
TWN 197	067443Y	019120	1	30	40	6697	19.6	4.65	2.33	1	2.20	A	1.08	0	1	1.07
OAK ST	067445M	019246	2	679	40	6697	19.6	4.65	2.37	21	2.24	A	25.36	10	1	1.09
4TH ST	067446U	019271	2	369	40	6697	19.6	4.65	2.35	12	2.22	A	13.62	5	1	1.08
460TH	067447B	019370	1	133	40	6697	19.6	4.65	2.34	4	2.21	A	4.90	2	1	1.08
MNTH 55	067449P	019485	2	1608	40	6697	19.6	4.65	2.38	51	2.25	A	60.32	24	1	1.10
500TH ST	067450J	019602	1	30	40	6697	19.6	4.65	2.33	1	2.20	A	1.08	0	1	1.07
290TH AVE	067451R	019698	2	59	40	6697	19.6	4.65	2.33	2	2.20	A	2.16	1	1	1.07
490TH ST	067452X	019723	1	74	40	6697	19.6	4.65	2.34	2	2.21	A	2.71	1	1	1.08
480TH ST	067453E	019826	1	44	40	6697	19.6	4.65	2.33	1	2.20	A	1.62	1	1	1.07
470TH ST	067455T	019944	1	266	40	6697	19.6	4.65	2.36	8	2.23	A	9.88	4	1	1.09
5TH ST	067456A	019982	2	900	40	6697	19.6	4.65	2.37	28	2.24	A	33.65	13	1	1.09
450TH ST	067460P	020182	1	30	40	6697	19.6	4.65	2.33	1	2.20	A	1.08	0	1	1.07
440TH ST	067462D	020316	1	103	40	6697	19.6	4.65	2.34	3	2.21	A	3.80	2	1	1.08
430TH ST	067463K	020437	2	59	40	6697	19.6	4.65	2.33	2	2.20	A	2.16	1	1	1.07
FIELD ENT	067465Y	020563	1	133	40	6697	19.6	4.65	2.34	4	2.21	A	4.90	2	1	1.08

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
TH 9	067467M	020665	2	1696	40	6697	19.6	4.65	2.39	54	2.25	A	63.73	25	1	1.10
5TH ST	067468U	020697	2	162	40	6697	19.6	4.65	2.34	5	2.21	A	5.97	2	1	1.08
230TH AVE	067469B	020746	2	30	40	6697	19.6	4.65	2.33	1	2.20	A	1.08	0	1	1.07
400TH ST	067470V	020790	2	30	40	6697	19.6	4.65	2.33	1	2.20	A	1.08	0	1	1.07
390TH ST	067473R	020921	2	59	40	6697	19.6	4.65	2.33	2	2.20	A	2.16	1	1	1.07
380TH ST	067475E	021052	2	59	40	6697	19.6	4.65	2.33	2	2.20	A	2.16	1	1	1.07
210TH ST	067545S	015832	2	1224	40	6697	19.6	4.65	2.41	39	2.28	A	46.53	18	1	1.11
200TH ST	067546Y	015947	2	325	40	6697	19.6	4.65	2.35	10	2.22	A	12.00	5	1	1.08
180TH ST	067549U	016198	2	162	40	6697	19.6	4.65	2.33	5	2.21	A	5.96	2	1	1.07
170TH ST	067551V	016316	1	30	40	6697	19.6	4.65	2.33	1	2.20	A	1.08	0	1	1.07
520TH AVE	067554R	016502	2	74	40	6697	19.6	4.65	2.33	2	2.20	A	2.71	1	1	1.07
3RD ST	067557L	016570	2	679	40	6697	19.6	4.65	2.37	21	2.24	A	25.36	10	1	1.09
4TH ST.	067558T	016576	2	679	40	6697	19.6	4.65	2.36	21	2.23	A	25.24	10	1	1.09
140TH ST	067560U	016662	2	679	40	6697	19.6	4.65	2.37	21	2.24	A	25.36	10	1	1.09
130TH ST	067562H	016775	2	74	40	6697	19.6	4.65	2.33	2	2.20	A	2.71	1	1	1.07
120TH ST	067564W	016909	2	59	40	6697	19.6	4.65	2.33	2	2.20	A	2.16	1	1	1.07
100TH ST	067567S	017175	2	133	40	6697	19.6	4.65	2.33	4	2.21	A	4.88	2	1	1.07
260TH AVE	067568Y	017203	1	74	40	6697	19.6	4.65	2.34	2	2.21	A	2.71	1	1	1.08
270 AVE	067569F	017339	2	74	40	6697	19.6	4.65	2.33	2	2.20	A	2.71	1	1	1.07
280TH AVE	067572N	017491	2	133	40	6697	19.6	4.65	2.33	4	2.21	A	4.88	2	1	1.07
130TH ST	067573V	017576	2	679	40	6697	19.6	4.65	2.37	21	2.24	A	25.36	10	1	1.09
3RD ST	067574C	017610	2	679	40	6697	19.6	4.65	2.37	21	2.24	A	25.36	10	1	1.09
5TH ST W	067575J	017620	2	2758	40	6697	19.6	4.65	2.43	87	2.29	A	105.33	41	1	1.12

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
140TH ST	067576R	017696	2	74	40	6697	19.6	4.65	2.33	2	2.20	A	2.71	1	1	1.07
130TH AVE SE	067889F	011824	2	74	40	6680	19.6	4.65	2.33	2	2.20	A	2.70	1	1	1.07
80TH ST SE	067890A	011917	2	30	40	6680	19.6	4.65	2.33	1	2.19	A	1.08	0	1	1.07
120TH AVE SE	067891G	011932	2	30	40	6680	19.6	4.65	2.33	1	2.19	A	1.08	0	1	1.07
HOLLIS ST	067895J	012074	2	1121	40	6680	19.6	4.65	2.40	35	2.27	A	42.38	17	1	1.10
SHAAF ST.	067896R	012093	2	620	40	6680	19.6	4.65	2.37	20	2.23	A	23.07	9	1	1.09
100TH AVE	067898E	012160	2	133	40	6680	19.6	4.65	2.33	4	2.20	A	4.87	2	1	1.07
60TH ST SE	067900D	012248	2	30	40	6680	19.6	4.65	2.33	1	2.19	A	1.08	0	1	1.07
80TH AVE SE	067901K	012398	2	177	40	6680	19.6	4.65	2.34	6	2.20	A	6.50	3	1	1.07
3RD ST	067903Y	012516	2	679	40	6680	19.6	4.65	2.37	21	2.24	A	25.31	10	1	1.09
4TH ST	067904F	012523	2	915	40	6680	19.6	4.65	2.37	29	2.24	A	34.15	14	1	1.09
40TH ST SE	067906U	012636	2	44	40	6680	19.6	4.65	2.33	1	2.20	A	1.62	1	1	1.07
50TH AVE SE	067907B	012815	2	103	40	6680	19.6	4.65	2.33	3	2.20	A	3.79	2	1	1.07
40TH AVE SE	067909P	012933	2	74	40	6680	19.6	4.65	2.33	2	2.20	A	2.70	1	1	1.07
30TH AVE SE	067911R	013053	2	103	40	6680	19.6	4.65	2.33	3	2.20	A	3.79	2	1	1.07
20TH AVE SE	067912X	013162	2	325	40	6680	19.6	4.65	2.35	10	2.21	A	11.98	5	1	1.08
330TH ST	067915T	014269	1	103	40	6716	19.6	4.66	2.34	3	2.22	A	3.81	2	1	1.08
60TH AVE NW	067918N	014110	2	30	40	6716	19.6	4.66	2.33	1	2.20	A	1.08	0	1	1.08
70TH ST NW	067919V	014030	2	89	40	6716	19.6	4.66	2.33	3	2.21	A	3.26	1	1	1.08
GRACE AVE	067921W	013852	2	1121	40	6716	19.6	4.66	2.39	35	2.26	A	42.23	17	1	1.10
TWN 305	067924S	013584	2	30	40	6716	19.6	4.66	2.33	1	2.20	A	1.08	0	1	1.08
20TH ST NW	067925Y	013430	2	2596	40	6716	19.6	4.66	2.48	82	2.34	A	101.36	39	1	1.14
14TH ST	067927M	013270	4	13246	40	6716	19.6	4.66	2.58	418	2.44	A	539.22	197	1	1.19

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
13TH ST	067928U	013263	2	679	40	6716	19.6	4.66	2.38	21	2.25	A	25.41	10	1	1.10
12TH ST.	067929B	013256	2	679	40	6716	19.6	4.66	2.38	21	2.25	A	25.41	10	1	1.10
7TH ST	067931C	015729	2	4204	40	6716	19.6	4.66	2.48	133	2.35	A	164.56	63	1	1.15
6TH ST	067932J	015722	2	1224	40	6716	19.6	4.66	2.42	39	2.29	A	46.63	18	1	1.12
5TH ST	067933R	015714	2	7434	40	6716	19.6	4.66	2.62	235	2.48	A	306.75	111	1	1.21
FIRST ST	067934X	015686	2	2832	40	6716	19.6	4.66	2.43	89	2.30	A	108.50	42	1	1.12
INDUSTRIAL BLVD	067936L	015537	2	959	40	6716	19.6	4.66	2.40	30	2.27	A	36.22	14	1	1.11
240TH AVE	085912V	020583	2	44	40	6716	19.6	4.66	2.33	1	2.20	A	1.63	1	1	1.08
460TH ST	085968P	020063	2	59	40	6716	19.6	4.66	2.33	2	2.21	A	2.17	1	1	1.08
12TH AV S	062576Y	004202	3	9219	60	6736	19.6	3.44	1.89	215	1.32	A	203.44	101	1	0.64
1ST AVE S	062925G	002147	2	1224	60	6736	19.6	3.44	1.79	29	1.25	A	25.47	13	1	0.61
20TH ST S & MAIN	062923T	004254	4	33601	60	6736	19.6	3.44	2.29	785	1.60	A	898.26	369	1	0.78
PARK AVE	067930V	015782	2	2345	60	6716	19.6	3.44	1.78	55	1.24	A	48.62	26	1	0.60
210TH AVE	067577X	021067	2	103	40	6697	19.6	4.65	2.33	3	2.20	A	3.79	2	1	1.07
370TH ST	067578E	021177	2	30	60	6716	19.6	3.44	1.72	1	1.20	A	0.59	0	1	0.58
74TH ST SE	062634S	000516	2	59	60	6736	19.6	3.44	1.72	1	1.21	A	1.19	1	1	0.59
75TH ST SE	062635Y	000417	2	428	60	6736	19.6	3.44	1.74	10	1.22	A	8.69	5	1	0.59
76TH ST SE	062638U	000317	2	325	60	6736	19.6	3.44	1.74	8	1.21	A	6.57	4	1	0.59
77TH ST SE	062639B	000219	2	295	60	6736	19.6	3.44	1.74	7	1.21	A	5.97	3	1	0.59
16TH AVE N	062640V	000117	2	1328	60	6736	19.6	3.44	1.78	31	1.24	A	27.46	15	1	0.60
79TH ST SE	062641C	000070	2	236	60	6736	19.6	3.44	1.73	6	1.21	A	4.77	3	1	0.59
	062642J	000018	2	472	60	6736	19.6	3.44	1.75	11	1.22	A	9.60	5	1	0.59
12TH STREET N	094014S	021601	2	885	60	6736	19.6	3.44	1.77	21	1.24	A	18.22	10	1	0.60

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
11TH ST HWY 127	062496F	021600	2	9322	60	6736	19.6	3.44	2.00	218	1.40	A	217.01	102	1	0.68
6TH ST S	062494S	021570	2	5222	60	6736	19.6	3.44	1.87	122	1.30	A	113.51	57	1	0.63
5TH ST S	062491W	021560	2	708	60	6736	19.6	3.44	1.76	17	1.23	A	14.50	8	1	0.60
4TH ST	062489V	021550	2	3437	60	6736	19.6	3.44	1.87	80	1.31	A	74.86	38	1	0.64
3RD ST	062487G	021554	2	1136	60	6736	19.6	3.44	1.78	27	1.25	A	23.57	12	1	0.61
POPE ST	062484L	021501	2	679	60	6736	19.6	3.44	1.76	16	1.23	A	13.88	7	1	0.60
150TH AVE SO	080759P	021980	2	221	60	6736	19.6	3.44	1.73	5	1.21	A	4.47	2	1	0.59

Table V.1-44. Grade-Crossing Delay, Segment 21 from Willmar, MN to St Paul, MN Analysis Year 2023

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
OAKLAND RD	061033E	002055	2	3,649	50	6154	17.3	1.90	1.06	83	1.46	A	88.65	--	--	--
CROSBY RD	061035T	002230	2	2,798	50	6154	17.3	1.90	1.02	64	1.39	A	64.79	--	--	--
ARLINGTON CIR	061037G	002348	2	9,057	50	6154	17.3	1.90	1.30	207	1.78	A	268.47	--	--	--
BARRY AVE	061039V	002430	2	1,696	50	6154	17.3	1.90	1.00	39	1.37	A	38.68	--	--	--
FERNDAL RD	061040P	002452	3	7,080	50	6154	17.3	1.90	1.10	161	1.51	A	178.37	--	--	--
BUDD AVE	061051C	003167	2	3,717	50	6154	17.3	1.90	1.04	85	1.42	A	88.07	--	--	--
CO HWY 90	061054X	003320	2	870	50	6154	17.3	1.90	0.97	20	1.33	A	19.23	--	--	--
VALLEY ROAD	061056L	003448	2	1,033	50	6154	17.3	1.90	0.98	24	1.34	A	23.07	--	--	--
LAKE SARAH RD	061057T	003516	2	3,879	50	6154	17.3	1.90	1.04	88	1.43	A	92.29	--	--	--
MUD LAKE RD	061058A	003562	1	30	50	6154	17.3	1.90	0.95	1	1.30	A	0.64	--	--	--
WEST CO LINE	061064D	003768	2	10,930	50	6154	17.3	1.90	1.41	249	1.93	A	350.78	--	--	--
3RD ST	061068F	008914	2	693	60	6154	17.3	1.67	0.85	14	1.02	A	11.80	--	--	--
COUNTY HWY 4 NE	061071N	009202	2	1,121	60	6154	17.3	1.67	0.85	22	1.03	A	19.18	--	--	--
135TH ST NE	061073C	009306	2	148	60	6154	17.3	1.67	0.84	3	1.00	A	2.47	--	--	--
120TH ST NE	061075R	009405	2	133	60	6154	17.3	1.67	0.84	3	1.00	A	2.22	--	--	--
98TH ST NE	061078L	009558	2	37	60	6154	17.3	1.67	0.83	1	1.00	A	0.62	--	--	--
4TH ST	061079T	009660	2	2,360	60	6154	17.3	1.67	0.88	47	1.06	A	41.60	--	--	--
71ST ST NE	061080M	009726	2	56	60	6154	17.3	1.67	0.83	1	1.00	A	0.94	--	--	--
HARRISON ST NE	061312A	000985	4	2,109	50	6154	17.3	1.90	0.97	48	1.33	A	46.82	--	--	--
E. ISLAND AVE	061313G	001061	2	1,342	50	6154	17.3	1.90	0.99	31	1.35	A	30.27	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
W. ISLAND AVE	061314N	001079	2	1,342	50	6154	17.3	1.90	0.99	31	1.35	A	30.27	--	--	--
3RD ST S	067789B	006519	2	679	50	6154	17.3	1.90	0.97	15	1.33	A	15.00	--	--	--
4TH ST S	067790V	006524	2	2,345	50	6154	17.3	1.90	0.98	53	1.35	A	52.62	--	--	--
713TH AVE	067791C	006634	2	192	50	6154	17.3	1.90	0.95	4	1.31	A	4.18	--	--	--
708TH AVE	067794X	006681	2	192	50	6154	17.3	1.90	0.95	4	1.31	A	4.18	--	--	--
237TH ST	067798A	006840	2	310	50	6154	17.3	1.90	0.96	7	1.31	A	6.77	--	--	--
1ST ST	067800Y	007034	2	3,230	50	6154	17.3	1.90	1.03	74	1.40	A	75.60	--	--	--
COUNTY HWY 9	067803U	007199	2	785	50	6154	17.3	1.90	0.97	18	1.32	A	17.31	--	--	--
650TH AVE	067804B	007296	2	192	50	6154	17.3	1.90	0.95	4	1.31	A	4.18	--	--	--
S DAVIS AVE	067807W	007586	2	2,832	50	6154	17.3	1.90	1.02	65	1.39	A	65.63	--	--	--
HOLCOMBE AVE	067808D	007622	2	1,947	50	6154	17.3	1.90	0.99	44	1.36	A	44.15	--	--	--
SIBLEY AVE	067809K	007637	2	13,408	60	6154	17.3	1.67	1.04	268	1.25	A	279.10	--	--	--
SWIFT AVE N	067810E	007659	2	3,319	60	6154	17.3	1.67	0.90	66	1.08	A	59.90	--	--	--
CSAH 1	067811L	007716	2	2,803	60	6154	17.3	1.67	0.91	56	1.09	A	50.95	--	--	--
273RD ST	067815N	007935	2	1,918	60	6154	17.3	1.67	0.87	38	1.05	A	33.44	--	--	--
560TH AVE	067820K	008223	2	133	60	6154	17.3	1.67	0.84	3	1.00	A	2.22	--	--	--
2ND ST	067821S	008402	2	649	60	6154	17.3	1.67	0.85	13	1.02	A	10.98	--	--	--
STATE HWY 4	067823F	008438	2	1,770	60	6154	17.3	1.67	0.85	35	1.02	A	30.11	--	--	--
515TH AVE	067827H	008697	2	177	60	6154	17.3	1.67	0.84	4	1.01	A	2.97	--	--	--
KANDI MEEKER RD	067830R	008794	2	457	60	6154	17.3	1.67	0.84	9	1.01	A	7.72	--	--	--
MAIN ST	067837N	008898	2	2,670	60	6154	17.3	1.67	0.89	53	1.07	A	47.42	--	--	--
72ND ST SE	067840W	004011	2	339	60	6154	17.3	1.67	0.84	7	1.01	A	5.71	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
DARROW AVE SE	067841D	004039	1	15	60	6154	17.3	1.67	0.83	0	1.00	A	0.25	--	--	--
DAGUE AVE SE	067843S	004100	2	148	60	6154	17.3	1.67	0.84	3	1.00	A	2.47	--	--	--
BUFFALO AVE	067850C	004531	2	6,151	60	6154	17.3	1.67	0.97	123	1.17	A	119.51	--	--	--
CLEMENTA AVE SW	067851J	004632	2	325	50	6154	17.3	1.90	0.96	7	1.31	A	7.10	--	--	--
58TH ST SW	067853X	004711	1	295	50	6154	17.3	1.90	0.97	7	1.32	A	6.50	--	--	--
4TH ST	067855L	004804	2	3,673	50	6154	17.3	1.90	1.07	84	1.46	A	89.29	--	--	--
CO RD 8 SW	067857A	004879	2	3,036	50	6154	17.3	1.90	1.04	69	1.43	A	72.26	--	--	--
TWN 588	067862W	005104	1	148	50	6154	17.3	1.90	0.96	3	1.31	A	3.22	--	--	--
COUNTY ROAD 7	067865S	005254	3	37,925	50	6154	17.3	1.90	2.29	865	3.13	A	1980.14	--	--	--
13TH AVE	067868M	005351	2	693	50	6154	17.3	1.90	0.97	16	1.33	A	15.33	--	--	--
CO RD 5 SW	067871V	005557	2	785	50	6154	17.3	1.90	0.97	18	1.32	A	17.31	--	--	--
MORRISON AVE	067873J	005707	2	295	50	6154	17.3	1.90	0.96	7	1.31	A	6.44	--	--	--
BROADWAY ST	067876E	005928	2	7,847	50	6154	17.3	1.90	1.16	179	1.59	A	207.63	--	--	--
JACKSON ST	067877L	005944	2	3,806	50	6154	17.3	1.90	1.07	87	1.47	A	92.93	--	--	--
QUIMBY AVE SW	067879A	006056	2	487	50	6154	17.3	1.90	0.96	11	1.32	A	10.69	--	--	--
RHOADES AVE SW	067883P	006186	2	221	50	6154	17.3	1.90	0.96	5	1.31	A	4.82	--	--	--
745TH AVE	067886K	006311	2	118	50	6154	17.3	1.90	0.95	3	1.30	A	2.56	--	--	--
POLY DOME DR	917424T	007540	2	1,210	50	6154	17.3	1.90	0.98	28	1.35	A	27.17	--	--	--
10TH ST W	067836G	010278	2	3,098	60	6154	17.3	1.67	0.90	62	1.08	A	55.60	--	--	--
7TH ST NW	067834T	010254	2	4,204	60	6154	17.3	1.67	0.89	84	1.07	A	74.72	--	--	--
LAKELAND DRIVE	067831X	010110	2	6,490	60	6154	17.3	1.67	0.98	130	1.18	A	127.26	--	--	--
PRIVATE	067795E	006716	2	15	50	6154	17.3	1.90	0.95	0	1.30	A	0.32	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
CR B2 FLOWER ST	689022F	001467	3	1,785	50	6154	17.3	1.90	0.98	41	1.35	A	40.07	--	--	--
13TH AV N.	187052K	000930	2	1,018	50	6154	17.3	1.90	0.98	23	1.34	A	22.73	--	--	--
4TH ST N	185181T	001237	2	325	50	6154	17.3	1.90	0.95	7	1.31	A	7.06	--	--	--
Proposed Action																
OAKLAND RD	061033E	002055	2	3,649	50	6661	25.5	3.91	2.19	125	2.23	A	135.92	42	1	0.78
CROSBY RD	061035T	002230	2	2,798	50	6661	25.5	3.91	2.09	96	2.13	A	99.33	32	1	0.74
ARLINGTON CIR	061037G	002348	2	9,057	50	6661	25.5	3.91	2.68	310	2.73	A	411.65	104	1	0.95
BARRY AVE	061039V	002430	2	1,696	50	6661	25.5	3.91	2.06	58	2.10	A	59.31	19	1	0.73
FERNDAL RD	061040P	002452	3	7,080	50	6661	25.5	3.91	2.28	243	2.32	A	273.49	81	1	0.81
BUDD AVE	061051C	003167	2	3,717	50	6661	25.5	3.91	2.14	127	2.18	A	135.03	43	1	0.76
CO HWY 90	061054X	003320	2	870	50	6661	25.5	3.91	2.00	30	2.03	A	29.49	10	1	0.71
VALLEY ROAD	061056L	003448	2	1,033	50	6661	25.5	3.91	2.02	35	2.06	A	35.37	12	1	0.71
LAKE SARAH RD	061057T	003516	2	3,879	50	6661	25.5	3.91	2.15	133	2.19	A	141.50	44	1	0.76
MUD LAKE RD	061058A	003562	1	30	50	6661	25.5	3.91	1.96	1	2.00	A	0.98	0	1	0.69
WEST CO LINE	061064D	003768	2	10,930	50	6661	25.5	3.91	2.90	375	2.95	A	537.84	125	1	1.03
3RD ST COUNTY HWY 4 NE	061068F	008914	2	693	60	6625	25.5	3.42	1.75	21	1.56	A	18.00	7	1	0.54
	061071N	009202	2	1,121	60	6625	25.5	3.42	1.76	34	1.57	A	29.27	11	1	0.54
135TH ST NE	061073C	009306	2	148	60	6625	25.5	3.42	1.72	4	1.53	A	3.77	1	1	0.53
120TH ST NE	061075R	009405	2	133	60	6625	25.5	3.42	1.72	4	1.53	A	3.39	1	1	0.53
98TH ST NE	061078L	009558	2	37	60	6625	25.5	3.42	1.71	1	1.53	A	0.94	0	1	0.53
4TH ST	061079T	009660	2	2,360	60	6625	25.5	3.42	1.81	71	1.61	A	63.48	24	1	0.56
71ST ST NE	061080M	009726	2	56	60	6625	25.5	3.42	1.71	2	1.53	A	1.43	1	1	0.53

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
HARRISON ST NE	061312A	000985	4	2,109	50	6661	25.5	3.91	2.01	72	2.04	A	71.78	24	1	0.71
E. ISLAND AVE	061313G	001061	2	1,342	50	6661	25.5	3.91	2.04	46	2.07	A	46.42	15	1	0.72
W. ISLAND AVE	061314N	001079	2	1,342	50	6661	25.5	3.91	2.04	46	2.07	A	46.42	15	1	0.72
3RD ST S	067789B	006519	2	679	50	6661	25.5	3.91	2.00	23	2.03	A	22.99	8	1	0.71
4TH ST S	067790V	006524	2	2,345	50	6661	25.5	3.91	2.03	80	2.06	A	80.68	27	1	0.72
713TH AVE	067791C	006634	2	192	50	6661	25.5	3.91	1.97	7	2.00	A	6.40	2	1	0.70
708TH AVE	067794X	006681	2	192	50	6661	25.5	3.91	1.97	7	2.00	A	6.40	2	1	0.70
237TH ST	067798A	006840	2	310	50	6661	25.5	3.91	1.97	11	2.01	A	10.38	4	1	0.70
1ST ST	067800Y	007034	2	3,230	50	6661	25.5	3.91	2.11	111	2.15	A	115.92	37	1	0.75
COUNTY HWY 9	067803U	007199	2	785	50	6661	25.5	3.91	1.99	27	2.03	A	26.55	9	1	0.71
650TH AVE	067804B	007296	2	192	50	6661	25.5	3.91	1.97	7	2.00	A	6.40	2	1	0.70
S DAVIS AVE	067807W	007586	2	2,832	50	6661	25.5	3.91	2.09	97	2.13	A	100.62	32	1	0.74
HOLCOMBE AVE	067808D	007622	2	1,947	50	6661	25.5	3.91	2.05	67	2.09	A	67.69	22	1	0.73
SIBLEY AVE	067809K	007637	2	13,408	60	6643	25.5	3.42	2.14	403	1.91	A	426.50	134	1	0.66
SWIFT AVE N	067810E	007659	2	3,319	60	6643	25.5	3.42	1.85	100	1.65	A	91.54	33	1	0.57
CSAH 1	067811L	007716	2	2,803	60	6643	25.5	3.42	1.87	84	1.67	A	77.85	28	1	0.58
273RD ST	067815N	007935	2	1,918	60	6643	25.5	3.42	1.79	58	1.60	A	51.09	19	1	0.55
560TH AVE	067820K	008223	2	133	60	6643	25.5	3.42	1.72	4	1.53	A	3.39	1	1	0.53
2ND ST	067821S	008402	2	649	60	6643	25.5	3.42	1.74	19	1.55	A	16.78	6	1	0.54
STATE HWY 4	067823F	008438	2	1,770	60	6643	25.5	3.42	1.75	53	1.56	A	46.01	18	1	0.54
515TH AVE	067827H	008697	2	177	60	6643	25.5	3.42	1.72	5	1.54	A	4.53	2	1	0.53
KANDI MEEKER RD	067830R	008794	2	457	60	6643	25.5	3.42	1.74	14	1.55	A	11.80	5	1	0.54

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
MAIN ST	067837N	008898	2	2,670	60	6643	25.5	3.42	1.82	80	1.63	A	72.46	27	1	0.56
72ND ST SE	067840W	004011	2	339	60	6643	25.5	3.42	1.73	10	1.54	A	8.73	3	1	0.53
DARROW AVE SE	067841D	004039	1	15	60	6643	25.5	3.42	1.71	0	1.53	A	0.38	0	1	0.53
DAGUE AVE SE	067843S	004100	2	148	60	6643	25.5	3.42	1.72	4	1.53	A	3.77	1	1	0.53
BUFFALO AVE	067850C	004531	2	6,151	60	6643	25.5	3.42	2.00	185	1.78	A	182.62	62	1	0.62
CLEMENTA AVE SW	067851J	004632	2	325	50	6661	25.5	3.91	1.98	11	2.01	A	10.88	4	1	0.70
58TH ST SW	067853X	004711	1	295	50	6661	25.5	3.91	1.99	10	2.03	A	9.97	3	1	0.71
4TH ST	067855L	004804	2	3,673	50	6661	25.5	3.91	2.20	126	2.24	A	136.91	42	1	0.78
CO RD 8 SW	067857A	004879	2	3,036	50	6661	25.5	3.91	2.15	104	2.19	A	110.80	35	1	0.76
TWN 588	067862W	005104	1	148	50	6661	25.5	3.91	1.97	5	2.01	A	4.94	2	1	0.70
COUNTY ROAD 7	067865S	005254	3	37,925	50	6661	25.5	3.91	4.72	1,300	4.80	A	3,036.11	435	1	1.67
13TH AVE	067868M	005351	2	693	50	6661	25.5	3.91	2.00	24	2.03	A	23.50	8	1	0.71
CO RD 5 SW	067871V	005557	2	785	50	6661	25.5	3.91	1.99	27	2.03	A	26.55	9	1	0.71
MORRISON AVE	067873J	005707	2	295	50	6661	25.5	3.91	1.97	10	2.01	A	9.88	3	1	0.70
BROADWAY ST	067876E	005928	2	7,847	50	6661	25.5	3.91	2.39	269	2.43	A	318.36	90	1	0.85
JACKSON ST	067877L	005944	2	3,806	50	6661	25.5	3.91	2.21	130	2.25	A	142.49	44	1	0.78
QUIMBY AVE SW	067879A	006056	2	487	50	6661	25.5	3.91	1.99	17	2.02	A	16.40	6	1	0.70
RHOADES AVE SW	067883P	006186	2	221	50	6661	25.5	3.91	1.97	8	2.01	A	7.39	3	1	0.70
745TH AVE	067886K	006311	2	118	50	6661	25.5	3.91	1.96	4	2.00	A	3.93	1	1	0.70
POLY DOME DR	917424T	007540	2	1,210	50	6661	25.5	3.91	2.03	41	2.07	A	41.66	14	1	0.72
10TH ST W	067836G	010278	2	3,098	60	6625	25.5	3.42	1.84	93	1.64	A	84.86	31	1	0.57
7TH ST NW	067834T	010254	2	4,204	60	6625	25.5	3.42	1.82	126	1.63	A	114.04	42	1	0.56

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
LAKELAND DRIVE	067831X	010110	2	6,490	60	6625	25.5	3.42	2.01	195	1.80	A	194.22	65	1	0.62
PRIVATE CR B2 FLOWER ST	067795E	006716	2	15	50	6661	25.5	3.91	1.96	1	1.99	A	0.49	0	1	0.69
	689022F	001467	3	1,785	50	6661	25.5	3.91	2.03	61	2.07	A	61.43	20	1	0.72
13TH AV N.	187052K	000930	2	1,018	50	6661	25.5	3.91	2.02	35	2.05	A	34.85	12	1	0.71
4TH ST N	185181T	001237	2	325	50	6661	25.5	3.91	1.97	11	2.00	A	10.83	4	1	0.70

Table V.1-45. Grade-Crossing Delay, Segment 23 from St Paul, MN to N La Crosse, WI, Analysis Year 2023

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)		Train Length (feet)		Trains per Day		Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
					Freight	Passenger	Freight	Passenger	Freight	Passenger									
No Action																			
2ND AVE	079897G	030302	2	11,048	60	60	6154	1245	41.4	2	1.67	1.24	529	3.56	A	662.54	1.67	--	--
IRVIN ST	079898N	030361	2	5,000	60	60	6154	1245	41.4	2	1.67	0.98	239	2.81	A	236.46	1.67	--	--
	079899V	030629	2	3,879	60	60	6154	1245	41.4	2	1.67	0.91	186	2.63	A	171.55	1.67	--	--
	079900M	030734	2	6,003	60	60	6154	1245	41.4	2	1.67	0.91	287	2.63	A	265.35	1.67	--	--
LYTLE RD	079906D	031113	2	6,338	60	60	6154	1245	41.4	2	1.67	1.03	303	2.95	A	314.43	1.67	--	--
FREMONT ST	079910T	031691	2	1,446	60	60	6154	1245	41.4	2	1.67	0.86	69	2.48	A	60.20	1.67	--	--
BREEZY POINT LA	079915C	032969	2	29,589	60	60	6154	1245	41.4	2	1.67	6.98	1417	20.04	C	9975.71	1.67	--	--
MILL ST BOAT YARD RD	079918X	033327	2	782	60	60	6154	1245	41.4	2	1.67	0.85	37	2.45	A	32.22	1.67	--	--
	079923U	033465	2	988	60	60	6154	1245	41.4	2	1.67	0.86	47	2.47	A	40.98	1.67	--	--
PARK RD	079924B	033640	2	310	60	60	6154	1245	41.4	2	1.67	0.84	15	2.41	A	12.58	1.67	--	--
INDIAN CREEK RD	079926P	033748	2	4,558	60	60	6154	1245	41.4	2	1.67	0.96	218	2.77	A	212.25	1.67	--	--
PRAIRIE MOON RD	079931L	034042	2	4,558	60	60	6154	1245	41.4	2	1.67	0.93	218	2.67	A	205.10	1.67	--	--
WISCONSIN ST	079934G	034263	2	1,416	60	60	6154	1245	41.4	2	1.67	0.86	68	2.47	A	58.93	1.67	--	--
5TH ST	079935N	034304	2	2,050	60	60	6154	1245	41.4	2	1.67	0.89	98	2.55	A	87.89	1.67	--	--
MAIN ST RD CEMETERY RD	079938J	034403	2	5,266	60	60	6154	1245	41.4	2	1.67	0.99	252	2.84	A	251.35	1.67	--	--
	079939R	034497	2	4,558	60	60	6154	1245	41.4	2	1.67	0.96	218	2.77	A	212.25	1.67	--	--
FOEGEN RD	079940K	034536	1	546	60	60	6154	1245	41.4	2	1.67	0.86	26	2.47	A	22.71	1.67	--	--
	079943F	034630	2	708	60	60	6154	1245	41.4	2	1.67	0.85	34	2.43	A	28.97	1.67	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)		Train Length (feet)		Trains per Day		Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
					Freight	Passenger	Freight	Passenger	Freight	Passenger									
GREAT RIVER ACC R	079944M	034692	2	4,558	60	60	6154	1245	41.4	2	1.67	0.96	218	2.77	A	212.25	1.67	--	--
DAIRYLAND ST	079945U	034997	2	4,558	60	60	6154	1245	41.4	2	1.67	0.96	218	2.77	A	212.25	1.67	--	--
BEACH & HARBOR RD	079951X	035227	2	487	60	60	6154	1245	41.4	2	1.67	0.85	23	2.43	A	19.88	1.67	--	--
THIRD ST	079956G	035869	2	649	60	60	6154	1245	41.4	2	1.67	0.85	31	2.44	A	26.64	1.67	--	--
SMITH LAKE LA	079957N	035906	2	8,865	60	60	6154	1245	41.4	2	1.67	0.96	424	2.76	A	411.05	1.67	--	--
	079960W	036491	1	4,558	60	60	6154	1245	41.4	2	1.67	1.14	218	3.28	A	251.76	1.67	--	--
FIRST ST	079961D	036595	2	487	60	60	6154	1245	41.4	2	1.67	0.85	23	2.43	A	19.88	1.67	--	--
LAKE ST	079962K	036612	2	5,679	60	60	6154	1245	41.4	2	1.67	1.00	272	2.88	A	275.07	1.67	--	--
LAKEPORT RD	079984K	036803	1	4,558	60	60	6154	1245	41.4	2	1.67	1.14	218	3.28	A	251.76	1.67	--	--
DEER ISLAND RD	079986Y	036936	2	4,558	60	60	6154	1245	41.4	2	1.67	0.96	218	2.77	A	212.25	1.67	--	--
SPRING ST	080014B	037259	2	5,679	60	60	6154	1245	41.4	2	1.67	1.00	272	2.88	A	275.07	1.67	--	--
WABASH ST	080022T	038635	2	5,679	60	60	6154	1245	41.4	2	1.67	1.00	272	2.88	A	275.07	1.67	--	--
830TH ST	080027C	039169	2	5,679	60	60	6154	1245	41.4	2	1.67	1.00	272	2.88	A	275.07	1.67	--	--
LOWER RIVER RD	080029R	039327	2	354	60	60	6154	1245	41.4	2	1.67	0.84	17	2.41	A	14.37	1.67	--	--
	080030K	039378	2	295	60	60	6154	1245	41.4	2	1.67	0.84	14	2.41	A	11.98	1.67	--	--
985TH ST	080033F	039640	2	546	60	60	6154	1245	41.4	2	1.67	0.85	26	2.43	A	22.33	1.67	--	--
CHESTER ST	086467N	037875	2	339	60	60	6154	1245	41.4	2	1.67	0.84	16	2.42	A	13.79	1.67	--	--
KINNICKINNI C ST	098035Y	040761	2	974	60	60	6154	1245	41.4	2	1.67	0.86	47	2.46	A	40.35	1.67	--	--
CASS ST	079887B	029722	2	8,732	60	60	6154	1245	41.4	2	1.67	1.13	418	3.23	A	474.90	1.67	--	--
MAIN ST	079889P	029742	2	3,555	60	60	6154	1245	41.4	2	1.67	0.93	170	2.68	A	160.02	1.67	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)		Train Length (feet)		Trains per Day		Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
					Freight	Passenger	Freight	Passenger	Freight	Passenger									
HASTINGS AVE	061138T	042160	2	89	60	60	6154	1245	41.4	2	1.67	0.83	4	2.40	A	3.57	1.67	--	--
BROADWAY AVE	061136E	042110	2	2,198	60	60	6154	1245	41.4	2	1.67	0.86	105	2.47	A	91.46	1.67	--	--
9TH AVE	061135X	042071	2	1,947	60	60	6154	1245	41.4	2	1.67	0.88	93	2.54	A	83.19	1.67	--	--
PULLMAN AVE	061134R	042032	2	4,927	60	60	6154	1245	41.4	2	1.67	0.94	236	2.70	A	223.83	1.67	--	--
115TH ST	061129U	041541	2	339	60	60	6154	1245	41.4	2	1.67	0.84	16	2.41	A	13.76	1.67	--	--
FLORIDA ST	184364H	052878	2	162	60	60	6154	1245	41.4	2	1.67	0.84	8	2.40	A	6.56	1.67	--	--
MAXWELL AVE	379544X	NONE 00	2	11,387	60	60	6154	1245	41.4	2	1.67	1.01	545	2.90	A	556.07	1.67	--	--
Proposed Action																			
2ND AVE	079897G	030302	2	11,048	60	60	6601	1245	48.7	2	3.42	2.54	627	4.26	A	790.34	98	1	0.69
IRVIN ST	079898N	030361	2	5,000	60	60	6601	1245	48.7	2	3.42	2.01	284	3.36	A	282.07	44	1	0.55
	079899V	030629	2	3,879	60	60	6601	1245	48.7	2	3.42	1.88	220	3.14	A	204.64	34	1	0.51
	079900M	030734	2	6,003	60	60	6601	1245	48.7	2	3.42	1.88	341	3.14	A	316.53	53	1	0.51
LYTLE RD	079906D	031113	2	6,338	60	60	6601	1245	48.7	2	3.42	2.10	360	3.52	A	375.09	56	1	0.57
FREMONT ST	079910T	031691	2	1,446	60	60	6601	1245	48.7	2	3.42	1.77	82	2.96	A	71.81	13	1	0.48
BREEZY POINT LA	079915C	032969	2	29,589	60	60	6607	1245	48.7	2	3.42	14.31	1,680	23.95	C	11,902.60	263	1	3.91
MILL ST	079918X	033327	2	782	60	60	6607	1245	48.7	2	3.42	1.75	44	2.93	A	38.44	7	1	0.48
BOAT YARD RD	079923U	033465	2	988	60	60	6607	1245	48.7	2	3.42	1.76	56	2.95	A	48.90	9	1	0.48
PARK RD	079924B	033640	2	310	60	60	6607	1245	48.7	2	3.42	1.72	18	2.89	A	15.01	3	1	0.47
INDIAN CREEK RD	079926P	033748	2	4,558	60	60	6607	1245	48.7	2	3.42	1.98	259	3.31	A	253.25	40	1	0.54
PRAIRIE MOON RD	079931L	034042	2	4,558	60	60	6607	1245	48.7	2	3.42	1.91	259	3.20	A	244.71	40	1	0.52

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)		Train Length (feet)		Trains per Day		Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
					Freight	Passenger	Freight	Passenger	Freight	Passenger									
WISCONSIN ST	079934G	034263	2	1,416	60	60	6607	1245	48.7	2	3.42	1.77	80	2.96	A	70.31	13	1	0.48
5TH ST	079935N	034304	2	2,050	60	60	6546	1245	48.7	2	3.41	1.81	116	3.04	A	104.64	18	1	0.49
MAIN ST RD	079938J	034403	2	5,266	60	60	6546	1245	48.7	2	3.41	2.02	299	3.38	A	299.26	46	1	0.55
CEMETERY RD	079939R	034497	2	4,558	60	60	6546	1245	48.7	2	3.41	1.97	258	3.30	A	252.71	40	1	0.53
FOEGEN RD	079940K	034536	1	546	60	60	6546	1245	48.7	2	3.41	1.76	31	2.95	A	27.03	5	1	0.48
	079943F	034630	2	708	60	60	6546	1245	48.7	2	3.41	1.73	40	2.90	A	34.50	6	1	0.47
GREAT RIVER ACC R	079944M	034692	2	4,558	60	60	6546	1245	48.7	2	3.41	1.97	258	3.30	A	252.71	40	1	0.53
DAIRYLAND ST	079945U	034997	2	4,558	60	60	6546	1245	48.7	2	3.41	1.97	258	3.30	A	252.71	40	1	0.53
BEACH & HARBOR RD	079951X	035227	2	487	60	60	6614	1245	48.7	2	3.42	1.73	28	2.90	A	23.73	4	1	0.47
THIRD ST	079956G	035869	2	649	60	60	6614	1245	48.7	2	3.42	1.74	37	2.92	A	31.79	6	1	0.48
	079957N	035906	2	8,865	60	60	6614	1245	48.7	2	3.42	1.97	503	3.29	A	490.56	79	1	0.54
SMITH LAKE LA	079960W	036491	1	4,558	60	60	6614	1245	48.7	2	3.42	2.35	259	3.92	A	300.46	40	1	0.64
FIRST ST	079961D	036595	2	487	60	60	6614	1245	48.7	2	3.42	1.73	28	2.90	A	23.73	4	1	0.47
LAKE ST	079962K	036612	2	5,679	60	60	6614	1245	48.7	2	3.42	2.06	322	3.44	A	328.28	50	1	0.56
LAKEPORT RD	079984K	036803	1	4,558	60	60	6614	1245	48.7	2	3.42	2.35	259	3.92	A	300.46	40	1	0.64
DEER ISLAND RD	079986Y	036936	2	4,558	60	60	6614	1245	48.7	2	3.42	1.98	259	3.31	A	253.31	40	1	0.54
SPRING ST	080014B	037259	2	5,679	60	60	6614	1245	48.7	2	3.42	2.06	322	3.44	A	328.28	50	1	0.56
WABASH ST	080022T	038635	2	5,679	60	60	6614	1245	48.7	2	3.42	2.06	322	3.44	A	328.28	50	1	0.56
830TH ST	080027C	039169	2	5,679	60	60	6614	1245	48.7	2	3.42	2.06	322	3.44	A	328.28	50	1	0.56
	080029R	039327	2	354	60	60	6614	1245	48.7	2	3.42	1.72	20	2.88	A	17.15	3	1	0.47

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)		Train Length (feet)		Trains per Day		Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
					Freight	Passenger	Freight	Passenger	Freight	Passenger									
LOWER RIVER RD	080030K	039378	2	295	60	60	6614	1245	48.7	2	3.42	1.72	17	2.89	A	14.30	3	1	0.47
985TH ST	080033F	039640	2	546	60	60	6614	1245	48.7	2	3.42	1.74	31	2.91	A	26.65	5	1	0.47
CHESTER ST	086467N	037875	2	339	60	60	6614	1245	48.7	2	3.42	1.73	19	2.89	A	16.46	3	1	0.47
KINNICKINNI C ST	098035Y	040761	2	974	60	60	6614	1245	48.7	2	3.42	1.76	55	2.95	A	48.16	9	1	0.48
CASS ST	079887B	029722	2	8,732	60	60	6601	1245	48.7	2	3.33	2.25	492	3.80	A	562.29	74	1	0.57
MAIN ST	079889P	029742	2	3,555	60	60	6601	1245	48.7	2	3.33	1.86	200	3.15	A	189.46	30	1	0.47
HASTINGS AVE	061138T	042160	2	89	60	60	6614	1245	48.7	2	3.33	1.67	5	2.82	A	4.23	1	1	0.42
BROADWAY AVE	061136E	042110	2	2,198	60	60	6614	1245	48.7	2	3.33	1.72	124	2.91	A	108.28	19	1	0.44
9TH AVE	061135X	042071	2	1,947	60	60	6614	1245	48.7	2	3.33	1.77	110	2.99	A	98.50	16	1	0.45
PULLMAN AVE	061134R	042032	2	4,927	60	60	6614	1245	48.7	2	3.33	1.88	277	3.18	A	265.02	42	1	0.48
115TH ST	061129U	041541	2	339	60	60	6614	1245	48.7	2	3.33	1.68	19	2.84	A	16.30	3	1	0.43
FLORIDA ST	184364H	052878	2	162	60	60	6614	1245	48.7	2	3.33	1.67	9	2.83	A	7.77	1	1	0.42
MAXWELL AVE	379544X	NONE0	2	11,387	60	60	6614	1245	48.7	2	3.33	2.02	641	3.41	A	658.39	96	1	0.51

Table V.1-46. Grade-Crossing Delay, Segment 24 from N La Crosse, WI to Aurora, IL, Analysis Year 2023

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
No Action																
AMES LA	069928B	019699	2	59	60	6154	38.7	1.67	0.83	3	2.24	A	2.20	--	--	--
PARK LA	069929H	019734	2	487	60	6154	38.7	1.67	0.85	22	2.27	A	18.41	--	--	--
JACK OAK RD	069936T	021139	2	443	60	6154	38.7	1.67	0.84	20	2.27	A	16.71	--	--	--
CRAWFORD ST	069937A	021282	2	472	60	6154	38.7	1.67	0.84	21	2.27	A	17.84	--	--	--
WALL ST	069939N	021310	2	561	60	6154	38.7	1.67	0.85	25	2.27	A	21.25	--	--	--
WYOTA ST	069941P	021358	2	221	60	6154	38.7	1.67	0.84	10	2.25	A	8.30	--	--	--
STONEFIELD RD	069944K	021503	2	546	60	6154	38.7	1.67	0.85	24	2.27	A	20.68	--	--	--
CO PARK ACCESS RD	069947F	022271	2	369	60	6154	38.7	1.67	0.84	17	2.26	A	13.90	--	--	--
WILLOW LA	069949U	022793	2	472	60	6154	38.7	1.67	0.84	21	2.27	A	17.84	--	--	--
BAILEY LA	069950N	022832	2	59	60	6154	38.7	1.67	0.83	3	2.24	A	2.20	--	--	--
BOHRINGER LA	069953J	022941	1	310	60	6154	38.7	1.67	0.85	14	2.28	A	11.76	--	--	--
WYALUSING AREA RD	069954R	023204	2	310	60	6154	38.7	1.67	0.84	14	2.26	A	11.65	--	--	--
WYALUSING PARK RD	069957L	023414	2	280	60	6154	38.7	1.67	0.84	13	2.26	A	10.53	--	--	--
PARRISH ST	069960U	023831	2	2,109	60	6154	38.7	1.67	0.89	94	2.39	A	83.89	--	--	--
MOONEY ST	069963P	023887	2	2,109	60	6154	38.7	1.67	0.89	94	2.39	A	83.89	--	--	--
WEBSTER ST	069964W	023912	2	1,947	60	6154	38.7	1.67	0.88	87	2.37	A	77.04	--	--	--
IOWA ST	069965D	023929	2	8,894	60	6154	38.7	1.67	1.13	398	3.04	A	450.89	--	--	--
WISCONSIN ST	069966K	023938	2	7,434	70	6154	38.7	1.50	0.96	299	2.33	A	288.24	--	--	--
BLACKHAWK AVE	069967S	023948	2	8,245	70	6154	38.7	1.50	0.99	332	2.40	A	329.93	--	--	--
HAYDEN ST	069968Y	023963	2	1,578	70	6154	38.7	1.50	0.79	64	1.90	A	50.00	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
WASHINGTON ST	069969F	023980	2	2,434	70	6154	38.7	1.50	0.81	98	1.95	A	79.23	--	--	--
FREDERICK ST	069970A	024037	2	1,947	70	6154	38.7	1.50	0.80	78	1.92	A	62.41	--	--	--
HAYDEN ST	069972N	023963	2	1,578	70	6154	38.7	1.50	0.79	64	1.90	A	50.00	--	--	--
LIMERY RD	079847D	024190	2	310	70	6154	38.7	1.50	0.76	12	1.83	A	9.44	--	--	--
LOCK & DAM #9 RD	079848K	024327	2	752	70	6154	38.7	1.50	0.77	30	1.85	A	23.23	--	--	--
	079857J	025125	2	4,338	70	6154	38.7	1.50	0.86	175	2.08	A	150.40	--	--	--
RIVER ST	079859X	025436	1	6,062	70	6154	38.7	1.50	1.17	244	2.83	A	286.40	--	--	--
DEPOT RD	079860S	025447	2	89	70	6154	38.7	1.50	0.75	4	1.82	A	2.68	--	--	--
MARKET ST	079862F	026242	4	46,544	70	6154	38.7	1.50	1.03	1875	2.48	A	1923.48	--	--	--
BATTLE ISLAND RD	079868W	027318	2	634	70	6154	38.7	1.50	0.76	26	1.85	A	19.52	--	--	--
BOAT LANDING RD	079870X	027432	1	664	70	6154	38.7	1.50	0.78	27	1.89	A	20.87	--	--	--
CENTER ST	079878C	028685	2	516	70	6154	38.7	1.50	0.76	21	1.84	A	15.83	--	--	--
GOOSE ISLAND RD	079879J	029164	2	1,460	70	6154	38.7	1.50	0.78	59	1.89	A	46.10	--	--	--
BROADVIEW PL	079883Y	029455	2	5,989	70	6154	38.7	1.50	0.91	241	2.20	A	220.04	--	--	--
WARD AVE	079884F	029546	2	12,287	70	6154	38.7	1.50	1.18	495	2.86	A	584.88	--	--	--
FARNAM ST	079886U	029648	2	6,785	70	6154	38.7	1.50	0.94	273	2.27	A	256.71	--	--	--
FALLING ROCK RD	093705W	018675	2	693	70	6154	38.7	1.50	0.77	28	1.85	A	21.37	--	--	--
	093864D	024989	2	236	70	6154	38.7	1.50	0.75	10	1.82	A	7.18	--	--	--
33RD ST	098033K	029356	2	6,151	70	6154	38.7	1.50	0.92	248	2.22	A	227.34	--	--	--
WELLS ST	391942E	023681	2	1,047	60	6154	38.7	1.67	0.86	47	2.31	A	40.29	--	--	--
LAKE ST	069716X	003941	4	40,872	60	6154	38.7	1.67	1.09	1829	2.93	A	1995.54	--	--	--
TERRY	069717E	004024	2	4,455	60	6154	38.7	1.67	0.96	199	2.58	A	191.42	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
EDGE LAWN AVE	069718L	004141	2	5,015	60	6154	38.7	1.67	0.94	224	2.53	A	211.49	--	--	--
PRAIRIE ST	069719T	004200	2	2,994	60	6154	38.7	1.67	0.89	134	2.40	A	119.92	--	--	--
BARNES RD	069720M	004291	2	1,696	60	6154	38.7	1.67	0.88	76	2.36	A	66.59	--	--	--
GORDON LN	069721U	004476	1	2,758	60	6154	38.7	1.67	0.91	123	2.44	A	112.01	--	--	--
MAIN ST	069725W	004719	2	1,460	60	6154	38.7	1.67	0.86	65	2.31	A	56.34	--	--	--
DUGAN RD	069728S	004897	2	1,696	60	6154	38.7	1.67	0.87	76	2.33	A	65.81	--	--	--
RHODES ST	069734V	005101	2	1,696	60	6154	38.7	1.67	0.87	76	2.33	A	65.81	--	--	--
SHAW ROAD 7 W COUNTY LINE RD	069736J	005311	1	251	60	6154	38.7	1.67	0.85	11	2.27	A	9.49	--	--	--
	069737R	005463	2	1,387	60	6154	38.7	1.67	0.87	62	2.33	A	53.91	--	--	--
REES ST	069739E	005498	2	1,859	60	6154	38.7	1.67	0.88	83	2.37	A	73.33	--	--	--
OAK ST	069741F	005512	2	649	60	6154	38.7	1.67	0.85	29	2.28	A	24.67	--	--	--
SYCAMORE ST	069742M	005571	2	1,136	60	6154	38.7	1.67	0.86	51	2.31	A	43.82	--	--	--
SOMONAUK RD	069744B	005615	2	4,130	60	6154	38.7	1.67	0.92	185	2.47	A	170.22	--	--	--
GOV. BEVERIDGE HW	069748D	005744	2	162	60	6154	38.7	1.67	0.84	7	2.25	A	6.08	--	--	--
HOWISON RD	069752T	006000	1	457	60	6154	38.7	1.67	0.86	20	2.30	A	17.52	--	--	--
CREGO RD	069753A	006101	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
SH IL 23	069754G	006202	1	3,393	60	6154	38.7	1.67	0.93	152	2.49	A	140.66	--	--	--
ELM ST	069755N	006212	2	900	60	6154	38.7	1.67	0.86	40	2.30	A	34.46	--	--	--
BIRCH ST	069757C	006375	2	900	60	6154	38.7	1.67	0.86	40	2.30	A	34.46	--	--	--
LELAND RD	069758J	006390	2	738	60	6154	38.7	1.67	0.85	33	2.29	A	28.11	--	--	--
KANE RD	069760K	006584	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
UNIVERSITY RD	069761S	006624	1	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.99	--	--	--

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min)	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
INDIAN RD	069763F	006697	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
PONTIAC ST	069764M	006711	2	413	60	6154	38.7	1.67	0.84	18	2.26	A	15.59	--	--	--
ILLINI ST	069765U	006725	2	1,298	60	6154	38.7	1.67	0.87	58	2.33	A	50.33	--	--	--
SHABBONA RD	069767H	006889	2	2,994	60	6154	38.7	1.67	0.89	134	2.40	A	119.92	--	--	--
CHALLAND RD	069768P	006997	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
TOWER RD	069770R	007119	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
LEE RD	069771X	007150	2	1,298	60	6154	38.7	1.67	0.87	58	2.33	A	50.33	--	--	--
NISSEN STIGEN	069772E	007158	2	89	60	6154	38.7	1.67	0.83	4	2.24	A	3.31	--	--	--
KIRKE GATE	069773L	007166	2	1,298	60	6154	38.7	1.67	0.87	58	2.33	A	50.33	--	--	--
VIKING VIE	069775A	007227	2	1,136	60	6154	38.7	1.67	0.86	51	2.30	A	43.48	--	--	--
HERMAN RD.	069776G	007253	1	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.99	--	--	--
MC GIRRD RD	069779C	007392	1	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.99	--	--	--
WOODLAWN RD	069780W	007443	2	162	60	6154	38.7	1.67	0.84	7	2.25	A	6.08	--	--	--
REYNOLDS RD.	069782K	007573	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
PAW PAW RD.	069785F	007733	2	89	60	6154	38.7	1.67	0.83	4	2.24	A	3.31	--	--	--
MAIN ST	069787U	007741	2	2,434	60	6154	38.7	1.67	0.88	109	2.37	A	96.14	--	--	--
STEWART RD.	069790C	007851	2	974	60	6154	38.7	1.67	0.85	44	2.29	A	37.12	--	--	--
ELVA RD.	069791J	008110	2	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.97	--	--	--
STEWART RD	069794E	008135	2	2,183	60	6154	38.7	1.67	0.86	98	2.31	A	84.10	--	--	--
STEAM PLANT RD	069796T	008294	2	1,696	60	6154	38.7	1.67	0.87	76	2.33	A	65.81	--	--	--
FIRST AVE	069797A	008324	2	6,225	60	6154	38.7	1.67	0.92	279	2.46	A	255.71	--	--	--
MAIN ST	069798G	008331	2	6,225	60	6154	38.7	1.67	0.97	279	2.61	A	271.08	--	--	--

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WASHINGTON	069799N	008343	2	8,408	60	6154	38.7	1.67	0.95	376	2.56	A	358.21	--	--	--
9TH ST	069801M	008369	2	1,696	60	6154	38.7	1.67	0.88	76	2.36	A	66.59	--	--	--
15TH ST	069803B	008645	1	5,015	60	6154	38.7	1.67	0.98	224	2.63	A	219.73	--	--	--
FLAGG RD.	069805P	008664	2	6,549	60	6154	38.7	1.67	0.98	293	2.64	A	287.74	--	--	--
CENTER RD.	069806W	008735	2	738	60	6154	38.7	1.67	0.85	33	2.28	A	27.97	--	--	--
FOWLER RD.	069808K	008844	1	620	60	6154	38.7	1.67	0.86	28	2.32	A	23.98	--	--	--
SKARE RD.	069810L	008918	2	811	60	6154	38.7	1.67	0.85	36	2.29	A	30.99	--	--	--
HEMSTOCK RD.	069811T	008935	2	369	60	6154	38.7	1.67	0.84	17	2.26	A	13.90	--	--	--
KNOLL RD.	069812A	009084	1	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.99	--	--	--
GRIST MILL RD.	069813G	009156	1	325	60	6154	38.7	1.67	0.85	15	2.28	A	12.33	--	--	--
STONE HILL RD	069814N	009234	1	89	60	6154	38.7	1.67	0.84	4	2.25	A	3.32	--	--	--
CHANA RD	069815V	009241	2	1,696	60	6154	38.7	1.67	0.87	76	2.33	A	65.81	--	--	--
HONEY CREEK RD	069818R	009364	2	457	60	6154	38.7	1.67	0.84	20	2.27	A	17.28	--	--	--
ROCKY HOLLOW RD	069819X	009387	1	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.99	--	--	--
MARSH RD	069822F	009613	1	457	60	6154	38.7	1.67	0.86	20	2.30	A	17.52	--	--	--
BLACKHAWK RD.	069823M	009766	1	295	60	6154	38.7	1.67	0.85	13	2.28	A	11.19	--	--	--
DEVILS BACKBONE R	069827P	009887	2	738	60	6154	38.7	1.67	0.85	33	2.29	A	28.11	--	--	--
HARMONY RD	069831E	010419	1	207	60	6154	38.7	1.67	0.84	9	2.26	A	7.79	--	--	--
FOREST RD.	069834A	010739	1	162	60	6154	38.7	1.67	0.84	7	2.26	A	6.11	--	--	--
LOWELL PARK RD	069835G	010840	2	1,623	60	6154	38.7	1.67	0.87	73	2.32	A	62.84	--	--	--
VALENTINE RD.	069836N	010941	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
EVERGREEN	069837V	010998	1	30	60	6154	38.7	1.67	0.83	1	2.24	A	1.10	--	--	--

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OREGON TRAIL RD	069838C	011065	1	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.99	--	--	--
UNION RD.	069843Y	011191	1	1,387	60	6154	38.7	1.67	0.91	62	2.44	A	56.33	--	--	--
FREEPORT RD.	069848H	011689	2	1,549	60	6154	38.7	1.67	0.86	69	2.32	A	59.88	--	--	--
WILSON MILL RD	069851R	011789	1	89	60	6154	38.7	1.67	0.84	4	2.25	A	3.32	--	--	--
BROOKVILLE (OGLE)	069853E	011813	2	162	60	6154	38.7	1.67	0.84	7	2.24	A	6.07	--	--	--
GRANDVIEW RD	069857G	011902	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
MAIN AVE	069868U	012299	2	3,230	60	6154	38.7	1.67	0.92	145	2.47	A	133.22	--	--	--
OTTER CREEK DR	069869B	012520	2	457	60	6154	38.7	1.67	0.84	20	2.27	A	17.28	--	--	--
LIVINGOOD RD	069876L	012727	2	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.97	--	--	--
PROWANT RD	069877T	012896	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
SCHOOL	069880B	012941	2	221	60	6154	38.7	1.67	0.84	10	2.25	A	8.30	--	--	--
MAIN ST	069881H	012994	2	1,062	60	6154	38.7	1.67	0.85	48	2.29	A	40.58	--	--	--
BIG HILL RD	069882P	013114	2	325	60	6154	38.7	1.67	0.84	15	2.26	A	12.21	--	--	--
OAKVILLE RD	069883W	013229	1	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.99	--	--	--
BLACK OAK ROAD	069887Y	013315	2	133	60	6154	38.7	1.67	0.84	6	2.25	A	4.97	--	--	--
AIRPORT RD	069895R	013791	1	89	60	6154	38.7	1.67	0.84	4	2.25	A	3.32	--	--	--
HICKORY GROVE R	069898L	014069	1	44	60	6154	38.7	1.67	0.83	2	2.24	A	1.65	--	--	--
SAVANNA MARINA	069904M	014559	2	664	60	6154	38.7	1.67	0.85	30	2.28	A	25.24	--	--	--
DIVISION ST.	069907H	014587	2	811	60	6154	38.7	1.67	0.85	36	2.29	A	30.99	--	--	--
RANDOLPH ST.	069908P	014607	2	811	60	6154	38.7	1.67	0.85	36	2.29	A	30.99	--	--	--
MISS PAL ST PK RD	069910R	015230	2	207	60	6154	38.7	1.67	0.84	9	2.25	A	7.74	--	--	--
CRIM DR	069913L	015818	2	295	60	6154	38.7	1.67	0.84	13	2.26	A	11.09	--	--	--

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RIVER RD	069917N	016516	1	251	60	6154	38.7	1.67	0.85	11	2.27	A	9.49	--	--	--
RIVER RD	069921D	016907	2	89	60	6154	38.7	1.67	0.83	4	2.24	A	3.31	--	--	--
RIVER RD	069922K	016944	1	89	60	6154	38.7	1.67	0.84	4	2.25	A	3.32	--	--	--
FERRY LANDING	306912J	017701	2	738	60	6154	38.7	1.67	0.85	33	2.29	A	28.11	--	--	--
BARGE HARBOR RD	306915E	018162	2	900	60	6154	38.7	1.67	0.86	40	2.30	A	34.46	--	--	--
BARGE HARBOR RD	306916L	018233	2	900	60	6154	38.7	1.67	0.86	40	2.30	A	34.46	--	--	--
FRENTRESS LAKE	306917T	018242	2	2,021	60	6154	38.7	1.67	0.87	90	2.35	A	79.02	--	--	--
FRENTRESS LAKE	306918A	018279	2	2,021	60	6154	38.7	1.67	0.87	90	2.35	A	79.02	--	--	--
6TH ST	306924D	018461	2	974	60	6154	38.7	1.67	0.85	44	2.29	A	37.12	--	--	--
4TH ST	306926S	018482	1	1,224	60	6154	38.7	1.67	0.90	55	2.41	A	49.22	--	--	--
2ND ST	306928F	016700	2	649	60	6154	38.7	1.67	0.85	29	2.27	A	24.56	--	--	--
FALLING ROCK RD	093864D	024989	2	236	70	6154	38.7	1.50	0.75	10	1.82	A	7.18	--	--	--
FREDERICK ST	910786F	024037	2	1,623	70	6154	38.7	1.50	0.78	65	1.88	A	50.90	--	--	--
WASHINGTON ST	086445N	023980	2	1,151	60	6154	38.7	1.67	0.86	51	2.32	A	44.41	--	--	--
WASHINGTON ST	069971G	023980	2	5,118	60	6154	38.7	1.67	0.90	229	2.42	A	206.51	--	--	--
MARQUETTE RD	079843B	023977	2	19,264	60	6154	38.7	1.67	1.17	862	3.14	A	1006.61	--	--	--
LOCKWOOD ST	391938P	023681	2	1,047	60	6154	38.7	1.67	0.86	47	2.31	A	40.29	--	--	--
PINE RD	391872S	019700	2	74	60	6154	38.7	1.67	0.83	3	2.24	A	2.76	--	--	--
MUD CREEK RD	070076W	010494	2	2,670	60	6154	38.7	1.67	0.89	120	2.38	A	106.07	--	--	--
GALE RD	070083G	010091	2	207	60	6154	38.7	1.67	0.84	9	2.25	A	7.74	--	--	--
PINES RD	070084N	010016	2	3,968	60	6154	38.7	1.67	0.92	178	2.46	A	162.86	--	--	--
DEVILS BACKBONE R	070085V	010010	2	738	60	6154	38.7	1.67	0.85	33	2.29	A	28.11	--	--	--

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MAIN ST	175119F	007476	2	3,230	60	6154	38.7	1.67	0.90	145	2.42	A	130.14	--	--	--
ILL 30	175780L	003884	2	5,576	60	6154	38.7	1.67	0.91	250	2.44	A	226.63	--	--	--
HEMSTOCK RD.	070049A	000197	2	900	60	6154	38.7	1.67	0.86	40	2.30	A	34.46	--	--	--
RATHBONE AV	069620H	000015	2	369	60	6154	38.7	1.67	0.84	17	2.26	A	13.90	--	--	--
Proposed Action																
AMES LA	069928B	019699	2	59	60	6595	46.0	3.41	1.71	3	2.71	A	2.66	1	1	0.47
PARK LA	069929H	019734	2	487	60	6595	46.0	3.41	1.73	26	2.74	A	22.24	4	1	0.47
JACK OAK RD	069936T	021139	2	443	60	6595	46.0	3.41	1.73	24	2.74	A	20.19	4	1	0.47
CRAWFORD ST	069937A	021282	2	472	60	6595	46.0	3.41	1.73	25	2.74	A	21.56	4	1	0.47
WALL ST	069939N	021310	2	561	60	6595	46.0	3.41	1.74	30	2.75	A	25.67	5	1	0.47
WYOTA ST	069941P	021358	2	221	60	6595	46.0	3.41	1.72	12	2.72	A	10.03	2	1	0.47
STONEFIELD RD	069944K	021503	2	546	60	6595	46.0	3.41	1.74	29	2.75	A	24.98	5	1	0.47
CO PARK ACCESS RD	069947F	022271	2	369	60	6595	46.0	3.41	1.73	20	2.73	A	16.79	3	1	0.47
WILLOW LA	069949U	022793	2	472	60	6595	46.0	3.41	1.73	25	2.74	A	21.56	4	1	0.47
BAILEY LA	069950N	022832	2	59	60	6595	46.0	3.41	1.71	3	2.71	A	2.66	1	1	0.47
BOHRINGER LA	069953J	022941	1	310	60	6595	46.0	3.41	1.74	17	2.75	A	14.21	3	1	0.47
WYALUSING AREA RD	069954R	023204	2	310	60	6595	46.0	3.41	1.72	17	2.73	A	14.08	3	1	0.47
WYALUSING PARK RD	069957L	023414	2	280	60	6595	46.0	3.41	1.72	15	2.72	A	12.73	2	1	0.47
PARRISH ST	069960U	023831	2	2,109	60	6595	46.0	3.41	1.82	113	2.88	A	101.34	19	1	0.50
MOONEY ST	069963P	023887	2	2,109	60	6595	46.0	3.41	1.82	113	2.88	A	101.34	19	1	0.50
WEBSTER ST	069964W	023912	2	1,947	60	6595	46.0	3.41	1.81	104	2.87	A	93.06	17	1	0.49
IOWA ST	069965D	023929	2	8,894	60	6595	46.0	3.41	2.32	477	3.67	A	544.68	79	1	0.63

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WISCONSIN ST	069966K	023938	2	7,434	70	6439	46.0	3.04	1.95	358	2.79	A	346.02	58	1	0.47
BLACKHAWK AVE	069967S	023948	2	8,245	70	6439	46.0	3.04	2.02	397	2.88	A	396.06	65	1	0.48
HAYDEN ST	069968Y	023963	2	1,578	70	6439	46.0	3.04	1.60	76	2.28	A	60.03	12	1	0.38
WASHINGTON ST	069969F	023980	2	2,434	70	6439	46.0	3.04	1.64	117	2.34	A	95.11	19	1	0.39
FREDERICK ST	069970A	024037	2	1,947	70	6439	46.0	3.04	1.62	94	2.31	A	74.92	15	1	0.39
HAYDEN ST	069972N	023963	2	1,578	70	6439	46.0	3.04	1.60	76	2.28	A	60.03	12	1	0.38
LIMERY RD	079847D	024190	2	310	70	6439	46.0	3.04	1.54	15	2.20	A	11.33	2	1	0.37
LOCK & DAM #9 RD	079848K	024327	2	752	70	6439	46.0	3.04	1.56	36	2.22	A	27.89	6	1	0.37
	079857J	025125	2	4,338	70	6439	46.0	3.04	1.75	209	2.50	A	180.55	34	1	0.42
RIVER ST	079859X	025436	1	6,062	70	6439	46.0	3.04	2.38	292	3.40	A	343.80	47	1	0.57
DEPOT RD	079860S	025447	2	89	70	6439	46.0	3.04	1.53	4	2.18	A	3.22	1	1	0.36
MARKET ST	079862F	026242	4	46,544	70	6439	46.0	3.04	2.08	2,240	2.98	A	2,309.05	365	1	0.50
BATTLE ISLAND RD	079868W	027318	2	634	70	6439	46.0	3.04	1.55	31	2.22	A	23.43	5	1	0.37
BOAT LANDING RD	079870X	027432	1	664	70	6439	46.0	3.04	1.58	32	2.26	A	25.05	5	1	0.38
CENTER ST	079878C	028685	2	516	70	6439	46.0	3.04	1.55	25	2.21	A	19.00	4	1	0.37
GOOSE ISLAND RD	079879J	029164	2	1,460	70	6439	46.0	3.04	1.59	70	2.27	A	55.34	11	1	0.38
BROADVIEW PL	079883Y	029455	2	5,989	70	6439	46.0	3.04	1.85	288	2.65	A	264.15	47	1	0.44
WARD AVE	079884F	029546	2	12,287	70	6439	46.0	3.04	2.40	591	3.43	A	702.12	96	1	0.57
FARNAM ST	079886U	029648	2	6,785	70	6439	46.0	3.04	1.91	326	2.73	A	308.17	53	1	0.46
FALLING ROCK RD	093705W	018675	2	693	70	6439	46.0	3.04	1.55	33	2.22	A	25.66	5	1	0.37
	093864D	024989	2	236	70	6439	46.0	3.04	1.53	11	2.19	A	8.61	2	1	0.37
33RD ST	098033K	029356	2	6,151	70	6439	46.0	3.04	1.86	296	2.66	A	272.91	48	1	0.44

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WELLS ST	391942E	023681	2	1,047	60	6595	46.0	3.41	1.76	56	2.79	A	48.67	9	1	0.48
LAKE ST	069716X	003941	4	40,872	60	6615	46.0	3.42	2.24	2,193	3.54	A	2,412.47	363	1	0.61
TERRY	069717E	004024	2	4,455	60	6615	46.0	3.42	1.97	239	3.12	A	231.42	40	1	0.54
EDGE LAWN AVE	069718L	004141	2	5,015	60	6615	46.0	3.42	1.93	269	3.06	A	255.67	45	1	0.53
PRAIRIE ST	069719T	004200	2	2,994	60	6615	46.0	3.42	1.84	161	2.91	A	144.98	27	1	0.50
BARNES RD	069720M	004291	2	1,696	60	6615	46.0	3.42	1.80	91	2.85	A	80.50	15	1	0.49
GORDON LN	069721U	004476	1	2,758	60	6615	46.0	3.42	1.86	148	2.95	A	135.41	25	1	0.51
MAIN ST	069725W	004719	2	1,460	60	6615	46.0	3.42	1.77	78	2.80	A	68.11	13	1	0.48
DUGAN RD	069728S	004897	2	1,696	60	6615	46.0	3.42	1.78	91	2.81	A	79.56	15	1	0.49
RHODES ST	069734V	005101	2	1,696	60	6615	46.0	3.42	1.78	91	2.81	A	79.56	15	1	0.49
SHAW ROAD 7 W COUNTY LINE RD	069736J	005311	1	251	60	6615	46.0	3.42	1.74	13	2.74	A	11.47	2	1	0.47
	069737R	005463	2	1,387	60	6615	46.0	3.42	1.78	74	2.82	A	65.17	12	1	0.49
REES ST	069739E	005498	2	1,859	60	6615	46.0	3.42	1.81	100	2.86	A	88.65	17	1	0.49
OAK ST	069741F	005512	2	649	60	6615	46.0	3.42	1.74	35	2.76	A	29.82	6	1	0.48
SYCAMORE ST	069742M	005571	2	1,136	60	6615	46.0	3.42	1.77	61	2.80	A	52.97	10	1	0.48
SOMONAUK RD	069744B	005615	2	4,130	60	6615	46.0	3.42	1.89	222	2.99	A	205.79	37	1	0.52
GOV. BEVERIDGE HW	069748D	005744	2	162	60	6615	46.0	3.42	1.72	9	2.72	A	7.35	1	1	0.47
HOWISON RD	069752T	006000	1	457	60	6615	46.0	3.42	1.76	25	2.78	A	21.18	4	1	0.48
CREGO RD	069753A	006101	1	44	60	6615	46.0	3.42	1.71	2	2.71	A	2.00	0	1	0.47
SH IL 23	069754G	006202	1	3,393	60	6615	46.0	3.42	1.90	182	3.01	A	170.05	30	1	0.52
ELM ST	069755N	006212	2	900	60	6615	46.0	3.42	1.76	48	2.78	A	41.66	8	1	0.48
BIRCH ST	069757C	006375	2	900	60	6615	46.0	3.42	1.76	48	2.78	A	41.66	8	1	0.48

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LELAND RD	069758J	006390	2	738	60	6615	46.0	3.42	1.75	40	2.76	A	33.98	7	1	0.48
KANE RD	069760K	006584	1	44	60	6615	46.0	3.42	1.71	2	2.71	A	2.00	0	1	0.47
UNIVERSITY RD	069761S	006624	1	133	60	6615	46.0	3.42	1.72	7	2.73	A	6.03	1	1	0.47
INDIAN RD	069763F	006697	1	44	60	6615	46.0	3.42	1.71	2	2.71	A	2.00	0	1	0.47
PONTIAC ST	069764M	006711	2	413	60	6615	46.0	3.42	1.73	22	2.74	A	18.84	4	1	0.47
ILLINI ST	069765U	006725	2	1,298	60	6615	46.0	3.42	1.78	70	2.81	A	60.84	12	1	0.49
SHABBONA RD	069767H	006889	2	2,994	60	6615	46.0	3.42	1.84	161	2.91	A	144.98	27	1	0.50
CHALLAND RD	069768P	006997	1	44	60	6615	46.0	3.42	1.71	2	2.71	A	2.00	0	1	0.47
TOWER RD	069770R	007119	1	44	60	6615	46.0	3.42	1.71	2	2.71	A	2.00	0	1	0.47
LEE RD	069771X	007150	2	1,298	60	6615	46.0	3.42	1.78	70	2.81	A	60.84	12	1	0.49
NISSEN STIGEN	069772E	007158	2	89	60	6615	46.0	3.42	1.71	5	2.71	A	4.00	1	1	0.47
KIRKE GATE	069773L	007166	2	1,298	60	6615	46.0	3.42	1.78	70	2.81	A	60.84	12	1	0.49
VIKING VIE	069775A	007227	2	1,136	60	6615	46.0	3.42	1.76	61	2.78	A	52.56	10	1	0.48
HERMAN RD.	069776G	007253	1	133	60	6615	46.0	3.42	1.72	7	2.73	A	6.03	1	1	0.47
MC GIRR RD	069779C	007392	1	133	60	6615	46.0	3.42	1.72	7	2.73	A	6.03	1	1	0.47
WOODLAWN RD	069780W	007443	2	162	60	6615	46.0	3.42	1.72	9	2.72	A	7.35	1	1	0.47
REYNOLDS RD.	069782K	007573	1	44	60	6615	46.0	3.42	1.71	2	2.71	A	2.00	0	1	0.47
PAW PAW RD.	069785F	007733	2	89	60	6615	46.0	3.42	1.71	5	2.71	A	4.00	1	1	0.47
MAIN ST	069787U	007741	2	2,434	60	6615	46.0	3.42	1.81	131	2.87	A	116.22	22	1	0.50
STEWART RD.	069790C	007851	2	974	60	6615	46.0	3.42	1.75	52	2.77	A	44.88	9	1	0.48
ELVA RD.	069791J	008110	2	133	60	6615	46.0	3.42	1.72	7	2.71	A	6.01	1	1	0.47
STEWART RD	069794E	008135	2	2,183	60	6615	46.0	3.42	1.77	117	2.79	A	101.68	19	1	0.48

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STEAM PLANT RD	069796T	008294	2	1,696	60	6615	46.0	3.42	1.78	91	2.81	A	79.56	15	1	0.49
FIRST AVE	069797A	008324	2	6,225	60	6615	46.0	3.42	1.88	334	2.98	A	309.13	55	1	0.51
MAIN ST	069798G	008331	2	6,225	60	6595	46.0	3.41	1.99	334	3.16	A	327.47	55	1	0.54
WASHINGTON	069799N	008343	2	8,408	60	6595	46.0	3.41	1.95	451	3.09	A	432.72	75	1	0.53
9TH ST	069801M	008369	2	1,696	60	6595	46.0	3.41	1.80	91	2.85	A	80.44	15	1	0.49
15TH ST	069803B	008645	1	5,015	60	6595	46.0	3.41	2.01	269	3.18	A	265.44	44	1	0.55
FLAGG RD.	069805P	008664	2	6,549	60	6595	46.0	3.41	2.01	351	3.18	A	347.59	58	1	0.55
CENTER RD.	069806W	008735	2	738	60	6595	46.0	3.41	1.74	40	2.75	A	33.79	7	1	0.47
FOWLER RD.	069808K	008844	1	620	60	6595	46.0	3.41	1.77	33	2.81	A	28.96	5	1	0.48
SKARE RD.	069810L	008918	2	811	60	6595	46.0	3.41	1.75	44	2.77	A	37.43	7	1	0.48
HEMSTOCK RD.	069811T	008935	2	369	60	6595	46.0	3.41	1.73	20	2.73	A	16.79	3	1	0.47
KNOLL RD.	069812A	009084	1	133	60	6595	46.0	3.41	1.72	7	2.72	A	6.03	1	1	0.47
GRIST MILL RD.	069813G	009156	1	325	60	6595	46.0	3.41	1.74	17	2.75	A	14.90	3	1	0.47
STONE HILL RD	069814N	009234	1	89	60	6595	46.0	3.41	1.72	5	2.72	A	4.01	1	1	0.47
CHANA RD	069815V	009241	2	1,696	60	6595	46.0	3.41	1.78	91	2.81	A	79.50	15	1	0.48
HONEY CREEK RD	069818R	009364	2	457	60	6595	46.0	3.41	1.73	25	2.74	A	20.87	4	1	0.47
ROCKY HOLLOW RD	069819X	009387	1	133	60	6595	46.0	3.41	1.72	7	2.72	A	6.03	1	1	0.47
MARSH RD	069822F	009613	1	457	60	6595	46.0	3.41	1.76	25	2.78	A	21.17	4	1	0.48
BLACKHAWK RD.	069823M	009766	1	295	60	6595	46.0	3.41	1.74	16	2.75	A	13.52	3	1	0.47
DEVILS BACKBONE R	069827P	009887	2	738	60	6638	46.0	3.42	1.75	40	2.77	A	34.01	7	1	0.48
HARMONY RD	069831E	010419	1	207	60	6638	46.0	3.42	1.73	11	2.74	A	9.43	2	1	0.48
FOREST RD.	069834A	010739	1	162	60	6638	46.0	3.42	1.73	9	2.73	A	7.39	1	1	0.47

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LOWELL PARK RD	069835G	010840	2	1,623	60	6638	46.0	3.42	1.78	87	2.81	A	76.03	14	1	0.49
VALENTINE RD.	069836N	010941	1	44	60	6638	46.0	3.42	1.72	2	2.71	A	2.00	0	1	0.47
EVERGREEN OREGON TRAIL RD	069837V	010998	1	30	60	6638	46.0	3.42	1.71	2	2.71	A	1.33	0	1	0.47
	069838C	011065	1	133	60	6638	46.0	3.42	1.72	7	2.73	A	6.03	1	1	0.47
UNION RD.	069843Y	011191	1	1,387	60	6638	46.0	3.42	1.87	74	2.95	A	68.16	12	1	0.51
FREEPORT RD.	069848H	011689	2	1,549	60	6638	46.0	3.42	1.77	83	2.81	A	72.45	14	1	0.49
WILSON MILL RD BROOKVILLE (OGLE)	069851R	011789	1	89	60	6638	46.0	3.42	1.72	5	2.72	A	4.01	1	1	0.47
	069853E	011813	2	162	60	6638	46.0	3.42	1.72	9	2.72	A	7.35	1	1	0.47
GRANDVIEW RD	069857G	011902	1	44	60	6638	46.0	3.42	1.72	2	2.71	A	2.00	0	1	0.47
MAIN AVE	069868U	012299	2	3,230	60	6638	46.0	3.42	1.89	173	2.99	A	161.18	29	1	0.52
OTTER CREEK DR	069869B	012520	2	457	60	6638	46.0	3.42	1.73	25	2.74	A	20.91	4	1	0.48
LIVINGOOD RD	069876L	012727	2	133	60	6638	46.0	3.42	1.72	7	2.72	A	6.01	1	1	0.47
PROWANT RD	069877T	012896	1	44	60	6638	46.0	3.42	1.72	2	2.71	A	2.00	0	1	0.47
SCHOOL	069880B	012941	2	221	60	6638	46.0	3.42	1.72	12	2.72	A	10.04	2	1	0.47
MAIN ST	069881H	012994	2	1,062	60	6638	46.0	3.42	1.75	57	2.77	A	49.10	9	1	0.48
BIG HILL RD	069882P	013114	2	325	60	6638	46.0	3.42	1.73	17	2.73	A	14.78	3	1	0.47
OAKVILLE RD	069883W	013229	1	133	60	6638	46.0	3.42	1.72	7	2.73	A	6.03	1	1	0.47
BLACK OAK ROAD	069887Y	013315	2	133	60	6638	46.0	3.42	1.72	7	2.72	A	6.01	1	1	0.47
AIRPORT RD HICKORY GROVE R	069895R	013791	1	89	60	6638	46.0	3.42	1.72	5	2.72	A	4.01	1	1	0.47
	069898L	014069	1	44	60	6638	46.0	3.42	1.72	2	2.71	A	2.00	0	1	0.47
SAVANNA MARINA	069904M	014559	2	664	60	6576	46.0	3.41	1.74	36	2.75	A	30.47	6	1	0.47
DIVISION ST.	069907H	014587	2	811	60	6576	46.0	3.41	1.75	43	2.77	A	37.41	7	1	0.47

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RANDOLPH ST.	069908P	014607	2	811	60	6576	46.0	3.41	1.75	43	2.77	A	37.41	7	1	0.47
MISS PAL ST PK RD	069910R	015230	2	207	60	6576	46.0	3.41	1.72	11	2.72	A	9.35	2	1	0.47
CRIM DR	069913L	015818	2	295	60	6576	46.0	3.41	1.72	16	2.72	A	13.39	3	1	0.47
RIVER RD	069917N	016516	1	251	60	6576	46.0	3.41	1.73	13	2.74	A	11.45	2	1	0.47
RIVER RD	069921D	016907	2	89	60	6576	46.0	3.41	1.71	5	2.71	A	3.99	1	1	0.46
RIVER RD	069922K	016944	1	89	60	6576	46.0	3.41	1.71	5	2.71	A	4.00	1	1	0.47
FERRY LANDING	306912J	017701	2	738	60	6576	46.0	3.41	1.74	40	2.76	A	33.93	7	1	0.47
BARGE HARBOR RD	306915E	018162	2	900	60	6576	46.0	3.41	1.75	48	2.77	A	41.60	8	1	0.48
BARGE HARBOR RD	306916L	018233	2	900	60	6576	46.0	3.41	1.75	48	2.77	A	41.60	8	1	0.48
FRENTRESS LAKE	306917T	018242	2	2,021	60	6576	46.0	3.41	1.79	108	2.83	A	95.39	18	1	0.49
FRENTRESS LAKE	306918A	018279	2	2,021	60	6576	46.0	3.41	1.79	108	2.83	A	95.39	18	1	0.49
6TH ST	306924D	018461	2	974	60	6576	46.0	3.41	1.74	52	2.76	A	44.82	9	1	0.47
4TH ST	306926S	018482	1	1,224	60	6576	46.0	3.41	1.84	66	2.91	A	59.42	11	1	0.50
2ND ST	306928F	016700	2	649	60	6576	46.0	3.41	1.73	35	2.74	A	29.65	6	1	0.47
FALLING ROCK RD	093864D	024989	2	236	70	6439	46.0	3.04	1.53	11	2.19	A	8.61	2	1	0.37
FREDERICK ST	910786F	024037	2	1,623	70	6439	46.0	3.04	1.58	78	2.26	A	61.11	13	1	0.38
WASHINGTON ST	086445N	023980	2	1,151	60	6595	46.0	3.41	1.77	62	2.80	A	53.64	10	1	0.48
WASHINGTON ST	069971G	023980	2	5,118	60	6595	46.0	3.41	1.85	274	2.92	A	249.47	45	1	0.50
MARQUETTE RD	079843B	023977	2	19,264	60	6595	46.0	3.41	2.39	1,033	3.79	A	1,216.00	171	1	0.65
LOCKWOOD ST	391938P	023681	2	1,047	60	6595	46.0	3.41	1.76	56	2.79	A	48.67	9	1	0.48
PINE RD	391872S	019700	2	74	60	6615	46.0	3.42	1.71	4	2.71	A	3.33	1	1	0.47
MUD CREEK RD	070076W	010494	2	2,670	60	6615	46.0	3.42	1.82	143	2.88	A	128.23	24	1	0.50

STREET	FRA Crossing ID	Milepost	Number of Roadway Lanes	AADT	Train Speed (mph)	Train Length (feet)	Trains per Day	Total Blocked Time/Train (min)	Average Delay/Stopped Vehicle (min/veh)	Number of Vehicles Delayed Per Day	Average Delay for all Vehicles (sec/veh)	Level of Service	Total Delay in a 24-hr Period (min).	Change in the Number of Stopped Vehicle	Change in Trips Affected (%)	Change in Average Delay per Vehicle (sec/veh)
GALE RD	070083G	010091	2	207	60	6615	46.0	3.42	1.72	11	2.72	A	9.36	2	1	0.47
PINES RD	070084N	010016	2	3,968	60	6615	46.0	3.42	1.88	213	2.98	A	196.88	35	1	0.51
DEVILS BACKBONE R	070085V	010010	2	738	60	6615	46.0	3.42	1.75	40	2.76	A	33.98	7	1	0.48
MAIN ST	175119F	007476	2	3,230	60	6615	46.0	3.42	1.85	173	2.92	A	157.33	29	1	0.51
ILL 30	175780L	003884	2	5,576	60	6615	46.0	3.42	1.86	299	2.95	A	273.98	50	1	0.51
HEMSTOCK RD.	070049A	000197	2	900	60	6615	46.0	3.42	1.76	48	2.78	A	41.66	8	1	0.48
RATHBONE AV	069620H	000015	2	369	60	6615	46.0	3.42	1.73	20	2.73	A	16.80	3	1	0.47

V.2 Air Quality

V.2.1 Inputs

For inputs on the segment analysis, see Appendix E, *Air Quality, Emissions, and Modeling Data*, which provides information on locomotive emissions, coal dust, wind erosion emissions, and grade-crossing emissions relevant to the downline segments.

County level emissions data, as presented in Table V.2-1, was generated using the USEPA's National Emission Inventory data across all sectors for counties that fall within the downline segments identified in the Appendix C, *Coal Production and Markets*.

Table V.2-1. Segment Counties

Rail Segments ^a	Segment Location	Mileage	List of Counties
Segment 3	Colstrip, MT – Nichols, MT	33.41	Rosebud, MT
Segment 4 – Northern	Nichols, MT – Miles City, MT	51.37	Rosebud, MT, Custer, MT
Segment 4 – Southern	Nichols, MT – Miles City, MT	51.37	Rosebud, MT, Custer, MT
Segment 5	Nichols, MT – Huntley, MT	81.90	Rosebud, MT, Treasure, MT, Yellowstone, MT
Segment 6	Spring Creek, MT – Dutch, WY	20.03	Sheridan, WY, Big Horn, MT
Segment 7a	Dutch, WY – Huntley, MT	7.06	N/A
Segment 7b	Dutch, WY – Huntley, MT	2.77	N/A
Segment 7c	Dutch, WY – Huntley, MT	128.05	Yellowstone, MT, Big Horn, MT, Sheridan, WY
Segment 9 – Northern	Dutch, WY – Donkey Creek, WY	104.02	Sheridan, WY, Campbell, WY
Segment 9 – Southern	Dutch, WY – Donkey Creek, WY	104.02	Sheridan, WY, Campbell, WY
Segment 10	Donkey Creek, WY – Edgemont, SD	110.94	Campbell, WY, Crook, WY, Weston, WY, Custer, SD, Fall River, SD
Segment 11	Edgemont, SD – Crawford, NE	53.76	Fall River, SD, Sioux, Dawes, NE
Segment 12	Crawford, NE – Alliance, NE	56.45	Dawes, NE, Box Butte, NE
Segment 16 – Northern	Miles City, MT – Glendive, MT	78.67	Custer, MT, Prairie, MT, Dawson, MT
Segment 16 – Southern	Miles City, MT – Glendive, MT	78.67	Custer, MT, Prairie, MT, Dawson, MT
Segment 17 – Northern	Glendive, MT – Mandan, ND	207.30	Dawson, MT, Wilbax, MT, Golden Valley, ND, Billings, ND, Stark, ND
Segment 17 – Southern	Glendive, MT – Mandan, ND	207.30	Dawson, MT, Wilbax, MT, Golden Valley, ND, Billings, ND, Stark, ND
Segment 18 – Northern	Mandan, ND – Fargo, ND	200.01	Morton, ND, Burleigh, ND, Kidder, ND, Stutsman, ND, Barnes, ND, Cass, ND

Rail Segments^a	Segment Location	Mileage	List of Counties
Segment 18 – Southern	Mandan, ND – Fargo, ND	200.01	Morton, ND, Burleigh, ND, Kidder, ND, Stutsman, ND, Barnes, ND, Cass, ND
Segment 20 – Northern	Fargo, ND – Willmar, MN	158.03	Clay, MN, Wilkin, MN, Richland, ND, Traverse, MN, Grant, MN, Stevens, MN, Pope, MN, Swift, MN, Kandiyohi, MN
Segment 20 – Southern	Fargo, ND – Willmar, MN	158.03	Clay, MN, Wilkin, MN, Richland, ND, Traverse, MN, Grant, MN, Stevens, MN, Pope, MN, Swift, MN, Kandiyohi, MN
Segment 21a	Willmar, MN – St Paul, MN	40.50	Kandiyohi, MN, Meeker, MN
<i>Segment 21b</i>	Willmar, MN – St Paul, MN	5.97	N/A
Segment 21c	Willmar, MN – St Paul, MN	7.38	N/A
<i>Segment 21d</i>	Willmar, MN – St Paul, MN	39.66	Wright, MN, Hennepin, MN
<i>Segment 23a</i>	St. Paul, MN – N La Crosse, WI	31.64	Hennepin, MN, Ramsey, MN, Washington, MN
Segment 23b	St. Paul, MN – N La Crosse, WI	109.99	Pierce, WI, Pepin, WI, Buffalo, WI, Trempealeau, La Crosse, WI
Segment 24a	N La Crosse, WI – Aurora, IL	242.57	La Crosse, WI, Vernon, WI, Crawford, WI, Grant, WI, Jo Daviess, IL, Carroll, IL, Ogle, IL, Lee, IL, Dekalb, IL, and Kane, IL
<i>Segment 24b</i>	N La Crosse, WI – Aurora, IL	14.48	N/A
Segment 31	Fargo, ND – Carlton, MN	230.20	Cass, ND, Clay, MN, Becker, MN, Otter Tail, MN, Wadena, MN, Todd, MN, Morrison, MN, Cass, MN, Crow Wing, MN, Atkin, MN, Carlton, MN

^a Italicized segments are those located in nonattainment or maintenance areas

V.2.2 Emissions Calculations

Appendix E, *Air Quality, Emissions, and Modeling Data*, provides information on calculating emissions from locomotives, coal dust, wind erosion, and grade-crossing relevant to the downline segments. Tables V.2-2 through V.2-79 provide grade-crossing emission results for all downline segments. Tables V.2-80 through V.2-82 summarize grade-crossing emissions by rail segment for the downline analysis. Tables V.2-83 through V.2-85 summarizes the downline construction supply train emissions for criteria pollutants, hazardous pollutants, and greenhouse gases. Tables V.2-86 through V.2-113 summarize the operational emissions of criteria pollutants, hazardous pollutants, and greenhouse gases by segment. Table V.2-114 shows the estimated emissions of criteria pollutants, by segment, compared with the general conformity threshold. Table V.2-115 compares these emissions with county emission levels.

Table V.2-2. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Colstrip Alternative, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
092658M	4.86E-05	7.00E-06	2.56E-05	5.60E-07	4.39E-06	1.50E-05	3.79E-06	2.10E-05	2.66E-05
092656Y	3.15E-05	4.54E-06	1.66E-05	3.64E-07	2.85E-06	9.76E-06	2.46E-06	1.36E-05	1.73E-05
092654K	2.68E-06	3.86E-07	1.41E-06	3.09E-08	2.42E-07	8.29E-07	2.09E-07	1.16E-06	1.47E-06
092653D	3.80E-07	5.48E-08	2.00E-07	4.39E-09	3.44E-08	1.18E-07	2.97E-08	1.65E-07	2.08E-07
092644E	1.98E-06	2.86E-07	1.04E-06	2.29E-08	1.79E-07	6.14E-07	1.55E-07	8.58E-07	1.09E-06
092643X	1.56E-05	2.24E-06	8.20E-06	1.80E-07	1.41E-06	4.82E-06	1.21E-06	6.73E-06	8.53E-06
087402Y	5.07E-05	7.30E-06	2.67E-05	5.85E-07	4.58E-06	1.57E-05	3.96E-06	2.19E-05	2.78E-05
087403F	1.16E-04	1.68E-05	6.13E-05	1.34E-06	1.05E-05	3.61E-05	9.08E-06	5.04E-05	6.38E-05
Total Emissions	2.68E-04	3.86E-05	1.41E-04	3.09E-06	2.42E-05	8.29E-05	2.09E-05	1.16E-04	1.47E-04

Table V.2-3. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Colstrip Alternative, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
092658M	7.93E-01	6.72E-05	2.10E-05	8.01E-01
092656Y	5.15E-01	4.36E-05	1.36E-05	5.20E-01
092654K	4.37E-02	3.70E-06	1.16E-06	4.42E-02
092653D	6.21E-03	5.26E-07	1.65E-07	6.27E-03
092644E	3.24E-02	2.74E-06	8.58E-07	3.27E-02
092643X	2.54E-01	2.15E-05	6.73E-06	2.57E-01
087402Y	8.28E-01	7.01E-05	2.19E-05	8.36E-01
087403F	1.90E+00	1.61E-04	5.04E-05	1.92E+00
Total Emissions	4.37E+00	3.70E-04	1.16E-04	4.42E+00

Table V.2-4. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Moon Creek Alternative, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
092658M	1.37E-02	2.12E-03	6.86E-07	5.92E-05	5.62E-05	1.17E-05	7.00E-04
092656Y	8.86E-03	1.37E-03	4.45E-07	3.84E-05	3.65E-05	7.58E-06	4.54E-04
092654K	7.53E-04	1.17E-04	3.78E-08	3.26E-06	3.10E-06	6.44E-07	3.86E-05
092653D	1.07E-04	1.66E-05	5.38E-09	4.64E-07	4.40E-07	9.15E-08	5.49E-06
Total Emissions	2.34E-02	3.62E-03	1.17E-06	1.01E-04	9.63E-05	2.00E-05	1.20E-03

Table V.2-5. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Moon Creek Alternative, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
092658M	4.86E-05	7.00E-06	2.56E-05	5.60E-07	4.39E-06	1.50E-05	3.79E-06	2.10E-05	2.66E-05
092656Y	3.15E-05	4.54E-06	1.66E-05	3.64E-07	2.85E-06	9.76E-06	2.46E-06	1.36E-05	1.73E-05
092654K	2.68E-06	3.86E-07	1.41E-06	3.09E-08	2.42E-07	8.29E-07	2.09E-07	1.16E-06	1.47E-06
092653D	3.80E-07	5.48E-08	2.00E-07	4.39E-09	3.44E-08	1.18E-07	2.97E-08	1.65E-07	2.08E-07
Total Emissions	8.31E-05	1.20E-05	4.38E-05	9.59E-07	7.52E-06	2.57E-05	6.49E-06	3.60E-05	4.56E-05

Table V.2-6. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Moon Creek Alternative, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
092658M	7.93E-01	6.72E-05	2.10E-05	8.01E-01
092656Y	5.15E-01	4.36E-05	1.36E-05	5.20E-01
092654K	4.37E-02	3.70E-06	1.16E-06	4.42E-02
092653D	6.21E-03	5.26E-07	1.65E-07	6.27E-03
Total Emissions	1.36E+00	1.15E-04	3.60E-05	1.37E+00

Table V.2-7. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Tongue River Alternative and Tongue River Road Alternative, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NOx	Pb	PM10	PM2.5	SO2	VOC
092658M	1.37E-02	2.12E-03	6.86E-07	5.92E-05	5.62E-05	1.17E-05	7.00E-04
092656Y	8.86E-03	1.37E-03	4.45E-07	3.84E-05	3.65E-05	7.58E-06	4.54E-04
Total Emissions	2.25E-02	3.49E-03	1.13E-06	9.76E-05	9.27E-05	1.93E-05	1.15E-03

Table V.2-8. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Tongue River Alternative and Tongue River Road Alternative, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
092658M	4.86E-05	7.00E-06	2.56E-05	5.60E-07	4.39E-06	1.50E-05	3.79E-06	2.10E-05	2.66E-05
092656Y	3.15E-05	4.54E-06	1.66E-05	3.64E-07	2.85E-06	9.76E-06	2.46E-06	1.36E-05	1.73E-05
Total Emissions	8.01E-05	1.15E-05	4.22E-05	9.24E-07	7.24E-06	2.48E-05	6.25E-06	3.46E-05	4.39E-05

Table V.2-9. Grade Crossing Emissions, Segment 4 – Northern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037 – Tongue River Alternative and Tongue River Road Alternative, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
092658M	7.93E-01	6.72E-05	2.10E-05	8.01E-01
092656Y	5.15E-01	4.36E-05	1.36E-05	5.20E-01
Total Emissions	1.31E+00	1.11E-04	3.47E-05	1.32E+00

Table V.2-10. Grade Crossing Emissions, Segment 4 – Southern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
092658M	1.16E-02	1.80E-03	5.83E-07	5.03E-05	4.77E-05	9.92E-06	5.95E-04
092656Y	7.52E-03	1.17E-03	3.78E-07	3.26E-05	3.10E-05	6.43E-06	3.86E-04
092654K	6.39E-04	9.91E-05	3.21E-08	2.77E-06	2.63E-06	5.47E-07	3.28E-05
092653D	9.08E-05	1.41E-05	4.56E-09	3.94E-07	3.74E-07	7.77E-08	4.66E-06
092644E	4.73E-04	7.33E-05	2.38E-08	2.05E-06	1.95E-06	4.05E-07	2.43E-05
092643X	3.71E-03	5.75E-04	1.86E-07	1.61E-05	1.53E-05	3.17E-06	1.90E-04
087402Y	1.21E-02	1.88E-03	6.08E-07	5.25E-05	4.98E-05	1.04E-05	6.21E-04
087403F	2.78E-02	4.31E-03	1.40E-06	1.20E-04	1.14E-04	2.38E-05	1.43E-03
Total Emissions	6.39E-02	9.91E-03	3.21E-06	2.77E-04	2.63E-04	5.47E-05	3.28E-03

Table V.2-11. Grade Crossing Emissions, Segment 4 – Southern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
092658M	4.12E-05	5.94E-06	2.17E-05	4.76E-07	3.73E-06	1.28E-05	3.22E-06	1.78E-05	2.26E-05
092656Y	2.67E-05	3.85E-06	1.41E-05	3.09E-07	2.42E-06	8.28E-06	2.09E-06	1.16E-05	1.47E-05
092654K	2.27E-06	3.27E-07	1.20E-06	2.62E-08	2.05E-07	7.04E-07	1.77E-07	9.83E-07	1.25E-06
092653D	3.23E-07	4.65E-08	1.70E-07	3.73E-09	2.92E-08	1.00E-07	2.52E-08	1.40E-07	1.77E-07
092644E	1.68E-06	2.42E-07	8.86E-07	1.94E-08	1.52E-07	5.21E-07	1.31E-07	7.28E-07	9.22E-07
092643X	1.32E-05	1.90E-06	6.95E-06	1.52E-07	1.19E-06	4.09E-06	1.03E-06	5.71E-06	7.23E-06
087402Y	4.30E-05	6.20E-06	2.27E-05	4.96E-07	3.89E-06	1.33E-05	3.36E-06	1.86E-05	2.36E-05
087403F	9.88E-05	1.42E-05	5.20E-05	1.14E-06	8.94E-06	3.06E-05	7.71E-06	4.27E-05	5.42E-05
Total Emissions	2.27E-04	3.27E-05	1.20E-04	2.62E-06	2.06E-05	7.04E-05	1.77E-05	9.83E-05	1.25E-04

Table V.2-12. Grade Crossing Emissions, Segment 4 – Southern from Nichols, MT to Miles City, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
092658M	6.73E-01	5.70E-05	1.78E-05	6.80E-01
092656Y	4.37E-01	3.70E-05	1.16E-05	4.41E-01
092654K	3.71E-02	3.14E-06	9.83E-07	3.75E-02
092653D	5.27E-03	4.47E-07	1.40E-07	5.33E-03
092644E	2.75E-02	2.33E-06	7.28E-07	2.77E-02
092643X	2.15E-01	1.83E-05	5.71E-06	2.18E-01
087402Y	7.03E-01	5.95E-05	1.86E-05	7.10E-01
087403F	1.61E+00	1.37E-04	4.28E-05	1.63E+00
Total Emissions	3.71E+00	3.14E-04	9.84E-05	3.75E+00

Table V.2-13. Grade Crossing Emissions, Segment 5 from Nichols, MT to Huntley, MT, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
087412E	6.65E-04	1.03E-04	3.34E-08	2.88E-06	2.74E-06	5.69E-07	3.41E-05
087421D	8.29E-05	1.29E-05	4.17E-09	3.59E-07	3.41E-07	7.09E-08	4.25E-06
087422K	2.49E-04	3.86E-05	1.25E-08	1.08E-06	1.03E-06	2.13E-07	1.28E-05
087425F	8.29E-05	1.29E-05	4.17E-09	3.59E-07	3.41E-07	7.09E-08	4.25E-06
087426M	8.29E-05	1.29E-05	4.17E-09	3.59E-07	3.41E-07	7.09E-08	4.25E-06
087428B	8.29E-05	1.28E-05	4.16E-09	3.59E-07	3.41E-07	7.09E-08	4.25E-06
087429H	3.32E-04	5.15E-05	1.67E-08	1.44E-06	1.37E-06	2.84E-07	1.70E-05
087430C	5.83E-04	9.05E-05	2.93E-08	2.53E-06	2.40E-06	4.99E-07	2.99E-05
087431J	1.00E-03	1.56E-04	5.05E-08	4.36E-06	4.14E-06	8.59E-07	5.15E-05
087432R	7.51E-04	1.17E-04	3.78E-08	3.26E-06	3.09E-06	6.43E-07	3.85E-05
087439N	4.98E-04	7.73E-05	2.50E-08	2.16E-06	2.05E-06	4.26E-07	2.56E-05
087441P	1.58E-03	2.46E-04	7.96E-08	6.87E-06	6.52E-06	1.36E-06	8.13E-05
087297A	2.51E-03	3.89E-04	1.26E-07	1.09E-05	1.03E-05	2.15E-06	1.29E-04
087330X	1.66E-04	2.57E-05	8.34E-09	7.19E-07	6.83E-07	1.42E-07	8.51E-06
087331E	2.49E-04	3.86E-05	1.25E-08	1.08E-06	1.03E-06	2.13E-07	1.28E-05
087334A	8.29E-05	1.28E-05	4.16E-09	3.59E-07	3.41E-07	7.09E-08	4.25E-06
087336N	1.33E-03	2.07E-04	6.71E-08	5.79E-06	5.50E-06	1.14E-06	6.85E-05
087337V	4.98E-04	7.73E-05	2.50E-08	2.16E-06	2.05E-06	4.26E-07	2.56E-05
087338C	4.15E-04	6.44E-05	2.09E-08	1.80E-06	1.71E-06	3.55E-07	2.13E-05
087339J	3.32E-04	5.15E-05	1.67E-08	1.44E-06	1.37E-06	2.84E-07	1.70E-05
087340D	3.32E-04	5.16E-05	1.67E-08	1.44E-06	1.37E-06	2.84E-07	1.71E-05
087341K	4.15E-04	6.44E-05	2.09E-08	1.80E-06	1.71E-06	3.55E-07	2.13E-05
087342S	2.49E-04	3.86E-05	1.25E-08	1.08E-06	1.02E-06	2.13E-07	1.28E-05
087343Y	3.32E-04	5.15E-05	1.67E-08	1.44E-06	1.37E-06	2.84E-07	1.70E-05
087344F	5.82E-04	9.02E-05	2.92E-08	2.52E-06	2.40E-06	4.98E-07	2.98E-05
087345M	4.93E-03	7.64E-04	2.48E-07	2.14E-05	2.03E-05	4.22E-06	2.53E-04
087369B	7.69E-03	1.19E-03	3.87E-07	3.33E-05	3.17E-05	6.58E-06	3.94E-04
087367M	6.65E-04	1.03E-04	3.34E-08	2.88E-06	2.74E-06	5.69E-07	3.41E-05
087366F	1.84E-03	2.85E-04	9.25E-08	7.98E-06	7.58E-06	1.57E-06	9.44E-05
087365Y	4.98E-04	7.73E-05	2.50E-08	2.16E-06	2.05E-06	4.26E-07	2.56E-05
087364S	7.48E-04	1.16E-04	3.76E-08	3.24E-06	3.08E-06	6.40E-07	3.84E-05
087363K	2.09E-03	3.25E-04	1.05E-07	9.08E-06	8.62E-06	1.79E-06	1.07E-04
087362D	1.17E-03	1.81E-04	5.86E-08	5.06E-06	4.81E-06	9.98E-07	5.98E-05
087413L	2.71E-04	4.20E-05	1.36E-08	1.17E-06	1.11E-06	2.32E-07	1.39E-05
087434E	1.36E-03	2.11E-04	6.84E-08	5.90E-06	5.60E-06	1.16E-06	6.98E-05
087435L	1.64E-03	2.54E-04	8.22E-08	7.09E-06	6.73E-06	1.40E-06	8.39E-05
087359V	8.53E-04	1.32E-04	4.29E-08	3.70E-06	3.51E-06	7.30E-07	4.38E-05
087361W	4.87E-04	7.55E-05	2.45E-08	2.11E-06	2.00E-06	4.16E-07	2.50E-05
104010V	1.65E-03	2.56E-04	8.29E-08	7.15E-06	6.79E-06	1.41E-06	8.46E-05
Total Emissions	3.94E-02	6.11E-03	1.98E-06	1.71E-04	1.62E-04	3.37E-05	2.02E-03

Table V.2-14. Grade Crossing Emissions, Segment 5 from Nichols, MT to Huntley, MT, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087412E	2.37E-06	3.41E-07	1.25E-06	2.73E-08	2.14E-07	7.32E-07	1.85E-07	1.02E-06	1.30E-06
087421D	2.95E-07	4.25E-08	1.55E-07	3.40E-09	2.67E-08	9.13E-08	2.30E-08	1.28E-07	1.62E-07
087422K	8.86E-07	1.28E-07	4.67E-07	1.02E-08	8.01E-08	2.74E-07	6.91E-08	3.83E-07	4.86E-07
087425F	2.95E-07	4.25E-08	1.55E-07	3.40E-09	2.67E-08	9.13E-08	2.30E-08	1.28E-07	1.62E-07
087426M	2.95E-07	4.25E-08	1.55E-07	3.40E-09	2.67E-08	9.13E-08	2.30E-08	1.28E-07	1.62E-07
087428B	2.95E-07	4.25E-08	1.55E-07	3.40E-09	2.67E-08	9.13E-08	2.30E-08	1.27E-07	1.62E-07
087429H	1.18E-06	1.70E-07	6.22E-07	1.36E-08	1.07E-07	3.66E-07	9.21E-08	5.11E-07	6.47E-07
087430C	2.07E-06	2.99E-07	1.09E-06	2.39E-08	1.88E-07	6.43E-07	1.62E-07	8.97E-07	1.14E-06
087431J	3.57E-06	5.15E-07	1.88E-06	4.12E-08	3.23E-07	1.11E-06	2.79E-07	1.55E-06	1.96E-06
087432R	2.67E-06	3.85E-07	1.41E-06	3.08E-08	2.42E-07	8.28E-07	2.09E-07	1.16E-06	1.46E-06
087439N	1.77E-06	2.55E-07	9.33E-07	2.04E-08	1.60E-07	5.49E-07	1.38E-07	7.67E-07	9.71E-07
087441P	5.63E-06	8.12E-07	2.97E-06	6.50E-08	5.09E-07	1.74E-06	4.40E-07	2.44E-06	3.09E-06
087297A	8.93E-06	1.29E-06	4.70E-06	1.03E-07	8.07E-07	2.77E-06	6.97E-07	3.86E-06	4.89E-06
087330X	5.90E-07	8.50E-08	3.11E-07	6.81E-09	5.34E-08	1.83E-07	4.60E-08	2.55E-07	3.23E-07
087331E	8.86E-07	1.28E-07	4.66E-07	1.02E-08	8.01E-08	2.74E-07	6.91E-08	3.83E-07	4.85E-07
087334A	2.95E-07	4.25E-08	1.55E-07	3.40E-09	2.66E-08	9.13E-08	2.30E-08	1.27E-07	1.62E-07
087336N	4.75E-06	6.84E-07	2.50E-06	5.48E-08	4.29E-07	1.47E-06	3.70E-07	2.05E-06	2.60E-06
087337V	1.77E-06	2.55E-07	9.33E-07	2.04E-08	1.60E-07	5.49E-07	1.38E-07	7.67E-07	9.71E-07
087338C	1.48E-06	2.13E-07	7.78E-07	1.70E-08	1.33E-07	4.57E-07	1.15E-07	6.38E-07	8.09E-07
087339J	1.18E-06	1.70E-07	6.22E-07	1.36E-08	1.07E-07	3.66E-07	9.21E-08	5.11E-07	6.47E-07
087340D	1.18E-06	1.70E-07	6.23E-07	1.36E-08	1.07E-07	3.66E-07	9.23E-08	5.11E-07	6.48E-07
087341K	1.48E-06	2.13E-07	7.78E-07	1.70E-08	1.33E-07	4.57E-07	1.15E-07	6.38E-07	8.09E-07
087342S	8.85E-07	1.27E-07	4.66E-07	1.02E-08	8.00E-08	2.74E-07	6.90E-08	3.83E-07	4.85E-07
087343Y	1.18E-06	1.70E-07	6.22E-07	1.36E-08	1.07E-07	3.66E-07	9.21E-08	5.11E-07	6.47E-07
087344F	2.07E-06	2.98E-07	1.09E-06	2.39E-08	1.87E-07	6.41E-07	1.61E-07	8.95E-07	1.13E-06
087345M	1.75E-05	2.53E-06	9.23E-06	2.02E-07	1.59E-06	5.43E-06	1.37E-06	7.58E-06	9.61E-06
087369B	2.74E-05	3.94E-06	1.44E-05	3.16E-07	2.47E-06	8.47E-06	2.13E-06	1.18E-05	1.50E-05
087367M	2.37E-06	3.41E-07	1.25E-06	2.73E-08	2.14E-07	7.32E-07	1.85E-07	1.02E-06	1.30E-06
087366F	6.54E-06	9.43E-07	3.45E-06	7.55E-08	5.92E-07	2.03E-06	5.11E-07	2.83E-06	3.59E-06
087365Y	1.77E-06	2.55E-07	9.33E-07	2.04E-08	1.60E-07	5.49E-07	1.38E-07	7.67E-07	9.71E-07
087364S	2.66E-06	3.84E-07	1.40E-06	3.07E-08	2.41E-07	8.24E-07	2.08E-07	1.15E-06	1.46E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087363K	7.45E-06	1.07E-06	3.92E-06	8.59E-08	6.73E-07	2.31E-06	5.81E-07	3.22E-06	4.08E-06
087362D	4.15E-06	5.98E-07	2.19E-06	4.79E-08	3.75E-07	1.29E-06	3.24E-07	1.79E-06	2.27E-06
087413L	9.63E-07	1.39E-07	5.07E-07	1.11E-08	8.71E-08	2.98E-07	7.51E-08	4.16E-07	5.28E-07
087434E	4.84E-06	6.97E-07	2.55E-06	5.58E-08	4.38E-07	1.50E-06	3.78E-07	2.09E-06	2.65E-06
087435L	5.82E-06	8.38E-07	3.06E-06	6.71E-08	5.26E-07	1.80E-06	4.54E-07	2.52E-06	3.19E-06
087359V	3.04E-06	4.37E-07	1.60E-06	3.50E-08	2.74E-07	9.40E-07	2.37E-07	1.31E-06	1.66E-06
087361W	1.73E-06	2.49E-07	9.12E-07	2.00E-08	1.57E-07	5.36E-07	1.35E-07	7.49E-07	9.49E-07
104010V	5.87E-06	8.45E-07	3.09E-06	6.77E-08	5.30E-07	1.82E-06	4.58E-07	2.54E-06	3.21E-06
Total Emissions	1.40E-04	2.02E-05	7.38E-05	1.62E-06	1.27E-05	4.34E-05	1.09E-05	6.06E-05	7.68E-05

Table V.2-15. Grade Crossing Emissions, Segment 5 from Nichols, MT to Huntley, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
087412E	3.86E-02	3.27E-06	1.02E-06	3.90E-02
087421D	4.81E-03	4.08E-07	1.28E-07	4.86E-03
087422K	1.45E-02	1.23E-06	3.83E-07	1.46E-02
087425F	4.81E-03	4.08E-07	1.28E-07	4.86E-03
087426M	4.81E-03	4.08E-07	1.28E-07	4.86E-03
087428B	4.81E-03	4.08E-07	1.28E-07	4.86E-03
087429H	1.93E-02	1.63E-06	5.11E-07	1.95E-02
087430C	3.39E-02	2.87E-06	8.98E-07	3.42E-02
087431J	5.83E-02	4.94E-06	1.55E-06	5.89E-02
087432R	4.36E-02	3.70E-06	1.16E-06	4.41E-02
087439N	2.89E-02	2.45E-06	7.67E-07	2.92E-02
087441P	9.20E-02	7.79E-06	2.44E-06	9.29E-02
087297A	1.46E-01	1.23E-05	3.86E-06	1.47E-01
087330X	9.63E-03	8.16E-07	2.55E-07	9.73E-03
087331E	1.45E-02	1.22E-06	3.83E-07	1.46E-02
087334A	4.81E-03	4.08E-07	1.28E-07	4.86E-03
087336N	7.75E-02	6.57E-06	2.05E-06	7.83E-02
087337V	2.89E-02	2.45E-06	7.67E-07	2.92E-02
087338C	2.41E-02	2.04E-06	6.39E-07	2.43E-02
087339J	1.93E-02	1.63E-06	5.11E-07	1.95E-02
087340D	1.93E-02	1.64E-06	5.12E-07	1.95E-02
087341K	2.41E-02	2.04E-06	6.39E-07	2.43E-02
087342S	1.45E-02	1.22E-06	3.83E-07	1.46E-02
087343Y	1.93E-02	1.63E-06	5.11E-07	1.95E-02
087344F	3.38E-02	2.86E-06	8.95E-07	3.41E-02
087345M	2.86E-01	2.42E-05	7.59E-06	2.89E-01
087369B	4.47E-01	3.78E-05	1.18E-05	4.51E-01
087367M	3.86E-02	3.27E-06	1.02E-06	3.90E-02
087366F	1.07E-01	9.05E-06	2.83E-06	1.08E-01
087365Y	2.89E-02	2.45E-06	7.67E-07	2.92E-02
087364S	4.35E-02	3.68E-06	1.15E-06	4.39E-02
087363K	1.22E-01	1.03E-05	3.22E-06	1.23E-01
087362D	6.78E-02	5.74E-06	1.80E-06	6.84E-02
087413L	1.57E-02	1.33E-06	4.17E-07	1.59E-02
087434E	7.90E-02	6.69E-06	2.09E-06	7.98E-02
087435L	9.50E-02	8.04E-06	2.52E-06	9.59E-02
087359V	4.96E-02	4.20E-06	1.31E-06	5.01E-02
087361W	2.83E-02	2.39E-06	7.49E-07	2.86E-02
104010V	9.58E-02	8.11E-06	2.54E-06	9.67E-02
Total Emissions	2.29E+00	1.94E-04	6.06E-05	2.31E+00

Table V.2-16. Grade Crossing Emissions, Segment 6 from Spring Creek, MT to Dutch, WY, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
098817M	3.35E-03	5.20E-04	1.68E-07	1.45E-05	1.38E-05	2.87E-06	1.72E-04

Table V.2-17. Grade Crossing Emissions, Segment 6 from Spring Creek, MT to Dutch, WY, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
098817M	1.19E-05	1.72E-06	6.28E-06	1.38E-07	1.08E-06	3.69E-06	9.30E-07	5.16E-06	6.53E-06

Table V.2-18. Grade Crossing Emissions, Segment 6 from Spring Creek, MT to Dutch, WY, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
098817M	1.95E-01	1.65E-05	5.16E-06	1.97E-01

Table V.2-19. Grade Crossing Emissions, Segment 7 from Dutch, WY to Huntley, MT, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
103868L	0.00093	0.00014	0.00000	0.00000	0.00000	0.00000	0.00005
103862V	0.00412	0.00064	0.00000	0.00002	0.00002	0.00000	0.00021
103861N	0.00013	0.00002	0.00000	0.00000	0.00000	0.00000	0.00001
103855K	0.00066	0.00010	0.00000	0.00000	0.00000	0.00000	0.00003
103848A	0.00106	0.00016	0.00000	0.00000	0.00000	0.00000	0.00005
103841C	0.00079	0.00012	0.00000	0.00000	0.00000	0.00000	0.00004
103840V	0.03897	0.00604	0.00000	0.00017	0.00016	0.00003	0.00200
104080K	0.00132	0.00021	0.00000	0.00001	0.00001	0.00000	0.00007
104084M	0.00040	0.00006	0.00000	0.00000	0.00000	0.00000	0.00002
103837M	0.00040	0.00006	0.00000	0.00000	0.00000	0.00000	0.00002
103839B	0.00279	0.00043	0.00000	0.00001	0.00001	0.00000	0.00014
104062M	0.07024	0.01089	0.00000	0.00030	0.00029	0.00006	0.00360
104061F	0.00493	0.00076	0.00000	0.00002	0.00002	0.00000	0.00025
104059E	0.00040	0.00006	0.00000	0.00000	0.00000	0.00000	0.00002
104055C	0.00026	0.00004	0.00000	0.00000	0.00000	0.00000	0.00001
104054V	0.00106	0.00016	0.00000	0.00000	0.00000	0.00000	0.00005
104052G	0.00079	0.00012	0.00000	0.00000	0.00000	0.00000	0.00004
104045W	0.00132	0.00021	0.00000	0.00001	0.00001	0.00000	0.00007
104041U	0.00079	0.00012	0.00000	0.00000	0.00000	0.00000	0.00004
104039T	0.04502	0.00698	0.00000	0.00020	0.00019	0.00004	0.00231
104038L	0.01684	0.00261	0.00000	0.00007	0.00007	0.00001	0.00086
104037E	0.02177	0.00338	0.00000	0.00009	0.00009	0.00002	0.00112
104035R	0.00093	0.00014	0.00000	0.00000	0.00000	0.00000	0.00005
103982L	0.00079	0.00012	0.00000	0.00000	0.00000	0.00000	0.00004
103973M	0.00225	0.00035	0.00000	0.00001	0.00001	0.00000	0.00012
103963G	0.00013	0.00002	0.00000	0.00000	0.00000	0.00000	0.00001
103962A	0.00053	0.00008	0.00000	0.00000	0.00000	0.00000	0.00003
103960L	0.00040	0.00006	0.00000	0.00000	0.00000	0.00000	0.00002
103959S	0.00053	0.00008	0.00000	0.00000	0.00000	0.00000	0.00003
103956W	0.00199	0.00031	0.00000	0.00001	0.00001	0.00000	0.00010
103955P	0.00013	0.00002	0.00000	0.00000	0.00000	0.00000	0.00001
103954H	0.01559	0.00242	0.00000	0.00007	0.00006	0.00001	0.00080
103952U	0.00053	0.00008	0.00000	0.00000	0.00000	0.00000	0.00003
103951M	0.00146	0.00023	0.00000	0.00001	0.00001	0.00000	0.00007
103950F	0.00053	0.00008	0.00000	0.00000	0.00000	0.00000	0.00003
103946R	0.00212	0.00033	0.00000	0.00001	0.00001	0.00000	0.00011
103941G	0.00066	0.00010	0.00000	0.00000	0.00000	0.00000	0.00003
098854P	0.00119	0.00019	0.00000	0.00001	0.00000	0.00000	0.00006
104173E	0.03035	0.00471	0.00000	0.00013	0.00013	0.00003	0.00156
104171R	0.16628	0.02578	0.00001	0.00072	0.00068	0.00014	0.00853
103877K	0.00415	0.00064	0.00000	0.00002	0.00002	0.00000	0.00021
104137J	0.00320	0.00050	0.00000	0.00001	0.00001	0.00000	0.00016
104166U	0.00053	0.00008	0.00000	0.00000	0.00000	0.00000	0.00003

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO_x	Pb	PM10	PM2.5	SO₂	VOC
104164F	0.00226	0.00035	0.00000	0.00001	0.00001	0.00000	0.00012
104159J	0.00066	0.00010	0.00000	0.00000	0.00000	0.00000	0.00003
104141Y	0.00468	0.00073	0.00000	0.00002	0.00002	0.00000	0.00024
086364N	0.00266	0.00041	0.00000	0.00001	0.00001	0.00000	0.00014
Total Emissions	0.45957	0.07126	0.00002	0.00199	0.00189	0.00039	0.02357

Table V.2-20. Grade Crossing Emissions, Segment 7 from Dutch, WY to Huntley, MT, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
103868L	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103862V	0.00001	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001
103861N	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103855K	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103848A	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103841C	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103840V	0.00014	0.00002	0.00007	0.00000	0.00001	0.00004	0.00001	0.00006	0.00008
104080K	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104084M	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103837M	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103839B	0.00001	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
104062M	0.00025	0.00004	0.00013	0.00000	0.00002	0.00008	0.00002	0.00011	0.00014
104061F	0.00002	0.00000	0.00001	0.00000	0.00000	0.00001	0.00000	0.00001	0.00001
104059E	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104055C	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104054V	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104052G	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104045W	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104041U	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104039T	0.00016	0.00002	0.00008	0.00000	0.00001	0.00005	0.00001	0.00007	0.00009
104038L	0.00006	0.00001	0.00003	0.00000	0.00001	0.00002	0.00000	0.00003	0.00003
104037E	0.00008	0.00001	0.00004	0.00000	0.00001	0.00002	0.00001	0.00003	0.00004
104035R	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103982L	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103973M	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103963G	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103962A	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103960L	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103959S	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103956W	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103955P	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
103954H	0.00006	0.00001	0.00003	0.00000	0.00001	0.00002	0.00000	0.00002	0.00003
103952U	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103951M	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103950F	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103946R	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
103941G	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
098854P	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104173E	0.00011	0.00002	0.00006	0.00000	0.00001	0.00003	0.00001	0.00005	0.00006
104171R	0.00059	0.00009	0.00031	0.00001	0.00005	0.00018	0.00005	0.00026	0.00032
103877K	0.00001	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00001	0.00001
104137J	0.00001	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
104166U	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104164F	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104159J	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
104141Y	0.00002	0.00000	0.00001	0.00000	0.00000	0.00001	0.00000	0.00001	0.00001
086364N	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
Total Emissions	0.00163	0.00024	0.00086	0.00002	0.00015	0.00051	0.00013	0.00071	0.00090

Table V.2-21. Grade Crossing Emissions, Segment 7 from Dutch, WY to Huntley, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
103868L	0.05380	0.00000	0.00000	0.05434
103862V	0.23954	0.00002	0.00001	0.24194
103861N	0.00768	0.00000	0.00000	0.00775
103855K	0.03841	0.00000	0.00000	0.03880
103848A	0.06161	0.00001	0.00000	0.06223
103841C	0.04617	0.00000	0.00000	0.04663
103840V	2.26345	0.00019	0.00006	2.28612
104080K	0.07691	0.00001	0.00000	0.07768
104084M	0.02305	0.00000	0.00000	0.02328
103837M	0.02304	0.00000	0.00000	0.02327
103839B	0.16191	0.00001	0.00000	0.16353
104062M	4.07926	0.00035	0.00011	4.12011
104061F	0.28628	0.00002	0.00001	0.28915
104059E	0.02304	0.00000	0.00000	0.02327
104055C	0.01536	0.00000	0.00000	0.01552
104054V	0.06150	0.00001	0.00000	0.06212
104052G	0.04611	0.00000	0.00000	0.04657
104045W	0.07691	0.00001	0.00000	0.07768
104041U	0.04611	0.00000	0.00000	0.04657
104039T	2.61475	0.00022	0.00007	2.64093
104038L	0.97826	0.00008	0.00003	0.98806
104037E	1.26437	0.00011	0.00003	1.27703
104035R	0.05380	0.00000	0.00000	0.05434
103982L	0.04611	0.00000	0.00000	0.04657
103973M	0.13096	0.00001	0.00000	0.13227
103963G	0.00768	0.00000	0.00000	0.00775
103962A	0.03072	0.00000	0.00000	0.03103
103960L	0.02304	0.00000	0.00000	0.02327
103959S	0.03072	0.00000	0.00000	0.03103
103956W	0.11550	0.00001	0.00000	0.11665
103955P	0.00768	0.00000	0.00000	0.00775
103954H	0.90542	0.00008	0.00002	0.91449
103952U	0.03072	0.00000	0.00000	0.03103
103951M	0.08462	0.00001	0.00000	0.08547
103950F	0.03072	0.00000	0.00000	0.03103
103946R	0.12322	0.00001	0.00000	0.12446
103941G	0.03841	0.00000	0.00000	0.03880
098854P	0.06934	0.00001	0.00000	0.07004
104173E	1.76287	0.00015	0.00005	1.78053
104171R	9.65704	0.00082	0.00026	9.75375
103877K	0.24119	0.00002	0.00001	0.24361
104137J	0.18571	0.00002	0.00000	0.18757
104166U	0.03081	0.00000	0.00000	0.03111
104164F	0.13145	0.00001	0.00000	0.13276

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
104159J	0.03854	0.00000	0.00000	0.03893
104141Y	0.27186	0.00002	0.00001	0.27458
086364N	0.15455	0.00001	0.00000	0.15609
Total Emissions	26.69024	0.00226	0.00071	26.95753

Table V.2-22. Grade Crossing Emissions, Segment 9 – Northern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2030, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
098871F	8.26E-04	1.28E-04	4.15E-08	3.58E-06	3.40E-06	7.07E-07	4.24E-05
098898P	3.89E-03	6.04E-04	1.96E-07	1.69E-05	1.60E-05	3.33E-06	2.00E-04
098763J	4.30E-03	6.67E-04	2.16E-07	1.87E-05	1.77E-05	3.68E-06	2.21E-04
098837Y	5.31E-03	8.23E-04	2.67E-07	2.30E-05	2.19E-05	4.54E-06	2.72E-04
098836S	6.88E-03	1.07E-03	3.46E-07	2.98E-05	2.83E-05	5.88E-06	3.53E-04
095097L	1.71E-02	2.65E-03	8.60E-07	7.42E-05	7.05E-05	1.46E-05	8.78E-04
064976Y	8.98E-02	1.39E-02	4.51E-06	3.89E-04	3.70E-04	7.69E-05	4.61E-03
064970H	1.81E-01	2.80E-02	9.08E-06	7.83E-04	7.44E-04	1.55E-04	9.26E-03
064966T	1.33E-02	2.06E-03	6.69E-07	5.77E-05	5.48E-05	1.14E-05	6.83E-04
064969N	4.30E-03	6.67E-04	2.16E-07	1.87E-05	1.77E-05	3.68E-06	2.21E-04
Total Emissions	3.26E-01	5.06E-02	1.64E-05	1.42E-03	1.34E-03	2.79E-04	1.67E-02

Table V.2-23. Grade Crossing Emissions, Segment 9 – Northern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2030, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
098871F	2.94E-06	4.23E-07	1.55E-06	3.39E-08	2.66E-07	9.10E-07	2.29E-07	1.27E-06	1.61E-06
098898P	1.38E-05	1.99E-06	7.29E-06	1.60E-07	1.25E-06	4.29E-06	1.08E-06	5.99E-06	7.59E-06
098763J	1.53E-05	2.20E-06	8.06E-06	1.77E-07	1.38E-06	4.74E-06	1.19E-06	6.62E-06	8.39E-06
098837Y	1.89E-05	2.72E-06	9.94E-06	2.18E-07	1.71E-06	5.85E-06	1.47E-06	8.16E-06	1.03E-05
098836S	2.45E-05	3.52E-06	1.29E-05	2.82E-07	2.21E-06	7.57E-06	1.91E-06	1.06E-05	1.34E-05
095097L	6.09E-05	8.77E-06	3.21E-05	7.03E-07	5.51E-06	1.89E-05	4.75E-06	2.63E-05	3.34E-05
064976Y	3.19E-04	4.60E-05	1.68E-04	3.69E-06	2.89E-05	9.89E-05	2.49E-05	1.38E-04	1.75E-04
064970H	6.42E-04	9.26E-05	3.38E-04	7.41E-06	5.81E-05	1.99E-04	5.01E-05	2.78E-04	3.52E-04
064966T	4.74E-05	6.82E-06	2.49E-05	5.46E-07	4.28E-06	1.47E-05	3.69E-06	2.05E-05	2.60E-05
064969N	1.53E-05	2.21E-06	8.06E-06	1.77E-07	1.38E-06	4.74E-06	1.19E-06	6.62E-06	8.39E-06
Total Emissions	1.16E-03	1.67E-04	6.11E-04	1.34E-05	1.05E-04	3.60E-04	9.06E-05	5.02E-04	6.36E-04

Table V.2-24. Grade Crossing Emissions, Segment 9 – Northern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2030, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
098871F	4.80E-02	4.06E-06	1.27E-06	4.85E-02
098898P	2.26E-01	1.91E-05	5.99E-06	2.28E-01
098763J	2.50E-01	2.12E-05	6.62E-06	2.52E-01
098837Y	3.08E-01	2.61E-05	8.17E-06	3.11E-01
098836S	3.99E-01	3.38E-05	1.06E-05	4.03E-01
095097L	9.94E-01	8.42E-05	2.63E-05	1.00E+00
064976Y	5.22E+00	4.42E-04	1.38E-04	5.27E+00
064970H	1.05E+01	8.89E-04	2.78E-04	1.06E+01
064966T	7.73E-01	6.55E-05	2.05E-05	7.81E-01
064969N	2.50E-01	2.12E-05	6.62E-06	2.52E-01
Total Emissions	1.90E+01	1.61E-03	5.02E-04	1.91E+01

Table V.2-25. Grade Crossing Emissions, Segment 9 – Southern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
098871F	9.85E-04	1.53E-04	4.95E-08	4.27E-06	4.06E-06	8.43E-07	5.05E-05
098898P	4.64E-03	7.20E-04	2.33E-07	2.01E-05	1.91E-05	3.97E-06	2.38E-04
098763J	5.13E-03	7.95E-04	2.58E-07	2.22E-05	2.11E-05	4.39E-06	2.63E-04
098837Y	6.33E-03	9.81E-04	3.18E-07	2.74E-05	2.61E-05	5.41E-06	3.25E-04
098836S	8.20E-03	1.27E-03	4.12E-07	3.56E-05	3.38E-05	7.02E-06	4.21E-04
095097L	2.04E-02	3.17E-03	1.03E-06	8.86E-05	8.42E-05	1.75E-05	1.05E-03
064976Y	1.07E-01	1.66E-02	5.39E-06	4.65E-04	4.42E-04	9.18E-05	5.50E-03
064970H	2.16E-01	3.34E-02	1.08E-05	9.35E-04	8.88E-04	1.85E-04	1.11E-02
064966T	1.59E-02	2.47E-03	7.99E-07	6.89E-05	6.55E-05	1.36E-05	8.16E-04
064969N	4.94E-03	7.66E-04	2.48E-07	2.14E-05	2.04E-05	4.23E-06	2.54E-04
Total Emissions	3.90E-01	6.04E-02	1.96E-05	1.69E-03	1.60E-03	3.33E-04	2.00E-02

Table V.2-26. Grade Crossing Emissions, Segment 9 – Southern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
098871F	3.50E-06	5.05E-07	1.85E-06	4.04E-08	3.17E-07	1.09E-06	2.73E-07	1.52E-06	1.92E-06
098898P	1.65E-05	2.38E-06	8.70E-06	1.90E-07	1.49E-06	5.11E-06	1.29E-06	7.14E-06	9.05E-06
098763J	1.82E-05	2.63E-06	9.61E-06	2.11E-07	1.65E-06	5.65E-06	1.42E-06	7.89E-06	1.00E-05
098837Y	2.25E-05	3.24E-06	1.19E-05	2.60E-07	2.03E-06	6.97E-06	1.76E-06	9.73E-06	1.23E-05
098836S	2.92E-05	4.20E-06	1.54E-05	3.36E-07	2.64E-06	9.03E-06	2.28E-06	1.26E-05	1.60E-05
095097L	7.27E-05	1.05E-05	3.83E-05	8.39E-07	6.57E-06	2.25E-05	5.67E-06	3.14E-05	3.98E-05
064976Y	3.82E-04	5.50E-05	2.01E-04	4.40E-06	3.45E-05	1.18E-04	2.98E-05	1.65E-04	2.09E-04
064970H	7.67E-04	1.11E-04	4.04E-04	8.85E-06	6.94E-05	2.38E-04	5.99E-05	3.32E-04	4.20E-04
064966T	5.66E-05	8.15E-06	2.98E-05	6.52E-07	5.11E-06	1.75E-05	4.41E-06	2.45E-05	3.10E-05
064969N	1.76E-05	2.53E-06	9.26E-06	2.03E-07	1.59E-06	5.45E-06	1.37E-06	7.60E-06	9.64E-06
Total Emissions	1.39E-03	2.00E-04	7.30E-04	1.60E-05	1.25E-04	4.29E-04	1.08E-04	5.99E-04	7.59E-04

Table V.2-27. Grade Crossing Emissions, Segment 9 – Southern from Dutch, WY to Donkey Creek, WY, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO _{2e}
098871F	5.72E-02	4.85E-06	1.52E-06	5.78E-02
098898P	2.70E-01	2.28E-05	7.14E-06	2.72E-01
098763J	2.98E-01	2.52E-05	7.90E-06	3.01E-01
098837Y	3.67E-01	3.11E-05	9.74E-06	3.71E-01
098836S	4.76E-01	4.03E-05	1.26E-05	4.81E-01
095097L	1.19E+00	1.01E-04	3.15E-05	1.20E+00
064976Y	6.23E+00	5.28E-04	1.65E-04	6.29E+00
064970H	1.25E+01	1.06E-03	3.32E-04	1.27E+01
064966T	9.23E-01	7.82E-05	2.45E-05	9.33E-01
064969N	2.87E-01	2.43E-05	7.61E-06	2.90E-01
Total Emissions	2.26E+01	1.92E-03	5.99E-04	2.28E+01

Table V.2-28. Grade Crossing Emissions, Segment 10 from Donkey Creek, WY to Edgemont, SD, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
064904V	1.52E-03	2.35E-04	7.63E-08	6.58E-06	6.25E-06	1.30E-06	7.79E-05
064899B	1.74E-03	2.70E-04	8.76E-08	7.55E-06	7.18E-06	1.49E-06	8.94E-05
064898U	5.01E-03	7.77E-04	2.52E-07	2.17E-05	2.06E-05	4.29E-06	2.57E-04
064892D	5.01E-03	7.77E-04	2.52E-07	2.17E-05	2.06E-05	4.29E-06	2.57E-04
064884L	8.58E-03	1.33E-03	4.31E-07	3.72E-05	3.53E-05	7.34E-06	4.40E-04
064960C	4.36E-03	6.77E-04	2.19E-07	1.89E-05	1.80E-05	3.73E-06	2.24E-04
064958B	2.19E-02	3.40E-03	1.10E-06	9.51E-05	9.03E-05	1.88E-05	1.12E-03
064956M	2.84E-03	4.41E-04	1.43E-07	1.23E-05	1.17E-05	2.43E-06	1.46E-04
064953S	5.23E-03	8.11E-04	2.63E-07	2.27E-05	2.16E-05	4.48E-06	2.68E-04
064950W	2.17E-03	3.36E-04	1.09E-07	9.41E-06	8.94E-06	1.86E-06	1.11E-04
064947N	1.09E-03	1.68E-04	5.46E-08	4.71E-06	4.47E-06	9.29E-07	5.57E-05
064944T	1.96E-03	3.04E-04	9.84E-08	8.49E-06	8.07E-06	1.68E-06	1.00E-04
064933F	7.00E-03	1.08E-03	3.52E-07	3.03E-05	2.88E-05	5.99E-06	3.59E-04
064926V	3.04E-03	4.72E-04	1.53E-07	1.32E-05	1.25E-05	2.60E-06	1.56E-04
064922T	2.00E-02	3.11E-03	1.01E-06	8.69E-05	8.25E-05	1.71E-05	1.03E-03
064921L	1.89E-02	2.92E-03	9.48E-07	8.18E-05	7.77E-05	1.61E-05	9.68E-04
064920E	1.36E-01	2.11E-02	6.83E-06	5.89E-04	5.60E-04	1.16E-04	6.97E-03
Total Emissions	2.46E-01	3.82E-02	1.24E-05	1.07E-03	1.01E-03	2.11E-04	1.26E-02

Table V.2-29. Grade Crossing Emissions, Segment 10 from Donkey Creek, WY to Edgemont, SD, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
064904V	5.40E-06	7.78E-07	2.84E-06	6.23E-08	4.88E-07	1.67E-06	4.21E-07	2.34E-06	2.96E-06
064899B	6.20E-06	8.93E-07	3.26E-06	7.15E-08	5.60E-07	1.92E-06	4.84E-07	2.68E-06	3.40E-06
064898U	1.78E-05	2.57E-06	9.39E-06	2.06E-07	1.61E-06	5.52E-06	1.39E-06	7.71E-06	9.77E-06
064892D	1.78E-05	2.57E-06	9.39E-06	2.06E-07	1.61E-06	5.52E-06	1.39E-06	7.71E-06	9.77E-06
064884L	3.05E-05	4.40E-06	1.61E-05	3.52E-07	2.76E-06	9.45E-06	2.38E-06	1.32E-05	1.67E-05
064960C	1.55E-05	2.24E-06	8.18E-06	1.79E-07	1.40E-06	4.81E-06	1.21E-06	6.71E-06	8.51E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
064958B	7.80E-05	1.12E-05	4.11E-05	9.00E-07	7.05E-06	2.42E-05	6.09E-06	3.37E-05	4.27E-05
064956M	1.01E-05	1.46E-06	5.33E-06	1.17E-07	9.15E-07	3.13E-06	7.89E-07	4.37E-06	5.54E-06
064953S	1.86E-05	2.68E-06	9.80E-06	2.15E-07	1.68E-06	5.76E-06	1.45E-06	8.05E-06	1.02E-05
064950W	7.72E-06	1.11E-06	4.07E-06	8.91E-08	6.98E-07	2.39E-06	6.02E-07	3.34E-06	4.23E-06
064947N	3.86E-06	5.57E-07	2.03E-06	4.46E-08	3.49E-07	1.20E-06	3.01E-07	1.67E-06	2.12E-06
064944T	6.97E-06	1.00E-06	3.67E-06	8.04E-08	6.30E-07	2.16E-06	5.43E-07	3.01E-06	3.82E-06
064933F	2.49E-05	3.59E-06	1.31E-05	2.87E-07	2.25E-06	7.71E-06	1.94E-06	1.08E-05	1.36E-05
064926V	1.08E-05	1.56E-06	5.70E-06	1.25E-07	9.78E-07	3.35E-06	8.44E-07	4.68E-06	5.93E-06
064922T	7.12E-05	1.03E-05	3.75E-05	8.22E-07	6.44E-06	2.21E-05	5.56E-06	3.08E-05	3.90E-05
064921L	6.71E-05	9.67E-06	3.53E-05	7.74E-07	6.07E-06	2.08E-05	5.23E-06	2.90E-05	3.68E-05
064920E	4.84E-04	6.97E-05	2.55E-04	5.58E-06	4.37E-05	1.50E-04	3.77E-05	2.09E-04	2.65E-04
Total Emissions	8.76E-04	1.26E-04	4.61E-04	1.01E-05	7.92E-05	2.71E-04	6.84E-05	3.79E-04	4.80E-04

Table V.2-30. Grade Crossing Emissions, Segment 10 from Donkey Creek, WY to Edgemont, SD, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
064904V	8.82E-02	7.47E-06	2.34E-06	8.91E-02
064899B	1.01E-01	8.57E-06	2.68E-06	1.02E-01
064898U	2.91E-01	2.47E-05	7.72E-06	2.94E-01
064892D	2.91E-01	2.47E-05	7.72E-06	2.94E-01
064884L	4.98E-01	4.22E-05	1.32E-05	5.03E-01
064960C	2.53E-01	2.15E-05	6.72E-06	2.56E-01
064958B	1.27E+00	1.08E-04	3.37E-05	1.29E+00
064956M	1.65E-01	1.40E-05	4.38E-06	1.67E-01
064953S	3.04E-01	2.57E-05	8.05E-06	3.07E-01
064950W	1.26E-01	1.07E-05	3.34E-06	1.27E-01
064947N	6.31E-02	5.34E-06	1.67E-06	6.37E-02
064944T	1.14E-01	9.63E-06	3.01E-06	1.15E-01
064933F	4.06E-01	3.44E-05	1.08E-05	4.10E-01
064926V	1.77E-01	1.50E-05	4.68E-06	1.78E-01
064922T	1.16E+00	9.85E-05	3.08E-05	1.17E+00

064921L	1.10E+00	9.28E-05	2.90E-05	1.11E+00
064920E	7.89E+00	6.69E-04	2.09E-04	7.97E+00
Total Emissions	1.43E+01	1.21E-03	3.79E-04	1.44E+01

Table V.2-31. Grade Crossing Emissions, Segment 11 from Edgemont, SD to Crawford, NE, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
064863T	1.08E-02	1.67E-03	5.41E-07	4.67E-05	4.43E-05	9.21E-06	5.52E-04
064864A	1.03E-02	1.60E-03	5.20E-07	4.49E-05	4.26E-05	8.85E-06	5.31E-04
064872S	6.59E-03	1.02E-03	3.31E-07	2.86E-05	2.71E-05	5.64E-06	3.38E-04
064873Y	1.55E-04	2.40E-05	7.78E-09	6.71E-07	6.37E-07	1.32E-07	7.94E-06
064835P	9.12E-03	1.41E-03	4.58E-07	3.95E-05	3.75E-05	7.80E-06	4.68E-04
064836W	7.74E-04	1.20E-04	3.89E-08	3.35E-06	3.19E-06	6.62E-07	3.97E-05
064837D	9.30E-04	1.44E-04	4.67E-08	4.03E-06	3.83E-06	7.95E-07	4.77E-05
064839S	1.09E-03	1.69E-04	5.47E-08	4.72E-06	4.48E-06	9.31E-07	5.58E-05
064840L	1.25E-03	1.93E-04	6.26E-08	5.40E-06	5.13E-06	1.07E-06	6.39E-05
064842A	4.86E-03	7.53E-04	2.44E-07	2.11E-05	2.00E-05	4.16E-06	2.49E-04
064846C	2.02E-03	3.13E-04	1.02E-07	8.76E-06	8.32E-06	1.73E-06	1.04E-04
064847J	6.19E-04	9.60E-05	3.11E-08	2.68E-06	2.55E-06	5.30E-07	3.18E-05
064848R	3.23E-02	5.01E-03	1.62E-06	1.40E-04	1.33E-04	2.76E-05	1.66E-03
064854U	7.74E-04	1.20E-04	3.89E-08	3.36E-06	3.19E-06	6.62E-07	3.97E-05
064903N	1.56E-03	2.42E-04	7.84E-08	6.76E-06	6.42E-06	1.33E-06	8.00E-05
188572X	8.55E-03	1.33E-03	4.30E-07	3.71E-05	3.52E-05	7.31E-06	4.38E-04
Total Emissions	9.17E-02	1.42E-02	4.61E-06	3.97E-04	3.78E-04	7.84E-05	4.70E-03

Table V.2-32. Grade Crossing Emissions, Segment 11 from Edgemont, SD to Crawford, NE, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
064863T	3.83E-05	5.52E-06	2.02E-05	4.42E-07	3.46E-06	1.19E-05	2.99E-06	1.66E-05	2.10E-05
064864A	3.68E-05	5.30E-06	1.94E-05	4.25E-07	3.33E-06	1.14E-05	2.87E-06	1.59E-05	2.02E-05
064872S	2.34E-05	3.38E-06	1.23E-05	2.70E-07	2.12E-06	7.26E-06	1.83E-06	1.01E-05	1.28E-05
064873Y	5.50E-07	7.93E-08	2.90E-07	6.35E-09	4.98E-08	1.70E-07	4.29E-08	2.38E-07	3.02E-07
064835P	3.24E-05	4.67E-06	1.71E-05	3.74E-07	2.93E-06	1.00E-05	2.53E-06	1.40E-05	1.78E-05
064836W	2.75E-06	3.96E-07	1.45E-06	3.17E-08	2.49E-07	8.52E-07	2.15E-07	1.19E-06	1.51E-06
064837D	3.31E-06	4.76E-07	1.74E-06	3.81E-08	2.99E-07	1.02E-06	2.58E-07	1.43E-06	1.81E-06
064839S	3.87E-06	5.58E-07	2.04E-06	4.47E-08	3.50E-07	1.20E-06	3.02E-07	1.67E-06	2.12E-06
064840L	4.43E-06	6.38E-07	2.33E-06	5.11E-08	4.00E-07	1.37E-06	3.46E-07	1.92E-06	2.43E-06
064842A	1.73E-05	2.49E-06	9.10E-06	1.99E-07	1.56E-06	5.35E-06	1.35E-06	7.47E-06	9.47E-06
064846C	7.19E-06	1.04E-06	3.79E-06	8.29E-08	6.50E-07	2.23E-06	5.61E-07	3.11E-06	3.94E-06
064847J	2.20E-06	3.17E-07	1.16E-06	2.54E-08	1.99E-07	6.82E-07	1.72E-07	9.53E-07	1.21E-06
064848R	1.15E-04	1.65E-05	6.05E-05	1.32E-06	1.04E-05	3.56E-05	8.96E-06	4.97E-05	6.29E-05
064854U	2.75E-06	3.97E-07	1.45E-06	3.18E-08	2.49E-07	8.53E-07	2.15E-07	1.19E-06	1.51E-06
064903N	5.55E-06	7.99E-07	2.92E-06	6.40E-08	5.01E-07	1.72E-06	4.33E-07	2.40E-06	3.04E-06
188572X	3.04E-05	4.38E-06	1.60E-05	3.51E-07	2.75E-06	9.42E-06	2.37E-06	1.31E-05	1.67E-05
Total Emissions	3.26E-04	4.70E-05	1.72E-04	3.76E-06	2.95E-05	1.01E-04	2.54E-05	1.41E-04	1.79E-04

Table V.2-33. Grade Crossing Emissions, Segment 11 from Edgemont, SD to Crawford, NE, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
064863T	6.25E-01	5.30E-05	1.66E-05	6.32E-01
064864A	6.01E-01	5.09E-05	1.59E-05	6.07E-01
064872S	3.83E-01	3.24E-05	1.01E-05	3.87E-01
064873Y	8.99E-03	7.61E-07	2.38E-07	9.08E-03
064835P	5.29E-01	4.48E-05	1.40E-05	5.35E-01
064836W	4.49E-02	3.81E-06	1.19E-06	4.54E-02
064837D	5.40E-02	4.57E-06	1.43E-06	5.45E-02
064839S	6.32E-02	5.35E-06	1.68E-06	6.38E-02
064840L	7.23E-02	6.12E-06	1.92E-06	7.30E-02
064842A	2.82E-01	2.39E-05	7.47E-06	2.85E-01
064846C	1.17E-01	9.94E-06	3.11E-06	1.19E-01
064847J	3.60E-02	3.05E-06	9.53E-07	3.63E-02
064848R	1.87E+00	1.59E-04	4.97E-05	1.89E+00
064854U	4.50E-02	3.81E-06	1.19E-06	4.54E-02
064903N	9.05E-02	7.67E-06	2.40E-06	9.15E-02
188572X	4.96E-01	4.20E-05	1.32E-05	5.01E-01
Total Emissions	5.32E+00	4.51E-04	1.41E-04	5.38E+00

Table V.2-34. Grade Crossing Emissions, Segment 12 from Crawford, NE to Alliance, NE, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
064773U	7.24E-03	1.12E-03	3.64E-07	3.14E-05	2.98E-05	6.19E-06	3.71E-04
064774B	2.26E-02	3.51E-03	1.14E-06	9.82E-05	9.32E-05	1.94E-05	1.16E-03
064775H	3.32E-02	5.14E-03	1.67E-06	1.44E-04	1.37E-04	2.84E-05	1.70E-03
064778D	4.13E-04	6.41E-05	2.08E-08	1.79E-06	1.70E-06	3.54E-07	2.12E-05
064779K	3.32E-02	5.14E-03	1.67E-06	1.44E-04	1.37E-04	2.84E-05	1.70E-03
064781L	3.32E-02	5.14E-03	1.67E-06	1.44E-04	1.37E-04	2.84E-05	1.70E-03
064784G	9.45E-03	1.47E-03	4.75E-07	4.10E-05	3.89E-05	8.09E-06	4.85E-04
064786V	2.12E-01	3.28E-02	1.06E-05	9.17E-04	8.71E-04	1.81E-04	1.09E-02
064788J	1.24E-03	1.93E-04	6.24E-08	5.39E-06	5.12E-06	1.06E-06	6.37E-05
064789R	3.32E-02	5.14E-03	1.67E-06	1.44E-04	1.37E-04	2.84E-05	1.70E-03
064791S	1.45E-03	2.25E-04	7.29E-08	6.29E-06	5.97E-06	1.24E-06	7.44E-05
064792Y	3.32E-02	5.14E-03	1.67E-06	1.44E-04	1.37E-04	2.84E-05	1.70E-03
064793F	3.27E-02	5.06E-03	1.64E-06	1.42E-04	1.34E-04	2.79E-05	1.67E-03
064794M	1.77E-02	2.74E-03	8.87E-07	7.65E-05	7.27E-05	1.51E-05	9.05E-04
064795U	1.09E-01	1.69E-02	5.49E-06	4.73E-04	4.50E-04	9.34E-05	5.60E-03
064796B	2.06E-04	3.20E-05	1.04E-08	8.94E-07	8.49E-07	1.76E-07	1.06E-05
064797H	4.39E-02	6.81E-03	2.21E-06	1.90E-04	1.81E-04	3.76E-05	2.25E-03
064798P	1.03E-03	1.60E-04	5.18E-08	4.47E-06	4.25E-06	8.82E-07	5.29E-05
064799W	1.03E-03	1.60E-04	5.19E-08	4.48E-06	4.25E-06	8.83E-07	5.29E-05
064802C	4.13E-04	6.40E-05	2.07E-08	1.79E-06	1.70E-06	3.53E-07	2.12E-05
064811B	8.25E-04	1.28E-04	4.15E-08	3.58E-06	3.40E-06	7.06E-07	4.23E-05
064812H	2.29E-03	3.55E-04	1.15E-07	9.92E-06	9.42E-06	1.96E-06	1.17E-04
064822N	3.31E-02	5.13E-03	1.66E-06	1.43E-04	1.36E-04	2.83E-05	1.70E-03
064825J	2.20E-02	3.41E-03	1.11E-06	9.54E-05	9.06E-05	1.88E-05	1.13E-03
064832U	1.22E-02	1.88E-03	6.11E-07	5.27E-05	5.00E-05	1.04E-05	6.23E-04
Total Emissions	6.96E-01	1.08E-01	3.50E-05	3.02E-03	2.87E-03	5.96E-04	3.57E-02

Table V.2-35. Grade Crossing Emissions, Segment 12 from Crawford, NE to Alliance, NE, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
064773U	2.57E-05	3.71E-06	1.36E-05	2.97E-07	2.33E-06	7.97E-06	2.01E-06	1.11E-05	1.41E-05
064774B	8.05E-05	1.16E-05	4.24E-05	9.29E-07	7.28E-06	2.49E-05	6.28E-06	3.48E-05	4.41E-05
064775H	1.18E-04	1.70E-05	6.21E-05	1.36E-06	1.07E-05	3.65E-05	9.20E-06	5.10E-05	6.46E-05
064778D	1.47E-06	2.12E-07	7.74E-07	1.70E-08	1.33E-07	4.55E-07	1.15E-07	6.36E-07	8.06E-07
064779K	1.18E-04	1.70E-05	6.21E-05	1.36E-06	1.07E-05	3.65E-05	9.20E-06	5.10E-05	6.46E-05
064781L	1.18E-04	1.70E-05	6.21E-05	1.36E-06	1.07E-05	3.65E-05	9.20E-06	5.10E-05	6.46E-05
064784G	3.36E-05	4.84E-06	1.77E-05	3.88E-07	3.04E-06	1.04E-05	2.62E-06	1.45E-05	1.84E-05
064786V	7.53E-04	1.08E-04	3.96E-04	8.68E-06	6.81E-05	2.33E-04	5.87E-05	3.26E-04	4.12E-04
064788J	4.42E-06	6.37E-07	2.33E-06	5.10E-08	4.00E-07	1.37E-06	3.45E-07	1.91E-06	2.42E-06
064789R	1.18E-04	1.70E-05	6.21E-05	1.36E-06	1.07E-05	3.65E-05	9.20E-06	5.10E-05	6.46E-05
064791S	5.16E-06	7.43E-07	2.72E-06	5.95E-08	4.66E-07	1.60E-06	4.02E-07	2.23E-06	2.83E-06
064792Y	1.18E-04	1.70E-05	6.21E-05	1.36E-06	1.07E-05	3.65E-05	9.20E-06	5.10E-05	6.46E-05
064793F	1.16E-04	1.67E-05	6.12E-05	1.34E-06	1.05E-05	3.60E-05	9.06E-06	5.02E-05	6.36E-05
064794M	6.28E-05	9.05E-06	3.31E-05	7.24E-07	5.68E-06	1.94E-05	4.90E-06	2.72E-05	3.44E-05
064795U	3.88E-04	5.60E-05	2.05E-04	4.48E-06	3.51E-05	1.20E-04	3.03E-05	1.68E-04	2.13E-04
064796B	7.33E-07	1.06E-07	3.86E-07	8.46E-09	6.63E-08	2.27E-07	5.72E-08	3.17E-07	4.02E-07
064797H	1.56E-04	2.25E-05	8.23E-05	1.80E-06	1.41E-05	4.84E-05	1.22E-05	6.76E-05	8.56E-05
064798P	3.67E-06	5.28E-07	1.93E-06	4.23E-08	3.32E-07	1.14E-06	2.86E-07	1.59E-06	2.01E-06
064799W	3.67E-06	5.29E-07	1.93E-06	4.24E-08	3.32E-07	1.14E-06	2.86E-07	1.59E-06	2.01E-06
064802C	1.47E-06	2.11E-07	7.73E-07	1.69E-08	1.33E-07	4.55E-07	1.15E-07	6.35E-07	8.04E-07
064811B	2.94E-06	4.23E-07	1.55E-06	3.39E-08	2.65E-07	9.09E-07	2.29E-07	1.27E-06	1.61E-06
064812H	8.14E-06	1.17E-06	4.29E-06	9.39E-08	7.36E-07	2.52E-06	6.35E-07	3.52E-06	4.46E-06
064822N	1.18E-04	1.70E-05	6.20E-05	1.36E-06	1.06E-05	3.64E-05	9.18E-06	5.09E-05	6.45E-05
064825J	7.82E-05	1.13E-05	4.12E-05	9.02E-07	7.07E-06	2.42E-05	6.10E-06	3.38E-05	4.29E-05
064832U	4.32E-05	6.23E-06	2.28E-05	4.99E-07	3.91E-06	1.34E-05	3.37E-06	1.87E-05	2.37E-05
Total Emissions	2.48E-03	3.57E-04	1.30E-03	2.86E-05	2.24E-04	7.67E-04	1.93E-04	1.07E-03	1.36E-03

Table V.2-36. Grade Crossing Emissions, Segment 12 from Crawford, NE to Alliance, NE, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
064773U	4.20E-01	3.56E-05	1.11E-05	4.25E-01
064774B	1.31E+00	1.11E-04	3.48E-05	1.33E+00
064775H	1.93E+00	1.63E-04	5.10E-05	1.95E+00
064778D	2.40E-02	2.03E-06	6.36E-07	2.42E-02
064779K	1.93E+00	1.63E-04	5.10E-05	1.95E+00
064781L	1.93E+00	1.63E-04	5.10E-05	1.95E+00
064784G	5.49E-01	4.65E-05	1.45E-05	5.55E-01
064786V	1.23E+01	1.04E-03	3.26E-04	1.24E+01
064788J	7.22E-02	6.11E-06	1.91E-06	7.29E-02
064789R	1.93E+00	1.63E-04	5.10E-05	1.95E+00
064791S	8.42E-02	7.13E-06	2.23E-06	8.51E-02
064792Y	1.93E+00	1.63E-04	5.10E-05	1.95E+00
064793F	1.90E+00	1.61E-04	5.03E-05	1.92E+00
064794M	1.03E+00	8.68E-05	2.72E-05	1.04E+00
064795U	6.34E+00	5.37E-04	1.68E-04	6.40E+00
064796B	1.20E-02	1.01E-06	3.17E-07	1.21E-02
064797H	2.55E+00	2.16E-04	6.76E-05	2.58E+00
064798P	5.99E-02	5.07E-06	1.59E-06	6.05E-02
064799W	5.99E-02	5.08E-06	1.59E-06	6.06E-02
064802C	2.40E-02	2.03E-06	6.35E-07	2.42E-02
064811B	4.79E-02	4.06E-06	1.27E-06	4.84E-02
064812H	1.33E-01	1.13E-05	3.52E-06	1.34E-01
064822N	1.92E+00	1.63E-04	5.09E-05	1.94E+00
064825J	1.28E+00	1.08E-04	3.38E-05	1.29E+00
064832U	7.06E-01	5.98E-05	1.87E-05	7.13E-01
Total Emissions	4.04E+01	3.43E-03	1.07E-03	4.08E+01

Table V.2-37. Grade Crossing Emissions, Segment 16 – Northern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
092880J	4.45E-03	6.90E-04	2.24E-07	1.93E-05	1.83E-05	3.81E-06	2.28E-04
092892D	1.07E-04	1.66E-05	5.38E-09	4.64E-07	4.41E-07	9.16E-08	5.49E-06
092893K	1.40E-03	2.17E-04	7.02E-08	6.06E-06	5.75E-06	1.20E-06	7.16E-05
092894S	1.29E-03	2.00E-04	6.49E-08	5.60E-06	5.31E-06	1.10E-06	6.62E-05
092904V	5.88E-03	9.12E-04	2.96E-07	2.55E-05	2.42E-05	5.04E-06	3.02E-04
092906J	2.05E-03	3.18E-04	1.03E-07	8.89E-06	8.44E-06	1.75E-06	1.05E-04
092908X	5.35E-04	8.30E-05	2.69E-08	2.32E-06	2.20E-06	4.58E-07	2.74E-05
092910Y	3.21E-04	4.98E-05	1.61E-08	1.39E-06	1.32E-06	2.75E-07	1.65E-05
092918D	3.21E-04	4.98E-05	1.61E-08	1.39E-06	1.32E-06	2.75E-07	1.65E-05
092919K	1.07E-04	1.66E-05	5.37E-09	4.63E-07	4.40E-07	9.14E-08	5.48E-06
092921L	1.07E-04	1.66E-05	5.37E-09	4.63E-07	4.40E-07	9.14E-08	5.48E-06
092922T	2.14E-04	3.32E-05	1.07E-08	9.27E-07	8.81E-07	1.83E-07	1.10E-05
098944N	1.40E-03	2.16E-04	7.02E-08	6.05E-06	5.75E-06	1.19E-06	7.16E-05
092671B	6.42E-04	9.96E-05	3.23E-08	2.78E-06	2.65E-06	5.50E-07	3.29E-05
092669A	4.29E-04	6.65E-05	2.15E-08	1.86E-06	1.76E-06	3.67E-07	2.20E-05
092668T	2.59E-03	4.02E-04	1.30E-07	1.12E-05	1.07E-05	2.22E-06	1.33E-04
092665X	7.77E-03	1.20E-03	3.90E-07	3.37E-05	3.20E-05	6.65E-06	3.98E-04
092664R	5.17E-02	8.02E-03	2.60E-06	2.24E-04	2.13E-04	4.43E-05	2.65E-03
092662C	1.47E-02	2.27E-03	7.36E-07	6.35E-05	6.04E-05	1.25E-05	7.52E-04
092660N	2.67E-02	4.14E-03	1.34E-06	1.16E-04	1.10E-04	2.28E-05	1.37E-03
394089U	5.71E-03	8.86E-04	2.87E-07	2.48E-05	2.35E-05	4.89E-06	2.93E-04
060606G	3.41E-03	5.29E-04	1.72E-07	1.48E-05	1.41E-05	2.92E-06	1.75E-04
Total Emissions	1.32E-01	2.04E-02	6.62E-06	5.71E-04	5.43E-04	1.13E-04	6.76E-03

Table V.2-38. Grade Crossing Emissions, Segment 16 – Northern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
092880J	1.58E-05	2.28E-06	8.33E-06	1.83E-07	1.43E-06	4.90E-06	1.23E-06	6.84E-06	8.67E-06
092892D	3.81E-07	5.49E-08	2.01E-07	4.39E-09	3.44E-08	1.18E-07	2.97E-08	1.65E-07	2.09E-07
092893K	4.97E-06	7.16E-07	2.62E-06	5.73E-08	4.49E-07	1.54E-06	3.88E-07	2.15E-06	2.72E-06
092894S	4.59E-06	6.61E-07	2.42E-06	5.30E-08	4.15E-07	1.42E-06	3.58E-07	1.99E-06	2.52E-06
092904V	2.09E-05	3.02E-06	1.10E-05	2.41E-07	1.89E-06	6.48E-06	1.63E-06	9.05E-06	1.15E-05
092906J	7.29E-06	1.05E-06	3.84E-06	8.41E-08	6.59E-07	2.26E-06	5.69E-07	3.15E-06	3.99E-06
092908X	1.90E-06	2.74E-07	1.00E-06	2.20E-08	1.72E-07	5.89E-07	1.48E-07	8.23E-07	1.04E-06
092910Y	1.14E-06	1.65E-07	6.02E-07	1.32E-08	1.03E-07	3.54E-07	8.91E-08	4.94E-07	6.26E-07
092918D	1.14E-06	1.65E-07	6.02E-07	1.32E-08	1.03E-07	3.54E-07	8.91E-08	4.94E-07	6.26E-07
092919K	3.80E-07	5.48E-08	2.00E-07	4.38E-09	3.44E-08	1.18E-07	2.97E-08	1.64E-07	2.08E-07
092921L	3.80E-07	5.48E-08	2.00E-07	4.38E-09	3.44E-08	1.18E-07	2.97E-08	1.64E-07	2.08E-07
092922T	7.61E-07	1.10E-07	4.01E-07	8.78E-09	6.88E-08	2.36E-07	5.94E-08	3.29E-07	4.17E-07
098944N	4.96E-06	7.15E-07	2.62E-06	5.73E-08	4.49E-07	1.54E-06	3.87E-07	2.15E-06	2.72E-06
092671B	2.28E-06	3.29E-07	1.20E-06	2.64E-08	2.07E-07	7.07E-07	1.78E-07	9.88E-07	1.25E-06
092669A	1.52E-06	2.20E-07	8.03E-07	1.76E-08	1.38E-07	4.72E-07	1.19E-07	6.59E-07	8.35E-07
092668T	9.21E-06	1.33E-06	4.85E-06	1.06E-07	8.33E-07	2.85E-06	7.19E-07	3.98E-06	5.05E-06
092665X	2.76E-05	3.98E-06	1.46E-05	3.19E-07	2.50E-06	8.56E-06	2.16E-06	1.20E-05	1.51E-05
092664R	1.84E-04	2.65E-05	9.69E-05	2.12E-06	1.66E-05	5.70E-05	1.44E-05	7.96E-05	1.01E-04
092662C	5.21E-05	7.51E-06	2.75E-05	6.01E-07	4.71E-06	1.61E-05	4.07E-06	2.25E-05	2.86E-05
092660N	9.49E-05	1.37E-05	5.00E-05	1.09E-06	8.58E-06	2.94E-05	7.40E-06	4.10E-05	5.20E-05
394089U	2.03E-05	2.93E-06	1.07E-05	2.34E-07	1.84E-06	6.29E-06	1.58E-06	8.79E-06	1.11E-05
060606G	1.21E-05	1.75E-06	6.40E-06	1.40E-07	1.10E-06	3.76E-06	9.47E-07	5.25E-06	6.65E-06
Total Emissions	4.69E-04	6.75E-05	2.47E-04	5.41E-06	4.24E-05	1.45E-04	3.66E-05	2.03E-04	2.57E-04

Table V.2-39. Grade Crossing Emissions, Segment 16 – Northern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
092880J	2.58E-01	2.19E-05	6.85E-06	2.61E-01
092892D	6.22E-03	5.27E-07	1.65E-07	6.28E-03
092893K	8.11E-02	6.87E-06	2.15E-06	8.19E-02
092894S	7.49E-02	6.35E-06	1.99E-06	7.57E-02
092904V	3.42E-01	2.89E-05	9.06E-06	3.45E-01
092906J	1.19E-01	1.01E-05	3.15E-06	1.20E-01
092908X	3.11E-02	2.63E-06	8.23E-07	3.14E-02
092910Y	1.87E-02	1.58E-06	4.94E-07	1.88E-02
092918D	1.87E-02	1.58E-06	4.94E-07	1.88E-02
092919K	6.21E-03	5.26E-07	1.64E-07	6.27E-03
092921L	6.21E-03	5.26E-07	1.64E-07	6.27E-03
092922T	1.24E-02	1.05E-06	3.29E-07	1.25E-02
098944N	8.11E-02	6.87E-06	2.15E-06	8.19E-02
092671B	3.73E-02	3.16E-06	9.88E-07	3.77E-02
092669A	2.49E-02	2.11E-06	6.60E-07	2.51E-02
092668T	1.50E-01	1.27E-05	3.99E-06	1.52E-01
092665X	4.51E-01	3.82E-05	1.20E-05	4.56E-01
092664R	3.00E+00	2.54E-04	7.96E-05	3.03E+00
092662C	8.51E-01	7.21E-05	2.26E-05	8.60E-01
092660N	1.55E+00	1.31E-04	4.11E-05	1.56E+00
394089U	3.32E-01	2.81E-05	8.79E-06	3.35E-01
060606G	1.98E-01	1.68E-05	5.25E-06	2.00E-01
Total Emissions	7.65E+00	6.48E-04	2.03E-04	7.73E+00

Table V.2-40. Grade Crossing Emissions, Segment 16 – Southern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
092880J	3.77E-03	5.85E-04	1.90E-07	1.64E-05	1.55E-05	3.23E-06	1.94E-04
092892D	9.08E-05	1.41E-05	4.57E-09	3.94E-07	3.74E-07	7.77E-08	4.66E-06
092893K	1.19E-03	1.84E-04	5.96E-08	5.14E-06	4.88E-06	1.01E-06	6.08E-05
092894S	1.09E-03	1.70E-04	5.50E-08	4.75E-06	4.51E-06	9.37E-07	5.62E-05
092904V	4.99E-03	7.74E-04	2.51E-07	2.17E-05	2.06E-05	4.27E-06	2.56E-04
092906J	1.74E-03	2.70E-04	8.74E-08	7.54E-06	7.16E-06	1.49E-06	8.92E-05
092908X	4.54E-04	7.04E-05	2.28E-08	1.97E-06	1.87E-06	3.89E-07	2.33E-05
092910Y	2.73E-04	4.23E-05	1.37E-08	1.18E-06	1.12E-06	2.33E-07	1.40E-05
092918D	2.73E-04	4.23E-05	1.37E-08	1.18E-06	1.12E-06	2.33E-07	1.40E-05
092919K	9.07E-05	1.41E-05	4.56E-09	3.93E-07	3.74E-07	7.76E-08	4.65E-06
092921L	9.07E-05	1.41E-05	4.56E-09	3.93E-07	3.74E-07	7.76E-08	4.65E-06
092922T	1.82E-04	2.82E-05	9.13E-09	7.87E-07	7.48E-07	1.55E-07	9.32E-06
098944N	1.19E-03	1.84E-04	5.96E-08	5.14E-06	4.88E-06	1.01E-06	6.08E-05
092671B	5.45E-04	8.46E-05	2.74E-08	2.36E-06	2.25E-06	4.67E-07	2.80E-05
092669A	3.64E-04	5.64E-05	1.83E-08	1.58E-06	1.50E-06	3.11E-07	1.87E-05
092668T	2.20E-03	3.41E-04	1.10E-07	9.53E-06	9.06E-06	1.88E-06	1.13E-04
092665X	6.60E-03	1.02E-03	3.31E-07	2.86E-05	2.72E-05	5.64E-06	3.38E-04
092664R	4.39E-02	6.81E-03	2.21E-06	1.90E-04	1.81E-04	3.76E-05	2.25E-03
092662C	1.24E-02	1.93E-03	6.25E-07	5.39E-05	5.12E-05	1.06E-05	6.38E-04
092660N	2.26E-02	3.51E-03	1.14E-06	9.82E-05	9.32E-05	1.94E-05	1.16E-03
394089U	1.28E-03	1.99E-04	6.46E-08	5.57E-06	5.29E-06	1.10E-06	6.59E-05
060606G	4.56E-04	7.07E-05	2.29E-08	1.98E-06	1.88E-06	3.90E-07	2.34E-05
Total Emissions	1.06E-01	1.64E-02	5.32E-06	4.59E-04	4.36E-04	9.06E-05	5.43E-03

Table V.2-41. Grade Crossing Emissions, Segment 16 – Southern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
092880J	1.34E-05	1.93E-06	7.07E-06	1.55E-07	1.21E-06	4.16E-06	1.05E-06	5.81E-06	7.36E-06
092892D	3.23E-07	4.66E-08	1.70E-07	3.73E-09	2.92E-08	1.00E-07	2.52E-08	1.40E-07	1.77E-07
092893K	4.22E-06	6.07E-07	2.22E-06	4.86E-08	3.81E-07	1.31E-06	3.29E-07	1.82E-06	2.31E-06
092894S	3.89E-06	5.61E-07	2.05E-06	4.49E-08	3.52E-07	1.21E-06	3.04E-07	1.68E-06	2.13E-06
092904V	1.78E-05	2.56E-06	9.35E-06	2.05E-07	1.61E-06	5.50E-06	1.39E-06	7.68E-06	9.73E-06
092906J	6.19E-06	8.91E-07	3.26E-06	7.14E-08	5.59E-07	1.92E-06	4.83E-07	2.68E-06	3.39E-06
092908X	1.62E-06	2.33E-07	8.51E-07	1.86E-08	1.46E-07	5.00E-07	1.26E-07	6.99E-07	8.85E-07
092910Y	9.70E-07	1.40E-07	5.11E-07	1.12E-08	8.77E-08	3.00E-07	7.57E-08	4.19E-07	5.31E-07
092918D	9.70E-07	1.40E-07	5.11E-07	1.12E-08	8.77E-08	3.00E-07	7.57E-08	4.19E-07	5.31E-07
092919K	3.23E-07	4.65E-08	1.70E-07	3.72E-09	2.92E-08	9.99E-08	2.52E-08	1.40E-07	1.77E-07
092921L	3.23E-07	4.65E-08	1.70E-07	3.72E-09	2.92E-08	9.99E-08	2.52E-08	1.40E-07	1.77E-07
092922T	6.46E-07	9.31E-08	3.40E-07	7.45E-09	5.84E-08	2.00E-07	5.04E-08	2.79E-07	3.54E-07
098944N	4.22E-06	6.07E-07	2.22E-06	4.86E-08	3.81E-07	1.31E-06	3.29E-07	1.82E-06	2.31E-06
092671B	1.94E-06	2.79E-07	1.02E-06	2.24E-08	1.75E-07	6.01E-07	1.51E-07	8.39E-07	1.06E-06
092669A	1.29E-06	1.86E-07	6.82E-07	1.49E-08	1.17E-07	4.01E-07	1.01E-07	5.60E-07	7.09E-07
092668T	7.82E-06	1.13E-06	4.12E-06	9.02E-08	7.07E-07	2.42E-06	6.10E-07	3.38E-06	4.29E-06
092665X	2.35E-05	3.38E-06	1.24E-05	2.71E-07	2.12E-06	7.27E-06	1.83E-06	1.01E-05	1.29E-05
092664R	1.56E-04	2.25E-05	8.23E-05	1.80E-06	1.41E-05	4.84E-05	1.22E-05	6.76E-05	8.56E-05
092662C	4.42E-05	6.37E-06	2.33E-05	5.10E-07	4.00E-06	1.37E-05	3.45E-06	1.91E-05	2.42E-05
092660N	8.05E-05	1.16E-05	4.24E-05	9.29E-07	7.28E-06	2.49E-05	6.28E-06	3.48E-05	4.41E-05
394089U	4.57E-06	6.58E-07	2.41E-06	5.27E-08	4.13E-07	1.42E-06	3.57E-07	1.98E-06	2.50E-06
060606G	1.62E-06	2.34E-07	8.54E-07	1.87E-08	1.47E-07	5.02E-07	1.26E-07	7.01E-07	8.88E-07
Total Emissions	3.77E-04	5.43E-05	1.98E-04	4.34E-06	3.41E-05	1.17E-04	2.94E-05	1.63E-04	2.06E-04

Table V.2-42. Grade Crossing Emissions, Segment 16 – Southern from Miles City, MT to Glendive, MT, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
092880J	2.19E-01	1.86E-05	5.81E-06	2.21E-01
092892D	5.28E-03	4.47E-07	1.40E-07	5.33E-03
092893K	6.88E-02	5.83E-06	1.82E-06	6.95E-02
092894S	6.36E-02	5.39E-06	1.69E-06	6.42E-02
092904V	2.90E-01	2.46E-05	7.68E-06	2.93E-01
092906J	1.01E-01	8.55E-06	2.68E-06	1.02E-01
092908X	2.64E-02	2.23E-06	6.99E-07	2.66E-02
092910Y	1.58E-02	1.34E-06	4.20E-07	1.60E-02
092918D	1.58E-02	1.34E-06	4.20E-07	1.60E-02
092919K	5.27E-03	4.46E-07	1.40E-07	5.32E-03
092921L	5.27E-03	4.46E-07	1.40E-07	5.32E-03
092922T	1.05E-02	8.93E-07	2.80E-07	1.07E-02
098944N	6.88E-02	5.83E-06	1.82E-06	6.95E-02
092671B	3.17E-02	2.68E-06	8.39E-07	3.20E-02
092669A	2.11E-02	1.79E-06	5.60E-07	2.13E-02
092668T	1.28E-01	1.08E-05	3.38E-06	1.29E-01
092665X	3.83E-01	3.24E-05	1.02E-05	3.87E-01
092664R	2.55E+00	2.16E-04	6.76E-05	2.58E+00
092662C	7.22E-01	6.12E-05	1.91E-05	7.30E-01
092660N	1.31E+00	1.11E-04	3.48E-05	1.33E+00
394089U	7.46E-02	6.32E-06	1.98E-06	7.54E-02
060606G	2.65E-02	2.24E-06	7.02E-07	2.67E-02
Total Emissions	6.15E+00	5.21E-04	1.63E-04	6.21E+00

Table V.2-43. Grade Crossing Emissions, Segment 17 – Northern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
060412B	1.02E-01	1.59E-02	5.15E-06	4.44E-04	4.22E-04	8.76E-05	5.25E-03
060413H	7.64E-02	1.18E-02	3.84E-06	3.31E-04	3.15E-04	6.53E-05	3.92E-03
060414P	1.15E-02	1.79E-03	5.79E-07	4.99E-05	4.74E-05	9.86E-06	5.91E-04
060417K	2.01E-03	3.11E-04	1.01E-07	8.69E-06	8.26E-06	1.72E-06	1.03E-04
060418S	1.64E-03	2.54E-04	8.23E-08	7.10E-06	6.74E-06	1.40E-06	8.40E-05
060419Y	1.59E-03	2.46E-04	7.98E-08	6.88E-06	6.54E-06	1.36E-06	8.14E-05
060420T	3.08E-03	4.77E-04	1.55E-07	1.33E-05	1.27E-05	2.63E-06	1.58E-04
060424V	2.33E-04	3.61E-05	1.17E-08	1.01E-06	9.59E-07	1.99E-07	1.19E-05
060425C	1.49E-02	2.30E-03	7.47E-07	6.44E-05	6.12E-05	1.27E-05	7.62E-04
060426J	3.50E-04	5.42E-05	1.76E-08	1.52E-06	1.44E-06	2.99E-07	1.79E-05
060428X	1.16E-04	1.80E-05	5.84E-09	5.04E-07	4.79E-07	9.95E-08	5.97E-06
060430Y	5.83E-04	9.04E-05	2.93E-08	2.53E-06	2.40E-06	4.99E-07	2.99E-05
060431F	5.82E-04	9.03E-05	2.93E-08	2.52E-06	2.40E-06	4.98E-07	2.99E-05
060433U	2.27E-01	3.51E-02	1.14E-05	9.82E-04	9.33E-04	1.94E-04	1.16E-02
060439K	8.18E-04	1.27E-04	4.11E-08	3.55E-06	3.37E-06	7.00E-07	4.20E-05
060441L	1.06E-01	1.64E-02	5.33E-06	4.59E-04	4.36E-04	9.07E-05	5.44E-03
060442T	2.75E-02	4.26E-03	1.38E-06	1.19E-04	1.13E-04	2.35E-05	1.41E-03
060443A	1.43E-02	2.22E-03	7.20E-07	6.21E-05	5.90E-05	1.23E-05	7.35E-04
060445N	4.66E-04	7.23E-05	2.34E-08	2.02E-06	1.92E-06	3.99E-07	2.39E-05
060449R	3.50E-04	5.42E-05	1.76E-08	1.52E-06	1.44E-06	2.99E-07	1.79E-05
060451S	6.99E-04	1.08E-04	3.51E-08	3.03E-06	2.88E-06	5.98E-07	3.59E-05
060452Y	1.52E-03	2.35E-04	7.63E-08	6.58E-06	6.25E-06	1.30E-06	7.78E-05
060456B	3.50E-04	5.42E-05	1.76E-08	1.52E-06	1.44E-06	2.99E-07	1.79E-05
060457H	4.66E-04	7.23E-05	2.34E-08	2.02E-06	1.92E-06	3.99E-07	2.39E-05
060458P	2.33E-04	3.61E-05	1.17E-08	1.01E-06	9.59E-07	1.99E-07	1.19E-05
060459W	2.33E-04	3.61E-05	1.17E-08	1.01E-06	9.59E-07	1.99E-07	1.19E-05
060460R	9.25E-03	1.43E-03	4.65E-07	4.01E-05	3.81E-05	7.91E-06	4.74E-04
060461X	1.10E-02	1.71E-03	5.53E-07	4.78E-05	4.54E-05	9.42E-06	5.65E-04
060549V	2.45E-02	3.79E-03	1.23E-06	1.06E-04	1.01E-04	2.09E-05	1.25E-03
086287R	2.43E-02	3.77E-03	1.22E-06	1.05E-04	1.00E-04	2.08E-05	1.25E-03
087496C	2.69E-04	4.17E-05	1.35E-08	1.17E-06	1.11E-06	2.30E-07	1.38E-05
087497J	8.27E-03	1.28E-03	4.15E-07	3.58E-05	3.40E-05	7.07E-06	4.24E-04
087499X	9.93E-03	1.54E-03	4.99E-07	4.31E-05	4.09E-05	8.50E-06	5.09E-04
087500P	3.05E-02	4.74E-03	1.53E-06	1.32E-04	1.26E-04	2.61E-05	1.57E-03
087501W	3.05E-02	4.74E-03	1.53E-06	1.32E-04	1.26E-04	2.61E-05	1.57E-03
087503K	6.30E-04	9.77E-05	3.17E-08	2.73E-06	2.59E-06	5.39E-07	3.23E-05
087505Y	3.59E-04	5.57E-05	1.80E-08	1.56E-06	1.48E-06	3.07E-07	1.84E-05
087508U	1.79E-04	2.78E-05	9.00E-09	7.77E-07	7.38E-07	1.53E-07	9.19E-06
087510V	5.38E-04	8.34E-05	2.70E-08	2.33E-06	2.22E-06	4.60E-07	2.76E-05
087514X	4.49E-04	6.96E-05	2.26E-08	1.95E-06	1.85E-06	3.84E-07	2.30E-05
087515E	4.49E-04	6.96E-05	2.26E-08	1.95E-06	1.85E-06	3.84E-07	2.30E-05
087518A	2.92E-02	4.53E-03	1.47E-06	1.27E-04	1.20E-04	2.50E-05	1.50E-03
087523W	7.32E-03	1.13E-03	3.68E-07	3.17E-05	3.01E-05	6.26E-06	3.75E-04
087524D	4.33E-02	6.71E-03	2.17E-06	1.88E-04	1.78E-04	3.70E-05	2.22E-03

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
087525K	5.39E-04	8.36E-05	2.71E-08	2.34E-06	2.22E-06	4.62E-07	2.77E-05
087526S	2.69E-04	4.17E-05	1.35E-08	1.17E-06	1.11E-06	2.30E-07	1.38E-05
087527Y	1.79E-04	2.78E-05	9.00E-09	7.77E-07	7.38E-07	1.53E-07	9.19E-06
087529M	3.59E-04	5.57E-05	1.80E-08	1.56E-06	1.48E-06	3.07E-07	1.84E-05
087531N	8.10E-04	1.26E-04	4.07E-08	3.51E-06	3.34E-06	6.93E-07	4.15E-05
087533C	8.95E-05	1.39E-05	4.50E-09	3.88E-07	3.69E-07	7.66E-08	4.59E-06
087534J	5.38E-04	8.34E-05	2.70E-08	2.33E-06	2.22E-06	4.60E-07	2.76E-05
087535R	1.79E-04	2.78E-05	9.00E-09	7.77E-07	7.38E-07	1.53E-07	9.19E-06
087537E	8.95E-05	1.39E-05	4.50E-09	3.88E-07	3.69E-07	7.66E-08	4.59E-06
087540M	3.24E-03	5.02E-04	1.63E-07	1.40E-05	1.33E-05	2.77E-06	1.66E-04
087541U	4.66E-02	7.23E-03	2.34E-06	2.02E-04	1.92E-04	3.99E-05	2.39E-03
087542B	4.66E-02	7.23E-03	2.34E-06	2.02E-04	1.92E-04	3.99E-05	2.39E-03
087544P	6.86E-04	1.06E-04	3.45E-08	2.97E-06	2.82E-06	5.87E-07	3.52E-05
087545W	1.80E-03	2.78E-04	9.03E-08	7.79E-06	7.40E-06	1.54E-06	9.21E-05
087547K	3.17E-03	4.91E-04	1.59E-07	1.37E-05	1.30E-05	2.71E-06	1.62E-04
087550T	2.15E-03	3.34E-04	1.08E-07	9.34E-06	8.87E-06	1.84E-06	1.11E-04
087551A	2.15E-03	3.34E-04	1.08E-07	9.34E-06	8.87E-06	1.84E-06	1.11E-04
087554V	2.31E-03	3.57E-04	1.16E-07	9.99E-06	9.49E-06	1.97E-06	1.18E-04
087563U	7.49E-03	1.16E-03	3.76E-07	3.25E-05	3.08E-05	6.41E-06	3.84E-04
087565H	1.82E-03	2.82E-04	9.15E-08	7.89E-06	7.50E-06	1.56E-06	9.34E-05
087569K	2.64E-03	4.09E-04	1.32E-07	1.14E-05	1.09E-05	2.26E-06	1.35E-04
087573A	8.28E-03	1.28E-03	4.16E-07	3.59E-05	3.41E-05	7.09E-06	4.25E-04
087574G	5.39E-04	8.35E-05	2.71E-08	2.34E-06	2.22E-06	4.61E-07	2.76E-05
087576V	1.79E-04	2.78E-05	9.00E-09	7.77E-07	7.38E-07	1.53E-07	9.19E-06
087580K	5.57E-03	8.64E-04	2.80E-07	2.42E-05	2.29E-05	4.77E-06	2.86E-04
087584M	2.69E-04	4.17E-05	1.35E-08	1.17E-06	1.11E-06	2.30E-07	1.38E-05
087589W	7.51E-03	1.16E-03	3.77E-07	3.26E-05	3.09E-05	6.43E-06	3.85E-04
087590R	8.95E-05	1.39E-05	4.50E-09	3.88E-07	3.69E-07	7.66E-08	4.59E-06
087591X	6.30E-04	9.77E-05	3.17E-08	2.73E-06	2.59E-06	5.39E-07	3.23E-05
087690V	3.72E-03	5.77E-04	1.87E-07	1.61E-05	1.53E-05	3.19E-06	1.91E-04
087691C	1.20E-02	1.86E-03	6.03E-07	5.21E-05	4.95E-05	1.03E-05	6.16E-04
087694X	7.28E-03	1.13E-03	3.66E-07	3.16E-05	3.00E-05	6.23E-06	3.73E-04
087695E	2.22E-02	3.44E-03	1.11E-06	9.62E-05	9.14E-05	1.90E-05	1.14E-03
087909U	4.11E-04	6.37E-05	2.06E-08	1.78E-06	1.69E-06	3.51E-07	2.11E-05
087910N	8.24E-04	1.28E-04	4.14E-08	3.57E-06	3.39E-06	7.05E-07	4.23E-05
087912C	2.74E-04	4.24E-05	1.38E-08	1.19E-06	1.13E-06	2.34E-07	1.40E-05
087919A	1.80E-03	2.78E-04	9.03E-08	7.79E-06	7.40E-06	1.54E-06	9.21E-05
087920U	1.34E-02	2.08E-03	6.74E-07	5.81E-05	5.52E-05	1.15E-05	6.88E-04
087923P	1.62E-02	2.51E-03	8.14E-07	7.02E-05	6.67E-05	1.39E-05	8.31E-04
087925D	6.10E-03	9.46E-04	3.07E-07	2.65E-05	2.51E-05	5.22E-06	3.13E-04
087926K	4.11E-04	6.37E-05	2.06E-08	1.78E-06	1.69E-06	3.51E-07	2.11E-05
087928Y	8.24E-04	1.28E-04	4.14E-08	3.57E-06	3.39E-06	7.05E-07	4.23E-05
087929F	4.11E-04	6.37E-05	2.06E-08	1.78E-06	1.69E-06	3.51E-07	2.11E-05
092843G	3.39E-02	5.26E-03	1.71E-06	1.47E-04	1.40E-04	2.90E-05	1.74E-03
092844N	3.49E-02	5.42E-03	1.76E-06	1.51E-04	1.44E-04	2.99E-05	1.79E-03
092845V	1.17E-03	1.81E-04	5.86E-08	5.06E-06	4.80E-06	9.98E-07	5.98E-05

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
092846C	4.66E-04	7.23E-05	2.34E-08	2.02E-06	1.92E-06	3.99E-07	2.39E-05
098701L	2.58E-03	4.00E-04	1.30E-07	1.12E-05	1.06E-05	2.21E-06	1.32E-04
098708J	4.66E-04	7.22E-05	2.34E-08	2.02E-06	1.92E-06	3.98E-07	2.39E-05
098743X	4.13E-03	6.40E-04	2.08E-07	1.79E-05	1.70E-05	3.53E-06	2.12E-04
092869J	1.71E-02	2.65E-03	8.58E-07	7.40E-05	7.03E-05	1.46E-05	8.76E-04
092870D	2.72E-02	4.21E-03	1.36E-06	1.18E-04	1.12E-04	2.32E-05	1.39E-03
092862L	2.33E-04	3.61E-05	1.17E-08	1.01E-06	9.58E-07	1.99E-07	1.19E-05
092860X	3.49E-04	5.41E-05	1.75E-08	1.51E-06	1.44E-06	2.99E-07	1.79E-05
092859D	1.16E-04	1.80E-05	5.84E-09	5.04E-07	4.79E-07	9.95E-08	5.96E-06
092854U	1.17E-03	1.81E-04	5.87E-08	5.06E-06	4.81E-06	9.99E-07	5.99E-05
092857P	2.11E-03	3.27E-04	1.06E-07	9.14E-06	8.68E-06	1.80E-06	1.08E-04
092853M	2.33E-04	3.61E-05	1.17E-08	1.01E-06	9.59E-07	1.99E-07	1.19E-05
092852F	1.05E-03	1.63E-04	5.28E-08	4.55E-06	4.32E-06	8.98E-07	5.39E-05
092848R	6.99E-04	1.08E-04	3.51E-08	3.03E-06	2.88E-06	5.98E-07	3.58E-05
060438D	1.37E-04	2.12E-05	6.87E-09	5.93E-07	5.63E-07	1.17E-07	7.01E-06
060551W	5.47E-04	8.48E-05	2.75E-08	2.37E-06	2.25E-06	4.68E-07	2.81E-05
091672E	6.58E-04	1.02E-04	3.31E-08	2.85E-06	2.71E-06	5.63E-07	3.37E-05
091662Y	5.95E-03	9.22E-04	2.99E-07	2.58E-05	2.45E-05	5.09E-06	3.05E-04
Total Emissions	1.19E+00	1.85E-01	6.00E-05	5.18E-03	4.92E-03	1.02E-03	6.12E-02

Table V.2-44. Grade Crossing Emissions, Segment 17 – Northern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
060412B	3.64E-04	5.25E-05	1.92E-04	4.20E-06	3.29E-05	1.13E-04	2.84E-05	1.58E-04	2.00E-04
060413H	2.72E-04	3.91E-05	1.43E-04	3.13E-06	2.46E-05	8.41E-05	2.12E-05	1.17E-04	1.49E-04
060414P	4.10E-05	5.90E-06	2.16E-05	4.73E-07	3.70E-06	1.27E-05	3.20E-06	1.77E-05	2.25E-05
060417K	7.13E-06	1.03E-06	3.76E-06	8.23E-08	6.45E-07	2.21E-06	5.56E-07	3.08E-06	3.91E-06
060418S	5.82E-06	8.39E-07	3.07E-06	6.72E-08	5.26E-07	1.80E-06	4.54E-07	2.52E-06	3.19E-06
060419Y	5.65E-06	8.13E-07	2.97E-06	6.51E-08	5.11E-07	1.75E-06	4.41E-07	2.44E-06	3.09E-06
060420T	1.09E-05	1.58E-06	5.76E-06	1.26E-07	9.89E-07	3.39E-06	8.53E-07	4.73E-06	5.99E-06
060424V	8.28E-07	1.19E-07	4.36E-07	9.55E-09	7.49E-08	2.56E-07	6.46E-08	3.58E-07	4.54E-07
060425C	5.28E-05	7.61E-06	2.78E-05	6.10E-07	4.78E-06	1.64E-05	4.12E-06	2.29E-05	2.90E-05
060426J	1.24E-06	1.79E-07	6.55E-07	1.43E-08	1.12E-07	3.85E-07	9.70E-08	5.38E-07	6.81E-07
060428X	4.14E-07	5.96E-08	2.18E-07	4.77E-09	3.74E-08	1.28E-07	3.23E-08	1.79E-07	2.27E-07
060430Y	2.07E-06	2.99E-07	1.09E-06	2.39E-08	1.87E-07	6.42E-07	1.62E-07	8.97E-07	1.14E-06
060431F	2.07E-06	2.98E-07	1.09E-06	2.39E-08	1.87E-07	6.41E-07	1.62E-07	8.96E-07	1.13E-06
060433U	8.06E-04	1.16E-04	4.24E-04	9.30E-06	7.29E-05	2.50E-04	6.29E-05	3.48E-04	4.42E-04
060439K	2.91E-06	4.19E-07	1.53E-06	3.36E-08	2.63E-07	9.01E-07	2.27E-07	1.26E-06	1.60E-06
060441L	3.77E-04	5.43E-05	1.99E-04	4.35E-06	3.41E-05	1.17E-04	2.94E-05	1.63E-04	2.07E-04
060442T	9.78E-05	1.41E-05	5.15E-05	1.13E-06	8.85E-06	3.03E-05	7.63E-06	4.23E-05	5.36E-05
060443A	5.10E-05	7.34E-06	2.68E-05	5.88E-07	4.61E-06	1.58E-05	3.98E-06	2.20E-05	2.79E-05
060445N	1.66E-06	2.39E-07	8.73E-07	1.91E-08	1.50E-07	5.13E-07	1.29E-07	7.17E-07	9.08E-07
060449R	1.24E-06	1.79E-07	6.55E-07	1.43E-08	1.12E-07	3.85E-07	9.70E-08	5.38E-07	6.81E-07
060451S	2.49E-06	3.58E-07	1.31E-06	2.87E-08	2.25E-07	7.70E-07	1.94E-07	1.08E-06	1.36E-06
060452Y	5.40E-06	7.77E-07	2.84E-06	6.23E-08	4.88E-07	1.67E-06	4.21E-07	2.33E-06	2.96E-06
060456B	1.24E-06	1.79E-07	6.55E-07	1.43E-08	1.12E-07	3.85E-07	9.70E-08	5.38E-07	6.81E-07
060457H	1.66E-06	2.39E-07	8.73E-07	1.91E-08	1.50E-07	5.13E-07	1.29E-07	7.17E-07	9.08E-07
060458P	8.28E-07	1.19E-07	4.36E-07	9.55E-09	7.49E-08	2.56E-07	6.46E-08	3.58E-07	4.54E-07
060459W	8.28E-07	1.19E-07	4.36E-07	9.55E-09	7.49E-08	2.56E-07	6.46E-08	3.58E-07	4.54E-07
060460R	3.29E-05	4.74E-06	1.73E-05	3.79E-07	2.97E-06	1.02E-05	2.57E-06	1.42E-05	1.80E-05
060461X	3.92E-05	5.64E-06	2.06E-05	4.52E-07	3.54E-06	1.21E-05	3.06E-06	1.69E-05	2.15E-05
060549V	8.70E-05	1.25E-05	4.58E-05	1.00E-06	7.86E-06	2.69E-05	6.79E-06	3.76E-05	4.77E-05
086287R	8.65E-05	1.25E-05	4.56E-05	9.98E-07	7.82E-06	2.68E-05	6.75E-06	3.74E-05	4.74E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087496C	9.57E-07	1.38E-07	5.04E-07	1.10E-08	8.65E-08	2.96E-07	7.46E-08	4.14E-07	5.24E-07
087497J	2.94E-05	4.24E-06	1.55E-05	3.39E-07	2.66E-06	9.11E-06	2.29E-06	1.27E-05	1.61E-05
087499X	3.53E-05	5.09E-06	1.86E-05	4.08E-07	3.19E-06	1.09E-05	2.76E-06	1.53E-05	1.94E-05
087500P	1.09E-04	1.57E-05	5.72E-05	1.25E-06	9.82E-06	3.36E-05	8.48E-06	4.70E-05	5.95E-05
087501W	1.09E-04	1.57E-05	5.72E-05	1.25E-06	9.82E-06	3.36E-05	8.48E-06	4.70E-05	5.95E-05
087503K	2.24E-06	3.23E-07	1.18E-06	2.58E-08	2.03E-07	6.94E-07	1.75E-07	9.69E-07	1.23E-06
087505Y	1.28E-06	1.84E-07	6.73E-07	1.47E-08	1.15E-07	3.95E-07	9.96E-08	5.52E-07	7.00E-07
087508U	6.37E-07	9.18E-08	3.36E-07	7.35E-09	5.76E-08	1.97E-07	4.97E-08	2.76E-07	3.49E-07
087510V	1.91E-06	2.76E-07	1.01E-06	2.21E-08	1.73E-07	5.93E-07	1.49E-07	8.28E-07	1.05E-06
087514X	1.60E-06	2.30E-07	8.41E-07	1.84E-08	1.44E-07	4.95E-07	1.25E-07	6.91E-07	8.75E-07
087515E	1.60E-06	2.30E-07	8.41E-07	1.84E-08	1.44E-07	4.95E-07	1.25E-07	6.91E-07	8.75E-07
087518A	1.04E-04	1.50E-05	5.48E-05	1.20E-06	9.40E-06	3.22E-05	8.11E-06	4.50E-05	5.70E-05
087523W	2.60E-05	3.75E-06	1.37E-05	3.00E-07	2.35E-06	8.06E-06	2.03E-06	1.13E-05	1.43E-05
087524D	1.54E-04	2.22E-05	8.10E-05	1.78E-06	1.39E-05	4.77E-05	1.20E-05	6.65E-05	8.43E-05
087525K	1.92E-06	2.76E-07	1.01E-06	2.21E-08	1.73E-07	5.94E-07	1.50E-07	8.30E-07	1.05E-06
087526S	9.57E-07	1.38E-07	5.04E-07	1.10E-08	8.65E-08	2.96E-07	7.46E-08	4.14E-07	5.24E-07
087527Y	6.37E-07	9.18E-08	3.36E-07	7.35E-09	5.76E-08	1.97E-07	4.97E-08	2.76E-07	3.49E-07
087529M	1.28E-06	1.84E-07	6.73E-07	1.47E-08	1.15E-07	3.95E-07	9.96E-08	5.52E-07	7.00E-07
087531N	2.88E-06	4.15E-07	1.52E-06	3.32E-08	2.60E-07	8.92E-07	2.25E-07	1.25E-06	1.58E-06
087533C	3.18E-07	4.59E-08	1.68E-07	3.67E-09	2.88E-08	9.86E-08	2.48E-08	1.38E-07	1.74E-07
087534J	1.91E-06	2.76E-07	1.01E-06	2.21E-08	1.73E-07	5.93E-07	1.49E-07	8.28E-07	1.05E-06
087535R	6.37E-07	9.18E-08	3.36E-07	7.35E-09	5.76E-08	1.97E-07	4.97E-08	2.76E-07	3.49E-07
087537E	3.18E-07	4.59E-08	1.68E-07	3.67E-09	2.88E-08	9.86E-08	2.48E-08	1.38E-07	1.74E-07
087540M	1.15E-05	1.66E-06	6.07E-06	1.33E-07	1.04E-06	3.57E-06	8.99E-07	4.98E-06	6.31E-06
087541U	1.66E-04	2.39E-05	8.74E-05	1.91E-06	1.50E-05	5.14E-05	1.29E-05	7.17E-05	9.09E-05
087542B	1.66E-04	2.39E-05	8.74E-05	1.91E-06	1.50E-05	5.14E-05	1.29E-05	7.17E-05	9.09E-05
087544P	2.44E-06	3.51E-07	1.28E-06	2.81E-08	2.21E-07	7.55E-07	1.90E-07	1.06E-06	1.34E-06
087545W	6.39E-06	9.20E-07	3.36E-06	7.37E-08	5.78E-07	1.98E-06	4.98E-07	2.76E-06	3.50E-06
087547K	1.13E-05	1.62E-06	5.93E-06	1.30E-07	1.02E-06	3.49E-06	8.79E-07	4.87E-06	6.17E-06
087550T	7.66E-06	1.10E-06	4.04E-06	8.84E-08	6.93E-07	2.37E-06	5.98E-07	3.31E-06	4.20E-06
087551A	7.66E-06	1.10E-06	4.04E-06	8.84E-08	6.93E-07	2.37E-06	5.98E-07	3.31E-06	4.20E-06
087554V	8.20E-06	1.18E-06	4.32E-06	9.46E-08	7.41E-07	2.54E-06	6.40E-07	3.55E-06	4.49E-06
087563U	2.66E-05	3.84E-06	1.40E-05	3.07E-07	2.41E-06	8.25E-06	2.08E-06	1.15E-05	1.46E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087565H	6.47E-06	9.33E-07	3.41E-06	7.47E-08	5.85E-07	2.00E-06	5.05E-07	2.80E-06	3.55E-06
087569K	9.38E-06	1.35E-06	4.94E-06	1.08E-07	8.48E-07	2.90E-06	7.32E-07	4.06E-06	5.14E-06
087573A	2.95E-05	4.24E-06	1.55E-05	3.40E-07	2.66E-06	9.12E-06	2.30E-06	1.27E-05	1.61E-05
087574G	1.92E-06	2.76E-07	1.01E-06	2.21E-08	1.73E-07	5.93E-07	1.50E-07	8.29E-07	1.05E-06
087576V	6.37E-07	9.18E-08	3.36E-07	7.35E-09	5.76E-08	1.97E-07	4.97E-08	2.76E-07	3.49E-07
087580K	1.98E-05	2.85E-06	1.04E-05	2.29E-07	1.79E-06	6.14E-06	1.55E-06	8.57E-06	1.09E-05
087584M	9.57E-07	1.38E-07	5.04E-07	1.10E-08	8.65E-08	2.96E-07	7.46E-08	4.14E-07	5.24E-07
087589W	2.67E-05	3.85E-06	1.41E-05	3.08E-07	2.42E-06	8.27E-06	2.08E-06	1.16E-05	1.46E-05
087590R	3.18E-07	4.59E-08	1.68E-07	3.67E-09	2.88E-08	9.86E-08	2.48E-08	1.38E-07	1.74E-07
087591X	2.24E-06	3.23E-07	1.18E-06	2.58E-08	2.03E-07	6.94E-07	1.75E-07	9.69E-07	1.23E-06
087690V	1.32E-05	1.91E-06	6.98E-06	1.53E-07	1.20E-06	4.10E-06	1.03E-06	5.73E-06	7.26E-06
087691C	4.27E-05	6.15E-06	2.25E-05	4.93E-07	3.86E-06	1.32E-05	3.33E-06	1.85E-05	2.34E-05
087694X	2.59E-05	3.73E-06	1.36E-05	2.99E-07	2.34E-06	8.02E-06	2.02E-06	1.12E-05	1.42E-05
087695E	7.89E-05	1.14E-05	4.16E-05	9.10E-07	7.13E-06	2.44E-05	6.16E-06	3.41E-05	4.32E-05
087909U	1.46E-06	2.10E-07	7.70E-07	1.69E-08	1.32E-07	4.52E-07	1.14E-07	6.32E-07	8.01E-07
087910N	2.93E-06	4.22E-07	1.54E-06	3.38E-08	2.65E-07	9.07E-07	2.29E-07	1.27E-06	1.61E-06
087912C	9.73E-07	1.40E-07	5.13E-07	1.12E-08	8.80E-08	3.01E-07	7.59E-08	4.21E-07	5.33E-07
087919A	6.39E-06	9.20E-07	3.36E-06	7.37E-08	5.78E-07	1.98E-06	4.98E-07	2.76E-06	3.50E-06
087920U	4.77E-05	6.87E-06	2.51E-05	5.50E-07	4.31E-06	1.48E-05	3.72E-06	2.06E-05	2.61E-05
087923P	5.76E-05	8.30E-06	3.03E-05	6.65E-07	5.21E-06	1.78E-05	4.50E-06	2.49E-05	3.16E-05
087925D	2.17E-05	3.13E-06	1.14E-05	2.50E-07	1.96E-06	6.72E-06	1.69E-06	9.38E-06	1.19E-05
087926K	1.46E-06	2.10E-07	7.70E-07	1.69E-08	1.32E-07	4.52E-07	1.14E-07	6.32E-07	8.01E-07
087928Y	2.93E-06	4.22E-07	1.54E-06	3.38E-08	2.65E-07	9.07E-07	2.29E-07	1.27E-06	1.61E-06
087929F	1.46E-06	2.10E-07	7.70E-07	1.69E-08	1.32E-07	4.52E-07	1.14E-07	6.32E-07	8.01E-07
092843G	1.21E-04	1.74E-05	6.36E-05	1.39E-06	1.09E-05	3.74E-05	9.41E-06	5.22E-05	6.61E-05
092844N	1.24E-04	1.79E-05	6.55E-05	1.43E-06	1.12E-05	3.85E-05	9.70E-06	5.37E-05	6.81E-05
092845V	4.15E-06	5.97E-07	2.18E-06	4.78E-08	3.75E-07	1.28E-06	3.24E-07	1.79E-06	2.27E-06
092846C	1.66E-06	2.39E-07	8.74E-07	1.91E-08	1.50E-07	5.14E-07	1.29E-07	7.17E-07	9.09E-07
098701L	9.18E-06	1.32E-06	4.84E-06	1.06E-07	8.30E-07	2.84E-06	7.16E-07	3.97E-06	5.03E-06
098708J	1.66E-06	2.39E-07	8.72E-07	1.91E-08	1.50E-07	5.13E-07	1.29E-07	7.16E-07	9.08E-07
098743X	1.47E-05	2.12E-06	7.74E-06	1.69E-07	1.33E-06	4.55E-06	1.15E-06	6.35E-06	8.05E-06
092869J	6.07E-05	8.75E-06	3.20E-05	7.00E-07	5.49E-06	1.88E-05	4.74E-06	2.63E-05	3.33E-05
092870D	9.66E-05	1.39E-05	5.09E-05	1.11E-06	8.74E-06	2.99E-05	7.54E-06	4.18E-05	5.29E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
092862L	8.27E-07	1.19E-07	4.36E-07	9.54E-09	7.48E-08	2.56E-07	6.45E-08	3.58E-07	4.53E-07
092860X	1.24E-06	1.79E-07	6.54E-07	1.43E-08	1.12E-07	3.84E-07	9.69E-08	5.37E-07	6.80E-07
092859D	4.13E-07	5.96E-08	2.18E-07	4.77E-09	3.74E-08	1.28E-07	3.23E-08	1.79E-07	2.27E-07
092854U	4.15E-06	5.98E-07	2.19E-06	4.79E-08	3.75E-07	1.29E-06	3.24E-07	1.80E-06	2.27E-06
092857P	7.50E-06	1.08E-06	3.95E-06	8.65E-08	6.78E-07	2.32E-06	5.85E-07	3.24E-06	4.11E-06
092853M	8.28E-07	1.19E-07	4.36E-07	9.55E-09	7.49E-08	2.56E-07	6.46E-08	3.58E-07	4.54E-07
092852F	3.73E-06	5.38E-07	1.97E-06	4.31E-08	3.38E-07	1.16E-06	2.91E-07	1.62E-06	2.05E-06
092848R	2.48E-06	3.58E-07	1.31E-06	2.87E-08	2.25E-07	7.70E-07	1.94E-07	1.07E-06	1.36E-06
060438D	4.86E-07	7.00E-08	2.56E-07	5.61E-09	4.40E-08	1.51E-07	3.79E-08	2.10E-07	2.66E-07
060551W	1.95E-06	2.80E-07	1.03E-06	2.25E-08	1.76E-07	6.03E-07	1.52E-07	8.42E-07	1.07E-06
091672E	2.34E-06	3.37E-07	1.23E-06	2.70E-08	2.12E-07	7.25E-07	1.83E-07	1.01E-06	1.28E-06
091662Y	2.11E-05	3.05E-06	1.11E-05	2.44E-07	1.91E-06	6.55E-06	1.65E-06	9.15E-06	1.16E-05
Total Emissions	4.25E-03	6.12E-04	2.24E-03	4.90E-05	3.84E-04	1.31E-03	3.31E-04	1.84E-03	2.33E-03

Table V.2-45. Grade Crossing Emissions, Segment 17 – Northern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
060412B	5.95E+00	5.04E-04	1.58E-04	6.01E+00
060413H	4.44E+00	3.76E-04	1.18E-04	4.48E+00
060414P	6.69E-01	5.67E-05	1.77E-05	6.76E-01
060417K	1.16E-01	9.86E-06	3.09E-06	1.18E-01
060418S	9.51E-02	8.05E-06	2.52E-06	9.60E-02
060419Y	9.22E-02	7.81E-06	2.44E-06	9.31E-02
060420T	1.79E-01	1.51E-05	4.73E-06	1.80E-01
060424V	1.35E-02	1.15E-06	3.58E-07	1.37E-02
060425C	8.63E-01	7.31E-05	2.29E-05	8.71E-01
060426J	2.03E-02	1.72E-06	5.38E-07	2.05E-02
060428X	6.75E-03	5.72E-07	1.79E-07	6.82E-03
060430Y	3.39E-02	2.87E-06	8.97E-07	3.42E-02
060431F	3.38E-02	2.86E-06	8.96E-07	3.42E-02
060433U	1.32E+01	1.11E-03	3.49E-04	1.33E+01
060439K	4.75E-02	4.03E-06	1.26E-06	4.80E-02
060441L	6.15E+00	5.21E-04	1.63E-04	6.22E+00
060442T	1.60E+00	1.35E-04	4.23E-05	1.61E+00
060443A	8.32E-01	7.05E-05	2.21E-05	8.41E-01
060445N	2.71E-02	2.29E-06	7.17E-07	2.73E-02
060449R	2.03E-02	1.72E-06	5.38E-07	2.05E-02
060451S	4.06E-02	3.44E-06	1.08E-06	4.10E-02
060452Y	8.81E-02	7.46E-06	2.34E-06	8.90E-02
060456B	2.03E-02	1.72E-06	5.38E-07	2.05E-02
060457H	2.71E-02	2.29E-06	7.17E-07	2.73E-02
060458P	1.35E-02	1.15E-06	3.58E-07	1.37E-02
060459W	1.35E-02	1.15E-06	3.58E-07	1.37E-02
060460R	5.37E-01	4.55E-05	1.42E-05	5.42E-01
060461X	6.40E-01	5.42E-05	1.69E-05	6.46E-01
060549V	1.42E+00	1.20E-04	3.76E-05	1.43E+00
086287R	1.41E+00	1.20E-04	3.74E-05	1.43E+00
087496C	1.56E-02	1.32E-06	4.14E-07	1.58E-02
087497J	4.80E-01	4.07E-05	1.27E-05	4.85E-01
087499X	5.77E-01	4.89E-05	1.53E-05	5.83E-01
087500P	1.77E+00	1.50E-04	4.70E-05	1.79E+00
087501W	1.77E+00	1.50E-04	4.70E-05	1.79E+00
087503K	3.66E-02	3.10E-06	9.69E-07	3.69E-02
087505Y	2.08E-02	1.77E-06	5.52E-07	2.11E-02
087508U	1.04E-02	8.81E-07	2.76E-07	1.05E-02
087510V	3.12E-02	2.65E-06	8.28E-07	3.16E-02
087514X	2.61E-02	2.21E-06	6.91E-07	2.63E-02
087515E	2.61E-02	2.21E-06	6.91E-07	2.63E-02
087518A	1.70E+00	1.44E-04	4.50E-05	1.71E+00
087523W	4.25E-01	3.60E-05	1.13E-05	4.29E-01
087524D	2.51E+00	2.13E-04	6.66E-05	2.54E+00

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
087525K	3.13E-02	2.65E-06	8.30E-07	3.16E-02
087526S	1.56E-02	1.32E-06	4.14E-07	1.58E-02
087527Y	1.04E-02	8.81E-07	2.76E-07	1.05E-02
087529M	2.08E-02	1.77E-06	5.52E-07	2.11E-02
087531N	4.70E-02	3.98E-06	1.25E-06	4.75E-02
087533C	5.20E-03	4.40E-07	1.38E-07	5.25E-03
087534J	3.12E-02	2.65E-06	8.28E-07	3.16E-02
087535R	1.04E-02	8.81E-07	2.76E-07	1.05E-02
087537E	5.20E-03	4.40E-07	1.38E-07	5.25E-03
087540M	1.88E-01	1.59E-05	4.99E-06	1.90E-01
087541U	2.71E+00	2.29E-04	7.18E-05	2.74E+00
087542B	2.71E+00	2.29E-04	7.18E-05	2.74E+00
087544P	3.98E-02	3.37E-06	1.06E-06	4.02E-02
087545W	1.04E-01	8.83E-06	2.76E-06	1.05E-01
087547K	1.84E-01	1.56E-05	4.87E-06	1.86E-01
087550T	1.25E-01	1.06E-05	3.32E-06	1.26E-01
087551A	1.25E-01	1.06E-05	3.32E-06	1.26E-01
087554V	1.34E-01	1.13E-05	3.55E-06	1.35E-01
087563U	4.35E-01	3.68E-05	1.15E-05	4.39E-01
087565H	1.06E-01	8.95E-06	2.80E-06	1.07E-01
087569K	1.53E-01	1.30E-05	4.06E-06	1.55E-01
087573A	4.81E-01	4.07E-05	1.27E-05	4.86E-01
087574G	3.13E-02	2.65E-06	8.29E-07	3.16E-02
087576V	1.04E-02	8.81E-07	2.76E-07	1.05E-02
087580K	3.24E-01	2.74E-05	8.57E-06	3.27E-01
087584M	1.56E-02	1.32E-06	4.14E-07	1.58E-02
087589W	4.36E-01	3.69E-05	1.16E-05	4.41E-01
087590R	5.20E-03	4.40E-07	1.38E-07	5.25E-03
087591X	3.66E-02	3.10E-06	9.69E-07	3.69E-02
087690V	2.16E-01	1.83E-05	5.73E-06	2.18E-01
087691C	6.97E-01	5.91E-05	1.85E-05	7.04E-01
087694X	4.23E-01	3.58E-05	1.12E-05	4.27E-01
087695E	1.29E+00	1.09E-04	3.41E-05	1.30E+00
087909U	2.39E-02	2.02E-06	6.32E-07	2.41E-02
087910N	4.78E-02	4.05E-06	1.27E-06	4.83E-02
087912C	1.59E-02	1.35E-06	4.21E-07	1.60E-02
087919A	1.04E-01	8.83E-06	2.76E-06	1.05E-01
087920U	7.79E-01	6.60E-05	2.06E-05	7.87E-01
087923P	9.41E-01	7.97E-05	2.49E-05	9.50E-01
087925D	3.54E-01	3.00E-05	9.39E-06	3.58E-01
087926K	2.39E-02	2.02E-06	6.32E-07	2.41E-02
087928Y	4.78E-02	4.05E-06	1.27E-06	4.83E-02
087929F	2.39E-02	2.02E-06	6.32E-07	2.41E-02
092843G	1.97E+00	1.67E-04	5.22E-05	1.99E+00
092844N	2.03E+00	1.72E-04	5.38E-05	2.05E+00
092845V	6.77E-02	5.74E-06	1.79E-06	6.84E-02

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
092846C	2.71E-02	2.29E-06	7.18E-07	2.74E-02
098701L	1.50E-01	1.27E-05	3.97E-06	1.51E-01
098708J	2.70E-02	2.29E-06	7.17E-07	2.73E-02
098743X	2.40E-01	2.03E-05	6.36E-06	2.42E-01
092869J	9.91E-01	8.40E-05	2.63E-05	1.00E+00
092870D	1.58E+00	1.34E-04	4.18E-05	1.59E+00
092862L	1.35E-02	1.14E-06	3.58E-07	1.36E-02
092860X	2.03E-02	1.72E-06	5.37E-07	2.05E-02
092859D	6.75E-03	5.72E-07	1.79E-07	6.82E-03
092854U	6.78E-02	5.74E-06	1.80E-06	6.85E-02
092857P	1.22E-01	1.04E-05	3.24E-06	1.24E-01
092853M	1.35E-02	1.15E-06	3.58E-07	1.37E-02
092852F	6.10E-02	5.16E-06	1.62E-06	6.16E-02
092848R	4.06E-02	3.44E-06	1.08E-06	4.10E-02
060438D	7.94E-03	6.72E-07	2.10E-07	8.02E-03
060551W	3.18E-02	2.69E-06	8.42E-07	3.21E-02
091672E	3.82E-02	3.24E-06	1.01E-06	3.86E-02
091662Y	3.45E-01	2.92E-05	9.15E-06	3.49E-01
Total Emissions	6.93E+01	5.87E-03	1.84E-03	7.00E+01

Table V.2-46. Grade Crossing Emissions, Segment 17 – Southern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
060412B	8.40E-02	1.30E-02	4.22E-06	3.64E-04	3.46E-04	7.19E-05	4.31E-03
060413H	6.26E-02	9.70E-03	3.14E-06	2.71E-04	2.58E-04	5.35E-05	3.21E-03
060414P	9.45E-03	1.47E-03	4.75E-07	4.10E-05	3.89E-05	8.08E-06	4.85E-04
060417K	1.65E-03	2.55E-04	8.27E-08	7.13E-06	6.77E-06	1.41E-06	8.44E-05
060418S	1.34E-03	2.08E-04	6.75E-08	5.82E-06	5.53E-06	1.15E-06	6.89E-05
060419Y	1.30E-03	2.02E-04	6.54E-08	5.65E-06	5.36E-06	1.11E-06	6.68E-05
060420T	2.52E-03	3.91E-04	1.27E-07	1.09E-05	1.04E-05	2.16E-06	1.29E-04
060424V	1.91E-04	2.96E-05	9.60E-09	8.28E-07	7.86E-07	1.63E-07	9.80E-06
060425C	1.22E-02	1.89E-03	6.12E-07	5.28E-05	5.02E-05	1.04E-05	6.25E-04
060426J	2.87E-04	4.45E-05	1.44E-08	1.24E-06	1.18E-06	2.45E-07	1.47E-05
060428X	9.54E-05	1.48E-05	4.79E-09	4.14E-07	3.93E-07	8.16E-08	4.89E-06
060430Y	4.78E-04	7.42E-05	2.40E-08	2.07E-06	1.97E-06	4.09E-07	2.45E-05
060431F	4.78E-04	7.41E-05	2.40E-08	2.07E-06	1.97E-06	4.09E-07	2.45E-05
060433U	1.44E-01	2.23E-02	7.22E-06	6.23E-04	5.92E-04	1.23E-04	7.37E-03
060439K	5.28E-02	8.19E-03	2.65E-06	2.29E-04	2.17E-04	4.52E-05	2.71E-03
060441L	6.26E-02	9.71E-03	3.15E-06	2.72E-04	2.58E-04	5.36E-05	3.21E-03
060442T	4.07E-02	6.31E-03	2.04E-06	1.76E-04	1.68E-04	3.48E-05	2.09E-03
060443A	1.48E-02	2.29E-03	7.44E-07	6.42E-05	6.09E-05	1.27E-05	7.59E-04
060445N	3.58E-03	5.56E-04	1.80E-07	1.55E-05	1.48E-05	3.07E-06	1.84E-04
060449R	3.14E-04	4.86E-05	1.58E-08	1.36E-06	1.29E-06	2.68E-07	1.61E-05
060451S	4.93E-04	7.64E-05	2.48E-08	2.14E-06	2.03E-06	4.22E-07	2.53E-05
060452Y	1.34E-02	2.07E-03	6.72E-07	5.80E-05	5.50E-05	1.14E-05	6.86E-04
060456B	3.67E-04	5.70E-05	1.85E-08	1.59E-06	1.51E-06	3.14E-07	1.88E-05
060457H	6.25E-04	9.69E-05	3.14E-08	2.71E-06	2.57E-06	5.35E-07	3.21E-05
060458P	2.18E-04	3.38E-05	1.10E-08	9.45E-07	8.98E-07	1.86E-07	1.12E-05
060459W	2.45E-04	3.80E-05	1.23E-08	1.06E-06	1.01E-06	2.09E-07	1.26E-05
060460R	5.50E-03	8.53E-04	2.77E-07	2.39E-05	2.27E-05	4.71E-06	2.82E-04
060461X	6.55E-03	1.01E-03	3.29E-07	2.84E-05	2.70E-05	5.60E-06	3.36E-04
060549V	1.65E-02	2.56E-03	8.29E-07	7.15E-05	6.79E-05	1.41E-05	8.46E-04
086287R	1.68E-02	2.61E-03	8.45E-07	7.29E-05	6.93E-05	1.44E-05	8.63E-04
087496C	5.84E-03	9.06E-04	2.93E-07	2.53E-05	2.41E-05	5.00E-06	3.00E-04
087497J	8.56E-02	1.33E-02	4.30E-06	3.71E-04	3.53E-04	7.33E-05	4.39E-03
087499X	1.15E-02	1.78E-03	5.78E-07	4.99E-05	4.74E-05	9.84E-06	5.90E-04
087500P	1.81E-02	2.80E-03	9.08E-07	7.83E-05	7.44E-05	1.55E-05	9.26E-04
087501W	1.99E-02	3.09E-03	1.00E-06	8.63E-05	8.20E-05	1.70E-05	1.02E-03
087503K	2.67E-03	4.13E-04	1.34E-07	1.16E-05	1.10E-05	2.28E-06	1.37E-04
087505Y	7.27E-03	1.13E-03	3.65E-07	3.15E-05	2.99E-05	6.22E-06	3.73E-04
087508U	7.16E-03	1.11E-03	3.60E-07	3.11E-05	2.95E-05	6.13E-06	3.67E-04
087510V	4.63E-04	7.17E-05	2.32E-08	2.01E-06	1.90E-06	3.96E-07	2.37E-05
087514X	3.48E-04	5.39E-05	1.75E-08	1.51E-06	1.43E-06	2.97E-07	1.78E-05
087515E	3.06E-04	4.75E-05	1.54E-08	1.33E-06	1.26E-06	2.62E-07	1.57E-05
087518A	1.90E-02	2.94E-03	9.53E-07	8.22E-05	7.81E-05	1.62E-05	9.72E-04
087523W	4.44E-03	6.88E-04	2.23E-07	1.92E-05	1.83E-05	3.80E-06	2.28E-04
087524D	2.56E-02	3.97E-03	1.29E-06	1.11E-04	1.05E-04	2.19E-05	1.31E-03

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
087525K	4.22E-04	6.54E-05	2.12E-08	1.83E-06	1.74E-06	3.61E-07	2.16E-05
087526S	6.91E-03	1.07E-03	3.47E-07	3.00E-05	2.85E-05	5.91E-06	3.54E-04
087527Y	1.80E-03	2.79E-04	9.03E-08	7.79E-06	7.40E-06	1.54E-06	9.21E-05
087529M	1.02E-02	1.58E-03	5.13E-07	4.42E-05	4.20E-05	8.73E-06	5.23E-04
087531N	6.02E-04	9.33E-05	3.02E-08	2.61E-06	2.48E-06	5.15E-07	3.09E-05
087533C	1.15E-04	1.78E-05	5.77E-09	4.98E-07	4.73E-07	9.83E-08	5.89E-06
087534J	3.58E-04	5.56E-05	1.80E-08	1.55E-06	1.48E-06	3.07E-07	1.84E-05
087535R	1.89E-04	2.92E-05	9.47E-09	8.17E-07	7.76E-07	1.61E-07	9.67E-06
087537E	2.40E-04	3.72E-05	1.21E-08	1.04E-06	9.88E-07	2.05E-07	1.23E-05
087540M	1.93E-03	2.99E-04	9.70E-08	8.37E-06	7.95E-06	1.65E-06	9.90E-05
087541U	2.75E-02	4.26E-03	1.38E-06	1.19E-04	1.13E-04	2.35E-05	1.41E-03
087542B	2.74E-02	4.25E-03	1.38E-06	1.19E-04	1.13E-04	2.35E-05	1.41E-03
087544P	2.14E-03	3.31E-04	1.07E-07	9.27E-06	8.80E-06	1.83E-06	1.10E-04
087545W	1.07E-03	1.67E-04	5.40E-08	4.66E-06	4.43E-06	9.19E-07	5.51E-05
087547K	2.60E-03	4.04E-04	1.31E-07	1.13E-05	1.07E-05	2.23E-06	1.34E-04
087550T	1.21E-02	1.88E-03	6.08E-07	5.25E-05	4.98E-05	1.04E-05	6.21E-04
087551A	1.21E-02	1.88E-03	6.08E-07	5.25E-05	4.98E-05	1.04E-05	6.21E-04
087554V	1.51E-03	2.34E-04	7.59E-08	6.55E-06	6.22E-06	1.29E-06	7.75E-05
087563U	4.81E-03	7.45E-04	2.42E-07	2.08E-05	1.98E-05	4.11E-06	2.47E-04
087565H	1.80E-03	2.80E-04	9.07E-08	7.82E-06	7.43E-06	1.54E-06	9.25E-05
087569K	2.05E-03	3.17E-04	1.03E-07	8.87E-06	8.43E-06	1.75E-06	1.05E-04
087573A	5.38E-03	8.35E-04	2.71E-07	2.33E-05	2.22E-05	4.61E-06	2.76E-04
087574G	8.54E-04	1.32E-04	4.29E-08	3.70E-06	3.52E-06	7.31E-07	4.38E-05
087576V	1.85E-03	2.87E-04	9.29E-08	8.02E-06	7.62E-06	1.58E-06	9.49E-05
087580K	3.71E-03	5.75E-04	1.86E-07	1.61E-05	1.53E-05	3.17E-06	1.90E-04
087584M	7.72E-04	1.20E-04	3.88E-08	3.35E-06	3.18E-06	6.61E-07	3.96E-05
087589W	6.34E-03	9.83E-04	3.19E-07	2.75E-05	2.61E-05	5.42E-06	3.25E-04
087590R	1.77E-04	2.75E-05	8.91E-09	7.68E-07	7.30E-07	1.52E-07	9.09E-06
087591X	4.13E-04	6.40E-05	2.07E-08	1.79E-06	1.70E-06	3.53E-07	2.12E-05
087690V	3.47E-03	5.38E-04	1.74E-07	1.50E-05	1.43E-05	2.97E-06	1.78E-04
087691C	7.10E-03	1.10E-03	3.57E-07	3.08E-05	2.92E-05	6.07E-06	3.64E-04
087694X	6.00E-03	9.31E-04	3.02E-07	2.60E-05	2.47E-05	5.13E-06	3.08E-04
087695E	1.30E-02	2.02E-03	6.54E-07	5.65E-05	5.36E-05	1.11E-05	6.68E-04
087909U	3.87E-04	5.99E-05	1.94E-08	1.68E-06	1.59E-06	3.31E-07	1.98E-05
087910N	3.69E-03	5.72E-04	1.85E-07	1.60E-05	1.52E-05	3.16E-06	1.89E-04
087912C	1.07E-02	1.66E-03	5.39E-07	4.65E-05	4.42E-05	9.18E-06	5.50E-04
087919A	1.92E-03	2.98E-04	9.65E-08	8.33E-06	7.91E-06	1.64E-06	9.85E-05
087920U	1.07E-02	1.65E-03	5.36E-07	4.62E-05	4.39E-05	9.13E-06	5.47E-04
087923P	1.12E-02	1.74E-03	5.63E-07	4.86E-05	4.61E-05	9.58E-06	5.75E-04
087925D	8.75E-03	1.36E-03	4.40E-07	3.79E-05	3.60E-05	7.48E-06	4.49E-04
087926K	3.37E-04	5.22E-05	1.69E-08	1.46E-06	1.39E-06	2.88E-07	1.73E-05
087928Y	6.75E-04	1.05E-04	3.39E-08	2.93E-06	2.78E-06	5.77E-07	3.46E-05
087929F	3.05E-04	4.72E-05	1.53E-08	1.32E-06	1.25E-06	2.61E-07	1.56E-05
092843G	2.26E-02	3.50E-03	1.13E-06	9.79E-05	9.30E-05	1.93E-05	1.16E-03
092844N	2.09E-02	3.24E-03	1.05E-06	9.07E-05	8.62E-05	1.79E-05	1.07E-03
092845V	3.80E-03	5.90E-04	1.91E-07	1.65E-05	1.57E-05	3.25E-06	1.95E-04

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
092846C	2.94E-03	4.56E-04	1.48E-07	1.27E-05	1.21E-05	2.52E-06	1.51E-04
098701L	5.29E-03	8.19E-04	2.66E-07	2.29E-05	2.18E-05	4.52E-06	2.71E-04
098708J	1.69E-03	2.62E-04	8.50E-08	7.34E-06	6.97E-06	1.45E-06	8.68E-05
098743X	2.53E-03	3.92E-04	1.27E-07	1.10E-05	1.04E-05	2.16E-06	1.30E-04
092869J	1.03E-02	1.59E-03	5.15E-07	4.44E-05	4.22E-05	8.77E-06	5.26E-04
092870D	1.61E-02	2.50E-03	8.09E-07	6.98E-05	6.63E-05	1.38E-05	8.26E-04
092862L	8.02E-03	1.24E-03	4.03E-07	3.48E-05	3.30E-05	6.86E-06	4.11E-04
092860X	8.32E-03	1.29E-03	4.18E-07	3.61E-05	3.43E-05	7.12E-06	4.27E-04
092859D	3.38E-04	5.24E-05	1.70E-08	1.46E-06	1.39E-06	2.89E-07	1.73E-05
092854U	7.96E-04	1.23E-04	4.00E-08	3.45E-06	3.28E-06	6.81E-07	4.08E-05
092857P	1.84E-03	2.85E-04	9.24E-08	7.97E-06	7.57E-06	1.57E-06	9.43E-05
092853M	2.45E-04	3.79E-05	1.23E-08	1.06E-06	1.01E-06	2.09E-07	1.26E-05
092852F	1.57E-03	2.44E-04	7.90E-08	6.82E-06	6.48E-06	1.35E-06	8.07E-05
092848R	4.35E-03	6.75E-04	2.19E-07	1.89E-05	1.79E-05	3.73E-06	2.23E-04
060438D	6.35E-03	9.85E-04	3.19E-07	2.75E-05	2.62E-05	5.44E-06	3.26E-04
060551W	3.75E-04	5.81E-05	1.88E-08	1.63E-06	1.54E-06	3.21E-07	1.92E-05
091672E	4.66E-04	7.23E-05	2.34E-08	2.02E-06	1.92E-06	3.99E-07	2.39E-05
091662Y	3.51E-03	5.44E-04	1.76E-07	1.52E-05	1.45E-05	3.00E-06	1.80E-04
Total Emissions	1.10E+00	1.71E-01	5.54E-05	4.78E-03	4.54E-03	9.43E-04	5.65E-02

Table V.2-47. Grade Crossing Emissions, Segment 17 – Southern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
060412B	2.99E-04	4.31E-05	1.57E-04	3.45E-06	2.70E-05	9.25E-05	2.33E-05	1.29E-04	1.64E-04
060413H	2.23E-04	3.21E-05	1.17E-04	2.57E-06	2.01E-05	6.89E-05	1.74E-05	9.63E-05	1.22E-04
060414P	3.36E-05	4.84E-06	1.77E-05	3.88E-07	3.04E-06	1.04E-05	2.62E-06	1.45E-05	1.84E-05
060417K	5.85E-06	8.43E-07	3.08E-06	6.75E-08	5.29E-07	1.81E-06	4.56E-07	2.53E-06	3.21E-06
060418S	4.78E-06	6.88E-07	2.52E-06	5.51E-08	4.32E-07	1.48E-06	3.73E-07	2.07E-06	2.62E-06
060419Y	4.63E-06	6.67E-07	2.44E-06	5.34E-08	4.19E-07	1.43E-06	3.61E-07	2.00E-06	2.54E-06
060420T	8.97E-06	1.29E-06	4.73E-06	1.04E-07	8.11E-07	2.78E-06	7.00E-07	3.88E-06	4.92E-06
060424V	6.79E-07	9.79E-08	3.58E-07	7.84E-09	6.14E-08	2.10E-07	5.30E-08	2.94E-07	3.72E-07
060425C	4.33E-05	6.24E-06	2.28E-05	5.00E-07	3.92E-06	1.34E-05	3.38E-06	1.87E-05	2.38E-05
060426J	1.02E-06	1.47E-07	5.37E-07	1.18E-08	9.22E-08	3.16E-07	7.96E-08	4.41E-07	5.59E-07
060428X	3.39E-07	4.89E-08	1.79E-07	3.91E-09	3.07E-08	1.05E-07	2.65E-08	1.47E-07	1.86E-07
060430Y	1.70E-06	2.45E-07	8.96E-07	1.96E-08	1.54E-07	5.27E-07	1.33E-07	7.36E-07	9.32E-07
060431F	1.70E-06	2.45E-07	8.95E-07	1.96E-08	1.54E-07	5.26E-07	1.33E-07	7.35E-07	9.31E-07
060433U	5.11E-04	7.36E-05	2.69E-04	5.90E-06	4.62E-05	1.58E-04	3.99E-05	2.21E-04	2.80E-04
060439K	1.88E-04	2.71E-05	9.89E-05	2.17E-06	1.70E-05	5.82E-05	1.47E-05	8.12E-05	1.03E-04
060441L	2.23E-04	3.21E-05	1.17E-04	2.57E-06	2.01E-05	6.90E-05	1.74E-05	9.64E-05	1.22E-04
060442T	1.45E-04	2.08E-05	7.62E-05	1.67E-06	1.31E-05	4.48E-05	1.13E-05	6.26E-05	7.93E-05
060443A	5.26E-05	7.58E-06	2.77E-05	6.07E-07	4.76E-06	1.63E-05	4.11E-06	2.28E-05	2.88E-05
060445N	1.27E-05	1.84E-06	6.72E-06	1.47E-07	1.15E-06	3.95E-06	9.95E-07	5.51E-06	6.99E-06
060449R	1.12E-06	1.61E-07	5.88E-07	1.29E-08	1.01E-07	3.45E-07	8.70E-08	4.82E-07	6.11E-07
060451S	1.75E-06	2.52E-07	9.23E-07	2.02E-08	1.58E-07	5.43E-07	1.37E-07	7.58E-07	9.60E-07
060452Y	4.75E-05	6.85E-06	2.50E-05	5.49E-07	4.30E-06	1.47E-05	3.71E-06	2.06E-05	2.61E-05
060456B	1.31E-06	1.88E-07	6.88E-07	1.51E-08	1.18E-07	4.05E-07	1.02E-07	5.65E-07	7.16E-07
060457H	2.22E-06	3.20E-07	1.17E-06	2.57E-08	2.01E-07	6.89E-07	1.73E-07	9.62E-07	1.22E-06
060458P	7.75E-07	1.12E-07	4.08E-07	8.94E-09	7.01E-08	2.40E-07	6.05E-08	3.35E-07	4.25E-07
060459W	8.71E-07	1.25E-07	4.59E-07	1.00E-08	7.87E-08	2.70E-07	6.79E-08	3.77E-07	4.77E-07
060460R	1.96E-05	2.82E-06	1.03E-05	2.26E-07	1.77E-06	6.06E-06	1.53E-06	8.46E-06	1.07E-05
060461X	2.33E-05	3.35E-06	1.23E-05	2.69E-07	2.10E-06	7.21E-06	1.82E-06	1.01E-05	1.28E-05
060549V	5.86E-05	8.45E-06	3.09E-05	6.77E-07	5.30E-06	1.82E-05	4.58E-06	2.54E-05	3.21E-05
086287R	5.98E-05	8.62E-06	3.15E-05	6.90E-07	5.41E-06	1.85E-05	4.67E-06	2.59E-05	3.28E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087496C	2.08E-05	2.99E-06	1.09E-05	2.40E-07	1.88E-06	6.43E-06	1.62E-06	8.98E-06	1.14E-05
087497J	3.05E-04	4.39E-05	1.60E-04	3.51E-06	2.75E-05	9.43E-05	2.38E-05	1.32E-04	1.67E-04
087499X	4.09E-05	5.89E-06	2.16E-05	4.72E-07	3.70E-06	1.27E-05	3.19E-06	1.77E-05	2.24E-05
087500P	6.42E-05	9.25E-06	3.38E-05	7.41E-07	5.81E-06	1.99E-05	5.01E-06	2.78E-05	3.52E-05
087501W	7.08E-05	1.02E-05	3.73E-05	8.17E-07	6.40E-06	2.19E-05	5.52E-06	3.06E-05	3.88E-05
087503K	9.48E-06	1.37E-06	4.99E-06	1.09E-07	8.57E-07	2.94E-06	7.40E-07	4.10E-06	5.20E-06
087505Y	2.58E-05	3.72E-06	1.36E-05	2.98E-07	2.34E-06	8.01E-06	2.02E-06	1.12E-05	1.42E-05
087508U	2.55E-05	3.67E-06	1.34E-05	2.94E-07	2.30E-06	7.89E-06	1.99E-06	1.10E-05	1.40E-05
087510V	1.65E-06	2.37E-07	8.67E-07	1.90E-08	1.49E-07	5.10E-07	1.28E-07	7.12E-07	9.02E-07
087514X	1.24E-06	1.78E-07	6.51E-07	1.43E-08	1.12E-07	3.83E-07	9.65E-08	5.35E-07	6.78E-07
087515E	1.09E-06	1.57E-07	5.73E-07	1.26E-08	9.84E-08	3.37E-07	8.49E-08	4.71E-07	5.97E-07
087518A	6.74E-05	9.71E-06	3.55E-05	7.78E-07	6.10E-06	2.09E-05	5.26E-06	2.92E-05	3.70E-05
087523W	1.58E-05	2.27E-06	8.31E-06	1.82E-07	1.43E-06	4.89E-06	1.23E-06	6.83E-06	8.65E-06
087524D	9.10E-05	1.31E-05	4.80E-05	1.05E-06	8.23E-06	2.82E-05	7.10E-06	3.94E-05	4.99E-05
087525K	1.50E-06	2.16E-07	7.90E-07	1.73E-08	1.36E-07	4.64E-07	1.17E-07	6.49E-07	8.22E-07
087526S	2.46E-05	3.54E-06	1.29E-05	2.84E-07	2.22E-06	7.61E-06	1.92E-06	1.06E-05	1.35E-05
087527Y	6.39E-06	9.21E-07	3.37E-06	7.37E-08	5.78E-07	1.98E-06	4.98E-07	2.76E-06	3.50E-06
087529M	3.63E-05	5.23E-06	1.91E-05	4.19E-07	3.28E-06	1.12E-05	2.83E-06	1.57E-05	1.99E-05
087531N	2.14E-06	3.08E-07	1.13E-06	2.47E-08	1.94E-07	6.63E-07	1.67E-07	9.26E-07	1.17E-06
087533C	4.09E-07	5.89E-08	2.15E-07	4.71E-09	3.70E-08	1.27E-07	3.19E-08	1.77E-07	2.24E-07
087534J	1.27E-06	1.84E-07	6.71E-07	1.47E-08	1.15E-07	3.95E-07	9.95E-08	5.51E-07	6.99E-07
087535R	6.71E-07	9.66E-08	3.53E-07	7.74E-09	6.06E-08	2.08E-07	5.23E-08	2.90E-07	3.67E-07
087537E	8.53E-07	1.23E-07	4.49E-07	9.84E-09	7.71E-08	2.64E-07	6.66E-08	3.69E-07	4.67E-07
087540M	6.86E-06	9.89E-07	3.61E-06	7.92E-08	6.21E-07	2.13E-06	5.35E-07	2.97E-06	3.76E-06
087541U	9.78E-05	1.41E-05	5.15E-05	1.13E-06	8.84E-06	3.03E-05	7.63E-06	4.23E-05	5.36E-05
087542B	9.75E-05	1.40E-05	5.14E-05	1.13E-06	8.82E-06	3.02E-05	7.61E-06	4.22E-05	5.34E-05
087544P	7.60E-06	1.10E-06	4.00E-06	8.77E-08	6.88E-07	2.35E-06	5.93E-07	3.29E-06	4.17E-06
087545W	3.82E-06	5.51E-07	2.01E-06	4.41E-08	3.46E-07	1.18E-06	2.98E-07	1.65E-06	2.09E-06
087547K	9.26E-06	1.33E-06	4.88E-06	1.07E-07	8.37E-07	2.87E-06	7.23E-07	4.01E-06	5.08E-06
087550T	4.30E-05	6.20E-06	2.27E-05	4.97E-07	3.89E-06	1.33E-05	3.36E-06	1.86E-05	2.36E-05
087551A	4.30E-05	6.20E-06	2.27E-05	4.97E-07	3.89E-06	1.33E-05	3.36E-06	1.86E-05	2.36E-05
087554V	5.37E-06	7.74E-07	2.83E-06	6.20E-08	4.86E-07	1.66E-06	4.19E-07	2.32E-06	2.94E-06
087563U	1.71E-05	2.46E-06	9.00E-06	1.97E-07	1.55E-06	5.29E-06	1.33E-06	7.39E-06	9.37E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087565H	6.42E-06	9.24E-07	3.38E-06	7.40E-08	5.80E-07	1.99E-06	5.01E-07	2.77E-06	3.52E-06
087569K	7.28E-06	1.05E-06	3.83E-06	8.40E-08	6.58E-07	2.25E-06	5.68E-07	3.15E-06	3.99E-06
087573A	1.91E-05	2.76E-06	1.01E-05	2.21E-07	1.73E-06	5.93E-06	1.49E-06	8.28E-06	1.05E-05
087574G	3.04E-06	4.38E-07	1.60E-06	3.51E-08	2.75E-07	9.41E-07	2.37E-07	1.31E-06	1.67E-06
087576V	6.58E-06	9.48E-07	3.46E-06	7.59E-08	5.95E-07	2.04E-06	5.13E-07	2.84E-06	3.60E-06
087580K	1.32E-05	1.90E-06	6.94E-06	1.52E-07	1.19E-06	4.08E-06	1.03E-06	5.70E-06	7.23E-06
087584M	2.75E-06	3.96E-07	1.45E-06	3.17E-08	2.48E-07	8.51E-07	2.14E-07	1.19E-06	1.51E-06
087589W	2.25E-05	3.25E-06	1.19E-05	2.60E-07	2.04E-06	6.98E-06	1.76E-06	9.75E-06	1.24E-05
087590R	6.30E-07	9.08E-08	3.32E-07	7.27E-09	5.70E-08	1.95E-07	4.92E-08	2.73E-07	3.45E-07
087591X	1.47E-06	2.11E-07	7.73E-07	1.69E-08	1.33E-07	4.54E-07	1.14E-07	6.35E-07	8.04E-07
087690V	1.23E-05	1.78E-06	6.50E-06	1.42E-07	1.12E-06	3.82E-06	9.63E-07	5.34E-06	6.76E-06
087691C	2.53E-05	3.64E-06	1.33E-05	2.91E-07	2.28E-06	7.82E-06	1.97E-06	1.09E-05	1.38E-05
087694X	2.13E-05	3.08E-06	1.12E-05	2.46E-07	1.93E-06	6.61E-06	1.67E-06	9.23E-06	1.17E-05
087695E	4.63E-05	6.67E-06	2.44E-05	5.34E-07	4.19E-06	1.43E-05	3.61E-06	2.00E-05	2.54E-05
087909U	1.38E-06	1.98E-07	7.24E-07	1.59E-08	1.24E-07	4.26E-07	1.07E-07	5.95E-07	7.54E-07
087910N	1.31E-05	1.89E-06	6.91E-06	1.51E-07	1.19E-06	4.06E-06	1.02E-06	5.67E-06	7.19E-06
087912C	3.82E-05	5.50E-06	2.01E-05	4.40E-07	3.45E-06	1.18E-05	2.98E-06	1.65E-05	2.09E-05
087919A	6.83E-06	9.84E-07	3.60E-06	7.88E-08	6.18E-07	2.12E-06	5.33E-07	2.96E-06	3.74E-06
087920U	3.79E-05	5.47E-06	2.00E-05	4.38E-07	3.43E-06	1.17E-05	2.96E-06	1.64E-05	2.08E-05
087923P	3.98E-05	5.74E-06	2.10E-05	4.60E-07	3.60E-06	1.23E-05	3.11E-06	1.72E-05	2.18E-05
087925D	3.11E-05	4.48E-06	1.64E-05	3.59E-07	2.81E-06	9.63E-06	2.43E-06	1.35E-05	1.70E-05
087926K	1.20E-06	1.72E-07	6.30E-07	1.38E-08	1.08E-07	3.71E-07	9.34E-08	5.18E-07	6.56E-07
087928Y	2.40E-06	3.46E-07	1.26E-06	2.77E-08	2.17E-07	7.43E-07	1.87E-07	1.04E-06	1.32E-06
087929F	1.08E-06	1.56E-07	5.71E-07	1.25E-08	9.80E-08	3.36E-07	8.45E-08	4.69E-07	5.94E-07
092843G	8.03E-05	1.16E-05	4.23E-05	9.26E-07	7.26E-06	2.49E-05	6.27E-06	3.47E-05	4.40E-05
092844N	7.44E-05	1.07E-05	3.92E-05	8.59E-07	6.73E-06	2.30E-05	5.81E-06	3.22E-05	4.08E-05
092845V	1.35E-05	1.95E-06	7.12E-06	1.56E-07	1.22E-06	4.19E-06	1.06E-06	5.85E-06	7.41E-06
092846C	1.05E-05	1.51E-06	5.51E-06	1.21E-07	9.46E-07	3.24E-06	8.16E-07	4.52E-06	5.73E-06
098701L	1.88E-05	2.71E-06	9.90E-06	2.17E-07	1.70E-06	5.82E-06	1.47E-06	8.13E-06	1.03E-05
098708J	6.02E-06	8.67E-07	3.17E-06	6.94E-08	5.44E-07	1.86E-06	4.70E-07	2.60E-06	3.30E-06
098743X	9.00E-06	1.30E-06	4.74E-06	1.04E-07	8.14E-07	2.79E-06	7.02E-07	3.89E-06	4.93E-06
092869J	3.65E-05	5.25E-06	1.92E-05	4.21E-07	3.30E-06	1.13E-05	2.84E-06	1.58E-05	2.00E-05
092870D	5.73E-05	8.25E-06	3.02E-05	6.61E-07	5.18E-06	1.77E-05	4.47E-06	2.48E-05	3.14E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
092862L	2.85E-05	4.11E-06	1.50E-05	3.29E-07	2.58E-06	8.83E-06	2.23E-06	1.23E-05	1.56E-05
092860X	2.96E-05	4.27E-06	1.56E-05	3.42E-07	2.68E-06	9.17E-06	2.31E-06	1.28E-05	1.62E-05
092859D	1.20E-06	1.73E-07	6.33E-07	1.39E-08	1.09E-07	3.72E-07	9.37E-08	5.20E-07	6.58E-07
092854U	2.83E-06	4.08E-07	1.49E-06	3.26E-08	2.56E-07	8.76E-07	2.21E-07	1.22E-06	1.55E-06
092857P	6.54E-06	9.42E-07	3.44E-06	7.55E-08	5.91E-07	2.03E-06	5.10E-07	2.83E-06	3.58E-06
092853M	8.70E-07	1.25E-07	4.59E-07	1.00E-08	7.87E-08	2.70E-07	6.79E-08	3.76E-07	4.77E-07
092852F	5.59E-06	8.06E-07	2.95E-06	6.45E-08	5.06E-07	1.73E-06	4.36E-07	2.42E-06	3.07E-06
092848R	1.55E-05	2.23E-06	8.16E-06	1.79E-07	1.40E-06	4.80E-06	1.21E-06	6.70E-06	8.49E-06
060438D	2.26E-05	3.26E-06	1.19E-05	2.61E-07	2.04E-06	7.00E-06	1.76E-06	9.77E-06	1.24E-05
060551W	1.33E-06	1.92E-07	7.02E-07	1.54E-08	1.21E-07	4.13E-07	1.04E-07	5.77E-07	7.31E-07
091672E	1.66E-06	2.39E-07	8.73E-07	1.91E-08	1.50E-07	5.13E-07	1.29E-07	7.17E-07	9.08E-07
091662Y	1.25E-05	1.80E-06	6.58E-06	1.44E-07	1.13E-06	3.87E-06	9.74E-07	5.40E-06	6.84E-06
Total Emissions	3.92E-03	5.65E-04	2.06E-03	4.52E-05	3.54E-04	1.21E-03	3.06E-04	1.69E-03	2.15E-03

Table V.2-48. Grade Crossing Emissions, Segment 17 – Southern from Glendive, MT to Mandan, ND, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
060412B	4.88E+00	4.13E-04	1.29E-04	4.93E+00
060413H	3.63E+00	3.08E-04	9.63E-05	3.67E+00
060414P	5.49E-01	4.65E-05	1.45E-05	5.54E-01
060417K	9.55E-02	8.09E-06	2.53E-06	9.65E-02
060418S	7.80E-02	6.61E-06	2.07E-06	7.88E-02
060419Y	7.56E-02	6.41E-06	2.00E-06	7.64E-02
060420T	1.47E-01	1.24E-05	3.88E-06	1.48E-01
060424V	1.11E-02	9.39E-07	2.94E-07	1.12E-02
060425C	7.08E-01	5.99E-05	1.88E-05	7.15E-01
060426J	1.67E-02	1.41E-06	4.41E-07	1.68E-02
060428X	5.54E-03	4.69E-07	1.47E-07	5.60E-03
060430Y	2.78E-02	2.35E-06	7.36E-07	2.81E-02
060431F	2.77E-02	2.35E-06	7.35E-07	2.80E-02
060433U	8.35E+00	7.07E-04	2.21E-04	8.43E+00
060439K	3.07E+00	2.60E-04	8.13E-05	3.10E+00
060441L	3.64E+00	3.08E-04	9.64E-05	3.67E+00
060442T	2.36E+00	2.00E-04	6.26E-05	2.39E+00
060443A	8.59E-01	7.28E-05	2.28E-05	8.68E-01
060445N	2.08E-01	1.76E-05	5.52E-06	2.10E-01
060449R	1.82E-02	1.54E-06	4.83E-07	1.84E-02
060451S	2.86E-02	2.42E-06	7.58E-07	2.89E-02
060452Y	7.76E-01	6.58E-05	2.06E-05	7.84E-01
060456B	2.13E-02	1.81E-06	5.65E-07	2.16E-02
060457H	3.63E-02	3.08E-06	9.62E-07	3.67E-02
060458P	1.27E-02	1.07E-06	3.35E-07	1.28E-02
060459W	1.42E-02	1.20E-06	3.77E-07	1.44E-02
060460R	3.20E-01	2.71E-05	8.47E-06	3.23E-01
060461X	3.80E-01	3.22E-05	1.01E-05	3.84E-01
060549V	9.57E-01	8.11E-05	2.54E-05	9.67E-01
086287R	9.77E-01	8.27E-05	2.59E-05	9.86E-01
087496C	3.39E-01	2.87E-05	8.99E-06	3.43E-01
087497J	4.97E+00	4.21E-04	1.32E-04	5.02E+00
087499X	6.68E-01	5.66E-05	1.77E-05	6.75E-01
087500P	1.05E+00	8.88E-05	2.78E-05	1.06E+00
087501W	1.16E+00	9.79E-05	3.06E-05	1.17E+00
087503K	1.55E-01	1.31E-05	4.10E-06	1.56E-01
087505Y	4.22E-01	3.57E-05	1.12E-05	4.26E-01
087508U	4.16E-01	3.52E-05	1.10E-05	4.20E-01
087510V	2.69E-02	2.28E-06	7.12E-07	2.71E-02
087514X	2.02E-02	1.71E-06	5.35E-07	2.04E-02
087515E	1.78E-02	1.51E-06	4.71E-07	1.80E-02
087518A	1.10E+00	9.33E-05	2.92E-05	1.11E+00
087523W	2.58E-01	2.18E-05	6.83E-06	2.60E-01
087524D	1.49E+00	1.26E-04	3.94E-05	1.50E+00

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
087525K	2.45E-02	2.07E-06	6.49E-07	2.47E-02
087526S	4.01E-01	3.40E-05	1.06E-05	4.05E-01
087527Y	1.04E-01	8.84E-06	2.76E-06	1.05E-01
087529M	5.93E-01	5.02E-05	1.57E-05	5.99E-01
087531N	3.50E-02	2.96E-06	9.26E-07	3.53E-02
087533C	6.67E-03	5.65E-07	1.77E-07	6.74E-03
087534J	2.08E-02	1.76E-06	5.52E-07	2.10E-02
087535R	1.09E-02	9.27E-07	2.90E-07	1.11E-02
087537E	1.39E-02	1.18E-06	3.69E-07	1.41E-02
087540M	1.12E-01	9.49E-06	2.97E-06	1.13E-01
087541U	1.60E+00	1.35E-04	4.23E-05	1.61E+00
087542B	1.59E+00	1.35E-04	4.22E-05	1.61E+00
087544P	1.24E-01	1.05E-05	3.29E-06	1.25E-01
087545W	6.24E-02	5.29E-06	1.65E-06	6.30E-02
087547K	1.51E-01	1.28E-05	4.01E-06	1.53E-01
087550T	7.03E-01	5.95E-05	1.86E-05	7.10E-01
087551A	7.03E-01	5.95E-05	1.86E-05	7.10E-01
087554V	8.77E-02	7.43E-06	2.32E-06	8.86E-02
087563U	2.79E-01	2.36E-05	7.40E-06	2.82E-01
087565H	1.05E-01	8.87E-06	2.78E-06	1.06E-01
087569K	1.19E-01	1.01E-05	3.15E-06	1.20E-01
087573A	3.13E-01	2.65E-05	8.28E-06	3.16E-01
087574G	4.96E-02	4.20E-06	1.31E-06	5.01E-02
087576V	1.07E-01	9.10E-06	2.85E-06	1.08E-01
087580K	2.15E-01	1.82E-05	5.70E-06	2.17E-01
087584M	4.49E-02	3.80E-06	1.19E-06	4.53E-02
087589W	3.68E-01	3.12E-05	9.76E-06	3.72E-01
087590R	1.03E-02	8.72E-07	2.73E-07	1.04E-02
087591X	2.40E-02	2.03E-06	6.35E-07	2.42E-02
087690V	2.01E-01	1.71E-05	5.34E-06	2.04E-01
087691C	4.12E-01	3.49E-05	1.09E-05	4.16E-01
087694X	3.49E-01	2.95E-05	9.24E-06	3.52E-01
087695E	7.56E-01	6.41E-05	2.00E-05	7.64E-01
087909U	2.25E-02	1.90E-06	5.95E-07	2.27E-02
087910N	2.14E-01	1.81E-05	5.68E-06	2.16E-01
087912C	6.23E-01	5.28E-05	1.65E-05	6.29E-01
087919A	1.12E-01	9.45E-06	2.96E-06	1.13E-01
087920U	6.19E-01	5.25E-05	1.64E-05	6.26E-01
087923P	6.51E-01	5.51E-05	1.72E-05	6.57E-01
087925D	5.08E-01	4.30E-05	1.35E-05	5.13E-01
087926K	1.95E-02	1.66E-06	5.18E-07	1.97E-02
087928Y	3.92E-02	3.32E-06	1.04E-06	3.96E-02
087929F	1.77E-02	1.50E-06	4.69E-07	1.79E-02
092843G	1.31E+00	1.11E-04	3.47E-05	1.32E+00
092844N	1.22E+00	1.03E-04	3.22E-05	1.23E+00
092845V	2.21E-01	1.87E-05	5.85E-06	2.23E-01

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
092846C	1.71E-01	1.45E-05	4.52E-06	1.72E-01
098701L	3.07E-01	2.60E-05	8.13E-06	3.10E-01
098708J	9.83E-02	8.32E-06	2.60E-06	9.92E-02
098743X	1.47E-01	1.24E-05	3.89E-06	1.48E-01
092869J	5.95E-01	5.04E-05	1.58E-05	6.01E-01
092870D	9.35E-01	7.92E-05	2.48E-05	9.45E-01
092862L	4.66E-01	3.95E-05	1.23E-05	4.70E-01
092860X	4.83E-01	4.09E-05	1.28E-05	4.88E-01
092859D	1.96E-02	1.66E-06	5.20E-07	1.98E-02
092854U	4.62E-02	3.91E-06	1.22E-06	4.67E-02
092857P	1.07E-01	9.04E-06	2.83E-06	1.08E-01
092853M	1.42E-02	1.20E-06	3.77E-07	1.44E-02
092852F	9.13E-02	7.74E-06	2.42E-06	9.23E-02
092848R	2.53E-01	2.14E-05	6.70E-06	2.55E-01
060438D	3.69E-01	3.13E-05	9.78E-06	3.73E-01
060551W	2.18E-02	1.84E-06	5.77E-07	2.20E-02
091672E	2.71E-02	2.29E-06	7.17E-07	2.73E-02
091662Y	2.04E-01	1.73E-05	5.40E-06	2.06E-01
Total Emissions	6.40E+01	5.42E-03	1.70E-03	6.46E+01

Table V.2-49. Grade Crossing Emissions, Segment 18 – Northern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
071122Y	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.93E-07	1.75E-05
071123F	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.93E-07	1.75E-05
071124M	2.57E-04	3.98E-05	1.29E-08	1.11E-06	1.06E-06	2.20E-07	1.32E-05
071126B	4.08E-03	6.32E-04	2.05E-07	1.77E-05	1.68E-05	3.49E-06	2.09E-04
071129W	3.42E-04	5.31E-05	1.72E-08	1.48E-06	1.41E-06	2.93E-07	1.76E-05
071131X	5.99E-04	9.28E-05	3.01E-08	2.60E-06	2.47E-06	5.12E-07	3.07E-05
071132E	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071133L	4.27E-04	6.62E-05	2.15E-08	1.85E-06	1.76E-06	3.65E-07	2.19E-05
071134T	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071136G	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071138V	1.11E-03	1.72E-04	5.58E-08	4.82E-06	4.58E-06	9.51E-07	5.70E-05
071140W	3.42E-04	5.31E-05	1.72E-08	1.48E-06	1.41E-06	2.93E-07	1.76E-05
071142K	6.85E-04	1.06E-04	3.44E-08	2.97E-06	2.82E-06	5.86E-07	3.51E-05
071144Y	8.36E-03	1.30E-03	4.20E-07	3.63E-05	3.44E-05	7.15E-06	4.29E-04
071145F	8.59E-03	1.33E-03	4.32E-07	3.72E-05	3.54E-05	7.35E-06	4.40E-04
071146M	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071147U	2.56E-04	3.97E-05	1.29E-08	1.11E-06	1.05E-06	2.19E-07	1.31E-05
071149H	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071150C	1.71E-04	2.65E-05	8.59E-09	7.41E-07	7.04E-07	1.46E-07	8.76E-06
071152R	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071154E	7.35E-02	1.14E-02	3.70E-06	3.19E-04	3.03E-04	6.29E-05	3.77E-03
071156T	1.66E-02	2.57E-03	8.33E-07	7.18E-05	6.82E-05	1.42E-05	8.50E-04
071158G	6.15E-02	9.53E-03	3.09E-06	2.67E-04	2.53E-04	5.26E-05	3.15E-03
071160H	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.93E-07	1.75E-05
071161P	1.71E-04	2.65E-05	8.59E-09	7.41E-07	7.04E-07	1.46E-07	8.77E-06
071162W	1.71E-04	2.65E-05	8.59E-09	7.41E-07	7.04E-07	1.46E-07	8.76E-06
071163D	5.96E-03	9.24E-04	2.99E-07	2.58E-05	2.45E-05	5.10E-06	3.06E-04
071164K	7.36E-02	1.14E-02	3.70E-06	3.19E-04	3.03E-04	6.30E-05	3.77E-03
071165S	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.93E-07	1.75E-05
071166Y	1.03E-03	1.60E-04	5.17E-08	4.46E-06	4.24E-06	8.81E-07	5.28E-05
071167F	5.99E-04	9.29E-05	3.01E-08	2.60E-06	2.47E-06	5.13E-07	3.07E-05
071171V	4.34E-03	6.73E-04	2.18E-07	1.88E-05	1.79E-05	3.71E-06	2.23E-04
071173J	2.57E-04	3.98E-05	1.29E-08	1.11E-06	1.06E-06	2.20E-07	1.32E-05
071174R	1.12E-03	1.73E-04	5.61E-08	4.84E-06	4.60E-06	9.55E-07	5.72E-05
071175X	9.43E-04	1.46E-04	4.74E-08	4.09E-06	3.89E-06	8.07E-07	4.84E-05
071180U	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071185D	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071188Y	4.27E-04	6.63E-05	2.15E-08	1.85E-06	1.76E-06	3.66E-07	2.19E-05
071190A	5.14E-04	7.98E-05	2.58E-08	2.23E-06	2.12E-06	4.40E-07	2.64E-05
071191G	1.07E-02	1.66E-03	5.38E-07	4.64E-05	4.41E-05	9.16E-06	5.49E-04
071192N	9.65E-03	1.50E-03	4.85E-07	4.19E-05	3.98E-05	8.26E-06	4.95E-04
071224S	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071226F	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071228U	2.56E-04	3.97E-05	1.29E-08	1.11E-06	1.05E-06	2.19E-07	1.31E-05
071229B	2.41E-03	3.74E-04	1.21E-07	1.05E-05	9.93E-06	2.06E-06	1.24E-04
071232J	4.27E-04	6.63E-05	2.15E-08	1.85E-06	1.76E-06	3.66E-07	2.19E-05
071233R	2.56E-04	3.97E-05	1.29E-08	1.11E-06	1.05E-06	2.19E-07	1.31E-05

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
071235E	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071236L	4.78E-03	7.41E-04	2.40E-07	2.07E-05	1.97E-05	4.09E-06	2.45E-04
071238A	2.56E-04	3.97E-05	1.29E-08	1.11E-06	1.05E-06	2.19E-07	1.31E-05
071239G	4.43E-03	6.86E-04	2.22E-07	1.92E-05	1.82E-05	3.79E-06	2.27E-04
071240B	9.20E-03	1.43E-03	4.62E-07	3.99E-05	3.79E-05	7.87E-06	4.72E-04
071242P	1.71E-04	2.65E-05	8.58E-09	7.40E-07	7.03E-07	1.46E-07	8.76E-06
071244D	2.56E-04	3.97E-05	1.29E-08	1.11E-06	1.05E-06	2.19E-07	1.31E-05
071246S	4.27E-04	6.63E-05	2.15E-08	1.85E-06	1.76E-06	3.66E-07	2.19E-05
071248F	5.85E-03	9.07E-04	2.94E-07	2.54E-05	2.41E-05	5.00E-06	3.00E-04
071249M	6.77E-03	1.05E-03	3.40E-07	2.93E-05	2.79E-05	5.79E-06	3.47E-04
071250G	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.92E-07	1.75E-05
071253C	3.93E-02	6.10E-03	1.98E-06	1.71E-04	1.62E-04	3.37E-05	2.02E-03
071256X	1.02E-01	1.58E-02	5.12E-06	4.41E-04	4.19E-04	8.71E-05	5.22E-03
071257E	4.89E-03	7.58E-04	2.46E-07	2.12E-05	2.01E-05	4.18E-06	2.51E-04
071258L	1.57E-03	2.43E-04	7.88E-08	6.80E-06	6.45E-06	1.34E-06	8.04E-05
071260M	2.65E-01	4.11E-02	1.33E-05	1.15E-03	1.09E-03	2.27E-04	1.36E-02
071261U	3.21E-02	4.97E-03	1.61E-06	1.39E-04	1.32E-04	2.74E-05	1.65E-03
086394F	3.42E-04	5.30E-05	1.72E-08	1.48E-06	1.41E-06	2.93E-07	1.75E-05
087633G	2.68E-04	4.15E-05	1.35E-08	1.16E-06	1.10E-06	2.29E-07	1.37E-05
087634N	1.52E-03	2.36E-04	7.64E-08	6.59E-06	6.26E-06	1.30E-06	7.80E-05
087635V	2.73E-04	4.24E-05	1.37E-08	1.18E-06	1.12E-06	2.34E-07	1.40E-05
087636C	1.55E-03	2.40E-04	7.77E-08	6.70E-06	6.36E-06	1.32E-06	7.93E-05
087641Y	9.82E-04	1.52E-04	4.93E-08	4.26E-06	4.04E-06	8.40E-07	5.04E-05
087642F	4.50E-04	6.98E-05	2.26E-08	1.95E-06	1.85E-06	3.85E-07	2.31E-05
087643M	8.02E-04	1.24E-04	4.03E-08	3.48E-06	3.30E-06	6.87E-07	4.12E-05
087644U	4.90E-04	7.60E-05	2.46E-08	2.13E-06	2.02E-06	4.19E-07	2.51E-05
087646H	5.65E-03	8.77E-04	2.84E-07	2.45E-05	2.33E-05	4.84E-06	2.90E-04
087647P	2.83E-03	4.38E-04	1.42E-07	1.23E-05	1.16E-05	2.42E-06	1.45E-04
087648W	4.43E-03	6.88E-04	2.23E-07	1.92E-05	1.83E-05	3.79E-06	2.27E-04
087649D	5.05E-03	7.84E-04	2.54E-07	2.19E-05	2.08E-05	4.32E-06	2.59E-04
087651E	2.45E-03	3.79E-04	1.23E-07	1.06E-05	1.01E-05	2.09E-06	1.26E-04
087652L	2.47E-03	3.83E-04	1.24E-07	1.07E-05	1.02E-05	2.12E-06	1.27E-04
087654A	1.82E-03	2.82E-04	9.15E-08	7.90E-06	7.50E-06	1.56E-06	9.34E-05
087655G	1.74E-04	2.70E-05	8.76E-09	7.56E-07	7.18E-07	1.49E-07	8.94E-06
087656N	4.30E-03	6.67E-04	2.16E-07	1.86E-05	1.77E-05	3.68E-06	2.21E-04
087657V	8.56E-04	1.33E-04	4.30E-08	3.71E-06	3.52E-06	7.32E-07	4.39E-05
087658C	2.52E-02	3.91E-03	1.27E-06	1.09E-04	1.04E-04	2.16E-05	1.29E-03
087659J	6.82E-03	1.06E-03	3.43E-07	2.96E-05	2.81E-05	5.84E-06	3.50E-04
087660D	2.80E-02	4.34E-03	1.41E-06	1.21E-04	1.15E-04	2.39E-05	1.44E-03
087661K	5.70E-02	8.84E-03	2.87E-06	2.47E-04	2.35E-04	4.88E-05	2.93E-03
087662S	7.47E-02	1.16E-02	3.75E-06	3.24E-04	3.07E-04	6.39E-05	3.83E-03
087665M	7.09E-02	1.10E-02	3.56E-06	3.07E-04	2.92E-04	6.07E-05	3.64E-03
087667B	1.67E-01	2.59E-02	8.39E-06	7.24E-04	6.88E-04	1.43E-04	8.57E-03
087674L	2.80E-02	4.34E-03	1.41E-06	1.21E-04	1.15E-04	2.40E-05	1.44E-03
087675T	1.09E-01	1.69E-02	5.49E-06	4.74E-04	4.50E-04	9.35E-05	5.60E-03
087683K	3.46E-03	5.37E-04	1.74E-07	1.50E-05	1.43E-05	2.96E-06	1.78E-04
087684S	2.27E-02	3.52E-03	1.14E-06	9.86E-05	9.36E-05	1.94E-05	1.17E-03
087702M	3.53E-04	5.48E-05	1.78E-08	1.53E-06	1.46E-06	3.02E-07	1.81E-05
087704B	5.87E-03	9.11E-04	2.95E-07	2.55E-05	2.42E-05	5.03E-06	3.01E-04

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
087705H	7.23E-03	1.12E-03	3.63E-07	3.13E-05	2.98E-05	6.18E-06	3.71E-04
087706P	3.92E-04	6.08E-05	1.97E-08	1.70E-06	1.61E-06	3.36E-07	2.01E-05
087709K	5.52E-03	8.56E-04	2.77E-07	2.39E-05	2.27E-05	4.72E-06	2.83E-04
087710E	4.88E-03	7.57E-04	2.45E-07	2.12E-05	2.01E-05	4.18E-06	2.50E-04
087713A	1.52E-03	2.36E-04	7.64E-08	6.59E-06	6.26E-06	1.30E-06	7.80E-05
087715N	8.71E-03	1.35E-03	4.38E-07	3.78E-05	3.59E-05	7.46E-06	4.47E-04
087716V	1.28E-03	1.99E-04	6.44E-08	5.56E-06	5.28E-06	1.10E-06	6.57E-05
087717C	4.23E-03	6.56E-04	2.13E-07	1.83E-05	1.74E-05	3.62E-06	2.17E-04
087718J	4.27E-04	6.62E-05	2.15E-08	1.85E-06	1.76E-06	3.66E-07	2.19E-05
087719R	5.85E-04	9.07E-05	2.94E-08	2.54E-06	2.41E-06	5.01E-07	3.00E-05
087720K	3.78E-04	5.86E-05	1.90E-08	1.64E-06	1.56E-06	3.23E-07	1.94E-05
087721S	3.88E-02	6.01E-03	1.95E-06	1.68E-04	1.60E-04	3.32E-05	1.99E-03
087722Y	2.85E-02	4.41E-03	1.43E-06	1.23E-04	1.17E-04	2.43E-05	1.46E-03
087725U	2.95E-02	4.57E-03	1.48E-06	1.28E-04	1.21E-04	2.52E-05	1.51E-03
087726B	2.17E-02	3.37E-03	1.09E-06	9.41E-05	8.94E-05	1.86E-05	1.11E-03
087760H	7.51E-02	1.16E-02	3.77E-06	3.26E-04	3.09E-04	6.43E-05	3.85E-03
087762W	1.05E-03	1.63E-04	5.27E-08	4.55E-06	4.32E-06	8.97E-07	5.38E-05
087764K	5.79E-02	8.98E-03	2.91E-06	2.51E-04	2.38E-04	4.95E-05	2.97E-03
087766Y	8.41E-04	1.30E-04	4.23E-08	3.65E-06	3.46E-06	7.19E-07	4.31E-05
087768M	1.75E-02	2.71E-03	8.79E-07	7.58E-05	7.20E-05	1.50E-05	8.97E-04
087769U	2.62E-04	4.07E-05	1.32E-08	1.14E-06	1.08E-06	2.24E-07	1.35E-05
087781B	5.49E-02	8.52E-03	2.76E-06	2.38E-04	2.26E-04	4.70E-05	2.82E-03
087782H	5.21E-03	8.09E-04	2.62E-07	2.26E-05	2.15E-05	4.46E-06	2.67E-04
087783P	3.18E-02	4.93E-03	1.60E-06	1.38E-04	1.31E-04	2.72E-05	1.63E-03
087784W	4.37E-03	6.78E-04	2.20E-07	1.89E-05	1.80E-05	3.74E-06	2.24E-04
087785D	4.88E-04	7.57E-05	2.45E-08	2.12E-06	2.01E-06	4.18E-07	2.50E-05
087786K	6.99E-04	1.08E-04	3.51E-08	3.03E-06	2.88E-06	5.98E-07	3.59E-05
087787S	4.14E-03	6.42E-04	2.08E-07	1.80E-05	1.70E-05	3.54E-06	2.12E-04
087788Y	8.43E-04	1.31E-04	4.23E-08	3.65E-06	3.47E-06	7.21E-07	4.32E-05
087790A	3.38E-03	5.24E-04	1.70E-07	1.46E-05	1.39E-05	2.89E-06	1.73E-04
087791G	6.72E-04	1.04E-04	3.38E-08	2.91E-06	2.77E-06	5.75E-07	3.45E-05
087792N	1.37E-03	2.13E-04	6.90E-08	5.95E-06	5.65E-06	1.17E-06	7.04E-05
087793V	2.44E-04	3.78E-05	1.23E-08	1.06E-06	1.01E-06	2.09E-07	1.25E-05
087794C	1.56E-03	2.42E-04	7.84E-08	6.76E-06	6.42E-06	1.33E-06	8.00E-05
087795J	2.19E-04	3.40E-05	1.10E-08	9.50E-07	9.02E-07	1.87E-07	1.12E-05
087798E	1.12E-03	1.74E-04	5.65E-08	4.87E-06	4.63E-06	9.62E-07	5.77E-05
087799L	2.56E-04	3.96E-05	1.29E-08	1.11E-06	1.05E-06	2.19E-07	1.31E-05
087800D	3.68E-03	5.70E-04	1.85E-07	1.59E-05	1.51E-05	3.14E-06	1.89E-04
087801K	1.93E-02	3.00E-03	9.71E-07	8.38E-05	7.96E-05	1.65E-05	9.91E-04
087804F	2.57E-03	3.99E-04	1.29E-07	1.11E-05	1.06E-05	2.20E-06	1.32E-04
087668H	5.39E-02	8.35E-03	2.71E-06	2.34E-04	2.22E-04	4.61E-05	2.76E-03
087699G	6.89E-03	1.07E-03	3.46E-07	2.99E-05	2.84E-05	5.90E-06	3.54E-04
071257E	3.00E-02	4.64E-03	1.51E-06	1.30E-04	1.23E-04	2.56E-05	1.54E-03
071256X	2.00E-02	3.10E-03	1.00E-06	8.67E-05	8.23E-05	1.71E-05	1.03E-03
103805G	3.05E-04	4.73E-05	1.53E-08	1.32E-06	1.26E-06	2.61E-07	1.56E-05
103730K	1.16E-02	1.80E-03	5.83E-07	5.03E-05	4.78E-05	9.93E-06	5.95E-04
071241H	3.90E-04	6.05E-05	1.96E-08	1.69E-06	1.61E-06	3.34E-07	2.00E-05
071120K	2.28E-03	3.54E-04	1.15E-07	9.89E-06	9.40E-06	1.95E-06	1.17E-04
071109K	4.83E-03	7.49E-04	2.43E-07	2.09E-05	1.99E-05	4.13E-06	2.48E-04

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
071108D	2.70E-02	4.18E-03	1.36E-06	1.17E-04	1.11E-04	2.31E-05	1.38E-03
071105H	4.27E-03	6.62E-04	2.15E-07	1.85E-05	1.76E-05	3.65E-06	2.19E-04
071103U	1.96E-02	3.04E-03	9.84E-07	8.49E-05	8.06E-05	1.68E-05	1.00E-03
071101F	1.24E-03	1.92E-04	6.23E-08	5.37E-06	5.11E-06	1.06E-06	6.36E-05
071100Y	2.45E-04	3.80E-05	1.23E-08	1.06E-06	1.01E-06	2.10E-07	1.26E-05
071099G	6.17E-04	9.56E-05	3.10E-08	2.67E-06	2.54E-06	5.28E-07	3.16E-05
071098A	3.17E-04	4.91E-05	1.59E-08	1.37E-06	1.30E-06	2.71E-07	1.62E-05
071097T	1.38E-02	2.14E-03	6.94E-07	5.98E-05	5.68E-05	1.18E-05	7.08E-04
071095E	4.28E-04	6.64E-05	2.15E-08	1.86E-06	1.76E-06	3.66E-07	2.20E-05
071092J	1.28E-02	1.98E-03	6.42E-07	5.54E-05	5.26E-05	1.09E-05	6.56E-04
071089B	2.82E-04	4.38E-05	1.42E-08	1.22E-06	1.16E-06	2.42E-07	1.45E-05
071087M	2.31E-03	3.58E-04	1.16E-07	1.00E-05	9.50E-06	1.97E-06	1.18E-04
071086F	6.09E-04	9.45E-05	3.06E-08	2.64E-06	2.51E-06	5.21E-07	3.13E-05
071085Y	5.06E-03	7.84E-04	2.54E-07	2.19E-05	2.08E-05	4.33E-06	2.59E-04
071084S	1.08E-01	1.67E-02	5.41E-06	4.67E-04	4.43E-04	9.21E-05	5.52E-03
071009F	2.94E-02	4.56E-03	1.48E-06	1.27E-04	1.21E-04	2.51E-05	1.51E-03
070828T	1.10E-01	1.70E-02	5.53E-06	4.77E-04	4.53E-04	9.41E-05	5.64E-03
070810H	5.80E-02	8.99E-03	2.91E-06	2.51E-04	2.39E-04	4.96E-05	2.97E-03
070809N	2.38E-02	3.69E-03	1.20E-06	1.03E-04	9.80E-05	2.04E-05	1.22E-03
070807A	4.97E-02	7.71E-03	2.50E-06	2.16E-04	2.05E-04	4.26E-05	2.55E-03
080763E	7.10E-02	1.10E-02	3.57E-06	3.08E-04	2.93E-04	6.08E-05	3.64E-03
070798D	3.92E-02	6.07E-03	1.97E-06	1.70E-04	1.61E-04	3.35E-05	2.01E-03
062952D	1.29E-01	2.00E-02	6.49E-06	5.60E-04	5.32E-04	1.11E-04	6.63E-03
062949V	1.01E-01	1.56E-02	5.06E-06	4.36E-04	4.14E-04	8.61E-05	5.16E-03
062931K	8.41E-02	1.30E-02	4.23E-06	3.65E-04	3.46E-04	7.19E-05	4.31E-03
062932S	7.43E-02	1.15E-02	3.73E-06	3.22E-04	3.06E-04	6.36E-05	3.81E-03
062930D	4.26E-02	6.60E-03	2.14E-06	1.85E-04	1.75E-04	3.64E-05	2.18E-03
062927V	1.54E-02	2.39E-03	7.74E-07	6.68E-05	6.34E-05	1.32E-05	7.90E-04
062946A	5.66E-02	8.78E-03	2.85E-06	2.46E-04	2.33E-04	4.85E-05	2.90E-03
Total Emissions	3.06E+00	4.75E-01	1.54E-04	1.33E-02	1.26E-02	2.62E-03	1.57E-01

Table V.2-50. Grade Crossing Emissions, Segment 18 – Northern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
071122Y	1.22E-06	1.75E-07	6.41E-07	1.40E-08	1.10E-07	3.77E-07	9.49E-08	5.26E-07	6.67E-07
071123F	1.22E-06	1.75E-07	6.41E-07	1.40E-08	1.10E-07	3.77E-07	9.49E-08	5.26E-07	6.67E-07
071124M	9.13E-07	1.32E-07	4.81E-07	1.05E-08	8.26E-08	2.83E-07	7.12E-08	3.95E-07	5.00E-07
071126B	1.45E-05	2.09E-06	7.64E-06	1.67E-07	1.31E-06	4.49E-06	1.13E-06	6.27E-06	7.95E-06
071129W	1.22E-06	1.75E-07	6.41E-07	1.40E-08	1.10E-07	3.77E-07	9.50E-08	5.27E-07	6.67E-07
071131X	2.13E-06	3.07E-07	1.12E-06	2.46E-08	1.93E-07	6.60E-07	1.66E-07	9.21E-07	1.17E-06
071132E	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071133L	1.52E-06	2.19E-07	8.00E-07	1.75E-08	1.37E-07	4.70E-07	1.19E-07	6.57E-07	8.32E-07
071134T	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071136G	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071138V	3.95E-06	5.69E-07	2.08E-06	4.56E-08	3.57E-07	1.22E-06	3.08E-07	1.71E-06	2.17E-06
071140W	1.22E-06	1.75E-07	6.41E-07	1.40E-08	1.10E-07	3.77E-07	9.50E-08	5.27E-07	6.67E-07
071142K	2.43E-06	3.51E-07	1.28E-06	2.81E-08	2.20E-07	7.54E-07	1.90E-07	1.05E-06	1.33E-06
071144Y	2.97E-05	4.28E-06	1.57E-05	3.43E-07	2.69E-06	9.21E-06	2.32E-06	1.29E-05	1.63E-05
071145F	3.05E-05	4.40E-06	1.61E-05	3.52E-07	2.76E-06	9.46E-06	2.38E-06	1.32E-05	1.67E-05
071146M	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071147U	9.11E-07	1.31E-07	4.80E-07	1.05E-08	8.24E-08	2.82E-07	7.11E-08	3.94E-07	4.99E-07
071149H	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071150C	6.08E-07	8.75E-08	3.20E-07	7.01E-09	5.49E-08	1.88E-07	4.74E-08	2.63E-07	3.33E-07
071152R	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071154E	2.62E-04	3.77E-05	1.38E-04	3.02E-06	2.36E-05	8.10E-05	2.04E-05	1.13E-04	1.43E-04
071156T	5.89E-05	8.49E-06	3.10E-05	6.80E-07	5.33E-06	1.82E-05	4.60E-06	2.55E-05	3.23E-05
071158G	2.19E-04	3.15E-05	1.15E-04	2.52E-06	1.98E-05	6.77E-05	1.71E-05	9.46E-05	1.20E-04
071160H	1.22E-06	1.75E-07	6.41E-07	1.40E-08	1.10E-07	3.77E-07	9.49E-08	5.26E-07	6.67E-07
071161P	6.08E-07	8.76E-08	3.20E-07	7.02E-09	5.50E-08	1.88E-07	4.75E-08	2.63E-07	3.33E-07
071162W	6.08E-07	8.75E-08	3.20E-07	7.01E-09	5.49E-08	1.88E-07	4.74E-08	2.63E-07	3.33E-07
071163D	2.12E-05	3.05E-06	1.12E-05	2.45E-07	1.92E-06	6.56E-06	1.65E-06	9.17E-06	1.16E-05
071164K	2.62E-04	3.77E-05	1.38E-04	3.02E-06	2.37E-05	8.11E-05	2.04E-05	1.13E-04	1.43E-04
071165S	1.22E-06	1.75E-07	6.41E-07	1.40E-08	1.10E-07	3.77E-07	9.49E-08	5.26E-07	6.67E-07
071166Y	3.66E-06	5.28E-07	1.93E-06	4.22E-08	3.31E-07	1.13E-06	2.86E-07	1.58E-06	2.01E-06
071167F	2.13E-06	3.07E-07	1.12E-06	2.46E-08	1.93E-07	6.60E-07	1.66E-07	9.22E-07	1.17E-06
071171V	1.54E-05	2.22E-06	8.13E-06	1.78E-07	1.40E-06	4.78E-06	1.20E-06	6.68E-06	8.46E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
071173J	9.13E-07	1.32E-07	4.81E-07	1.05E-08	8.26E-08	2.83E-07	7.12E-08	3.95E-07	5.00E-07
071174R	3.97E-06	5.72E-07	2.09E-06	4.58E-08	3.59E-07	1.23E-06	3.10E-07	1.72E-06	2.18E-06
071175X	3.36E-06	4.83E-07	1.77E-06	3.87E-08	3.03E-07	1.04E-06	2.62E-07	1.45E-06	1.84E-06
071180U	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071185D	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071188Y	1.52E-06	2.19E-07	8.01E-07	1.75E-08	1.37E-07	4.71E-07	1.19E-07	6.57E-07	8.33E-07
071190A	1.83E-06	2.64E-07	9.64E-07	2.11E-08	1.65E-07	5.67E-07	1.43E-07	7.91E-07	1.00E-06
071191G	3.81E-05	5.49E-06	2.01E-05	4.39E-07	3.44E-06	1.18E-05	2.97E-06	1.65E-05	2.09E-05
071192N	3.43E-05	4.95E-06	1.81E-05	3.96E-07	3.10E-06	1.06E-05	2.68E-06	1.49E-05	1.88E-05
071224S	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071226F	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071228U	9.11E-07	1.31E-07	4.80E-07	1.05E-08	8.24E-08	2.82E-07	7.11E-08	3.94E-07	4.99E-07
071229B	8.57E-06	1.24E-06	4.52E-06	9.89E-08	7.75E-07	2.66E-06	6.69E-07	3.71E-06	4.70E-06
071232J	1.52E-06	2.19E-07	8.01E-07	1.75E-08	1.37E-07	4.71E-07	1.19E-07	6.57E-07	8.33E-07
071233R	9.11E-07	1.31E-07	4.80E-07	1.05E-08	8.24E-08	2.82E-07	7.11E-08	3.94E-07	4.99E-07
071235E	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071236L	1.70E-05	2.45E-06	8.95E-06	1.96E-07	1.54E-06	5.27E-06	1.33E-06	7.35E-06	9.32E-06
071238A	9.11E-07	1.31E-07	4.80E-07	1.05E-08	8.24E-08	2.82E-07	7.11E-08	3.94E-07	4.99E-07
071239G	1.57E-05	2.27E-06	8.29E-06	1.82E-07	1.42E-06	4.88E-06	1.23E-06	6.81E-06	8.63E-06
071240B	3.27E-05	4.71E-06	1.72E-05	3.77E-07	2.96E-06	1.01E-05	2.55E-06	1.42E-05	1.79E-05
071242P	6.07E-07	8.75E-08	3.20E-07	7.00E-09	5.49E-08	1.88E-07	4.74E-08	2.63E-07	3.33E-07
071244D	9.11E-07	1.31E-07	4.80E-07	1.05E-08	8.24E-08	2.82E-07	7.11E-08	3.94E-07	4.99E-07
071246S	1.52E-06	2.19E-07	8.01E-07	1.75E-08	1.37E-07	4.71E-07	1.19E-07	6.57E-07	8.33E-07
071248F	2.08E-05	3.00E-06	1.10E-05	2.40E-07	1.88E-06	6.44E-06	1.62E-06	8.99E-06	1.14E-05
071249M	2.41E-05	3.47E-06	1.27E-05	2.78E-07	2.18E-06	7.45E-06	1.88E-06	1.04E-05	1.32E-05
071250G	1.22E-06	1.75E-07	6.40E-07	1.40E-08	1.10E-07	3.76E-07	9.48E-08	5.26E-07	6.66E-07
071253C	1.40E-04	2.02E-05	7.37E-05	1.61E-06	1.27E-05	4.33E-05	1.09E-05	6.05E-05	7.67E-05
071256X	3.62E-04	5.22E-05	1.91E-04	4.18E-06	3.27E-05	1.12E-04	2.83E-05	1.57E-04	1.98E-04
071257E	1.74E-05	2.51E-06	9.16E-06	2.01E-07	1.57E-06	5.39E-06	1.36E-06	7.52E-06	9.53E-06
071258L	5.57E-06	8.03E-07	2.94E-06	6.43E-08	5.04E-07	1.73E-06	4.35E-07	2.41E-06	3.05E-06
071260M	9.42E-04	1.36E-04	4.96E-04	1.09E-05	8.52E-05	2.92E-04	7.35E-05	4.08E-04	5.16E-04
071261U	1.14E-04	1.64E-05	6.01E-05	1.32E-06	1.03E-05	3.53E-05	8.90E-06	4.93E-05	6.25E-05
086394F	1.22E-06	1.75E-07	6.41E-07	1.40E-08	1.10E-07	3.77E-07	9.49E-08	5.26E-07	6.67E-07
087633G	9.53E-07	1.37E-07	5.02E-07	1.10E-08	8.61E-08	2.95E-07	7.43E-08	4.12E-07	5.22E-07
087634N	5.41E-06	7.79E-07	2.85E-06	6.24E-08	4.89E-07	1.67E-06	4.22E-07	2.34E-06	2.96E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087635V	9.72E-07	1.40E-07	5.12E-07	1.12E-08	8.78E-08	3.01E-07	7.58E-08	4.20E-07	5.32E-07
087636C	5.50E-06	7.92E-07	2.90E-06	6.34E-08	4.97E-07	1.70E-06	4.29E-07	2.38E-06	3.01E-06
087641Y	3.49E-06	5.03E-07	1.84E-06	4.03E-08	3.16E-07	1.08E-06	2.72E-07	1.51E-06	1.91E-06
087642F	1.60E-06	2.31E-07	8.44E-07	1.85E-08	1.45E-07	4.96E-07	1.25E-07	6.93E-07	8.78E-07
087643M	2.85E-06	4.11E-07	1.50E-06	3.29E-08	2.58E-07	8.84E-07	2.23E-07	1.23E-06	1.56E-06
087644U	1.74E-06	2.51E-07	9.18E-07	2.01E-08	1.58E-07	5.40E-07	1.36E-07	7.54E-07	9.55E-07
087646H	2.01E-05	2.90E-06	1.06E-05	2.32E-07	1.82E-06	6.23E-06	1.57E-06	8.70E-06	1.10E-05
087647P	1.01E-05	1.45E-06	5.29E-06	1.16E-07	9.09E-07	3.11E-06	7.84E-07	4.35E-06	5.51E-06
087648W	1.58E-05	2.27E-06	8.31E-06	1.82E-07	1.43E-06	4.88E-06	1.23E-06	6.82E-06	8.64E-06
087649D	1.80E-05	2.59E-06	9.47E-06	2.07E-07	1.63E-06	5.57E-06	1.40E-06	7.78E-06	9.85E-06
087651E	8.70E-06	1.25E-06	4.58E-06	1.00E-07	7.87E-07	2.70E-06	6.79E-07	3.76E-06	4.77E-06
087652L	8.79E-06	1.27E-06	4.63E-06	1.01E-07	7.95E-07	2.72E-06	6.86E-07	3.80E-06	4.82E-06
087654A	6.48E-06	9.33E-07	3.41E-06	7.47E-08	5.86E-07	2.01E-06	5.05E-07	2.80E-06	3.55E-06
087655G	6.20E-07	8.93E-08	3.26E-07	7.15E-09	5.60E-08	1.92E-07	4.84E-08	2.68E-07	3.40E-07
087656N	1.53E-05	2.20E-06	8.05E-06	1.76E-07	1.38E-06	4.74E-06	1.19E-06	6.61E-06	8.38E-06
087657V	3.04E-06	4.39E-07	1.60E-06	3.51E-08	2.75E-07	9.43E-07	2.37E-07	1.32E-06	1.67E-06
087658C	8.97E-05	1.29E-05	4.73E-05	1.04E-06	8.11E-06	2.78E-05	7.00E-06	3.88E-05	4.92E-05
087659J	2.43E-05	3.50E-06	1.28E-05	2.80E-07	2.19E-06	7.51E-06	1.89E-06	1.05E-05	1.33E-05
087660D	9.95E-05	1.43E-05	5.24E-05	1.15E-06	9.00E-06	3.08E-05	7.77E-06	4.31E-05	5.46E-05
087661K	2.03E-04	2.92E-05	1.07E-04	2.34E-06	1.83E-05	6.28E-05	1.58E-05	8.77E-05	1.11E-04
087662S	2.66E-04	3.83E-05	1.40E-04	3.06E-06	2.40E-05	8.22E-05	2.07E-05	1.15E-04	1.46E-04
087665M	2.52E-04	3.63E-05	1.33E-04	2.91E-06	2.28E-05	7.81E-05	1.97E-05	1.09E-04	1.38E-04
087667B	5.94E-04	8.56E-05	3.13E-04	6.85E-06	5.37E-05	1.84E-04	4.63E-05	2.57E-04	3.25E-04
087674L	9.96E-05	1.43E-05	5.24E-05	1.15E-06	9.00E-06	3.08E-05	7.77E-06	4.31E-05	5.46E-05
087675T	3.89E-04	5.60E-05	2.05E-04	4.48E-06	3.51E-05	1.20E-04	3.03E-05	1.68E-04	2.13E-04
087683K	1.23E-05	1.78E-06	6.49E-06	1.42E-07	1.11E-06	3.82E-06	9.61E-07	5.33E-06	6.75E-06
087684S	8.09E-05	1.16E-05	4.26E-05	9.33E-07	7.31E-06	2.50E-05	6.31E-06	3.50E-05	4.43E-05
087702M	1.26E-06	1.81E-07	6.62E-07	1.45E-08	1.14E-07	3.89E-07	9.81E-08	5.44E-07	6.89E-07
087704B	2.09E-05	3.01E-06	1.10E-05	2.41E-07	1.89E-06	6.47E-06	1.63E-06	9.04E-06	1.15E-05
087705H	2.57E-05	3.70E-06	1.35E-05	2.97E-07	2.32E-06	7.96E-06	2.01E-06	1.11E-05	1.41E-05
087706P	1.39E-06	2.01E-07	7.35E-07	1.61E-08	1.26E-07	4.32E-07	1.09E-07	6.03E-07	7.64E-07
087709K	1.96E-05	2.83E-06	1.03E-05	2.26E-07	1.78E-06	6.08E-06	1.53E-06	8.49E-06	1.08E-05
087710E	1.74E-05	2.50E-06	9.15E-06	2.00E-07	1.57E-06	5.38E-06	1.35E-06	7.51E-06	9.51E-06
087713A	5.41E-06	7.79E-07	2.85E-06	6.24E-08	4.89E-07	1.67E-06	4.22E-07	2.34E-06	2.96E-06
087715N	3.10E-05	4.47E-06	1.63E-05	3.58E-07	2.80E-06	9.60E-06	2.42E-06	1.34E-05	1.70E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087716V	4.56E-06	6.57E-07	2.40E-06	5.26E-08	4.12E-07	1.41E-06	3.56E-07	1.97E-06	2.50E-06
087717C	1.50E-05	2.17E-06	7.92E-06	1.74E-07	1.36E-06	4.66E-06	1.17E-06	6.50E-06	8.24E-06
087718J	1.52E-06	2.19E-07	8.00E-07	1.75E-08	1.37E-07	4.71E-07	1.19E-07	6.57E-07	8.33E-07
087719R	2.08E-06	3.00E-07	1.10E-06	2.40E-08	1.88E-07	6.45E-07	1.62E-07	9.00E-07	1.14E-06
087720K	1.34E-06	1.94E-07	7.08E-07	1.55E-08	1.22E-07	4.16E-07	1.05E-07	5.82E-07	7.37E-07
087721S	1.38E-04	1.99E-05	7.26E-05	1.59E-06	1.25E-05	4.27E-05	1.08E-05	5.96E-05	7.55E-05
087722Y	1.01E-04	1.46E-05	5.33E-05	1.17E-06	9.15E-06	3.13E-05	7.90E-06	4.38E-05	5.55E-05
087725U	1.05E-04	1.51E-05	5.52E-05	1.21E-06	9.48E-06	3.25E-05	8.18E-06	4.54E-05	5.75E-05
087726B	7.72E-05	1.11E-05	4.07E-05	8.91E-07	6.98E-06	2.39E-05	6.02E-06	3.34E-05	4.23E-05
087760H	2.67E-04	3.85E-05	1.41E-04	3.08E-06	2.42E-05	8.27E-05	2.08E-05	1.16E-04	1.46E-04
087762W	3.73E-06	5.37E-07	1.96E-06	4.30E-08	3.37E-07	1.15E-06	2.91E-07	1.61E-06	2.04E-06
087764K	2.06E-04	2.97E-05	1.08E-04	2.38E-06	1.86E-05	6.38E-05	1.61E-05	8.91E-05	1.13E-04
087766Y	2.99E-06	4.31E-07	1.58E-06	3.45E-08	2.70E-07	9.26E-07	2.33E-07	1.29E-06	1.64E-06
087768M	6.22E-05	8.96E-06	3.28E-05	7.18E-07	5.62E-06	1.93E-05	4.85E-06	2.69E-05	3.41E-05
087769U	9.33E-07	1.34E-07	4.91E-07	1.08E-08	8.44E-08	2.89E-07	7.28E-08	4.03E-07	5.11E-07
087781B	1.95E-04	2.81E-05	1.03E-04	2.25E-06	1.77E-05	6.05E-05	1.52E-05	8.45E-05	1.07E-04
087782H	1.85E-05	2.67E-06	9.77E-06	2.14E-07	1.68E-06	5.74E-06	1.45E-06	8.02E-06	1.02E-05
087783P	1.13E-04	1.63E-05	5.95E-05	1.30E-06	1.02E-05	3.50E-05	8.82E-06	4.89E-05	6.19E-05
087784W	1.55E-05	2.24E-06	8.19E-06	1.79E-07	1.41E-06	4.81E-06	1.21E-06	6.72E-06	8.52E-06
087785D	1.74E-06	2.50E-07	9.15E-07	2.00E-08	1.57E-07	5.38E-07	1.35E-07	7.51E-07	9.52E-07
087786K	2.49E-06	3.58E-07	1.31E-06	2.87E-08	2.25E-07	7.70E-07	1.94E-07	1.08E-06	1.36E-06
087787S	1.47E-05	2.12E-06	7.76E-06	1.70E-07	1.33E-06	4.56E-06	1.15E-06	6.37E-06	8.07E-06
087788Y	3.00E-06	4.32E-07	1.58E-06	3.46E-08	2.71E-07	9.28E-07	2.34E-07	1.30E-06	1.64E-06
087790A	1.20E-05	1.73E-06	6.33E-06	1.39E-07	1.09E-06	3.72E-06	9.37E-07	5.20E-06	6.58E-06
087791G	2.39E-06	3.44E-07	1.26E-06	2.76E-08	2.16E-07	7.40E-07	1.86E-07	1.03E-06	1.31E-06
087792N	4.88E-06	7.03E-07	2.57E-06	5.63E-08	4.41E-07	1.51E-06	3.81E-07	2.11E-06	2.67E-06
087793V	8.68E-07	1.25E-07	4.57E-07	1.00E-08	7.85E-08	2.69E-07	6.77E-08	3.75E-07	4.76E-07
087794C	5.55E-06	7.99E-07	2.92E-06	6.40E-08	5.02E-07	1.72E-06	4.33E-07	2.40E-06	3.04E-06
087795J	7.79E-07	1.12E-07	4.10E-07	8.99E-09	7.05E-08	2.41E-07	6.08E-08	3.37E-07	4.27E-07
087798E	4.00E-06	5.76E-07	2.11E-06	4.61E-08	3.62E-07	1.24E-06	3.12E-07	1.73E-06	2.19E-06
087799L	9.09E-07	1.31E-07	4.79E-07	1.05E-08	8.22E-08	2.82E-07	7.10E-08	3.93E-07	4.98E-07
087800D	1.31E-05	1.88E-06	6.89E-06	1.51E-07	1.18E-06	4.05E-06	1.02E-06	5.65E-06	7.16E-06
087801K	6.87E-05	9.90E-06	3.62E-05	7.93E-07	6.21E-06	2.13E-05	5.36E-06	2.97E-05	3.77E-05
087804F	9.14E-06	1.32E-06	4.81E-06	1.05E-07	8.27E-07	2.83E-06	7.13E-07	3.95E-06	5.01E-06
087668H	1.92E-04	2.76E-05	1.01E-04	2.21E-06	1.73E-05	5.93E-05	1.50E-05	8.29E-05	1.05E-04

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087699G	2.45E-05	3.53E-06	1.29E-05	2.83E-07	2.22E-06	7.59E-06	1.91E-06	1.06E-05	1.34E-05
071257E	1.07E-04	1.53E-05	5.61E-05	1.23E-06	9.63E-06	3.30E-05	8.31E-06	4.61E-05	5.84E-05
071256X	7.11E-05	1.02E-05	3.75E-05	8.20E-07	6.43E-06	2.20E-05	5.55E-06	3.08E-05	3.90E-05
103805G	1.08E-06	1.56E-07	5.71E-07	1.25E-08	9.80E-08	3.36E-07	8.46E-08	4.69E-07	5.94E-07
103730K	4.13E-05	5.94E-06	2.17E-05	4.76E-07	3.73E-06	1.28E-05	3.22E-06	1.78E-05	2.26E-05
071241H	1.39E-06	2.00E-07	7.31E-07	1.60E-08	1.26E-07	4.30E-07	1.08E-07	6.00E-07	7.61E-07
071120K	8.12E-06	1.17E-06	4.27E-06	9.36E-08	7.34E-07	2.51E-06	6.33E-07	3.51E-06	4.45E-06
071109K	1.72E-05	2.47E-06	9.05E-06	1.98E-07	1.55E-06	5.32E-06	1.34E-06	7.43E-06	9.41E-06
071108D	9.60E-05	1.38E-05	5.06E-05	1.11E-06	8.68E-06	2.97E-05	7.49E-06	4.15E-05	5.26E-05
071105H	1.52E-05	2.19E-06	8.00E-06	1.75E-07	1.37E-06	4.70E-06	1.18E-06	6.57E-06	8.32E-06
071103U	6.96E-05	1.00E-05	3.67E-05	8.03E-07	6.30E-06	2.16E-05	5.43E-06	3.01E-05	3.82E-05
071101F	4.41E-06	6.35E-07	2.32E-06	5.09E-08	3.99E-07	1.37E-06	3.44E-07	1.91E-06	2.42E-06
071100Y	8.71E-07	1.26E-07	4.59E-07	1.01E-08	7.88E-08	2.70E-07	6.80E-08	3.77E-07	4.77E-07
071099G	2.19E-06	3.16E-07	1.16E-06	2.53E-08	1.98E-07	6.79E-07	1.71E-07	9.49E-07	1.20E-06
071098A	1.13E-06	1.62E-07	5.93E-07	1.30E-08	1.02E-07	3.49E-07	8.79E-08	4.87E-07	6.17E-07
071097T	4.91E-05	7.07E-06	2.59E-05	5.66E-07	4.44E-06	1.52E-05	3.83E-06	2.12E-05	2.69E-05
071095E	1.52E-06	2.19E-07	8.02E-07	1.76E-08	1.38E-07	4.72E-07	1.19E-07	6.59E-07	8.35E-07
071092J	4.55E-05	6.55E-06	2.39E-05	5.24E-07	4.11E-06	1.41E-05	3.55E-06	1.97E-05	2.49E-05
071089B	1.00E-06	1.45E-07	5.29E-07	1.16E-08	9.08E-08	3.11E-07	7.84E-08	4.34E-07	5.50E-07
071087M	8.20E-06	1.18E-06	4.32E-06	9.46E-08	7.42E-07	2.54E-06	6.40E-07	3.55E-06	4.50E-06
071086F	2.17E-06	3.12E-07	1.14E-06	2.50E-08	1.96E-07	6.71E-07	1.69E-07	9.37E-07	1.19E-06
071085Y	1.80E-05	2.59E-06	9.47E-06	2.08E-07	1.63E-06	5.57E-06	1.40E-06	7.78E-06	9.86E-06
071084S	3.83E-04	5.52E-05	2.02E-04	4.42E-06	3.46E-05	1.19E-04	2.99E-05	1.66E-04	2.10E-04
071009F	1.05E-04	1.51E-05	5.51E-05	1.21E-06	9.45E-06	3.24E-05	8.16E-06	4.52E-05	5.73E-05
070828T	3.91E-04	5.63E-05	2.06E-04	4.51E-06	3.54E-05	1.21E-04	3.05E-05	1.69E-04	2.14E-04
070810H	2.06E-04	2.97E-05	1.09E-04	2.38E-06	1.86E-05	6.38E-05	1.61E-05	8.92E-05	1.13E-04
070809N	8.46E-05	1.22E-05	4.46E-05	9.76E-07	7.65E-06	2.62E-05	6.60E-06	3.66E-05	4.64E-05
070807A	1.77E-04	2.55E-05	9.32E-05	2.04E-06	1.60E-05	5.48E-05	1.38E-05	7.65E-05	9.70E-05
080763E	2.53E-04	3.64E-05	1.33E-04	2.92E-06	2.28E-05	7.83E-05	1.97E-05	1.09E-04	1.38E-04
070798D	1.39E-04	2.01E-05	7.33E-05	1.61E-06	1.26E-05	4.31E-05	1.09E-05	6.02E-05	7.63E-05
062952D	4.60E-04	6.62E-05	2.42E-04	5.30E-06	4.16E-05	1.42E-04	3.59E-05	1.99E-04	2.52E-04
062949V	3.58E-04	5.15E-05	1.88E-04	4.13E-06	3.24E-05	1.11E-04	2.79E-05	1.55E-04	1.96E-04
062931K	2.99E-04	4.31E-05	1.58E-04	3.45E-06	2.70E-05	9.26E-05	2.33E-05	1.29E-04	1.64E-04
062932S	2.64E-04	3.81E-05	1.39E-04	3.05E-06	2.39E-05	8.18E-05	2.06E-05	1.14E-04	1.45E-04
062930D	1.51E-04	2.18E-05	7.97E-05	1.75E-06	1.37E-05	4.69E-05	1.18E-05	6.55E-05	8.30E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
062927V	5.48E-05	7.89E-06	2.89E-05	6.32E-07	4.95E-06	1.70E-05	4.27E-06	2.37E-05	3.00E-05
062946A	2.01E-04	2.90E-05	1.06E-04	2.32E-06	1.82E-05	6.24E-05	1.57E-05	8.71E-05	1.10E-04
Total Emissions	1.09E-02	1.57E-03	5.73E-03	1.26E-04	9.84E-04	3.37E-03	8.49E-04	4.71E-03	5.97E-03

Table V.2-51. Grade Crossing Emissions, Segment 18 – Northern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
071122Y	1.99E-02	1.68E-06	5.26E-07	2.01E-02
071123F	1.99E-02	1.68E-06	5.26E-07	2.01E-02
071124M	1.49E-02	1.26E-06	3.95E-07	1.51E-02
071126B	2.37E-01	2.01E-05	6.27E-06	2.39E-01
071129W	1.99E-02	1.68E-06	5.27E-07	2.01E-02
071131X	3.48E-02	2.95E-06	9.21E-07	3.51E-02
071132E	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071133L	2.48E-02	2.10E-06	6.57E-07	2.51E-02
071134T	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071136G	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071138V	6.45E-02	5.47E-06	1.71E-06	6.52E-02
071140W	1.99E-02	1.68E-06	5.27E-07	2.01E-02
071142K	3.98E-02	3.37E-06	1.05E-06	4.02E-02
071144Y	4.86E-01	4.11E-05	1.29E-05	4.90E-01
071145F	4.99E-01	4.22E-05	1.32E-05	5.04E-01
071146M	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071147U	1.49E-02	1.26E-06	3.94E-07	1.50E-02
071149H	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071150C	9.92E-03	8.40E-07	2.63E-07	1.00E-02
071152R	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071154E	4.27E+00	3.62E-04	1.13E-04	4.31E+00
071156T	9.62E-01	8.15E-05	2.55E-05	9.72E-01
071158G	3.57E+00	3.02E-04	9.46E-05	3.61E+00
071160H	1.99E-02	1.68E-06	5.26E-07	2.01E-02
071161P	9.93E-03	8.41E-07	2.63E-07	1.00E-02
071162W	9.92E-03	8.40E-07	2.63E-07	1.00E-02
071163D	3.46E-01	2.93E-05	9.17E-06	3.50E-01
071164K	4.27E+00	3.62E-04	1.13E-04	4.32E+00
071165S	1.99E-02	1.68E-06	5.26E-07	2.01E-02
071166Y	5.98E-02	5.06E-06	1.58E-06	6.04E-02
071167F	3.48E-02	2.95E-06	9.22E-07	3.52E-02
071171V	2.52E-01	2.14E-05	6.68E-06	2.55E-01
071173J	1.49E-02	1.26E-06	3.95E-07	1.51E-02
071174R	6.48E-02	5.49E-06	1.72E-06	6.55E-02
071175X	5.48E-02	4.64E-06	1.45E-06	5.53E-02
071180U	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071185D	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071188Y	2.48E-02	2.10E-06	6.58E-07	2.51E-02
071190A	2.99E-02	2.53E-06	7.92E-07	3.02E-02
071191G	6.22E-01	5.27E-05	1.65E-05	6.28E-01
071192N	5.61E-01	4.75E-05	1.49E-05	5.66E-01
071224S	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071226F	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071228U	1.49E-02	1.26E-06	3.94E-07	1.50E-02
071229B	1.40E-01	1.19E-05	3.71E-06	1.41E-01
071232J	2.48E-02	2.10E-06	6.58E-07	2.51E-02

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
071233R	1.49E-02	1.26E-06	3.94E-07	1.50E-02
071235E	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071236L	2.78E-01	2.35E-05	7.36E-06	2.80E-01
071238A	1.49E-02	1.26E-06	3.94E-07	1.50E-02
071239G	2.57E-01	2.18E-05	6.81E-06	2.60E-01
071240B	5.34E-01	4.53E-05	1.42E-05	5.40E-01
071242P	9.91E-03	8.40E-07	2.63E-07	1.00E-02
071244D	1.49E-02	1.26E-06	3.94E-07	1.50E-02
071246S	2.48E-02	2.10E-06	6.58E-07	2.51E-02
071248F	3.40E-01	2.88E-05	9.00E-06	3.43E-01
071249M	3.93E-01	3.33E-05	1.04E-05	3.97E-01
071250G	1.98E-02	1.68E-06	5.26E-07	2.00E-02
071253C	2.29E+00	1.94E-04	6.06E-05	2.31E+00
071256X	5.91E+00	5.01E-04	1.57E-04	5.97E+00
071257E	2.84E-01	2.40E-05	7.52E-06	2.87E-01
071258L	9.10E-02	7.71E-06	2.41E-06	9.19E-02
071260M	1.54E+01	1.30E-03	4.08E-04	1.55E+01
071261U	1.86E+00	1.58E-04	4.94E-05	1.88E+00
086394F	1.99E-02	1.68E-06	5.26E-07	2.01E-02
087633G	1.56E-02	1.32E-06	4.12E-07	1.57E-02
087634N	8.83E-02	7.48E-06	2.34E-06	8.92E-02
087635V	1.59E-02	1.34E-06	4.20E-07	1.60E-02
087636C	8.98E-02	7.60E-06	2.38E-06	9.07E-02
087641Y	5.70E-02	4.83E-06	1.51E-06	5.76E-02
087642F	2.62E-02	2.22E-06	6.93E-07	2.64E-02
087643M	4.66E-02	3.95E-06	1.23E-06	4.71E-02
087644U	2.85E-02	2.41E-06	7.54E-07	2.88E-02
087646H	3.28E-01	2.78E-05	8.70E-06	3.32E-01
087647P	1.64E-01	1.39E-05	4.35E-06	1.66E-01
087648W	2.58E-01	2.18E-05	6.82E-06	2.60E-01
087649D	2.94E-01	2.49E-05	7.78E-06	2.97E-01
087651E	1.42E-01	1.20E-05	3.77E-06	1.44E-01
087652L	1.44E-01	1.22E-05	3.80E-06	1.45E-01
087654A	1.06E-01	8.96E-06	2.80E-06	1.07E-01
087655G	1.01E-02	8.57E-07	2.68E-07	1.02E-02
087656N	2.50E-01	2.11E-05	6.62E-06	2.52E-01
087657V	4.97E-02	4.21E-06	1.32E-06	5.02E-02
087658C	1.47E+00	1.24E-04	3.88E-05	1.48E+00
087659J	3.96E-01	3.36E-05	1.05E-05	4.00E-01
087660D	1.63E+00	1.38E-04	4.31E-05	1.64E+00
087661K	3.31E+00	2.81E-04	8.78E-05	3.35E+00
087662S	4.34E+00	3.67E-04	1.15E-04	4.38E+00
087665M	4.12E+00	3.49E-04	1.09E-04	4.16E+00
087667B	9.70E+00	8.21E-04	2.57E-04	9.79E+00
087674L	1.63E+00	1.38E-04	4.31E-05	1.64E+00
087675T	6.34E+00	5.37E-04	1.68E-04	6.41E+00
087683K	2.01E-01	1.70E-05	5.33E-06	2.03E-01
087684S	1.32E+00	1.12E-04	3.50E-05	1.33E+00
087702M	2.05E-02	1.74E-06	5.44E-07	2.07E-02

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
087704B	3.41E-01	2.89E-05	9.04E-06	3.45E-01
087705H	4.20E-01	3.55E-05	1.11E-05	4.24E-01
087706P	2.28E-02	1.93E-06	6.04E-07	2.30E-02
087709K	3.21E-01	2.71E-05	8.49E-06	3.24E-01
087710E	2.84E-01	2.40E-05	7.51E-06	2.86E-01
087713A	8.83E-02	7.48E-06	2.34E-06	8.92E-02
087715N	5.06E-01	4.29E-05	1.34E-05	5.11E-01
087716V	7.44E-02	6.30E-06	1.97E-06	7.52E-02
087717C	2.46E-01	2.08E-05	6.51E-06	2.48E-01
087718J	2.48E-02	2.10E-06	6.58E-07	2.51E-02
087719R	3.40E-02	2.88E-06	9.01E-07	3.43E-02
087720K	2.20E-02	1.86E-06	5.82E-07	2.22E-02
087721S	2.25E+00	1.91E-04	5.96E-05	2.27E+00
087722Y	1.65E+00	1.40E-04	4.38E-05	1.67E+00
087725U	1.71E+00	1.45E-04	4.54E-05	1.73E+00
087726B	1.26E+00	1.07E-04	3.34E-05	1.27E+00
087760H	4.36E+00	3.69E-04	1.16E-04	4.41E+00
087762W	6.09E-02	5.16E-06	1.61E-06	6.15E-02
087764K	3.36E+00	2.85E-04	8.91E-05	3.40E+00
087766Y	4.88E-02	4.14E-06	1.29E-06	4.93E-02
087768M	1.02E+00	8.60E-05	2.69E-05	1.03E+00
087769U	1.52E-02	1.29E-06	4.04E-07	1.54E-02
087781B	3.19E+00	2.70E-04	8.45E-05	3.22E+00
087782H	3.03E-01	2.57E-05	8.03E-06	3.06E-01
087783P	1.85E+00	1.56E-04	4.89E-05	1.86E+00
087784W	2.54E-01	2.15E-05	6.72E-06	2.56E-01
087785D	2.84E-02	2.40E-06	7.51E-07	2.86E-02
087786K	4.06E-02	3.44E-06	1.08E-06	4.10E-02
087787S	2.40E-01	2.04E-05	6.37E-06	2.43E-01
087788Y	4.89E-02	4.15E-06	1.30E-06	4.94E-02
087790A	1.96E-01	1.66E-05	5.20E-06	1.98E-01
087791G	3.90E-02	3.30E-06	1.03E-06	3.94E-02
087792N	7.97E-02	6.75E-06	2.11E-06	8.05E-02
087793V	1.42E-02	1.20E-06	3.76E-07	1.43E-02
087794C	9.06E-02	7.67E-06	2.40E-06	9.15E-02
087795J	1.27E-02	1.08E-06	3.37E-07	1.29E-02
087798E	6.53E-02	5.53E-06	1.73E-06	6.59E-02
087799L	1.48E-02	1.26E-06	3.94E-07	1.50E-02
087800D	2.13E-01	1.81E-05	5.66E-06	2.16E-01
087801K	1.12E+00	9.50E-05	2.97E-05	1.13E+00
087804F	1.49E-01	1.26E-05	3.96E-06	1.51E-01
087668H	3.13E+00	2.65E-04	8.29E-05	3.16E+00
087699G	4.00E-01	3.39E-05	1.06E-05	4.04E-01
071257E	1.74E+00	1.47E-04	4.61E-05	1.76E+00
071256X	1.16E+00	9.84E-05	3.08E-05	1.17E+00
103805G	1.77E-02	1.50E-06	4.69E-07	1.79E-02
103730K	6.74E-01	5.71E-05	1.79E-05	6.80E-01
071241H	2.27E-02	1.92E-06	6.01E-07	2.29E-02
071120K	1.33E-01	1.12E-05	3.51E-06	1.34E-01

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
071109K	2.80E-01	2.38E-05	7.43E-06	2.83E-01
071108D	1.57E+00	1.33E-04	4.15E-05	1.58E+00
071105H	2.48E-01	2.10E-05	6.57E-06	2.50E-01
071103U	1.14E+00	9.63E-05	3.01E-05	1.15E+00
071101F	7.20E-02	6.10E-06	1.91E-06	7.27E-02
071100Y	1.42E-02	1.20E-06	3.77E-07	1.44E-02
071099G	3.58E-02	3.03E-06	9.49E-07	3.62E-02
071098A	1.84E-02	1.56E-06	4.87E-07	1.86E-02
071097T	8.01E-01	6.79E-05	2.12E-05	8.09E-01
071095E	2.49E-02	2.11E-06	6.59E-07	2.51E-02
071092J	7.42E-01	6.29E-05	1.97E-05	7.50E-01
071089B	1.64E-02	1.39E-06	4.35E-07	1.66E-02
071087M	1.34E-01	1.13E-05	3.55E-06	1.35E-01
071086F	3.54E-02	3.00E-06	9.38E-07	3.57E-02
071085Y	2.94E-01	2.49E-05	7.78E-06	2.97E-01
071084S	6.25E+00	5.30E-04	1.66E-04	6.32E+00
071009F	1.71E+00	1.45E-04	4.52E-05	1.72E+00
070828T	6.39E+00	5.41E-04	1.69E-04	6.45E+00
070810H	3.37E+00	2.85E-04	8.92E-05	3.40E+00
070809N	1.38E+00	1.17E-04	3.66E-05	1.40E+00
070807A	2.89E+00	2.45E-04	7.66E-05	2.92E+00
080763E	4.13E+00	3.49E-04	1.09E-04	4.17E+00
070798D	2.27E+00	1.93E-04	6.03E-05	2.30E+00
062952D	7.51E+00	6.36E-04	1.99E-04	7.58E+00
062949V	5.84E+00	4.95E-04	1.55E-04	5.90E+00
062931K	4.88E+00	4.14E-04	1.29E-04	4.93E+00
062932S	4.31E+00	3.65E-04	1.14E-04	4.36E+00
062930D	2.47E+00	2.09E-04	6.55E-05	2.50E+00
062927V	8.95E-01	7.58E-05	2.37E-05	9.04E-01
062946A	3.29E+00	2.79E-04	8.72E-05	3.32E+00
Total Emissions	1.78E+02	1.51E-02	4.71E-03	1.80E+02

Table V.2-52. Grade Crossing Emissions, Segment 18 – Southern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
071122Y	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071123F	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071124M	2.08E-04	3.23E-05	1.05E-08	9.03E-07	8.57E-07	1.78E-07	1.07E-05
071126B	3.31E-03	5.13E-04	1.66E-07	1.43E-05	1.36E-05	2.83E-06	1.70E-04
071129W	2.78E-04	4.30E-05	1.40E-08	1.20E-06	1.14E-06	2.38E-07	1.42E-05
071131X	4.86E-04	7.53E-05	2.44E-08	2.11E-06	2.00E-06	4.15E-07	2.49E-05
071132E	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071133L	3.46E-04	5.37E-05	1.74E-08	1.50E-06	1.43E-06	2.96E-07	1.78E-05
071134T	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071136G	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071138V	9.01E-04	1.40E-04	4.53E-08	3.91E-06	3.71E-06	7.71E-07	4.62E-05
071140W	2.78E-04	4.30E-05	1.40E-08	1.20E-06	1.14E-06	2.38E-07	1.42E-05
071142K	5.55E-04	8.61E-05	2.79E-08	2.41E-06	2.29E-06	4.75E-07	2.85E-05
071144Y	6.78E-03	1.05E-03	3.41E-07	2.94E-05	2.79E-05	5.80E-06	3.48E-04
071145F	6.96E-03	1.08E-03	3.50E-07	3.02E-05	2.87E-05	5.96E-06	3.57E-04
071146M	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071147U	2.08E-04	3.22E-05	1.04E-08	9.01E-07	8.56E-07	1.78E-07	1.07E-05
071149H	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071150C	1.39E-04	2.15E-05	6.96E-09	6.01E-07	5.71E-07	1.19E-07	7.11E-06
071152R	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071154E	5.96E-02	9.25E-03	3.00E-06	2.59E-04	2.46E-04	5.10E-05	3.06E-03
071156T	1.34E-02	2.08E-03	6.75E-07	5.83E-05	5.53E-05	1.15E-05	6.89E-04
071158G	4.99E-02	7.73E-03	2.51E-06	2.16E-04	2.05E-04	4.27E-05	2.56E-03
071160H	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071161P	1.39E-04	2.15E-05	6.97E-09	6.01E-07	5.71E-07	1.19E-07	7.11E-06
071162W	1.39E-04	2.15E-05	6.96E-09	6.01E-07	5.70E-07	1.19E-07	7.11E-06
071163D	4.83E-03	7.49E-04	2.43E-07	2.10E-05	1.99E-05	4.13E-06	2.48E-04
071164K	5.97E-02	9.25E-03	3.00E-06	2.59E-04	2.46E-04	5.11E-05	3.06E-03
071165S	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071166Y	8.35E-04	1.29E-04	4.20E-08	3.62E-06	3.44E-06	7.14E-07	4.28E-05
071167F	4.86E-04	7.53E-05	2.44E-08	2.11E-06	2.00E-06	4.16E-07	2.49E-05
071171V	3.52E-03	5.46E-04	1.77E-07	1.53E-05	1.45E-05	3.01E-06	1.81E-04
071173J	2.08E-04	3.23E-05	1.05E-08	9.03E-07	8.57E-07	1.78E-07	1.07E-05
071174R	9.05E-04	1.40E-04	4.55E-08	3.92E-06	3.73E-06	7.74E-07	4.64E-05
071175X	7.65E-04	1.19E-04	3.84E-08	3.32E-06	3.15E-06	6.54E-07	3.92E-05
071180U	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071185D	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071188Y	3.47E-04	5.37E-05	1.74E-08	1.50E-06	1.43E-06	2.97E-07	1.78E-05
071190A	4.17E-04	6.47E-05	2.10E-08	1.81E-06	1.72E-06	3.57E-07	2.14E-05
071191G	8.68E-03	1.35E-03	4.36E-07	3.77E-05	3.58E-05	7.43E-06	4.45E-04
071192N	7.83E-03	1.21E-03	3.93E-07	3.39E-05	3.22E-05	6.70E-06	4.02E-04
071224S	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071226F	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071228U	2.08E-04	3.22E-05	1.04E-08	9.01E-07	8.56E-07	1.78E-07	1.07E-05

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
071229B	1.96E-03	3.03E-04	9.83E-08	8.48E-06	8.05E-06	1.67E-06	1.00E-04
071232J	3.47E-04	5.37E-05	1.74E-08	1.50E-06	1.43E-06	2.97E-07	1.78E-05
071233R	2.08E-04	3.22E-05	1.04E-08	9.01E-07	8.56E-07	1.78E-07	1.07E-05
071235E	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071236L	3.88E-03	6.01E-04	1.95E-07	1.68E-05	1.60E-05	3.32E-06	1.99E-04
071238A	2.08E-04	3.22E-05	1.04E-08	9.01E-07	8.56E-07	1.78E-07	1.07E-05
071239G	3.59E-03	5.57E-04	1.80E-07	1.56E-05	1.48E-05	3.07E-06	1.84E-04
071240B	7.46E-03	1.16E-03	3.75E-07	3.23E-05	3.07E-05	6.38E-06	3.83E-04
071242P	1.38E-04	2.15E-05	6.96E-09	6.00E-07	5.70E-07	1.18E-07	7.10E-06
071244D	2.08E-04	3.22E-05	1.04E-08	9.01E-07	8.56E-07	1.78E-07	1.07E-05
071246S	3.47E-04	5.37E-05	1.74E-08	1.50E-06	1.43E-06	2.97E-07	1.78E-05
071248F	4.74E-03	7.35E-04	2.38E-07	2.06E-05	1.95E-05	4.06E-06	2.43E-04
071249M	5.49E-03	8.51E-04	2.76E-07	2.38E-05	2.26E-05	4.70E-06	2.82E-04
071250G	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071253C	3.19E-02	4.95E-03	1.60E-06	1.38E-04	1.31E-04	2.73E-05	1.64E-03
071256X	9.73E-03	1.51E-03	4.89E-07	4.22E-05	4.01E-05	8.33E-06	4.99E-04
071257E	5.60E-02	8.68E-03	2.81E-06	2.43E-04	2.31E-04	4.79E-05	2.87E-03
071258L	8.25E-02	1.28E-02	4.14E-06	3.58E-04	3.40E-04	7.06E-05	4.23E-03
071260M	3.96E-03	6.14E-04	1.99E-07	1.72E-05	1.63E-05	3.39E-06	2.03E-04
071261U	1.27E-03	1.97E-04	6.38E-08	5.50E-06	5.23E-06	1.09E-06	6.51E-05
086394F	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
087633G	1.38E-04	2.14E-05	6.95E-09	6.00E-07	5.70E-07	1.18E-07	7.10E-06
087634N	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
087635V	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
087636C	1.96E-03	3.03E-04	9.84E-08	8.49E-06	8.06E-06	1.67E-06	1.00E-04
087641Y	1.80E-04	2.80E-05	9.06E-09	7.82E-07	7.43E-07	1.54E-07	9.25E-06
087642F	7.25E-04	1.12E-04	3.64E-08	3.14E-06	2.99E-06	6.20E-07	3.72E-05
087643M	1.27E-03	1.96E-04	6.36E-08	5.49E-06	5.21E-06	1.08E-06	6.49E-05
087644U	9.01E-05	1.40E-05	4.53E-09	3.91E-07	3.71E-07	7.71E-08	4.62E-06
087646H	1.80E-04	2.80E-05	9.06E-09	7.82E-07	7.43E-07	1.54E-07	9.25E-06
087647P	6.32E-04	9.80E-05	3.18E-08	2.74E-06	2.60E-06	5.41E-07	3.24E-05
087648W	7.95E-03	1.23E-03	3.99E-07	3.45E-05	3.27E-05	6.80E-06	4.08E-04
087649D	3.56E-03	5.52E-04	1.79E-07	1.54E-05	1.46E-05	3.04E-06	1.82E-04
087651E	2.71E-04	4.20E-05	1.36E-08	1.17E-06	1.11E-06	2.32E-07	1.39E-05
087652L	4.51E-03	6.99E-04	2.27E-07	1.96E-05	1.86E-05	3.86E-06	2.31E-04
087654A	3.29E-03	5.10E-04	1.65E-07	1.43E-05	1.36E-05	2.82E-06	1.69E-04
087655G	9.01E-05	1.40E-05	4.53E-09	3.91E-07	3.71E-07	7.71E-08	4.62E-06
087656N	9.01E-05	1.40E-05	4.53E-09	3.91E-07	3.71E-07	7.71E-08	4.62E-06
087657V	1.80E-04	2.80E-05	9.06E-09	7.82E-07	7.43E-07	1.54E-07	9.25E-06
087658C	6.08E-03	9.42E-04	3.05E-07	2.63E-05	2.50E-05	5.20E-06	3.12E-04
087659J	1.09E-03	1.68E-04	5.46E-08	4.71E-06	4.47E-06	9.29E-07	5.57E-05
087660D	3.14E-02	4.87E-03	1.58E-06	1.36E-04	1.29E-04	2.69E-05	1.61E-03
087661K	8.92E-03	1.38E-03	4.48E-07	3.87E-05	3.67E-05	7.63E-06	4.58E-04
087662S	1.60E-02	2.48E-03	8.05E-07	6.94E-05	6.59E-05	1.37E-05	8.21E-04
087665M	7.47E-02	1.16E-02	3.76E-06	3.24E-04	3.08E-04	6.39E-05	3.83E-03
087667B	9.45E-02	1.47E-02	4.75E-06	4.10E-04	3.89E-04	8.09E-05	4.85E-03

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
087674L	4.43E-02	6.86E-03	2.22E-06	1.92E-04	1.82E-04	3.79E-05	2.27E-03
087675T	1.67E-01	2.58E-02	8.37E-06	7.22E-04	6.86E-04	1.42E-04	8.54E-03
087683K	6.21E-03	9.63E-04	3.12E-07	2.69E-05	2.56E-05	5.32E-06	3.19E-04
087684S	2.90E-02	4.49E-03	1.46E-06	1.26E-04	1.19E-04	2.48E-05	1.49E-03
087702M	2.08E-04	3.22E-05	1.04E-08	9.00E-07	8.55E-07	1.78E-07	1.07E-05
087704B	1.03E-02	1.60E-03	5.20E-07	4.48E-05	4.26E-05	8.85E-06	5.30E-04
087705H	3.47E-04	5.38E-05	1.74E-08	1.50E-06	1.43E-06	2.97E-07	1.78E-05
087706P	5.56E-04	8.63E-05	2.80E-08	2.41E-06	2.29E-06	4.76E-07	2.85E-05
087709K	1.00E-02	1.56E-03	5.04E-07	4.35E-05	4.13E-05	8.59E-06	5.15E-04
087710E	1.38E-04	2.14E-05	6.95E-09	6.00E-07	5.70E-07	1.18E-07	7.10E-06
087713A	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
087715N	6.85E-03	1.06E-03	3.44E-07	2.97E-05	2.82E-05	5.86E-06	3.52E-04
087716V	1.96E-03	3.03E-04	9.84E-08	8.49E-06	8.06E-06	1.67E-06	1.00E-04
087717C	7.24E-03	1.12E-03	3.64E-07	3.14E-05	2.98E-05	6.19E-06	3.71E-04
087718J	3.47E-04	5.38E-05	1.74E-08	1.50E-06	1.43E-06	2.97E-07	1.78E-05
087719R	5.54E-04	8.59E-05	2.78E-08	2.40E-06	2.28E-06	4.74E-07	2.84E-05
087720K	3.47E-04	5.38E-05	1.74E-08	1.50E-06	1.43E-06	2.97E-07	1.78E-05
087721S	4.15E-04	6.44E-05	2.09E-08	1.80E-06	1.71E-06	3.55E-07	2.13E-05
087722Y	2.77E-04	4.29E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
087725U	5.49E-02	8.52E-03	2.76E-06	2.38E-04	2.26E-04	4.70E-05	2.82E-03
087726B	4.05E-02	6.27E-03	2.03E-06	1.75E-04	1.67E-04	3.46E-05	2.08E-03
087760H	5.06E-04	7.85E-05	2.55E-08	2.20E-06	2.09E-06	4.33E-07	2.60E-05
087762W	1.26E-04	1.96E-05	6.36E-09	5.48E-07	5.21E-07	1.08E-07	6.49E-06
087764K	1.07E-01	1.66E-02	5.39E-06	4.65E-04	4.41E-04	9.17E-05	5.50E-03
087766Y	1.40E-03	2.18E-04	7.06E-08	6.09E-06	5.78E-06	1.20E-06	7.20E-05
087768M	6.35E-04	9.84E-05	3.19E-08	2.75E-06	2.61E-06	5.43E-07	3.26E-05
087769U	1.26E-04	1.96E-05	6.36E-09	5.48E-07	5.21E-07	1.08E-07	6.49E-06
087781B	2.46E-02	3.81E-03	1.23E-06	1.06E-04	1.01E-04	2.10E-05	1.26E-03
087782H	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
087783P	5.95E-02	9.23E-03	2.99E-06	2.58E-04	2.45E-04	5.09E-05	3.05E-03
087784W	7.22E-03	1.12E-03	3.63E-07	3.13E-05	2.97E-05	6.18E-06	3.70E-04
087785D	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
087786K	7.67E-04	1.19E-04	3.85E-08	3.33E-06	3.16E-06	6.56E-07	3.93E-05
087787S	4.86E-04	7.54E-05	2.44E-08	2.11E-06	2.00E-06	4.16E-07	2.49E-05
087788Y	4.16E-04	6.46E-05	2.09E-08	1.81E-06	1.72E-06	3.56E-07	2.14E-05
087790A	5.53E-03	8.58E-04	2.78E-07	2.40E-05	2.28E-05	4.73E-06	2.84E-04
087791G	8.90E-04	1.38E-04	4.47E-08	3.86E-06	3.67E-06	7.62E-07	4.57E-05
087792N	6.34E-04	9.83E-05	3.19E-08	2.75E-06	2.61E-06	5.43E-07	3.25E-05
087793V	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
087794C	1.47E-03	2.28E-04	7.39E-08	6.38E-06	6.06E-06	1.26E-06	7.55E-05
087795J	1.38E-04	2.14E-05	6.95E-09	6.00E-07	5.70E-07	1.18E-07	7.10E-06
087798E	1.11E-03	1.72E-04	5.58E-08	4.82E-06	4.57E-06	9.50E-07	5.70E-05
087799L	2.08E-04	3.22E-05	1.04E-08	9.00E-07	8.55E-07	1.78E-07	1.07E-05
087800D	7.62E-04	1.18E-04	3.83E-08	3.31E-06	3.14E-06	6.52E-07	3.91E-05
087801K	2.07E-04	3.22E-05	1.04E-08	8.99E-07	8.54E-07	1.77E-07	1.06E-05
087804F	4.66E-03	7.23E-04	2.34E-07	2.02E-05	1.92E-05	3.99E-06	2.39E-04

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
087668H	2.75E-02	4.26E-03	1.38E-06	1.19E-04	1.13E-04	2.35E-05	1.41E-03
087699G	1.38E-04	2.14E-05	6.95E-09	6.00E-07	5.70E-07	1.18E-07	7.10E-06
071257E	5.60E-02	8.68E-03	2.81E-06	2.43E-04	2.31E-04	4.79E-05	2.87E-03
071256X	9.73E-03	1.51E-03	4.89E-07	4.22E-05	4.01E-05	8.33E-06	4.99E-04
103805G	2.08E-04	3.22E-05	1.04E-08	9.01E-07	8.56E-07	1.78E-07	1.07E-05
103730K	2.11E-02	3.28E-03	1.06E-06	9.17E-05	8.71E-05	1.81E-05	1.08E-03
071241H	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071120K	4.86E-04	7.53E-05	2.44E-08	2.11E-06	2.00E-06	4.16E-07	2.49E-05
071109K	3.47E-04	5.38E-05	1.74E-08	1.50E-06	1.43E-06	2.97E-07	1.78E-05
071108D	2.89E-03	4.48E-04	1.45E-07	1.25E-05	1.19E-05	2.47E-06	1.48E-04
071105H	6.63E-03	1.03E-03	3.33E-07	2.88E-05	2.73E-05	5.68E-06	3.40E-04
071103U	3.64E-02	5.64E-03	1.83E-06	1.58E-04	1.50E-04	3.11E-05	1.86E-03
071101F	1.04E-03	1.62E-04	5.25E-08	4.53E-06	4.30E-06	8.94E-07	5.36E-05
071100Y	2.77E-04	4.30E-05	1.39E-08	1.20E-06	1.14E-06	2.37E-07	1.42E-05
071099G	9.75E-04	1.51E-04	4.90E-08	4.23E-06	4.01E-06	8.34E-07	5.00E-05
071098A	1.39E-04	2.15E-05	6.97E-09	6.01E-07	5.71E-07	1.19E-07	7.11E-06
071097T	1.39E-04	2.15E-05	6.96E-09	6.01E-07	5.70E-07	1.19E-07	7.11E-06
071095E	3.47E-04	5.38E-05	1.74E-08	1.50E-06	1.43E-06	2.97E-07	1.78E-05
071092J	1.96E-02	3.04E-03	9.85E-07	8.50E-05	8.08E-05	1.68E-05	1.01E-03
071089B	3.48E-04	5.39E-05	1.75E-08	1.51E-06	1.43E-06	2.97E-07	1.78E-05
071087M	3.32E-03	5.15E-04	1.67E-07	1.44E-05	1.37E-05	2.84E-06	1.70E-04
071086F	1.39E-04	2.15E-05	6.97E-09	6.01E-07	5.71E-07	1.19E-07	7.11E-06
071085Y	7.65E-04	1.19E-04	3.84E-08	3.32E-06	3.15E-06	6.54E-07	3.92E-05
071084S	7.65E-04	1.19E-04	3.84E-08	3.32E-06	3.15E-06	6.54E-07	3.92E-05
071009F	6.64E-03	1.03E-03	3.34E-07	2.88E-05	2.74E-05	5.68E-06	3.41E-04
070828T	1.53E-01	2.38E-02	7.70E-06	6.64E-04	6.31E-04	1.31E-04	7.86E-03
070810H	3.69E-02	5.72E-03	1.86E-06	1.60E-04	1.52E-04	3.16E-05	1.89E-03
070809N	4.04E-02	6.26E-03	2.03E-06	1.75E-04	1.66E-04	3.45E-05	2.07E-03
070807A	5.47E-02	8.48E-03	2.75E-06	2.37E-04	2.25E-04	4.68E-05	2.80E-03
080763E	3.25E-03	5.04E-04	1.63E-07	1.41E-05	1.34E-05	2.78E-06	1.67E-04
070798D	2.94E-02	4.56E-03	1.48E-06	1.28E-04	1.21E-04	2.52E-05	1.51E-03
062952D	9.90E-02	1.54E-02	4.98E-06	4.29E-04	4.08E-04	8.47E-05	5.08E-03
062949V	3.35E-02	5.20E-03	1.68E-06	1.45E-04	1.38E-04	2.87E-05	1.72E-03
062931K	1.09E-01	1.69E-02	5.49E-06	4.73E-04	4.50E-04	9.34E-05	5.60E-03
062932S	1.18E-01	1.83E-02	5.94E-06	5.12E-04	4.87E-04	1.01E-04	6.06E-03
062930D	3.69E-02	5.72E-03	1.86E-06	1.60E-04	1.52E-04	3.16E-05	1.89E-03
062927V	1.61E-02	2.50E-03	8.09E-07	6.98E-05	6.63E-05	1.38E-05	8.26E-04
062946A	3.27E-02	5.07E-03	1.64E-06	1.42E-04	1.35E-04	2.80E-05	1.68E-03
Total Emissions	2.27E+00	3.52E-01	1.14E-04	9.84E-03	9.35E-03	1.94E-03	1.16E-01

Table V.2-53. Grade Crossing Emissions, Segment 18 – Southern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
071122Y	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.92E-08	3.05E-07	7.69E-08	4.27E-07	5.40E-07
071123F	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.92E-08	3.05E-07	7.69E-08	4.27E-07	5.40E-07
071124M	7.40E-07	1.07E-07	3.90E-07	8.54E-09	6.69E-08	2.29E-07	5.78E-08	3.20E-07	4.06E-07
071126B	1.18E-05	1.69E-06	6.19E-06	1.36E-07	1.06E-06	3.64E-06	9.17E-07	5.08E-06	6.44E-06
071129W	9.87E-07	1.42E-07	5.20E-07	1.14E-08	8.93E-08	3.06E-07	7.70E-08	4.27E-07	5.41E-07
071131X	1.73E-06	2.49E-07	9.10E-07	1.99E-08	1.56E-07	5.35E-07	1.35E-07	7.47E-07	9.47E-07
071132E	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071133L	1.23E-06	1.78E-07	6.49E-07	1.42E-08	1.11E-07	3.82E-07	9.61E-08	5.33E-07	6.75E-07
071134T	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071136G	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071138V	3.20E-06	4.62E-07	1.69E-06	3.70E-08	2.90E-07	9.93E-07	2.50E-07	1.39E-06	1.76E-06
071140W	9.87E-07	1.42E-07	5.20E-07	1.14E-08	8.93E-08	3.06E-07	7.70E-08	4.27E-07	5.41E-07
071142K	1.97E-06	2.85E-07	1.04E-06	2.28E-08	1.79E-07	6.12E-07	1.54E-07	8.54E-07	1.08E-06
071144Y	2.41E-05	3.47E-06	1.27E-05	2.78E-07	2.18E-06	7.47E-06	1.88E-06	1.04E-05	1.32E-05
071145F	2.48E-05	3.57E-06	1.30E-05	2.86E-07	2.24E-06	7.67E-06	1.93E-06	1.07E-05	1.36E-05
071146M	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071147U	7.39E-07	1.06E-07	3.89E-07	8.53E-09	6.68E-08	2.29E-07	5.77E-08	3.20E-07	4.05E-07
071149H	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071150C	4.93E-07	7.10E-08	2.60E-07	5.69E-09	4.46E-08	1.53E-07	3.85E-08	2.13E-07	2.70E-07
071152R	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071154E	2.12E-04	3.06E-05	1.12E-04	2.45E-06	1.92E-05	6.57E-05	1.65E-05	9.17E-05	1.16E-04
071156T	4.78E-05	6.88E-06	2.52E-05	5.51E-07	4.32E-06	1.48E-05	3.73E-06	2.07E-05	2.62E-05
071158G	1.77E-04	2.55E-05	9.34E-05	2.05E-06	1.60E-05	5.49E-05	1.38E-05	7.67E-05	9.72E-05
071160H	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.92E-08	3.05E-07	7.69E-08	4.27E-07	5.40E-07
071161P	4.93E-07	7.10E-08	2.60E-07	5.69E-09	4.46E-08	1.53E-07	3.85E-08	2.13E-07	2.70E-07
071162W	4.93E-07	7.10E-08	2.60E-07	5.68E-09	4.46E-08	1.53E-07	3.84E-08	2.13E-07	2.70E-07
071163D	1.72E-05	2.48E-06	9.05E-06	1.98E-07	1.55E-06	5.32E-06	1.34E-06	7.43E-06	9.42E-06
071164K	2.12E-04	3.06E-05	1.12E-04	2.45E-06	1.92E-05	6.57E-05	1.66E-05	9.18E-05	1.16E-04
071165S	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.92E-08	3.05E-07	7.69E-08	4.27E-07	5.40E-07
071166Y	2.97E-06	4.28E-07	1.56E-06	3.43E-08	2.68E-07	9.20E-07	2.32E-07	1.28E-06	1.63E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
071167F	1.73E-06	2.49E-07	9.10E-07	1.99E-08	1.56E-07	5.35E-07	1.35E-07	7.47E-07	9.47E-07
071171V	1.25E-05	1.80E-06	6.59E-06	1.44E-07	1.13E-06	3.88E-06	9.77E-07	5.42E-06	6.86E-06
071173J	7.40E-07	1.07E-07	3.90E-07	8.54E-09	6.69E-08	2.29E-07	5.78E-08	3.20E-07	4.06E-07
071174R	3.22E-06	4.64E-07	1.70E-06	3.71E-08	2.91E-07	9.97E-07	2.51E-07	1.39E-06	1.76E-06
071175X	2.72E-06	3.92E-07	1.43E-06	3.14E-08	2.46E-07	8.43E-07	2.12E-07	1.18E-06	1.49E-06
071180U	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071185D	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071188Y	1.23E-06	1.78E-07	6.49E-07	1.42E-08	1.11E-07	3.82E-07	9.62E-08	5.33E-07	6.76E-07
071190A	1.48E-06	2.14E-07	7.82E-07	1.71E-08	1.34E-07	4.60E-07	1.16E-07	6.42E-07	8.13E-07
071191G	3.09E-05	4.45E-06	1.63E-05	3.56E-07	2.79E-06	9.57E-06	2.41E-06	1.34E-05	1.69E-05
071192N	2.78E-05	4.01E-06	1.47E-05	3.21E-07	2.52E-06	8.62E-06	2.17E-06	1.20E-05	1.53E-05
071224S	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071226F	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071228U	7.39E-07	1.06E-07	3.89E-07	8.53E-09	6.68E-08	2.29E-07	5.77E-08	3.20E-07	4.05E-07
071229B	6.95E-06	1.00E-06	3.66E-06	8.02E-08	6.29E-07	2.15E-06	5.43E-07	3.01E-06	3.81E-06
071232J	1.23E-06	1.78E-07	6.49E-07	1.42E-08	1.11E-07	3.82E-07	9.62E-08	5.33E-07	6.76E-07
071233R	7.39E-07	1.06E-07	3.89E-07	8.53E-09	6.68E-08	2.29E-07	5.77E-08	3.20E-07	4.05E-07
071235E	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071236L	1.38E-05	1.99E-06	7.26E-06	1.59E-07	1.25E-06	4.27E-06	1.08E-06	5.96E-06	7.56E-06
071238A	7.39E-07	1.06E-07	3.89E-07	8.53E-09	6.68E-08	2.29E-07	5.77E-08	3.20E-07	4.05E-07
071239G	1.28E-05	1.84E-06	6.72E-06	1.47E-07	1.15E-06	3.95E-06	9.96E-07	5.52E-06	7.00E-06
071240B	2.65E-05	3.82E-06	1.40E-05	3.06E-07	2.40E-06	8.22E-06	2.07E-06	1.15E-05	1.45E-05
071242P	4.92E-07	7.09E-08	2.59E-07	5.68E-09	4.45E-08	1.53E-07	3.84E-08	2.13E-07	2.70E-07
071244D	7.39E-07	1.06E-07	3.89E-07	8.53E-09	6.68E-08	2.29E-07	5.77E-08	3.20E-07	4.05E-07
071246S	1.23E-06	1.78E-07	6.49E-07	1.42E-08	1.11E-07	3.82E-07	9.62E-08	5.33E-07	6.76E-07
071248F	1.69E-05	2.43E-06	8.88E-06	1.95E-07	1.53E-06	5.22E-06	1.32E-06	7.30E-06	9.24E-06
071249M	1.95E-05	2.81E-06	1.03E-05	2.25E-07	1.77E-06	6.05E-06	1.52E-06	8.44E-06	1.07E-05
071250G	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071253C	1.14E-04	1.64E-05	5.98E-05	1.31E-06	1.03E-05	3.52E-05	8.86E-06	4.91E-05	6.22E-05
071256X	3.46E-05	4.99E-06	1.82E-05	3.99E-07	3.13E-06	1.07E-05	2.70E-06	1.50E-05	1.90E-05
071257E	1.99E-04	2.87E-05	1.05E-04	2.30E-06	1.80E-05	6.17E-05	1.55E-05	8.61E-05	1.09E-04
071258L	2.93E-04	4.23E-05	1.55E-04	3.38E-06	2.65E-05	9.08E-05	2.29E-05	1.27E-04	1.61E-04
071260M	1.41E-05	2.03E-06	7.42E-06	1.62E-07	1.27E-06	4.36E-06	1.10E-06	6.09E-06	7.72E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
071261U	4.52E-06	6.51E-07	2.38E-06	5.21E-08	4.08E-07	1.40E-06	3.52E-07	1.95E-06	2.47E-06
086394F	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
087633G	4.92E-07	7.09E-08	2.59E-07	5.68E-09	4.45E-08	1.52E-07	3.84E-08	2.13E-07	2.70E-07
087634N	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
087635V	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
087636C	6.96E-06	1.00E-06	3.67E-06	8.03E-08	6.30E-07	2.16E-06	5.43E-07	3.01E-06	3.82E-06
087641Y	6.41E-07	9.24E-08	3.38E-07	7.40E-09	5.80E-08	1.99E-07	5.00E-08	2.77E-07	3.51E-07
087642F	2.58E-06	3.72E-07	1.36E-06	2.98E-08	2.33E-07	7.99E-07	2.01E-07	1.12E-06	1.41E-06
087643M	4.50E-06	6.49E-07	2.37E-06	5.20E-08	4.07E-07	1.39E-06	3.51E-07	1.95E-06	2.47E-06
087644U	3.20E-07	4.62E-08	1.69E-07	3.70E-09	2.90E-08	9.92E-08	2.50E-08	1.39E-07	1.76E-07
087646H	6.41E-07	9.24E-08	3.38E-07	7.40E-09	5.80E-08	1.99E-07	5.00E-08	2.77E-07	3.51E-07
087647P	2.25E-06	3.24E-07	1.18E-06	2.59E-08	2.03E-07	6.96E-07	1.75E-07	9.72E-07	1.23E-06
087648W	2.83E-05	4.07E-06	1.49E-05	3.26E-07	2.56E-06	8.75E-06	2.21E-06	1.22E-05	1.55E-05
087649D	1.27E-05	1.82E-06	6.66E-06	1.46E-07	1.14E-06	3.92E-06	9.87E-07	5.47E-06	6.93E-06
087651E	9.63E-07	1.39E-07	5.07E-07	1.11E-08	8.71E-08	2.98E-07	7.51E-08	4.16E-07	5.28E-07
087652L	1.60E-05	2.31E-06	8.45E-06	1.85E-07	1.45E-06	4.97E-06	1.25E-06	6.94E-06	8.79E-06
087654A	1.17E-05	1.69E-06	6.17E-06	1.35E-07	1.06E-06	3.63E-06	9.13E-07	5.06E-06	6.42E-06
087655G	3.20E-07	4.62E-08	1.69E-07	3.70E-09	2.90E-08	9.92E-08	2.50E-08	1.39E-07	1.76E-07
087656N	3.20E-07	4.62E-08	1.69E-07	3.70E-09	2.90E-08	9.92E-08	2.50E-08	1.39E-07	1.76E-07
087657V	6.41E-07	9.24E-08	3.38E-07	7.40E-09	5.80E-08	1.99E-07	5.00E-08	2.77E-07	3.51E-07
087658C	2.16E-05	3.11E-06	1.14E-05	2.49E-07	1.95E-06	6.69E-06	1.69E-06	9.35E-06	1.18E-05
087659J	3.86E-06	5.56E-07	2.03E-06	4.46E-08	3.49E-07	1.20E-06	3.01E-07	1.67E-06	2.12E-06
087660D	1.12E-04	1.61E-05	5.89E-05	1.29E-06	1.01E-05	3.46E-05	8.72E-06	4.83E-05	6.13E-05
087661K	3.17E-05	4.57E-06	1.67E-05	3.66E-07	2.87E-06	9.83E-06	2.48E-06	1.37E-05	1.74E-05
087662S	5.69E-05	8.20E-06	3.00E-05	6.57E-07	5.15E-06	1.76E-05	4.44E-06	2.46E-05	3.12E-05
087665M	2.66E-04	3.83E-05	1.40E-04	3.07E-06	2.40E-05	8.23E-05	2.07E-05	1.15E-04	1.46E-04
087667B	3.36E-04	4.84E-05	1.77E-04	3.88E-06	3.04E-05	1.04E-04	2.62E-05	1.45E-04	1.84E-04
087674L	1.57E-04	2.27E-05	8.29E-05	1.82E-06	1.42E-05	4.88E-05	1.23E-05	6.81E-05	8.63E-05
087675T	5.92E-04	8.53E-05	3.12E-04	6.83E-06	5.36E-05	1.83E-04	4.62E-05	2.56E-04	3.25E-04
087683K	2.21E-05	3.18E-06	1.16E-05	2.55E-07	2.00E-06	6.84E-06	1.72E-06	9.56E-06	1.21E-05
087684S	1.03E-04	1.48E-05	5.43E-05	1.19E-06	9.32E-06	3.19E-05	8.04E-06	4.46E-05	5.65E-05
087702M	7.39E-07	1.06E-07	3.89E-07	8.52E-09	6.68E-08	2.29E-07	5.76E-08	3.19E-07	4.05E-07
087704B	3.68E-05	5.30E-06	1.94E-05	4.24E-07	3.32E-06	1.14E-05	2.87E-06	1.59E-05	2.02E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087705H	1.23E-06	1.78E-07	6.50E-07	1.42E-08	1.12E-07	3.82E-07	9.62E-08	5.33E-07	6.76E-07
087706P	1.98E-06	2.85E-07	1.04E-06	2.28E-08	1.79E-07	6.13E-07	1.54E-07	8.56E-07	1.08E-06
087709K	3.57E-05	5.14E-06	1.88E-05	4.12E-07	3.23E-06	1.11E-05	2.79E-06	1.54E-05	1.96E-05
087710E	4.92E-07	7.09E-08	2.59E-07	5.68E-09	4.45E-08	1.52E-07	3.84E-08	2.13E-07	2.70E-07
087713A	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
087715N	2.44E-05	3.51E-06	1.28E-05	2.81E-07	2.20E-06	7.55E-06	1.90E-06	1.05E-05	1.34E-05
087716V	6.96E-06	1.00E-06	3.67E-06	8.03E-08	6.30E-07	2.16E-06	5.43E-07	3.01E-06	3.82E-06
087717C	2.57E-05	3.71E-06	1.36E-05	2.97E-07	2.33E-06	7.97E-06	2.01E-06	1.11E-05	1.41E-05
087718J	1.23E-06	1.78E-07	6.50E-07	1.42E-08	1.12E-07	3.82E-07	9.62E-08	5.33E-07	6.76E-07
087719R	1.97E-06	2.84E-07	1.04E-06	2.27E-08	1.78E-07	6.10E-07	1.54E-07	8.52E-07	1.08E-06
087720K	1.23E-06	1.78E-07	6.50E-07	1.42E-08	1.12E-07	3.82E-07	9.62E-08	5.33E-07	6.76E-07
087721S	1.48E-06	2.13E-07	7.78E-07	1.70E-08	1.34E-07	4.58E-07	1.15E-07	6.39E-07	8.10E-07
087722Y	9.84E-07	1.42E-07	5.18E-07	1.14E-08	8.90E-08	3.05E-07	7.68E-08	4.26E-07	5.39E-07
087725U	1.95E-04	2.81E-05	1.03E-04	2.25E-06	1.77E-05	6.05E-05	1.52E-05	8.45E-05	1.07E-04
087726B	1.44E-04	2.07E-05	7.58E-05	1.66E-06	1.30E-05	4.46E-05	1.12E-05	6.22E-05	7.89E-05
087760H	1.80E-06	2.60E-07	9.49E-07	2.08E-08	1.63E-07	5.58E-07	1.41E-07	7.79E-07	9.87E-07
087762W	4.50E-07	6.48E-08	2.37E-07	5.19E-09	4.07E-08	1.39E-07	3.51E-08	1.95E-07	2.47E-07
087764K	3.81E-04	5.49E-05	2.01E-04	4.40E-06	3.45E-05	1.18E-04	2.97E-05	1.65E-04	2.09E-04
087766Y	4.99E-06	7.19E-07	2.63E-06	5.76E-08	4.51E-07	1.55E-06	3.90E-07	2.16E-06	2.74E-06
087768M	2.26E-06	3.25E-07	1.19E-06	2.60E-08	2.04E-07	6.99E-07	1.76E-07	9.76E-07	1.24E-06
087769U	4.50E-07	6.48E-08	2.37E-07	5.19E-09	4.07E-08	1.39E-07	3.51E-08	1.95E-07	2.47E-07
087781B	8.73E-05	1.26E-05	4.60E-05	1.01E-06	7.90E-06	2.70E-05	6.81E-06	3.78E-05	4.79E-05
087782H	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
087783P	2.12E-04	3.05E-05	1.12E-04	2.44E-06	1.91E-05	6.56E-05	1.65E-05	9.16E-05	1.16E-04
087784W	2.57E-05	3.70E-06	1.35E-05	2.96E-07	2.32E-06	7.96E-06	2.00E-06	1.11E-05	1.41E-05
087785D	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
087786K	2.73E-06	3.93E-07	1.44E-06	3.15E-08	2.47E-07	8.45E-07	2.13E-07	1.18E-06	1.49E-06
087787S	1.73E-06	2.49E-07	9.11E-07	2.00E-08	1.56E-07	5.36E-07	1.35E-07	7.48E-07	9.48E-07
087788Y	1.48E-06	2.13E-07	7.80E-07	1.71E-08	1.34E-07	4.59E-07	1.16E-07	6.41E-07	8.12E-07
087790A	1.97E-05	2.84E-06	1.04E-05	2.27E-07	1.78E-06	6.09E-06	1.54E-06	8.51E-06	1.08E-05
087791G	3.17E-06	4.56E-07	1.67E-06	3.65E-08	2.86E-07	9.81E-07	2.47E-07	1.37E-06	1.74E-06
087792N	2.26E-06	3.25E-07	1.19E-06	2.60E-08	2.04E-07	6.98E-07	1.76E-07	9.75E-07	1.24E-06
087793V	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
087794C	5.23E-06	7.54E-07	2.76E-06	6.04E-08	4.73E-07	1.62E-06	4.08E-07	2.26E-06	2.87E-06
087795J	4.92E-07	7.09E-08	2.59E-07	5.68E-09	4.45E-08	1.52E-07	3.84E-08	2.13E-07	2.70E-07
087798E	3.95E-06	5.69E-07	2.08E-06	4.56E-08	3.57E-07	1.22E-06	3.08E-07	1.71E-06	2.17E-06
087799L	7.39E-07	1.06E-07	3.89E-07	8.52E-09	6.68E-08	2.29E-07	5.76E-08	3.19E-07	4.05E-07
087800D	2.71E-06	3.91E-07	1.43E-06	3.13E-08	2.45E-07	8.40E-07	2.12E-07	1.17E-06	1.49E-06
087801K	7.38E-07	1.06E-07	3.89E-07	8.51E-09	6.67E-08	2.28E-07	5.76E-08	3.19E-07	4.04E-07
087804F	1.66E-05	2.39E-06	8.73E-06	1.91E-07	1.50E-06	5.14E-06	1.29E-06	7.17E-06	9.09E-06
087668H	9.77E-05	1.41E-05	5.14E-05	1.13E-06	8.83E-06	3.03E-05	7.62E-06	4.22E-05	5.35E-05
087699G	4.92E-07	7.09E-08	2.59E-07	5.68E-09	4.45E-08	1.52E-07	3.84E-08	2.13E-07	2.70E-07
071257E	1.99E-04	2.87E-05	1.05E-04	2.30E-06	1.80E-05	6.17E-05	1.55E-05	8.61E-05	1.09E-04
071256X	3.46E-05	4.99E-06	1.82E-05	3.99E-07	3.13E-06	1.07E-05	2.70E-06	1.50E-05	1.90E-05
103805G	7.39E-07	1.06E-07	3.89E-07	8.53E-09	6.68E-08	2.29E-07	5.77E-08	3.20E-07	4.05E-07
103730K	7.52E-05	1.08E-05	3.96E-05	8.68E-07	6.80E-06	2.33E-05	5.87E-06	3.25E-05	4.12E-05
071241H	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.91E-08	3.05E-07	7.69E-08	4.26E-07	5.40E-07
071120K	1.73E-06	2.49E-07	9.10E-07	1.99E-08	1.56E-07	5.35E-07	1.35E-07	7.47E-07	9.47E-07
071109K	1.23E-06	1.78E-07	6.50E-07	1.42E-08	1.12E-07	3.82E-07	9.62E-08	5.33E-07	6.76E-07
071108D	1.03E-05	1.48E-06	5.41E-06	1.19E-07	9.29E-07	3.18E-06	8.02E-07	4.44E-06	5.63E-06
071105H	2.36E-05	3.40E-06	1.24E-05	2.72E-07	2.13E-06	7.31E-06	1.84E-06	1.02E-05	1.29E-05
071103U	1.29E-04	1.86E-05	6.81E-05	1.49E-06	1.17E-05	4.00E-05	1.01E-05	5.59E-05	7.09E-05
071101F	3.72E-06	5.35E-07	1.96E-06	4.29E-08	3.36E-07	1.15E-06	2.90E-07	1.61E-06	2.04E-06
071100Y	9.86E-07	1.42E-07	5.19E-07	1.14E-08	8.92E-08	3.05E-07	7.69E-08	4.27E-07	5.40E-07
071099G	3.47E-06	5.00E-07	1.83E-06	4.00E-08	3.14E-07	1.07E-06	2.71E-07	1.50E-06	1.90E-06
071098A	4.93E-07	7.10E-08	2.60E-07	5.69E-09	4.46E-08	1.53E-07	3.85E-08	2.13E-07	2.70E-07
071097T	4.93E-07	7.10E-08	2.60E-07	5.68E-09	4.46E-08	1.53E-07	3.84E-08	2.13E-07	2.70E-07
071095E	1.23E-06	1.78E-07	6.50E-07	1.42E-08	1.12E-07	3.82E-07	9.62E-08	5.33E-07	6.76E-07
071092J	6.97E-05	1.00E-05	3.67E-05	8.05E-07	6.31E-06	2.16E-05	5.44E-06	3.02E-05	3.82E-05
071089B	1.24E-06	1.78E-07	6.51E-07	1.43E-08	1.12E-07	3.83E-07	9.64E-08	5.35E-07	6.77E-07
071087M	1.18E-05	1.70E-06	6.22E-06	1.36E-07	1.07E-06	3.66E-06	9.22E-07	5.11E-06	6.47E-06
071086F	4.93E-07	7.10E-08	2.60E-07	5.69E-09	4.46E-08	1.53E-07	3.85E-08	2.13E-07	2.70E-07
071085Y	2.72E-06	3.92E-07	1.43E-06	3.14E-08	2.46E-07	8.43E-07	2.12E-07	1.18E-06	1.49E-06
071084S	2.72E-06	3.92E-07	1.43E-06	3.14E-08	2.46E-07	8.43E-07	2.12E-07	1.18E-06	1.49E-06
071009F	2.36E-05	3.40E-06	1.24E-05	2.73E-07	2.14E-06	7.32E-06	1.84E-06	1.02E-05	1.29E-05
070828T	5.45E-04	7.85E-05	2.87E-04	6.29E-06	4.93E-05	1.69E-04	4.25E-05	2.36E-04	2.99E-04

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
070810H	1.31E-04	1.89E-05	6.92E-05	1.52E-06	1.19E-05	4.07E-05	1.02E-05	5.68E-05	7.20E-05
070809N	1.44E-04	2.07E-05	7.56E-05	1.66E-06	1.30E-05	4.45E-05	1.12E-05	6.21E-05	7.87E-05
070807A	1.94E-04	2.80E-05	1.02E-04	2.24E-06	1.76E-05	6.02E-05	1.52E-05	8.41E-05	1.07E-04
080763E	1.16E-05	1.66E-06	6.09E-06	1.33E-07	1.04E-06	3.58E-06	9.02E-07	5.00E-06	6.33E-06
070798D	1.05E-04	1.51E-05	5.51E-05	1.21E-06	9.46E-06	3.24E-05	8.16E-06	4.52E-05	5.73E-05
062952D	3.52E-04	5.07E-05	1.85E-04	4.06E-06	3.18E-05	1.09E-04	2.75E-05	1.52E-04	1.93E-04
062949V	1.19E-04	1.72E-05	6.28E-05	1.38E-06	1.08E-05	3.69E-05	9.30E-06	5.16E-05	6.53E-05
062931K	3.88E-04	5.60E-05	2.05E-04	4.48E-06	3.51E-05	1.20E-04	3.03E-05	1.68E-04	2.13E-04
062932S	4.20E-04	6.05E-05	2.21E-04	4.85E-06	3.80E-05	1.30E-04	3.28E-05	1.82E-04	2.30E-04
062930D	1.31E-04	1.89E-05	6.92E-05	1.52E-06	1.19E-05	4.07E-05	1.02E-05	5.68E-05	7.20E-05
062927V	5.73E-05	8.25E-06	3.02E-05	6.61E-07	5.18E-06	1.77E-05	4.47E-06	2.48E-05	3.14E-05
062946A	1.16E-04	1.67E-05	6.12E-05	1.34E-06	1.05E-05	3.60E-05	9.07E-06	5.03E-05	6.37E-05
Total Emissions	8.07E-03	1.16E-03	4.25E-03	9.31E-05	7.30E-04	2.50E-03	6.30E-04	3.49E-03	4.42E-03

Table V.2-54. Grade Crossing Emissions, Segment 18 – Southern from Mandan, ND to Fargo, ND, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
071122Y	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071123F	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071124M	1.21E-02	1.02E-06	3.20E-07	1.22E-02
071126B	1.92E-01	1.63E-05	5.09E-06	1.94E-01
071129W	1.61E-02	1.37E-06	4.27E-07	1.63E-02
071131X	2.82E-02	2.39E-06	7.47E-07	2.85E-02
071132E	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071133L	2.01E-02	1.70E-06	5.33E-07	2.03E-02
071134T	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071136G	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071138V	5.23E-02	4.43E-06	1.39E-06	5.29E-02
071140W	1.61E-02	1.37E-06	4.27E-07	1.63E-02
071142K	3.22E-02	2.73E-06	8.55E-07	3.26E-02
071144Y	3.94E-01	3.34E-05	1.04E-05	3.98E-01
071145F	4.04E-01	3.43E-05	1.07E-05	4.09E-01
071146M	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071147U	1.21E-02	1.02E-06	3.20E-07	1.22E-02
071149H	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071150C	8.05E-03	6.82E-07	2.13E-07	8.13E-03
071152R	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071154E	3.46E+00	2.93E-04	9.18E-05	3.50E+00
071156T	7.80E-01	6.61E-05	2.07E-05	7.88E-01
071158G	2.90E+00	2.45E-04	7.67E-05	2.92E+00
071160H	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071161P	8.05E-03	6.82E-07	2.13E-07	8.13E-03
071162W	8.04E-03	6.81E-07	2.13E-07	8.13E-03
071163D	2.81E-01	2.38E-05	7.44E-06	2.83E-01
071164K	3.47E+00	2.94E-04	9.18E-05	3.50E+00
071165S	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071166Y	4.85E-02	4.11E-06	1.28E-06	4.90E-02
071167F	2.82E-02	2.39E-06	7.48E-07	2.85E-02
071171V	2.04E-01	1.73E-05	5.42E-06	2.06E-01
071173J	1.21E-02	1.02E-06	3.20E-07	1.22E-02
071174R	5.25E-02	4.45E-06	1.39E-06	5.31E-02
071175X	4.44E-02	3.76E-06	1.18E-06	4.49E-02
071180U	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071185D	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071188Y	2.01E-02	1.70E-06	5.33E-07	2.03E-02
071190A	2.42E-02	2.05E-06	6.42E-07	2.45E-02
071191G	5.04E-01	4.27E-05	1.34E-05	5.09E-01
071192N	4.55E-01	3.85E-05	1.21E-05	4.59E-01
071224S	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071226F	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071228U	1.21E-02	1.02E-06	3.20E-07	1.22E-02

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
071229B	1.14E-01	9.62E-06	3.01E-06	1.15E-01
071232J	2.01E-02	1.70E-06	5.33E-07	2.03E-02
071233R	1.21E-02	1.02E-06	3.20E-07	1.22E-02
071235E	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071236L	2.25E-01	1.91E-05	5.97E-06	2.27E-01
071238A	1.21E-02	1.02E-06	3.20E-07	1.22E-02
071239G	2.08E-01	1.77E-05	5.52E-06	2.11E-01
071240B	4.33E-01	3.67E-05	1.15E-05	4.38E-01
071242P	8.04E-03	6.81E-07	2.13E-07	8.12E-03
071244D	1.21E-02	1.02E-06	3.20E-07	1.22E-02
071246S	2.01E-02	1.70E-06	5.33E-07	2.03E-02
071248F	2.75E-01	2.33E-05	7.30E-06	2.78E-01
071249M	3.19E-01	2.70E-05	8.45E-06	3.22E-01
071250G	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071253C	1.85E+00	1.57E-04	4.91E-05	1.87E+00
071256X	5.65E-01	4.79E-05	1.50E-05	5.71E-01
071257E	3.25E+00	2.75E-04	8.61E-05	3.28E+00
071258L	4.79E+00	4.06E-04	1.27E-04	4.84E+00
071260M	2.30E-01	1.95E-05	6.09E-06	2.32E-01
071261U	7.37E-02	6.24E-06	1.95E-06	7.45E-02
086394F	1.61E-02	1.36E-06	4.27E-07	1.63E-02
087633G	8.03E-03	6.80E-07	2.13E-07	8.11E-03
087634N	1.61E-02	1.36E-06	4.27E-07	1.63E-02
087635V	1.61E-02	1.36E-06	4.27E-07	1.63E-02
087636C	1.14E-01	9.63E-06	3.01E-06	1.15E-01
087641Y	1.05E-02	8.87E-07	2.77E-07	1.06E-02
087642F	4.21E-02	3.57E-06	1.12E-06	4.25E-02
087643M	7.35E-02	6.23E-06	1.95E-06	7.43E-02
087644U	5.23E-03	4.43E-07	1.39E-07	5.28E-03
087646H	1.05E-02	8.87E-07	2.77E-07	1.06E-02
087647P	3.67E-02	3.11E-06	9.73E-07	3.71E-02
087648W	4.61E-01	3.91E-05	1.22E-05	4.66E-01
087649D	2.07E-01	1.75E-05	5.47E-06	2.09E-01
087651E	1.57E-02	1.33E-06	4.17E-07	1.59E-02
087652L	2.62E-01	2.22E-05	6.94E-06	2.65E-01
087654A	1.91E-01	1.62E-05	5.07E-06	1.93E-01
087655G	5.23E-03	4.43E-07	1.39E-07	5.28E-03
087656N	5.23E-03	4.43E-07	1.39E-07	5.28E-03
087657V	1.05E-02	8.87E-07	2.77E-07	1.06E-02
087658C	3.53E-01	2.99E-05	9.35E-06	3.56E-01
087659J	6.31E-02	5.34E-06	1.67E-06	6.37E-02
087660D	1.83E+00	1.55E-04	4.84E-05	1.84E+00
087661K	5.18E-01	4.39E-05	1.37E-05	5.23E-01
087662S	9.30E-01	7.87E-05	2.46E-05	9.39E-01
087665M	4.34E+00	3.68E-04	1.15E-04	4.38E+00
087667B	5.49E+00	4.65E-04	1.45E-04	5.54E+00

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
087674L	2.57E+00	2.18E-04	6.81E-05	2.60E+00
087675T	9.67E+00	8.19E-04	2.56E-04	9.77E+00
087683K	3.61E-01	3.06E-05	9.56E-06	3.64E-01
087684S	1.68E+00	1.43E-04	4.46E-05	1.70E+00
087702M	1.21E-02	1.02E-06	3.20E-07	1.22E-02
087704B	6.00E-01	5.09E-05	1.59E-05	6.06E-01
087705H	2.01E-02	1.71E-06	5.34E-07	2.03E-02
087706P	3.23E-02	2.74E-06	8.56E-07	3.26E-02
087709K	5.83E-01	4.94E-05	1.54E-05	5.89E-01
087710E	8.03E-03	6.80E-07	2.13E-07	8.11E-03
087713A	1.61E-02	1.36E-06	4.27E-07	1.63E-02
087715N	3.98E-01	3.37E-05	1.05E-05	4.02E-01
087716V	1.14E-01	9.63E-06	3.01E-06	1.15E-01
087717C	4.20E-01	3.56E-05	1.11E-05	4.25E-01
087718J	2.01E-02	1.71E-06	5.34E-07	2.03E-02
087719R	3.22E-02	2.72E-06	8.52E-07	3.25E-02
087720K	2.01E-02	1.71E-06	5.34E-07	2.03E-02
087721S	2.41E-02	2.04E-06	6.39E-07	2.44E-02
087722Y	1.61E-02	1.36E-06	4.26E-07	1.62E-02
087725U	3.19E+00	2.70E-04	8.45E-05	3.22E+00
087726B	2.35E+00	1.99E-04	6.23E-05	2.37E+00
087760H	2.94E-02	2.49E-06	7.79E-07	2.97E-02
087762W	7.35E-03	6.22E-07	1.95E-07	7.42E-03
087764K	6.22E+00	5.27E-04	1.65E-04	6.29E+00
087766Y	8.15E-02	6.91E-06	2.16E-06	8.23E-02
087768M	3.69E-02	3.12E-06	9.77E-07	3.72E-02
087769U	7.35E-03	6.22E-07	1.95E-07	7.42E-03
087781B	1.43E+00	1.21E-04	3.78E-05	1.44E+00
087782H	1.61E-02	1.36E-06	4.27E-07	1.63E-02
087783P	3.46E+00	2.93E-04	9.16E-05	3.49E+00
087784W	4.19E-01	3.55E-05	1.11E-05	4.24E-01
087785D	1.61E-02	1.36E-06	4.27E-07	1.63E-02
087786K	4.45E-02	3.77E-06	1.18E-06	4.50E-02
087787S	2.82E-02	2.39E-06	7.48E-07	2.85E-02
087788Y	2.42E-02	2.05E-06	6.41E-07	2.44E-02
087790A	3.21E-01	2.72E-05	8.52E-06	3.25E-01
087791G	5.17E-02	4.38E-06	1.37E-06	5.22E-02
087792N	3.68E-02	3.12E-06	9.76E-07	3.72E-02
087793V	1.61E-02	1.36E-06	4.27E-07	1.63E-02
087794C	8.54E-02	7.24E-06	2.26E-06	8.63E-02
087795J	8.03E-03	6.80E-07	2.13E-07	8.11E-03
087798E	6.45E-02	5.46E-06	1.71E-06	6.52E-02
087799L	1.21E-02	1.02E-06	3.20E-07	1.22E-02
087800D	4.43E-02	3.75E-06	1.17E-06	4.47E-02
087801K	1.20E-02	1.02E-06	3.19E-07	1.22E-02
087804F	2.71E-01	2.29E-05	7.17E-06	2.73E-01

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
087668H	1.59E+00	1.35E-04	4.23E-05	1.61E+00
087699G	8.03E-03	6.80E-07	2.13E-07	8.11E-03
071257E	3.25E+00	2.75E-04	8.61E-05	3.28E+00
071256X	5.65E-01	4.79E-05	1.50E-05	5.71E-01
103805G	1.21E-02	1.02E-06	3.20E-07	1.22E-02
103730K	1.23E+00	1.04E-04	3.25E-05	1.24E+00
071241H	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071120K	2.82E-02	2.39E-06	7.48E-07	2.85E-02
071109K	2.01E-02	1.71E-06	5.34E-07	2.03E-02
071108D	1.68E-01	1.42E-05	4.45E-06	1.69E-01
071105H	3.85E-01	3.26E-05	1.02E-05	3.89E-01
071103U	2.11E+00	1.79E-04	5.59E-05	2.13E+00
071101F	6.07E-02	5.14E-06	1.61E-06	6.13E-02
071100Y	1.61E-02	1.36E-06	4.27E-07	1.63E-02
071099G	5.66E-02	4.80E-06	1.50E-06	5.72E-02
071098A	8.05E-03	6.82E-07	2.13E-07	8.13E-03
071097T	8.04E-03	6.81E-07	2.13E-07	8.13E-03
071095E	2.01E-02	1.71E-06	5.34E-07	2.03E-02
071092J	1.14E+00	9.65E-05	3.02E-05	1.15E+00
071089B	2.02E-02	1.71E-06	5.35E-07	2.04E-02
071087M	1.93E-01	1.63E-05	5.11E-06	1.95E-01
071086F	8.05E-03	6.82E-07	2.13E-07	8.13E-03
071085Y	4.44E-02	3.76E-06	1.18E-06	4.49E-02
071084S	4.44E-02	3.76E-06	1.18E-06	4.49E-02
071009F	3.86E-01	3.27E-05	1.02E-05	3.90E-01
070828T	8.90E+00	7.54E-04	2.36E-04	8.99E+00
070810H	2.14E+00	1.82E-04	5.68E-05	2.17E+00
070809N	2.34E+00	1.99E-04	6.21E-05	2.37E+00
070807A	3.18E+00	2.69E-04	8.41E-05	3.21E+00
080763E	1.89E-01	1.60E-05	5.00E-06	1.91E-01
070798D	1.71E+00	1.45E-04	4.53E-05	1.73E+00
062952D	5.75E+00	4.87E-04	1.52E-04	5.81E+00
062949V	1.95E+00	1.65E-04	5.16E-05	1.97E+00
062931K	6.34E+00	5.37E-04	1.68E-04	6.41E+00
062932S	6.86E+00	5.81E-04	1.82E-04	6.93E+00
062930D	2.14E+00	1.82E-04	5.68E-05	2.17E+00
062927V	9.35E-01	7.92E-05	2.48E-05	9.44E-01
062946A	1.90E+00	1.61E-04	5.03E-05	1.92E+00
Total Emissions	1.32E+02	1.12E-02	3.49E-03	1.33E+02

Table V.2-55. Grade Crossing Emissions, Segment 20 – Northern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
062577F	3.03E-03	4.69E-04	1.52E-07	1.31E-05	1.25E-05	2.59E-06	1.55E-04
062579U	1.85E-02	2.86E-03	9.27E-07	8.00E-05	7.60E-05	1.58E-05	9.47E-04
062580N	4.09E-04	6.35E-05	2.06E-08	1.77E-06	1.69E-06	3.50E-07	2.10E-05
062582C	9.96E-03	1.54E-03	5.01E-07	4.32E-05	4.10E-05	8.52E-06	5.11E-04
062584R	1.17E-04	1.81E-05	5.86E-09	5.06E-07	4.81E-07	9.98E-08	5.99E-06
062585X	2.92E-04	4.53E-05	1.47E-08	1.27E-06	1.20E-06	2.50E-07	1.50E-05
062586E	1.17E-04	1.81E-05	5.86E-09	5.06E-07	4.81E-07	9.98E-08	5.99E-06
062587L	3.51E-04	5.44E-05	1.76E-08	1.52E-06	1.44E-06	3.00E-07	1.80E-05
062588T	3.51E-04	5.44E-05	1.76E-08	1.52E-06	1.44E-06	3.00E-07	1.80E-05
062589A	1.29E-03	2.01E-04	6.51E-08	5.61E-06	5.33E-06	1.11E-06	6.64E-05
062590U	5.83E-05	9.04E-06	2.93E-09	2.53E-07	2.40E-07	4.99E-08	2.99E-06
062591B	2.34E-04	3.62E-05	1.17E-08	1.01E-06	9.62E-07	2.00E-07	1.20E-05
062592H	1.17E-04	1.81E-05	5.87E-09	5.06E-07	4.81E-07	9.99E-08	5.99E-06
062594W	5.83E-05	9.04E-06	2.93E-09	2.53E-07	2.40E-07	4.99E-08	2.99E-06
062596K	5.59E-03	8.68E-04	2.81E-07	2.43E-05	2.30E-05	4.79E-06	2.87E-04
062597S	2.34E-04	3.62E-05	1.17E-08	1.01E-06	9.62E-07	2.00E-07	1.20E-05
062598Y	2.92E-04	4.53E-05	1.47E-08	1.27E-06	1.20E-06	2.50E-07	1.50E-05
062600X	1.17E-04	1.81E-05	5.87E-09	5.06E-07	4.81E-07	9.99E-08	5.99E-06
062601E	1.75E-04	2.72E-05	8.80E-09	7.59E-07	7.21E-07	1.50E-07	8.98E-06
062602L	4.09E-04	6.35E-05	2.06E-08	1.77E-06	1.69E-06	3.50E-07	2.10E-05
062604A	2.92E-04	4.53E-05	1.47E-08	1.27E-06	1.20E-06	2.50E-07	1.50E-05
062605G	3.51E-04	5.44E-05	1.76E-08	1.52E-06	1.44E-06	3.00E-07	1.80E-05
062606N	2.30E-03	3.57E-04	1.16E-07	9.99E-06	9.49E-06	1.97E-06	1.18E-04
062607V	1.17E-04	1.81E-05	5.86E-09	5.06E-07	4.81E-07	9.98E-08	5.99E-06
062608C	2.34E-04	3.62E-05	1.17E-08	1.01E-06	9.62E-07	2.00E-07	1.20E-05
062610D	2.34E-04	3.62E-05	1.17E-08	1.01E-06	9.62E-07	2.00E-07	1.20E-05
062611K	1.75E-04	2.72E-05	8.80E-09	7.59E-07	7.21E-07	1.50E-07	8.98E-06
062612S	5.88E-04	9.12E-05	2.96E-08	2.55E-06	2.42E-06	5.03E-07	3.02E-05
062614F	9.38E-04	1.45E-04	4.71E-08	4.07E-06	3.86E-06	8.02E-07	4.81E-05
062616U	5.83E-05	9.04E-06	2.93E-09	2.53E-07	2.40E-07	4.99E-08	2.99E-06
062620J	2.74E-03	4.24E-04	1.38E-07	1.19E-05	1.13E-05	2.34E-06	1.40E-04
062621R	2.66E-03	4.13E-04	1.34E-07	1.16E-05	1.10E-05	2.28E-06	1.37E-04
062622X	1.17E-04	1.81E-05	5.86E-09	5.06E-07	4.81E-07	9.98E-08	5.99E-06
062624L	1.17E-04	1.81E-05	5.86E-09	5.06E-07	4.81E-07	9.98E-08	5.99E-06
062629V	5.83E-05	9.05E-06	2.93E-09	2.53E-07	2.40E-07	4.99E-08	2.99E-06
062631W	2.30E-03	3.57E-04	1.16E-07	9.99E-06	9.49E-06	1.97E-06	1.18E-04
103817B	4.65E-02	7.22E-03	2.34E-06	2.02E-04	1.92E-04	3.98E-05	2.39E-03
060917H	3.21E-04	4.98E-05	1.61E-08	1.39E-06	1.32E-06	2.75E-07	1.65E-05
060919W	4.28E-04	6.64E-05	2.15E-08	1.86E-06	1.76E-06	3.66E-07	2.20E-05
060922E	1.74E-02	2.69E-03	8.73E-07	7.53E-05	7.15E-05	1.49E-05	8.91E-04
060923L	2.69E-03	4.16E-04	1.35E-07	1.16E-05	1.11E-05	2.30E-06	1.38E-04
060926G	5.32E-04	8.26E-05	2.68E-08	2.31E-06	2.19E-06	4.56E-07	2.73E-05
061081U	1.34E-03	2.07E-04	6.71E-08	5.79E-06	5.50E-06	1.14E-06	6.85E-05
061088S	1.60E-02	2.48E-03	8.03E-07	6.93E-05	6.58E-05	1.37E-05	8.19E-04

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
061089Y	9.92E-02	1.54E-02	4.99E-06	4.30E-04	4.09E-04	8.49E-05	5.09E-03
061091A	5.79E-03	8.98E-04	2.91E-07	2.51E-05	2.38E-05	4.95E-06	2.97E-04
061094V	1.98E-03	3.07E-04	9.96E-08	8.59E-06	8.16E-06	1.70E-06	1.02E-04
061096J	1.60E-03	2.49E-04	8.06E-08	6.96E-06	6.61E-06	1.37E-06	8.23E-05
061098X	4.22E-03	6.54E-04	2.12E-07	1.83E-05	1.74E-05	3.61E-06	2.16E-04
061099E	4.99E-03	7.74E-04	2.51E-07	2.16E-05	2.05E-05	4.27E-06	2.56E-04
061100W	1.45E-02	2.24E-03	7.27E-07	6.27E-05	5.95E-05	1.24E-05	7.42E-04
061101D	4.99E-03	7.74E-04	2.51E-07	2.16E-05	2.05E-05	4.27E-06	2.56E-04
061103S	1.17E-03	1.82E-04	5.90E-08	5.09E-06	4.84E-06	1.00E-06	6.02E-05
061104Y	7.40E-03	1.15E-03	3.72E-07	3.21E-05	3.05E-05	6.33E-06	3.79E-04
061106M	1.71E-03	2.65E-04	8.61E-08	7.42E-06	7.05E-06	1.46E-06	8.78E-05
061107U	3.19E-04	4.95E-05	1.60E-08	1.38E-06	1.31E-06	2.73E-07	1.64E-05
061109H	2.13E-04	3.30E-05	1.07E-08	9.22E-07	8.76E-07	1.82E-07	1.09E-05
061122W	1.06E-04	1.65E-05	5.35E-09	4.61E-07	4.38E-07	9.10E-08	5.46E-06
061123D	4.99E-03	7.74E-04	2.51E-07	2.16E-05	2.05E-05	4.27E-06	2.56E-04
061125S	1.11E-02	1.72E-03	5.59E-07	4.82E-05	4.58E-05	9.51E-06	5.70E-04
067426H	9.60E-04	1.49E-04	4.83E-08	4.16E-06	3.95E-06	8.22E-07	4.93E-05
067427P	5.32E-04	8.26E-05	2.68E-08	2.31E-06	2.19E-06	4.56E-07	2.73E-05
067430X	4.27E-04	6.62E-05	2.15E-08	1.85E-06	1.76E-06	3.65E-07	2.19E-05
067431E	2.47E-03	3.83E-04	1.24E-07	1.07E-05	1.02E-05	2.11E-06	1.27E-04
067432L	1.07E-04	1.65E-05	5.36E-09	4.62E-07	4.39E-07	9.12E-08	5.47E-06
067434A	3.20E-04	4.97E-05	1.61E-08	1.39E-06	1.32E-06	2.74E-07	1.64E-05
067436N	5.34E-04	8.27E-05	2.68E-08	2.31E-06	2.20E-06	4.57E-07	2.74E-05
067437V	2.13E-04	3.31E-05	1.07E-08	9.25E-07	8.79E-07	1.83E-07	1.09E-05
067438C	2.13E-04	3.31E-05	1.07E-08	9.25E-07	8.79E-07	1.83E-07	1.09E-05
067439J	2.13E-04	3.31E-05	1.07E-08	9.25E-07	8.78E-07	1.82E-07	1.09E-05
067440D	5.35E-04	8.30E-05	2.69E-08	2.32E-06	2.20E-06	4.58E-07	2.74E-05
067441K	3.20E-04	4.96E-05	1.61E-08	1.39E-06	1.32E-06	2.74E-07	1.64E-05
067443Y	2.13E-04	3.31E-05	1.07E-08	9.25E-07	8.79E-07	1.83E-07	1.09E-05
067445M	5.00E-03	7.76E-04	2.51E-07	2.17E-05	2.06E-05	4.28E-06	2.57E-04
067446U	2.69E-03	4.17E-04	1.35E-07	1.16E-05	1.11E-05	2.30E-06	1.38E-04
067447B	9.66E-04	1.50E-04	4.86E-08	4.19E-06	3.98E-06	8.27E-07	4.96E-05
067449P	1.19E-02	1.84E-03	5.98E-07	5.16E-05	4.90E-05	1.02E-05	6.10E-04
067450J	2.13E-04	3.31E-05	1.07E-08	9.25E-07	8.79E-07	1.83E-07	1.09E-05
067451R	4.27E-04	6.62E-05	2.15E-08	1.85E-06	1.76E-06	3.65E-07	2.19E-05
067452X	5.35E-04	8.30E-05	2.69E-08	2.32E-06	2.20E-06	4.58E-07	2.74E-05
067453E	3.20E-04	4.97E-05	1.61E-08	1.39E-06	1.32E-06	2.74E-07	1.64E-05
067455T	1.95E-03	3.02E-04	9.79E-08	8.45E-06	8.02E-06	1.67E-06	9.99E-05
067456A	6.64E-03	1.03E-03	3.34E-07	2.88E-05	2.73E-05	5.68E-06	3.40E-04
067460P	2.13E-04	3.31E-05	1.07E-08	9.25E-07	8.79E-07	1.83E-07	1.09E-05
067462D	7.50E-04	1.16E-04	3.77E-08	3.25E-06	3.09E-06	6.42E-07	3.85E-05
067463K	4.27E-04	6.62E-05	2.15E-08	1.85E-06	1.76E-06	3.65E-07	2.19E-05
067465Y	9.66E-04	1.50E-04	4.86E-08	4.19E-06	3.98E-06	8.27E-07	4.96E-05
067467M	1.26E-02	1.95E-03	6.32E-07	5.45E-05	5.18E-05	1.08E-05	6.45E-04
067468U	1.18E-03	1.83E-04	5.92E-08	5.11E-06	4.85E-06	1.01E-06	6.04E-05
067469B	2.13E-04	3.31E-05	1.07E-08	9.25E-07	8.78E-07	1.82E-07	1.09E-05

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
067470V	2.13E-04	3.31E-05	1.07E-08	9.25E-07	8.78E-07	1.82E-07	1.09E-05
067473R	4.27E-04	6.62E-05	2.15E-08	1.85E-06	1.76E-06	3.65E-07	2.19E-05
067475E	4.27E-04	6.62E-05	2.15E-08	1.85E-06	1.76E-06	3.65E-07	2.19E-05
067545S	9.18E-03	1.42E-03	4.61E-07	3.98E-05	3.78E-05	7.85E-06	4.71E-04
067546Y	2.37E-03	3.67E-04	1.19E-07	1.03E-05	9.75E-06	2.02E-06	1.21E-04
067549U	1.18E-03	1.82E-04	5.91E-08	5.10E-06	4.84E-06	1.01E-06	6.03E-05
067551V	2.13E-04	3.31E-05	1.07E-08	9.25E-07	8.79E-07	1.83E-07	1.09E-05
067554R	5.34E-04	8.28E-05	2.68E-08	2.31E-06	2.20E-06	4.57E-07	2.74E-05
067557L	5.00E-03	7.76E-04	2.51E-07	2.17E-05	2.06E-05	4.28E-06	2.57E-04
067558T	4.98E-03	7.72E-04	2.50E-07	2.16E-05	2.05E-05	4.26E-06	2.55E-04
067560U	5.00E-03	7.76E-04	2.51E-07	2.17E-05	2.06E-05	4.28E-06	2.57E-04
067562H	5.34E-04	8.27E-05	2.68E-08	2.31E-06	2.20E-06	4.57E-07	2.74E-05
067564W	4.27E-04	6.62E-05	2.15E-08	1.85E-06	1.76E-06	3.65E-07	2.19E-05
067567S	9.63E-04	1.49E-04	4.84E-08	4.17E-06	3.96E-06	8.24E-07	4.94E-05
067568Y	5.35E-04	8.30E-05	2.69E-08	2.32E-06	2.20E-06	4.58E-07	2.74E-05
067569F	5.34E-04	8.28E-05	2.68E-08	2.31E-06	2.20E-06	4.57E-07	2.74E-05
067572N	9.63E-04	1.49E-04	4.84E-08	4.17E-06	3.96E-06	8.24E-07	4.94E-05
067573V	5.00E-03	7.76E-04	2.51E-07	2.17E-05	2.06E-05	4.28E-06	2.57E-04
067574C	5.00E-03	7.76E-04	2.51E-07	2.17E-05	2.06E-05	4.28E-06	2.57E-04
067575J	2.08E-02	3.22E-03	1.04E-06	9.01E-05	8.56E-05	1.78E-05	1.07E-03
067576R	5.34E-04	8.28E-05	2.68E-08	2.31E-06	2.20E-06	4.57E-07	2.74E-05
067889F	5.32E-04	8.26E-05	2.68E-08	2.31E-06	2.19E-06	4.56E-07	2.73E-05
067890A	2.13E-04	3.30E-05	1.07E-08	9.22E-07	8.76E-07	1.82E-07	1.09E-05
067891G	2.13E-04	3.30E-05	1.07E-08	9.22E-07	8.76E-07	1.82E-07	1.09E-05
067895J	8.35E-03	1.30E-03	4.20E-07	3.62E-05	3.44E-05	7.15E-06	4.29E-04
067896R	4.55E-03	7.05E-04	2.29E-07	1.97E-05	1.87E-05	3.89E-06	2.33E-04
067898E	9.60E-04	1.49E-04	4.83E-08	4.16E-06	3.95E-06	8.22E-07	4.93E-05
067900D	2.13E-04	3.30E-05	1.07E-08	9.22E-07	8.76E-07	1.82E-07	1.09E-05
067901K	1.28E-03	1.99E-04	6.44E-08	5.56E-06	5.28E-06	1.10E-06	6.58E-05
067903Y	4.99E-03	7.74E-04	2.51E-07	2.16E-05	2.05E-05	4.27E-06	2.56E-04
067904F	6.73E-03	1.04E-03	3.38E-07	2.92E-05	2.77E-05	5.76E-06	3.45E-04
067906U	3.19E-04	4.95E-05	1.60E-08	1.38E-06	1.31E-06	2.73E-07	1.64E-05
067907B	7.46E-04	1.16E-04	3.75E-08	3.24E-06	3.07E-06	6.38E-07	3.83E-05
067909P	5.32E-04	8.26E-05	2.68E-08	2.31E-06	2.19E-06	4.56E-07	2.73E-05
067911R	7.46E-04	1.16E-04	3.75E-08	3.24E-06	3.07E-06	6.38E-07	3.83E-05
067912X	2.36E-03	3.66E-04	1.19E-07	1.02E-05	9.72E-06	2.02E-06	1.21E-04
067915T	7.52E-04	1.17E-04	3.78E-08	3.26E-06	3.10E-06	6.44E-07	3.86E-05
067918N	2.14E-04	3.32E-05	1.07E-08	9.27E-07	8.81E-07	1.83E-07	1.10E-05
067919V	6.43E-04	9.96E-05	3.23E-08	2.79E-06	2.65E-06	5.50E-07	3.30E-05
067921W	8.34E-03	1.29E-03	4.19E-07	3.61E-05	3.43E-05	7.13E-06	4.28E-04
067924S	2.14E-04	3.32E-05	1.07E-08	9.27E-07	8.81E-07	1.83E-07	1.10E-05
067925Y	2.00E-02	3.10E-03	1.01E-06	8.67E-05	8.24E-05	1.71E-05	1.03E-03
067927M	1.06E-01	1.65E-02	5.35E-06	4.61E-04	4.38E-04	9.11E-05	5.46E-03
067928U	5.02E-03	7.78E-04	2.52E-07	2.17E-05	2.07E-05	4.29E-06	2.57E-04
067929B	5.02E-03	7.78E-04	2.52E-07	2.17E-05	2.07E-05	4.29E-06	2.57E-04
067931C	3.25E-02	5.04E-03	1.63E-06	1.41E-04	1.34E-04	2.78E-05	1.67E-03

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
067932J	9.20E-03	1.43E-03	4.62E-07	3.99E-05	3.79E-05	7.87E-06	4.72E-04
067933R	6.05E-02	9.39E-03	3.04E-06	2.62E-04	2.49E-04	5.18E-05	3.11E-03
067934X	2.14E-02	3.32E-03	1.08E-06	9.28E-05	8.82E-05	1.83E-05	1.10E-03
067936L	7.15E-03	1.11E-03	3.59E-07	3.10E-05	2.94E-05	6.12E-06	3.67E-04
085912V	3.21E-04	4.98E-05	1.61E-08	1.39E-06	1.32E-06	2.75E-07	1.65E-05
085968P	4.28E-04	6.64E-05	2.15E-08	1.86E-06	1.76E-06	3.66E-07	2.20E-05
062576Y	4.01E-02	6.22E-03	2.02E-06	1.74E-04	1.65E-04	3.43E-05	2.06E-03
062925G	5.02E-03	7.79E-04	2.52E-07	2.18E-05	2.07E-05	4.30E-06	2.58E-04
062923T	1.77E-01	2.75E-02	8.90E-06	7.68E-04	7.29E-04	1.51E-04	9.08E-03
067930V	9.58E-03	1.49E-03	4.81E-07	4.15E-05	3.94E-05	8.20E-06	4.91E-04
067577X	7.48E-04	1.16E-04	3.76E-08	3.24E-06	3.08E-06	6.40E-07	3.84E-05
067578E	1.16E-04	1.80E-05	5.85E-09	5.05E-07	4.79E-07	9.96E-08	5.97E-06
062634S	2.34E-04	3.62E-05	1.17E-08	1.01E-06	9.62E-07	2.00E-07	1.20E-05
062635Y	1.71E-03	2.65E-04	8.61E-08	7.42E-06	7.05E-06	1.46E-06	8.78E-05
062638U	1.29E-03	2.01E-04	6.51E-08	5.61E-06	5.33E-06	1.11E-06	6.64E-05
062639B	1.18E-03	1.82E-04	5.91E-08	5.10E-06	4.84E-06	1.01E-06	6.03E-05
062640V	5.41E-03	8.39E-04	2.72E-07	2.35E-05	2.23E-05	4.63E-06	2.78E-04
062641C	9.39E-04	1.46E-04	4.72E-08	4.07E-06	3.87E-06	8.04E-07	4.82E-05
062642J	1.89E-03	2.93E-04	9.51E-08	8.20E-06	7.79E-06	1.62E-06	9.70E-05
094014S	3.59E-03	5.57E-04	1.81E-07	1.56E-05	1.48E-05	3.07E-06	1.84E-04
062496F	4.28E-02	6.63E-03	2.15E-06	1.85E-04	1.76E-04	3.66E-05	2.19E-03
062494S	2.24E-02	3.47E-03	1.12E-06	9.70E-05	9.21E-05	1.91E-05	1.15E-03
062491W	2.86E-03	4.43E-04	1.44E-07	1.24E-05	1.18E-05	2.45E-06	1.47E-04
062489V	1.48E-02	2.29E-03	7.42E-07	6.40E-05	6.08E-05	1.26E-05	7.57E-04
062487G	4.65E-03	7.20E-04	2.33E-07	2.01E-05	1.91E-05	3.97E-06	2.38E-04
062484L	2.74E-03	4.24E-04	1.38E-07	1.19E-05	1.13E-05	2.34E-06	1.40E-04
080759P	8.80E-04	1.36E-04	4.42E-08	3.82E-06	3.62E-06	7.53E-07	4.51E-05
Total Emissions	1.07E+00	1.67E-01	5.40E-05	4.66E-03	4.42E-03	9.19E-04	5.51E-02

Table V.2-56. Grade Crossing Emissions, Segment 20 – Northern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
062577F	1.08E-05	1.55E-06	5.67E-06	1.24E-07	9.73E-07	3.33E-06	8.40E-07	4.65E-06	5.90E-06
062579U	6.56E-05	9.46E-06	3.46E-05	7.57E-07	5.93E-06	2.03E-05	5.12E-06	2.84E-05	3.60E-05
062580N	1.46E-06	2.10E-07	7.67E-07	1.68E-08	1.32E-07	4.51E-07	1.14E-07	6.30E-07	7.98E-07
062582C	3.54E-05	5.11E-06	1.87E-05	4.09E-07	3.20E-06	1.10E-05	2.77E-06	1.53E-05	1.94E-05
062584R	4.15E-07	5.98E-08	2.19E-07	4.79E-09	3.75E-08	1.29E-07	3.24E-08	1.80E-07	2.27E-07
062585X	1.04E-06	1.50E-07	5.47E-07	1.20E-08	9.39E-08	3.22E-07	8.10E-08	4.49E-07	5.69E-07
062586E	4.15E-07	5.98E-08	2.19E-07	4.79E-09	3.75E-08	1.29E-07	3.24E-08	1.80E-07	2.27E-07
062587L	1.25E-06	1.80E-07	6.57E-07	1.44E-08	1.13E-07	3.86E-07	9.73E-08	5.39E-07	6.84E-07
062588T	1.25E-06	1.80E-07	6.57E-07	1.44E-08	1.13E-07	3.86E-07	9.73E-08	5.39E-07	6.84E-07
062589A	4.61E-06	6.64E-07	2.43E-06	5.31E-08	4.16E-07	1.43E-06	3.59E-07	1.99E-06	2.52E-06
062590U	2.07E-07	2.99E-08	1.09E-07	2.39E-09	1.88E-08	6.42E-08	1.62E-08	8.97E-08	1.14E-07
062591B	8.31E-07	1.20E-07	4.38E-07	9.59E-09	7.51E-08	2.57E-07	6.48E-08	3.59E-07	4.55E-07
062592H	4.15E-07	5.98E-08	2.19E-07	4.79E-09	3.76E-08	1.29E-07	3.24E-08	1.80E-07	2.28E-07
062594W	2.07E-07	2.99E-08	1.09E-07	2.39E-09	1.88E-08	6.42E-08	1.62E-08	8.97E-08	1.14E-07
062596K	1.99E-05	2.87E-06	1.05E-05	2.30E-07	1.80E-06	6.16E-06	1.55E-06	8.61E-06	1.09E-05
062597S	8.31E-07	1.20E-07	4.38E-07	9.59E-09	7.51E-08	2.57E-07	6.48E-08	3.59E-07	4.55E-07
062598Y	1.04E-06	1.50E-07	5.47E-07	1.20E-08	9.39E-08	3.22E-07	8.11E-08	4.49E-07	5.69E-07
062600X	4.15E-07	5.98E-08	2.19E-07	4.79E-09	3.76E-08	1.29E-07	3.24E-08	1.80E-07	2.28E-07
062601E	6.23E-07	8.97E-08	3.28E-07	7.19E-09	5.63E-08	1.93E-07	4.86E-08	2.69E-07	3.41E-07
062602L	1.46E-06	2.10E-07	7.67E-07	1.68E-08	1.32E-07	4.51E-07	1.14E-07	6.30E-07	7.98E-07
062604A	1.04E-06	1.50E-07	5.47E-07	1.20E-08	9.39E-08	3.22E-07	8.11E-08	4.49E-07	5.69E-07
062605G	1.25E-06	1.80E-07	6.57E-07	1.44E-08	1.13E-07	3.86E-07	9.73E-08	5.39E-07	6.84E-07
062606N	8.20E-06	1.18E-06	4.32E-06	9.45E-08	7.41E-07	2.54E-06	6.39E-07	3.54E-06	4.49E-06
062607V	4.15E-07	5.98E-08	2.19E-07	4.79E-09	3.75E-08	1.29E-07	3.24E-08	1.80E-07	2.27E-07
062608C	8.31E-07	1.20E-07	4.38E-07	9.59E-09	7.51E-08	2.57E-07	6.48E-08	3.59E-07	4.55E-07
062610D	8.31E-07	1.20E-07	4.38E-07	9.59E-09	7.51E-08	2.57E-07	6.48E-08	3.59E-07	4.55E-07
062611K	6.23E-07	8.97E-08	3.28E-07	7.19E-09	5.63E-08	1.93E-07	4.86E-08	2.69E-07	3.41E-07
062612S	2.09E-06	3.01E-07	1.10E-06	2.41E-08	1.89E-07	6.48E-07	1.63E-07	9.05E-07	1.15E-06
062614F	3.34E-06	4.81E-07	1.76E-06	3.85E-08	3.02E-07	1.03E-06	2.60E-07	1.44E-06	1.83E-06
062616U	2.07E-07	2.99E-08	1.09E-07	2.39E-09	1.88E-08	6.42E-08	1.62E-08	8.97E-08	1.14E-07

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
062620J	9.73E-06	1.40E-06	5.13E-06	1.12E-07	8.80E-07	3.01E-06	7.59E-07	4.21E-06	5.33E-06
062621R	9.48E-06	1.37E-06	4.99E-06	1.09E-07	8.57E-07	2.93E-06	7.39E-07	4.10E-06	5.19E-06
062622X	4.15E-07	5.98E-08	2.19E-07	4.79E-09	3.75E-08	1.29E-07	3.24E-08	1.80E-07	2.27E-07
062624L	4.15E-07	5.98E-08	2.19E-07	4.79E-09	3.75E-08	1.29E-07	3.24E-08	1.80E-07	2.27E-07
062629V	2.08E-07	2.99E-08	1.09E-07	2.39E-09	1.88E-08	6.43E-08	1.62E-08	8.98E-08	1.14E-07
062631W	8.20E-06	1.18E-06	4.32E-06	9.45E-08	7.41E-07	2.54E-06	6.39E-07	3.54E-06	4.49E-06
103817B	1.66E-04	2.38E-05	8.72E-05	1.91E-06	1.50E-05	5.13E-05	1.29E-05	7.16E-05	9.07E-05
060917H	1.14E-06	1.64E-07	6.01E-07	1.32E-08	1.03E-07	3.53E-07	8.91E-08	4.94E-07	6.26E-07
060919W	1.52E-06	2.19E-07	8.02E-07	1.76E-08	1.38E-07	4.72E-07	1.19E-07	6.58E-07	8.34E-07
060922E	6.18E-05	8.90E-06	3.25E-05	7.13E-07	5.58E-06	1.91E-05	4.82E-06	2.67E-05	3.38E-05
060923L	9.55E-06	1.38E-06	5.03E-06	1.10E-07	8.64E-07	2.96E-06	7.45E-07	4.13E-06	5.24E-06
060926G	1.89E-06	2.73E-07	9.98E-07	2.19E-08	1.71E-07	5.87E-07	1.48E-07	8.19E-07	1.04E-06
061081U	4.75E-06	6.84E-07	2.50E-06	5.48E-08	4.30E-07	1.47E-06	3.71E-07	2.05E-06	2.60E-06
061088S	5.68E-05	8.19E-06	2.99E-05	6.56E-07	5.14E-06	1.76E-05	4.43E-06	2.46E-05	3.11E-05
061089Y	3.53E-04	5.08E-05	1.86E-04	4.07E-06	3.19E-05	1.09E-04	2.75E-05	1.53E-04	1.93E-04
061091A	2.06E-05	2.97E-06	1.08E-05	2.38E-07	1.86E-06	6.38E-06	1.61E-06	8.91E-06	1.13E-05
061094V	7.05E-06	1.02E-06	3.71E-06	8.13E-08	6.37E-07	2.18E-06	5.50E-07	3.05E-06	3.86E-06
061096J	5.71E-06	8.22E-07	3.01E-06	6.58E-08	5.16E-07	1.77E-06	4.45E-07	2.47E-06	3.13E-06
061098X	1.50E-05	2.16E-06	7.90E-06	1.73E-07	1.36E-06	4.64E-06	1.17E-06	6.49E-06	8.22E-06
061099E	1.77E-05	2.56E-06	9.35E-06	2.05E-07	1.60E-06	5.50E-06	1.38E-06	7.67E-06	9.72E-06
061100W	5.14E-05	7.41E-06	2.71E-05	5.93E-07	4.65E-06	1.59E-05	4.01E-06	2.22E-05	2.82E-05
061101D	1.77E-05	2.56E-06	9.35E-06	2.05E-07	1.60E-06	5.50E-06	1.38E-06	7.67E-06	9.72E-06
061103S	4.18E-06	6.02E-07	2.20E-06	4.82E-08	3.78E-07	1.29E-06	3.26E-07	1.81E-06	2.29E-06
061104Y	2.63E-05	3.79E-06	1.39E-05	3.04E-07	2.38E-06	8.15E-06	2.05E-06	1.14E-05	1.44E-05
061106M	6.09E-06	8.77E-07	3.21E-06	7.03E-08	5.51E-07	1.89E-06	4.75E-07	2.63E-06	3.34E-06
061107U	1.14E-06	1.64E-07	5.98E-07	1.31E-08	1.03E-07	3.52E-07	8.86E-08	4.91E-07	6.22E-07
061109H	7.57E-07	1.09E-07	3.99E-07	8.73E-09	6.84E-08	2.34E-07	5.90E-08	3.27E-07	4.15E-07
061122W	3.78E-07	5.45E-08	1.99E-07	4.36E-09	3.42E-08	1.17E-07	2.95E-08	1.64E-07	2.07E-07
061123D	1.77E-05	2.56E-06	9.35E-06	2.05E-07	1.60E-06	5.50E-06	1.38E-06	7.67E-06	9.72E-06
061125S	3.95E-05	5.70E-06	2.08E-05	4.56E-07	3.58E-06	1.22E-05	3.08E-06	1.71E-05	2.17E-05
067426H	3.42E-06	4.92E-07	1.80E-06	3.94E-08	3.09E-07	1.06E-06	2.66E-07	1.48E-06	1.87E-06
067427P	1.89E-06	2.73E-07	9.98E-07	2.19E-08	1.71E-07	5.87E-07	1.48E-07	8.19E-07	1.04E-06
067430X	1.52E-06	2.19E-07	8.00E-07	1.75E-08	1.37E-07	4.70E-07	1.18E-07	6.57E-07	8.32E-07

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
067431E	8.78E-06	1.27E-06	4.63E-06	1.01E-07	7.94E-07	2.72E-06	6.85E-07	3.80E-06	4.81E-06
067432L	3.79E-07	5.46E-08	2.00E-07	4.37E-09	3.43E-08	1.17E-07	2.96E-08	1.64E-07	2.08E-07
067434A	1.14E-06	1.64E-07	6.00E-07	1.32E-08	1.03E-07	3.53E-07	8.89E-08	4.93E-07	6.25E-07
067436N	1.90E-06	2.73E-07	1.00E-06	2.19E-08	1.72E-07	5.88E-07	1.48E-07	8.21E-07	1.04E-06
067437V	7.59E-07	1.09E-07	4.00E-07	8.76E-09	6.86E-08	2.35E-07	5.92E-08	3.28E-07	4.16E-07
067438C	7.59E-07	1.09E-07	4.00E-07	8.76E-09	6.86E-08	2.35E-07	5.92E-08	3.28E-07	4.16E-07
067439J	7.59E-07	1.09E-07	4.00E-07	8.75E-09	6.86E-08	2.35E-07	5.92E-08	3.28E-07	4.16E-07
067440D	1.90E-06	2.74E-07	1.00E-06	2.20E-08	1.72E-07	5.89E-07	1.48E-07	8.23E-07	1.04E-06
067441K	1.14E-06	1.64E-07	6.00E-07	1.31E-08	1.03E-07	3.53E-07	8.88E-08	4.92E-07	6.24E-07
067443Y	7.59E-07	1.09E-07	4.00E-07	8.76E-09	6.86E-08	2.35E-07	5.92E-08	3.28E-07	4.16E-07
067445M	1.78E-05	2.56E-06	9.37E-06	2.05E-07	1.61E-06	5.51E-06	1.39E-06	7.69E-06	9.75E-06
067446U	9.55E-06	1.38E-06	5.03E-06	1.10E-07	8.64E-07	2.96E-06	7.45E-07	4.13E-06	5.24E-06
067447B	3.44E-06	4.95E-07	1.81E-06	3.97E-08	3.11E-07	1.06E-06	2.68E-07	1.49E-06	1.88E-06
067449P	4.23E-05	6.10E-06	2.23E-05	4.88E-07	3.83E-06	1.31E-05	3.30E-06	1.83E-05	2.32E-05
067450J	7.59E-07	1.09E-07	4.00E-07	8.76E-09	6.86E-08	2.35E-07	5.92E-08	3.28E-07	4.16E-07
067451R	1.52E-06	2.19E-07	8.00E-07	1.75E-08	1.37E-07	4.70E-07	1.18E-07	6.57E-07	8.32E-07
067452X	1.90E-06	2.74E-07	1.00E-06	2.20E-08	1.72E-07	5.89E-07	1.48E-07	8.23E-07	1.04E-06
067453E	1.14E-06	1.64E-07	6.00E-07	1.32E-08	1.03E-07	3.53E-07	8.89E-08	4.93E-07	6.25E-07
067455T	6.93E-06	9.98E-07	3.65E-06	8.00E-08	6.27E-07	2.15E-06	5.41E-07	3.00E-06	3.80E-06
067456A	2.36E-05	3.40E-06	1.24E-05	2.72E-07	2.13E-06	7.31E-06	1.84E-06	1.02E-05	1.29E-05
067460P	7.59E-07	1.09E-07	4.00E-07	8.76E-09	6.86E-08	2.35E-07	5.92E-08	3.28E-07	4.16E-07
067462D	2.67E-06	3.85E-07	1.41E-06	3.08E-08	2.41E-07	8.27E-07	2.08E-07	1.15E-06	1.46E-06
067463K	1.52E-06	2.19E-07	8.00E-07	1.75E-08	1.37E-07	4.70E-07	1.18E-07	6.57E-07	8.32E-07
067465Y	3.44E-06	4.95E-07	1.81E-06	3.97E-08	3.11E-07	1.06E-06	2.68E-07	1.49E-06	1.88E-06
067467M	4.47E-05	6.44E-06	2.35E-05	5.16E-07	4.04E-06	1.38E-05	3.49E-06	1.93E-05	2.45E-05
067468U	4.19E-06	6.03E-07	2.21E-06	4.83E-08	3.79E-07	1.30E-06	3.27E-07	1.81E-06	2.30E-06
067469B	7.59E-07	1.09E-07	4.00E-07	8.75E-09	6.86E-08	2.35E-07	5.92E-08	3.28E-07	4.16E-07
067470V	7.59E-07	1.09E-07	4.00E-07	8.75E-09	6.86E-08	2.35E-07	5.92E-08	3.28E-07	4.16E-07
067473R	1.52E-06	2.19E-07	8.00E-07	1.75E-08	1.37E-07	4.70E-07	1.18E-07	6.57E-07	8.32E-07
067475E	1.52E-06	2.19E-07	8.00E-07	1.75E-08	1.37E-07	4.70E-07	1.18E-07	6.57E-07	8.32E-07
067545S	3.26E-05	4.70E-06	1.72E-05	3.77E-07	2.95E-06	1.01E-05	2.55E-06	1.41E-05	1.79E-05
067546Y	8.42E-06	1.21E-06	4.43E-06	9.71E-08	7.61E-07	2.61E-06	6.57E-07	3.64E-06	4.61E-06
067549U	4.18E-06	6.03E-07	2.20E-06	4.83E-08	3.78E-07	1.30E-06	3.26E-07	1.81E-06	2.29E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
067551V	7.59E-07	1.09E-07	4.00E-07	8.76E-09	6.86E-08	2.35E-07	5.92E-08	3.28E-07	4.16E-07
067554R	1.90E-06	2.74E-07	1.00E-06	2.19E-08	1.72E-07	5.88E-07	1.48E-07	8.21E-07	1.04E-06
067557L	1.78E-05	2.56E-06	9.37E-06	2.05E-07	1.61E-06	5.51E-06	1.39E-06	7.69E-06	9.75E-06
067558T	1.77E-05	2.55E-06	9.33E-06	2.04E-07	1.60E-06	5.48E-06	1.38E-06	7.66E-06	9.70E-06
067560U	1.78E-05	2.56E-06	9.37E-06	2.05E-07	1.61E-06	5.51E-06	1.39E-06	7.69E-06	9.75E-06
067562H	1.90E-06	2.73E-07	1.00E-06	2.19E-08	1.72E-07	5.88E-07	1.48E-07	8.21E-07	1.04E-06
067564W	1.52E-06	2.19E-07	8.00E-07	1.75E-08	1.37E-07	4.70E-07	1.18E-07	6.57E-07	8.32E-07
067567S	3.42E-06	4.93E-07	1.80E-06	3.95E-08	3.10E-07	1.06E-06	2.67E-07	1.48E-06	1.88E-06
067568Y	1.90E-06	2.74E-07	1.00E-06	2.20E-08	1.72E-07	5.89E-07	1.48E-07	8.23E-07	1.04E-06
067569F	1.90E-06	2.74E-07	1.00E-06	2.19E-08	1.72E-07	5.88E-07	1.48E-07	8.21E-07	1.04E-06
067572N	3.42E-06	4.93E-07	1.80E-06	3.95E-08	3.10E-07	1.06E-06	2.67E-07	1.48E-06	1.88E-06
067573V	1.78E-05	2.56E-06	9.37E-06	2.05E-07	1.61E-06	5.51E-06	1.39E-06	7.69E-06	9.75E-06
067574C	1.78E-05	2.56E-06	9.37E-06	2.05E-07	1.61E-06	5.51E-06	1.39E-06	7.69E-06	9.75E-06
067575J	7.39E-05	1.06E-05	3.89E-05	8.53E-07	6.68E-06	2.29E-05	5.77E-06	3.20E-05	4.05E-05
067576R	1.90E-06	2.74E-07	1.00E-06	2.19E-08	1.72E-07	5.88E-07	1.48E-07	8.21E-07	1.04E-06
067889F	1.89E-06	2.73E-07	9.98E-07	2.19E-08	1.71E-07	5.87E-07	1.48E-07	8.19E-07	1.04E-06
067890A	7.57E-07	1.09E-07	3.99E-07	8.73E-09	6.84E-08	2.34E-07	5.90E-08	3.27E-07	4.15E-07
067891G	7.57E-07	1.09E-07	3.99E-07	8.73E-09	6.84E-08	2.34E-07	5.90E-08	3.27E-07	4.15E-07
067895J	2.97E-05	4.28E-06	1.57E-05	3.43E-07	2.69E-06	9.20E-06	2.32E-06	1.29E-05	1.63E-05
067896R	1.62E-05	2.33E-06	8.52E-06	1.87E-07	1.46E-06	5.01E-06	1.26E-06	6.99E-06	8.86E-06
067898E	3.42E-06	4.92E-07	1.80E-06	3.94E-08	3.09E-07	1.06E-06	2.66E-07	1.48E-06	1.87E-06
067900D	7.57E-07	1.09E-07	3.99E-07	8.73E-09	6.84E-08	2.34E-07	5.90E-08	3.27E-07	4.15E-07
067901K	4.56E-06	6.57E-07	2.40E-06	5.26E-08	4.12E-07	1.41E-06	3.56E-07	1.97E-06	2.50E-06
067903Y	1.77E-05	2.56E-06	9.35E-06	2.05E-07	1.60E-06	5.50E-06	1.38E-06	7.67E-06	9.72E-06
067904F	2.39E-05	3.45E-06	1.26E-05	2.76E-07	2.16E-06	7.41E-06	1.87E-06	1.04E-05	1.31E-05
067906U	1.14E-06	1.64E-07	5.98E-07	1.31E-08	1.03E-07	3.52E-07	8.86E-08	4.91E-07	6.22E-07
067907B	2.65E-06	3.82E-07	1.40E-06	3.06E-08	2.40E-07	8.22E-07	2.07E-07	1.15E-06	1.45E-06
067909P	1.89E-06	2.73E-07	9.98E-07	2.19E-08	1.71E-07	5.87E-07	1.48E-07	8.19E-07	1.04E-06
067911R	2.65E-06	3.82E-07	1.40E-06	3.06E-08	2.40E-07	8.22E-07	2.07E-07	1.15E-06	1.45E-06
067912X	8.40E-06	1.21E-06	4.42E-06	9.69E-08	7.59E-07	2.60E-06	6.55E-07	3.63E-06	4.60E-06
067915T	2.68E-06	3.86E-07	1.41E-06	3.09E-08	2.42E-07	8.29E-07	2.09E-07	1.16E-06	1.47E-06
067918N	7.61E-07	1.10E-07	4.01E-07	8.78E-09	6.88E-08	2.36E-07	5.93E-08	3.29E-07	4.17E-07
067919V	2.29E-06	3.29E-07	1.20E-06	2.64E-08	2.07E-07	7.08E-07	1.78E-07	9.89E-07	1.25E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
067921W	2.96E-05	4.27E-06	1.56E-05	3.42E-07	2.68E-06	9.18E-06	2.31E-06	1.28E-05	1.62E-05
067924S	7.61E-07	1.10E-07	4.01E-07	8.78E-09	6.88E-08	2.36E-07	5.93E-08	3.29E-07	4.17E-07
067925Y	7.11E-05	1.03E-05	3.75E-05	8.21E-07	6.43E-06	2.20E-05	5.55E-06	3.08E-05	3.90E-05
067927M	3.79E-04	5.45E-05	1.99E-04	4.37E-06	3.42E-05	1.17E-04	2.95E-05	1.64E-04	2.07E-04
067928U	1.78E-05	2.57E-06	9.40E-06	2.06E-07	1.61E-06	5.52E-06	1.39E-06	7.72E-06	9.78E-06
067929B	1.78E-05	2.57E-06	9.40E-06	2.06E-07	1.61E-06	5.52E-06	1.39E-06	7.72E-06	9.78E-06
067931C	1.16E-04	1.66E-05	6.08E-05	1.33E-06	1.04E-05	3.58E-05	9.01E-06	5.00E-05	6.33E-05
067932J	3.27E-05	4.72E-06	1.72E-05	3.78E-07	2.96E-06	1.01E-05	2.55E-06	1.42E-05	1.79E-05
067933R	2.15E-04	3.10E-05	1.13E-04	2.48E-06	1.95E-05	6.67E-05	1.68E-05	9.31E-05	1.18E-04
067934X	7.62E-05	1.10E-05	4.01E-05	8.79E-07	6.89E-06	2.36E-05	5.94E-06	3.29E-05	4.17E-05
067936L	2.54E-05	3.66E-06	1.34E-05	2.93E-07	2.30E-06	7.87E-06	1.98E-06	1.10E-05	1.39E-05
085912V	1.14E-06	1.64E-07	6.01E-07	1.32E-08	1.03E-07	3.53E-07	8.91E-08	4.94E-07	6.26E-07
085968P	1.52E-06	2.19E-07	8.02E-07	1.76E-08	1.38E-07	4.72E-07	1.19E-07	6.58E-07	8.34E-07
062576Y	1.43E-04	2.05E-05	7.51E-05	1.65E-06	1.29E-05	4.42E-05	1.11E-05	6.17E-05	7.82E-05
062925G	1.79E-05	2.57E-06	9.41E-06	2.06E-07	1.61E-06	5.53E-06	1.39E-06	7.72E-06	9.79E-06
062923T	6.30E-04	9.07E-05	3.32E-04	7.27E-06	5.69E-05	1.95E-04	4.91E-05	2.72E-04	3.45E-04
067930V	3.41E-05	4.91E-06	1.79E-05	3.93E-07	3.08E-06	1.06E-05	2.66E-06	1.47E-05	1.87E-05
067577X	2.66E-06	3.83E-07	1.40E-06	3.07E-08	2.41E-07	8.24E-07	2.08E-07	1.15E-06	1.46E-06
067578E	4.14E-07	5.96E-08	2.18E-07	4.78E-09	3.74E-08	1.28E-07	3.23E-08	1.79E-07	2.27E-07
062634S	8.31E-07	1.20E-07	4.38E-07	9.59E-09	7.51E-08	2.57E-07	6.48E-08	3.59E-07	4.55E-07
062635Y	6.09E-06	8.77E-07	3.21E-06	7.03E-08	5.51E-07	1.89E-06	4.75E-07	2.63E-06	3.34E-06
062638U	4.61E-06	6.64E-07	2.43E-06	5.31E-08	4.16E-07	1.43E-06	3.59E-07	1.99E-06	2.52E-06
062639B	4.18E-06	6.03E-07	2.20E-06	4.83E-08	3.78E-07	1.30E-06	3.26E-07	1.81E-06	2.29E-06
062640V	1.93E-05	2.77E-06	1.01E-05	2.22E-07	1.74E-06	5.96E-06	1.50E-06	8.33E-06	1.06E-05
062641C	3.34E-06	4.81E-07	1.76E-06	3.85E-08	3.02E-07	1.03E-06	2.61E-07	1.44E-06	1.83E-06
062642J	6.73E-06	9.69E-07	3.54E-06	7.76E-08	6.08E-07	2.08E-06	5.25E-07	2.91E-06	3.69E-06
094014S	1.28E-05	1.84E-06	6.73E-06	1.47E-07	1.16E-06	3.96E-06	9.97E-07	5.53E-06	7.00E-06
062496F	1.52E-04	2.19E-05	8.01E-05	1.76E-06	1.38E-05	4.71E-05	1.19E-05	6.58E-05	8.34E-05
062494S	7.96E-05	1.15E-05	4.19E-05	9.18E-07	7.20E-06	2.46E-05	6.21E-06	3.44E-05	4.36E-05
062491W	1.02E-05	1.46E-06	5.35E-06	1.17E-07	9.19E-07	3.15E-06	7.93E-07	4.40E-06	5.57E-06
062489V	5.25E-05	7.56E-06	2.76E-05	6.06E-07	4.75E-06	1.63E-05	4.09E-06	2.27E-05	2.88E-05
062487G	1.65E-05	2.38E-06	8.70E-06	1.91E-07	1.49E-06	5.12E-06	1.29E-06	7.15E-06	9.05E-06
062484L	9.73E-06	1.40E-06	5.13E-06	1.12E-07	8.80E-07	3.01E-06	7.59E-07	4.21E-06	5.33E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
080759P	3.13E-06	4.51E-07	1.65E-06	3.61E-08	2.83E-07	9.70E-07	2.44E-07	1.35E-06	1.72E-06
Total Emissions	3.82E-03	5.50E-04	2.01E-03	4.41E-05	3.45E-04	1.18E-03	2.98E-04	1.65E-03	2.09E-03

Table V.2-57. Grade Crossing Emissions, Segment 20 – Northern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
062577F	1.76E-01	1.49E-05	4.66E-06	1.77E-01
062579U	1.07E+00	9.08E-05	2.84E-05	1.08E+00
062580N	2.38E-02	2.01E-06	6.30E-07	2.40E-02
062582C	5.79E-01	4.90E-05	1.53E-05	5.84E-01
062584R	6.78E-03	5.74E-07	1.80E-07	6.84E-03
062585X	1.70E-02	1.44E-06	4.49E-07	1.71E-02
062586E	6.78E-03	5.74E-07	1.80E-07	6.84E-03
062587L	2.04E-02	1.73E-06	5.40E-07	2.06E-02
062588T	2.04E-02	1.73E-06	5.40E-07	2.06E-02
062589A	7.52E-02	6.37E-06	1.99E-06	7.60E-02
062590U	3.39E-03	2.87E-07	8.98E-08	3.42E-03
062591B	1.36E-02	1.15E-06	3.59E-07	1.37E-02
062592H	6.78E-03	5.74E-07	1.80E-07	6.85E-03
062594W	3.39E-03	2.87E-07	8.98E-08	3.42E-03
062596K	3.25E-01	2.75E-05	8.61E-06	3.28E-01
062597S	1.36E-02	1.15E-06	3.59E-07	1.37E-02
062598Y	1.70E-02	1.44E-06	4.50E-07	1.71E-02
062600X	6.78E-03	5.74E-07	1.80E-07	6.85E-03
062601E	1.02E-02	8.61E-07	2.69E-07	1.03E-02
062602L	2.38E-02	2.01E-06	6.30E-07	2.40E-02
062604A	1.70E-02	1.44E-06	4.50E-07	1.71E-02
062605G	2.04E-02	1.73E-06	5.40E-07	2.06E-02
062606N	1.34E-01	1.13E-05	3.55E-06	1.35E-01
062607V	6.78E-03	5.74E-07	1.80E-07	6.84E-03
062608C	1.36E-02	1.15E-06	3.59E-07	1.37E-02
062610D	1.36E-02	1.15E-06	3.59E-07	1.37E-02
062611K	1.02E-02	8.61E-07	2.69E-07	1.03E-02
062612S	3.42E-02	2.89E-06	9.05E-07	3.45E-02
062614F	5.45E-02	4.61E-06	1.44E-06	5.50E-02
062616U	3.39E-03	2.87E-07	8.98E-08	3.42E-03
062620J	1.59E-01	1.35E-05	4.21E-06	1.61E-01
062621R	1.55E-01	1.31E-05	4.10E-06	1.56E-01
062622X	6.78E-03	5.74E-07	1.80E-07	6.84E-03
062624L	6.78E-03	5.74E-07	1.80E-07	6.84E-03
062629V	3.39E-03	2.87E-07	8.98E-08	3.42E-03
062631W	1.34E-01	1.13E-05	3.55E-06	1.35E-01
103817B	2.70E+00	2.29E-04	7.16E-05	2.73E+00
060917H	1.86E-02	1.58E-06	4.94E-07	1.88E-02
060919W	2.49E-02	2.11E-06	6.59E-07	2.51E-02
060922E	1.01E+00	8.54E-05	2.67E-05	1.02E+00
060923L	1.56E-01	1.32E-05	4.13E-06	1.58E-01
060926G	3.09E-02	2.62E-06	8.20E-07	3.12E-02
061081U	7.76E-02	6.57E-06	2.06E-06	7.83E-02
061088S	9.28E-01	7.86E-05	2.46E-05	9.37E-01

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
061089Y	5.76E+00	4.88E-04	1.53E-04	5.82E+00
061091A	3.36E-01	2.85E-05	8.91E-06	3.40E-01
061094V	1.15E-01	9.75E-06	3.05E-06	1.16E-01
061096J	9.32E-02	7.89E-06	2.47E-06	9.41E-02
061098X	2.45E-01	2.07E-05	6.49E-06	2.47E-01
061099E	2.90E-01	2.45E-05	7.68E-06	2.93E-01
061100W	8.40E-01	7.11E-05	2.22E-05	8.48E-01
061101D	2.90E-01	2.45E-05	7.68E-06	2.93E-01
061103S	6.82E-02	5.78E-06	1.81E-06	6.89E-02
061104Y	4.30E-01	3.64E-05	1.14E-05	4.34E-01
061106M	9.94E-02	8.42E-06	2.64E-06	1.00E-01
061107U	1.85E-02	1.57E-06	4.91E-07	1.87E-02
061109H	1.24E-02	1.05E-06	3.27E-07	1.25E-02
061122W	6.18E-03	5.23E-07	1.64E-07	6.24E-03
061123D	2.90E-01	2.45E-05	7.68E-06	2.93E-01
061125S	6.46E-01	5.47E-05	1.71E-05	6.52E-01
067426H	5.58E-02	4.72E-06	1.48E-06	5.63E-02
067427P	3.09E-02	2.62E-06	8.20E-07	3.12E-02
067430X	2.48E-02	2.10E-06	6.57E-07	2.50E-02
067431E	1.43E-01	1.21E-05	3.80E-06	1.45E-01
067432L	6.19E-03	5.24E-07	1.64E-07	6.25E-03
067434A	1.86E-02	1.58E-06	4.93E-07	1.88E-02
067436N	3.10E-02	2.62E-06	8.21E-07	3.13E-02
067437V	1.24E-02	1.05E-06	3.28E-07	1.25E-02
067438C	1.24E-02	1.05E-06	3.28E-07	1.25E-02
067439J	1.24E-02	1.05E-06	3.28E-07	1.25E-02
067440D	3.11E-02	2.63E-06	8.23E-07	3.14E-02
067441K	1.86E-02	1.57E-06	4.93E-07	1.88E-02
067443Y	1.24E-02	1.05E-06	3.28E-07	1.25E-02
067445M	2.90E-01	2.46E-05	7.70E-06	2.93E-01
067446U	1.56E-01	1.32E-05	4.13E-06	1.58E-01
067447B	5.61E-02	4.75E-06	1.49E-06	5.67E-02
067449P	6.91E-01	5.85E-05	1.83E-05	6.98E-01
067450J	1.24E-02	1.05E-06	3.28E-07	1.25E-02
067451R	2.48E-02	2.10E-06	6.57E-07	2.50E-02
067452X	3.11E-02	2.63E-06	8.23E-07	3.14E-02
067453E	1.86E-02	1.58E-06	4.93E-07	1.88E-02
067455T	1.13E-01	9.58E-06	3.00E-06	1.14E-01
067456A	3.85E-01	3.26E-05	1.02E-05	3.89E-01
067460P	1.24E-02	1.05E-06	3.28E-07	1.25E-02
067462D	4.36E-02	3.69E-06	1.15E-06	4.40E-02
067463K	2.48E-02	2.10E-06	6.57E-07	2.50E-02
067465Y	5.61E-02	4.75E-06	1.49E-06	5.67E-02
067467M	7.30E-01	6.18E-05	1.93E-05	7.37E-01
067468U	6.84E-02	5.79E-06	1.81E-06	6.91E-02
067469B	1.24E-02	1.05E-06	3.28E-07	1.25E-02

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
067470V	1.24E-02	1.05E-06	3.28E-07	1.25E-02
067473R	2.48E-02	2.10E-06	6.57E-07	2.50E-02
067475E	2.48E-02	2.10E-06	6.57E-07	2.50E-02
067545S	5.33E-01	4.51E-05	1.41E-05	5.38E-01
067546Y	1.37E-01	1.16E-05	3.64E-06	1.39E-01
067549U	6.83E-02	5.79E-06	1.81E-06	6.90E-02
067551V	1.24E-02	1.05E-06	3.28E-07	1.25E-02
067554R	3.10E-02	2.63E-06	8.22E-07	3.13E-02
067557L	2.90E-01	2.46E-05	7.70E-06	2.93E-01
067558T	2.89E-01	2.45E-05	7.66E-06	2.92E-01
067560U	2.90E-01	2.46E-05	7.70E-06	2.93E-01
067562H	3.10E-02	2.62E-06	8.21E-07	3.13E-02
067564W	2.48E-02	2.10E-06	6.57E-07	2.50E-02
067567S	5.59E-02	4.74E-06	1.48E-06	5.65E-02
067568Y	3.11E-02	2.63E-06	8.23E-07	3.14E-02
067569F	3.10E-02	2.63E-06	8.22E-07	3.13E-02
067572N	5.59E-02	4.74E-06	1.48E-06	5.65E-02
067573V	2.90E-01	2.46E-05	7.70E-06	2.93E-01
067574C	2.90E-01	2.46E-05	7.70E-06	2.93E-01
067575J	1.21E+00	1.02E-04	3.20E-05	1.22E+00
067576R	3.10E-02	2.63E-06	8.22E-07	3.13E-02
067889F	3.09E-02	2.62E-06	8.20E-07	3.12E-02
067890A	1.24E-02	1.05E-06	3.27E-07	1.25E-02
067891G	1.24E-02	1.05E-06	3.27E-07	1.25E-02
067895J	4.85E-01	4.11E-05	1.29E-05	4.90E-01
067896R	2.64E-01	2.24E-05	7.00E-06	2.67E-01
067898E	5.58E-02	4.72E-06	1.48E-06	5.63E-02
067900D	1.24E-02	1.05E-06	3.27E-07	1.25E-02
067901K	7.45E-02	6.31E-06	1.97E-06	7.52E-02
067903Y	2.90E-01	2.45E-05	7.68E-06	2.93E-01
067904F	3.91E-01	3.31E-05	1.04E-05	3.95E-01
067906U	1.85E-02	1.57E-06	4.91E-07	1.87E-02
067907B	4.33E-02	3.67E-06	1.15E-06	4.38E-02
067909P	3.09E-02	2.62E-06	8.20E-07	3.12E-02
067911R	4.33E-02	3.67E-06	1.15E-06	4.38E-02
067912X	1.37E-01	1.16E-05	3.63E-06	1.38E-01
067915T	4.37E-02	3.70E-06	1.16E-06	4.41E-02
067918N	1.24E-02	1.05E-06	3.29E-07	1.25E-02
067919V	3.73E-02	3.16E-06	9.89E-07	3.77E-02
067921W	4.84E-01	4.10E-05	1.28E-05	4.89E-01
067924S	1.24E-02	1.05E-06	3.29E-07	1.25E-02
067925Y	1.16E+00	9.84E-05	3.08E-05	1.17E+00
067927M	6.18E+00	5.23E-04	1.64E-04	6.24E+00
067928U	2.91E-01	2.47E-05	7.72E-06	2.94E-01
067929B	2.91E-01	2.47E-05	7.72E-06	2.94E-01
067931C	1.89E+00	1.60E-04	5.00E-05	1.91E+00

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
067932J	5.34E-01	4.53E-05	1.42E-05	5.40E-01
067933R	3.52E+00	2.98E-04	9.32E-05	3.55E+00
067934X	1.24E+00	1.05E-04	3.30E-05	1.26E+00
067936L	4.15E-01	3.52E-05	1.10E-05	4.19E-01
085912V	1.86E-02	1.58E-06	4.94E-07	1.88E-02
085968P	2.49E-02	2.11E-06	6.59E-07	2.51E-02
062576Y	2.33E+00	1.97E-04	6.17E-05	2.35E+00
062925G	2.92E-01	2.47E-05	7.73E-06	2.95E-01
062923T	1.03E+01	8.71E-04	2.72E-04	1.04E+01
067930V	5.56E-01	4.71E-05	1.47E-05	5.62E-01
067577X	4.34E-02	3.68E-06	1.15E-06	4.39E-02
067578E	6.76E-03	5.72E-07	1.79E-07	6.83E-03
062634S	1.36E-02	1.15E-06	3.59E-07	1.37E-02
062635Y	9.94E-02	8.42E-06	2.64E-06	1.00E-01
062638U	7.52E-02	6.37E-06	1.99E-06	7.60E-02
062639B	6.83E-02	5.79E-06	1.81E-06	6.90E-02
062640V	3.14E-01	2.66E-05	8.33E-06	3.17E-01
062641C	5.45E-02	4.62E-06	1.45E-06	5.51E-02
062642J	1.10E-01	9.31E-06	2.91E-06	1.11E-01
094014S	2.09E-01	1.77E-05	5.53E-06	2.11E-01
062496F	2.48E+00	2.10E-04	6.58E-05	2.51E+00
062494S	1.30E+00	1.10E-04	3.44E-05	1.31E+00
062491W	1.66E-01	1.41E-05	4.40E-06	1.68E-01
062489V	8.57E-01	7.26E-05	2.27E-05	8.66E-01
062487G	2.70E-01	2.29E-05	7.15E-06	2.72E-01
062484L	1.59E-01	1.35E-05	4.21E-06	1.61E-01
080759P	5.11E-02	4.33E-06	1.35E-06	5.16E-02
Total Emissions	6.24E+01	5.28E-03	1.65E-03	6.30E+01

Table V.2-58. Grade Crossing Emissions, Segment 20 – Southern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
062577F	2.19E-03	3.40E-04	1.10E-07	9.50E-06	9.02E-06	1.87E-06	1.12E-04
062579U	1.34E-02	2.07E-03	6.71E-07	5.79E-05	5.50E-05	1.14E-05	6.85E-04
062580N	2.96E-04	4.59E-05	1.49E-08	1.28E-06	1.22E-06	2.53E-07	1.52E-05
062582C	7.21E-03	1.12E-03	3.62E-07	3.13E-05	2.97E-05	6.17E-06	3.70E-04
062584R	8.45E-05	1.31E-05	4.24E-09	3.66E-07	3.48E-07	7.23E-08	4.33E-06
062585X	2.11E-04	3.28E-05	1.06E-08	9.16E-07	8.70E-07	1.81E-07	1.08E-05
062586E	8.45E-05	1.31E-05	4.24E-09	3.66E-07	3.48E-07	7.23E-08	4.33E-06
062587L	2.54E-04	3.94E-05	1.28E-08	1.10E-06	1.05E-06	2.17E-07	1.30E-05
062588T	2.54E-04	3.94E-05	1.28E-08	1.10E-06	1.05E-06	2.17E-07	1.30E-05
062589A	9.37E-04	1.45E-04	4.71E-08	4.06E-06	3.86E-06	8.02E-07	4.81E-05
062590U	4.22E-05	6.55E-06	2.12E-09	1.83E-07	1.74E-07	3.61E-08	2.17E-06
062591B	1.69E-04	2.62E-05	8.50E-09	7.33E-07	6.96E-07	1.45E-07	8.67E-06
062592H	8.45E-05	1.31E-05	4.25E-09	3.67E-07	3.48E-07	7.23E-08	4.34E-06
062594W	4.22E-05	6.55E-06	2.12E-09	1.83E-07	1.74E-07	3.61E-08	2.17E-06
062596K	4.05E-03	6.28E-04	2.04E-07	1.76E-05	1.67E-05	3.46E-06	2.08E-04
062597S	1.69E-04	2.62E-05	8.50E-09	7.33E-07	6.96E-07	1.45E-07	8.67E-06
062598Y	2.11E-04	3.28E-05	1.06E-08	9.17E-07	8.71E-07	1.81E-07	1.08E-05
062600X	8.45E-05	1.31E-05	4.25E-09	3.67E-07	3.48E-07	7.23E-08	4.34E-06
062601E	1.27E-04	1.97E-05	6.37E-09	5.50E-07	5.22E-07	1.08E-07	6.50E-06
062602L	2.96E-04	4.59E-05	1.49E-08	1.28E-06	1.22E-06	2.53E-07	1.52E-05
062604A	2.11E-04	3.28E-05	1.06E-08	9.17E-07	8.71E-07	1.81E-07	1.08E-05
062605G	2.54E-04	3.94E-05	1.28E-08	1.10E-06	1.05E-06	2.17E-07	1.30E-05
062606N	1.67E-03	2.59E-04	8.38E-08	7.23E-06	6.87E-06	1.43E-06	8.55E-05
062607V	8.45E-05	1.31E-05	4.24E-09	3.66E-07	3.48E-07	7.23E-08	4.33E-06
062608C	1.69E-04	2.62E-05	8.50E-09	7.33E-07	6.96E-07	1.45E-07	8.67E-06
062610D	1.69E-04	2.62E-05	8.50E-09	7.33E-07	6.96E-07	1.45E-07	8.67E-06
062611K	1.27E-04	1.97E-05	6.37E-09	5.50E-07	5.22E-07	1.08E-07	6.50E-06
062612S	4.26E-04	6.60E-05	2.14E-08	1.85E-06	1.75E-06	3.64E-07	2.18E-05
062614F	6.79E-04	1.05E-04	3.41E-08	2.94E-06	2.80E-06	5.81E-07	3.48E-05
062616U	4.22E-05	6.55E-06	2.12E-09	1.83E-07	1.74E-07	3.61E-08	2.17E-06
062620J	1.98E-03	3.07E-04	9.96E-08	8.59E-06	8.16E-06	1.69E-06	1.02E-04
062621R	1.93E-03	2.99E-04	9.69E-08	8.36E-06	7.94E-06	1.65E-06	9.89E-05
062622X	8.45E-05	1.31E-05	4.24E-09	3.66E-07	3.48E-07	7.23E-08	4.33E-06
062624L	8.45E-05	1.31E-05	4.24E-09	3.66E-07	3.48E-07	7.23E-08	4.33E-06
062629V	4.22E-05	6.55E-06	2.12E-09	1.83E-07	1.74E-07	3.61E-08	2.17E-06
062631W	1.67E-03	2.59E-04	8.38E-08	7.23E-06	6.87E-06	1.43E-06	8.55E-05
103817B	3.37E-02	5.22E-03	1.69E-06	1.46E-04	1.39E-04	2.88E-05	1.73E-03
060917H	2.32E-04	3.60E-05	1.17E-08	1.01E-06	9.55E-07	1.98E-07	1.19E-05
060919W	3.09E-04	4.80E-05	1.56E-08	1.34E-06	1.27E-06	2.65E-07	1.59E-05
060922E	1.26E-02	1.95E-03	6.31E-07	5.44E-05	5.17E-05	1.07E-05	6.44E-04
060923L	1.94E-03	3.01E-04	9.77E-08	8.43E-06	8.01E-06	1.66E-06	9.97E-05
060926G	3.85E-04	5.98E-05	1.94E-08	1.67E-06	1.59E-06	3.30E-07	1.98E-05
061081U	9.67E-04	1.50E-04	4.86E-08	4.19E-06	3.98E-06	8.27E-07	4.96E-05
061088S	1.16E-02	1.79E-03	5.81E-07	5.01E-05	4.76E-05	9.89E-06	5.93E-04

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
061089Y	7.18E-02	1.11E-02	3.61E-06	3.11E-04	2.96E-04	6.14E-05	3.68E-03
061091A	4.19E-03	6.50E-04	2.11E-07	1.82E-05	1.73E-05	3.59E-06	2.15E-04
061094V	1.43E-03	2.22E-04	7.21E-08	6.22E-06	5.91E-06	1.23E-06	7.36E-05
061096J	1.16E-03	1.80E-04	5.84E-08	5.04E-06	4.78E-06	9.94E-07	5.96E-05
061098X	3.05E-03	4.73E-04	1.53E-07	1.32E-05	1.26E-05	2.61E-06	1.57E-04
061099E	3.61E-03	5.60E-04	1.81E-07	1.57E-05	1.49E-05	3.09E-06	1.85E-04
061100W	1.05E-02	1.62E-03	5.26E-07	4.54E-05	4.31E-05	8.95E-06	5.37E-04
061101D	3.61E-03	5.60E-04	1.81E-07	1.57E-05	1.49E-05	3.09E-06	1.85E-04
061103S	8.50E-04	1.32E-04	4.27E-08	3.69E-06	3.50E-06	7.27E-07	4.36E-05
061104Y	5.35E-03	8.30E-04	2.69E-07	2.32E-05	2.20E-05	4.58E-06	2.75E-04
061106M	1.24E-03	1.92E-04	6.23E-08	5.37E-06	5.10E-06	1.06E-06	6.36E-05
061107U	2.31E-04	3.58E-05	1.16E-08	1.00E-06	9.51E-07	1.98E-07	1.19E-05
061109H	1.54E-04	2.39E-05	7.74E-09	6.68E-07	6.34E-07	1.32E-07	7.90E-06
061122W	7.70E-05	1.19E-05	3.87E-09	3.34E-07	3.17E-07	6.59E-08	3.95E-06
061123D	3.61E-03	5.60E-04	1.81E-07	1.57E-05	1.49E-05	3.09E-06	1.85E-04
061125S	8.05E-03	1.25E-03	4.04E-07	3.49E-05	3.31E-05	6.88E-06	4.13E-04
067426H	6.95E-04	1.08E-04	3.49E-08	3.01E-06	2.86E-06	5.95E-07	3.56E-05
067427P	3.85E-04	5.98E-05	1.94E-08	1.67E-06	1.59E-06	3.30E-07	1.98E-05
067430X	3.09E-04	4.79E-05	1.55E-08	1.34E-06	1.27E-06	2.64E-07	1.58E-05
067431E	1.79E-03	2.77E-04	8.98E-08	7.75E-06	7.36E-06	1.53E-06	9.16E-05
067432L	7.71E-05	1.20E-05	3.87E-09	3.34E-07	3.18E-07	6.60E-08	3.95E-06
067434A	2.32E-04	3.59E-05	1.16E-08	1.01E-06	9.55E-07	1.98E-07	1.19E-05
067436N	3.86E-04	5.98E-05	1.94E-08	1.67E-06	1.59E-06	3.30E-07	1.98E-05
067437V	1.54E-04	2.39E-05	7.76E-09	6.69E-07	6.36E-07	1.32E-07	7.92E-06
067438C	1.54E-04	2.39E-05	7.76E-09	6.69E-07	6.36E-07	1.32E-07	7.92E-06
067439J	1.54E-04	2.39E-05	7.75E-09	6.69E-07	6.35E-07	1.32E-07	7.91E-06
067440D	3.87E-04	6.00E-05	1.94E-08	1.68E-06	1.59E-06	3.31E-07	1.99E-05
067441K	2.31E-04	3.59E-05	1.16E-08	1.00E-06	9.53E-07	1.98E-07	1.19E-05
067443Y	1.54E-04	2.39E-05	7.76E-09	6.69E-07	6.36E-07	1.32E-07	7.92E-06
067445M	3.62E-03	5.61E-04	1.82E-07	1.57E-05	1.49E-05	3.10E-06	1.86E-04
067446U	1.94E-03	3.01E-04	9.77E-08	8.43E-06	8.00E-06	1.66E-06	9.97E-05
067447B	6.99E-04	1.08E-04	3.51E-08	3.03E-06	2.88E-06	5.98E-07	3.59E-05
067449P	8.61E-03	1.33E-03	4.32E-07	3.73E-05	3.54E-05	7.36E-06	4.41E-04
067450J	1.54E-04	2.39E-05	7.76E-09	6.69E-07	6.36E-07	1.32E-07	7.92E-06
067451R	3.09E-04	4.79E-05	1.55E-08	1.34E-06	1.27E-06	2.64E-07	1.58E-05
067452X	3.87E-04	6.00E-05	1.94E-08	1.68E-06	1.59E-06	3.31E-07	1.99E-05
067453E	2.32E-04	3.59E-05	1.16E-08	1.01E-06	9.55E-07	1.98E-07	1.19E-05
067455T	1.41E-03	2.19E-04	7.08E-08	6.11E-06	5.80E-06	1.21E-06	7.23E-05
067456A	4.80E-03	7.44E-04	2.41E-07	2.08E-05	1.98E-05	4.11E-06	2.46E-04
067460P	1.54E-04	2.39E-05	7.76E-09	6.69E-07	6.36E-07	1.32E-07	7.92E-06
067462D	5.43E-04	8.42E-05	2.73E-08	2.35E-06	2.24E-06	4.64E-07	2.78E-05
067463K	3.09E-04	4.79E-05	1.55E-08	1.34E-06	1.27E-06	2.64E-07	1.58E-05
067465Y	6.99E-04	1.08E-04	3.51E-08	3.03E-06	2.88E-06	5.98E-07	3.59E-05
067467M	9.09E-03	1.41E-03	4.57E-07	3.94E-05	3.74E-05	7.78E-06	4.66E-04
067468U	8.52E-04	1.32E-04	4.28E-08	3.69E-06	3.51E-06	7.29E-07	4.37E-05
067469B	1.54E-04	2.39E-05	7.75E-09	6.69E-07	6.35E-07	1.32E-07	7.91E-06

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
067470V	1.54E-04	2.39E-05	7.75E-09	6.69E-07	6.35E-07	1.32E-07	7.91E-06
067473R	3.09E-04	4.79E-05	1.55E-08	1.34E-06	1.27E-06	2.64E-07	1.58E-05
067475E	3.09E-04	4.79E-05	1.55E-08	1.34E-06	1.27E-06	2.64E-07	1.58E-05
067545S	6.64E-03	1.03E-03	3.34E-07	2.88E-05	2.73E-05	5.68E-06	3.40E-04
067546Y	1.71E-03	2.65E-04	8.60E-08	7.42E-06	7.05E-06	1.46E-06	8.78E-05
067549U	8.51E-04	1.32E-04	4.28E-08	3.69E-06	3.50E-06	7.28E-07	4.36E-05
067551V	1.54E-04	2.39E-05	7.76E-09	6.69E-07	6.36E-07	1.32E-07	7.92E-06
067554R	3.86E-04	5.99E-05	1.94E-08	1.67E-06	1.59E-06	3.30E-07	1.98E-05
067557L	3.62E-03	5.61E-04	1.82E-07	1.57E-05	1.49E-05	3.10E-06	1.86E-04
067558T	3.60E-03	5.58E-04	1.81E-07	1.56E-05	1.48E-05	3.08E-06	1.85E-04
067560U	3.62E-03	5.61E-04	1.82E-07	1.57E-05	1.49E-05	3.10E-06	1.86E-04
067562H	3.86E-04	5.98E-05	1.94E-08	1.67E-06	1.59E-06	3.30E-07	1.98E-05
067564W	3.09E-04	4.79E-05	1.55E-08	1.34E-06	1.27E-06	2.64E-07	1.58E-05
067567S	6.96E-04	1.08E-04	3.50E-08	3.02E-06	2.87E-06	5.96E-07	3.57E-05
067568Y	3.87E-04	6.00E-05	1.94E-08	1.68E-06	1.59E-06	3.31E-07	1.99E-05
067569F	3.86E-04	5.99E-05	1.94E-08	1.67E-06	1.59E-06	3.30E-07	1.98E-05
067572N	6.96E-04	1.08E-04	3.50E-08	3.02E-06	2.87E-06	5.96E-07	3.57E-05
067573V	3.62E-03	5.61E-04	1.82E-07	1.57E-05	1.49E-05	3.10E-06	1.86E-04
067574C	3.62E-03	5.61E-04	1.82E-07	1.57E-05	1.49E-05	3.10E-06	1.86E-04
067575J	1.50E-02	2.33E-03	7.55E-07	6.52E-05	6.19E-05	1.29E-05	7.71E-04
067576R	3.86E-04	5.99E-05	1.94E-08	1.67E-06	1.59E-06	3.30E-07	1.98E-05
067889F	3.85E-04	5.98E-05	1.94E-08	1.67E-06	1.59E-06	3.30E-07	1.98E-05
067890A	1.54E-04	2.39E-05	7.74E-09	6.68E-07	6.34E-07	1.32E-07	7.90E-06
067891G	1.54E-04	2.39E-05	7.74E-09	6.68E-07	6.34E-07	1.32E-07	7.90E-06
067895J	6.05E-03	9.38E-04	3.04E-07	2.62E-05	2.49E-05	5.17E-06	3.10E-04
067896R	3.29E-03	5.10E-04	1.65E-07	1.43E-05	1.36E-05	2.82E-06	1.69E-04
067898E	6.95E-04	1.08E-04	3.49E-08	3.01E-06	2.86E-06	5.95E-07	3.56E-05
067900D	1.54E-04	2.39E-05	7.74E-09	6.68E-07	6.34E-07	1.32E-07	7.90E-06
067901K	9.28E-04	1.44E-04	4.66E-08	4.02E-06	3.82E-06	7.94E-07	4.76E-05
067903Y	3.61E-03	5.60E-04	1.81E-07	1.57E-05	1.49E-05	3.09E-06	1.85E-04
067904F	4.87E-03	7.55E-04	2.45E-07	2.11E-05	2.01E-05	4.17E-06	2.50E-04
067906U	2.31E-04	3.58E-05	1.16E-08	1.00E-06	9.51E-07	1.98E-07	1.18E-05
067907B	5.40E-04	8.37E-05	2.71E-08	2.34E-06	2.22E-06	4.62E-07	2.77E-05
067909P	3.85E-04	5.98E-05	1.94E-08	1.67E-06	1.59E-06	3.30E-07	1.98E-05
067911R	5.40E-04	8.37E-05	2.71E-08	2.34E-06	2.22E-06	4.62E-07	2.77E-05
067912X	1.71E-03	2.65E-04	8.59E-08	7.41E-06	7.04E-06	1.46E-06	8.76E-05
067915T	5.44E-04	8.43E-05	2.73E-08	2.36E-06	2.24E-06	4.65E-07	2.79E-05
067918N	1.55E-04	2.40E-05	7.77E-09	6.70E-07	6.37E-07	1.32E-07	7.93E-06
067919V	4.65E-04	7.20E-05	2.33E-08	2.01E-06	1.91E-06	3.97E-07	2.38E-05
067921W	6.03E-03	9.34E-04	3.03E-07	2.61E-05	2.48E-05	5.16E-06	3.09E-04
067924S	1.55E-04	2.40E-05	7.77E-09	6.70E-07	6.37E-07	1.32E-07	7.93E-06
067925Y	1.45E-02	2.24E-03	7.27E-07	6.27E-05	5.96E-05	1.24E-05	7.42E-04
067927M	7.69E-02	1.19E-02	3.87E-06	3.34E-04	3.17E-04	6.58E-05	3.95E-03
067928U	3.63E-03	5.62E-04	1.82E-07	1.57E-05	1.49E-05	3.10E-06	1.86E-04
067929B	3.63E-03	5.62E-04	1.82E-07	1.57E-05	1.49E-05	3.10E-06	1.86E-04
067931C	2.35E-02	3.64E-03	1.18E-06	1.02E-04	9.67E-05	2.01E-05	1.20E-03

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
067932J	6.65E-03	1.03E-03	3.34E-07	2.88E-05	2.74E-05	5.69E-06	3.41E-04
067933R	4.38E-02	6.79E-03	2.20E-06	1.90E-04	1.80E-04	3.74E-05	2.24E-03
067934X	1.55E-02	2.40E-03	7.78E-07	6.71E-05	6.38E-05	1.32E-05	7.94E-04
067936L	5.17E-03	8.01E-04	2.60E-07	2.24E-05	2.13E-05	4.42E-06	2.65E-04
085912V	2.32E-04	3.60E-05	1.17E-08	1.01E-06	9.55E-07	1.98E-07	1.19E-05
085968P	3.09E-04	4.80E-05	1.56E-08	1.34E-06	1.27E-06	2.65E-07	1.59E-05
062576Y	2.90E-02	4.50E-03	1.46E-06	1.26E-04	1.20E-04	2.48E-05	1.49E-03
062925G	3.63E-03	5.64E-04	1.83E-07	1.58E-05	1.50E-05	3.11E-06	1.86E-04
062923T	1.28E-01	1.99E-02	6.44E-06	5.56E-04	5.28E-04	1.10E-04	6.57E-03
067930V	6.94E-03	1.08E-03	3.49E-07	3.01E-05	2.86E-05	5.94E-06	3.56E-04
067577X	5.41E-04	8.39E-05	2.72E-08	2.35E-06	2.23E-06	4.63E-07	2.78E-05
067578E	8.43E-05	1.31E-05	4.24E-09	3.65E-07	3.47E-07	7.21E-08	4.32E-06
062634S	1.69E-04	2.62E-05	8.50E-09	7.33E-07	6.96E-07	1.45E-07	8.67E-06
062635Y	1.24E-03	1.92E-04	6.23E-08	5.37E-06	5.10E-06	1.06E-06	6.36E-05
062638U	9.37E-04	1.45E-04	4.71E-08	4.06E-06	3.86E-06	8.02E-07	4.81E-05
062639B	8.51E-04	1.32E-04	4.28E-08	3.69E-06	3.51E-06	7.28E-07	4.37E-05
062640V	3.92E-03	6.07E-04	1.97E-07	1.70E-05	1.61E-05	3.35E-06	2.01E-04
062641C	6.80E-04	1.05E-04	3.42E-08	2.95E-06	2.80E-06	5.82E-07	3.49E-05
062642J	1.37E-03	2.12E-04	6.88E-08	5.94E-06	5.64E-06	1.17E-06	7.02E-05
094014S	2.60E-03	4.03E-04	1.31E-07	1.13E-05	1.07E-05	2.22E-06	1.33E-04
062496F	3.10E-02	4.80E-03	1.56E-06	1.34E-04	1.28E-04	2.65E-05	1.59E-03
062494S	1.62E-02	2.51E-03	8.14E-07	7.02E-05	6.67E-05	1.39E-05	8.31E-04
062491W	2.07E-03	3.21E-04	1.04E-07	8.97E-06	8.52E-06	1.77E-06	1.06E-04
062489V	1.07E-02	1.66E-03	5.37E-07	4.63E-05	4.40E-05	9.14E-06	5.48E-04
062487G	3.36E-03	5.21E-04	1.69E-07	1.46E-05	1.38E-05	2.88E-06	1.72E-04
062484L	1.98E-03	3.07E-04	9.96E-08	8.59E-06	8.16E-06	1.69E-06	1.02E-04
080759P	6.37E-04	9.88E-05	3.20E-08	2.76E-06	2.62E-06	5.45E-07	3.27E-05
Total Emissions	7.77E-01	1.20E-01	3.90E-05	3.37E-03	3.20E-03	6.65E-04	3.99E-02

Table V.2-59. Grade Crossing Emissions, Segment 20 – Southern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
062577F	7.79E-06	1.12E-06	4.10E-06	8.99E-08	7.04E-07	2.41E-06	6.08E-07	3.37E-06	4.27E-06
062579U	4.75E-05	6.84E-06	2.50E-05	5.48E-07	4.30E-06	1.47E-05	3.71E-06	2.05E-05	2.60E-05
062580N	1.05E-06	1.52E-07	5.55E-07	1.22E-08	9.53E-08	3.26E-07	8.22E-08	4.56E-07	5.77E-07
062582C	2.57E-05	3.70E-06	1.35E-05	2.96E-07	2.32E-06	7.94E-06	2.00E-06	1.11E-05	1.41E-05
062584R	3.00E-07	4.33E-08	1.58E-07	3.47E-09	2.72E-08	9.30E-08	2.34E-08	1.30E-07	1.65E-07
062585X	7.52E-07	1.08E-07	3.96E-07	8.67E-09	6.80E-08	2.33E-07	5.86E-08	3.25E-07	4.12E-07
062586E	3.00E-07	4.33E-08	1.58E-07	3.47E-09	2.72E-08	9.30E-08	2.34E-08	1.30E-07	1.65E-07
062587L	9.03E-07	1.30E-07	4.76E-07	1.04E-08	8.16E-08	2.80E-07	7.04E-08	3.90E-07	4.95E-07
062588T	9.03E-07	1.30E-07	4.76E-07	1.04E-08	8.16E-08	2.80E-07	7.04E-08	3.90E-07	4.95E-07
062589A	3.33E-06	4.80E-07	1.76E-06	3.85E-08	3.01E-07	1.03E-06	2.60E-07	1.44E-06	1.83E-06
062590U	1.50E-07	2.16E-08	7.91E-08	1.73E-09	1.36E-08	4.65E-08	1.17E-08	6.49E-08	8.23E-08
062591B	6.01E-07	8.66E-08	3.17E-07	6.94E-09	5.44E-08	1.86E-07	4.69E-08	2.60E-07	3.30E-07
062592H	3.01E-07	4.33E-08	1.58E-07	3.47E-09	2.72E-08	9.31E-08	2.35E-08	1.30E-07	1.65E-07
062594W	1.50E-07	2.16E-08	7.91E-08	1.73E-09	1.36E-08	4.65E-08	1.17E-08	6.49E-08	8.23E-08
062596K	1.44E-05	2.08E-06	7.59E-06	1.66E-07	1.30E-06	4.46E-06	1.12E-06	6.23E-06	7.89E-06
062597S	6.01E-07	8.66E-08	3.17E-07	6.94E-09	5.44E-08	1.86E-07	4.69E-08	2.60E-07	3.30E-07
062598Y	7.52E-07	1.08E-07	3.96E-07	8.68E-09	6.80E-08	2.33E-07	5.87E-08	3.25E-07	4.12E-07
062600X	3.01E-07	4.33E-08	1.58E-07	3.47E-09	2.72E-08	9.31E-08	2.35E-08	1.30E-07	1.65E-07
062601E	4.51E-07	6.49E-08	2.37E-07	5.20E-09	4.08E-08	1.40E-07	3.52E-08	1.95E-07	2.47E-07
062602L	1.05E-06	1.52E-07	5.55E-07	1.22E-08	9.53E-08	3.26E-07	8.22E-08	4.56E-07	5.77E-07
062604A	7.52E-07	1.08E-07	3.96E-07	8.68E-09	6.80E-08	2.33E-07	5.87E-08	3.25E-07	4.12E-07
062605G	9.03E-07	1.30E-07	4.76E-07	1.04E-08	8.16E-08	2.80E-07	7.04E-08	3.90E-07	4.95E-07
062606N	5.93E-06	8.55E-07	3.12E-06	6.84E-08	5.36E-07	1.84E-06	4.63E-07	2.57E-06	3.25E-06
062607V	3.00E-07	4.33E-08	1.58E-07	3.47E-09	2.72E-08	9.30E-08	2.34E-08	1.30E-07	1.65E-07
062608C	6.01E-07	8.66E-08	3.17E-07	6.94E-09	5.44E-08	1.86E-07	4.69E-08	2.60E-07	3.30E-07
062610D	6.01E-07	8.66E-08	3.17E-07	6.94E-09	5.44E-08	1.86E-07	4.69E-08	2.60E-07	3.30E-07
062611K	4.51E-07	6.49E-08	2.37E-07	5.20E-09	4.08E-08	1.40E-07	3.52E-08	1.95E-07	2.47E-07
062612S	1.51E-06	2.18E-07	7.97E-07	1.75E-08	1.37E-07	4.69E-07	1.18E-07	6.55E-07	8.30E-07
062614F	2.41E-06	3.48E-07	1.27E-06	2.79E-08	2.18E-07	7.48E-07	1.88E-07	1.04E-06	1.32E-06
062616U	1.50E-07	2.16E-08	7.91E-08	1.73E-09	1.36E-08	4.65E-08	1.17E-08	6.49E-08	8.23E-08

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
062620J	7.05E-06	1.02E-06	3.71E-06	8.13E-08	6.37E-07	2.18E-06	5.50E-07	3.05E-06	3.86E-06
062621R	6.86E-06	9.88E-07	3.61E-06	7.91E-08	6.20E-07	2.12E-06	5.35E-07	2.97E-06	3.76E-06
062622X	3.00E-07	4.33E-08	1.58E-07	3.47E-09	2.72E-08	9.30E-08	2.34E-08	1.30E-07	1.65E-07
062624L	3.00E-07	4.33E-08	1.58E-07	3.47E-09	2.72E-08	9.30E-08	2.34E-08	1.30E-07	1.65E-07
062629V	1.50E-07	2.16E-08	7.91E-08	1.73E-09	1.36E-08	4.65E-08	1.17E-08	6.50E-08	8.23E-08
062631W	5.93E-06	8.55E-07	3.12E-06	6.84E-08	5.36E-07	1.84E-06	4.63E-07	2.57E-06	3.25E-06
103817B	1.20E-04	1.73E-05	6.31E-05	1.38E-06	1.08E-05	3.71E-05	9.35E-06	5.18E-05	6.57E-05
060917H	8.25E-07	1.19E-07	4.35E-07	9.52E-09	7.46E-08	2.56E-07	6.44E-08	3.57E-07	4.52E-07
060919W	1.10E-06	1.59E-07	5.80E-07	1.27E-08	9.95E-08	3.41E-07	8.59E-08	4.76E-07	6.03E-07
060922E	4.46E-05	6.43E-06	2.35E-05	5.15E-07	4.04E-06	1.38E-05	3.48E-06	1.93E-05	2.45E-05
060923L	6.91E-06	9.96E-07	3.64E-06	7.98E-08	6.25E-07	2.14E-06	5.39E-07	2.99E-06	3.79E-06
060926G	1.37E-06	1.97E-07	7.22E-07	1.58E-08	1.24E-07	4.25E-07	1.07E-07	5.93E-07	7.51E-07
061081U	3.44E-06	4.95E-07	1.81E-06	3.97E-08	3.11E-07	1.06E-06	2.68E-07	1.49E-06	1.88E-06
061088S	4.11E-05	5.93E-06	2.17E-05	4.74E-07	3.72E-06	1.27E-05	3.21E-06	1.78E-05	2.25E-05
061089Y	2.55E-04	3.68E-05	1.35E-04	2.95E-06	2.31E-05	7.91E-05	1.99E-05	1.10E-04	1.40E-04
061091A	1.49E-05	2.15E-06	7.85E-06	1.72E-07	1.35E-06	4.62E-06	1.16E-06	6.45E-06	8.17E-06
061094V	5.10E-06	7.35E-07	2.69E-06	5.89E-08	4.61E-07	1.58E-06	3.98E-07	2.21E-06	2.80E-06
061096J	4.13E-06	5.95E-07	2.18E-06	4.77E-08	3.73E-07	1.28E-06	3.22E-07	1.79E-06	2.26E-06
061098X	1.09E-05	1.56E-06	5.72E-06	1.25E-07	9.81E-07	3.36E-06	8.47E-07	4.69E-06	5.95E-06
061099E	1.28E-05	1.85E-06	6.76E-06	1.48E-07	1.16E-06	3.98E-06	1.00E-06	5.55E-06	7.04E-06
061100W	3.72E-05	5.36E-06	1.96E-05	4.29E-07	3.36E-06	1.15E-05	2.90E-06	1.61E-05	2.04E-05
061101D	1.28E-05	1.85E-06	6.76E-06	1.48E-07	1.16E-06	3.98E-06	1.00E-06	5.55E-06	7.04E-06
061103S	3.02E-06	4.36E-07	1.59E-06	3.49E-08	2.73E-07	9.36E-07	2.36E-07	1.31E-06	1.66E-06
061104Y	1.90E-05	2.74E-06	1.00E-05	2.20E-07	1.72E-06	5.90E-06	1.49E-06	8.24E-06	1.04E-05
061106M	4.41E-06	6.35E-07	2.32E-06	5.09E-08	3.99E-07	1.37E-06	3.44E-07	1.91E-06	2.42E-06
061107U	8.22E-07	1.18E-07	4.33E-07	9.48E-09	7.43E-08	2.54E-07	6.41E-08	3.55E-07	4.50E-07
061109H	5.48E-07	7.89E-08	2.88E-07	6.32E-09	4.95E-08	1.70E-07	4.27E-08	2.37E-07	3.00E-07
061122W	2.74E-07	3.94E-08	1.44E-07	3.16E-09	2.48E-08	8.48E-08	2.14E-08	1.18E-07	1.50E-07
061123D	1.28E-05	1.85E-06	6.76E-06	1.48E-07	1.16E-06	3.98E-06	1.00E-06	5.55E-06	7.04E-06
061125S	2.86E-05	4.12E-06	1.51E-05	3.30E-07	2.59E-06	8.86E-06	2.23E-06	1.24E-05	1.57E-05
067426H	2.47E-06	3.56E-07	1.30E-06	2.85E-08	2.23E-07	7.65E-07	1.93E-07	1.07E-06	1.35E-06
067427P	1.37E-06	1.97E-07	7.22E-07	1.58E-08	1.24E-07	4.25E-07	1.07E-07	5.93E-07	7.51E-07
067430X	1.10E-06	1.58E-07	5.78E-07	1.27E-08	9.93E-08	3.40E-07	8.57E-08	4.75E-07	6.02E-07

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
067431E	6.35E-06	9.15E-07	3.35E-06	7.33E-08	5.75E-07	1.97E-06	4.96E-07	2.75E-06	3.48E-06
067432L	2.74E-07	3.95E-08	1.44E-07	3.16E-09	2.48E-08	8.49E-08	2.14E-08	1.19E-07	1.50E-07
067434A	8.24E-07	1.19E-07	4.34E-07	9.51E-09	7.45E-08	2.55E-07	6.43E-08	3.57E-07	4.52E-07
067436N	1.37E-06	1.98E-07	7.23E-07	1.58E-08	1.24E-07	4.25E-07	1.07E-07	5.94E-07	7.52E-07
067437V	5.49E-07	7.91E-08	2.89E-07	6.34E-09	4.97E-08	1.70E-07	4.28E-08	2.38E-07	3.01E-07
067438C	5.49E-07	7.91E-08	2.89E-07	6.34E-09	4.97E-08	1.70E-07	4.28E-08	2.38E-07	3.01E-07
067439J	5.49E-07	7.90E-08	2.89E-07	6.33E-09	4.96E-08	1.70E-07	4.28E-08	2.37E-07	3.01E-07
067440D	1.38E-06	1.98E-07	7.25E-07	1.59E-08	1.24E-07	4.26E-07	1.07E-07	5.95E-07	7.54E-07
067441K	8.23E-07	1.19E-07	4.34E-07	9.50E-09	7.45E-08	2.55E-07	6.42E-08	3.56E-07	4.51E-07
067443Y	5.49E-07	7.91E-08	2.89E-07	6.34E-09	4.97E-08	1.70E-07	4.28E-08	2.38E-07	3.01E-07
067445M	1.29E-05	1.85E-06	6.78E-06	1.48E-07	1.16E-06	3.99E-06	1.00E-06	5.57E-06	7.05E-06
067446U	6.91E-06	9.96E-07	3.64E-06	7.97E-08	6.25E-07	2.14E-06	5.39E-07	2.99E-06	3.79E-06
067447B	2.49E-06	3.58E-07	1.31E-06	2.87E-08	2.25E-07	7.70E-07	1.94E-07	1.08E-06	1.36E-06
067449P	3.06E-05	4.41E-06	1.61E-05	3.53E-07	2.77E-06	9.48E-06	2.39E-06	1.32E-05	1.68E-05
067450J	5.49E-07	7.91E-08	2.89E-07	6.34E-09	4.97E-08	1.70E-07	4.28E-08	2.38E-07	3.01E-07
067451R	1.10E-06	1.58E-07	5.78E-07	1.27E-08	9.93E-08	3.40E-07	8.57E-08	4.75E-07	6.02E-07
067452X	1.38E-06	1.98E-07	7.25E-07	1.59E-08	1.24E-07	4.26E-07	1.07E-07	5.95E-07	7.54E-07
067453E	8.24E-07	1.19E-07	4.34E-07	9.51E-09	7.45E-08	2.55E-07	6.43E-08	3.57E-07	4.52E-07
067455T	5.01E-06	7.22E-07	2.64E-06	5.78E-08	4.53E-07	1.55E-06	3.91E-07	2.17E-06	2.75E-06
067456A	1.71E-05	2.46E-06	8.99E-06	1.97E-07	1.54E-06	5.29E-06	1.33E-06	7.39E-06	9.36E-06
067460P	5.49E-07	7.91E-08	2.89E-07	6.34E-09	4.97E-08	1.70E-07	4.28E-08	2.38E-07	3.01E-07
067462D	1.93E-06	2.78E-07	1.02E-06	2.23E-08	1.75E-07	5.98E-07	1.51E-07	8.35E-07	1.06E-06
067463K	1.10E-06	1.58E-07	5.78E-07	1.27E-08	9.93E-08	3.40E-07	8.57E-08	4.75E-07	6.02E-07
067465Y	2.49E-06	3.58E-07	1.31E-06	2.87E-08	2.25E-07	7.70E-07	1.94E-07	1.08E-06	1.36E-06
067467M	3.23E-05	4.66E-06	1.70E-05	3.73E-07	2.92E-06	1.00E-05	2.52E-06	1.40E-05	1.77E-05
067468U	3.03E-06	4.36E-07	1.60E-06	3.50E-08	2.74E-07	9.38E-07	2.36E-07	1.31E-06	1.66E-06
067469B	5.49E-07	7.90E-08	2.89E-07	6.33E-09	4.96E-08	1.70E-07	4.28E-08	2.37E-07	3.01E-07
067470V	5.49E-07	7.90E-08	2.89E-07	6.33E-09	4.96E-08	1.70E-07	4.28E-08	2.37E-07	3.01E-07
067473R	1.10E-06	1.58E-07	5.78E-07	1.27E-08	9.93E-08	3.40E-07	8.57E-08	4.75E-07	6.02E-07
067475E	1.10E-06	1.58E-07	5.78E-07	1.27E-08	9.93E-08	3.40E-07	8.57E-08	4.75E-07	6.02E-07
067545S	2.36E-05	3.40E-06	1.24E-05	2.72E-07	2.13E-06	7.31E-06	1.84E-06	1.02E-05	1.29E-05
067546Y	6.09E-06	8.77E-07	3.21E-06	7.02E-08	5.51E-07	1.89E-06	4.75E-07	2.63E-06	3.34E-06
067549U	3.03E-06	4.36E-07	1.59E-06	3.49E-08	2.74E-07	9.37E-07	2.36E-07	1.31E-06	1.66E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
067551V	5.49E-07	7.91E-08	2.89E-07	6.34E-09	4.97E-08	1.70E-07	4.28E-08	2.38E-07	3.01E-07
067554R	1.37E-06	1.98E-07	7.23E-07	1.58E-08	1.24E-07	4.25E-07	1.07E-07	5.94E-07	7.53E-07
067557L	1.29E-05	1.85E-06	6.78E-06	1.48E-07	1.16E-06	3.99E-06	1.00E-06	5.57E-06	7.05E-06
067558T	1.28E-05	1.85E-06	6.75E-06	1.48E-07	1.16E-06	3.97E-06	9.99E-07	5.54E-06	7.02E-06
067560U	1.29E-05	1.85E-06	6.78E-06	1.48E-07	1.16E-06	3.99E-06	1.00E-06	5.57E-06	7.05E-06
067562H	1.37E-06	1.98E-07	7.23E-07	1.58E-08	1.24E-07	4.25E-07	1.07E-07	5.94E-07	7.52E-07
067564W	1.10E-06	1.58E-07	5.78E-07	1.27E-08	9.93E-08	3.40E-07	8.57E-08	4.75E-07	6.02E-07
067567S	2.48E-06	3.57E-07	1.30E-06	2.86E-08	2.24E-07	7.67E-07	1.93E-07	1.07E-06	1.36E-06
067568Y	1.38E-06	1.98E-07	7.25E-07	1.59E-08	1.24E-07	4.26E-07	1.07E-07	5.95E-07	7.54E-07
067569F	1.37E-06	1.98E-07	7.23E-07	1.58E-08	1.24E-07	4.25E-07	1.07E-07	5.94E-07	7.53E-07
067572N	2.48E-06	3.57E-07	1.30E-06	2.86E-08	2.24E-07	7.67E-07	1.93E-07	1.07E-06	1.36E-06
067573V	1.29E-05	1.85E-06	6.78E-06	1.48E-07	1.16E-06	3.99E-06	1.00E-06	5.57E-06	7.05E-06
067574C	1.29E-05	1.85E-06	6.78E-06	1.48E-07	1.16E-06	3.99E-06	1.00E-06	5.57E-06	7.05E-06
067575J	5.34E-05	7.70E-06	2.82E-05	6.17E-07	4.83E-06	1.66E-05	4.17E-06	2.31E-05	2.93E-05
067576R	1.37E-06	1.98E-07	7.23E-07	1.58E-08	1.24E-07	4.25E-07	1.07E-07	5.94E-07	7.53E-07
067889F	1.37E-06	1.97E-07	7.22E-07	1.58E-08	1.24E-07	4.25E-07	1.07E-07	5.93E-07	7.51E-07
067890A	5.48E-07	7.89E-08	2.88E-07	6.32E-09	4.95E-08	1.70E-07	4.27E-08	2.37E-07	3.00E-07
067891G	5.48E-07	7.89E-08	2.88E-07	6.32E-09	4.95E-08	1.70E-07	4.27E-08	2.37E-07	3.00E-07
067895J	2.15E-05	3.10E-06	1.13E-05	2.48E-07	1.94E-06	6.66E-06	1.68E-06	9.30E-06	1.18E-05
067896R	1.17E-05	1.69E-06	6.17E-06	1.35E-07	1.06E-06	3.63E-06	9.13E-07	5.06E-06	6.41E-06
067898E	2.47E-06	3.56E-07	1.30E-06	2.85E-08	2.23E-07	7.65E-07	1.93E-07	1.07E-06	1.35E-06
067900D	5.48E-07	7.89E-08	2.88E-07	6.32E-09	4.95E-08	1.70E-07	4.27E-08	2.37E-07	3.00E-07
067901K	3.30E-06	4.75E-07	1.74E-06	3.81E-08	2.98E-07	1.02E-06	2.57E-07	1.43E-06	1.81E-06
067903Y	1.28E-05	1.85E-06	6.76E-06	1.48E-07	1.16E-06	3.98E-06	1.00E-06	5.55E-06	7.04E-06
067904F	1.73E-05	2.50E-06	9.13E-06	2.00E-07	1.57E-06	5.37E-06	1.35E-06	7.49E-06	9.50E-06
067906U	8.21E-07	1.18E-07	4.33E-07	9.48E-09	7.43E-08	2.54E-07	6.41E-08	3.55E-07	4.50E-07
067907B	1.92E-06	2.77E-07	1.01E-06	2.22E-08	1.74E-07	5.95E-07	1.50E-07	8.31E-07	1.05E-06
067909P	1.37E-06	1.97E-07	7.22E-07	1.58E-08	1.24E-07	4.25E-07	1.07E-07	5.93E-07	7.51E-07
067911R	1.92E-06	2.77E-07	1.01E-06	2.22E-08	1.74E-07	5.95E-07	1.50E-07	8.31E-07	1.05E-06
067912X	6.08E-06	8.75E-07	3.20E-06	7.01E-08	5.49E-07	1.88E-06	4.74E-07	2.63E-06	3.33E-06
067915T	1.93E-06	2.79E-07	1.02E-06	2.23E-08	1.75E-07	5.99E-07	1.51E-07	8.37E-07	1.06E-06
067918N	5.50E-07	7.92E-08	2.90E-07	6.34E-09	4.97E-08	1.70E-07	4.29E-08	2.38E-07	3.01E-07
067919V	1.65E-06	2.38E-07	8.70E-07	1.91E-08	1.49E-07	5.12E-07	1.29E-07	7.15E-07	9.06E-07

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
067921W	2.14E-05	3.09E-06	1.13E-05	2.47E-07	1.94E-06	6.64E-06	1.67E-06	9.27E-06	1.17E-05
067924S	5.50E-07	7.92E-08	2.90E-07	6.34E-09	4.97E-08	1.70E-07	4.29E-08	2.38E-07	3.01E-07
067925Y	5.14E-05	7.41E-06	2.71E-05	5.93E-07	4.65E-06	1.59E-05	4.01E-06	2.22E-05	2.82E-05
067927M	2.74E-04	3.94E-05	1.44E-04	3.16E-06	2.47E-05	8.47E-05	2.13E-05	1.18E-04	1.50E-04
067928U	1.29E-05	1.86E-06	6.79E-06	1.49E-07	1.17E-06	3.99E-06	1.01E-06	5.58E-06	7.07E-06
067929B	1.29E-05	1.86E-06	6.79E-06	1.49E-07	1.17E-06	3.99E-06	1.01E-06	5.58E-06	7.07E-06
067931C	8.35E-05	1.20E-05	4.40E-05	9.63E-07	7.55E-06	2.59E-05	6.52E-06	3.61E-05	4.58E-05
067932J	2.37E-05	3.41E-06	1.25E-05	2.73E-07	2.14E-06	7.33E-06	1.85E-06	1.02E-05	1.30E-05
067933R	1.56E-04	2.24E-05	8.20E-05	1.80E-06	1.41E-05	4.82E-05	1.21E-05	6.73E-05	8.53E-05
067934X	5.51E-05	7.93E-06	2.90E-05	6.35E-07	4.98E-06	1.71E-05	4.30E-06	2.38E-05	3.02E-05
067936L	1.84E-05	2.65E-06	9.68E-06	2.12E-07	1.66E-06	5.69E-06	1.43E-06	7.95E-06	1.01E-05
085912V	8.25E-07	1.19E-07	4.35E-07	9.52E-09	7.46E-08	2.56E-07	6.44E-08	3.57E-07	4.52E-07
085968P	1.10E-06	1.59E-07	5.80E-07	1.27E-08	9.95E-08	3.41E-07	8.59E-08	4.76E-07	6.03E-07
062576Y	1.03E-04	1.49E-05	5.44E-05	1.19E-06	9.33E-06	3.20E-05	8.05E-06	4.46E-05	5.66E-05
062925G	1.29E-05	1.86E-06	6.81E-06	1.49E-07	1.17E-06	4.00E-06	1.01E-06	5.59E-06	7.08E-06
062923T	4.56E-04	6.57E-05	2.40E-04	5.26E-06	4.12E-05	1.41E-04	3.56E-05	1.97E-04	2.50E-04
067930V	2.47E-05	3.55E-06	1.30E-05	2.85E-07	2.23E-06	7.64E-06	1.93E-06	1.07E-05	1.35E-05
067577X	1.92E-06	2.77E-07	1.01E-06	2.22E-08	1.74E-07	5.96E-07	1.50E-07	8.32E-07	1.05E-06
067578E	3.00E-07	4.32E-08	1.58E-07	3.46E-09	2.71E-08	9.28E-08	2.34E-08	1.30E-07	1.64E-07
062634S	6.01E-07	8.66E-08	3.17E-07	6.94E-09	5.44E-08	1.86E-07	4.69E-08	2.60E-07	3.30E-07
062635Y	4.41E-06	6.35E-07	2.32E-06	5.09E-08	3.99E-07	1.37E-06	3.44E-07	1.91E-06	2.42E-06
062638U	3.33E-06	4.80E-07	1.76E-06	3.85E-08	3.01E-07	1.03E-06	2.60E-07	1.44E-06	1.83E-06
062639B	3.03E-06	4.36E-07	1.59E-06	3.49E-08	2.74E-07	9.38E-07	2.36E-07	1.31E-06	1.66E-06
062640V	1.39E-05	2.01E-06	7.34E-06	1.61E-07	1.26E-06	4.32E-06	1.09E-06	6.03E-06	7.64E-06
062641C	2.42E-06	3.48E-07	1.27E-06	2.79E-08	2.19E-07	7.49E-07	1.89E-07	1.05E-06	1.33E-06
062642J	4.87E-06	7.02E-07	2.57E-06	5.62E-08	4.40E-07	1.51E-06	3.80E-07	2.11E-06	2.67E-06
094014S	9.25E-06	1.33E-06	4.87E-06	1.07E-07	8.36E-07	2.86E-06	7.22E-07	4.00E-06	5.07E-06
062496F	1.10E-04	1.59E-05	5.80E-05	1.27E-06	9.96E-06	3.41E-05	8.59E-06	4.76E-05	6.03E-05
062494S	5.76E-05	8.30E-06	3.03E-05	6.65E-07	5.21E-06	1.78E-05	4.49E-06	2.49E-05	3.16E-05
062491W	7.36E-06	1.06E-06	3.88E-06	8.49E-08	6.65E-07	2.28E-06	5.74E-07	3.18E-06	4.03E-06
062489V	3.80E-05	5.47E-06	2.00E-05	4.38E-07	3.44E-06	1.18E-05	2.96E-06	1.64E-05	2.08E-05
062487G	1.20E-05	1.72E-06	6.30E-06	1.38E-07	1.08E-06	3.70E-06	9.33E-07	5.17E-06	6.55E-06
062484L	7.05E-06	1.02E-06	3.71E-06	8.13E-08	6.37E-07	2.18E-06	5.50E-07	3.05E-06	3.86E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
080759P	2.27E-06	3.26E-07	1.19E-06	2.61E-08	2.05E-07	7.02E-07	1.77E-07	9.80E-07	1.24E-06
Total Emissions	2.76E-03	3.98E-04	1.46E-03	3.19E-05	2.50E-04	8.56E-04	2.16E-04	1.20E-03	1.51E-03

Table V.2-60. Grade Crossing Emissions, Segment 20 – Southern from Fargo, ND to Willmar, MN, Downline Analysis, Year 2037, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
062577F	1.27E-01	1.08E-05	3.37E-06	1.28E-01
062579U	7.76E-01	6.57E-05	2.06E-05	7.83E-01
062580N	1.72E-02	1.46E-06	4.56E-07	1.74E-02
062582C	4.19E-01	3.55E-05	1.11E-05	4.23E-01
062584R	4.91E-03	4.15E-07	1.30E-07	4.95E-03
062585X	1.23E-02	1.04E-06	3.25E-07	1.24E-02
062586E	4.91E-03	4.15E-07	1.30E-07	4.95E-03
062587L	1.47E-02	1.25E-06	3.91E-07	1.49E-02
062588T	1.47E-02	1.25E-06	3.91E-07	1.49E-02
062589A	5.44E-02	4.61E-06	1.44E-06	5.50E-02
062590U	2.45E-03	2.08E-07	6.50E-08	2.48E-03
062591B	9.82E-03	8.32E-07	2.60E-07	9.92E-03
062592H	4.91E-03	4.16E-07	1.30E-07	4.96E-03
062594W	2.45E-03	2.08E-07	6.50E-08	2.48E-03
062596K	2.35E-01	1.99E-05	6.23E-06	2.38E-01
062597S	9.82E-03	8.32E-07	2.60E-07	9.92E-03
062598Y	1.23E-02	1.04E-06	3.25E-07	1.24E-02
062600X	4.91E-03	4.16E-07	1.30E-07	4.96E-03
062601E	7.36E-03	6.23E-07	1.95E-07	7.43E-03
062602L	1.72E-02	1.46E-06	4.56E-07	1.74E-02
062604A	1.23E-02	1.04E-06	3.25E-07	1.24E-02
062605G	1.47E-02	1.25E-06	3.91E-07	1.49E-02
062606N	9.69E-02	8.20E-06	2.57E-06	9.78E-02
062607V	4.91E-03	4.15E-07	1.30E-07	4.95E-03
062608C	9.82E-03	8.32E-07	2.60E-07	9.92E-03
062610D	9.82E-03	8.32E-07	2.60E-07	9.92E-03
062611K	7.36E-03	6.23E-07	1.95E-07	7.43E-03
062612S	2.47E-02	2.09E-06	6.55E-07	2.50E-02
062614F	3.94E-02	3.34E-06	1.04E-06	3.98E-02
062616U	2.45E-03	2.08E-07	6.50E-08	2.48E-03
062620J	1.15E-01	9.74E-06	3.05E-06	1.16E-01
062621R	1.12E-01	9.49E-06	2.97E-06	1.13E-01
062622X	4.91E-03	4.15E-07	1.30E-07	4.95E-03
062624L	4.91E-03	4.15E-07	1.30E-07	4.95E-03
062629V	2.45E-03	2.08E-07	6.50E-08	2.48E-03
062631W	9.69E-02	8.20E-06	2.57E-06	9.78E-02
103817B	1.96E+00	1.66E-04	5.18E-05	1.98E+00
060917H	1.35E-02	1.14E-06	3.57E-07	1.36E-02
060919W	1.80E-02	1.52E-06	4.76E-07	1.82E-02
060922E	7.29E-01	6.17E-05	1.93E-05	7.36E-01
060923L	1.13E-01	9.56E-06	2.99E-06	1.14E-01
060926G	2.24E-02	1.90E-06	5.93E-07	2.26E-02
061081U	5.61E-02	4.76E-06	1.49E-06	5.67E-02

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
061088S	6.72E-01	5.69E-05	1.78E-05	6.78E-01
061089Y	4.17E+00	3.53E-04	1.11E-04	4.21E+00
061091A	2.43E-01	2.06E-05	6.45E-06	2.46E-01
061094V	8.33E-02	7.06E-06	2.21E-06	8.41E-02
061096J	6.74E-02	5.71E-06	1.79E-06	6.81E-02
061098X	1.77E-01	1.50E-05	4.70E-06	1.79E-01
061099E	2.10E-01	1.78E-05	5.56E-06	2.12E-01
061100W	6.08E-01	5.15E-05	1.61E-05	6.14E-01
061101D	2.10E-01	1.78E-05	5.56E-06	2.12E-01
061103S	4.94E-02	4.18E-06	1.31E-06	4.99E-02
061104Y	3.11E-01	2.63E-05	8.24E-06	3.14E-01
061106M	7.20E-02	6.10E-06	1.91E-06	7.27E-02
061107U	1.34E-02	1.14E-06	3.56E-07	1.36E-02
061109H	8.94E-03	7.57E-07	2.37E-07	9.03E-03
061122W	4.47E-03	3.79E-07	1.18E-07	4.52E-03
061123D	2.10E-01	1.78E-05	5.56E-06	2.12E-01
061125S	4.67E-01	3.96E-05	1.24E-05	4.72E-01
067426H	4.04E-02	3.42E-06	1.07E-06	4.08E-02
067427P	2.24E-02	1.90E-06	5.93E-07	2.26E-02
067430X	1.79E-02	1.52E-06	4.75E-07	1.81E-02
067431E	1.04E-01	8.79E-06	2.75E-06	1.05E-01
067432L	4.48E-03	3.79E-07	1.19E-07	4.52E-03
067434A	1.35E-02	1.14E-06	3.57E-07	1.36E-02
067436N	2.24E-02	1.90E-06	5.94E-07	2.26E-02
067437V	8.97E-03	7.59E-07	2.38E-07	9.06E-03
067438C	8.97E-03	7.59E-07	2.38E-07	9.06E-03
067439J	8.96E-03	7.59E-07	2.37E-07	9.05E-03
067440D	2.25E-02	1.90E-06	5.96E-07	2.27E-02
067441K	1.34E-02	1.14E-06	3.56E-07	1.36E-02
067443Y	8.97E-03	7.59E-07	2.38E-07	9.06E-03
067445M	2.10E-01	1.78E-05	5.57E-06	2.12E-01
067446U	1.13E-01	9.56E-06	2.99E-06	1.14E-01
067447B	4.06E-02	3.44E-06	1.08E-06	4.10E-02
067449P	5.00E-01	4.23E-05	1.32E-05	5.05E-01
067450J	8.97E-03	7.59E-07	2.38E-07	9.06E-03
067451R	1.79E-02	1.52E-06	4.75E-07	1.81E-02
067452X	2.25E-02	1.90E-06	5.96E-07	2.27E-02
067453E	1.35E-02	1.14E-06	3.57E-07	1.36E-02
067455T	8.19E-02	6.93E-06	2.17E-06	8.27E-02
067456A	2.79E-01	2.36E-05	7.39E-06	2.82E-01
067460P	8.97E-03	7.59E-07	2.38E-07	9.06E-03
067462D	3.15E-02	2.67E-06	8.35E-07	3.18E-02
067463K	1.79E-02	1.52E-06	4.75E-07	1.81E-02
067465Y	4.06E-02	3.44E-06	1.08E-06	4.10E-02
067467M	5.28E-01	4.47E-05	1.40E-05	5.33E-01
067468U	4.95E-02	4.19E-06	1.31E-06	5.00E-02

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
067469B	8.96E-03	7.59E-07	2.37E-07	9.05E-03
067470V	8.96E-03	7.59E-07	2.37E-07	9.05E-03
067473R	1.79E-02	1.52E-06	4.75E-07	1.81E-02
067475E	1.79E-02	1.52E-06	4.75E-07	1.81E-02
067545S	3.86E-01	3.27E-05	1.02E-05	3.89E-01
067546Y	9.94E-02	8.42E-06	2.63E-06	1.00E-01
067549U	4.94E-02	4.19E-06	1.31E-06	4.99E-02
067551V	8.97E-03	7.59E-07	2.38E-07	9.06E-03
067554R	2.24E-02	1.90E-06	5.94E-07	2.27E-02
067557L	2.10E-01	1.78E-05	5.57E-06	2.12E-01
067558T	2.09E-01	1.77E-05	5.54E-06	2.11E-01
067560U	2.10E-01	1.78E-05	5.57E-06	2.12E-01
067562H	2.24E-02	1.90E-06	5.94E-07	2.26E-02
067564W	1.79E-02	1.52E-06	4.75E-07	1.81E-02
067567S	4.04E-02	3.43E-06	1.07E-06	4.08E-02
067568Y	2.25E-02	1.90E-06	5.96E-07	2.27E-02
067569F	2.24E-02	1.90E-06	5.94E-07	2.27E-02
067572N	4.04E-02	3.43E-06	1.07E-06	4.08E-02
067573V	2.10E-01	1.78E-05	5.57E-06	2.12E-01
067574C	2.10E-01	1.78E-05	5.57E-06	2.12E-01
067575J	8.73E-01	7.39E-05	2.31E-05	8.81E-01
067576R	2.24E-02	1.90E-06	5.94E-07	2.27E-02
067889F	2.24E-02	1.90E-06	5.93E-07	2.26E-02
067890A	8.94E-03	7.57E-07	2.37E-07	9.03E-03
067891G	8.94E-03	7.57E-07	2.37E-07	9.03E-03
067895J	3.51E-01	2.97E-05	9.31E-06	3.55E-01
067896R	1.91E-01	1.62E-05	5.06E-06	1.93E-01
067898E	4.04E-02	3.42E-06	1.07E-06	4.08E-02
067900D	8.94E-03	7.57E-07	2.37E-07	9.03E-03
067901K	5.39E-02	4.56E-06	1.43E-06	5.44E-02
067903Y	2.10E-01	1.78E-05	5.56E-06	2.12E-01
067904F	2.83E-01	2.40E-05	7.50E-06	2.86E-01
067906U	1.34E-02	1.14E-06	3.55E-07	1.35E-02
067907B	3.14E-02	2.66E-06	8.31E-07	3.17E-02
067909P	2.24E-02	1.90E-06	5.93E-07	2.26E-02
067911R	3.14E-02	2.66E-06	8.31E-07	3.17E-02
067912X	9.92E-02	8.40E-06	2.63E-06	1.00E-01
067915T	3.16E-02	2.68E-06	8.37E-07	3.19E-02
067918N	8.98E-03	7.60E-07	2.38E-07	9.07E-03
067919V	2.70E-02	2.29E-06	7.15E-07	2.73E-02
067921W	3.50E-01	2.96E-05	9.27E-06	3.53E-01
067924S	8.98E-03	7.60E-07	2.38E-07	9.07E-03
067925Y	8.40E-01	7.11E-05	2.23E-05	8.48E-01
067927M	4.47E+00	3.78E-04	1.18E-04	4.51E+00
067928U	2.11E-01	1.78E-05	5.58E-06	2.13E-01
067929B	2.11E-01	1.78E-05	5.58E-06	2.13E-01

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
067931C	1.36E+00	1.15E-04	3.61E-05	1.38E+00
067932J	3.86E-01	3.27E-05	1.02E-05	3.90E-01
067933R	2.54E+00	2.15E-04	6.74E-05	2.57E+00
067934X	8.99E-01	7.61E-05	2.38E-05	9.08E-01
067936L	3.00E-01	2.54E-05	7.95E-06	3.03E-01
085912V	1.35E-02	1.14E-06	3.57E-07	1.36E-02
085968P	1.80E-02	1.52E-06	4.76E-07	1.82E-02
062576Y	1.69E+00	1.43E-04	4.47E-05	1.70E+00
062925G	2.11E-01	1.79E-05	5.59E-06	2.13E-01
062923T	7.44E+00	6.30E-04	1.97E-04	7.52E+00
067930V	4.03E-01	3.41E-05	1.07E-05	4.07E-01
067577X	3.14E-02	2.66E-06	8.33E-07	3.17E-02
067578E	4.90E-03	4.15E-07	1.30E-07	4.94E-03
062634S	9.82E-03	8.32E-07	2.60E-07	9.92E-03
062635Y	7.20E-02	6.10E-06	1.91E-06	7.27E-02
062638U	5.44E-02	4.61E-06	1.44E-06	5.50E-02
062639B	4.94E-02	4.19E-06	1.31E-06	4.99E-02
062640V	2.28E-01	1.93E-05	6.03E-06	2.30E-01
062641C	3.95E-02	3.34E-06	1.05E-06	3.99E-02
062642J	7.95E-02	6.74E-06	2.11E-06	8.03E-02
094014S	1.51E-01	1.28E-05	4.00E-06	1.53E-01
062496F	1.80E+00	1.52E-04	4.76E-05	1.82E+00
062494S	9.41E-01	7.97E-05	2.49E-05	9.50E-01
062491W	1.20E-01	1.02E-05	3.18E-06	1.21E-01
062489V	6.20E-01	5.25E-05	1.64E-05	6.26E-01
062487G	1.95E-01	1.65E-05	5.17E-06	1.97E-01
062484L	1.15E-01	9.74E-06	3.05E-06	1.16E-01
080759P	3.70E-02	3.13E-06	9.80E-07	3.74E-02
Total Emissions	4.51E+01	3.82E-03	1.20E-03	4.56E+01

Table V.2-61. Grade Crossing Emissions, Segment 21 from Willmar, MN to St Paul, MN, Downline Analysis, Year 2023, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
061033E	1.94E-02	3.01E-03	9.75E-07	8.41E-05	7.99E-05	1.66E-05	9.95E-04
061035T	1.42E-02	2.20E-03	7.12E-07	6.14E-05	5.84E-05	1.21E-05	7.27E-04
061037G	5.87E-02	9.11E-03	2.95E-06	2.55E-04	2.42E-04	5.02E-05	3.01E-03
061039V	8.46E-03	1.31E-03	4.25E-07	3.67E-05	3.48E-05	7.24E-06	4.34E-04
061040P	3.90E-02	6.05E-03	1.96E-06	1.69E-04	1.61E-04	3.34E-05	2.00E-03
061051C	1.93E-02	2.99E-03	9.68E-07	8.35E-05	7.93E-05	1.65E-05	9.88E-04
061054X	4.21E-03	6.52E-04	2.11E-07	1.82E-05	1.73E-05	3.60E-06	2.16E-04
061056L	5.05E-03	7.82E-04	2.54E-07	2.19E-05	2.08E-05	4.32E-06	2.59E-04
061057T	2.02E-02	3.13E-03	1.01E-06	8.75E-05	8.31E-05	1.73E-05	1.04E-03
061058A	1.40E-04	2.17E-05	7.03E-09	6.07E-07	5.76E-07	1.20E-07	7.18E-06
061064D	7.67E-02	1.19E-02	3.86E-06	3.33E-04	3.16E-04	6.57E-05	3.94E-03
061068F	2.57E-03	3.98E-04	1.29E-07	1.11E-05	1.06E-05	2.20E-06	1.32E-04
061071N	4.18E-03	6.47E-04	2.10E-07	1.81E-05	1.72E-05	3.57E-06	2.14E-04
061073C	5.38E-04	8.33E-05	2.70E-08	2.33E-06	2.21E-06	4.60E-07	2.76E-05
061075R	4.84E-04	7.50E-05	2.43E-08	2.10E-06	1.99E-06	4.14E-07	2.48E-05
061078L	1.34E-04	2.08E-05	6.73E-09	5.81E-07	5.52E-07	1.15E-07	6.87E-06
061079T	9.06E-03	1.40E-03	4.55E-07	3.93E-05	3.73E-05	7.75E-06	4.65E-04
061080M	2.04E-04	3.16E-05	1.02E-08	8.83E-07	8.39E-07	1.74E-07	1.04E-05
061312A	1.02E-02	1.59E-03	5.15E-07	4.44E-05	4.22E-05	8.76E-06	5.25E-04
061313G	6.62E-03	1.03E-03	3.33E-07	2.87E-05	2.73E-05	5.67E-06	3.40E-04
061314N	6.62E-03	1.03E-03	3.33E-07	2.87E-05	2.73E-05	5.67E-06	3.40E-04
067789B	3.28E-03	5.09E-04	1.65E-07	1.42E-05	1.35E-05	2.81E-06	1.68E-04
067790V	1.15E-02	1.78E-03	5.78E-07	4.99E-05	4.74E-05	9.85E-06	5.90E-04
067791C	9.14E-04	1.42E-04	4.59E-08	3.96E-06	3.76E-06	7.82E-07	4.69E-05
067794X	9.14E-04	1.42E-04	4.59E-08	3.96E-06	3.76E-06	7.82E-07	4.69E-05
067798A	1.48E-03	2.30E-04	7.44E-08	6.42E-06	6.10E-06	1.27E-06	7.60E-05
067800Y	1.65E-02	2.56E-03	8.31E-07	7.17E-05	6.81E-05	1.41E-05	8.48E-04
067803U	3.79E-03	5.87E-04	1.90E-07	1.64E-05	1.56E-05	3.24E-06	1.94E-04
067804B	9.14E-04	1.42E-04	4.59E-08	3.96E-06	3.76E-06	7.82E-07	4.69E-05
067807W	1.44E-02	2.23E-03	7.21E-07	6.22E-05	5.91E-05	1.23E-05	7.36E-04
067808D	9.66E-03	1.50E-03	4.85E-07	4.19E-05	3.98E-05	8.26E-06	4.95E-04
067809K	6.08E-02	9.43E-03	3.06E-06	2.64E-04	2.51E-04	5.21E-05	3.12E-03
067810E	1.31E-02	2.02E-03	6.56E-07	5.66E-05	5.38E-05	1.12E-05	6.70E-04
067811L	1.11E-02	1.72E-03	5.58E-07	4.82E-05	4.57E-05	9.50E-06	5.70E-04
067815N	7.29E-03	1.13E-03	3.66E-07	3.16E-05	3.00E-05	6.24E-06	3.74E-04
067820K	4.84E-04	7.51E-05	2.43E-08	2.10E-06	1.99E-06	4.14E-07	2.48E-05
067821S	2.39E-03	3.71E-04	1.20E-07	1.04E-05	9.86E-06	2.05E-06	1.23E-04
067823F	6.56E-03	1.02E-03	3.30E-07	2.85E-05	2.70E-05	5.62E-06	3.37E-04
067827H	6.46E-04	1.00E-04	3.25E-08	2.80E-06	2.66E-06	5.53E-07	3.32E-05
067830R	1.68E-03	2.61E-04	8.46E-08	7.30E-06	6.94E-06	1.44E-06	8.64E-05
067837N	1.03E-02	1.60E-03	5.20E-07	4.48E-05	4.26E-05	8.84E-06	5.30E-04
067840W	1.25E-03	1.93E-04	6.26E-08	5.40E-06	5.13E-06	1.07E-06	6.39E-05
067841D	5.36E-05	8.32E-06	2.70E-09	2.33E-07	2.21E-07	4.59E-08	2.75E-06
067843S	5.38E-04	8.35E-05	2.70E-08	2.33E-06	2.22E-06	4.60E-07	2.76E-05

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
<i>067850C</i>	<i>2.61E-02</i>	<i>4.04E-03</i>	<i>1.31E-06</i>	<i>1.13E-04</i>	<i>1.07E-04</i>	<i>2.23E-05</i>	<i>1.34E-03</i>
<i>067851J</i>	<i>1.55E-03</i>	<i>2.41E-04</i>	<i>7.80E-08</i>	<i>6.73E-06</i>	<i>6.39E-06</i>	<i>1.33E-06</i>	<i>7.96E-05</i>
<i>067853X</i>	<i>1.42E-03</i>	<i>2.21E-04</i>	<i>7.15E-08</i>	<i>6.17E-06</i>	<i>5.86E-06</i>	<i>1.22E-06</i>	<i>7.30E-05</i>
<i>067855L</i>	<i>1.95E-02</i>	<i>3.03E-03</i>	<i>9.82E-07</i>	<i>8.47E-05</i>	<i>8.04E-05</i>	<i>1.67E-05</i>	<i>1.00E-03</i>
<i>067857A</i>	<i>1.58E-02</i>	<i>2.45E-03</i>	<i>7.94E-07</i>	<i>6.85E-05</i>	<i>6.51E-05</i>	<i>1.35E-05</i>	<i>8.11E-04</i>
067862W	7.05E-04	1.09E-04	3.54E-08	3.06E-06	2.90E-06	6.03E-07	3.62E-05
067865S	4.33E-01	6.72E-02	2.18E-05	1.88E-03	1.78E-03	3.71E-04	2.22E-02
067868M	3.35E-03	5.20E-04	1.69E-07	1.45E-05	1.38E-05	2.87E-06	1.72E-04
067871V	3.79E-03	5.87E-04	1.90E-07	1.64E-05	1.56E-05	3.24E-06	1.94E-04
<i>067873J</i>	<i>1.41E-03</i>	<i>2.19E-04</i>	<i>7.08E-08</i>	<i>6.11E-06</i>	<i>5.81E-06</i>	<i>1.21E-06</i>	<i>7.23E-05</i>
<i>067876E</i>	<i>4.54E-02</i>	<i>7.04E-03</i>	<i>2.28E-06</i>	<i>1.97E-04</i>	<i>1.87E-04</i>	<i>3.89E-05</i>	<i>2.33E-03</i>
<i>067877L</i>	<i>2.03E-02</i>	<i>3.15E-03</i>	<i>1.02E-06</i>	<i>8.81E-05</i>	<i>8.37E-05</i>	<i>1.74E-05</i>	<i>1.04E-03</i>
<i>067879A</i>	<i>2.34E-03</i>	<i>3.63E-04</i>	<i>1.18E-07</i>	<i>1.01E-05</i>	<i>9.63E-06</i>	<i>2.00E-06</i>	<i>1.20E-04</i>
<i>067883P</i>	<i>1.05E-03</i>	<i>1.64E-04</i>	<i>5.30E-08</i>	<i>4.57E-06</i>	<i>4.34E-06</i>	<i>9.03E-07</i>	<i>5.41E-05</i>
067886K	5.61E-04	8.70E-05	2.82E-08	2.43E-06	2.31E-06	4.80E-07	2.88E-05
917424T	5.94E-03	9.22E-04	2.99E-07	2.58E-05	2.45E-05	5.08E-06	3.05E-04
067836G	1.21E-02	1.88E-03	6.08E-07	5.25E-05	4.99E-05	1.04E-05	6.21E-04
067834T	1.63E-02	2.52E-03	8.18E-07	7.05E-05	6.70E-05	1.39E-05	8.35E-04
067831X	2.77E-02	4.30E-03	1.39E-06	1.20E-04	1.14E-04	2.37E-05	1.42E-03
067795E	6.99E-05	1.08E-05	3.51E-09	3.03E-07	2.88E-07	5.98E-08	3.59E-06
689022F	8.76E-03	1.36E-03	4.40E-07	3.80E-05	3.61E-05	7.50E-06	4.50E-04
187052K	4.97E-03	7.71E-04	2.50E-07	2.16E-05	2.05E-05	4.25E-06	2.55E-04
<i>185181T</i>	<i>1.54E-03</i>	<i>2.39E-04</i>	<i>7.76E-08</i>	<i>6.70E-06</i>	<i>6.36E-06</i>	<i>1.32E-06</i>	<i>7.92E-05</i>
Total Emissions	1.14E+00	1.77E-01	5.73E-05	4.94E-03	4.69E-03	9.75E-04	5.84E-02

¹ Crossings in italics represent crossings in a Moderate CO Nonattainment area around Minneapolis and St. Paul, Minnesota

Table V.2-62. Grade Crossing Emissions, Segment 21 from Willmar, MN to St Paul, MN, Downline Analysis, Year 2023, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
061033E	6.90E-05	9.94E-06	3.63E-05	7.96E-07	6.24E-06	2.14E-05	5.38E-06	2.98E-05	3.78E-05
061035T	5.04E-05	7.26E-06	2.65E-05	5.82E-07	4.56E-06	1.56E-05	3.93E-06	2.18E-05	2.76E-05
061037G	2.09E-04	3.01E-05	1.10E-04	2.41E-06	1.89E-05	6.47E-05	1.63E-05	9.03E-05	1.14E-04
061039V	3.01E-05	4.34E-06	1.59E-05	3.47E-07	2.72E-06	9.32E-06	2.35E-06	1.30E-05	1.65E-05
061040P	1.39E-04	2.00E-05	7.31E-05	1.60E-06	1.25E-05	4.30E-05	1.08E-05	6.00E-05	7.61E-05
061051C	6.85E-05	9.87E-06	3.61E-05	7.91E-07	6.20E-06	2.12E-05	5.35E-06	2.96E-05	3.75E-05
061054X	1.50E-05	2.16E-06	7.88E-06	1.73E-07	1.35E-06	4.63E-06	1.17E-06	6.47E-06	8.20E-06
061056L	1.79E-05	2.59E-06	9.45E-06	2.07E-07	1.62E-06	5.56E-06	1.40E-06	7.76E-06	9.84E-06
061057T	7.18E-05	1.03E-05	3.78E-05	8.28E-07	6.49E-06	2.22E-05	5.60E-06	3.11E-05	3.94E-05
061058A	4.98E-07	7.17E-08	2.62E-07	5.74E-09	4.50E-08	1.54E-07	3.88E-08	2.15E-07	2.73E-07
061064D	2.73E-04	3.93E-05	1.44E-04	3.15E-06	2.47E-05	8.45E-05	2.13E-05	1.18E-04	1.50E-04
061068F	9.13E-06	1.32E-06	4.81E-06	1.05E-07	8.26E-07	2.83E-06	7.13E-07	3.95E-06	5.01E-06
061071N	1.49E-05	2.14E-06	7.82E-06	1.71E-07	1.34E-06	4.60E-06	1.16E-06	6.42E-06	8.14E-06
061073C	1.91E-06	2.75E-07	1.01E-06	2.21E-08	1.73E-07	5.92E-07	1.49E-07	8.27E-07	1.05E-06
061075R	1.72E-06	2.48E-07	9.06E-07	1.98E-08	1.56E-07	5.33E-07	1.34E-07	7.44E-07	9.43E-07
061078L	4.76E-07	6.86E-08	2.51E-07	5.50E-09	4.31E-08	1.48E-07	3.72E-08	2.06E-07	2.61E-07
061079T	3.22E-05	4.64E-06	1.70E-05	3.72E-07	2.91E-06	9.98E-06	2.51E-06	1.39E-05	1.77E-05
061080M	7.25E-07	1.04E-07	3.82E-07	8.36E-09	6.55E-08	2.24E-07	5.65E-08	3.13E-07	3.97E-07
061312A	3.64E-05	5.25E-06	1.92E-05	4.20E-07	3.29E-06	1.13E-05	2.84E-06	1.58E-05	2.00E-05
061313G	2.36E-05	3.39E-06	1.24E-05	2.72E-07	2.13E-06	7.30E-06	1.84E-06	1.02E-05	1.29E-05
061314N	2.36E-05	3.39E-06	1.24E-05	2.72E-07	2.13E-06	7.30E-06	1.84E-06	1.02E-05	1.29E-05
067789B	1.17E-05	1.68E-06	6.15E-06	1.35E-07	1.05E-06	3.61E-06	9.10E-07	5.05E-06	6.39E-06
067790V	4.09E-05	5.90E-06	2.16E-05	4.72E-07	3.70E-06	1.27E-05	3.19E-06	1.77E-05	2.24E-05
067791C	3.25E-06	4.68E-07	1.71E-06	3.75E-08	2.94E-07	1.01E-06	2.53E-07	1.41E-06	1.78E-06
067794X	3.25E-06	4.68E-07	1.71E-06	3.75E-08	2.94E-07	1.01E-06	2.53E-07	1.41E-06	1.78E-06
067798A	5.27E-06	7.59E-07	2.77E-06	6.08E-08	4.76E-07	1.63E-06	4.11E-07	2.28E-06	2.89E-06
067800Y	5.88E-05	8.47E-06	3.10E-05	6.79E-07	5.32E-06	1.82E-05	4.59E-06	2.54E-05	3.22E-05
067803U	1.35E-05	1.94E-06	7.10E-06	1.55E-07	1.22E-06	4.17E-06	1.05E-06	5.83E-06	7.38E-06
067804B	3.25E-06	4.68E-07	1.71E-06	3.75E-08	2.94E-07	1.01E-06	2.53E-07	1.41E-06	1.78E-06
067807W	5.11E-05	7.36E-06	2.69E-05	5.89E-07	4.62E-06	1.58E-05	3.98E-06	2.21E-05	2.80E-05
067808D	3.44E-05	4.95E-06	1.81E-05	3.96E-07	3.11E-06	1.06E-05	2.68E-06	1.49E-05	1.88E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
067809K	2.16E-04	3.12E-05	1.14E-04	2.50E-06	1.96E-05	6.70E-05	1.69E-05	9.36E-05	1.19E-04
067810E	4.65E-05	6.69E-06	2.45E-05	5.36E-07	4.20E-06	1.44E-05	3.62E-06	2.01E-05	2.55E-05
067811L	3.95E-05	5.69E-06	2.08E-05	4.56E-07	3.57E-06	1.22E-05	3.08E-06	1.71E-05	2.17E-05
067815N	2.59E-05	3.74E-06	1.37E-05	2.99E-07	2.34E-06	8.03E-06	2.02E-06	1.12E-05	1.42E-05
067820K	1.72E-06	2.48E-07	9.07E-07	1.99E-08	1.56E-07	5.33E-07	1.34E-07	7.45E-07	9.44E-07
067821S	8.51E-06	1.23E-06	4.48E-06	9.82E-08	7.70E-07	2.64E-06	6.64E-07	3.68E-06	4.67E-06
067823F	2.33E-05	3.36E-06	1.23E-05	2.69E-07	2.11E-06	7.23E-06	1.82E-06	1.01E-05	1.28E-05
067827H	2.30E-06	3.31E-07	1.21E-06	2.65E-08	2.08E-07	7.12E-07	1.79E-07	9.94E-07	1.26E-06
067830R	5.99E-06	8.63E-07	3.15E-06	6.91E-08	5.42E-07	1.86E-06	4.67E-07	2.59E-06	3.28E-06
067837N	3.68E-05	5.30E-06	1.94E-05	4.24E-07	3.32E-06	1.14E-05	2.87E-06	1.59E-05	2.01E-05
067840W	4.43E-06	6.38E-07	2.33E-06	5.11E-08	4.00E-07	1.37E-06	3.45E-07	1.92E-06	2.43E-06
067841D	1.91E-07	2.75E-08	1.00E-07	2.20E-09	1.72E-08	5.91E-08	1.49E-08	8.25E-08	1.05E-07
067843S	1.91E-06	2.76E-07	1.01E-06	2.21E-08	1.73E-07	5.93E-07	1.49E-07	8.28E-07	1.05E-06
067850C	9.27E-05	1.34E-05	4.88E-05	1.07E-06	8.38E-06	2.87E-05	7.23E-06	4.01E-05	5.08E-05
067851J	5.52E-06	7.95E-07	2.91E-06	6.37E-08	4.99E-07	1.71E-06	4.31E-07	2.39E-06	3.03E-06
067853X	5.06E-06	7.29E-07	2.66E-06	5.84E-08	4.57E-07	1.57E-06	3.95E-07	2.19E-06	2.77E-06
067855L	6.95E-05	1.00E-05	3.66E-05	8.02E-07	6.28E-06	2.15E-05	5.42E-06	3.00E-05	3.81E-05
067857A	5.62E-05	8.10E-06	2.96E-05	6.49E-07	5.08E-06	1.74E-05	4.39E-06	2.43E-05	3.08E-05
067862W	2.51E-06	3.61E-07	1.32E-06	2.89E-08	2.27E-07	7.76E-07	1.96E-07	1.08E-06	1.37E-06
067865S	1.54E-03	2.22E-04	8.11E-04	1.78E-05	1.39E-04	4.77E-04	1.20E-04	6.66E-04	8.44E-04
067868M	1.19E-05	1.72E-06	6.28E-06	1.38E-07	1.08E-06	3.69E-06	9.30E-07	5.16E-06	6.54E-06
067871V	1.35E-05	1.94E-06	7.10E-06	1.55E-07	1.22E-06	4.17E-06	1.05E-06	5.83E-06	7.38E-06
067873J	5.01E-06	7.22E-07	2.64E-06	5.78E-08	4.53E-07	1.55E-06	3.91E-07	2.17E-06	2.75E-06
067876E	1.62E-04	2.33E-05	8.51E-05	1.86E-06	1.46E-05	5.00E-05	1.26E-05	6.99E-05	8.85E-05
067877L	7.23E-05	1.04E-05	3.81E-05	8.34E-07	6.54E-06	2.24E-05	5.64E-06	3.13E-05	3.96E-05
067879A	8.32E-06	1.20E-06	4.38E-06	9.60E-08	7.52E-07	2.58E-06	6.49E-07	3.60E-06	4.56E-06
067883P	3.75E-06	5.41E-07	1.98E-06	4.33E-08	3.39E-07	1.16E-06	2.93E-07	1.62E-06	2.06E-06
067886K	2.00E-06	2.87E-07	1.05E-06	2.30E-08	1.80E-07	6.18E-07	1.56E-07	8.63E-07	1.09E-06
917424T	2.11E-05	3.05E-06	1.11E-05	2.44E-07	1.91E-06	6.55E-06	1.65E-06	9.14E-06	1.16E-05
067836G	4.31E-05	6.20E-06	2.27E-05	4.97E-07	3.89E-06	1.33E-05	3.36E-06	1.86E-05	2.36E-05
067834T	5.79E-05	8.34E-06	3.05E-05	6.68E-07	5.23E-06	1.79E-05	4.51E-06	2.50E-05	3.17E-05
067831X	9.86E-05	1.42E-05	5.19E-05	1.14E-06	8.91E-06	3.05E-05	7.69E-06	4.26E-05	5.40E-05
067795E	2.49E-07	3.58E-08	1.31E-07	2.87E-09	2.25E-08	7.70E-08	1.94E-08	1.08E-07	1.36E-07

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
689022F	3.12E-05	4.49E-06	1.64E-05	3.60E-07	2.82E-06	9.65E-06	2.43E-06	1.35E-05	1.71E-05
187052K	1.77E-05	2.55E-06	9.31E-06	2.04E-07	1.60E-06	5.48E-06	1.38E-06	7.65E-06	9.69E-06
<i>185181T</i>	<i>5.49E-06</i>	<i>7.91E-07</i>	<i>2.89E-06</i>	<i>6.34E-08</i>	<i>4.97E-07</i>	<i>1.70E-06</i>	<i>4.29E-07</i>	<i>2.38E-06</i>	<i>3.01E-06</i>
Total Emissions	4.05E-03	5.84E-04	2.13E-03	4.68E-05	3.66E-04	1.26E-03	3.16E-04	1.75E-03	2.22E-03

¹ Crossings in italics represent crossings in a Moderate CO Nonattainment area around Minneapolis and St. Paul, Minnesota

Table V.2-63. Grade Crossing Emissions, Segment 21 from Willmar, MN to St Paul, MN, Downline Analysis, Year 2023, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
061033E	1.13E+00	9.54E-05	2.98E-05	1.14E+00
061035T	8.23E-01	6.97E-05	2.18E-05	8.31E-01
061037G	3.41E+00	2.89E-04	9.04E-05	3.44E+00
061039V	4.91E-01	4.16E-05	1.30E-05	4.96E-01
061040P	2.27E+00	1.92E-04	6.00E-05	2.29E+00
061051C	1.12E+00	9.48E-05	2.96E-05	1.13E+00
061054X	2.44E-01	2.07E-05	6.47E-06	2.47E-01
061056L	2.93E-01	2.48E-05	7.77E-06	2.96E-01
061057T	1.17E+00	9.93E-05	3.11E-05	1.18E+00
061058A	8.13E-03	6.89E-07	2.15E-07	8.21E-03
061064D	4.46E+00	3.77E-04	1.18E-04	4.50E+00
061068F	1.49E-01	1.26E-05	3.95E-06	1.51E-01
061071N	2.42E-01	2.05E-05	6.43E-06	2.45E-01
061073C	3.12E-02	2.64E-06	8.27E-07	3.15E-02
061075R	2.81E-02	2.38E-06	7.44E-07	2.84E-02
061078L	7.78E-03	6.59E-07	2.06E-07	7.86E-03
061079T	5.26E-01	4.46E-05	1.39E-05	5.31E-01
061080M	1.18E-02	1.00E-06	3.13E-07	1.19E-02
061312A	5.95E-01	5.04E-05	1.58E-05	6.01E-01
061313G	3.85E-01	3.26E-05	1.02E-05	3.88E-01
061314N	3.85E-01	3.26E-05	1.02E-05	3.88E-01
067789B	1.91E-01	1.61E-05	5.05E-06	1.92E-01
067790V	6.69E-01	5.66E-05	1.77E-05	6.75E-01
067791C	5.31E-02	4.49E-06	1.41E-06	5.36E-02
067794X	5.31E-02	4.49E-06	1.41E-06	5.36E-02
067798A	8.60E-02	7.28E-06	2.28E-06	8.69E-02
067800Y	9.60E-01	8.14E-05	2.55E-05	9.70E-01
067803U	2.20E-01	1.86E-05	5.83E-06	2.22E-01
067804B	5.31E-02	4.49E-06	1.41E-06	5.36E-02
067807W	8.34E-01	7.06E-05	2.21E-05	8.42E-01
067808D	5.61E-01	4.75E-05	1.49E-05	5.67E-01
067809K	3.53E+00	2.99E-04	9.36E-05	3.57E+00
067810E	7.58E-01	6.42E-05	2.01E-05	7.66E-01
067811L	6.45E-01	5.46E-05	1.71E-05	6.52E-01
067815N	4.23E-01	3.59E-05	1.12E-05	4.28E-01
067820K	2.81E-02	2.38E-06	7.45E-07	2.84E-02
067821S	1.39E-01	1.18E-05	3.68E-06	1.40E-01
067823F	3.81E-01	3.23E-05	1.01E-05	3.85E-01
067827H	3.75E-02	3.18E-06	9.95E-07	3.79E-02
067830R	9.78E-02	8.28E-06	2.59E-06	9.88E-02
067837N	6.00E-01	5.09E-05	1.59E-05	6.06E-01
067840W	7.23E-02	6.12E-06	1.92E-06	7.30E-02
067841D	3.11E-03	2.64E-07	8.25E-08	3.15E-03
067843S	3.13E-02	2.65E-06	8.28E-07	3.16E-02

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
<i>067850C</i>	<i>1.51E+00</i>	<i>1.28E-04</i>	<i>4.01E-05</i>	<i>1.53E+00</i>
<i>067851J</i>	<i>9.01E-02</i>	<i>7.63E-06</i>	<i>2.39E-06</i>	<i>9.10E-02</i>
<i>067853X</i>	<i>8.26E-02</i>	<i>7.00E-06</i>	<i>2.19E-06</i>	<i>8.34E-02</i>
<i>067855L</i>	<i>1.13E+00</i>	<i>9.61E-05</i>	<i>3.01E-05</i>	<i>1.15E+00</i>
<i>067857A</i>	<i>9.18E-01</i>	<i>7.78E-05</i>	<i>2.43E-05</i>	<i>9.27E-01</i>
067862W	4.09E-02	3.47E-06	1.08E-06	4.13E-02
067865S	2.52E+01	2.13E-03	6.67E-04	2.54E+01
067868M	1.95E-01	1.65E-05	5.16E-06	1.97E-01
067871V	2.20E-01	1.86E-05	5.83E-06	2.22E-01
<i>067873J</i>	<i>8.19E-02</i>	<i>6.93E-06</i>	<i>2.17E-06</i>	<i>8.27E-02</i>
<i>067876E</i>	<i>2.64E+00</i>	<i>2.23E-04</i>	<i>6.99E-05</i>	<i>2.66E+00</i>
<i>067877L</i>	<i>1.18E+00</i>	<i>1.00E-04</i>	<i>3.13E-05</i>	<i>1.19E+00</i>
<i>067879A</i>	<i>1.36E-01</i>	<i>1.15E-05</i>	<i>3.60E-06</i>	<i>1.37E-01</i>
<i>067883P</i>	<i>6.13E-02</i>	<i>5.19E-06</i>	<i>1.62E-06</i>	<i>6.19E-02</i>
067886K	3.26E-02	2.76E-06	8.63E-07	3.29E-02
917424T	3.45E-01	2.92E-05	9.15E-06	3.49E-01
067836G	7.03E-01	5.96E-05	1.86E-05	7.10E-01
067834T	9.45E-01	8.00E-05	2.50E-05	9.54E-01
067831X	1.61E+00	1.36E-04	4.26E-05	1.63E+00
067795E	4.06E-03	3.44E-07	1.08E-07	4.10E-03
689022F	5.09E-01	4.31E-05	1.35E-05	5.14E-01
187052K	2.89E-01	2.45E-05	7.65E-06	2.92E-01
<i>185181T</i>	<i>8.97E-02</i>	<i>7.60E-06</i>	<i>2.38E-06</i>	<i>9.06E-02</i>
Total Emissions	6.62E+01	5.61E-03	1.75E-03	6.68E+01

¹ Crossings in italics represent crossings in a Moderate CO Nonattainment area around Minneapolis and St. Paul, Minnesota

Table V.2-64. Grade Crossing Emissions, Segment 23 from St Paul, MN to N La Crosse, WI, Downline Analysis, Year 2023, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
079897G	1.13E-01	1.75E-02	5.67E-06	4.89E-04	4.64E-04	9.65E-05	5.78E-03
079898N	4.02E-02	6.24E-03	2.02E-06	1.74E-04	1.66E-04	3.44E-05	2.06E-03
079899V	2.92E-02	4.53E-03	1.47E-06	1.27E-04	1.20E-04	2.50E-05	1.50E-03
079900M	4.52E-02	7.00E-03	2.27E-06	1.96E-04	1.86E-04	3.86E-05	2.32E-03
079906D	5.35E-02	8.30E-03	2.69E-06	2.32E-04	2.20E-04	4.58E-05	2.74E-03
079910T	1.02E-02	1.59E-03	5.15E-07	4.44E-05	4.22E-05	8.77E-06	5.26E-04
079915C	1.70E+00	2.63E-01	8.53E-05	7.36E-03	6.99E-03	1.45E-03	8.71E-02
079918X	5.48E-03	8.50E-04	2.76E-07	2.38E-05	2.26E-05	4.69E-06	2.81E-04
079923U	6.98E-03	1.08E-03	3.51E-07	3.02E-05	2.87E-05	5.97E-06	3.58E-04
079924B	2.14E-03	3.32E-04	1.08E-07	9.29E-06	8.82E-06	1.83E-06	1.10E-04
079926P	3.61E-02	5.60E-03	1.82E-06	1.57E-04	1.49E-04	3.09E-05	1.85E-03
079931L	3.49E-02	5.41E-03	1.75E-06	1.51E-04	1.44E-04	2.99E-05	1.79E-03
079934G	1.00E-02	1.56E-03	5.04E-07	4.35E-05	4.13E-05	8.58E-06	5.15E-04
079935N	1.49E-02	2.31E-03	7.50E-07	6.47E-05	6.15E-05	1.28E-05	7.66E-04
079938J	4.27E-02	6.62E-03	2.15E-06	1.85E-04	1.76E-04	3.65E-05	2.19E-03
079939R	3.61E-02	5.59E-03	1.81E-06	1.56E-04	1.48E-04	3.08E-05	1.85E-03
079940K	3.86E-03	5.98E-04	1.94E-07	1.67E-05	1.59E-05	3.30E-06	1.98E-04
079943F	4.92E-03	7.63E-04	2.47E-07	2.13E-05	2.03E-05	4.21E-06	2.52E-04
079944M	3.61E-02	5.59E-03	1.81E-06	1.56E-04	1.48E-04	3.08E-05	1.85E-03
079945U	3.61E-02	5.59E-03	1.81E-06	1.56E-04	1.48E-04	3.08E-05	1.85E-03
079951X	3.39E-03	5.25E-04	1.70E-07	1.47E-05	1.39E-05	2.90E-06	1.74E-04
079956G	4.54E-03	7.03E-04	2.28E-07	1.97E-05	1.87E-05	3.88E-06	2.33E-04
079957N	7.00E-02	1.09E-02	3.52E-06	3.03E-04	2.88E-04	5.99E-05	3.59E-03
079960W	4.29E-02	6.65E-03	2.15E-06	1.86E-04	1.77E-04	3.67E-05	2.20E-03
079961D	3.39E-03	5.25E-04	1.70E-07	1.47E-05	1.39E-05	2.90E-06	1.74E-04
079962K	4.68E-02	7.26E-03	2.35E-06	2.03E-04	1.93E-04	4.01E-05	2.40E-03
079984K	4.29E-02	6.65E-03	2.15E-06	1.86E-04	1.77E-04	3.67E-05	2.20E-03
079986Y	3.61E-02	5.60E-03	1.82E-06	1.57E-04	1.49E-04	3.09E-05	1.85E-03
080014B	4.68E-02	7.26E-03	2.35E-06	2.03E-04	1.93E-04	4.01E-05	2.40E-03
080022T	4.68E-02	7.26E-03	2.35E-06	2.03E-04	1.93E-04	4.01E-05	2.40E-03
080027C	4.68E-02	7.26E-03	2.35E-06	2.03E-04	1.93E-04	4.01E-05	2.40E-03
080029R	2.45E-03	3.79E-04	1.23E-07	1.06E-05	1.01E-05	2.09E-06	1.25E-04
080030K	2.04E-03	3.16E-04	1.03E-07	8.84E-06	8.40E-06	1.75E-06	1.05E-04
080033F	3.80E-03	5.90E-04	1.91E-07	1.65E-05	1.57E-05	3.25E-06	1.95E-04
086467N	2.35E-03	3.64E-04	1.18E-07	1.02E-05	9.67E-06	2.01E-06	1.20E-04
098035Y	6.87E-03	1.07E-03	3.45E-07	2.98E-05	2.83E-05	5.88E-06	3.52E-04
079887B	8.02E-02	1.24E-02	4.03E-06	3.48E-04	3.30E-04	6.86E-05	4.11E-03
079889P	2.70E-02	4.19E-03	1.36E-06	1.17E-04	1.11E-04	2.31E-05	1.39E-03
061138T	6.03E-04	9.36E-05	3.03E-08	2.62E-06	2.48E-06	5.16E-07	3.09E-05
061136E	1.54E-02	2.40E-03	7.76E-07	6.70E-05	6.36E-05	1.32E-05	7.92E-04
061135X	1.41E-02	2.18E-03	7.06E-07	6.09E-05	5.79E-05	1.20E-05	7.21E-04
061134R	3.78E-02	5.86E-03	1.90E-06	1.64E-04	1.56E-04	3.23E-05	1.94E-03
061129U	2.33E-03	3.61E-04	1.17E-07	1.01E-05	9.57E-06	1.99E-06	1.19E-04
184364H	1.11E-03	1.72E-04	5.57E-08	4.81E-06	4.57E-06	9.48E-07	5.69E-05

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
379544X	9.39E-02	1.46E-02	4.72E-06	4.07E-04	3.87E-04	8.04E-05	4.82E-03
Total Emissions	2.94E+00	4.56E-01	1.48E-04	1.27E-02	1.21E-02	2.52E-03	1.51E-01

¹ Crossing in italics represents crossings in a moderate CO nonattainment area around Minneapolis and St. Paul, Minnesota

Table V.2-65. Grade Crossing Emissions, Segment 23 from St Paul, MN to N La Crosse, WI, Downline Analysis, Year 2023, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
079897G	4.01E-04	5.78E-05	2.11E-04	4.63E-06	3.63E-05	1.24E-04	3.13E-05	1.73E-04	2.20E-04
079898N	1.43E-04	2.06E-05	7.54E-05	1.65E-06	1.29E-05	4.43E-05	1.12E-05	6.19E-05	7.84E-05
079899V	1.04E-04	1.50E-05	5.47E-05	1.20E-06	9.39E-06	3.22E-05	8.10E-06	4.49E-05	5.69E-05
079900M	1.61E-04	2.31E-05	8.46E-05	1.85E-06	1.45E-05	4.97E-05	1.25E-05	6.95E-05	8.80E-05
079906D	1.90E-04	2.74E-05	1.00E-04	2.20E-06	1.72E-05	5.89E-05	1.48E-05	8.23E-05	1.04E-04
079910T	3.64E-05	5.25E-06	1.92E-05	4.20E-07	3.29E-06	1.13E-05	2.84E-06	1.58E-05	2.00E-05
079915C	6.04E-03	8.70E-04	3.18E-03	6.97E-05	5.46E-04	1.87E-03	4.71E-04	2.61E-03	3.31E-03
079918X	1.95E-05	2.81E-06	1.03E-05	2.25E-07	1.76E-06	6.04E-06	1.52E-06	8.44E-06	1.07E-05
079923U	2.48E-05	3.58E-06	1.31E-05	2.86E-07	2.24E-06	7.69E-06	1.94E-06	1.07E-05	1.36E-05
079924B	7.62E-06	1.10E-06	4.01E-06	8.79E-08	6.89E-07	2.36E-06	5.94E-07	3.30E-06	4.18E-06
079926P	1.29E-04	1.85E-05	6.77E-05	1.48E-06	1.16E-05	3.98E-05	1.00E-05	5.56E-05	7.04E-05
079931L	1.24E-04	1.79E-05	6.54E-05	1.43E-06	1.12E-05	3.85E-05	9.69E-06	5.37E-05	6.81E-05
079934G	3.57E-05	5.14E-06	1.88E-05	4.12E-07	3.23E-06	1.10E-05	2.78E-06	1.54E-05	1.96E-05
079935N	5.31E-05	7.65E-06	2.80E-05	6.13E-07	4.80E-06	1.64E-05	4.14E-06	2.30E-05	2.91E-05
079938J	1.52E-04	2.19E-05	8.00E-05	1.75E-06	1.37E-05	4.70E-05	1.18E-05	6.57E-05	8.32E-05
079939R	1.28E-04	1.85E-05	6.75E-05	1.48E-06	1.16E-05	3.97E-05	1.00E-05	5.55E-05	7.03E-05
079940K	1.37E-05	1.98E-06	7.23E-06	1.58E-07	1.24E-06	4.25E-06	1.07E-06	5.93E-06	7.52E-06
079943F	1.75E-05	2.52E-06	9.22E-06	2.02E-07	1.58E-06	5.42E-06	1.37E-06	7.57E-06	9.59E-06
079944M	1.28E-04	1.85E-05	6.75E-05	1.48E-06	1.16E-05	3.97E-05	1.00E-05	5.55E-05	7.03E-05
079945U	1.28E-04	1.85E-05	6.75E-05	1.48E-06	1.16E-05	3.97E-05	1.00E-05	5.55E-05	7.03E-05
079951X	1.20E-05	1.73E-06	6.34E-06	1.39E-07	1.09E-06	3.73E-06	9.39E-07	5.21E-06	6.60E-06
079956G	1.61E-05	2.32E-06	8.50E-06	1.86E-07	1.46E-06	5.00E-06	1.26E-06	6.98E-06	8.84E-06
079957N	2.49E-04	3.59E-05	1.31E-04	2.87E-06	2.25E-05	7.71E-05	1.94E-05	1.08E-04	1.36E-04
079960W	1.52E-04	2.20E-05	8.03E-05	1.76E-06	1.38E-05	4.72E-05	1.19E-05	6.59E-05	8.36E-05
079961D	1.20E-05	1.73E-06	6.34E-06	1.39E-07	1.09E-06	3.73E-06	9.39E-07	5.21E-06	6.60E-06
079962K	1.67E-04	2.40E-05	8.77E-05	1.92E-06	1.51E-05	5.16E-05	1.30E-05	7.20E-05	9.13E-05
079984K	1.52E-04	2.20E-05	8.03E-05	1.76E-06	1.38E-05	4.72E-05	1.19E-05	6.59E-05	8.36E-05
079986Y	1.29E-04	1.85E-05	6.77E-05	1.48E-06	1.16E-05	3.98E-05	1.00E-05	5.56E-05	7.04E-05
080014B	1.67E-04	2.40E-05	8.77E-05	1.92E-06	1.51E-05	5.16E-05	1.30E-05	7.20E-05	9.13E-05
080022T	1.67E-04	2.40E-05	8.77E-05	1.92E-06	1.51E-05	5.16E-05	1.30E-05	7.20E-05	9.13E-05
080027C	1.67E-04	2.40E-05	8.77E-05	1.92E-06	1.51E-05	5.16E-05	1.30E-05	7.20E-05	9.13E-05

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
080029R	8.70E-06	1.25E-06	4.58E-06	1.00E-07	7.87E-07	2.69E-06	6.79E-07	3.76E-06	4.77E-06
080030K	7.25E-06	1.05E-06	3.82E-06	8.37E-08	6.56E-07	2.25E-06	5.66E-07	3.14E-06	3.98E-06
080033F	1.35E-05	1.95E-06	7.12E-06	1.56E-07	1.22E-06	4.19E-06	1.06E-06	5.85E-06	7.41E-06
086467N	8.35E-06	1.20E-06	4.40E-06	9.64E-08	7.55E-07	2.59E-06	6.52E-07	3.61E-06	4.58E-06
098035Y	2.44E-05	3.52E-06	1.29E-05	2.82E-07	2.21E-06	7.57E-06	1.91E-06	1.06E-05	1.34E-05
079887B	2.85E-04	4.11E-05	1.50E-04	3.29E-06	2.58E-05	8.84E-05	2.23E-05	1.23E-04	1.56E-04
079889P	9.61E-05	1.39E-05	5.06E-05	1.11E-06	8.69E-06	2.98E-05	7.50E-06	4.16E-05	5.27E-05
<i>061138T</i>	<i>2.15E-06</i>	<i>3.09E-07</i>	<i>1.13E-06</i>	<i>2.48E-08</i>	<i>1.94E-07</i>	<i>6.65E-07</i>	<i>1.67E-07</i>	<i>9.28E-07</i>	<i>1.18E-06</i>
<i>061136E</i>	<i>5.49E-05</i>	<i>7.92E-06</i>	<i>2.89E-05</i>	<i>6.34E-07</i>	<i>4.97E-06</i>	<i>1.70E-05</i>	<i>4.29E-06</i>	<i>2.38E-05</i>	<i>3.01E-05</i>
<i>061135X</i>	<i>5.00E-05</i>	<i>7.20E-06</i>	<i>2.63E-05</i>	<i>5.77E-07</i>	<i>4.52E-06</i>	<i>1.55E-05</i>	<i>3.90E-06</i>	<i>2.16E-05</i>	<i>2.74E-05</i>
<i>061134R</i>	<i>1.34E-04</i>	<i>1.94E-05</i>	<i>7.08E-05</i>	<i>1.55E-06</i>	<i>1.22E-05</i>	<i>4.16E-05</i>	<i>1.05E-05</i>	<i>5.82E-05</i>	<i>7.37E-05</i>
<i>061129U</i>	<i>8.27E-06</i>	<i>1.19E-06</i>	<i>4.36E-06</i>	<i>9.54E-08</i>	<i>7.48E-07</i>	<i>2.56E-06</i>	<i>6.45E-07</i>	<i>3.58E-06</i>	<i>4.53E-06</i>
<i>184364H</i>	<i>3.94E-06</i>	<i>5.68E-07</i>	<i>2.08E-06</i>	<i>4.55E-08</i>	<i>3.57E-07</i>	<i>1.22E-06</i>	<i>3.08E-07</i>	<i>1.71E-06</i>	<i>2.16E-06</i>
379544X	3.34E-04	4.81E-05	1.76E-04	3.85E-06	3.02E-05	1.03E-04	2.61E-05	1.44E-04	1.83E-04
Total Emissions	1.05E-02	1.51E-03	5.51E-03	1.21E-04	9.46E-04	3.24E-03	8.16E-04	4.52E-03	5.73E-03

¹ Crossing in italics represents crossings in a moderate CO Nonattainment area around Minneapolis and St. Paul, Minnesota

Table V.2-66. Grade Crossing Emissions, Segment 23 from St Paul, MN to N La Crosse, WI, Downline Analysis, Year 2023, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
079897G	6.55E+00	5.55E-04	1.74E-04	6.61E+00
079898N	2.34E+00	1.98E-04	6.19E-05	2.36E+00
079899V	1.70E+00	1.44E-04	4.49E-05	1.71E+00
079900M	2.62E+00	2.22E-04	6.95E-05	2.65E+00
079906D	3.11E+00	2.63E-04	8.24E-05	3.14E+00
079910T	5.95E-01	5.04E-05	1.58E-05	6.01E-01
079915C	9.86E+01	8.35E-03	2.61E-03	9.96E+01
079918X	3.18E-01	2.70E-05	8.44E-06	3.22E-01
079923U	4.05E-01	3.43E-05	1.07E-05	4.09E-01
079924B	1.24E-01	1.05E-05	3.30E-06	1.26E-01
079926P	2.10E+00	1.78E-04	5.56E-05	2.12E+00
079931L	2.03E+00	1.72E-04	5.37E-05	2.05E+00
079934G	5.83E-01	4.93E-05	1.54E-05	5.88E-01
079935N	8.67E-01	7.34E-05	2.30E-05	8.76E-01
079938J	2.48E+00	2.10E-04	6.57E-05	2.50E+00
079939R	2.09E+00	1.77E-04	5.55E-05	2.11E+00
079940K	2.24E-01	1.90E-05	5.94E-06	2.26E-01
079943F	2.86E-01	2.42E-05	7.57E-06	2.89E-01
079944M	2.09E+00	1.77E-04	5.55E-05	2.11E+00
079945U	2.09E+00	1.77E-04	5.55E-05	2.11E+00
079951X	1.97E-01	1.67E-05	5.21E-06	1.99E-01
079956G	2.63E-01	2.23E-05	6.98E-06	2.66E-01
079957N	4.06E+00	3.44E-04	1.08E-04	4.11E+00
079960W	2.49E+00	2.11E-04	6.60E-05	2.51E+00
079961D	1.97E-01	1.67E-05	5.21E-06	1.99E-01
079962K	2.72E+00	2.30E-04	7.21E-05	2.75E+00
079984K	2.49E+00	2.11E-04	6.60E-05	2.51E+00
079986Y	2.10E+00	1.78E-04	5.56E-05	2.12E+00
080014B	2.72E+00	2.30E-04	7.21E-05	2.75E+00
080022T	2.72E+00	2.30E-04	7.21E-05	2.75E+00
080027C	2.72E+00	2.30E-04	7.21E-05	2.75E+00
080029R	1.42E-01	1.20E-05	3.76E-06	1.43E-01
080030K	1.18E-01	1.00E-05	3.14E-06	1.20E-01
080033F	2.21E-01	1.87E-05	5.85E-06	2.23E-01
086467N	1.36E-01	1.16E-05	3.61E-06	1.38E-01
098035Y	3.99E-01	3.38E-05	1.06E-05	4.03E-01
079887B	4.66E+00	3.95E-04	1.23E-04	4.71E+00
079889P	1.57E+00	1.33E-04	4.16E-05	1.59E+00
061138T	3.50E-02	2.97E-06	9.29E-07	3.54E-02
061136E	8.97E-01	7.60E-05	2.38E-05	9.06E-01
061135X	8.16E-01	6.91E-05	2.16E-05	8.24E-01
061134R	2.20E+00	1.86E-04	5.82E-05	2.22E+00
061129U	1.35E-01	1.14E-05	3.58E-06	1.36E-01
184364H	6.44E-02	5.45E-06	1.71E-06	6.50E-02

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
379544X	5.46E+00	4.62E-04	1.45E-04	5.51E+00
Total Emissions	1.71E+02	1.45E-02	4.52E-03	1.72E+02

¹ Crossing in italics represents crossings in a moderate CO nonattainment area around Minneapolis and St. Paul, Minnesota

Table V.2-67. Grade Crossing Emissions, Segment 24 from N La Crosse, WI to Aurora, IL, Downline Analysis, Year 2023, Criteria Pollutants

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM ₁₀	PM _{2.5}	SO ₂	VOC
069928B	3.80E-04	5.89E-05	1.91E-08	1.65E-06	1.56E-06	3.25E-07	1.95E-05
069929H	3.17E-03	4.92E-04	1.59E-07	1.38E-05	1.31E-05	2.71E-06	1.63E-04
069936T	2.88E-03	4.47E-04	1.45E-07	1.25E-05	1.19E-05	2.46E-06	1.48E-04
069937A	3.08E-03	4.77E-04	1.55E-07	1.33E-05	1.27E-05	2.63E-06	1.58E-04
069939N	3.66E-03	5.68E-04	1.84E-07	1.59E-05	1.51E-05	3.13E-06	1.88E-04
069941P	1.43E-03	2.22E-04	7.19E-08	6.20E-06	5.89E-06	1.22E-06	7.34E-05
069944K	3.56E-03	5.53E-04	1.79E-07	1.55E-05	1.47E-05	3.05E-06	1.83E-04
069947F	2.40E-03	3.71E-04	1.20E-07	1.04E-05	9.86E-06	2.05E-06	1.23E-04
069949U	3.08E-03	4.77E-04	1.55E-07	1.33E-05	1.27E-05	2.63E-06	1.58E-04
069950N	3.80E-04	5.89E-05	1.91E-08	1.65E-06	1.56E-06	3.25E-07	1.95E-05
069953J	2.03E-03	3.14E-04	1.02E-07	8.79E-06	8.35E-06	1.73E-06	1.04E-04
069954R	2.01E-03	3.11E-04	1.01E-07	8.71E-06	8.27E-06	1.72E-06	1.03E-04
069957L	1.82E-03	2.82E-04	9.12E-08	7.87E-06	7.48E-06	1.55E-06	9.31E-05
069960U	1.45E-02	2.24E-03	7.27E-07	6.27E-05	5.95E-05	1.24E-05	7.42E-04
069963P	1.45E-02	2.24E-03	7.27E-07	6.27E-05	5.95E-05	1.24E-05	7.42E-04
069964W	1.33E-02	2.06E-03	6.67E-07	5.76E-05	5.47E-05	1.14E-05	6.81E-04
069965D	7.77E-02	1.20E-02	3.91E-06	3.37E-04	3.20E-04	6.65E-05	3.99E-03
069966K	4.94E-02	7.65E-03	2.48E-06	2.14E-04	2.03E-04	4.22E-05	2.53E-03
069967S	5.65E-02	8.76E-03	2.84E-06	2.45E-04	2.33E-04	4.83E-05	2.90E-03
069968Y	8.56E-03	1.33E-03	4.30E-07	3.71E-05	3.53E-05	7.33E-06	4.39E-04
069969F	1.36E-02	2.10E-03	6.82E-07	5.88E-05	5.59E-05	1.16E-05	6.96E-04
069970A	1.07E-02	1.66E-03	5.37E-07	4.63E-05	4.40E-05	9.14E-06	5.48E-04
069972N	8.56E-03	1.33E-03	4.30E-07	3.71E-05	3.53E-05	7.33E-06	4.39E-04
079847D	1.62E-03	2.51E-04	8.13E-08	7.01E-06	6.66E-06	1.38E-06	8.29E-05
079848K	3.98E-03	6.17E-04	2.00E-07	1.73E-05	1.64E-05	3.40E-06	2.04E-04
079857J	2.58E-02	3.99E-03	1.29E-06	1.12E-04	1.06E-04	2.20E-05	1.32E-03
079859X	4.91E-02	7.61E-03	2.47E-06	2.13E-04	2.02E-04	4.20E-05	2.52E-03
079860S	4.59E-04	7.12E-05	2.31E-08	1.99E-06	1.89E-06	3.93E-07	2.35E-05
079862F	3.29E-01	5.11E-02	1.66E-05	1.43E-03	1.36E-03	2.82E-04	1.69E-02
079868W	3.34E-03	5.18E-04	1.68E-07	1.45E-05	1.38E-05	2.86E-06	1.71E-04
079870X	3.57E-03	5.54E-04	1.80E-07	1.55E-05	1.47E-05	3.06E-06	1.83E-04
079878C	2.71E-03	4.20E-04	1.36E-07	1.18E-05	1.12E-05	2.32E-06	1.39E-04
079879J	7.89E-03	1.22E-03	3.97E-07	3.42E-05	3.25E-05	6.75E-06	4.05E-04
079883Y	3.77E-02	5.84E-03	1.89E-06	1.63E-04	1.55E-04	3.22E-05	1.93E-03
079884F	1.00E-01	1.55E-02	5.03E-06	4.34E-04	4.13E-04	8.57E-05	5.14E-03
079886U	4.40E-02	6.82E-03	2.21E-06	1.91E-04	1.81E-04	3.76E-05	2.26E-03
093705W	3.66E-03	5.68E-04	1.84E-07	1.59E-05	1.51E-05	3.13E-06	1.88E-04
093864D	1.23E-03	1.91E-04	6.18E-08	5.33E-06	5.06E-06	1.05E-06	6.30E-05
098033K	3.89E-02	6.04E-03	1.96E-06	1.69E-04	1.60E-04	3.33E-05	2.00E-03
391942E	6.94E-03	1.08E-03	3.49E-07	3.01E-05	2.86E-05	5.94E-06	3.56E-04
069716X	3.44E-01	5.34E-02	1.73E-05	1.49E-03	1.42E-03	2.94E-04	1.77E-02
069717E	3.30E-02	5.12E-03	1.66E-06	1.43E-04	1.36E-04	2.82E-05	1.69E-03
069718L	3.65E-02	5.66E-03	1.83E-06	1.58E-04	1.50E-04	3.12E-05	1.87E-03
069719T	2.07E-02	3.21E-03	1.04E-06	8.97E-05	8.52E-05	1.77E-05	1.06E-03

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
069720M	1.15E-02	1.78E-03	5.77E-07	4.98E-05	4.73E-05	9.83E-06	5.89E-04
069721U	1.93E-02	3.00E-03	9.71E-07	8.38E-05	7.96E-05	1.65E-05	9.91E-04
069725W	9.72E-03	1.51E-03	4.88E-07	4.21E-05	4.00E-05	8.31E-06	4.98E-04
069728S	1.14E-02	1.76E-03	5.70E-07	4.92E-05	4.67E-05	9.71E-06	5.82E-04
069734V	1.14E-02	1.76E-03	5.70E-07	4.92E-05	4.67E-05	9.71E-06	5.82E-04
069736J	1.64E-03	2.54E-04	8.22E-08	7.10E-06	6.74E-06	1.40E-06	8.39E-05
069737R	9.30E-03	1.44E-03	4.67E-07	4.03E-05	3.83E-05	7.95E-06	4.77E-04
069739E	1.26E-02	1.96E-03	6.36E-07	5.48E-05	5.21E-05	1.08E-05	6.49E-04
069741F	4.25E-03	6.60E-04	2.14E-07	1.84E-05	1.75E-05	3.64E-06	2.18E-04
069742M	7.56E-03	1.17E-03	3.80E-07	3.28E-05	3.11E-05	6.47E-06	3.88E-04
069744B	2.94E-02	4.55E-03	1.48E-06	1.27E-04	1.21E-04	2.51E-05	1.51E-03
069748D	1.05E-03	1.63E-04	5.27E-08	4.54E-06	4.32E-06	8.97E-07	5.38E-05
069752T	3.02E-03	4.69E-04	1.52E-07	1.31E-05	1.24E-05	2.59E-06	1.55E-04
069753A	2.85E-04	4.42E-05	1.43E-08	1.24E-06	1.17E-06	2.44E-07	1.46E-05
069754G	2.43E-02	3.76E-03	1.22E-06	1.05E-04	9.99E-05	2.08E-05	1.24E-03
069755N	5.94E-03	9.22E-04	2.99E-07	2.58E-05	2.45E-05	5.09E-06	3.05E-04
069757C	5.94E-03	9.22E-04	2.99E-07	2.58E-05	2.45E-05	5.09E-06	3.05E-04
069758J	4.85E-03	7.52E-04	2.44E-07	2.10E-05	2.00E-05	4.15E-06	2.49E-04
069760K	2.85E-04	4.42E-05	1.43E-08	1.24E-06	1.17E-06	2.44E-07	1.46E-05
069761S	8.60E-04	1.33E-04	4.32E-08	3.73E-06	3.54E-06	7.36E-07	4.41E-05
069763F	2.85E-04	4.42E-05	1.43E-08	1.24E-06	1.17E-06	2.44E-07	1.46E-05
069764M	2.69E-03	4.17E-04	1.35E-07	1.17E-05	1.11E-05	2.30E-06	1.38E-04
069765U	8.68E-03	1.35E-03	4.36E-07	3.76E-05	3.57E-05	7.43E-06	4.45E-04
069767H	2.07E-02	3.21E-03	1.04E-06	8.97E-05	8.52E-05	1.77E-05	1.06E-03
069768P	2.85E-04	4.42E-05	1.43E-08	1.24E-06	1.17E-06	2.44E-07	1.46E-05
069770R	2.85E-04	4.42E-05	1.43E-08	1.24E-06	1.17E-06	2.44E-07	1.46E-05
069771X	8.68E-03	1.35E-03	4.36E-07	3.76E-05	3.57E-05	7.43E-06	4.45E-04
069772E	5.70E-04	8.85E-05	2.87E-08	2.47E-06	2.35E-06	4.88E-07	2.93E-05
069773L	8.68E-03	1.35E-03	4.36E-07	3.76E-05	3.57E-05	7.43E-06	4.45E-04
069775A	7.50E-03	1.16E-03	3.77E-07	3.25E-05	3.09E-05	6.42E-06	3.85E-04
069776G	8.60E-04	1.33E-04	4.32E-08	3.73E-06	3.54E-06	7.36E-07	4.41E-05
069779C	8.60E-04	1.33E-04	4.32E-08	3.73E-06	3.54E-06	7.36E-07	4.41E-05
069780W	1.05E-03	1.63E-04	5.27E-08	4.54E-06	4.32E-06	8.97E-07	5.38E-05
069782K	2.85E-04	4.42E-05	1.43E-08	1.24E-06	1.17E-06	2.44E-07	1.46E-05
069785F	5.70E-04	8.85E-05	2.87E-08	2.47E-06	2.35E-06	4.88E-07	2.93E-05
069787U	1.66E-02	2.57E-03	8.33E-07	7.19E-05	6.83E-05	1.42E-05	8.51E-04
069790C	6.40E-03	9.93E-04	3.22E-07	2.78E-05	2.64E-05	5.48E-06	3.28E-04
069791J	8.57E-04	1.33E-04	4.31E-08	3.72E-06	3.53E-06	7.33E-07	4.40E-05
069794E	1.45E-02	2.25E-03	7.29E-07	6.29E-05	5.97E-05	1.24E-05	7.44E-04
069796T	1.14E-02	1.76E-03	5.70E-07	4.92E-05	4.67E-05	9.71E-06	5.82E-04
069797A	4.41E-02	6.84E-03	2.22E-06	1.91E-04	1.82E-04	3.77E-05	2.26E-03
069798G	4.67E-02	7.24E-03	2.35E-06	2.03E-04	1.92E-04	4.00E-05	2.40E-03
069799N	6.17E-02	9.57E-03	3.10E-06	2.68E-04	2.54E-04	5.28E-05	3.17E-03
069801M	1.15E-02	1.78E-03	5.77E-07	4.98E-05	4.73E-05	9.82E-06	5.89E-04
069803B	3.79E-02	5.87E-03	1.90E-06	1.64E-04	1.56E-04	3.24E-05	1.94E-03
069805P	4.96E-02	7.69E-03	2.49E-06	2.15E-04	2.04E-04	4.24E-05	2.54E-03

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
069806W	4.82E-03	7.47E-04	2.42E-07	2.09E-05	1.99E-05	4.12E-06	2.47E-04
069808K	4.13E-03	6.41E-04	2.08E-07	1.79E-05	1.70E-05	3.54E-06	2.12E-04
069810L	5.34E-03	8.28E-04	2.68E-07	2.32E-05	2.20E-05	4.57E-06	2.74E-04
069811T	2.40E-03	3.71E-04	1.20E-07	1.04E-05	9.86E-06	2.05E-06	1.23E-04
069812A	8.60E-04	1.33E-04	4.32E-08	3.73E-06	3.54E-06	7.35E-07	4.41E-05
069813G	2.13E-03	3.30E-04	1.07E-07	9.22E-06	8.75E-06	1.82E-06	1.09E-04
069814N	5.72E-04	8.86E-05	2.87E-08	2.48E-06	2.35E-06	4.89E-07	2.93E-05
069815V	1.13E-02	1.76E-03	5.70E-07	4.92E-05	4.67E-05	9.70E-06	5.82E-04
069818R	2.98E-03	4.62E-04	1.50E-07	1.29E-05	1.23E-05	2.55E-06	1.53E-04
069819X	8.60E-04	1.33E-04	4.32E-08	3.73E-06	3.54E-06	7.35E-07	4.41E-05
069822F	3.02E-03	4.68E-04	1.52E-07	1.31E-05	1.24E-05	2.58E-06	1.55E-04
069823M	1.93E-03	2.99E-04	9.69E-08	8.36E-06	7.94E-06	1.65E-06	9.89E-05
069827P	4.85E-03	7.52E-04	2.44E-07	2.10E-05	2.00E-05	4.15E-06	2.49E-04
069831E	1.35E-03	2.09E-04	6.76E-08	5.83E-06	5.54E-06	1.15E-06	6.90E-05
069834A	1.05E-03	1.63E-04	5.30E-08	4.57E-06	4.34E-06	9.02E-07	5.41E-05
069835G	1.08E-02	1.68E-03	5.45E-07	4.70E-05	4.47E-05	9.28E-06	5.56E-04
069836N	2.85E-04	4.43E-05	1.43E-08	1.24E-06	1.18E-06	2.44E-07	1.46E-05
069837V	1.90E-04	2.95E-05	9.56E-09	8.24E-07	7.83E-07	1.63E-07	9.75E-06
069838C	8.61E-04	1.34E-04	4.33E-08	3.73E-06	3.55E-06	7.37E-07	4.42E-05
069843Y	9.72E-03	1.51E-03	4.89E-07	4.22E-05	4.00E-05	8.32E-06	4.99E-04
069848H	1.03E-02	1.60E-03	5.19E-07	4.48E-05	4.26E-05	8.84E-06	5.30E-04
069851R	5.72E-04	8.88E-05	2.88E-08	2.48E-06	2.36E-06	4.90E-07	2.94E-05
069853E	1.05E-03	1.62E-04	5.27E-08	4.54E-06	4.32E-06	8.97E-07	5.38E-05
069857G	2.85E-04	4.43E-05	1.43E-08	1.24E-06	1.18E-06	2.44E-07	1.46E-05
069868U	2.30E-02	3.57E-03	1.16E-06	9.97E-05	9.47E-05	1.97E-05	1.18E-03
069869B	2.98E-03	4.62E-04	1.50E-07	1.29E-05	1.23E-05	2.55E-06	1.53E-04
069876L	8.58E-04	1.33E-04	4.31E-08	3.72E-06	3.53E-06	7.34E-07	4.40E-05
069877T	2.85E-04	4.43E-05	1.43E-08	1.24E-06	1.18E-06	2.44E-07	1.46E-05
069880B	1.43E-03	2.22E-04	7.20E-08	6.21E-06	5.90E-06	1.23E-06	7.35E-05
069881H	7.01E-03	1.09E-03	3.52E-07	3.04E-05	2.89E-05	5.99E-06	3.59E-04
069882P	2.11E-03	3.27E-04	1.06E-07	9.14E-06	8.68E-06	1.80E-06	1.08E-04
069883W	8.61E-04	1.34E-04	4.33E-08	3.73E-06	3.55E-06	7.37E-07	4.42E-05
069887Y	8.58E-04	1.33E-04	4.31E-08	3.72E-06	3.53E-06	7.34E-07	4.40E-05
069895R	5.72E-04	8.88E-05	2.88E-08	2.48E-06	2.36E-06	4.90E-07	2.94E-05
069898L	2.85E-04	4.43E-05	1.43E-08	1.24E-06	1.18E-06	2.44E-07	1.46E-05
069904M	4.35E-03	6.74E-04	2.18E-07	1.88E-05	1.79E-05	3.72E-06	2.23E-04
069907H	5.34E-03	8.28E-04	2.68E-07	2.31E-05	2.20E-05	4.57E-06	2.74E-04
069908P	5.34E-03	8.28E-04	2.68E-07	2.31E-05	2.20E-05	4.57E-06	2.74E-04
069910R	1.33E-03	2.07E-04	6.70E-08	5.78E-06	5.49E-06	1.14E-06	6.84E-05
069913L	1.91E-03	2.96E-04	9.60E-08	8.28E-06	7.87E-06	1.63E-06	9.80E-05
069917N	1.63E-03	2.53E-04	8.21E-08	7.09E-06	6.73E-06	1.40E-06	8.38E-05
069921D	5.70E-04	8.83E-05	2.86E-08	2.47E-06	2.35E-06	4.87E-07	2.92E-05
069922K	5.71E-04	8.86E-05	2.87E-08	2.48E-06	2.35E-06	4.89E-07	2.93E-05
306912J	4.84E-03	7.51E-04	2.43E-07	2.10E-05	1.99E-05	4.14E-06	2.48E-04
306915E	5.94E-03	9.20E-04	2.98E-07	2.57E-05	2.44E-05	5.08E-06	3.04E-04
306916L	5.94E-03	9.20E-04	2.98E-07	2.57E-05	2.44E-05	5.08E-06	3.04E-04

FRA Crossing ID	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
306917T	1.36E-02	2.11E-03	6.84E-07	5.90E-05	5.60E-05	1.16E-05	6.98E-04
306918A	1.36E-02	2.11E-03	6.84E-07	5.90E-05	5.60E-05	1.16E-05	6.98E-04
306924D	6.39E-03	9.91E-04	3.21E-07	2.77E-05	2.63E-05	5.47E-06	3.28E-04
306926S	8.48E-03	1.31E-03	4.26E-07	3.68E-05	3.49E-05	7.25E-06	4.35E-04
306928F	4.23E-03	6.56E-04	2.13E-07	1.83E-05	1.74E-05	3.62E-06	2.17E-04
093864D	1.23E-03	1.91E-04	6.18E-08	5.33E-06	5.06E-06	1.05E-06	6.30E-05
910786F	8.72E-03	1.35E-03	4.38E-07	3.78E-05	3.59E-05	7.46E-06	4.47E-04
086445N	7.65E-03	1.19E-03	3.85E-07	3.32E-05	3.15E-05	6.55E-06	3.93E-04
069971G	3.56E-02	5.52E-03	1.79E-06	1.54E-04	1.47E-04	3.05E-05	1.83E-03
079843B	1.73E-01	2.69E-02	8.72E-06	7.52E-04	7.14E-04	1.48E-04	8.90E-03
391938P	6.94E-03	1.08E-03	3.49E-07	3.01E-05	2.86E-05	5.94E-06	3.56E-04
391872S	4.75E-04	7.37E-05	2.39E-08	2.06E-06	1.96E-06	4.07E-07	2.44E-05
070076W	1.83E-02	2.84E-03	9.19E-07	7.93E-05	7.53E-05	1.57E-05	9.38E-04
070083G	1.34E-03	2.07E-04	6.71E-08	5.79E-06	5.50E-06	1.14E-06	6.85E-05
070084N	2.81E-02	4.36E-03	1.41E-06	1.22E-04	1.16E-04	2.40E-05	1.44E-03
070085V	4.85E-03	7.52E-04	2.44E-07	2.10E-05	2.00E-05	4.15E-06	2.49E-04
175119F	2.24E-02	3.48E-03	1.13E-06	9.73E-05	9.24E-05	1.92E-05	1.15E-03
175780L	3.91E-02	6.06E-03	1.96E-06	1.69E-04	1.61E-04	3.34E-05	2.01E-03
<i>070049A</i>	<i>5.94E-03</i>	<i>9.22E-04</i>	<i>2.99E-07</i>	<i>2.58E-05</i>	<i>2.45E-05</i>	<i>5.09E-06</i>	<i>3.05E-04</i>
069620H	2.40E-03	3.72E-04	1.20E-07	1.04E-05	9.87E-06	2.05E-06	1.23E-04
306928F	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Emissions	2.49E+00	3.86E-01	1.25E-04	1.08E-02	1.03E-02	2.13E-03	1.28E-01

¹ Crossings in italics represent crossings in a moderate 8-hour ozone nonattainment area around Chicago, IL

Table V.2-68. Grade Crossing Emissions, Segment 24 from N La Crosse, WI to Aurora, IL, Downline Analysis, Year 2023, Hazardous Pollutants

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
069928B	1.35E-06	1.95E-07	7.11E-07	1.56E-08	1.22E-07	4.18E-07	1.05E-07	5.84E-07	7.40E-07
069929H	1.13E-05	1.63E-06	5.94E-06	1.30E-07	1.02E-06	3.50E-06	8.81E-07	4.88E-06	6.18E-06
069936T	1.02E-05	1.48E-06	5.40E-06	1.18E-07	9.26E-07	3.17E-06	7.99E-07	4.43E-06	5.61E-06
069937A	1.09E-05	1.58E-06	5.76E-06	1.26E-07	9.89E-07	3.39E-06	8.53E-07	4.73E-06	5.99E-06
069939N	1.30E-05	1.88E-06	6.86E-06	1.50E-07	1.18E-06	4.03E-06	1.02E-06	5.63E-06	7.14E-06
069941P	5.09E-06	7.33E-07	2.68E-06	5.87E-08	4.60E-07	1.58E-06	3.97E-07	2.20E-06	2.79E-06
069944K	1.27E-05	1.83E-06	6.68E-06	1.46E-07	1.15E-06	3.93E-06	9.89E-07	5.48E-06	6.95E-06
069947F	8.52E-06	1.23E-06	4.49E-06	9.83E-08	7.70E-07	2.64E-06	6.65E-07	3.68E-06	4.67E-06
069949U	1.09E-05	1.58E-06	5.76E-06	1.26E-07	9.89E-07	3.39E-06	8.53E-07	4.73E-06	5.99E-06
069950N	1.35E-06	1.95E-07	7.11E-07	1.56E-08	1.22E-07	4.18E-07	1.05E-07	5.84E-07	7.40E-07
069953J	7.21E-06	1.04E-06	3.80E-06	8.32E-08	6.52E-07	2.23E-06	5.63E-07	3.12E-06	3.95E-06
069954R	7.14E-06	1.03E-06	3.76E-06	8.24E-08	6.46E-07	2.21E-06	5.57E-07	3.09E-06	3.91E-06
069957L	6.46E-06	9.30E-07	3.40E-06	7.45E-08	5.84E-07	2.00E-06	5.04E-07	2.79E-06	3.54E-06
069960U	5.14E-05	7.41E-06	2.71E-05	5.93E-07	4.65E-06	1.59E-05	4.01E-06	2.22E-05	2.82E-05
069963P	5.14E-05	7.41E-06	2.71E-05	5.93E-07	4.65E-06	1.59E-05	4.01E-06	2.22E-05	2.82E-05
069964W	4.72E-05	6.80E-06	2.49E-05	5.45E-07	4.27E-06	1.46E-05	3.68E-06	2.04E-05	2.59E-05
069965D	2.76E-04	3.98E-05	1.46E-04	3.19E-06	2.50E-05	8.56E-05	2.16E-05	1.20E-04	1.51E-04
069966K	1.76E-04	2.53E-05	9.25E-05	2.03E-06	1.59E-05	5.44E-05	1.37E-05	7.59E-05	9.62E-05
069967S	2.01E-04	2.90E-05	1.06E-04	2.32E-06	1.82E-05	6.22E-05	1.57E-05	8.69E-05	1.10E-04
069968Y	3.05E-05	4.39E-06	1.60E-05	3.51E-07	2.75E-06	9.43E-06	2.38E-06	1.32E-05	1.67E-05
069969F	4.83E-05	6.95E-06	2.54E-05	5.57E-07	4.36E-06	1.49E-05	3.77E-06	2.09E-05	2.64E-05
069970A	3.80E-05	5.48E-06	2.00E-05	4.39E-07	3.44E-06	1.18E-05	2.97E-06	1.64E-05	2.08E-05
069972N	3.05E-05	4.39E-06	1.60E-05	3.51E-07	2.75E-06	9.43E-06	2.38E-06	1.32E-05	1.67E-05
079847D	5.75E-06	8.28E-07	3.03E-06	6.63E-08	5.20E-07	1.78E-06	4.49E-07	2.49E-06	3.15E-06
079848K	1.42E-05	2.04E-06	7.45E-06	1.63E-07	1.28E-06	4.38E-06	1.10E-06	6.12E-06	7.76E-06
079857J	9.16E-05	1.32E-05	4.83E-05	1.06E-06	8.28E-06	2.84E-05	7.15E-06	3.96E-05	5.02E-05
079859X	1.74E-04	2.51E-05	9.19E-05	2.01E-06	1.58E-05	5.40E-05	1.36E-05	7.55E-05	9.56E-05
079860S	1.63E-06	2.35E-07	8.60E-07	1.88E-08	1.48E-07	5.05E-07	1.27E-07	7.06E-07	8.94E-07
079862F	1.17E-03	1.69E-04	6.17E-04	1.35E-05	1.06E-04	3.63E-04	9.14E-05	5.07E-04	6.42E-04
079868W	1.19E-05	1.71E-06	6.26E-06	1.37E-07	1.08E-06	3.68E-06	9.28E-07	5.14E-06	6.52E-06
079870X	1.27E-05	1.83E-06	6.70E-06	1.47E-07	1.15E-06	3.94E-06	9.92E-07	5.50E-06	6.97E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
079878C	9.64E-06	1.39E-06	5.08E-06	1.11E-07	8.72E-07	2.99E-06	7.52E-07	4.17E-06	5.29E-06
079879J	2.81E-05	4.05E-06	1.48E-05	3.24E-07	2.54E-06	8.70E-06	2.19E-06	1.21E-05	1.54E-05
079883Y	1.34E-04	1.93E-05	7.06E-05	1.55E-06	1.21E-05	4.15E-05	1.05E-05	5.80E-05	7.35E-05
079884F	3.56E-04	5.13E-05	1.88E-04	4.11E-06	3.22E-05	1.10E-04	2.78E-05	1.54E-04	1.95E-04
079886U	1.56E-04	2.25E-05	8.24E-05	1.80E-06	1.41E-05	4.84E-05	1.22E-05	6.76E-05	8.57E-05
093705W	1.30E-05	1.88E-06	6.86E-06	1.50E-07	1.18E-06	4.03E-06	1.02E-06	5.63E-06	7.14E-06
093864D	4.37E-06	6.30E-07	2.30E-06	5.04E-08	3.95E-07	1.35E-06	3.41E-07	1.89E-06	2.40E-06
098033K	1.38E-04	2.00E-05	7.29E-05	1.60E-06	1.25E-05	4.29E-05	1.08E-05	5.99E-05	7.59E-05
391942E	2.47E-05	3.56E-06	1.30E-05	2.85E-07	2.23E-06	7.65E-06	1.93E-06	1.07E-05	1.35E-05
069716X	1.22E-03	1.76E-04	6.45E-04	1.41E-05	1.11E-04	3.79E-04	9.55E-05	5.29E-04	6.71E-04
069717E	1.17E-04	1.69E-05	6.19E-05	1.35E-06	1.06E-05	3.64E-05	9.16E-06	5.08E-05	6.44E-05
069718L	1.30E-04	1.87E-05	6.83E-05	1.50E-06	1.17E-05	4.02E-05	1.01E-05	5.61E-05	7.11E-05
069719T	7.36E-05	1.06E-05	3.87E-05	8.49E-07	6.65E-06	2.28E-05	5.74E-06	3.18E-05	4.03E-05
069720M	4.09E-05	5.89E-06	2.15E-05	4.71E-07	3.69E-06	1.27E-05	3.19E-06	1.77E-05	2.24E-05
069721U	6.87E-05	9.90E-06	3.62E-05	7.93E-07	6.21E-06	2.13E-05	5.36E-06	2.97E-05	3.77E-05
069725W	3.46E-05	4.98E-06	1.82E-05	3.99E-07	3.13E-06	1.07E-05	2.70E-06	1.49E-05	1.89E-05
069728S	4.04E-05	5.82E-06	2.13E-05	4.66E-07	3.65E-06	1.25E-05	3.15E-06	1.75E-05	2.21E-05
069734V	4.04E-05	5.82E-06	2.13E-05	4.66E-07	3.65E-06	1.25E-05	3.15E-06	1.75E-05	2.21E-05
069736J	5.82E-06	8.39E-07	3.07E-06	6.72E-08	5.26E-07	1.80E-06	4.54E-07	2.52E-06	3.19E-06
069737R	3.31E-05	4.76E-06	1.74E-05	3.82E-07	2.99E-06	1.02E-05	2.58E-06	1.43E-05	1.81E-05
069739E	4.50E-05	6.48E-06	2.37E-05	5.19E-07	4.07E-06	1.39E-05	3.51E-06	1.95E-05	2.47E-05
069741F	1.51E-05	2.18E-06	7.97E-06	1.75E-07	1.37E-06	4.69E-06	1.18E-06	6.55E-06	8.29E-06
069742M	2.69E-05	3.87E-06	1.42E-05	3.10E-07	2.43E-06	8.32E-06	2.10E-06	1.16E-05	1.47E-05
069744B	1.04E-04	1.50E-05	5.50E-05	1.20E-06	9.44E-06	3.23E-05	8.15E-06	4.52E-05	5.72E-05
069748D	3.73E-06	5.37E-07	1.96E-06	4.30E-08	3.37E-07	1.15E-06	2.91E-07	1.61E-06	2.04E-06
069752T	1.07E-05	1.55E-06	5.66E-06	1.24E-07	9.72E-07	3.33E-06	8.39E-07	4.65E-06	5.89E-06
069753A	1.01E-06	1.46E-07	5.34E-07	1.17E-08	9.17E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069754G	8.63E-05	1.24E-05	4.54E-05	9.96E-07	7.80E-06	2.67E-05	6.73E-06	3.73E-05	4.73E-05
069755N	2.11E-05	3.05E-06	1.11E-05	2.44E-07	1.91E-06	6.55E-06	1.65E-06	9.14E-06	1.16E-05
069757C	2.11E-05	3.05E-06	1.11E-05	2.44E-07	1.91E-06	6.55E-06	1.65E-06	9.14E-06	1.16E-05
069758J	1.72E-05	2.48E-06	9.08E-06	1.99E-07	1.56E-06	5.34E-06	1.35E-06	7.46E-06	9.45E-06
069760K	1.01E-06	1.46E-07	5.34E-07	1.17E-08	9.17E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069761S	3.06E-06	4.41E-07	1.61E-06	3.53E-08	2.77E-07	9.48E-07	2.39E-07	1.32E-06	1.68E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
069763F	1.01E-06	1.46E-07	5.34E-07	1.17E-08	9.17E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069764M	9.56E-06	1.38E-06	5.04E-06	1.10E-07	8.65E-07	2.96E-06	7.46E-07	4.14E-06	5.24E-06
069765U	3.09E-05	4.45E-06	1.63E-05	3.56E-07	2.79E-06	9.56E-06	2.41E-06	1.34E-05	1.69E-05
069767H	7.36E-05	1.06E-05	3.87E-05	8.49E-07	6.65E-06	2.28E-05	5.74E-06	3.18E-05	4.03E-05
069768P	1.01E-06	1.46E-07	5.34E-07	1.17E-08	9.17E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069770R	1.01E-06	1.46E-07	5.34E-07	1.17E-08	9.17E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069771X	3.09E-05	4.45E-06	1.63E-05	3.56E-07	2.79E-06	9.56E-06	2.41E-06	1.34E-05	1.69E-05
069772E	2.03E-06	2.92E-07	1.07E-06	2.34E-08	1.83E-07	6.28E-07	1.58E-07	8.78E-07	1.11E-06
069773L	3.09E-05	4.45E-06	1.63E-05	3.56E-07	2.79E-06	9.56E-06	2.41E-06	1.34E-05	1.69E-05
069775A	2.67E-05	3.84E-06	1.40E-05	3.08E-07	2.41E-06	8.26E-06	2.08E-06	1.15E-05	1.46E-05
069776G	3.06E-06	4.41E-07	1.61E-06	3.53E-08	2.77E-07	9.48E-07	2.39E-07	1.32E-06	1.68E-06
069779C	3.06E-06	4.41E-07	1.61E-06	3.53E-08	2.77E-07	9.48E-07	2.39E-07	1.32E-06	1.68E-06
069780W	3.73E-06	5.37E-07	1.96E-06	4.30E-08	3.37E-07	1.15E-06	2.91E-07	1.61E-06	2.04E-06
069782K	1.01E-06	1.46E-07	5.34E-07	1.17E-08	9.17E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069785F	2.03E-06	2.92E-07	1.07E-06	2.34E-08	1.83E-07	6.28E-07	1.58E-07	8.78E-07	1.11E-06
069787U	5.90E-05	8.50E-06	3.11E-05	6.80E-07	5.33E-06	1.83E-05	4.60E-06	2.55E-05	3.23E-05
069790C	2.28E-05	3.28E-06	1.20E-05	2.63E-07	2.06E-06	7.05E-06	1.78E-06	9.85E-06	1.25E-05
069791J	3.05E-06	4.39E-07	1.61E-06	3.52E-08	2.76E-07	9.44E-07	2.38E-07	1.32E-06	1.67E-06
069794E	5.16E-05	7.43E-06	2.72E-05	5.95E-07	4.67E-06	1.60E-05	4.03E-06	2.23E-05	2.83E-05
069796T	4.04E-05	5.82E-06	2.13E-05	4.66E-07	3.65E-06	1.25E-05	3.15E-06	1.75E-05	2.21E-05
069797A	1.57E-04	2.26E-05	8.26E-05	1.81E-06	1.42E-05	4.86E-05	1.22E-05	6.78E-05	8.60E-05
069798G	1.66E-04	2.39E-05	8.75E-05	1.92E-06	1.50E-05	5.15E-05	1.30E-05	7.19E-05	9.11E-05
069799N	2.20E-04	3.16E-05	1.16E-04	2.53E-06	1.99E-05	6.80E-05	1.71E-05	9.50E-05	1.20E-04
069801M	4.08E-05	5.88E-06	2.15E-05	4.71E-07	3.69E-06	1.26E-05	3.18E-06	1.77E-05	2.24E-05
069803B	1.35E-04	1.94E-05	7.09E-05	1.55E-06	1.22E-05	4.17E-05	1.05E-05	5.83E-05	7.38E-05
069805P	1.76E-04	2.54E-05	9.29E-05	2.03E-06	1.59E-05	5.46E-05	1.38E-05	7.63E-05	9.67E-05
069806W	1.71E-05	2.47E-06	9.03E-06	1.98E-07	1.55E-06	5.31E-06	1.34E-06	7.41E-06	9.40E-06
069808K	1.47E-05	2.12E-06	7.74E-06	1.70E-07	1.33E-06	4.55E-06	1.15E-06	6.36E-06	8.05E-06
069810L	1.90E-05	2.74E-06	1.00E-05	2.19E-07	1.72E-06	5.88E-06	1.48E-06	8.22E-06	1.04E-05
069811T	8.52E-06	1.23E-06	4.49E-06	9.83E-08	7.70E-07	2.64E-06	6.65E-07	3.68E-06	4.67E-06
069812A	3.06E-06	4.40E-07	1.61E-06	3.53E-08	2.76E-07	9.47E-07	2.39E-07	1.32E-06	1.68E-06
069813G	7.56E-06	1.09E-06	3.98E-06	8.72E-08	6.84E-07	2.34E-06	5.90E-07	3.27E-06	4.14E-06
069814N	2.03E-06	2.93E-07	1.07E-06	2.35E-08	1.84E-07	6.30E-07	1.59E-07	8.79E-07	1.11E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
069815V	4.03E-05	5.81E-06	2.12E-05	4.65E-07	3.65E-06	1.25E-05	3.15E-06	1.74E-05	2.21E-05
069818R	1.06E-05	1.53E-06	5.58E-06	1.22E-07	9.58E-07	3.28E-06	8.26E-07	4.58E-06	5.80E-06
069819X	3.06E-06	4.40E-07	1.61E-06	3.53E-08	2.76E-07	9.47E-07	2.39E-07	1.32E-06	1.68E-06
069822F	1.07E-05	1.55E-06	5.66E-06	1.24E-07	9.71E-07	3.33E-06	8.38E-07	4.65E-06	5.89E-06
069823M	6.86E-06	9.88E-07	3.61E-06	7.92E-08	6.20E-07	2.12E-06	5.35E-07	2.97E-06	3.76E-06
069827P	1.73E-05	2.49E-06	9.09E-06	1.99E-07	1.56E-06	5.34E-06	1.35E-06	7.46E-06	9.46E-06
069831E	4.78E-06	6.89E-07	2.52E-06	5.52E-08	4.33E-07	1.48E-06	3.73E-07	2.07E-06	2.62E-06
069834A	3.75E-06	5.40E-07	1.97E-06	4.33E-08	3.39E-07	1.16E-06	2.93E-07	1.62E-06	2.05E-06
069835G	3.86E-05	5.56E-06	2.03E-05	4.45E-07	3.49E-06	1.19E-05	3.01E-06	1.67E-05	2.11E-05
069836N	1.02E-06	1.46E-07	5.35E-07	1.17E-08	9.18E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069837V	6.76E-07	9.74E-08	3.56E-07	7.80E-09	6.12E-08	2.09E-07	5.28E-08	2.93E-07	3.71E-07
069838C	3.06E-06	4.41E-07	1.61E-06	3.53E-08	2.77E-07	9.48E-07	2.39E-07	1.32E-06	1.68E-06
069843Y	3.46E-05	4.98E-06	1.82E-05	3.99E-07	3.13E-06	1.07E-05	2.70E-06	1.50E-05	1.90E-05
069848H	3.68E-05	5.30E-06	1.94E-05	4.24E-07	3.32E-06	1.14E-05	2.87E-06	1.59E-05	2.01E-05
069851R	2.04E-06	2.93E-07	1.07E-06	2.35E-08	1.84E-07	6.31E-07	1.59E-07	8.81E-07	1.12E-06
069853E	3.73E-06	5.37E-07	1.96E-06	4.30E-08	3.37E-07	1.15E-06	2.91E-07	1.61E-06	2.04E-06
069857G	1.02E-06	1.46E-07	5.35E-07	1.17E-08	9.18E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069868U	8.18E-05	1.18E-05	4.31E-05	9.44E-07	7.40E-06	2.53E-05	6.38E-06	3.54E-05	4.48E-05
069869B	1.06E-05	1.53E-06	5.59E-06	1.22E-07	9.59E-07	3.29E-06	8.28E-07	4.59E-06	5.81E-06
069876L	3.05E-06	4.39E-07	1.61E-06	3.52E-08	2.76E-07	9.45E-07	2.38E-07	1.32E-06	1.67E-06
069877T	1.02E-06	1.46E-07	5.35E-07	1.17E-08	9.18E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069880B	5.10E-06	7.34E-07	2.68E-06	5.88E-08	4.61E-07	1.58E-06	3.98E-07	2.20E-06	2.79E-06
069881H	2.49E-05	3.59E-06	1.31E-05	2.87E-07	2.25E-06	7.72E-06	1.94E-06	1.08E-05	1.37E-05
069882P	7.50E-06	1.08E-06	3.95E-06	8.65E-08	6.78E-07	2.32E-06	5.85E-07	3.24E-06	4.11E-06
069883W	3.06E-06	4.41E-07	1.61E-06	3.53E-08	2.77E-07	9.48E-07	2.39E-07	1.32E-06	1.68E-06
069887Y	3.05E-06	4.39E-07	1.61E-06	3.52E-08	2.76E-07	9.45E-07	2.38E-07	1.32E-06	1.67E-06
069895R	2.04E-06	2.93E-07	1.07E-06	2.35E-08	1.84E-07	6.31E-07	1.59E-07	8.81E-07	1.12E-06
069898L	1.02E-06	1.46E-07	5.35E-07	1.17E-08	9.18E-08	3.14E-07	7.92E-08	4.39E-07	5.56E-07
069904M	1.55E-05	2.23E-06	8.14E-06	1.78E-07	1.40E-06	4.79E-06	1.21E-06	6.69E-06	8.47E-06
069907H	1.90E-05	2.73E-06	1.00E-05	2.19E-07	1.72E-06	5.88E-06	1.48E-06	8.21E-06	1.04E-05
069908P	1.90E-05	2.73E-06	1.00E-05	2.19E-07	1.72E-06	5.88E-06	1.48E-06	8.21E-06	1.04E-05
069910R	4.74E-06	6.84E-07	2.50E-06	5.47E-08	4.29E-07	1.47E-06	3.70E-07	2.05E-06	2.60E-06
069913L	6.80E-06	9.79E-07	3.58E-06	7.84E-08	6.14E-07	2.10E-06	5.30E-07	2.94E-06	3.72E-06

FRA Crossing ID	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
069917N	5.81E-06	8.37E-07	3.06E-06	6.71E-08	5.26E-07	1.80E-06	4.53E-07	2.51E-06	3.19E-06
069921D	2.03E-06	2.92E-07	1.07E-06	2.34E-08	1.83E-07	6.27E-07	1.58E-07	8.76E-07	1.11E-06
069922K	2.03E-06	2.93E-07	1.07E-06	2.34E-08	1.84E-07	6.29E-07	1.58E-07	8.79E-07	1.11E-06
306912J	1.72E-05	2.48E-06	9.07E-06	1.99E-07	1.56E-06	5.33E-06	1.34E-06	7.45E-06	9.44E-06
306915E	2.11E-05	3.04E-06	1.11E-05	2.44E-07	1.91E-06	6.54E-06	1.65E-06	9.13E-06	1.16E-05
306916L	2.11E-05	3.04E-06	1.11E-05	2.44E-07	1.91E-06	6.54E-06	1.65E-06	9.13E-06	1.16E-05
306917T	4.84E-05	6.97E-06	2.55E-05	5.58E-07	4.38E-06	1.50E-05	3.78E-06	2.09E-05	2.65E-05
306918A	4.84E-05	6.97E-06	2.55E-05	5.58E-07	4.38E-06	1.50E-05	3.78E-06	2.09E-05	2.65E-05
306924D	2.27E-05	3.28E-06	1.20E-05	2.62E-07	2.06E-06	7.04E-06	1.77E-06	9.84E-06	1.25E-05
306926S	3.02E-05	4.34E-06	1.59E-05	3.48E-07	2.73E-06	9.34E-06	2.35E-06	1.30E-05	1.65E-05
306928F	1.50E-05	2.17E-06	7.92E-06	1.74E-07	1.36E-06	4.66E-06	1.17E-06	6.51E-06	8.25E-06
093864D	4.37E-06	6.30E-07	2.30E-06	5.04E-08	3.95E-07	1.35E-06	3.41E-07	1.89E-06	2.40E-06
910786F	3.10E-05	4.47E-06	1.63E-05	3.58E-07	2.80E-06	9.60E-06	2.42E-06	1.34E-05	1.70E-05
086445N	2.72E-05	3.92E-06	1.43E-05	3.14E-07	2.46E-06	8.43E-06	2.12E-06	1.18E-05	1.49E-05
069971G	1.27E-04	1.82E-05	6.67E-05	1.46E-06	1.14E-05	3.92E-05	9.88E-06	5.48E-05	6.94E-05
079843B	6.17E-04	8.89E-05	3.25E-04	7.12E-06	5.58E-05	1.91E-04	4.81E-05	2.67E-04	3.38E-04
391938P	2.47E-05	3.56E-06	1.30E-05	2.85E-07	2.23E-06	7.65E-06	1.93E-06	1.07E-05	1.35E-05
391872S	1.69E-06	2.44E-07	8.90E-07	1.95E-08	1.53E-07	5.23E-07	1.32E-07	7.31E-07	9.26E-07
070076W	6.51E-05	9.37E-06	3.43E-05	7.51E-07	5.88E-06	2.02E-05	5.08E-06	2.81E-05	3.57E-05
070083G	4.75E-06	6.85E-07	2.50E-06	5.48E-08	4.30E-07	1.47E-06	3.71E-07	2.05E-06	2.60E-06
070084N	9.99E-05	1.44E-05	5.26E-05	1.15E-06	9.03E-06	3.09E-05	7.79E-06	4.32E-05	5.48E-05
070085V	1.72E-05	2.48E-06	9.08E-06	1.99E-07	1.56E-06	5.34E-06	1.35E-06	7.46E-06	9.45E-06
175119F	7.98E-05	1.15E-05	4.21E-05	9.21E-07	7.22E-06	2.47E-05	6.23E-06	3.45E-05	4.38E-05
175780L	1.39E-04	2.00E-05	7.32E-05	1.60E-06	1.26E-05	4.31E-05	1.08E-05	6.01E-05	7.62E-05
<i>070049A</i>	<i>2.11E-05</i>	<i>3.05E-06</i>	<i>1.11E-05</i>	<i>2.44E-07</i>	<i>1.91E-06</i>	<i>6.55E-06</i>	<i>1.65E-06</i>	<i>9.14E-06</i>	<i>1.16E-05</i>
069620H	8.53E-06	1.23E-06	4.49E-06	9.84E-08	7.71E-07	2.64E-06	6.65E-07	3.69E-06	4.67E-06
306928F	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Emissions	8.86E-03	1.28E-03	4.67E-03	1.02E-04	8.01E-04	2.75E-03	6.92E-04	3.83E-03	4.86E-03

¹ Crossings in italics represent crossings in a moderate 8-hour ozone nonattainment area around Chicago, IL.

Table V.2-69. Grade Crossing Emissions, Segment 24 from N La Crosse, WI to Aurora, IL, Downline Analysis, Year 2023, Greenhouse Gas Emissions

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
069928B	2.21E-02	1.87E-06	5.84E-07	2.23E-02
069929H	1.84E-01	1.56E-05	4.88E-06	1.86E-01
069936T	1.67E-01	1.42E-05	4.43E-06	1.69E-01
069937A	1.79E-01	1.51E-05	4.73E-06	1.80E-01
069939N	2.13E-01	1.80E-05	5.64E-06	2.15E-01
069941P	8.31E-02	7.04E-06	2.20E-06	8.39E-02
069944K	2.07E-01	1.75E-05	5.48E-06	2.09E-01
069947F	1.39E-01	1.18E-05	3.69E-06	1.40E-01
069949U	1.79E-01	1.51E-05	4.73E-06	1.80E-01
069950N	2.21E-02	1.87E-06	5.84E-07	2.23E-02
069953J	1.18E-01	9.97E-06	3.12E-06	1.19E-01
069954R	1.17E-01	9.88E-06	3.09E-06	1.18E-01
069957L	1.05E-01	8.93E-06	2.79E-06	1.06E-01
069960U	8.40E-01	7.11E-05	2.23E-05	8.48E-01
069963P	8.40E-01	7.11E-05	2.23E-05	8.48E-01
069964W	7.71E-01	6.53E-05	2.04E-05	7.79E-01
069965D	4.51E+00	3.82E-04	1.20E-04	4.56E+00
069966K	2.87E+00	2.43E-04	7.60E-05	2.90E+00
069967S	3.28E+00	2.78E-04	8.70E-05	3.31E+00
069968Y	4.97E-01	4.21E-05	1.32E-05	5.02E-01
069969F	7.88E-01	6.67E-05	2.09E-05	7.96E-01
069970A	6.21E-01	5.26E-05	1.64E-05	6.27E-01
069972N	4.97E-01	4.21E-05	1.32E-05	5.02E-01
079847D	9.39E-02	7.95E-06	2.49E-06	9.48E-02
079848K	2.31E-01	1.96E-05	6.12E-06	2.33E-01
079857J	1.50E+00	1.27E-04	3.96E-05	1.51E+00
079859X	2.85E+00	2.41E-04	7.55E-05	2.88E+00
079860S	2.67E-02	2.26E-06	7.06E-07	2.69E-02
079862F	1.91E+01	1.62E-03	5.07E-04	1.93E+01
079868W	1.94E-01	1.64E-05	5.15E-06	1.96E-01
079870X	2.08E-01	1.76E-05	5.50E-06	2.10E-01
079878C	1.57E-01	1.33E-05	4.17E-06	1.59E-01
079879J	4.58E-01	3.88E-05	1.21E-05	4.63E-01
079883Y	2.19E+00	1.85E-04	5.80E-05	2.21E+00
079884F	5.82E+00	4.93E-04	1.54E-04	5.88E+00
079886U	2.55E+00	2.16E-04	6.77E-05	2.58E+00
093705W	2.13E-01	1.80E-05	5.63E-06	2.15E-01
093864D	7.14E-02	6.05E-06	1.89E-06	7.21E-02
098033K	2.26E+00	1.92E-04	5.99E-05	2.28E+00
391942E	4.03E-01	3.42E-05	1.07E-05	4.07E-01
069716X	2.00E+01	1.69E-03	5.30E-04	2.02E+01
069717E	1.92E+00	1.62E-04	5.08E-05	1.94E+00
069718L	2.12E+00	1.79E-04	5.61E-05	2.14E+00
069719T	1.20E+00	1.02E-04	3.18E-05	1.21E+00

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
069720M	6.67E-01	5.65E-05	1.77E-05	6.74E-01
069721U	1.12E+00	9.50E-05	2.97E-05	1.13E+00
069725W	5.64E-01	4.78E-05	1.50E-05	5.70E-01
069728S	6.59E-01	5.58E-05	1.75E-05	6.66E-01
069734V	6.59E-01	5.58E-05	1.75E-05	6.66E-01
069736J	9.50E-02	8.05E-06	2.52E-06	9.60E-02
069737R	5.40E-01	4.57E-05	1.43E-05	5.45E-01
069739E	7.35E-01	6.22E-05	1.95E-05	7.42E-01
069741F	2.47E-01	2.09E-05	6.55E-06	2.50E-01
069742M	4.39E-01	3.72E-05	1.16E-05	4.43E-01
069744B	1.71E+00	1.44E-04	4.52E-05	1.72E+00
069748D	6.09E-02	5.16E-06	1.61E-06	6.15E-02
069752T	1.76E-01	1.49E-05	4.65E-06	1.77E-01
069753A	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069754G	1.41E+00	1.19E-04	3.73E-05	1.42E+00
069755N	3.45E-01	2.92E-05	9.15E-06	3.49E-01
069757C	3.45E-01	2.92E-05	9.15E-06	3.49E-01
069758J	2.82E-01	2.38E-05	7.46E-06	2.84E-01
069760K	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069761S	5.00E-02	4.23E-06	1.32E-06	5.05E-02
069763F	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069764M	1.56E-01	1.32E-05	4.14E-06	1.58E-01
069765U	5.04E-01	4.27E-05	1.34E-05	5.09E-01
069767H	1.20E+00	1.02E-04	3.18E-05	1.21E+00
069768P	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069770R	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069771X	5.04E-01	4.27E-05	1.34E-05	5.09E-01
069772E	3.31E-02	2.81E-06	8.78E-07	3.35E-02
069773L	5.04E-01	4.27E-05	1.34E-05	5.09E-01
069775A	4.36E-01	3.69E-05	1.15E-05	4.40E-01
069776G	5.00E-02	4.23E-06	1.32E-06	5.05E-02
069779C	5.00E-02	4.23E-06	1.32E-06	5.05E-02
069780W	6.09E-02	5.16E-06	1.61E-06	6.15E-02
069782K	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069785F	3.31E-02	2.81E-06	8.78E-07	3.35E-02
069787U	9.63E-01	8.16E-05	2.55E-05	9.73E-01
069790C	3.72E-01	3.15E-05	9.85E-06	3.76E-01
069791J	4.98E-02	4.21E-06	1.32E-06	5.03E-02
069794E	8.42E-01	7.14E-05	2.23E-05	8.51E-01
069796T	6.59E-01	5.58E-05	1.75E-05	6.66E-01
069797A	2.56E+00	2.17E-04	6.79E-05	2.59E+00
069798G	2.71E+00	2.30E-04	7.19E-05	2.74E+00
069799N	3.59E+00	3.04E-04	9.50E-05	3.62E+00
069801M	6.67E-01	5.65E-05	1.77E-05	6.73E-01
069803B	2.20E+00	1.86E-04	5.83E-05	2.22E+00
069805P	2.88E+00	2.44E-04	7.63E-05	2.91E+00

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
069806W	2.80E-01	2.37E-05	7.42E-06	2.83E-01
069808K	2.40E-01	2.03E-05	6.36E-06	2.42E-01
069810L	3.10E-01	2.63E-05	8.22E-06	3.13E-01
069811T	1.39E-01	1.18E-05	3.69E-06	1.40E-01
069812A	4.99E-02	4.23E-06	1.32E-06	5.04E-02
069813G	1.23E-01	1.05E-05	3.27E-06	1.25E-01
069814N	3.32E-02	2.81E-06	8.80E-07	3.35E-02
069815V	6.59E-01	5.58E-05	1.75E-05	6.65E-01
069818R	1.73E-01	1.46E-05	4.58E-06	1.75E-01
069819X	4.99E-02	4.23E-06	1.32E-06	5.04E-02
069822F	1.75E-01	1.49E-05	4.65E-06	1.77E-01
069823M	1.12E-01	9.49E-06	2.97E-06	1.13E-01
069827P	2.82E-01	2.39E-05	7.47E-06	2.85E-01
069831E	7.81E-02	6.62E-06	2.07E-06	7.89E-02
069834A	6.12E-02	5.19E-06	1.62E-06	6.18E-02
069835G	6.30E-01	5.34E-05	1.67E-05	6.36E-01
069836N	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069837V	1.10E-02	9.35E-07	2.93E-07	1.12E-02
069838C	5.00E-02	4.24E-06	1.33E-06	5.05E-02
069843Y	5.65E-01	4.78E-05	1.50E-05	5.70E-01
069848H	6.00E-01	5.08E-05	1.59E-05	6.06E-01
069851R	3.32E-02	2.82E-06	8.81E-07	3.36E-02
069853E	6.09E-02	5.15E-06	1.61E-06	6.15E-02
069857G	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069868U	1.34E+00	1.13E-04	3.54E-05	1.35E+00
069869B	1.73E-01	1.47E-05	4.59E-06	1.75E-01
069876L	4.98E-02	4.22E-06	1.32E-06	5.03E-02
069877T	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069880B	8.32E-02	7.05E-06	2.21E-06	8.41E-02
069881H	4.07E-01	3.45E-05	1.08E-05	4.11E-01
069882P	1.22E-01	1.04E-05	3.24E-06	1.24E-01
069883W	5.00E-02	4.24E-06	1.33E-06	5.05E-02
069887Y	4.98E-02	4.22E-06	1.32E-06	5.03E-02
069895R	3.32E-02	2.82E-06	8.81E-07	3.36E-02
069898L	1.66E-02	1.40E-06	4.39E-07	1.67E-02
069904M	2.52E-01	2.14E-05	6.69E-06	2.55E-01
069907H	3.10E-01	2.63E-05	8.21E-06	3.13E-01
069908P	3.10E-01	2.63E-05	8.21E-06	3.13E-01
069910R	7.75E-02	6.56E-06	2.05E-06	7.82E-02
069913L	1.11E-01	9.40E-06	2.94E-06	1.12E-01
069917N	9.49E-02	8.04E-06	2.51E-06	9.59E-02
069921D	3.31E-02	2.80E-06	8.77E-07	3.34E-02
069922K	3.32E-02	2.81E-06	8.79E-07	3.35E-02
306912J	2.81E-01	2.38E-05	7.45E-06	2.84E-01
306915E	3.45E-01	2.92E-05	9.13E-06	3.48E-01
306916L	3.45E-01	2.92E-05	9.13E-06	3.48E-01

FRA Crossing ID	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO ₂ e
306917T	7.90E-01	6.69E-05	2.09E-05	7.98E-01
306918A	7.90E-01	6.69E-05	2.09E-05	7.98E-01
306924D	3.71E-01	3.15E-05	9.84E-06	3.75E-01
306926S	4.92E-01	4.17E-05	1.30E-05	4.97E-01
306928F	2.46E-01	2.08E-05	6.51E-06	2.48E-01
093864D	7.14E-02	6.05E-06	1.89E-06	7.21E-02
910786F	5.06E-01	4.29E-05	1.34E-05	5.11E-01
086445N	4.44E-01	3.76E-05	1.18E-05	4.49E-01
069971G	2.07E+00	1.75E-04	5.48E-05	2.09E+00
079843B	1.01E+01	8.53E-04	2.67E-04	1.02E+01
391938P	4.03E-01	3.42E-05	1.07E-05	4.07E-01
391872S	2.76E-02	2.34E-06	7.31E-07	2.79E-02
070076W	1.06E+00	9.00E-05	2.82E-05	1.07E+00
070083G	7.76E-02	6.57E-06	2.06E-06	7.84E-02
070084N	1.63E+00	1.38E-04	4.32E-05	1.65E+00
070085V	2.82E-01	2.38E-05	7.46E-06	2.84E-01
175119F	1.30E+00	1.10E-04	3.45E-05	1.32E+00
175780L	2.27E+00	1.92E-04	6.02E-05	2.29E+00
<i>070049A</i>	<i>3.45E-01</i>	<i>2.92E-05</i>	<i>9.15E-06</i>	<i>3.49E-01</i>
069620H	1.39E-01	1.18E-05	3.69E-06	1.41E-01
306928F	0.00E+00	0.00E+00	0.00E+00	0.00E+00
Total Emissions	1.45E+02	1.23E-02	3.84E-03	1.46E+02

¹ Crossings in italics represent crossings in a moderate 8-hour ozone nonattainment area around Chicago, IL

Table V.2-70. Summary of Segment Grade Crossing Emissions, Criteria Pollutants

Segments ¹	Criteria Pollutants (tons/year)						
	CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
Segment 3, Colstrip, MT – Nichols, MT, Low Production	0.01798	0.00279	0.00000	0.00008	0.00007	0.00002	0.00092
Segment 3, Colstrip, MT – Nichols, MT, Medium Production	0.01241	0.00192	0.00000	0.00005	0.00005	0.00001	0.00064
Segment 3, Colstrip, MT – Nichols, MT, High Production	0.01798	0.00279	0.00000	0.00008	0.00007	0.00002	0.00092
Segment 4, Northern, Nichols, MT to Miles City, MT	0.07096	0.01100	0.00000	0.00031	0.00029	0.00006	0.00364
Segment 4, Southern, Nichols, MT to Miles City, MT	0.06113	0.00948	0.00000	0.00027	0.00025	0.00005	0.00314
Segment 5, Nichols, MT to Huntley, MT	0.03680	0.00571	0.00000	0.00016	0.00015	0.00003	0.00189
Segment 6, Spring Creek, MT to Dutch, WY	0.00292	0.00045	0.00000	0.00001	0.00001	0.00000	0.00015
Segment 7, Dutch, WY to Huntley, MT	0.44111	0.06840	0.00002	0.00191	0.00182	0.00038	0.02263
Segment 9, Northern, Dutch, WY to Donkey Creek, WY	0.30644	0.04752	0.00002	0.00133	0.00126	0.00026	0.01572
Segment 9, Southern, Dutch, WY to Donkey Creek, WY	0.36134	0.05603	0.00002	0.00157	0.00149	0.00031	0.01853
Segment 10, Donkey Creek, WY	0.22532	0.03494	0.00001	0.00098	0.00093	0.00019	0.01156
Segment 11, Edgemont, SD to Crawford, NE	0.23709	0.03676	0.00001	0.00103	0.00098	0.00020	0.01216
Segment 12, Crawford, NE to Alliance, NE	0.60178	0.09331	0.00003	0.00261	0.00248	0.00051	0.03087
Segment 16, Northern, Miles City, MT to Glendive, MT	0.11760	0.01823	0.00001	0.00051	0.00048	0.00010	0.00603
Segment 16, Southern, Miles City, MT to Glendive, MT	0.10130	0.01571	0.00001	0.00044	0.00042	0.00009	0.00520
Segment 17, Northern, Glendive, MT to Mandan, ND	1.11211	0.17244	0.00006	0.00482	0.00458	0.00095	0.05704
Segment 17, Southern, Glendive, MT to Mandan, ND	0.92676	0.14370	0.00005	0.00402	0.00382	0.00079	0.04754
Segment 18, Northern, Mandan, ND to Fargo, ND	2.44988	0.37987	0.00012	0.01062	0.01009	0.00210	0.12566
Segment 18, Southern, Mandan, ND to Fargo, ND	2.02008	0.31322	0.00010	0.00876	0.00832	0.00173	0.10362
Segment 20, Northern, Fargo, ND to Willmar, MN	0.97745	0.15156	0.00005	0.00424	0.00403	0.00084	0.05014
Segment 20, Southern, Fargo, ND to Willmar, MN	0.72022	0.11167	0.00004	0.00312	0.00297	0.00062	0.03694
Segment 21, Willmar, MN to St Paul, MN	1.07541	0.16675	0.00005	0.00466	0.00443	0.00092	0.05516
Segment 23, St Paul, MN to N La Crosse, WI	1.91378	0.29674	0.00010	0.00830	0.00788	0.00164	0.09817
Segment 24, N La Crosse, WI to Aurora, IL	2.38596	0.36995	0.00012	0.01035	0.00983	0.00204	0.12239

¹ These values represent the maximum increase across different IPM scenarios and analysis years

² Incremental change in LOS due to TRR trains only

³ Zero values displayed are positive quantities rounded down (sum reflects actual values)

Table V.2-71. Summary of Segment Grade Crossing Emissions, Hazardous Pollutants

Segments ¹	Hazardous Pollutants (tons/year)								
	Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
Segment 3, Colstrip, MT – Nichols, MT, Low Production	0.00006	0.00001	0.00003	0.00000	0.00001	0.00002	0.00000	0.00003	0.00004
Segment 3, Colstrip, MT – Nichols, MT, Med Production	0.00004	0.00001	0.00002	0.00000	0.00000	0.00001	0.00000	0.00002	0.00002
Segment 3, Colstrip, MT – Nichols, MT, High Production	0.00006	0.00001	0.00003	0.00000	0.00001	0.00002	0.00000	0.00003	0.00004
Segment 4, Northern, Nichols, MT to Miles City, MT	0.00025	0.00004	0.00013	0.00000	0.00002	0.00008	0.00002	0.00011	0.00014
Segment 4, Southern, Nichols, MT to Miles City, MT	0.00022	0.00003	0.00011	0.00000	0.00002	0.00007	0.00002	0.00009	0.00012
Segment 5, Nichols, MT to Huntley, MT	0.00013	0.00002	0.00007	0.00000	0.00001	0.00004	0.00001	0.00006	0.00007
Segment 6, Spring Creek, MT to Dutch, WY	0.00001	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00001
Segment 7, Dutch, WY to Huntley, MT	0.00157	0.00023	0.00083	0.00002	0.00014	0.00049	0.00012	0.00068	0.00086
Segment 9, Northern, Dutch, WY to Donkey Creek, WY	0.00109	0.00016	0.00057	0.00001	0.00010	0.00034	0.00009	0.00047	0.00060
Segment 9, Southern, Dutch, WY to Donkey Creek, WY	0.00129	0.00019	0.00068	0.00001	0.00012	0.00040	0.00010	0.00056	0.00070
Segment 10, Donkey Creek, WY	0.00080	0.00012	0.00042	0.00001	0.00007	0.00025	0.00006	0.00035	0.00044
Segment 11, Edgemont, SD to Crawford, NE	0.00084	0.00012	0.00044	0.00001	0.00008	0.00026	0.00007	0.00036	0.00046
Segment 12, Crawford, NE to Alliance, NE	0.00214	0.00031	0.00113	0.00002	0.00019	0.00066	0.00017	0.00093	0.00117
Segment 16, Northern, Miles City, MT to Glendive, MT	0.00042	0.00006	0.00022	0.00000	0.00004	0.00013	0.00003	0.00018	0.00023
Segment 16, Southern, Miles City, MT to Glendive, MT	0.00036	0.00005	0.00019	0.00000	0.00003	0.00011	0.00003	0.00016	0.00020
Segment 17, Northern, Glendive, MT to Mandan, ND	0.00396	0.00057	0.00208	0.00005	0.00036	0.00123	0.00031	0.00171	0.00217
Segment 17, Southern, Glendive, MT to Mandan, ND	0.00330	0.00047	0.00174	0.00004	0.00030	0.00102	0.00026	0.00143	0.00181
Segment 18, Northern, Mandan, ND to Fargo, ND	0.00871	0.00126	0.00459	0.00010	0.00079	0.00270	0.00068	0.00377	0.00478
Segment 18, Southern, Mandan, ND to Fargo, ND	0.00718	0.00104	0.00378	0.00008	0.00065	0.00223	0.00056	0.00311	0.00394
Segment 20, Northern, Fargo, ND to Willmar, MN	0.00348	0.00050	0.00183	0.00004	0.00031	0.00108	0.00027	0.00150	0.00191
Segment 20, Southern, Fargo, ND to Willmar, MN	0.00256	0.00037	0.00135	0.00003	0.00023	0.00079	0.00020	0.00111	0.00140
Segment 21, Willmar, MN to St Paul, MN	0.00382	0.00055	0.00201	0.00004	0.00035	0.00118	0.00030	0.00165	0.00210
Segment 23, St Paul, MN to N La Crosse, WI	0.00681	0.00098	0.00359	0.00008	0.00062	0.00211	0.00053	0.00294	0.00373
Segment 24, N La Crosse, WI to Aurora, IL	0.00849	0.00122	0.00447	0.00010	0.00077	0.00263	0.00066	0.00367	0.00465

¹ These values represent the maximum increase across different IPM scenarios and analysis years

² Incremental change in Level of Service due to TRR trains only

³ Zero values displayed are positive quantities rounded down (sum reflects actual values)

Table V.2-72. Summary of Segment Grade Crossing Emissions, Greenhouse Gas Emissions

Segments ¹	Greenhouse Gas Emissions (tons/year)			
	CO ₂	CH ₄	N ₂ O	CO _{2e}
Segment 3, Colstrip, MT – Nichols, MT, Low Production	1.04442	0.00009	0.00003	1.05488
Segment 3, Colstrip, MT – Nichols, MT, Medium Production	0.72046	0.00006	0.00002	0.72767
Segment 3, Colstrip, MT – Nichols, MT, High Production	1.04442	0.00009	0.00003	1.05488
Segment 4, Northern, Nichols, MT to Miles City, MT	4.12118	0.00035	0.00011	4.16245
Segment 4, Southern, Nichols, MT to Miles City, MT	3.54992	0.00030	0.00009	3.58547
Segment 5, Nichols, MT to Huntley, MT	2.13708	0.00018	0.00006	2.15848
Segment 6, Spring Creek, MT to Dutch, WY	0.16940	0.00001	0.00000	0.17109
Segment 7, Dutch, WY to Huntley, MT	25.61780	0.00217	0.00068	25.87435
Segment 9, Northern, Dutch, WY to Donkey Creek, WY	17.79699	0.00151	0.00047	17.97522
Segment 9, Southern, Dutch, WY to Donkey Creek, WY	20.98503	0.00178	0.00056	21.19519
Segment 10, Donkey Creek, WY	13.08567	0.00111	0.00035	13.21671
Segment 11, Edgemont, SD to Crawford, NE	13.76904	0.00117	0.00036	13.90693
Segment 12, Crawford, NE to Alliance, NE	34.94922	0.00296	0.00093	35.29922
Segment 16, Northern, Miles City, MT to Glendive, MT	6.82988	0.00058	0.00018	6.89828
Segment 16, Southern, Miles City, MT to Glendive, MT	5.88316	0.00050	0.00016	5.94208
Segment 17, Northern, Glendive, MT to Mandan, ND	64.58691	0.00547	0.00171	65.23371
Segment 17, Southern, Glendive, MT to Mandan, ND	53.82242	0.00456	0.00143	54.36142
Segment 18, Northern, Mandan, ND to Fargo, ND	142.27940	0.01205	0.00377	143.70425
Segment 18, Southern, Mandan, ND to Fargo, ND	117.31810	0.00994	0.00311	118.49298
Segment 20, Northern, Fargo, ND to Willmar, MN	56.76631	0.00481	0.00150	57.33479
Segment 20, Southern, Fargo, ND to Willmar, MN	41.82780	0.00354	0.00111	42.24669
Segment 21, Willmar, MN to St Paul, MN	62.45542	0.00529	0.00166	63.08087
Segment 23, St Paul, MN to N La Crosse, WI	111.14482	0.00941	0.00295	112.25788
Segment 24, N La Crosse, WI to Aurora, IL	138.56742	0.01174	0.00367	139.95509

¹ These values represent the maximum increase across different IPM scenarios and analysis years
² Incremental change in Level of Service due to TRR trains only
³ Zero values displayed are positive quantities rounded down (sum reflects actual values)

Table V.2-73. Construction Supply Train Emissions, Downline¹, Criteria Pollutants

Alternatives	Build Material	Length of Trip (one-way – miles)	Criteria Pollutants Emission Factors (tons/day)						
			CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
Colstrip	Rail	359.00	0.85	6.56	0.00	0.15	0.14	0.00	0.41
Colstrip	Tie	359.00	0.62	4.77	0.00	0.11	0.10	0.00	0.29
Colstrip	Ballast	359.00	13.59	105.04	0.00	2.35	2.27	0.05	6.48
Colstrip East	Rail	360.55	2.55	19.73	0.00	0.44	0.43	0.01	1.22
Colstrip East	Tie	360.55	1.46	11.25	0.00	0.25	0.24	0.01	0.69
Colstrip East	Ballast	360.55	28.76	222.31	0.00	4.96	4.81	0.10	13.72
Tongue River	Rail	386.85	2.80	21.66	0.00	0.48	0.47	0.01	1.34
Tongue River	Tie	386.85	1.86	14.36	0.00	0.32	0.31	0.01	0.89
Tongue River	Ballast	386.85	41.82	323.28	0.00	7.22	7.00	0.14	19.95
Tongue River East	Rail	388.15	1.95	15.11	0.00	0.34	0.33	0.01	0.93
Tongue River East	Tie	388.15	1.43	11.02	0.00	0.25	0.24	0.00	0.68
Tongue River East	Ballast	388.15	34.96	270.23	0.00	6.03	5.85	0.12	16.68
Tongue River Road	Rail	386.85	1.83	14.15	0.00	0.32	0.31	0.01	0.87
Tongue River Road	Tie	386.85	1.22	9.42	0.00	0.21	0.20	0.00	0.58
Tongue River Road	Ballast	386.85	29.05	224.55	0.00	5.01	4.86	0.10	13.86
Tongue River Road East	Rail	387.95	3.67	28.34	0.00	0.63	0.61	0.01	1.75
Tongue River Road East	Tie	387.95	2.12	16.40	0.00	0.37	0.36	0.01	1.01
Tongue River Road East	Ballast	387.95	45.40	350.94	0.00	7.83	7.60	0.16	21.66
Moon Creek	Rail	386.05	3.94	30.42	0.00	0.68	0.66	0.01	1.88
Moon Creek	Tie	386.05	2.56	19.75	0.00	0.44	0.43	0.01	1.22
Moon Creek	Ballast	386.05	59.48	459.76	0.00	10.26	9.96	0.21	28.37
Moon Creek East	Rail	387.35	2.10	16.23	0.00	0.36	0.35	0.01	1.00
Moon Creek East	Tie	387.35	1.65	12.77	0.00	0.29	0.28	0.01	0.79
Moon Creek East	Ballast	387.35	42.88	331.41	0.00	7.40	7.18	0.15	20.45
Decker	Rail	362.55	1.83	14.15	0.00	0.32	0.31	0.01	0.87

Alternatives	Build Material	Length of Trip (one-way – miles)	Criteria Pollutants Emission Factors (tons/day)						
			CO	NO _x	Pb	PM10	PM2.5	SO ₂	VOC
Decker	Tie	362.55	1.22	9.42	0.00	0.21	0.20	0.00	0.58
Decker	Ballast	362.55	28.58	220.90	0.00	4.93	4.78	0.10	13.63
Decker East	Rail	361.80	3.66	28.32	0.00	0.63	0.61	0.01	1.75
Decker East	Tie	361.80	2.12	16.40	0.00	0.37	0.36	0.01	1.01
Decker East	Ballast	361.80	44.91	347.16	0.00	7.75	7.52	0.15	21.42

¹ Assumed that the further location downline for equipment would be the Pipestone Quarry in Whitehall, MT

Table V.2-74. Construction Supply Train Emissions, Downline¹, Hazardous Pollutants

Alternatives	Build Material	Length of Trip (one-way – miles)	Hazardous Pollutants Emission Factors (tons/day)								
			Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
Colstrip	Rail	359.00	0.01	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00
Colstrip	Tie	359.00	0.01	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Colstrip	Ballast	359.00	0.23	0.04	0.05	0.02	0.02	0.51	0.01	0.03	0.02
Colstrip East	Rail	360.55	0.04	0.01	0.01	0.00	0.00	0.10	0.00	0.01	0.00
Colstrip East	Tie	360.55	0.02	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00
Colstrip East	Ballast	360.55	0.49	0.09	0.11	0.04	0.04	1.07	0.03	0.06	0.05
Tongue River	Rail	386.85	0.05	0.01	0.01	0.00	0.00	0.10	0.00	0.01	0.01
Tongue River	Tie	386.85	0.03	0.01	0.01	0.00	0.00	0.07	0.00	0.00	0.00
Tongue River	Ballast	386.85	0.71	0.13	0.16	0.06	0.05	1.56	0.04	0.09	0.08
Tongue River East	Rail	388.15	0.03	0.01	0.01	0.00	0.00	0.07	0.00	0.00	0.00
Tongue River East	Tie	388.15	0.02	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00
Tongue River East	Ballast	388.15	0.59	0.11	0.13	0.05	0.04	1.30	0.03	0.07	0.06
Tongue River Road	Rail	386.85	0.03	0.01	0.01	0.00	0.00	0.07	0.00	0.00	0.00
Tongue River Road	Tie	386.85	0.02	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00
Tongue River Road	Ballast	386.85	0.49	0.09	0.11	0.04	0.04	1.08	0.03	0.06	0.05
Tongue River Road East	Rail	387.95	0.06	0.01	0.01	0.01	0.00	0.14	0.00	0.01	0.01
Tongue River Road East	Tie	387.95	0.04	0.01	0.01	0.00	0.00	0.08	0.00	0.00	0.00
Tongue River Road East	Ballast	387.95	0.77	0.14	0.17	0.06	0.06	1.69	0.04	0.09	0.08
Moon Creek	Rail	386.05	0.07	0.01	0.01	0.01	0.00	0.15	0.00	0.01	0.01
Moon Creek	Tie	386.05	0.04	0.01	0.01	0.00	0.00	0.10	0.00	0.01	0.00
Moon Creek	Ballast	386.05	1.01	0.19	0.22	0.08	0.08	2.22	0.06	0.12	0.11
Moon Creek East	Rail	387.35	0.04	0.01	0.01	0.00	0.00	0.08	0.00	0.00	0.00

Alternatives	Build Material	Length of Trip (one-way – miles)	Hazardous Pollutants Emission Factors (tons/day)								
			Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	Ethylbenzene	Formaldehyde	n-Hexane	Toluene	Xylene
Moon Creek East	Tie	387.35	0.03	0.01	0.01	0.00	0.00	0.06	0.00	0.00	0.00
Moon Creek East	Ballast	387.35	0.73	0.14	0.16	0.06	0.05	1.60	0.04	0.09	0.08
Decker	Rail	362.55	0.03	0.01	0.01	0.00	0.00	0.07	0.00	0.00	0.00
Decker	Tie	362.55	0.02	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.00
Decker	Ballast	362.55	0.48	0.09	0.11	0.04	0.04	1.07	0.03	0.06	0.05
Decker East	Rail	361.80	0.06	0.01	0.01	0.01	0.00	0.14	0.00	0.01	0.01
Decker East	Tie	361.80	0.04	0.01	0.01	0.00	0.00	0.08	0.00	0.00	0.00
Decker East	Ballast	361.80	0.76	0.14	0.17	0.06	0.06	1.68	0.04	0.09	0.08

¹ Assumed that the further location downline for equipment would be the Pipestone Quarry in Whitehall, MT

Table V.2-75. Construction Supply Train Emissions, Downline¹, Greenhouse Gases

Alternatives	Build Material	Length of Trip (one-way – miles)	Greenhouse Gas Emission Factors (tons/day)			
			CO ₂	CH ₄	N ₂ O	CO ₂ e
Colstrip	Rail	359.00	4,760.39	0.37	0.12	4,804.96
Colstrip	Tie	359.00	3,456.31	0.27	0.09	3,488.67
Colstrip	Ballast	359.00	76,168.49	5.93	1.90	76,881.73
Colstrip East	Rail	360.55	14,309.03	1.11	0.36	14,443.02
Colstrip East	Tie	360.55	8,157.65	0.63	0.20	8,234.04
Colstrip East	Ballast	360.55	161,209.75	12.54	4.01	162,719.32
Tongue River	Rail	386.85	15,708.81	1.22	0.39	15,855.90
Tongue River	Tie	386.85	10,413.69	0.81	0.26	10,511.20
Tongue River	Ballast	386.85	234,427.36	18.24	5.84	236,622.53
Tongue River East	Rail	388.15	10,956.09	0.85	0.27	11,058.68
Tongue River East	Tie	388.15	7,990.80	0.62	0.20	8,065.62
Tongue River East	Ballast	388.15	195,954.63	15.25	4.88	197,789.54
Tongue River Road	Rail	386.85	10,259.37	0.80	0.26	10,355.43
Tongue River Road	Tie	386.85	6,828.13	0.53	0.17	6,892.07
Tongue River Road	Ballast	386.85	162,830.93	12.67	4.05	164,355.68
Tongue River Road East	Rail	387.95	20,549.72	1.60	0.51	20,742.15
Tongue River Road East	Tie	387.95	11,894.01	0.93	0.30	12,005.39
Tongue River Road East	Ballast	387.95	254,485.87	19.80	6.34	256,868.88
Moon Creek	Rail	386.05	22,058.23	1.72	0.55	22,264.79
Moon Creek	Tie	386.05	14,324.98	1.11	0.36	14,459.11
Moon Creek	Ballast	386.05	333,397.63	25.94	8.30	336,519.56
Moon Creek East	Rail	387.35	11,767.87	0.92	0.29	11,878.07
Moon Creek East	Tie	387.35	9,259.09	0.72	0.23	9,345.79
Moon Creek East	Ballast	387.35	240,319.95	18.70	5.98	242,570.30
Decker	Rail	362.55	10,259.37	0.80	0.26	10,355.43
Decker	Tie	362.55	6,828.13	0.53	0.17	6,892.07

Alternatives	Build Material	Length of Trip (one-way – miles)	Greenhouse Gas Emission Factors (tons/day)			
			CO ₂	CH ₄	N ₂ O	CO ₂ e
Decker	Ballast	362.55	160,183.27	12.46	3.99	161,683.23
Decker East	Rail	361.8	20,539.81	1.60	0.51	20,732.15
Decker East	Tie	361.8	11,889.03	0.92	0.30	12,000.35
Decker East	Ballast	361.8	251,741.86	19.59	6.27	254,099.17

¹ Source for ballast would be the Pipestone Quarry in Whitehall, MT. Distance reflects mileage from Pipestone Quarry to beginning of project alternative, plus half the alternative length (represents average travel distance). Distance for other materials is assumed same as for ballast.

Table V.2-76. Estimated Annual Average Downline Operational Emissions: Criteria Pollutants Summary for Maximum Increase in Trains per Day

Rail Segments ^a	Segment Location	Mileage	Max Increase in Trains per Day	Criteria Pollutants (tons/year) ^b					
				CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	VOCs
Segment 3	Colstrip, MT – Nichols, MT	33.41	18.6	133.64	210.83	5.23	5.07	0.48	9.56
Segment 4 – Northern	Nichols, MT – Miles City, MT	51.37	16	198.86	313.72	7.78	7.54	0.72	14.23
Segment 4 – Southern	Nichols, MT – Miles City, MT	51.37	9	111.86	176.47	4.37	4.24	0.40	8.00
Segment 5	Nichols, MT – Huntley, MT	81.90	9	183.98	290.25	7.19	6.98	0.66	13.17
Segment 6	Spring Creek, MT – Dutch, WY	20.03	26.7	145.98	230.30	5.71	5.54	0.53	10.45
Segment 7a	Dutch, WY – Huntley, MT	7.06	9	15.37	24.25	0.60	0.58	0.06	1.10
Segment 7b	Dutch, WY – Huntley, MT	2.77	9	6.02	9.50	0.24	0.23	0.02	0.43
Segment 7c	Dutch, WY – Huntley, MT	128.05	9	278.80	439.84	10.90	10.58	1.00	19.95
Segment 9 – Northern	Dutch, WY – Donkey Creek, WY	104.02	8.9	224.35	543.26	13.61	13.20	0.81	22.98
Segment 9 – Southern	Dutch, WY – Donkey Creek, WY	104.02	15.1	380.64	600.51	14.88	14.44	1.37	27.24
Segment 10	Donkey Creek, WY – Edgemont, SD	110.94	15.4	414.65	654.17	16.21	15.73	1.49	29.67
Segment 11	Edgemont, SD – Crawford, NE	53.76	15.4	204.91	323.26	8.01	7.77	0.74	14.66
Segment 12	Crawford, NE – Alliance, NE	56.45	15.4	210.49	332.08	8.23	7.98	0.76	15.06
Segment 16 – Northern	Miles City, MT – Glendive, MT	78.67	16	304.24	479.97	11.90	11.54	1.10	21.77
Segment 16 – Southern	Miles City, MT – Glendive, MT	78.67	9	171.13	269.98	6.69	6.49	0.62	12.25
Segment 17 – Northern	Glendive, MT – Mandan, ND	207.30	16	1101.60	1737.91	43.08	41.79	3.97	78.83
Segment 17 – Southern	Glendive, MT – Mandan, ND	207.30	9	619.65	977.58	24.23	23.50	2.23	44.34
Segment 18 – Northern	Mandan, ND – Fargo, ND	200.01	16	768.72	1212.75	30.06	29.16	2.77	55.01
Segment 18 – Southern	Mandan, ND – Fargo, ND	200.01	9	432.41	682.17	16.91	16.40	1.56	30.94

Rail Segments ^a	Segment Location	Mileage	Max Increase in Trains per Day	Criteria Pollutants (tons/year) ^b					
				CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	VOCs
Segment 20 – Northern	Fargo, ND – Willmar, MN	158.03	15.8	605.84	955.78	23.69	22.98	2.18	43.36
Segment 20 – Southern	Fargo, ND – Willmar, MN	158.03	8.9	341.26	538.38	13.34	12.94	1.23	24.42
Segment 21a	Willmar, MN – St Paul, MN	40.50	8.2	80.34	275.32	7.49	7.27	0.29	11.96
<i>Segment 21b</i>	Willmar, MN – St Paul, MN	5.97	8.2	11.84	40.57	1.10	1.07	0.04	1.76
Segment 21c	Willmar, MN – St Paul, MN	7.38	8.2	14.63	50.15	1.37	1.32	0.05	2.18
<i>Segment 21d</i>	Willmar, MN – St Paul, MN	39.66	8.2	78.67	269.59	7.34	7.12	0.28	11.71
<i>Segment 23a</i>	St. Paul, MN – N La Crosse, WI	31.64	7.3	55.88	191.49	5.21	5.06	0.20	8.32
Segment 23b	St. Paul, MN – N La Crosse, WI	109.99	7.3	194.25	665.69	18.12	17.58	0.70	28.92
Segment 24a	N La Crosse, WI – Aurora, IL	242.57	7.3	428.38	1468.07	39.96	38.76	1.54	63.78
<i>Segment 24b</i>	N La Crosse, WI – Aurora, IL	14.48	7.3	25.57	87.64	2.39	2.31	0.09	3.81

^a Italicized segments are those located in nonattainment or maintenance areas

^b Values in bold are greater than the General Conformity threshold. The project is not subject to General Conformity but the thresholds can be used as indicators that further analysis may be warranted. Chapter 17, *Downline Impacts*, provides further assessment of segments that have emissions greater than a General Conformity threshold.

Table V.2-77. Estimated Annual Average Downline Operational Emissions: Hazardous Air Pollutants Summary for Maximum Increase in Trains per Day

Rail Segments ¹	Segment Location	Mileage	Max Increase in Trains per Day	Hazardous Pollutants (tons/year)									
				Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	EthylCenene	Formaldehyde	n-Hexane	Lead	Toluene	Xylene
Segment 3	Colstrip, MT – Nichols, MT	33.41	18.6	0.0023	0.0004	0.0003	0.0003	0.0191	0.0049	0.0526	0.0004	0.0306	0.0811
Segment 4 – Northern	Nichols, MT – Miles City, MT	51.37	16	0.0035	0.0007	0.0004	0.0005	0.0285	0.0073	0.0783	0.0007	0.0455	0.1207
Segment 4 – Southern	Nichols, MT – Miles City, MT	51.37	9	0.0035	0.0007	0.0004	0.0005	0.0285	0.0073	0.0783	0.0007	0.0455	0.1207
Segment 5	Nichols, MT – Huntley, MT	81.90	9	0.0032	0.0006	0.0004	0.0004	0.0263	0.0068	0.0724	0.0006	0.0421	0.1117
Segment 6	Spring Creek, MT – Dutch, WY	20.03	26.7	0.0026	0.0005	0.0003	0.0004	0.0209	0.0209	0.0575	0.0005	0.0334	0.0886
Segment 7a	Dutch, WY – Huntley, MT	7.06	9	0.0003	0.0001	0.0000	0.0000	0.0022	0.0006	0.0060	0.0001	0.0035	0.0093
Segment 7b	Dutch, WY – Huntley, MT	2.77	9	0.0001	0.0000	0.0000	0.0000	0.0009	0.0002	0.0024	0.0000	0.0014	0.0037
Segment 7c	Dutch, WY – Huntley, MT	128.05	9	0.0049	0.0009	0.0006	0.0007	0.0399	0.0103	0.1097	0.0009	0.0638	0.1693
Segment 9 – Northern	Dutch, WY – Donkey Creek, WY	104.02	8.9	0.0061	0.0012	0.0007	0.0008	0.0460	0.0129	0.1264	0.0011	0.0735	0.1515
Segment 9 – Southern	Dutch, WY – Donkey Creek, WY	104.02	15.1	0.0061	0.0012	0.0007	0.0008	0.0460	0.0129	0.1264	0.0011	0.0735	0.1515
Segment 10	Donkey Creek, WY – Edgemont, SD	110.94	15.4	0.0073	0.0014	0.0008	0.0010	0.0593	0.0153	0.1632	0.0014	0.0950	0.2518
Segment 11	Edgemont, SD – Crawford, NE	53.76	15.4	0.0036	0.0007	0.0004	0.0005	0.0293	0.0076	0.0806	0.0007	0.0469	0.1244
Segment 12	Crawford, NE – Alliance, NE	56.45	15.4	0.0037	0.0007	0.0004	0.0005	0.0301	0.0078	0.0828	0.0007	0.0482	0.1278
Segment 16 – Northern	Miles City, MT – Glendive, MT	78.67	16	0.0053	0.0010	0.0006	0.0007	0.0435	0.0112	0.1197	0.0010	0.0697	0.1847
Segment 16 –	Miles City, MT –	78.67	9	0.0053	0.0010	0.0006	0.0007	0.0435	0.0112	0.1197	0.0010	0.0697	0.1847

Rail Segments ¹	Segment Location	Mileage	Max Increase in Trains per Day	Hazardous Pollutants (tons/year)									
				Acetaldehyde	Acrolein	Benzene	1,3-Butadiene	EthylCenene	Formaldehyde	n-Hexane	Lead	Toluene	Xylene
Southern	Glendive, MT												
Segment 17 – Northern	Glendive, MT – Mandan, ND	207.30	16	0.0194	0.0037	0.0022	0.0026	0.1577	0.0407	0.4336	0.0036	0.2523	0.6689
Segment 17 – Southern	Glendive, MT – Mandan, ND	207.30	9	0.0194	0.0037	0.0022	0.0026	0.1577	0.0407	0.4336	0.0036	0.2523	0.6689
Segment 18 – Northern	Mandan, ND – Fargo, ND	200.01	16	0.0135	0.0026	0.0016	0.0018	0.1100	0.0284	0.3026	0.0025	0.1760	0.4667
Segment 18 – Southern	Mandan, ND – Fargo, ND	200.01	9	0.0135	0.0026	0.0016	0.0018	0.1100	0.0284	0.3026	0.0025	0.1760	0.4667
Segment 20 – Northern	Fargo, ND – Willmar, MN	158.03	15.8	0.0106	0.0020	0.0012	0.0015	0.0867	0.0224	0.2385	0.0020	0.1387	0.3678
Segment 20 – Southern	Fargo, ND – Willmar, MN	158.03	8.9	0.0106	0.0020	0.0012	0.0015	0.0867	0.0224	0.2385	0.0020	0.1387	0.3678
Segment 21a	Willmar, MN – St Paul, MN	40.50	8.2	0.0034	0.0006	0.0004	0.0005	0.0239	0.0071	0.0658	0.0006	0.0383	0.0657
<i>Segment 21b</i>	Willmar, MN – St Paul, MN	5.97	8.2	0.0005	0.0001	0.0001	0.0001	0.0035	0.0010	0.0097	0.0001	0.0056	0.0097
Segment 21c	Willmar, MN – St Paul, MN	7.38	8.2	0.0006	0.0001	0.0001	0.0001	0.0044	0.0013	0.0120	0.0001	0.0070	0.0120
<i>Segment 21d</i>	Willmar, MN – St Paul, MN	39.66	8.2	0.0033	0.0006	0.0004	0.0005	0.0234	0.0069	0.0644	0.0006	0.0375	0.0643
<i>Segment 23a</i>	St. Paul, MN – N La Crosse, WI	31.64	7.3	0.0023	0.0004	0.0003	0.0003	0.0166	0.0049	0.0458	0.0004	0.0266	0.0457
Segment 23b	St. Paul, MN – N La Crosse, WI	109.99	7.3	0.0081	0.0015	0.0009	0.0011	0.0578	0.0171	0.1591	0.0015	0.0925	0.1589
Segment 24a	N La Crosse, WI – Aurora, IL	242.57	7.3	0.0180	0.0034	0.0021	0.0025	0.1276	0.0378	0.3508	0.0034	0.2041	0.3503
<i>Segment 24b</i>	N La Crosse, WI – Aurora, IL	14.48	7.3	0.0011	0.0002	0.0001	0.0001	0.0076	0.0023	0.0209	0.0002	0.0122	0.0209

¹ Italicized segments are those located in non-attainment areas.

Table V.2-78. Estimated Annual Average Downline Operational Emissions: Greenhouse Gases Summary for Maximum Increase in Trains per Day

Rail Segments ¹	Segment Location	Mileage	Maximum Increase in Trains per Day	Greenhouse Gases (tons/year)			
				CO ₂	CH ₄	N ₂ O	CO ₂ e
Segment 3	Colstrip, MT – Nichols, MT	33.41	18.6	51,486.11	4.01	1.28	51,554.63
Segment 4 – Northern	Nichols, MT – Miles City, MT	51.37	16	76,611.23	5.96	1.91	76,713.19
Segment 4 – Southern	Nichols, MT – Miles City, MT	51.37	9	43,093.82	3.35	1.07	43,151.17
Segment 5	Nichols, MT – Huntley, MT	81.90	9	70,879.38	5.51	1.76	70,973.71
Segment 6	Spring Creek, MT – Dutch, WY	20.03	26.7	56,239.36	4.38	1.40	56,314.21
Segment 7a	Dutch, WY – Huntley, MT	7.06	9	5,921.83	0.46	0.15	5,929.71
Segment 7b	Dutch, WY – Huntley, MT	2.77	9	2,319.93	0.18	0.06	2,323.02
Segment 7c	Dutch, WY – Huntley, MT	128.05	9	107,408.79	8.36	2.67	107,551.74
Segment 9 – Northern	Dutch, WY – Donkey Creek, WY	104.02	8.9	86,432.77	6.72	2.15	86,547.80
Segment 9 – Southern	Dutch, WY – Donkey Creek, WY	104.02	15.1	146,644.36	11.41	3.65	146,839.53
Segment 10	Donkey Creek, WY – Edgemont, SD	110.94	15.4	159,748.42	12.43	3.98	159,961.03
Segment 11	Edgemont, SD – Crawford, NE	53.76	15.4	78,941.27	6.14	1.97	79,046.33
Segment 12	Crawford, NE – Alliance, NE	56.45	15.4	81,094.21	6.31	2.02	81,202.14
Segment 16 – Northern	Miles City, MT – Glendive, MT	78.67	16	117,209.61	9.12	2.92	117,365.60
Segment 16 – Southern	Miles City, MT – Glendive, MT	78.67	9	65,930.41	5.13	1.64	66,018.15
Segment 17 – Northern	Glendive, MT – Mandan, ND	207.30	16	424,400.19	33.02	10.57	424,965.02
Segment 17 – Southern	Glendive, MT – Mandan, ND	207.30	9	238,725.11	18.57	5.94	239,042.82
Segment 18 – Northern	Mandan, ND – Fargo, ND	200.01	16	296,155.58	23.04	7.37	296,549.73
Segment 18 – Southern	Mandan, ND – Fargo, ND	200.01	9	166,587.51	12.96	4.15	166,809.22
Segment 20 – Northern	Fargo, ND – Willmar, MN	158.03	15.8	233,403.33	18.16	5.81	233,713.96

Rail Segments ¹	Segment Location	Mileage	Maximum Increase in Trains per Day	Greenhouse Gases (tons/year)			
				CO ₂	CH ₄	N ₂ O	CO ₂ e
Segment 20 – Southern	Fargo, ND – Willmar, MN	158.03	8.9	131,474.03	10.23	3.27	131,649.00
Segment 21a	Willmar, MN – St Paul, MN	40.50	8.2	30,951.15	2.41	0.77	30,992.35
<i>Segment 21b</i>	Willmar, MN – St Paul, MN	5.97	8.2	4,561.11	0.35	0.11	4,567.18
Segment 21c	Willmar, MN – St Paul, MN	7.38	8.2	5,637.92	0.44	0.14	5,645.42
<i>Segment 21d</i>	Willmar, MN – St Paul, MN	39.66	8.2	30,306.44	2.36	0.75	30,346.78
<i>Segment 23a</i>	St. Paul, MN – N La Crosse, WI	31.64	7.3	21,526.56	1.67	0.54	21,555.21
Segment 23b	St. Paul, MN – N La Crosse, WI	109.99	7.3	74,835.35	5.82	1.86	74,934.95
Segment 24a	N La Crosse, WI – Aurora, IL	242.57	7.3	165,038.29	12.84	4.11	165,257.94
<i>Segment 24b</i>	N La Crosse, WI – Aurora, IL	14.48	7.3	9,851.96	0.77	0.25	9,865.07
¹ Italicized segments are those located in nonattainment or maintenance areas							

Table V.2-79. Estimated Annual Average Downline Operational Emissions: Nonattainment and Maintenance Areas Summary for Maximum Increase in Trains per Day

Nonattainment Area and Classification	Segment Numbers	Pollutant	General Conformity Threshold	Criteria Pollutants (tons/year) ^a					VO Cs
				CO	NO _x	PM10	PM2.5	SO ₂	
Sheridan, WY, Moderate	7b	PM10	100	--	--	0.24	--	--	--
Minneapolis-St. Paul, MN, Maintenance	21b, 21d, 23a	CO 1971	100	146.38	--	--	--	--	--
Minneapolis-St. Paul, MN, Maintenance	23a	SO ₂ 1978	100	--	--	--	--	0.20	--
Chicago-Naperville, IL, Marginal	24b	8-hr Ozone 2008	100	--	87.64	--	--	--	3.81

^a Values in bold are greater than the General Conformity threshold. The project is not subject to General Conformity but the thresholds can be used as indicators that further analysis may be warranted. Chapter 17, *Downline Impacts*, provides further assessment of segments that have emissions greater than a General Conformity threshold.

Table V.2-80. Estimated Annual Average Downline Operational Emissions: Segment 3 – Colstrip, MT – Nichols, MT, 2037

Pollutants	Maximum Increase in Trains per Day
	18.6
Criteria Pollutants (tons/year)	
CO	133.64
NO _x	210.83
PM ₁₀	5.23
PM _{2.5}	5.07
SO ₂	0.48
VOCs	9.56
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00235
Acrolein	0.00045
Benzene	0.00027
1,3-Butadiene	0.00032
Ethylbenzene	0.01913
Formaldehyde	0.00494
n-Hexane	0.05260
Lead	0.00044
Toluene	0.03060
Xylene	0.08114
Greenhouse Gases (tons/year)	
CO ₂	51,486.11
CH ₄	4.01
N ₂ O	1.28
CO ₂ e	51,554.63
Assumptions: Northern Alternatives, High Production, Medium Port Growth. Segment is 33 miles	

Table V.2-81. Estimated Annual Average Downline Operational Emissions: Segment 4 – Nichols, MT – Miles City, MT, 2037

Pollutants	Maximum Increase in Trains per Day	
	Northern	Southern
	16	9
Criteria Pollutants (tons/year)		
CO	198.86	111.86
NO _x	313.72	176.47
PM ₁₀	7.78	4.37
PM _{2.5}	7.54	4.24
SO ₂	0.72	0.40
VOCs	14.23	8.00
Hazardous Pollutants (tons/year)		
Acetaldehyde	0.00349	0.00196
Acrolein	0.00066	0.00037
Benzene	0.00040	0.00023
1,3-Butadiene	0.00048	0.00027
Ethylbenzene	0.02846	0.01601
Formaldehyde	0.00735	0.00413
n-Hexane	0.07827	0.04403
Lead	0.00065	0.00037
Toluene	0.04554	0.02562
Xylene	0.12074	0.06792
Greenhouse Gases (tons/year)		
CO ₂	76,611.23	4,3093.82
CH ₄	5.96	3.35
N ₂ O	1.91	1.07
CO ₂ e	76,713.19	4,3151.17
Assumptions: Northern and Southern Alternatives, High Production, Medium Port Growth; segment is 51 miles		

Table V.2-82. Estimated Annual Average Downline Operational Emissions: Segment 5 – Nichols, MT – Huntley, MT, 2037

Pollutants	Maximum Increase in Trains per Day
	9
Criteria Pollutants (tons/year)	
CO	183.98
NO _x	290.25
PM ₁₀	7.19
PM _{2.5}	6.98
SO ₂	0.66
VOCs	13.17
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00323
Acrolein	0.00062
Benzene	0.00037
1,3-Butadiene	0.00044
Ethylbenzene	0.02633
Formaldehyde	0.00680
n-Hexane	0.07241
Lead	0.00060
Toluene	0.04213
Xylene	0.11171
Greenhouse Gases (tons/year)	
CO ₂	70,879.38
CH ₄	5.51
N ₂ O	1.76
CO ₂ e	70,973.71
Assumptions: Southern Alternatives, High Production, Medium Port Growth; segment is 81.9 miles	

Table V.2-83. Estimated Annual Average Downline Operational Emissions: Segment 6 – Spring Creek, MT – Dutch, WY, 2037

Pollutants	Maximum Increase in Trains per Day
	26.7
Criteria Pollutants (tons/year)	
CO	145.98
NO _x	230.30
PM ₁₀	5.71
PM _{2.5}	5.54
SO ₂	0.53
VOCs	10.45
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00256
Acrolein	0.00049
Benzene	0.00030
1,3-Butadiene	0.00035
Ethylbenzene	0.02089
Formaldehyde	0.00540
n-Hexane	0.05746
Lead	0.00048
Toluene	0.03343
Xylene	0.08863
Greenhouse Gases (tons/year)	
CO ₂	56,239.36
CH ₄	4.38
N ₂ O	1.40
CO ₂ e	56,314.21
Assumptions: Southern Alternatives, High Production, High Port Growth; segment is 20 miles	

Table V.2-84. Estimated Annual Average Downline Operational Emissions: Segment 7a – Dutch, WY – Huntley, MT, 2037

Pollutants	Maximum Increase in Trains per Day
9	
Criteria Pollutants (tons/year)	
CO	15.37
NO _x	24.25
PM10	0.60
PM2.5	0.58
SO ₂	0.06
VOCs	1.10
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00027
Acrolein	0.00005
Benzene	0.00003
1,3-Butadiene	0.00004
Ethylbenzene	0.00220
Formaldehyde	0.00057
n-Hexane	0.00605
Lead	0.00005
Toluene	0.00352
Xylene	0.00933
Greenhouse Gases (tons/year)	
CO ₂	5,921.83
CH ₄	0.46
N ₂ O	0.15
CO ₂ e	5,929.71
Assumptions: Southern Alternatives, High Production, Medium Port Growth; segment is 7.06 miles	

Table V.2-85. Estimated Annual Average Downline Operational Emissions: Segment 7b – Dutch, WY – Huntley, MT, 2037

Pollutants	Maximum Increase in Trains per Day
	9
Criteria Pollutants (tons/year)	
CO	6.02
NO _x	9.50
PM10	0.24
PM2.5	0.23
SO ₂	0.02
VOCs	0.43
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00011
Acrolein	0.00002
Benzene	0.00001
1,3-Butadiene	0.00001
Ethylbenzene	0.00086
Formaldehyde	0.00022
n-Hexane	0.00237
Lead	0.00002
Toluene	0.00138
Xylene	0.00366
Greenhouse Gases (tons/year)	
CO ₂	2,319.93
CH ₄	0.18
N ₂ O	0.06
CO ₂ e	2,323.02
Assumptions: Southern Alternatives, High Production, Medium Port Growth; segment is 2.77 miles	

Table V.2-86. Estimated Annual Average Downline Operational Emissions: Segment 7c – Dutch, WY – Huntley, MT, 2037

Pollutants	Maximum Increase in Trains per Day
	9
Criteria Pollutants (tons/year)	
CO	278.80
NO _x	439.84
PM ₁₀	10.90
PM _{2.5}	10.58
SO ₂	1.00
VOCs	19.95
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00490
Acrolein	0.00093
Benzene	0.00056
1,3-Butadiene	0.00067
Ethylbenzene	0.03990
Formaldehyde	0.01030
n-Hexane	0.10973
Lead	0.00092
Toluene	0.06384
Xylene	0.16928
Greenhouse Gases (tons/year)	
CO ₂	107,408.79
CH ₄	8.36
N ₂ O	2.67
CO ₂ e	107,551.74
Assumptions: Southern Alternatives, High Production, Medium Port Growth; segment is 127 miles	

Table V.2-87. Estimated Annual Average Downline Operational Emissions: Segment 9 – Dutch, WY – Donkey Creek, WY, 2030 (Northern) and 2037 (Southern)

Pollutants	Maximum Increase in Trains per Day	
	Northern	Southern
	8.9	15.1
Criteria Pollutants (tons/year)		
CO	224.35	380.64
NO _x	543.26	600.51
PM10	13.61	14.88
PM2.5	13.20	14.44
SO ₂	0.81	1.37
VOCs	22.98	27.24
Hazardous Pollutants (tons/year)		
Acetaldehyde	0.00611	0.00669
Acrolein	0.00116	0.00127
Benzene	0.00070	0.00077
1,3-Butadiene	0.00084	0.00092
Ethylbenzene	0.04596	0.05448
Formaldehyde	0.01286	0.01407
n-Hexane	0.12640	0.14982
Lead	0.00114	0.00125
Toluene	0.07354	0.08717
Xylene	0.15146	0.23111
Greenhouse Gases (tons/year)		
CO ₂	86,432.77	146,644.36
CH ₄	6.72	11.41
N ₂ O	2.15	3.65
CO ₂ e	86,547.80	146,839.53
Assumptions: Northern Alternatives, Medium Production, Zero Port Growth; Southern Alternatives, High Production, Medium Port Growth; segment is 104 miles.		

Table V.2-88. Estimated Annual Average Downline Operational Emissions: Segment 10 – Donkey Creek, WY – Edgemont, SD, 2037

Pollutants	Maximum Increase in Trains per Day
	15.4
Criteria Pollutants (tons/year)	
CO	414.65
NO _x	654.17
PM ₁₀	16.21
PM _{2.5}	15.73
SO ₂	1.49
VOCs	29.67
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00728
Acrolein	0.00139
Benzene	0.00084
1,3-Butadiene	0.00100
Ethylbenzene	0.05935
Formaldehyde	0.01532
n-Hexane	0.16320
Lead	0.00136
Toluene	0.09496
Xylene	0.25177
Greenhouse Gases (tons/year)	
CO ₂	159,748.42
CH ₄	12.43
N ₂ O	3.98
CO ₂ e	159,961.03
Assumptions: Southern Alternatives, High Production, Medium Port Growth; segment is 111 miles	

Table V.2-89. Estimated Annual Average Downline Operational Emissions: Segment 11 – Edgemont, SD – Crawford, NE, 2037

Pollutants	Maximum Increase in Trains per Day
	15.4
Criteria Pollutants (tons/year)	
CO	204.91
NO _x	323.26
PM ₁₀	8.01
PM _{2.5}	7.77
SO ₂	0.74
VOCs	14.66
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00360
Acrolein	0.00069
Benzene	0.00041
1,3-Butadiene	0.00049
Ethylbenzene	0.02933
Formaldehyde	0.00757
n-Hexane	0.08065
Lead	0.00067
Toluene	0.04692
Xylene	0.12441
Greenhouse Gases (tons/year)	
CO ₂	78,941.27
CH ₄	6.14
N ₂ O	1.97
CO ₂ e	79,046.33
Assumptions: Southern Alternatives, High Production, Medium Port Growth; segment is 54 miles.	

Table V.2-90. Estimated Annual Average Downline Operational Emissions: Segment 12 – Crawford, NE – Alliance, NE, 2037

Pollutants	Maximum Increase in Trains per Day
	15.4
Criteria Pollutants (tons/year)	
CO	210.49
NO _x	332.08
PM ₁₀	8.23
PM _{2.5}	7.98
SO ₂	0.76
VOCs	15.06
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00370
Acrolein	0.00070
Benzene	0.00043
1,3-Butadiene	0.00051
Ethylbenzene	0.03013
Formaldehyde	0.00778
n-Hexane	0.08285
Lead	0.00069
Toluene	0.04820
Xylene	0.12781
Greenhouse Gases (tons/year)	
CO ₂	81,094.21
CH ₄	6.31
N ₂ O	2.02
CO ₂ e	81,202.14
Assumptions: Southern Alternatives, High Production, Medium Port Growth; segment is 56 miles	

Table V.2-91. Estimated Annual Average Downline Operational Emissions: Segment 16 – Miles City, MT – Glendive, MT, 2037

Pollutants	Maximum Increase in Trains per Day	
	Northern	Southern
	16	9
Criteria Pollutants (tons/year)		
CO	304.24	171.13
NO _x	479.97	269.98
PM ₁₀	11.90	6.69
PM _{2.5}	11.54	6.49
SO ₂	1.10	0.62
VOCs	21.77	12.25
Hazardous Pollutants (tons/year)		
Acetaldehyde	0.00534	0.00301
Acrolein	0.00102	0.00057
Benzene	0.00062	0.00035
1,3-Butadiene	0.00073	0.00041
Ethylbenzene	0.04354	0.02449
Formaldehyde	0.01124	0.00632
n-Hexane	0.11975	0.06736
Lead	0.00100	0.00056
Toluene	0.06967	0.03919
Xylene	0.18472	0.10391
Greenhouse Gases (tons/year)		
CO ₂	117,209.61	65,930.41
CH ₄	9.12	5.13
N ₂ O	2.92	1.64
CO ₂ e	117,365.60	66,018.15

Assumptions: Northern and Southern Alternatives, High Production, Medium Port Growth;; segment is 79 miles

Table V.2-92. Estimated Annual Average Downline Operational Emissions: Segment 17 – Glendive, MT – Mandan, ND, 2037

Pollutants	Maximum Increase in Trains per Day	
	Northern	Southern
	16	9
Criteria Pollutants (tons/year)		
CO	1,101.60	619.65
NO _x	1,737.91	977.58
PM ₁₀	43.08	24.23
PM _{2.5}	41.79	23.50
SO ₂	3.97	2.23
VOCs	78.83	44.34
Hazardous Pollutants (tons/year)		
Acetaldehyde	0.01935	0.01088
Acrolein	0.00368	0.00207
Benzene	0.00223	0.00125
1,3-Butadiene	0.00265	0.00149
Ethylbenzene	0.15767	0.08869
Formaldehyde	0.04071	0.02290
n-Hexane	0.43358	0.24389
Lead	0.00362	0.00204
Toluene	0.25227	0.14190
Xylene	0.66886	0.37624
Greenhouse Gases (tons/year)		
CO ₂	424,400.19	238,725.11
CH ₄	33.02	18.57
N ₂ O	10.57	5.94
CO ₂ e	424,965.02	239,042.82
Assumptions: Northern and Southern Alternatives, High Production, Medium Port Growth; segment is 207 miles		

Table V.2-93. Estimated Annual Average Downline Operational Emissions: Segment 18 – Mandan, ND – Fargo, ND, 2037

Pollutants	Maximum Increase in Trains per Day	
	Northern	Southern
	16	9
Criteria Pollutants (tons/year)		
CO	768.72	432.41
NO _x	1,212.75	682.17
PM ₁₀	30.06	16.91
PM _{2.5}	29.16	16.40
SO ₂	2.77	1.56
VOCs	55.01	30.94
Hazardous Pollutants (tons/year)		
Acetaldehyde	0.01350	0.00760
Acrolein	0.00257	0.00145
Benzene	0.00155	0.00087
1,3-Butadiene	0.00185	0.00104
Ethylbenzene	0.11002	0.06189
Formaldehyde	0.02841	0.01598
n-Hexane	0.30256	0.17019
Lead	0.00253	0.00142
Toluene	0.17604	0.09902
Xylene	0.46675	0.26255
Greenhouse Gases (tons/year)		
CO ₂	296,155.58	166,587.51
CH ₄	23.04	12.96
N ₂ O	7.37	4.15
CO ₂ e	296,549.73	166,809.22
Assumptions: Northern and Southern Alternatives, High Production, Medium Port Growth; segment is 200 miles		

Table V.2-94. Estimated Annual Average Downline Operational Emissions: Segment 20 – Fargo, ND – Willmar, MN, 2037

Pollutants	Maximum Increase in Trains per Day	
	Northern	Southern
	15.8	8.9
Criteria Pollutants (tons/year)		
CO	605.84	341.26
NO _x	955.78	538.38
PM ₁₀	23.69	13.34
PM _{2.5}	22.98	12.94
SO ₂	2.18	1.23
VOCs	43.36	24.42
Hazardous Pollutants (tons/year)		
Acetaldehyde	0.01064	0.00599
Acrolein	0.00203	0.00114
Benzene	0.00122	0.00069
1,3-Butadiene	0.00146	0.00082
Ethylbenzene	0.08671	0.04884
Formaldehyde	0.02239	0.01261
n-Hexane	0.23845	0.13432
Lead	0.00199	0.00112
Toluene	0.13874	0.07815
Xylene	0.36785	0.20721
Greenhouse Gases (tons/year)		
CO ₂	233,403.33	131,474.03
CH ₄	18.16	10.23
N ₂ O	5.81	3.27
CO ₂ e	233,713.96	131,649.00
Assumptions: Northern and Southern Alternatives, High Production, Medium Port Growth; segment is 158 miles		

Table V.2-95. Estimated Annual Average Downline Operational Emissions: Segment 21a – Willmar, MN – St Paul, MN, 2023

Pollutants	Maximum Increase in Trains per Day
	8.2
Criteria Pollutants (tons/year)	
CO	80.34
NO _x	275.32
PM10	7.49
PM2.5	7.27
SO ₂	0.29
VOCs	11.96
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00337
Acrolein	0.00064
Benzene	0.00039
1,3-Butadiene	0.00046
Ethylbenzene	0.02392
Formaldehyde	0.00708
n-Hexane	0.06578
Lead	0.00063
Toluene	0.03827
Xylene	0.06570
Greenhouse Gases (tons/year)	
CO ₂	30,951.15
CH ₄	2.41
N ₂ O	0.77
CO ₂ e	30,992.35
Assumptions: Northern Alternatives, High Production, Zero Port Growth; segment is 40 miles	

Table V.2-96. Estimated Annual Average Downline Operational Emissions: Segment 21b – Willmar, MN – St Paul, MN, 2023

Pollutants	Maximum Increase in Trains per Day
	8.2
Criteria Pollutants (tons/year)	
CO	11.84
NO _x	40.57
PM ₁₀	1.10
PM _{2.5}	1.07
SO ₂	0.04
VOCs	1.76
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00050
Acrolein	0.00009
Benzene	0.00006
1,3-Butadiene	0.00007
Ethylbenzene	0.00353
Formaldehyde	0.00104
n-Hexane	0.00969
Lead	0.00009
Toluene	0.00564
Xylene	0.00968
Greenhouse Gases (tons/year)	
CO ₂	4,561.11
CH ₄	0.35
N ₂ O	0.11
CO ₂ e	4,567.18
Assumptions: Northern Alternatives, High Production, Zero Port Growth; segment is 5.97 miles	

Table V.2-97. Estimated Annual Average Downline Operational Emissions: Segment 21c – Willmar, MN – St Paul, MN, 2023

Pollutants	Maximum Increase in Trains per Day
	8.2
Criteria Pollutants (tons/year)	
CO	14.63
NO _x	50.15
PM ₁₀	1.37
PM _{2.5}	1.32
SO ₂	0.05
VOCs	2.18
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00061
Acrolein	0.00012
Benzene	0.00007
1,3-Butadiene	0.00008
Ethylbenzene	0.00436
Formaldehyde	0.00129
n-Hexane	0.01198
Lead	0.00011
Toluene	0.00697
Xylene	0.01197
Greenhouse Gases (tons/year)	
CO ₂	5,637.92
CH ₄	0.44
N ₂ O	0.14
CO ₂ e	5,645.42
Assumptions: Northern Alternatives, High Production, Zero Port Growth; segment is 7.38 miles	

Table V.2-98. Estimated Annual Average Downline Operational Emissions: Segment 21d – Willmar, MN – St Paul, MN, 2023

Pollutants	Maximum Increase in Trains per Day
	8.2
Criteria Pollutants (tons/year)	
CO	78.67
NO _x	269.59
PM ₁₀	7.34
PM _{2.5}	7.12
SO ₂	0.28
VOCs	11.71
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00330
Acrolein	0.00063
Benzene	0.00038
1,3-Butadiene	0.00045
Ethylbenzene	0.02342
Formaldehyde	0.00694
n-Hexane	0.06441
Lead	0.00062
Toluene	0.03748
Xylene	0.06433
Greenhouse Gases (tons/year)	
CO ₂	30,306.44
CH ₄	2.36
N ₂ O	0.75
CO ₂ e	30,346.78
Assumptions: Northern Alternatives, High Production, Zero Port Growth; segment is 39.66 miles	

Table V.2-99. Estimated Annual Average Downline Operational Emissions: Segment 23a – St. Paul, MN – N La Crosse, WI, 2023

Pollutants	Maximum Increase in Trains per Day
	7.3
Criteria Pollutants (tons/year)	
CO	55.88
NO _x	191.49
PM ₁₀	5.21
PM _{2.5}	5.06
SO ₂	0.20
VOCs	8.32
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00234
Acrolein	0.00045
Benzene	0.00027
1,3-Butadiene	0.00032
Ethylbenzene	0.01664
Formaldehyde	0.00493
n-Hexane	0.04575
Lead	0.00044
Toluene	0.02662
Xylene	0.04569
Greenhouse Gases (tons/year)	
CO ₂	21,526.56
CH ₄	1.67
N ₂ O	0.54
CO ₂ e	21,555.21
Assumptions: Northern Alternatives, High Production, Zero Port Growth; segment is 31.64 miles	

Table V.2-100. Estimated Annual Average Downline Operational Emissions: Segment 23b – St. Paul, MN – N La Crosse, WI, 2023

Pollutants	Maximum Increase in Trains per Day
	7.3
Criteria Pollutants (tons/year)	
CO	194.25
NO _x	665.69
PM ₁₀	18.12
PM _{2.5}	17.58
SO ₂	0.70
VOCs	28.92
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00814
Acrolein	0.00155
Benzene	0.00094
1,3-Butadiene	0.00111
Ethylbenzene	0.05784
Formaldehyde	0.01713
n-Hexane	0.15905
Lead	0.00152
Toluene	0.09254
Xylene	0.15885
Greenhouse Gases (tons/year)	
CO ₂	74,835.35
CH ₄	5.82
N ₂ O	1.86
CO ₂ e	74,934.95
Assumptions: Northern Alternatives, High Production, Zero Port Growth; segment is 109.99 miles	

Table V.2-101. Estimated Annual Average Downline Operational Emissions: Segment 24a – N La Crosse, WI – Aurora, IL, 2023

Pollutants	Maximum Increase in Trains per Day
	7.3
Criteria Pollutants (tons/year)	
CO	428.38
NO _x	1468.07
PM ₁₀	39.96
PM _{2.5}	38.76
SO ₂	1.54
VOCs	63.78
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.01795
Acrolein	0.00342
Benzene	0.00207
1,3-Butadiene	0.00246
Ethylbenzene	0.12755
Formaldehyde	0.03777
n-Hexane	0.35077
Lead	0.00336
Toluene	0.20408
Xylene	0.35032
Greenhouse Gases (tons/year)	
CO ₂	165,038.29
CH ₄	12.84
N ₂ O	4.11
CO ₂ e	165,257.94
Assumptions: Northern Alternatives, High Production, Zero Port Growth; segment is 242.57 miles	

Table V.2-102. Estimated Annual Average Downline Operational Emissions: Segment 24b – N La Crosse, WI – Aurora, IL, 2023

Pollutants	Maximum Increase in Trains per Day
	7.3
Criteria Pollutants (tons/year)	
CO	25.57
NO _x	87.64
PM ₁₀	2.39
PM _{2.5}	2.31
SO ₂	0.09
VOCs	3.81
Hazardous Pollutants (tons/year)	
Acetaldehyde	0.00107
Acrolein	0.00020
Benzene	0.00012
1,3-Butadiene	0.00015
Ethylbenzene	0.00761
Formaldehyde	0.00225
n-Hexane	0.02094
Lead	0.00020
Toluene	0.01218
Xylene	0.02091
Greenhouse Gases (tons/year)	
CO ₂	9,851.96
CH ₄	0.77
N ₂ O	0.25
CO ₂ e	9,865.07
Assumptions: Northern Alternatives, High Production, Zero Port Growth; segment is 14.48 miles	

Table V.2-103. Estimated Annual Average Downline Operational Emissions: Segment 24a – N La Crosse, WI – Aurora, IL, 2023

Pollutants	Maximum Increase in Trains per Day	2011 NEI Data (across all counties) ^{1, 2}
	7.3	
Criteria Pollutants (tons/year)		
CO	428.38	185,271.92
NO _x	1,468.07	48,849.27
PM10	39.96	73,571.57
PM2.5	38.76	18,440.99
SO ₂	1.54	32,098.14
VOCs	63.78	96,991.23
Hazardous Pollutants (tons/year)		
Acetaldehyde	0.01795	1,283.84
Acrolein	0.00342	34.33
Benzene	0.00207	607.03
1,3-Butadiene	0.00246	78.33
Ethylbenzene	0.12755	230.74
Formaldehyde	0.03777	2,009.61
n-Hexane	0.35077	695.37
Lead	0.00336	1.89
Toluene	0.20408	3,998.12
Xylene	0.35032	974.05
Greenhouse Gases (tons/year)		
CO ₂	165,038.28827	6,472,708.26
CH ₄	12.83996	648.02
N ₂ O	4.10879	162.40
CO ₂ e	165,257.93717	6,537,302.48

¹ Counties located along Segment 24a include La Crosse, WI, Vernon, WI, Crawford, WI, Grant, WI, Jo Daviess, IL, Carroll, IL, Ogle, IL, Lee, IL, Dekalb, IL, and Kane, IL.

² USEPA. 2011b.

Assumptions: Northern Alternatives, High Production, Zero Port Growth; segment is 242.57 miles

Table V.2-104. General Conformity Comparison: Estimated Annual Average Downline Operational Emissions: Maximum Increase in Trains per Day Summary

Rail Segments ^b	Segment Location	Mileage	Max Increase in Trains per Day	General Conformity Threshold (tons/year)	Criteria Pollutants (tons/year) ^a					
					CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	VOCs
Segment 3	Colstrip, MT – Nichols, MT	33.41	18.6	100	133.6 4	210.8 3	5.23	5.07	0.48	9.56
Segment 4 – Northern	Nichols, MT – Miles City, MT	51.37	16	100	198.8 6	313.7 2	7.78	7.54	0.72	14.23
Segment 4 – Southern	Nichols, MT – Miles City, MT	51.37	9	100	111.8 6	176.4 7	4.37	4.24	0.40	8.00
Segment 5	Nichols, MT – Huntley, MT	81.90	9	100	183.9 8	290.2 5	7.19	6.98	0.66	13.17
Segment 6	Spring Creek, MT – Dutch, WY	20.03	26.7	100	145.9 8	230.3 0	5.71	5.54	0.53	10.45
Segment 7a	Dutch, WY – Huntley, MT	7.06	9	100	15.37	24.25	0.60	0.58	0.06	1.10
Segment 7b	Dutch, WY – Huntley, MT	2.77	9	100	6.02	9.50	0.24	0.23	0.02	0.43
Segment 7c	Dutch, WY – Huntley, MT	128.0 5	9	100	278.8 0	439.8 4	10.90	10.58	1.00	19.95
Segment 9 – Northern	Dutch, WY – Donkey Creek, WY	104.0 2	8.9	100	224.3 5	543.2 6	13.61	13.20	0.81	22.98
Segment 9 – Southern	Dutch, WY – Donkey Creek, WY	104.0 2	15.1	100	380.6 4	600.5 1	14.88	14.44	1.37	27.24
Segment 10	Donkey Creek, WY – Edgemont, SD	110.9 4	15.4	100	414.6 5	654.1 7	16.21	15.73	1.49	29.67
Segment 11	Edgemont, SD – Crawford, NE	53.76	15.4	100	204.9 1	323.2 6	8.01	7.77	0.74	14.66
Segment 12	Crawford, NE – Alliance, NE	56.45	15.4	100	210.4 9	332.0 8	8.23	7.98	0.76	15.06
Segment 16 – Northern	Miles City, MT – Glendive, MT	78.67	16	100	304.2 4	479.9 7	11.90	11.54	1.10	21.77
Segment 16 – Southern	Miles City, MT – Glendive, MT	78.67	9	100	171.1 3	269.9 8	6.69	6.49	0.62	12.25
Segment 17 – Northern	Glendive, MT – Mandan, ND	207.3 0	16	100	1101. 60	1737. 91	43.08	41.79	3.97	78.83
Segment 17 – Southern	Glendive, MT – Mandan, ND	207.3 0	9	100	619.6 5	977.5 8	24.23	23.50	2.23	44.34
Segment 18 – Northern	Mandan, ND – Fargo, ND	200.0 1	16	100	768.7 2	1212. 75	30.06	29.16	2.77	55.01
Segment 18 – Southern	Mandan, ND – Fargo, ND	200.0 1	9	100	432.4 1	682.1 7	16.91	16.40	1.56	30.94
Segment 20 – Northern	Fargo, ND – Willmar, MN	158.0 3	15.8	100	605.8 4	955.7 8	23.69	22.98	2.18	43.36
Segment 20 – Southern	Fargo, ND – Willmar, MN	158.0 3	8.9	100	341.2 6	538.3 8	13.34	12.94	1.23	24.42
Segment 21a	Willmar, MN – St Paul, MN	40.50	8.2	100	80.34	275.3 2	7.49	7.27	0.29	11.96
Segment 21b	Willmar, MN – St Paul, MN	5.97	8.2	100	11.84	40.57	1.10	1.07	0.04	1.76
Segment 21c	Willmar, MN – St Paul, MN	7.38	8.2	100	14.63	50.15	1.37	1.32	0.05	2.18
Segment 21d	Willmar, MN – St Paul, MN	39.66	8.2	100	78.67	269.5	7.34	7.12	0.28	11.71

Rail Segments ^b	Segment Location	Mileage	Max Increase in Trains per Day	General Conformity Threshold (tons/year)	Criteria Pollutants (tons/year) ^a					
					CO	NO _x	PM ₁₀	PM _{2.5}	SO ₂	VOCs
	MN					9				
<i>Segment 23a</i>	St. Paul, MN – N La Crosse, WI	31.64	7.3	100	55.88	191.4	5.21	5.06	0.20	8.32
Segment 23b	St. Paul, MN – N La Crosse, WI	109.9	9	100	194.2	665.6	18.12	17.58	0.70	28.92
Segment 24a	N La Crosse, WI – Aurora, IL	242.5	7	100	428.3	1468.0	39.96	38.76	1.54	63.78
<i>Segment 24b</i>	N La Crosse, WI – Aurora, IL	14.48	7.3	100	25.57	87.64	2.39	2.31	0.09	3.81

^a Values in bold indicate emissions greater than the General Conformity threshold. The project is not subject to General Conformity but the thresholds can be used as indicators that further analysis may be warranted. Chapter 17, *Downline Impacts*, provides further assessment of segments that have emissions greater than a General Conformity threshold.

^b Italicized segments are those located in nonattainment or maintenance areas.

Table V.2-105. Estimated Annual Average Downline Operational Emissions and Comparison to County Level Emissions

Rail Segments ^a	Segment Location	Mile age	Maxim um Increa se in Trains per Day	General Confor mity Thresh old ^b (tons/ye ar)	Locomotive Emissions over General Conformity Threshold ^b (tons/year)		Total County Emission Levels (tons/year)		% of County Level Emissions	
					CO	NO _x	CO	NO _x	CO	NO _x
Segment 3	Colstrip, MT – Nichols, MT	33.41	18.6	100	133.64	210.83	60,653.92	18,644.54	0.2 2%	1.13 %
Segment 4 – Northern	Nichols, MT – Miles City, MT	51.37	16	100	198.86	313.72	73,287.46	21,313.23	0.2 7%	1.47 %
Segment 4 – Southern	Nichols, MT – Miles City, MT	51.37	9	100	111.86	176.47	73,287.46	21,313.23	0.1 5%	0.83 %
Segment 5	Nichols, MT – Huntley, MT	81.90	9	100	183.98	290.25	105,386.1	29,538.75	0.1 7%	0.98 %
Segment 6	Spring Creek, MT – Dutch, WY	20.03	26.7	100	145.98	230.30	64,962.5	10,335.78	0.2 2%	2.23 %
Segment 7c	Dutch, WY – Huntley, MT	128.05	9	100	278.80	439.84	105,333.3	20,057.09	0.2 6%	2.19 %
Segment 9 – Northern	Dutch, WY – Donkey Creek, WY	104.02	8.9	100	224.35	543.26	109,149.8	45,811.98	0.2 1%	1.19 %
Segment 9 – Southern	Dutch, WY – Donkey Creek, WY	104.02	15.1	100	380.64	600.51	109,149.8	45,811.98	0.3 5%	1.31 %
Segment 10	Donkey Creek, WY – Edgemont, SD	110.94	15.4	100	414.65	654.17	325,641	54,201.34	0.1 3%	1.21 %
Segment 11	Edgemont, SD – Crawford, NE	53.76	15.4	100	204.91	323.26	4,900.13	7,458.78	0.4 2%	4.33 %
Segment 12	Crawford, NE – Alliance, NE	56.45	15.4	100	210.49	332.08	14,819.59	5,760.78	1.4 2%	5.76 %
Segment 16 – Northern	Miles City, MT – Glendive, MT	78.67	16	100	304.24	479.97	24,780.82	7,073.28	1.2 3%	6.79 %
Segment 16 – Southern	Miles City, MT – Glendive, MT	78.67	9	100	171.13	269.98	24,780.82	7,073.28	0.6 9%	3.82 %
Segment 17 – Northern	Glendive, MT – Mandan, ND	207.30	16	100	1,101.60	1,737.91	26,790.96	10,128.27	4.1 1%	17.1 6%
Segment 17 – Southern	Glendive, MT – Mandan, ND	207.30	9	100	619.65	977.58	26,790.96	10,128.27	2.3 1%	9.65 %
Segment 18 – Northern	Mandan, ND – Fargo, ND	200.01	16	100	768.72	1,212.75	105,961.3	29,261.51	0.7 3%	4.14 %
Segment 18 – Southern	Mandan, ND – Fargo, ND	200.01	9	100	432.41	682.17	105,961.3	29,261.51	0.4 1%	2.33 %
Segment 20 – Northern	Fargo, ND – Willmar, MN	158.03	15.8	100	605.84	955.78	112,724.7	21,294.33	0.5 4%	4.49 %
Segment 20 – Southern	Fargo, ND – Willmar, MN	158.03	8.9	100	341.26	538.38	112,724.7	21,294.33	0.3 0%	2.53 %
Segment 21a	Willmar, MN – St Paul, MN	40.50	8.2	100	80.34	275.32	22,670.73	4,776.293	0.3 5%	5.76 %
Segment 21d	Willmar, MN – St Paul, MN	39.66	8.2	100	78.67	269.59	248,153.68	44,113.78	0.0 3%	0.61 %
Segment 23a	St. Paul, MN – N La Crosse, WI	31.64	7.3	100	55.88	191.49	336,217.96	63,665.82	0.0 2%	0.30 %
Segment 23b	St. Paul, MN – N La Crosse, WI	109.99	7.3	100	194.25	665.69	57,849.47	14,198.94	0.3 4%	4.69 %
Segment 24a	N La Crosse, WI – Aurora, IL	242.57	7.3	100	428.38	1,468.07	178,942.5	44,134	0.2 4%	3.33 %

^a Italicized segments are those located in nonattainment or maintenance areas.^b The project is not subject to General Conformity but the thresholds can be used as indicators that further analysis may be

Rail Segments ^a	Segment Location	Mile age	Maxim um Increa se in Trains per Day	General Confor mity Thresh old ^b (tons/ye ar)	Locomotive Emissions over General Conformity Threshold ^b (tons/year)		Total County Emission Levels (tons/year)		% of County Level Emissions		
					CO	NO _x	CO	NO _x	CO	NO _x	
warranted. Chapter 17, <i>Downline Impacts</i> , provides further assessment of segments that have emissions greater than a General Conformity threshold.											
Source: U.S. Environmental Protection Agency 2011b.											

V.3 Noise and Vibration

V.3.1 Changes in Rail Noise Due to Changes in Rail Traffic

As discussed in Appendix H, *Noise and Vibration Impact Assessment Methods*, changes (either a decrease or increase) in train noise levels in terms of day-night average noise level (DNL) due to changes in rail traffic volumes can be readily calculated. Assuming that other factors affecting train noise (speed, train consist and length, time of day, and number of locomotives) are equivalent, the change in DNL is expressed as:

$$10\log(N_2/N_1) \quad \text{where } N_1 \text{ and } N_2 \text{ are two different traffic volumes (trains per day)}$$

For example, in Table 17-8, the Segment 20 (Fargo, ND to Willmar, MN) No Action rail traffic volume for the northern alternatives is 10.8 trains per day and the maximum estimated total traffic with the proposed rail line would be 26.5 trains per day. For this example, the increase in DNL would be:

$$10\log(26.5/10.8) = 3.9 \text{ dBA}$$

This increase meets or exceeds the Board's 3 A-weighted decibel (dBA) increase threshold for analysis so downline rail Segment 20 was further analyzed for potential noise impacts by counting sensitive receptors within the 65 DNL noise contours for this segment.

V.3.2 Quiet Zone Analysis: Downline Segment 20 (Fargo to Willmar)

As discussed in Chapter 17, *Downline Impacts*, the Fargo to Willmar segment is the only downline segment that would exceed OEA's noise thresholds of 65 DNL with at least a 3 dBA increase. OEA analyzed all grade crossings along the Fargo to Willmar downline segment using FRA's quiet zone calculator. Table V.3-1 shows the grade crossings along this segment that could have a risk index factor that would be below the Nationwide Significant Risk Threshold of 14,347.00 following the addition of supplemental safety equipment and therefore would be eligible to be designated as quiet zones. The estimated total cost of upgrading all grade crossings to quiet zones shown in the table would be \$4.1 million.

Figures V-1 through V-31, which are compiled at the back of this appendix, show the noise contours and receptors for the Fargo to Willmar downline rail segment (Segment 20).

Table V.3-1. Fargo to Willmar Quiet Zone Analysis ^{a,b}

Crossings	Street Name	AADT	Train Speed (mph)	Existing Protection ^c	Quiet Zone Risk Index Factor ^c	Estimated Cost ^d	SSM - 8 ^f		SSM - 12 ^f		SSM - 11 ^f		Minimum Total Estimated Cost
							Quiet Zone Risk Index Factor	Estimated Cost	Quiet Zone Risk Index Factor (Existing Conditions)	Estimated Cost	Quiet Zone Risk Index Factor	Estimated Cost	
062579U	40TH AVE SO	3701	60	Four Quad	29,906.34	—	—	—	—	—	4,569.65	\$320,000	\$320,000
062577F	28TH AVE SO	630	60	Crossbucks	21,920.84	\$150,000	3,945.75	\$250,000	5,480.21	\$13,000	—	—	\$163,000
062579U	40TH AVE SO	3701	60	Four Quad	29,906.34	—	—	—	—	—	4,569.65	\$320,000	\$320,000
062582C	60TH AVE S	1987	60	Gates	40,628.14	—	7,313.07	\$250,000	10,157.04	\$13,000	—	—	\$13,000
062589A	110 AVE S	274	60	stop signs	19,755.62	\$150,000	3,556.01	\$250,000	4,938.91	\$13,000	—	—	\$163,000
062596K	BROADWAY/160 AVE	1165	60	Gates	34,157.21	—	6,148.30	\$250,000	8,539.30	\$13,000	—	—	\$13,000
062606N	150TH ST	487	60	Gates	26,290.19	—	4,732.23	\$250,000	6,572.55	\$13,000	—	—	\$13,000
062614F	210TH ST	199	60	stop signs	17,550.94	\$150,000	3,159.17	\$250,000	4,387.73	\$13,000	—	—	\$163,000
062620J	3RD ST	569	60	stop signs	24,630.18	\$150,000	4,433.43	\$250,000	6,157.54	\$13,000	—	—	\$163,000
062621R	235TH ST	562	60	Gates	30,135.07	—	5,424.31	\$250,000	7,533.77	\$13,000	—	—	\$13,000
062631W	280TH ST	487	60	Gates	27,678.52	—	4,982.13	\$250,000	6,919.63	\$13,000	—	—	\$13,000
103817B	30TH AVE S	9183	60	Gates	55,449.55	—	9,980.92	\$250,000	13,862.39	\$13,000	—	—	\$13,000
060922E	6TH ST	1919	40	Gates	38,347.35	—	6,902.52	\$250,000	9,586.84	\$13,000	—	—	\$13,000
060923L	LAKE AVE	302	40	Gates	23,338.05	—	4,200.85	\$250,000	5,834.51	\$13,000	—	—	\$13,000
061088S	19TH ST N	1782	40	Gates	34,247.07	—	6,164.47	\$250,000	8,561.77	\$13,000	—	—	\$13,000
061089Y	30TH ST NW	10347	40	Gates	63,151.31	—	11,367.24	\$250,000	15,787.83	—	—	—	\$250,000

061091A	CO RD 5 W	715	40	Crossbucks	28,171.73	\$150,000	5,070.91	\$250,000	7,042.93	\$13,000	—	—	\$163,000
061098X	75TH ST NW	485	40	Gates	15,923.71	—	2,866.27	\$250,000	3,980.93	\$13,000	—	—	\$13,000
061099E	ATLANTIC AVE	570	40	Crossbucks	19,381.95	\$150,000	3,488.75	\$250,000	4,845.49	\$13,000	—	—	\$163,000
061100W	11TH ST	1747	40	Flashing Lights	55,146.52	—	9,926.37	\$250,000	13,786.63	\$13,000	—	—	\$13,000
061101D	105TH ST NW	570	40	Crossbucks	19,381.95	\$150,000	3,488.75	\$250,000	4,845.49	\$13,000	—	—	\$163,000
061104Y	135TH ST NW	850	40	Gates	29,073.02	—	5,233.14	\$250,000	7,268.25	\$13,000	—	—	\$13,000
061123D	9TH ST	570	40	Gates	23,555.76	—	4,240.04	\$250,000	5,888.94	\$13,000	—	—	\$13,000
061125S	14TH ST	1261	40	Gates	30,184.46	—	5,433.20	\$250,000	7,546.11	\$13,000	—	—	\$13,000
067431E	GRISWOLD AVE	281	40	Gates	19,755.34	—	3,555.96	\$250,000	4,938.83	\$13,000	—	—	\$13,000
067445M	OAK ST	570	40	Crossbucks	18,327.07	\$150,000	3,298.87	\$250,000	4,581.77	\$13,000	—	—	\$163,000
067446U	4TH ST	302	40	Gates	22,539.43	—	4,057.10	\$250,000	5,634.86	\$13,000	—	—	\$13,000
067449P	MNTH 55	1357	40	Flashing Lights	29,897.26	—	5,381.51	\$250,000	7,474.32	\$13,000	—	—	\$13,000
067456A	5TH ST	754	40	Gates	22,368.13	—	4,026.26	\$250,000	5,592.03	\$13,000	—	—	\$13,000
067467M	TH 9	1439	40	Gates	32,920.81	—	5,925.75	\$250,000	8,230.20	\$13,000	—	—	\$13,000
067546Y	200TH ST	267	40	stop signs	14,639.81	\$150,000	2,635.17	\$250,000	3,659.95	\$13,000	—	—	\$163,000
067557L	3RD ST	569	40	Crossbucks	18,315.16	\$150,000	3,296.73	\$250,000	4,578.79	\$13,000	—	—	\$163,000
067558T	4TH ST.	576	40	Gates	26,458.88	—	4,765.60	\$250,000	6,614.72	\$13,000	—	—	\$13,000
067574C	3RD ST	569	40	stop signs	18,315.16	\$150,000	3,296.73	\$250,000	4,578.79	\$13,000	—	—	\$163,000
067575J	5TH ST W	2330	40	Gates	19,525.30	—	3,514.55	\$250,000	4,881.32	\$13,000	—	—	\$13,000
067895J	HOLLIS ST	946	40	Gates	28,202.63	—	5,076.47	\$250,000	7,050.66	\$13,000	—	—	\$13,000
067896R	SHAAF ST.	514	40	Gates	25,730.15	—	4,631.43	\$250,000	6,432.54	\$13,000	—	—	\$13,000
067903Y	3RD ST	570	40	Gates	24,954.83	—	4,491.87	\$250,000	6,238.71	\$13,000	—	—	\$13,000
067904F	4TH ST	768	40	Gates	26,828.62	—	4,829.15	\$250,000	6,707.15	\$13,000	—	—	\$13,000

067921W	GRACE AVE	946	40	Gates	29,825.94	—	5,368.67	\$250,000	7,456.49	\$13,000	—	—	\$13,000
067925Y	20TH ST NW	2193	40	Flashing Lights	33,869.84	—	6,096.57	\$250,000	8,467.46	\$13,000	—	—	\$13,000
067927M	14TH ST	11239	40	Gates	58,204.78	—	10,476.86	\$250,000	14,551.20	—	—	—	\$250,000
067928U	13TH ST	569	40	Gates	24,944.11	—	4,489.94	\$250,000	6,236.03	\$13,000	—	—	\$13,000
067929B	12TH ST.	569	40	Gates	23,545.64	—	4,238.22	\$250,000	5,886.41	\$13,000	—	—	\$13,000
067931C	7TH ST	3564	40	Gates	28,808.96	—	5,185.61	\$250,000	7,202.24	\$13,000	—	—	\$13,000
067933R	5TH ST	6305	40	Gates	80,938.33	—	14,568.90	—	20,234.58	—	11,240.86	\$320,000	\$320,000
067934X	FIRST ST	2399	40	Gates	26,389.43	—	4,750.10	\$250,000	6,597.36	\$13,000	—	—	\$13,000
067936L	INDUSTRIAL BLVD	809	40	Gates	27,166.48	—	4,889.97	\$250,000	6,791.62	\$13,000	—	—	\$13,000
062576Y	12TH AV S	7813	60	Gates	38,675.64	—	6,961.62	\$250,000	9,668.91	\$13,000	—	—	\$13,000
062925G	1ST AVE S	1138	60	Gates	14,917.56	—	2,685.16	\$250,000	3,729.39	\$13,000	—	—	\$13,000
062923T	20TH ST S & MAIN	28509	60	Flashing Lights	104,370.34	—	18,786.66	—	26,092.58	—	6,475.07	\$320,000	\$320,000
067930V	PARK AVE	1987	60	Gates	27,750.10	—	4,995.02	\$250,000	6,937.52	\$13,000	—	—	\$13,000
062635Y	75TH ST SE	274	60	Gates	25,199.53	—	4,535.92	\$250,000	6,299.88	\$13,000	—	—	\$13,000
062638U	76TH ST SE	206	60	Gates	23,435.73	—	4,218.43	\$250,000	5,858.93	\$13,000	—	—	\$13,000
062639B	77TH ST SE	247	60	Gates	24,545.56	—	4,418.20	\$250,000	6,136.39	\$13,000	—	—	\$13,000
062640V	16TH AVE N	857	60	Gates	27,216.97	—	4,899.06	\$250,000	6,804.24	\$13,000	—	—	\$13,000
062496F	11TH ST HWY 127	7909	60	Gates	33,183.64	—	5,973.06	\$250,000	8,295.91	\$13,000	—	—	\$13,000
062494S	6TH ST S	3392	60	Gates	37,335.09	—	6,720.32	\$250,000	9,333.77	\$13,000	—	—	\$13,000
062491W	5TH ST S	452	60	Gates	23,289.93	—	4,192.19	\$250,000	5,822.48	\$13,000	—	—	\$13,000
062489V	4TH ST	2227	60	Gates	33,996.89	—	6,119.44	\$250,000	8,499.22	\$13,000	—	—	\$13,000
062487G	3RD ST	788	60	Gates	17,999.02	—	3,239.82	\$250,000	4,499.75	\$13,000	—	—	\$13,000
TOTAL:													\$4,145,000

Notes:

^a Assuming 24-hour quiet zones

^b Trains per day = 26.6

^c Risk index factors as compared to the nationwide significant risk threshold of 14,347.00. Quiet zone risk index factors below this threshold may be designated as quiet zones. Quiet zone risk index factors above this threshold are highlighted.

^d SSMs can be used to reduce the quiet zone risk index factor to below the threshold and then can be designated a quiet zone.

^e All crossings proposed for a quiet zone require gates, crossings that already meet this requirement are noted.

^f SSM 8 = four quadrant gates new installation, no vehicle presence detection; SSM 12 = mountable medians with reflective traffic channelization devices; SSM 11 = four quadrant gates new installation, with medians and vehicle presence detection.

SSM = supplementary safety measure

V.4 Environmental Justice

V.4.1 Minority Populations

Table V.4-1 shows the minority presence in Minnesota and North Dakota, and in the nine-county study area. Total minority presence in the nine-county study area is lower than in both the state of Minnesota and North Dakota. African Americans, Asians, and Hispanics are more present in Minnesota than in North Dakota. American Indians are more present in North Dakota than in Minnesota.

Table V.4-1. Demographics in the Downline Study Area

Location	Total Population	White (%)	Black or African American (%)	Alaska Native or American Indian (%)	Asian (%)	Native Hawaiian & Other Pacific Islander (%)	Other Race (%)	Two or more Races (%)	Hispanic or Latino ^a (%)	Minority Population ^b (%)
Minnesota	5,303,925	85.3	5.2	1.1	4.0	0.0	1.9	2.4	4.7	16.9
North Dakota	672,591	90.0	1.2	5.4	1.0	0.0	0.5	1.8	2.0	11.0
Nine-County Area	164,215	94.0	1.2	1.0	0.8	0.0	1.3	1.5	4.9	9.2

Notes:

^a Individuals who identify as Hispanic, Latino, or Spanish may be of any race; the sum of the other percentages plus the Hispanic or Latino column do not equal 100 percent.

^b Minority population, for the purposes of this analysis, is the total population for the census-designated place minus the non-Latino/Spanish/Hispanic White population.

Source: U.S. Census Bureau 2010

In the downline study area for the environmental justice analysis, a total of 1,654 census blocks would intersect the high rail traffic noise contour. In 273 of these census blocks, the share of the population belonging to one or more racial and ethnic categories exceeded the share for the study area or the respective state. Table V.4-2 shows the number of minority census blocks identified by county.

Table V.4-2. Minority Populations in the Downline Study Area

County	Number of Census Blocks
Clay County	60
Grant County	5
Kandiyohi County	38
Stevens County	49
Swift County	57
Traverse County	1
Pope County	0
Wilkin County	31

County	Number of Census Blocks
Richland County	32
Total	273
Source: U.S. Census Bureau 2010	

V.4.2 Low-Income Populations

The presence of low-income groups in the study area can be characterized using American Community Survey 5-year estimates from 2008 to 2012 (U.S. Census Bureau 2012).

Chapter 16, Section 16.3.2, *Step 2: Identify Minority and Low-Income Populations*, provides a discussion of the margin of error for the poverty estimates.

For the purpose of this analysis, OEA measured the low-income presence of both households and individuals living below the poverty level. Table V.4-3 shows the low-income presence in Minnesota and North Dakota, and in the study area. The share of low-income households in the study area is slightly larger than the share of such households in Minnesota and slightly smaller than the share in North Dakota. The share of low-income individuals in the study area is slightly larger than the share of such individuals in Minnesota and slightly smaller than the share in North Dakota.

Table V.4-3. Low-Income Characteristics of the Downline Study Area

Location	Households					Individuals		
	Population	Total # of households	Number low-income	Percentage of Total households (%)	Margin of error	Number in Poverty	Percentage of Total Population (%)	Margin of Error
Minnesota	5,303,925	2,101,875	225,600	10.7		594,040	11.20	+/-0.1
North Dakota	672,591	282,667	35,056	12.4		81,384	12.10	+/-0.3
Study area	164,215	65,746	7,718	11.7	N/A	19,468	11.86	N/A
Source: U.S. Census Bureau 2012								

OEA identified 59 census block groups that would intersect the high rail traffic noise contour. In 22 of these census block groups, the share of either individuals or households in poverty was above the share for the study area or the respective state. Table V.4-4 shows the number of low-income census block groups identified by county.

Table V.4-4. Low-Income Populations in the Downline Study Area

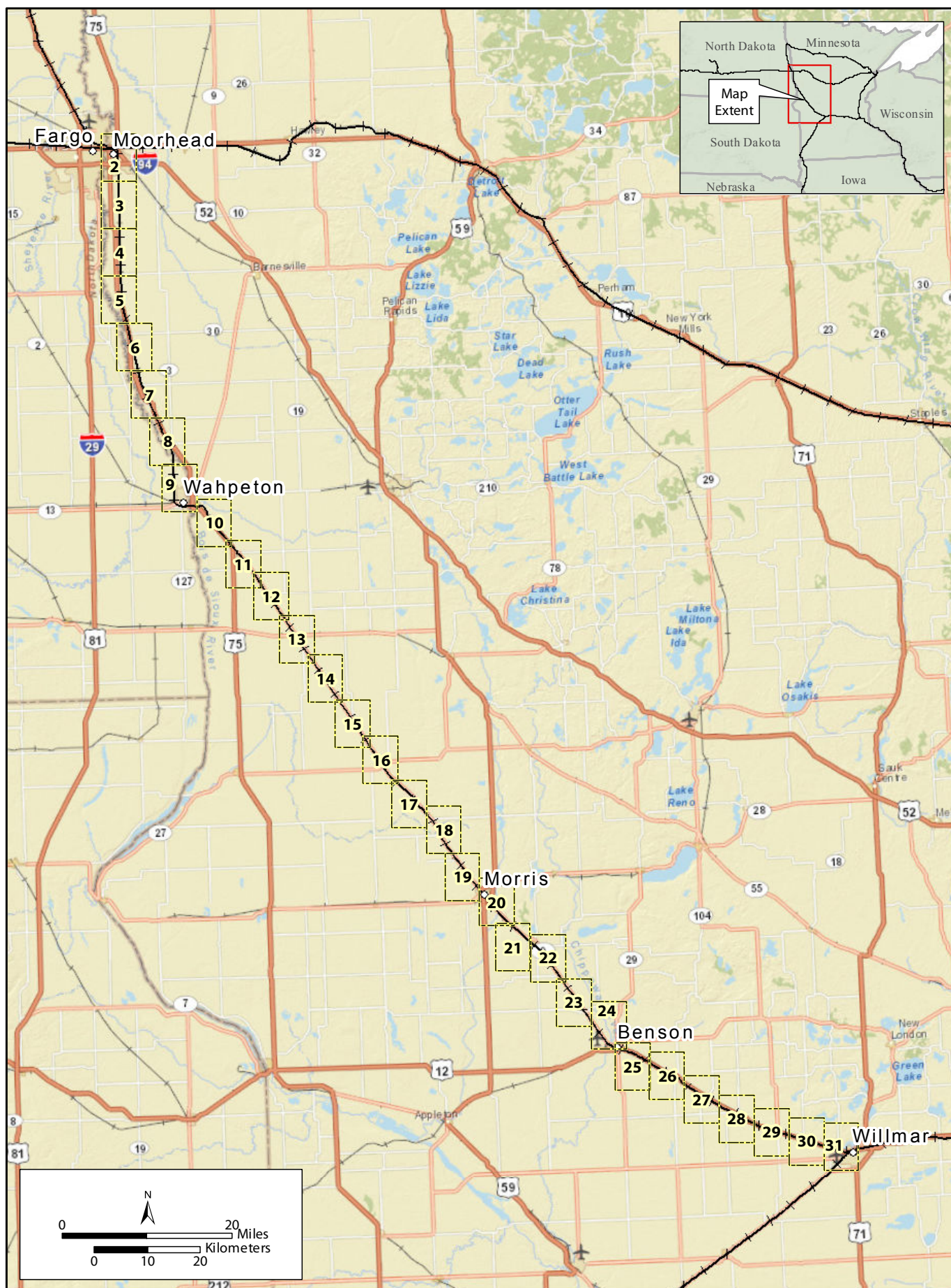
County	Number of Block Groups
Clay County	7
Grant County	0
Kandiyohi County	2
Stevens County	4
Swift County	4
Traverse County	0
Pope County	0
Wilkin County	2
Richland County	3
Total	22
Source: U.S. Census Bureau 2012	

Figures V-1 through V-31, which are compiled at the back of this appendix, show the locations of sensitive noise receptors in relation to minority and low-income populations in Segment 20 of the downline study area. This is the only segment on which environmental justice impacts could occur, and only under the high coal production scenario. Figure V-1 shows a grid of the detailed environmental justice figures. Figures V-2 through V-31 show the location of environmental justice populations and sensitive receptors in detail.

V.5 References

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Downline Figures: Noise and Environmental Justice



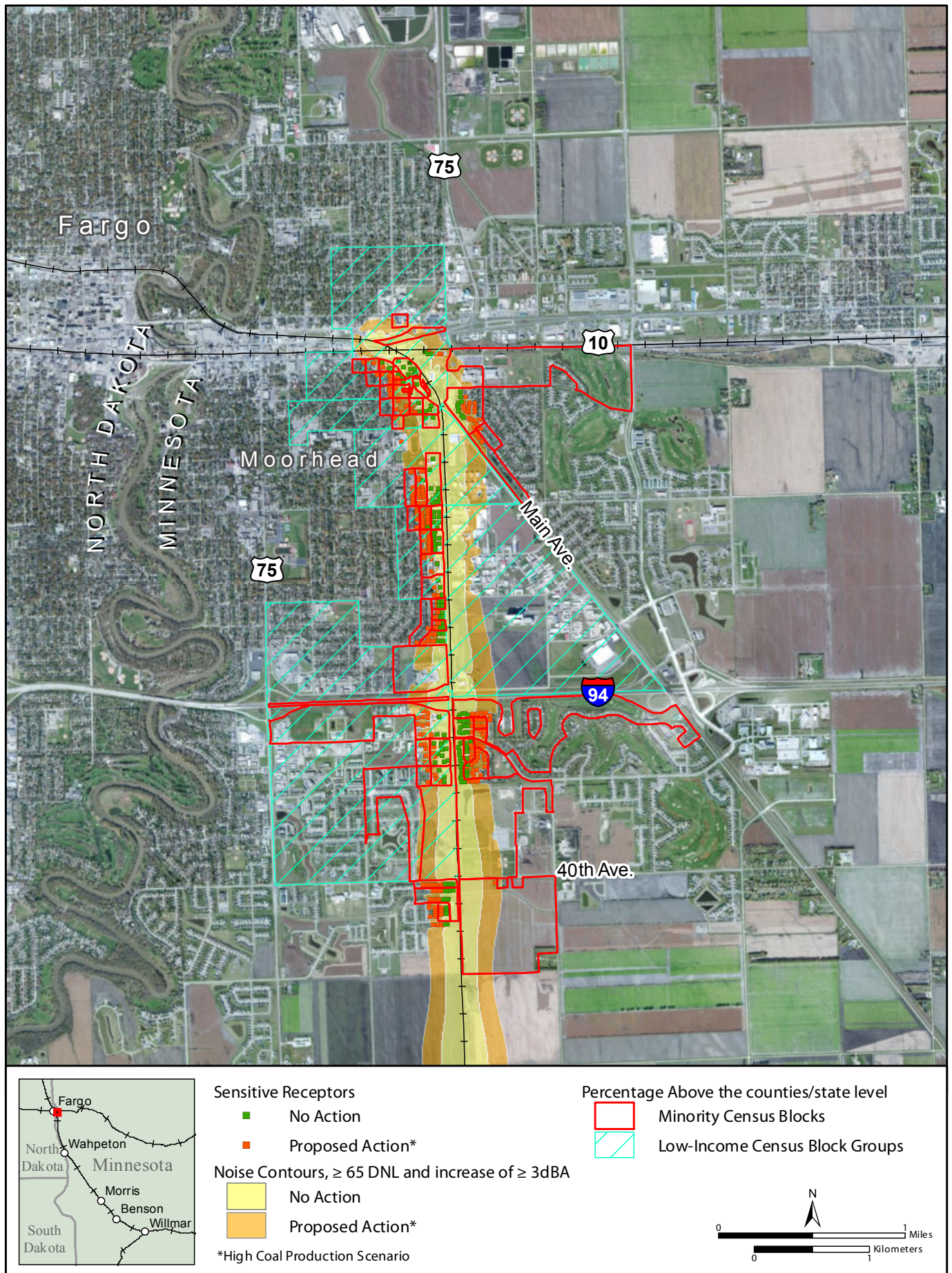


Figure V-2. Noise Contours and Environmental Justice Populations for Segment 20

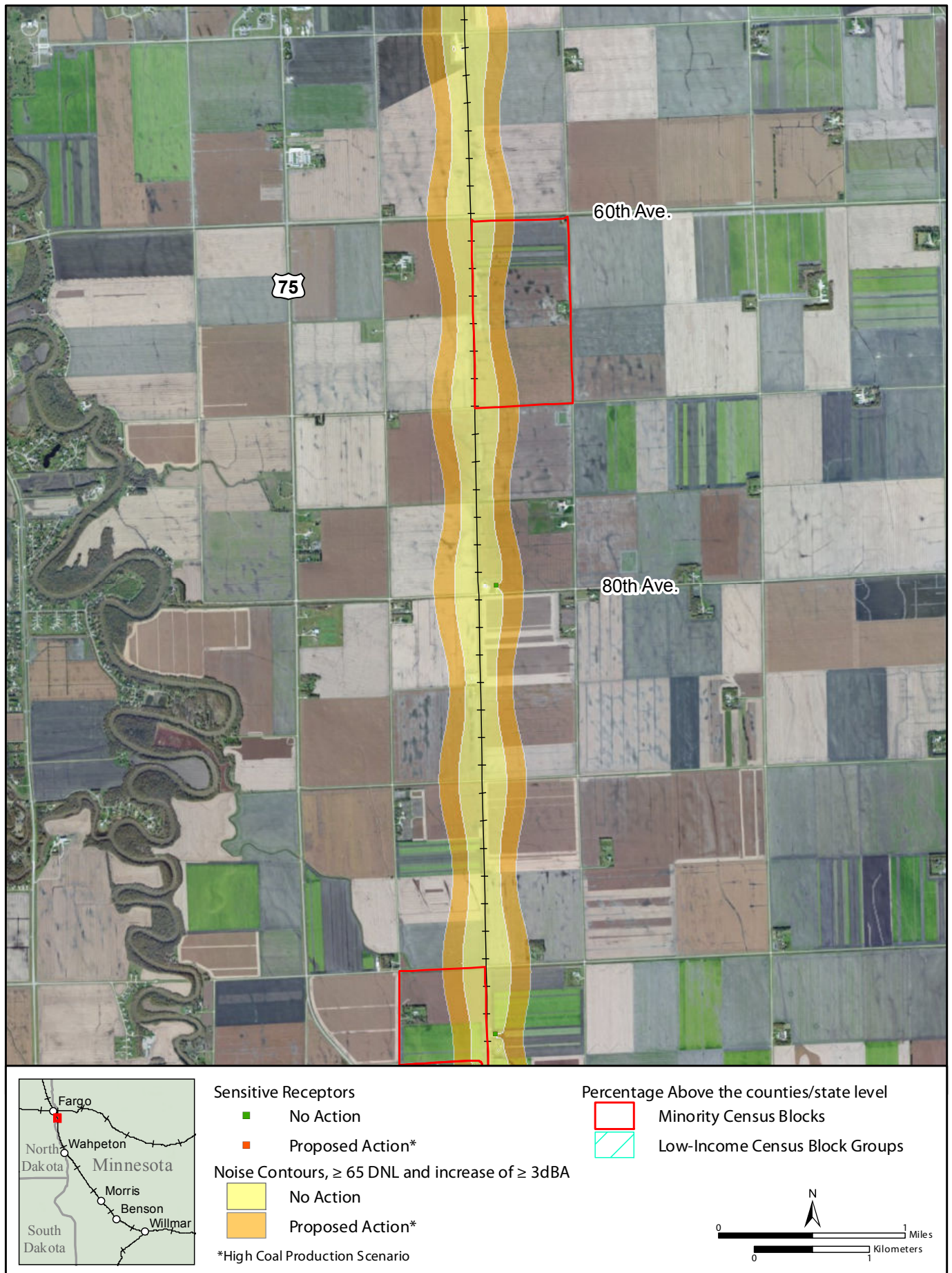


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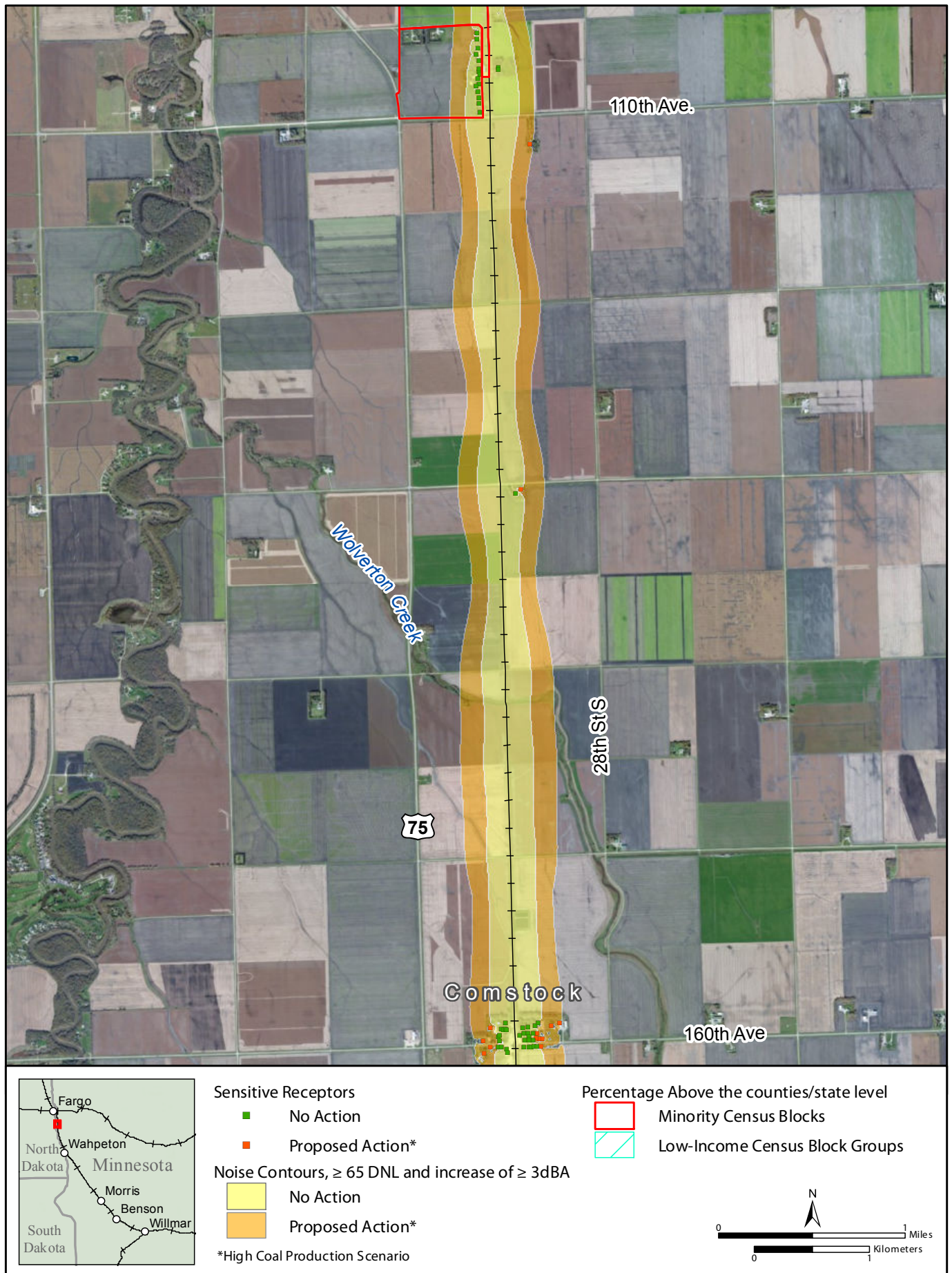


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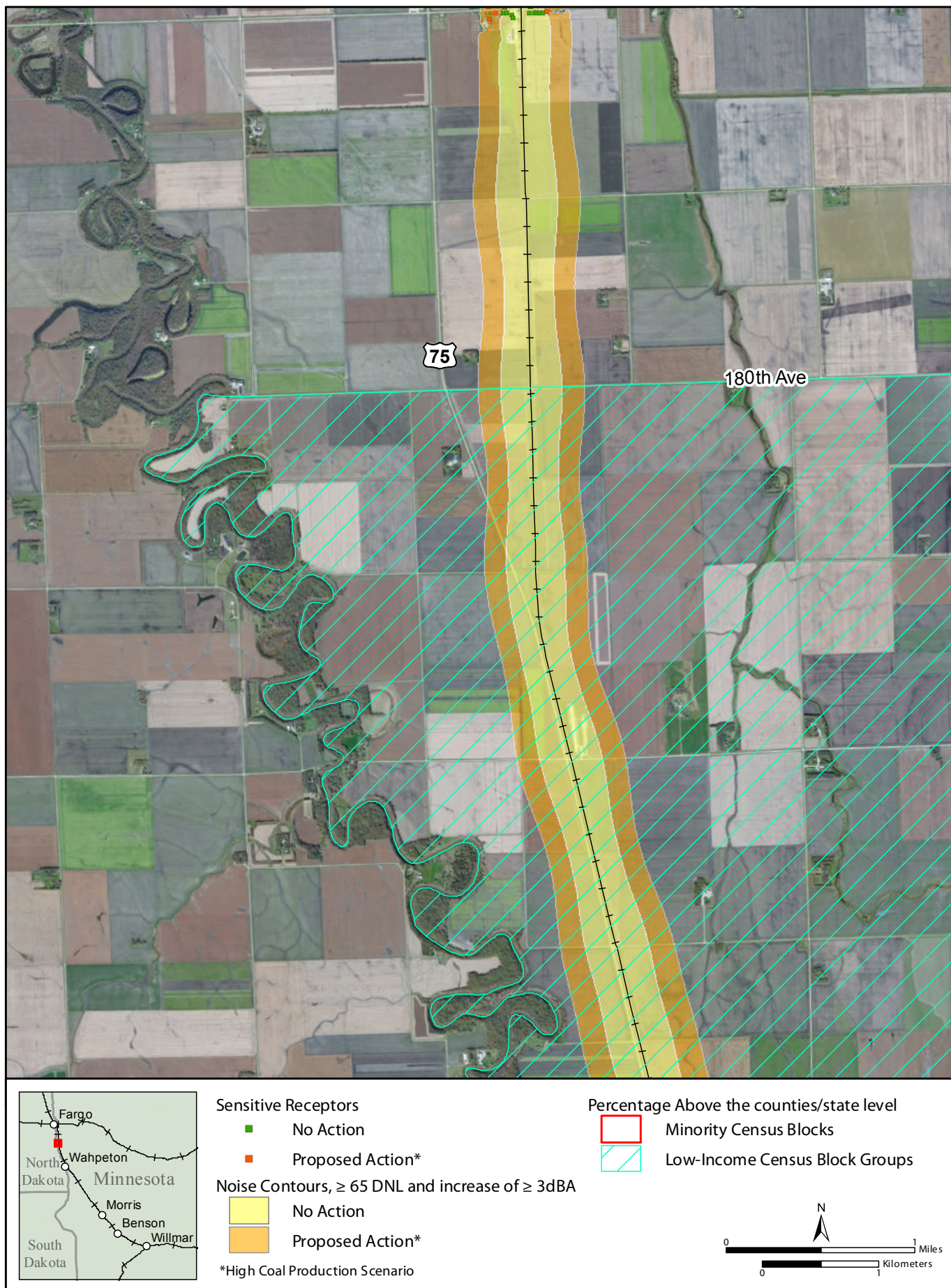


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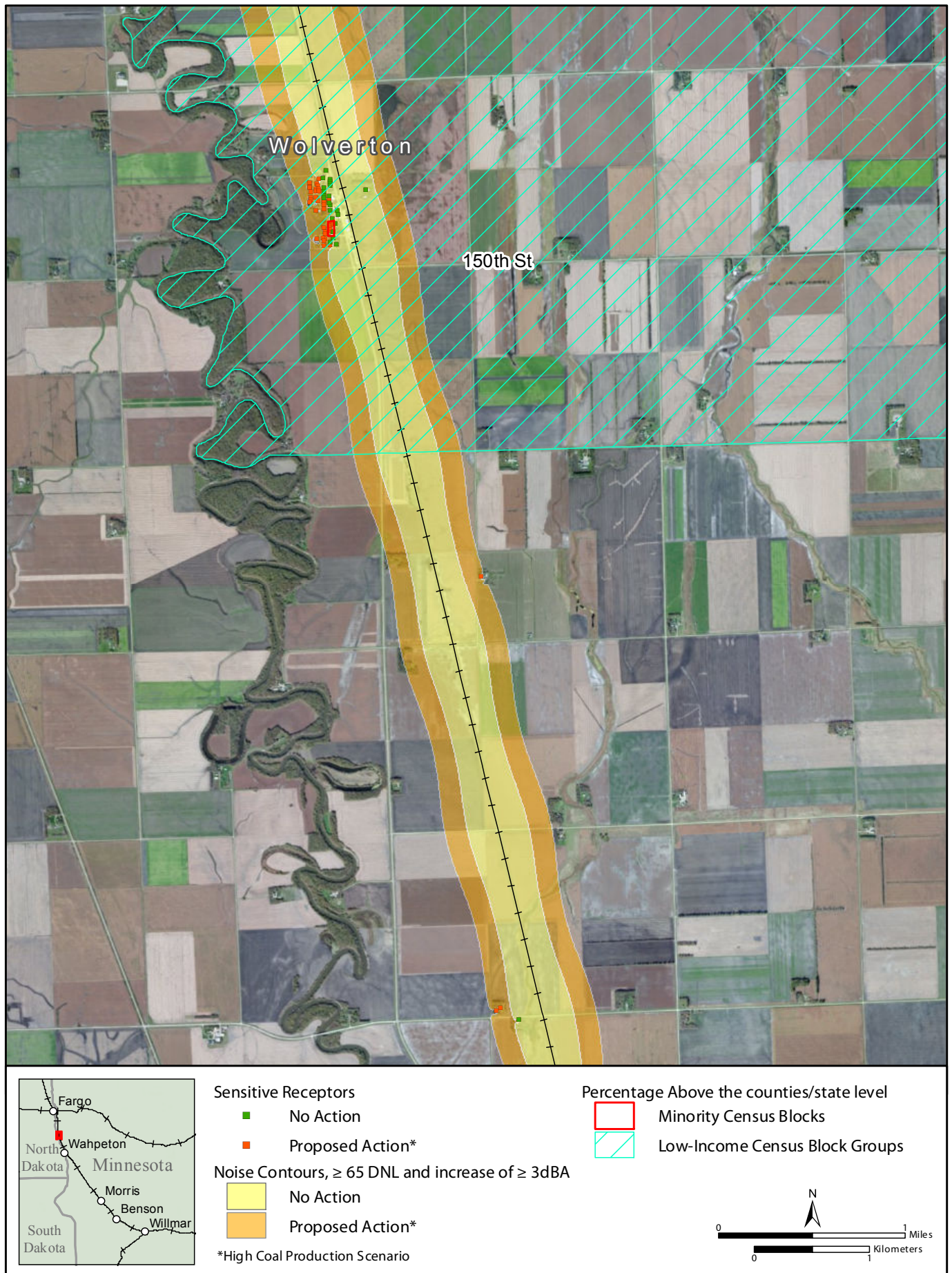


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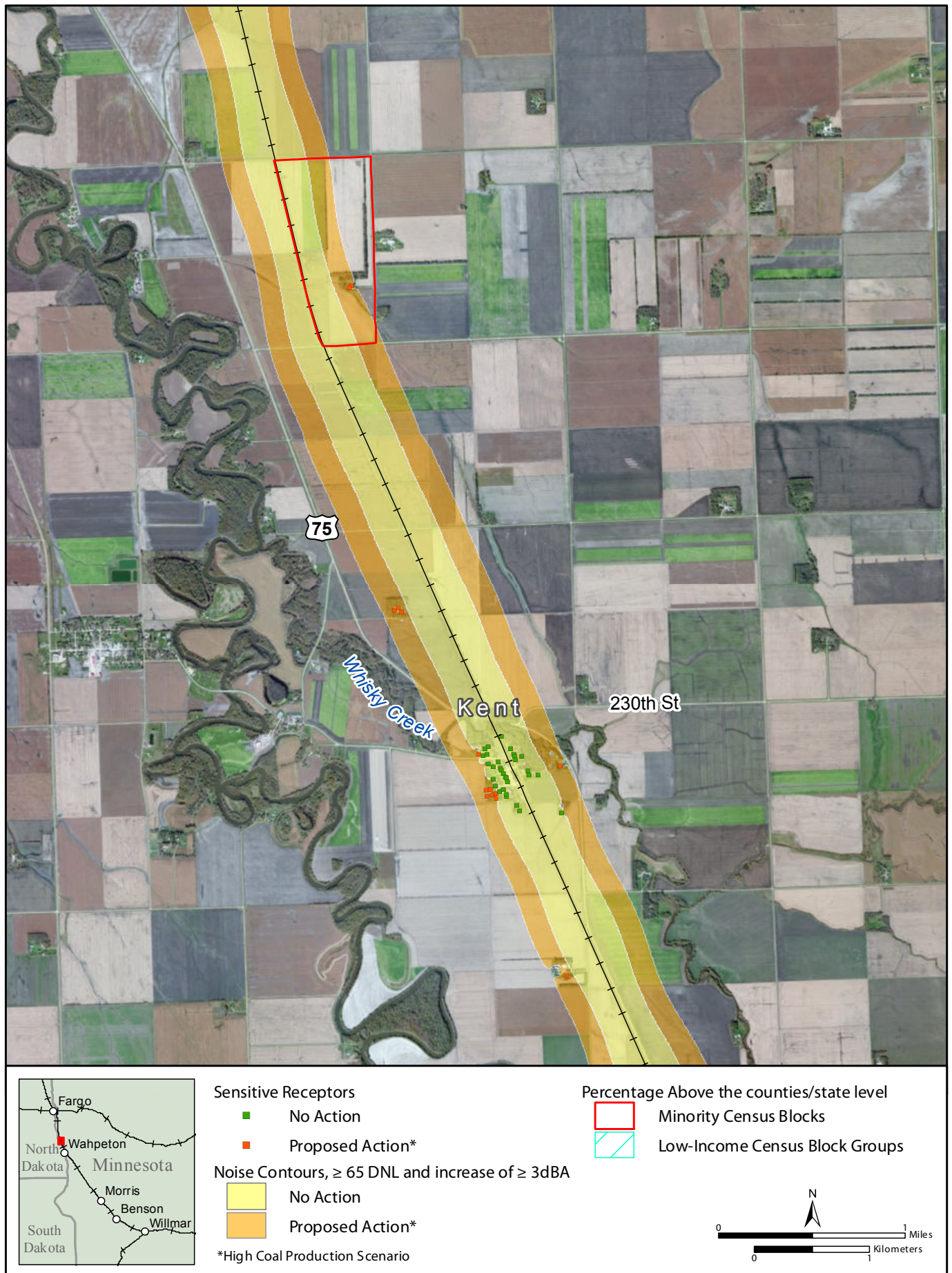


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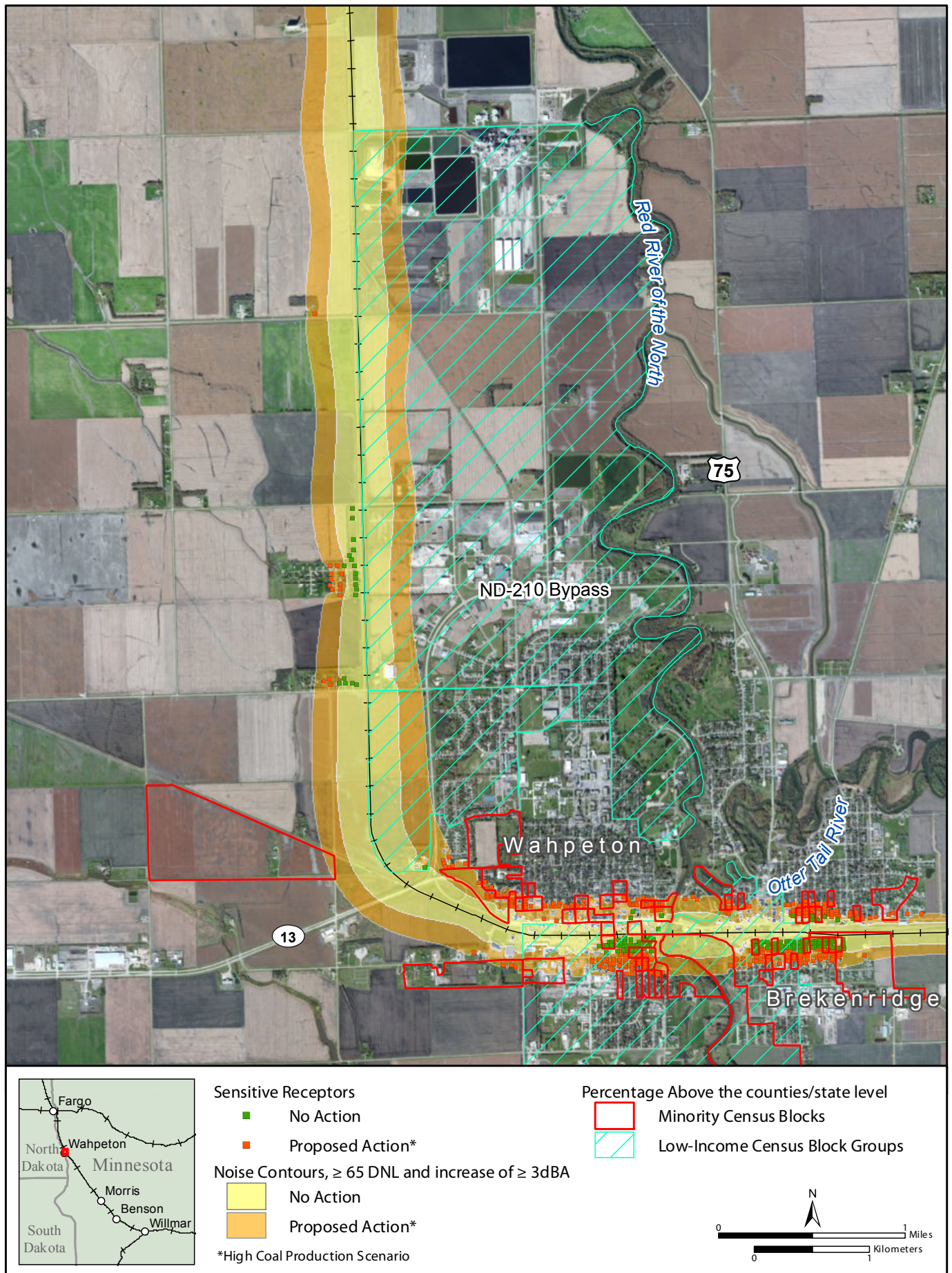


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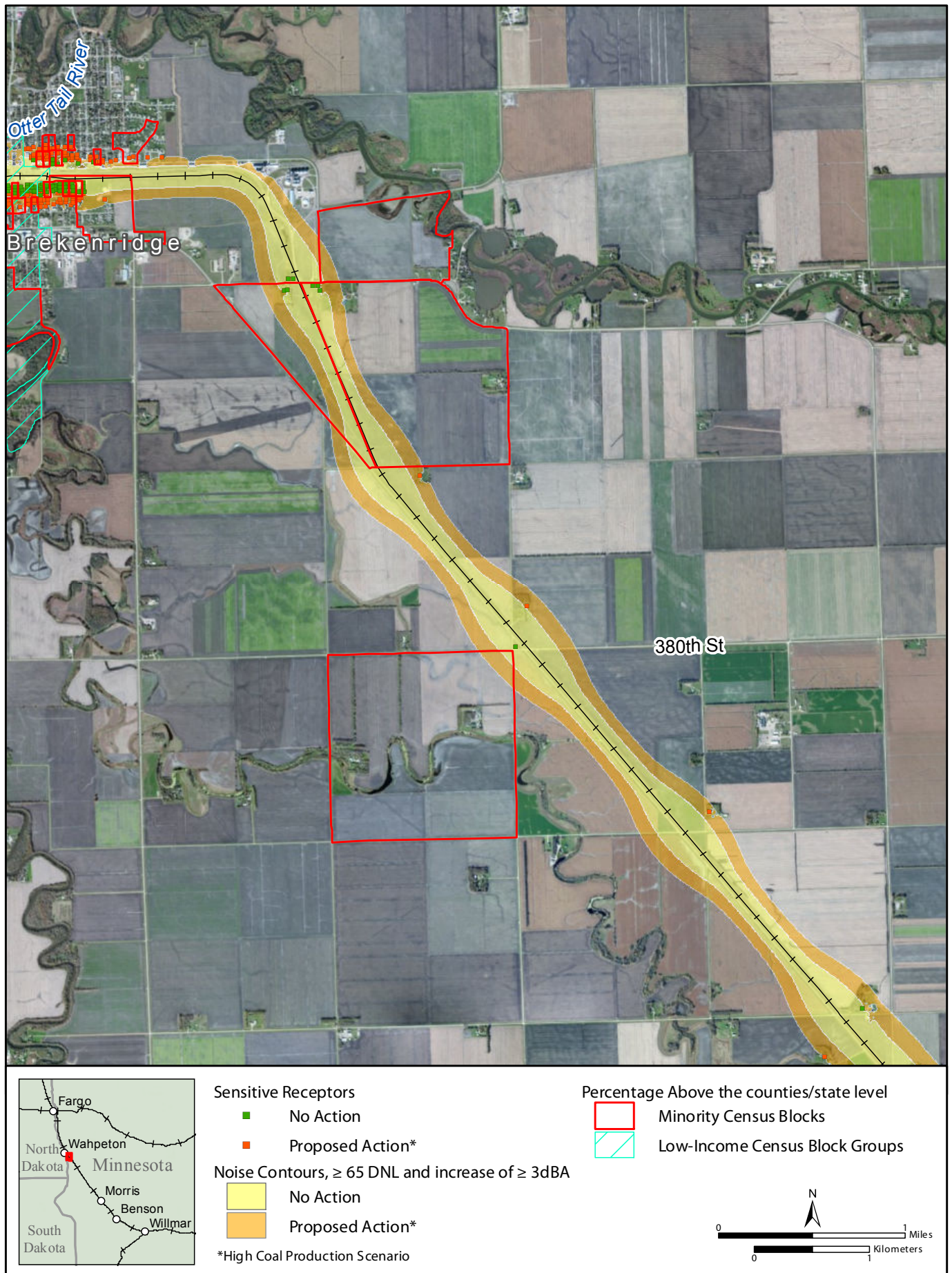


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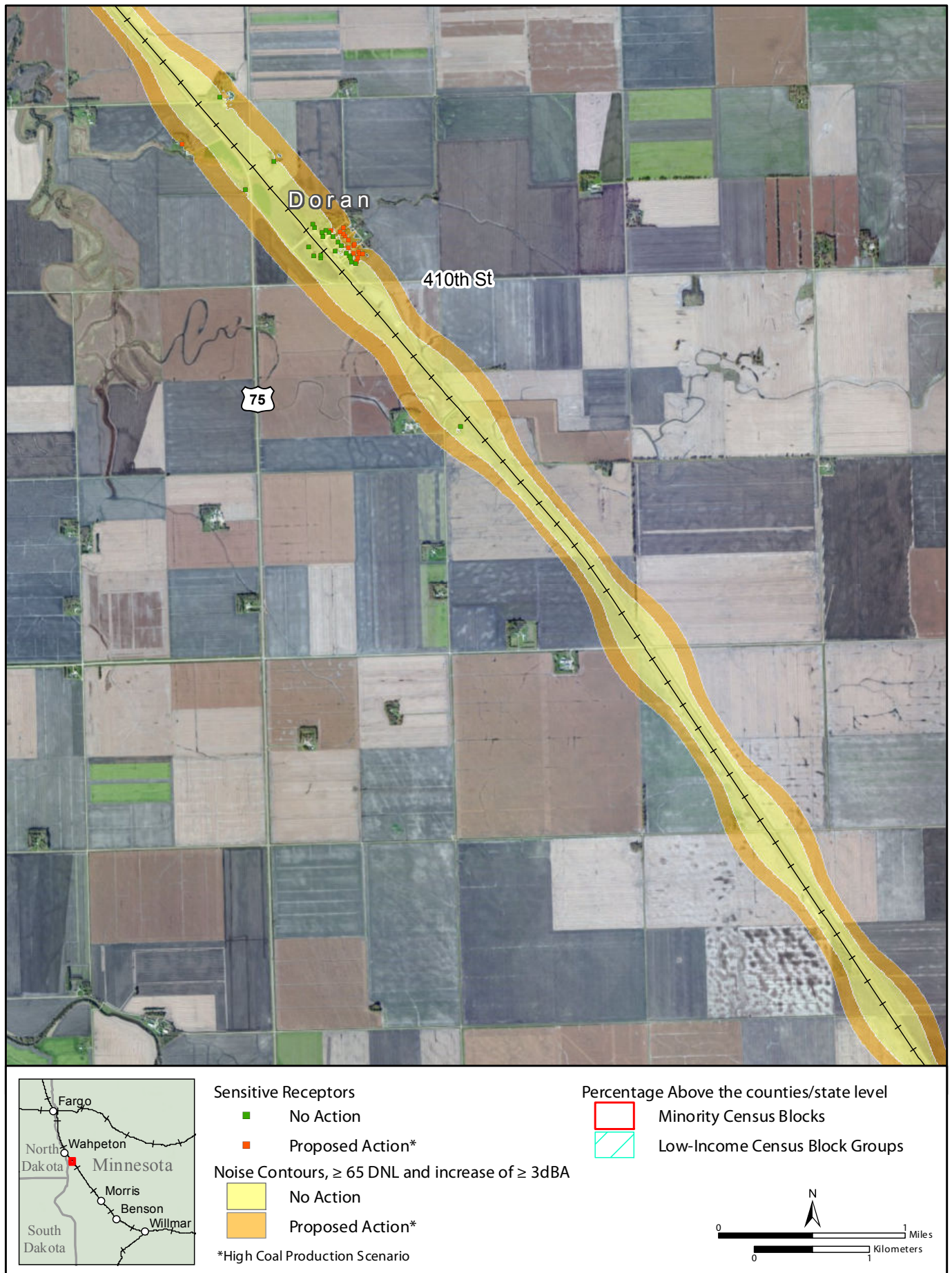


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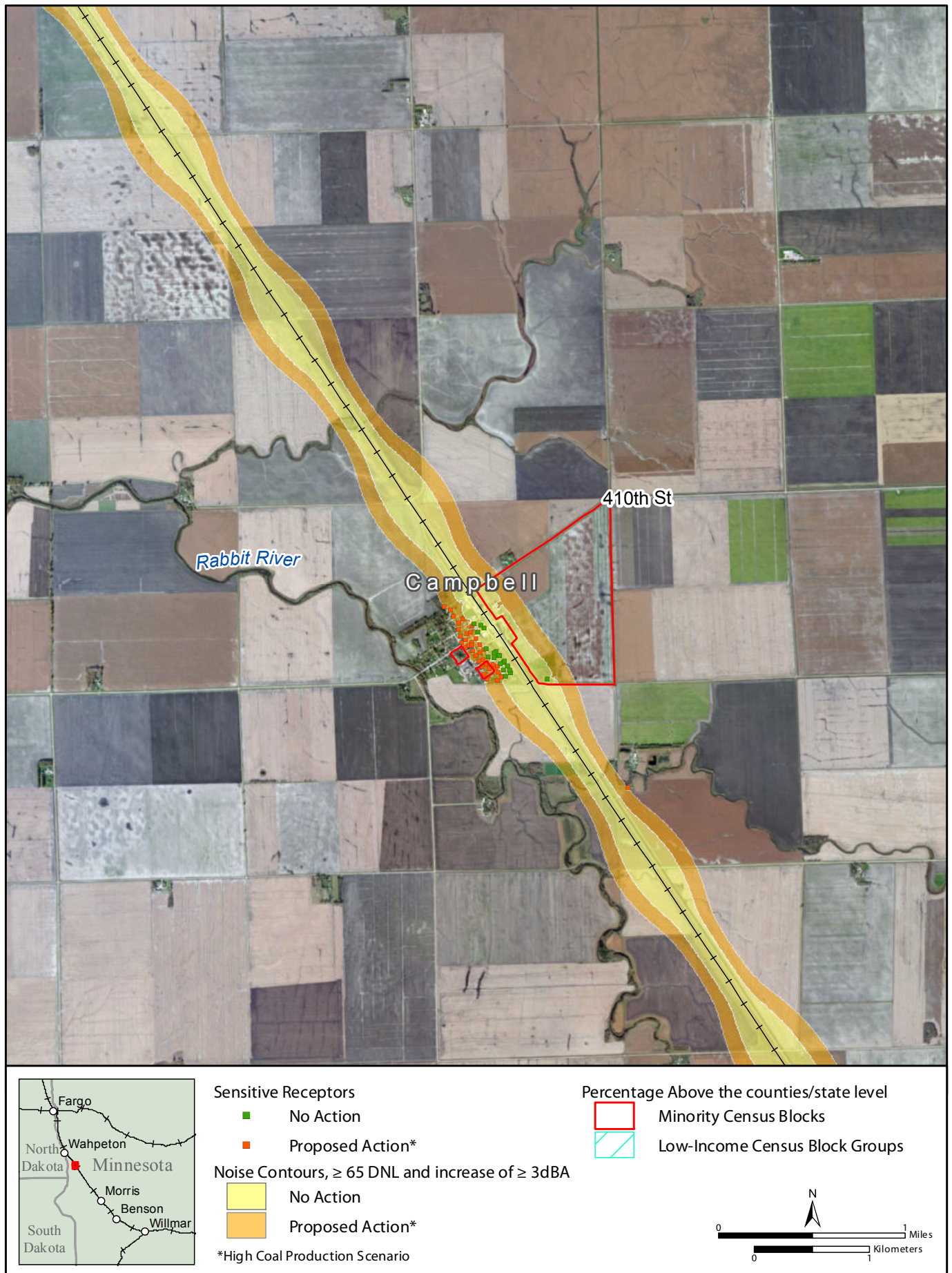


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Figure V-13. Noise Contours and Environmental Justice Populations for Segment 20

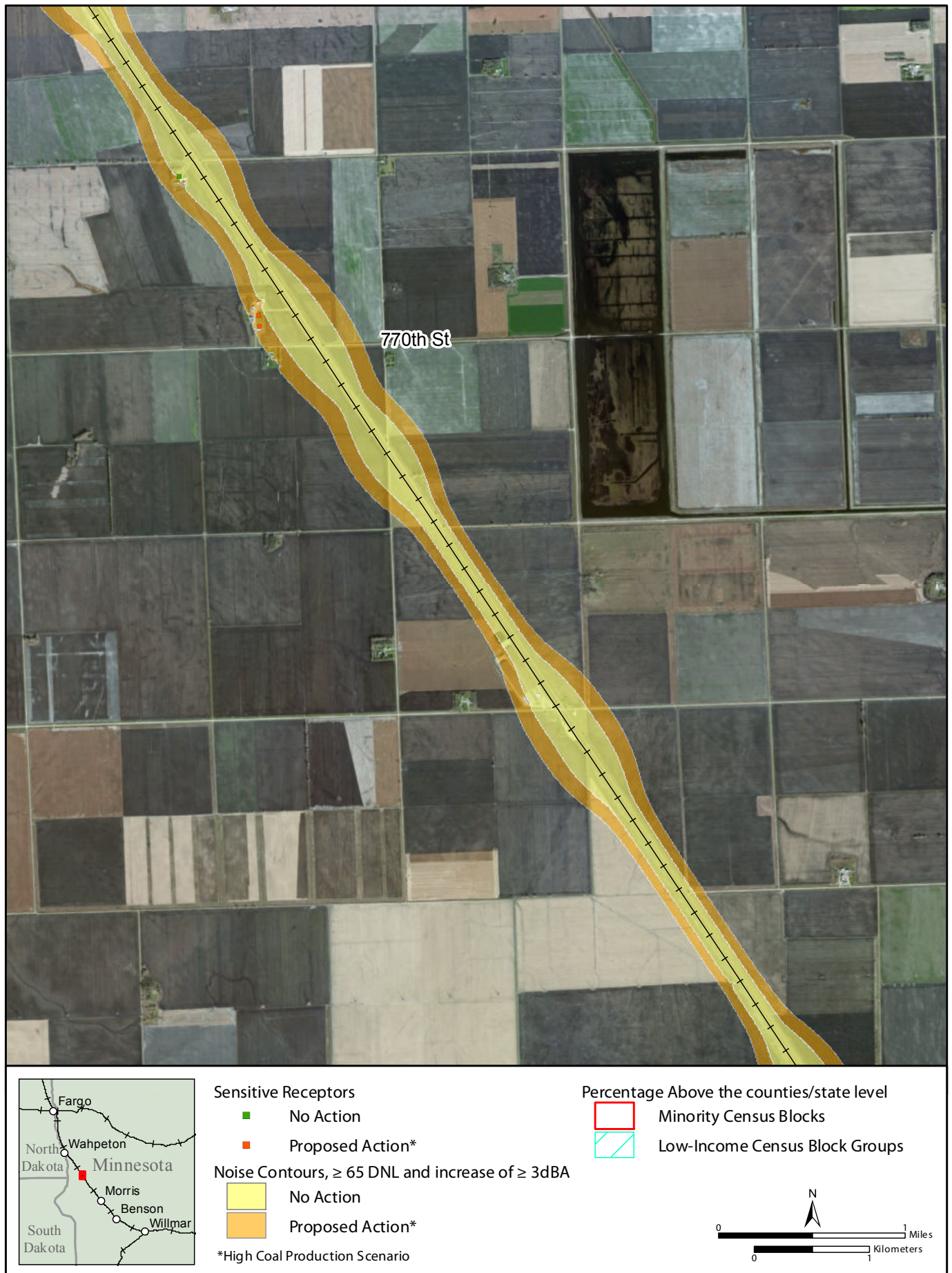


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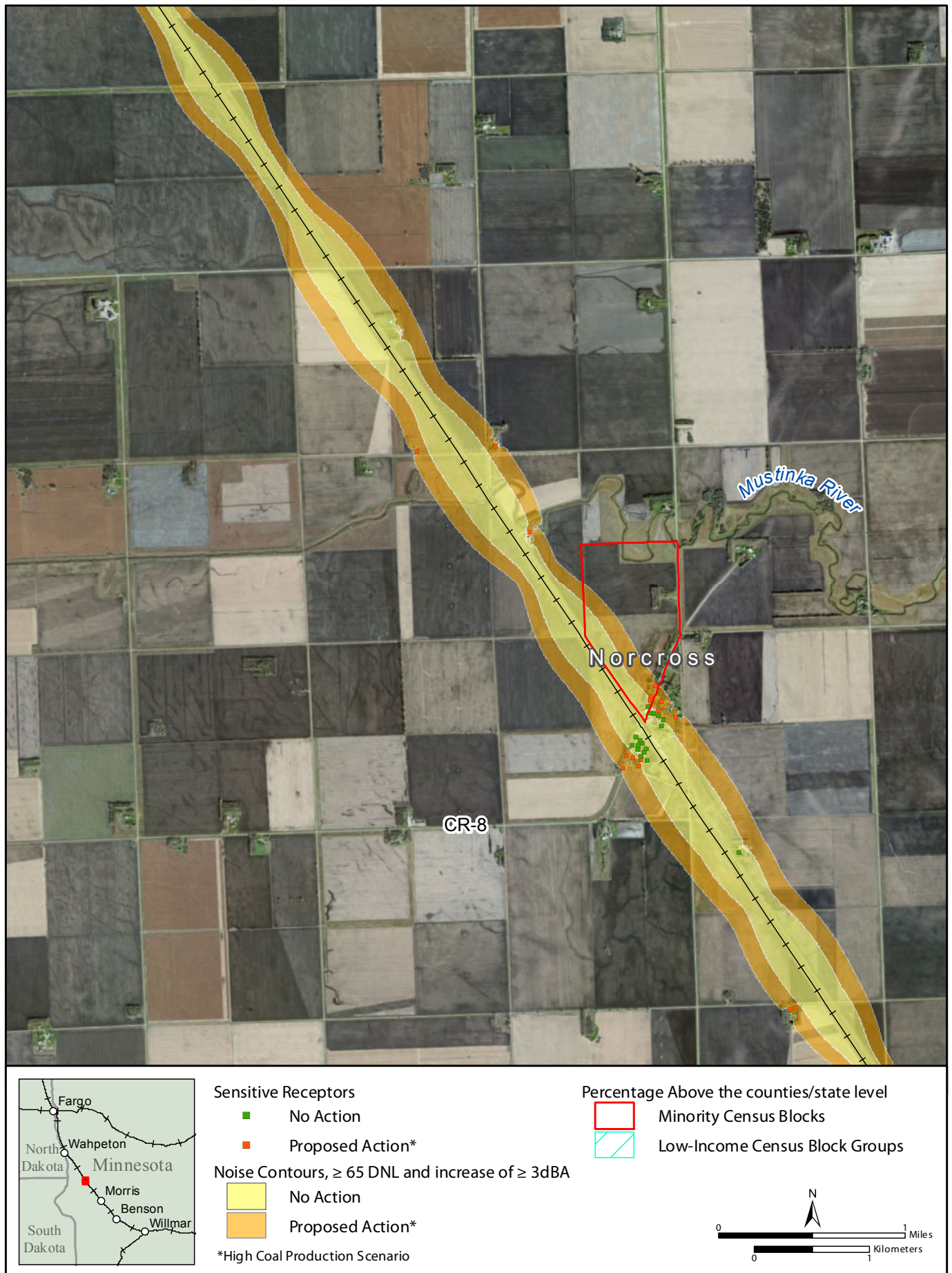


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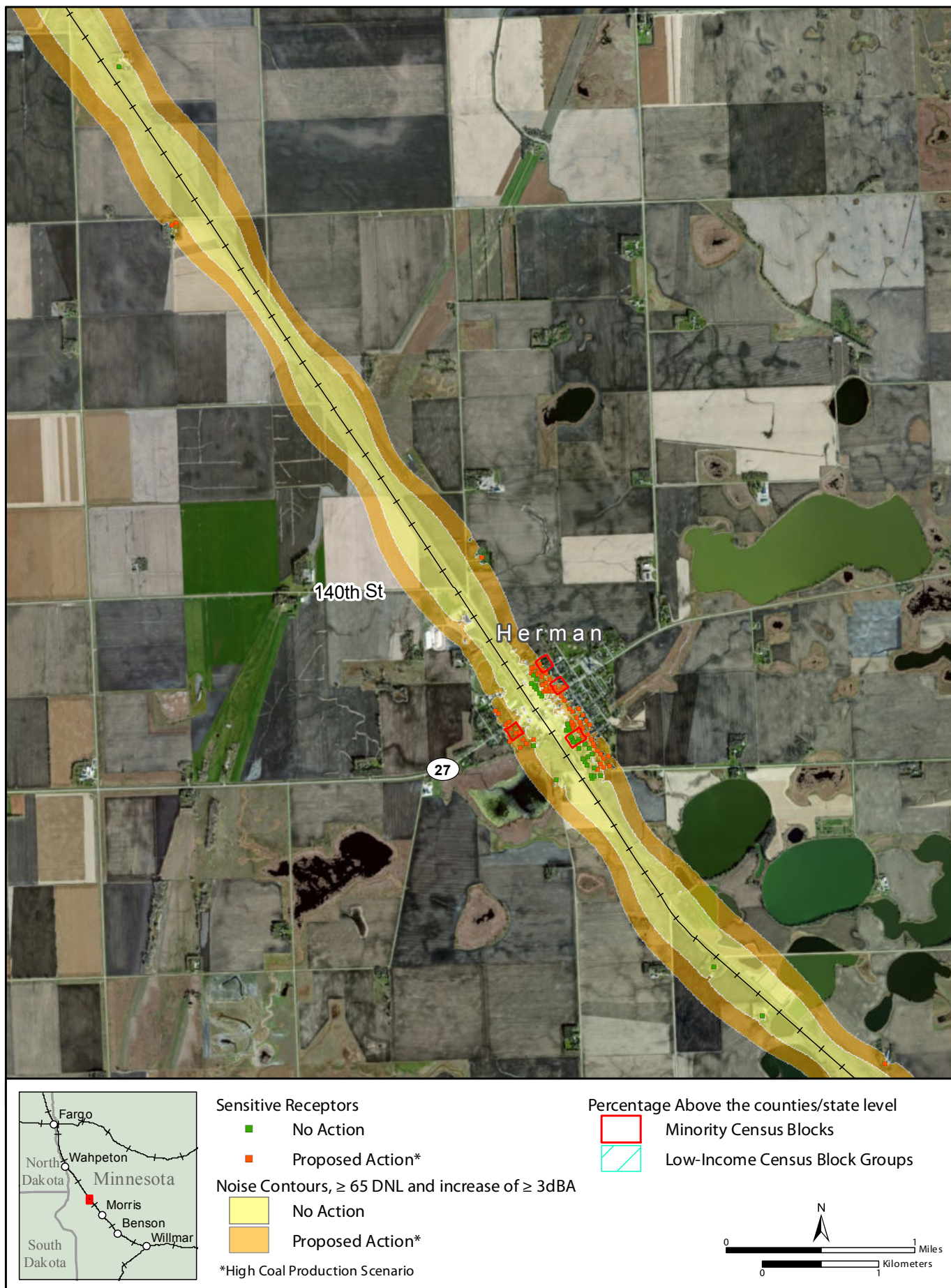


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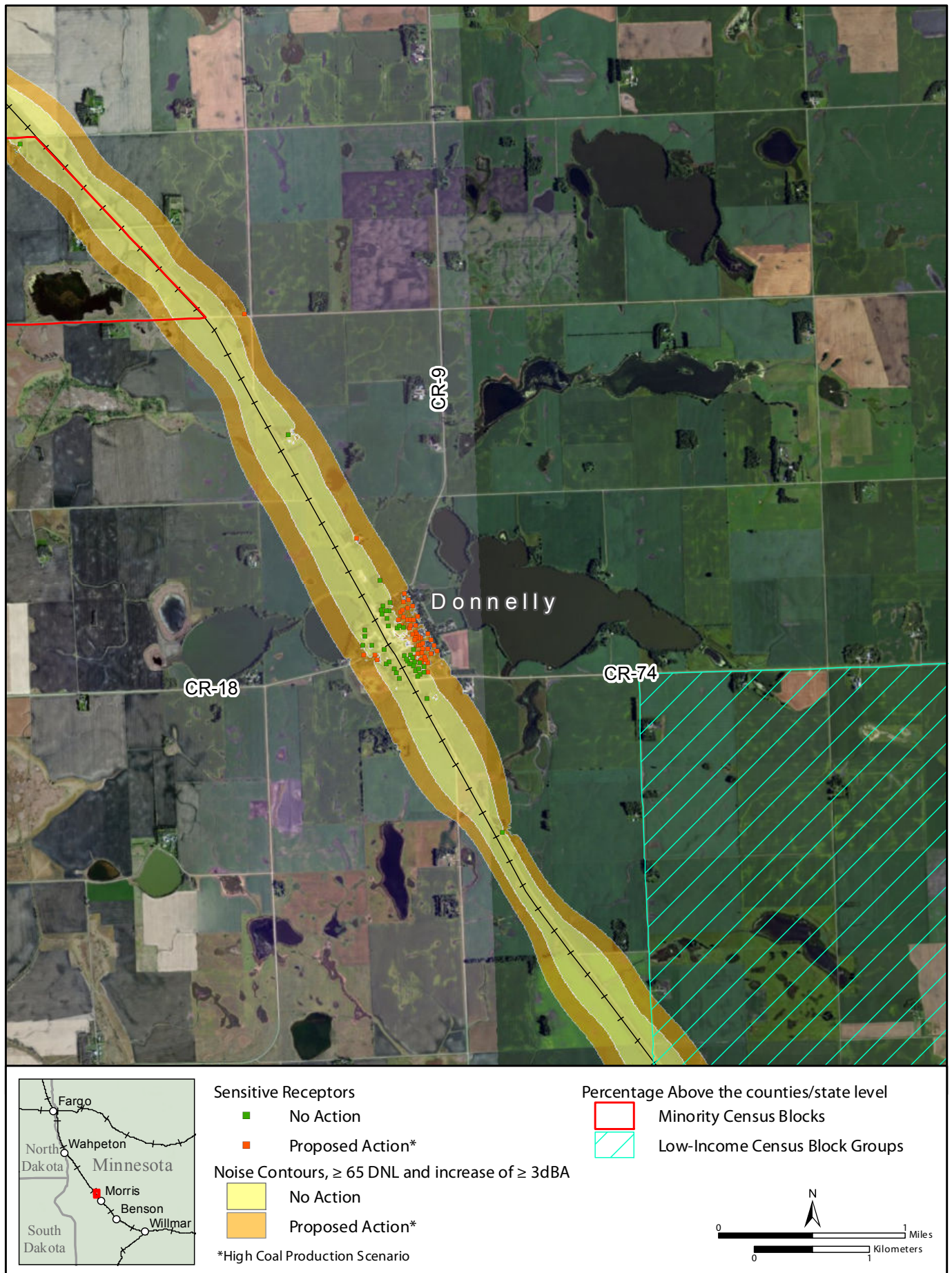


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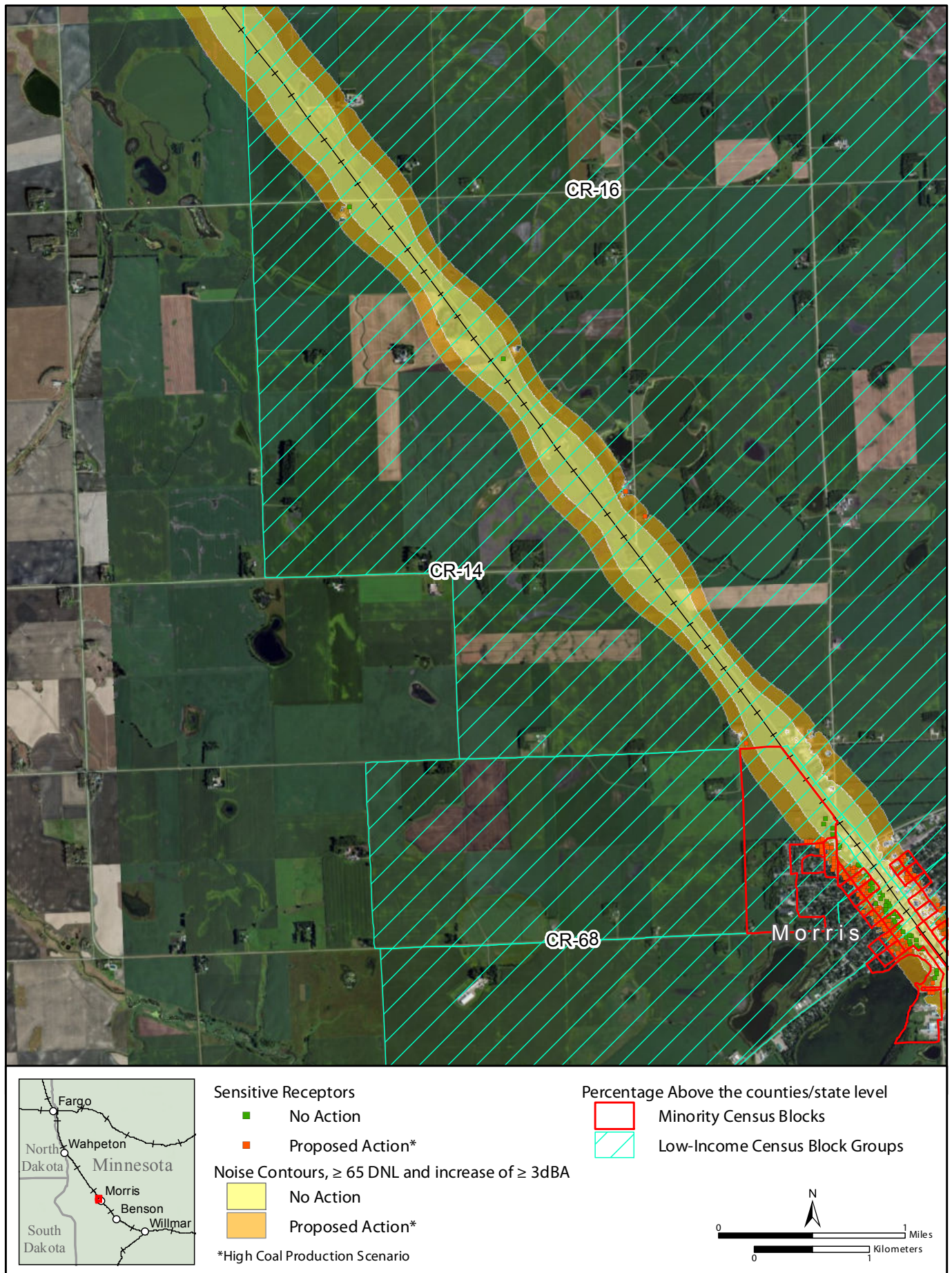


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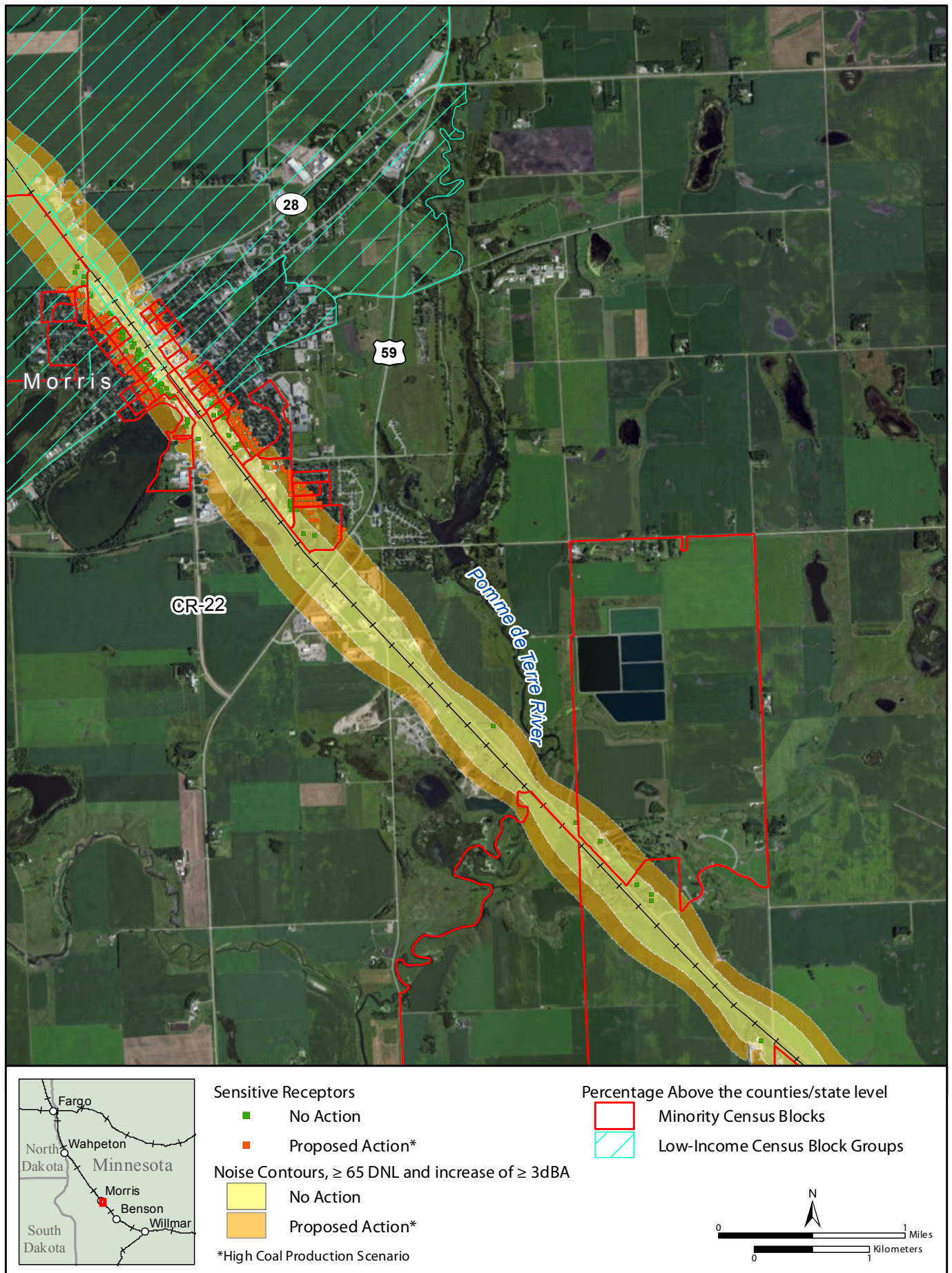


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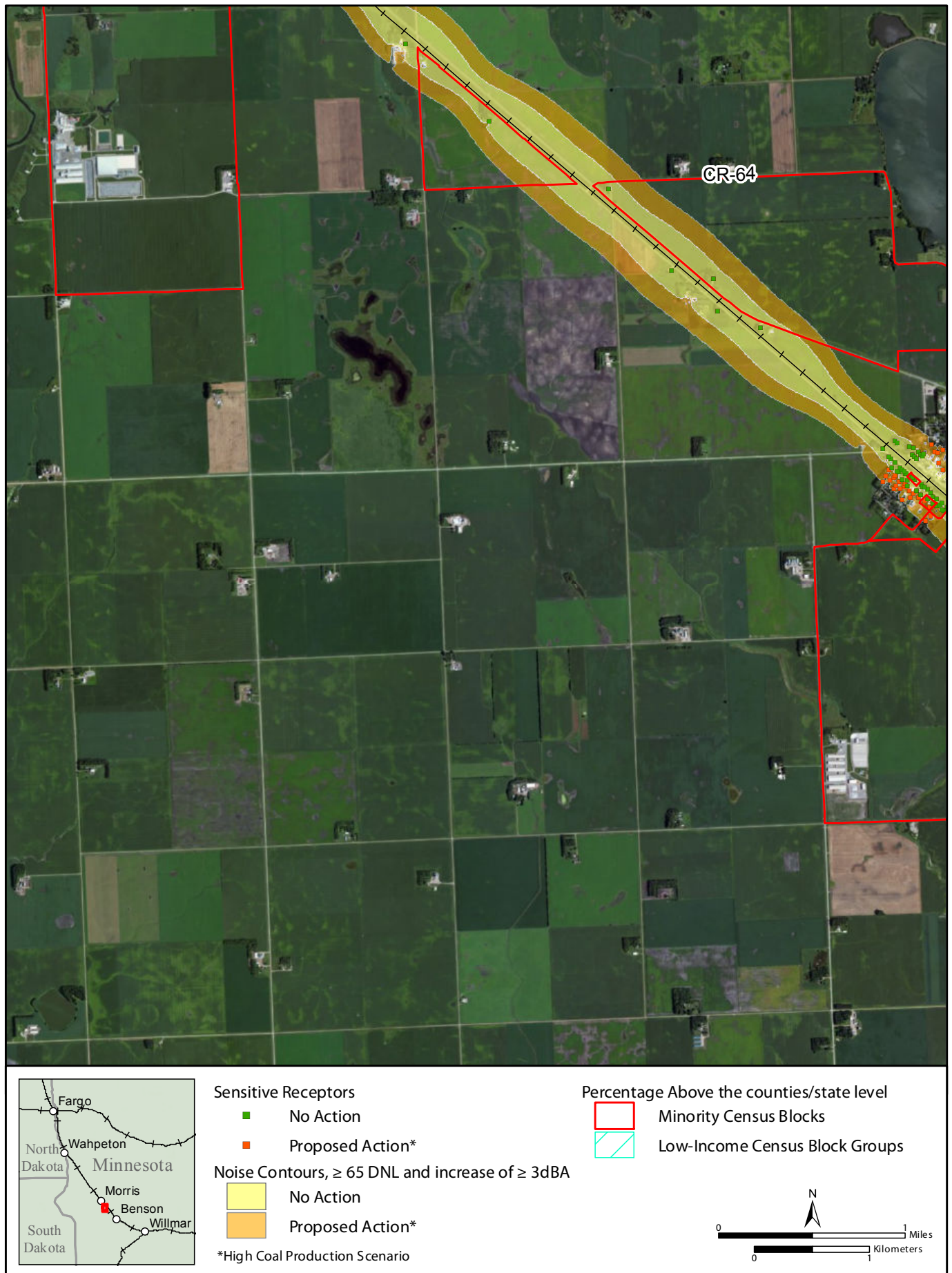


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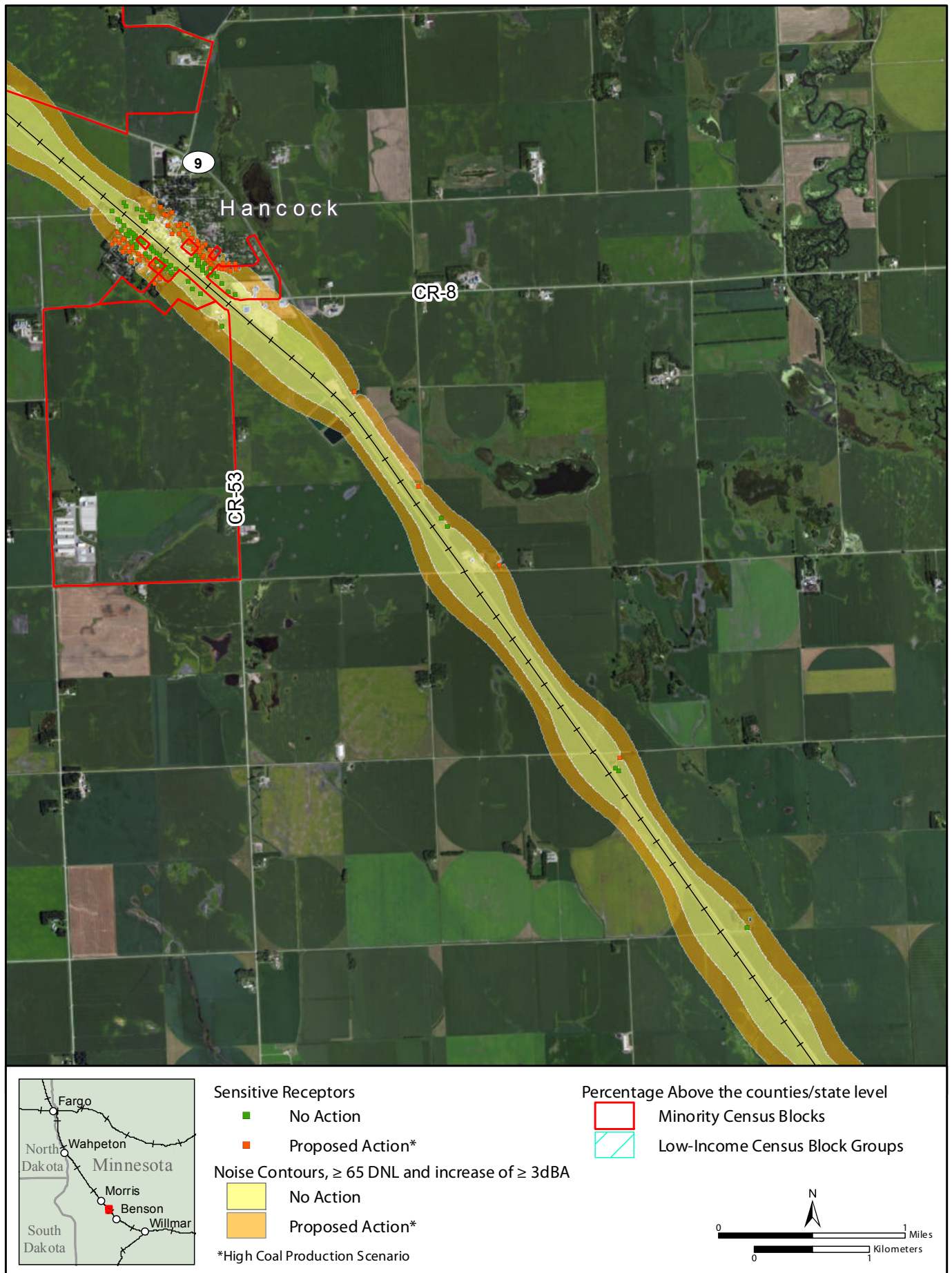


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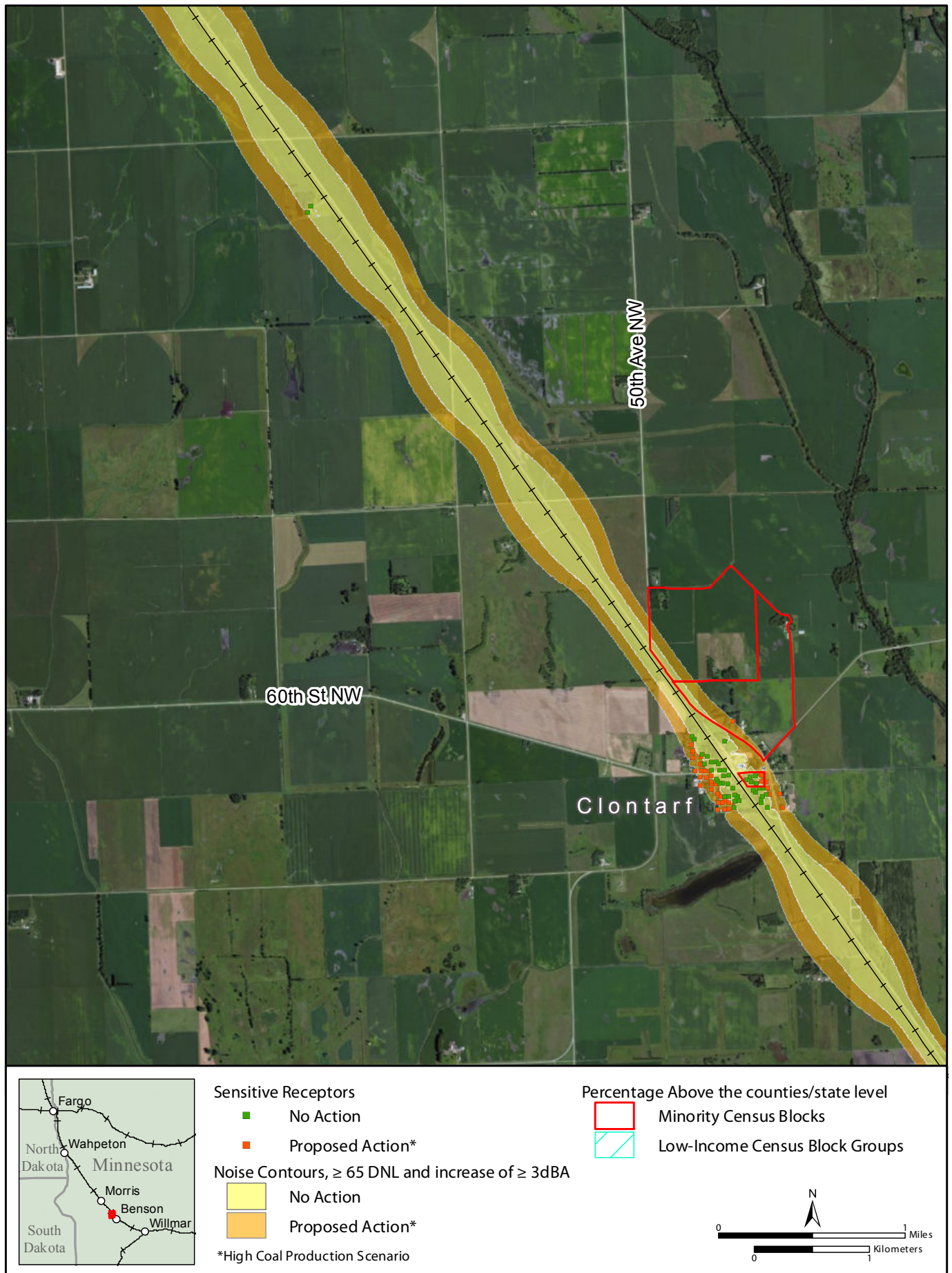


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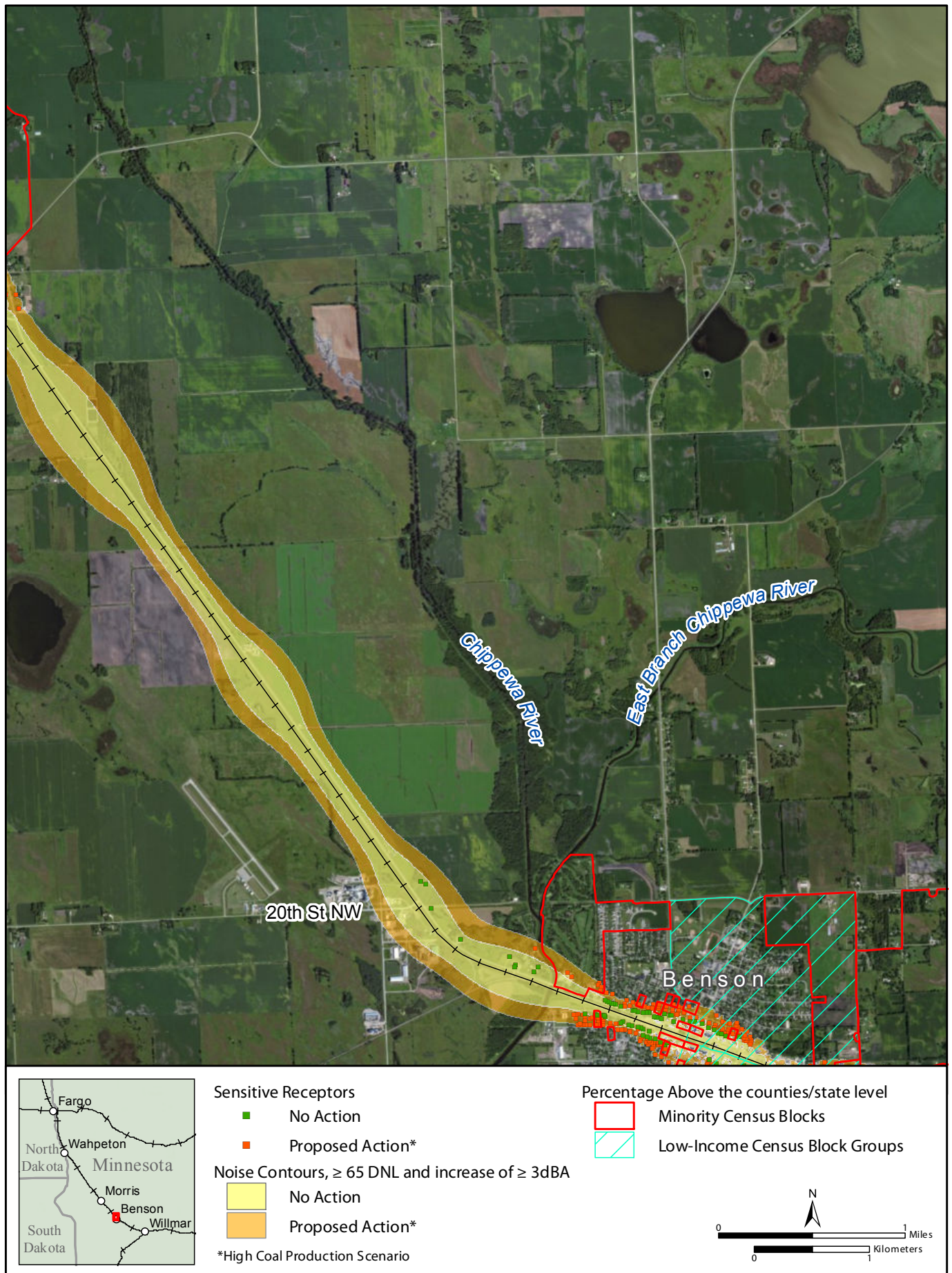


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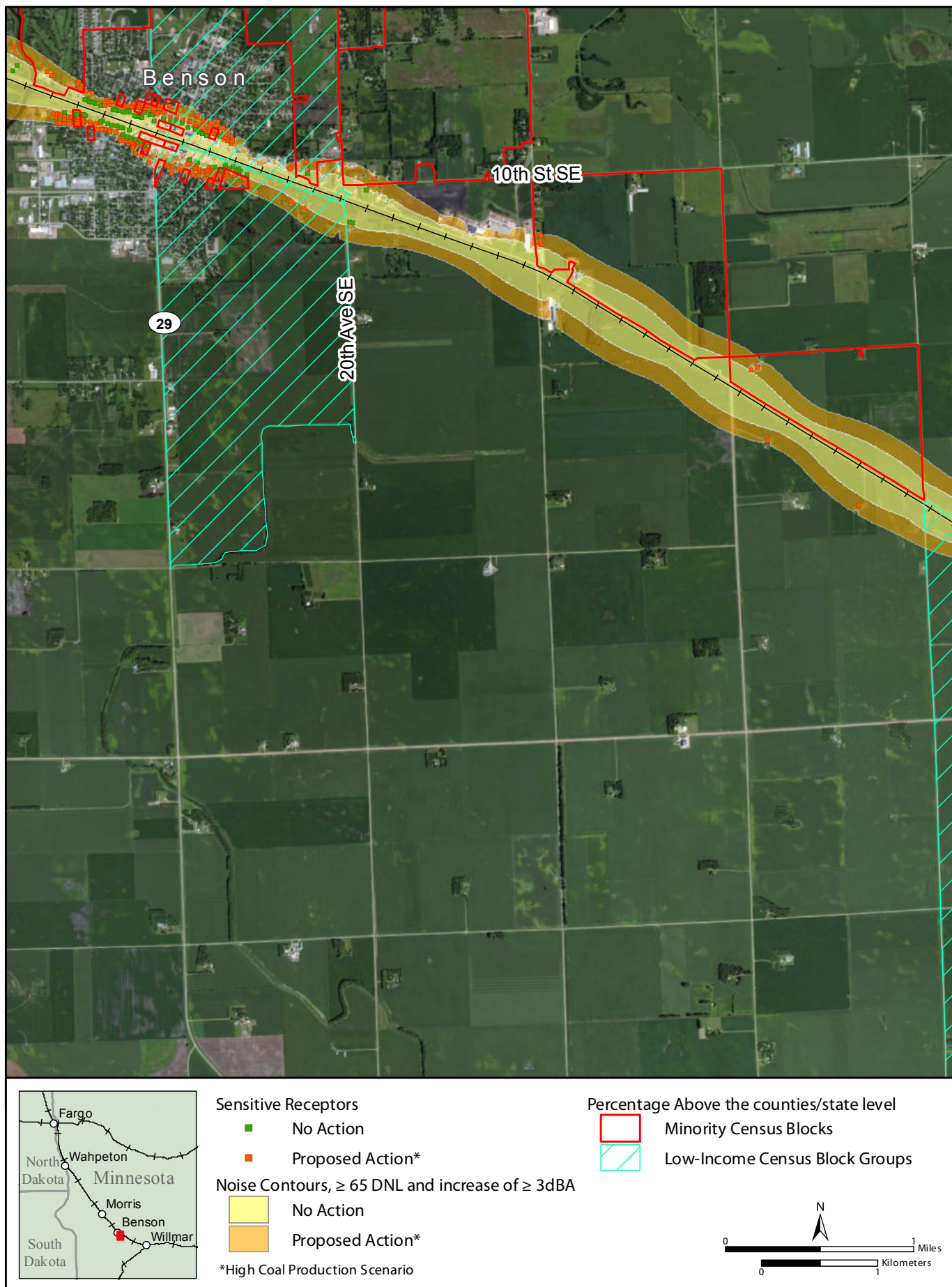


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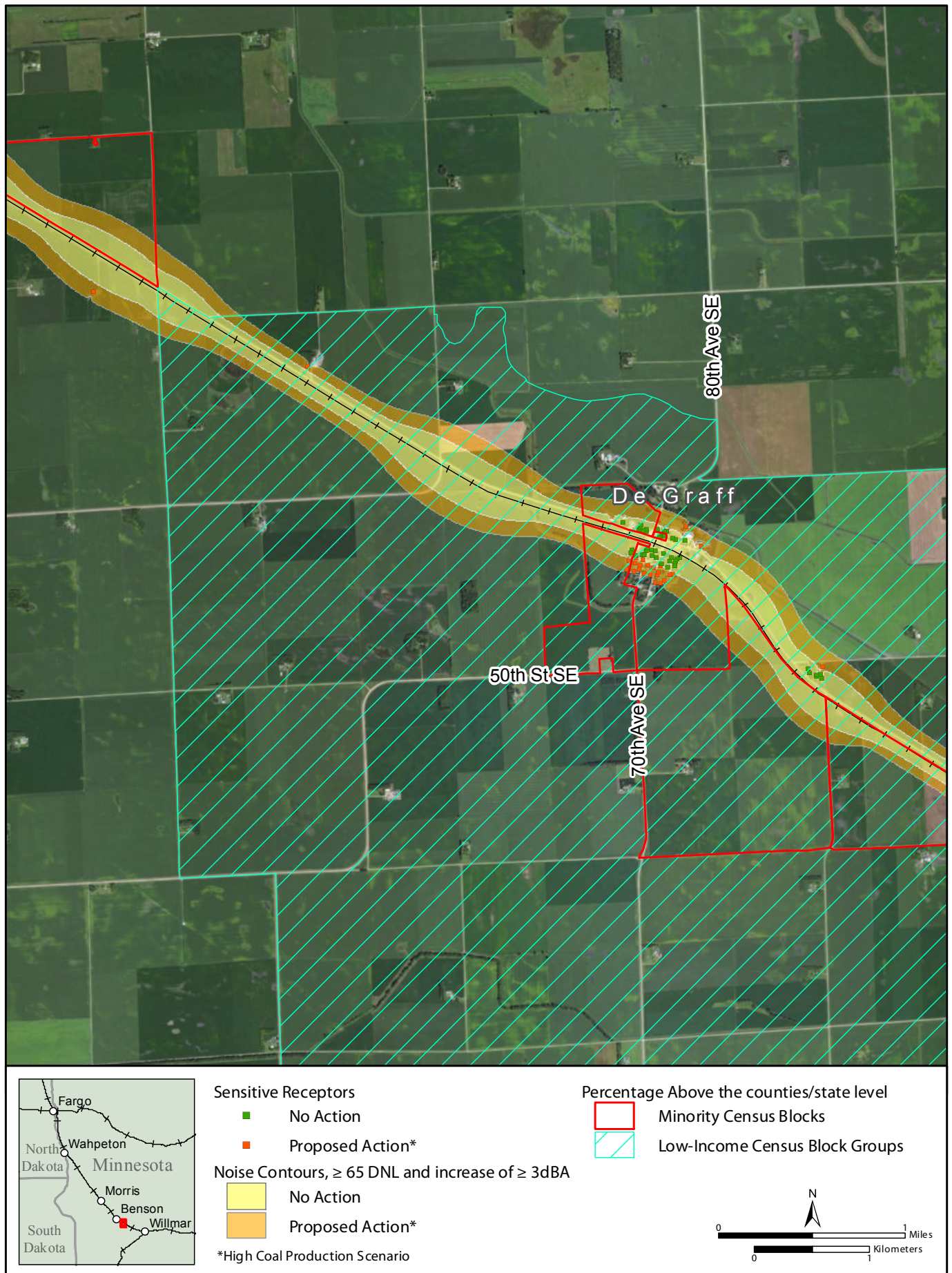


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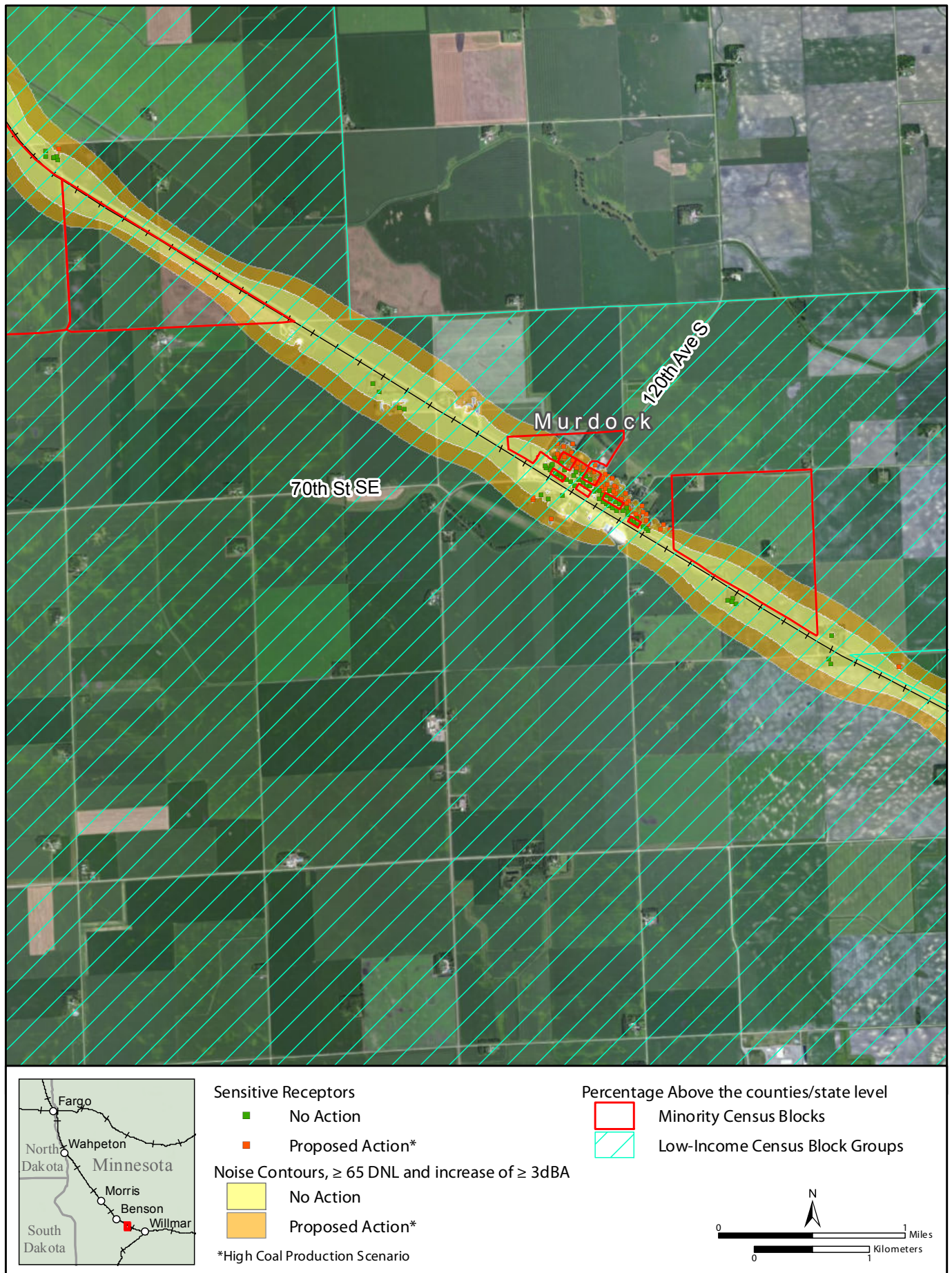


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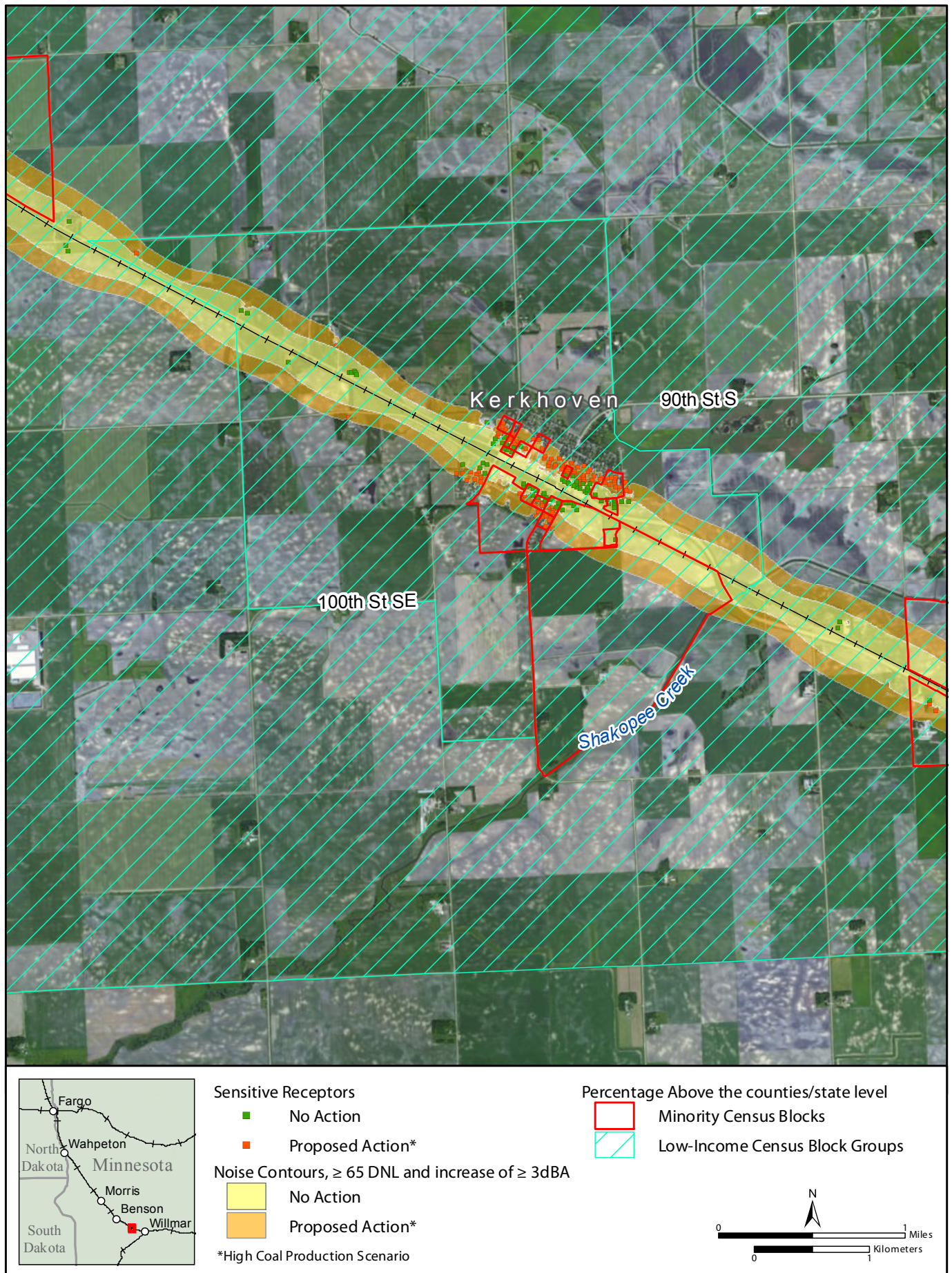


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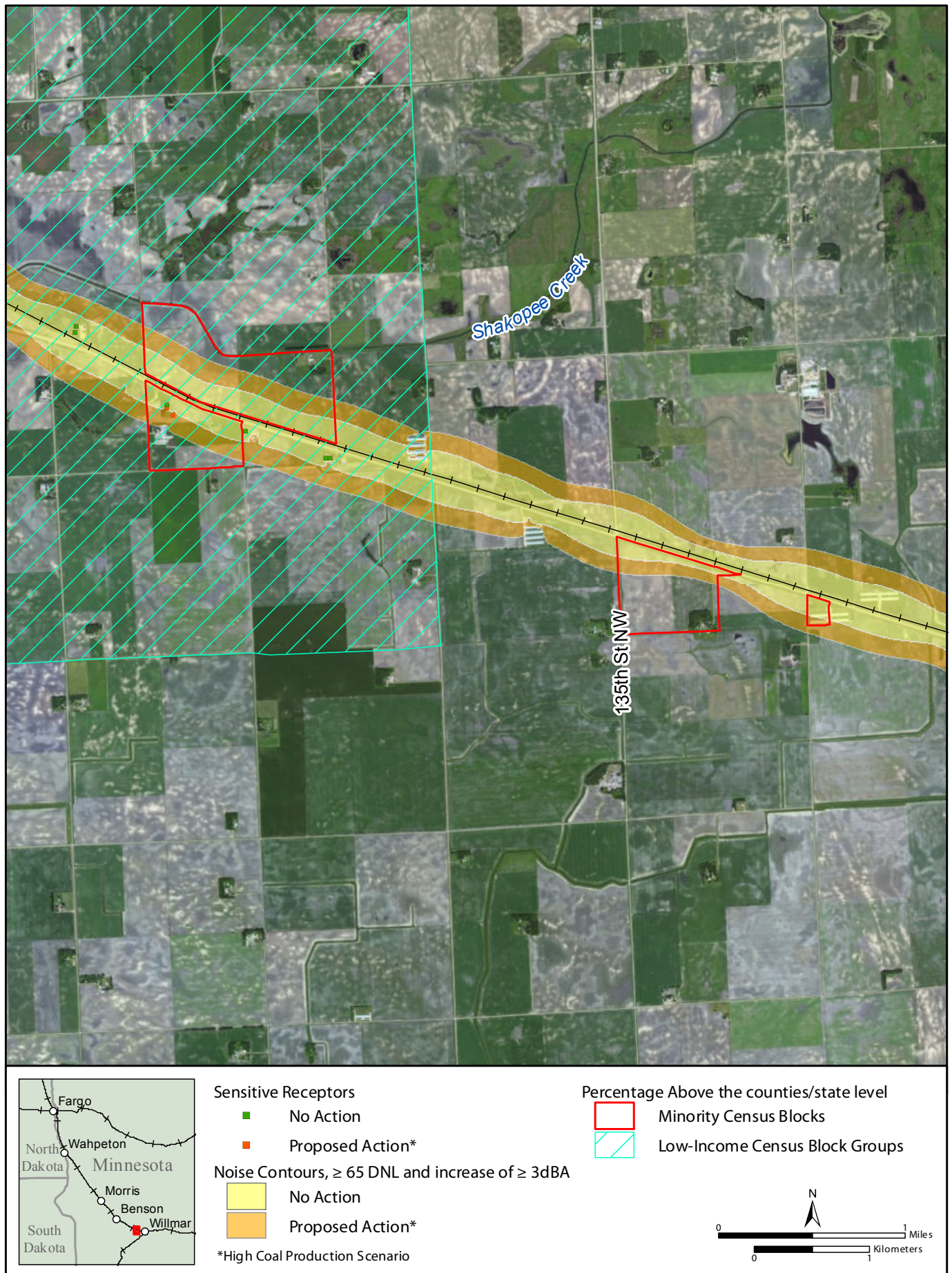


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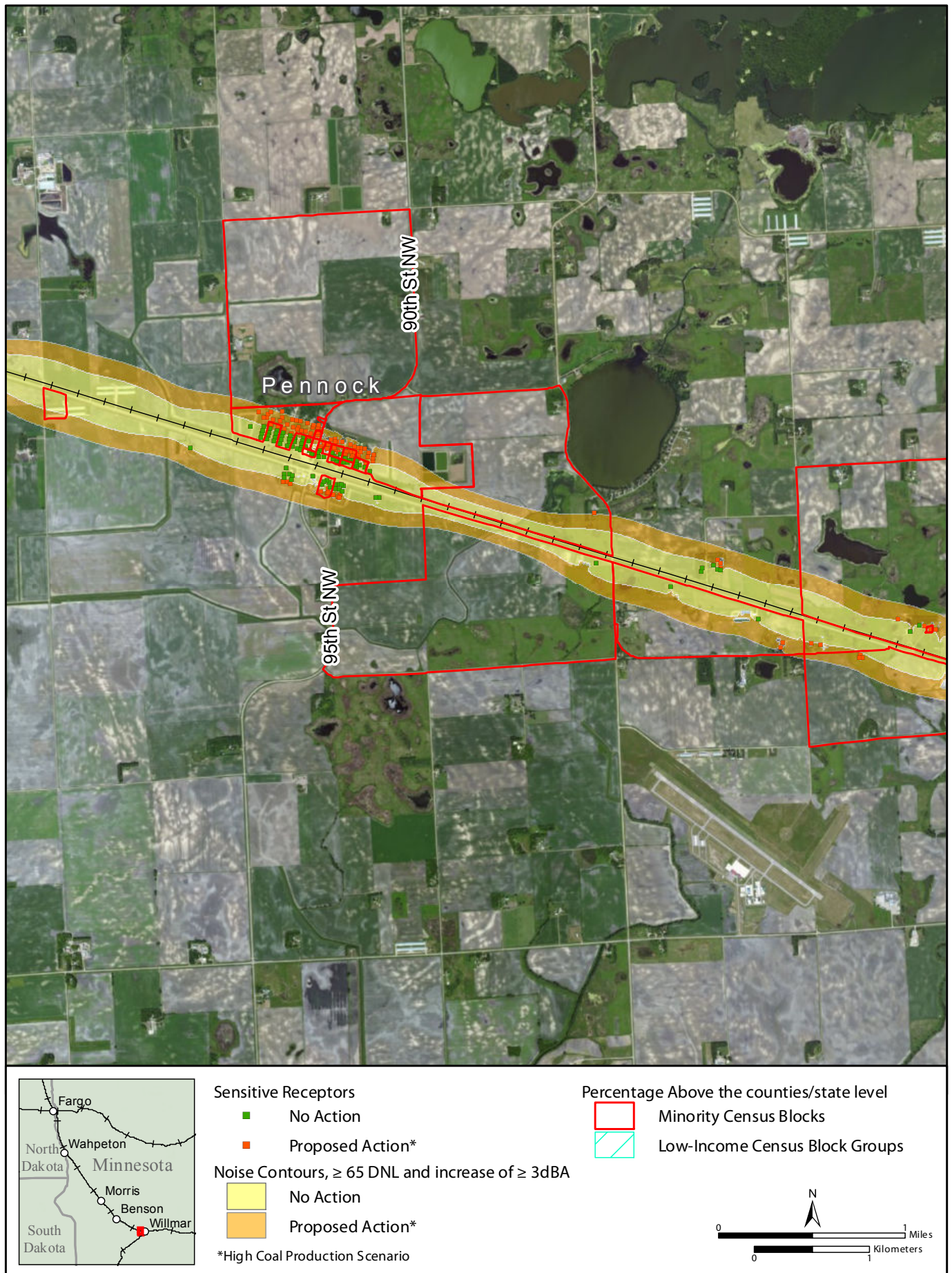


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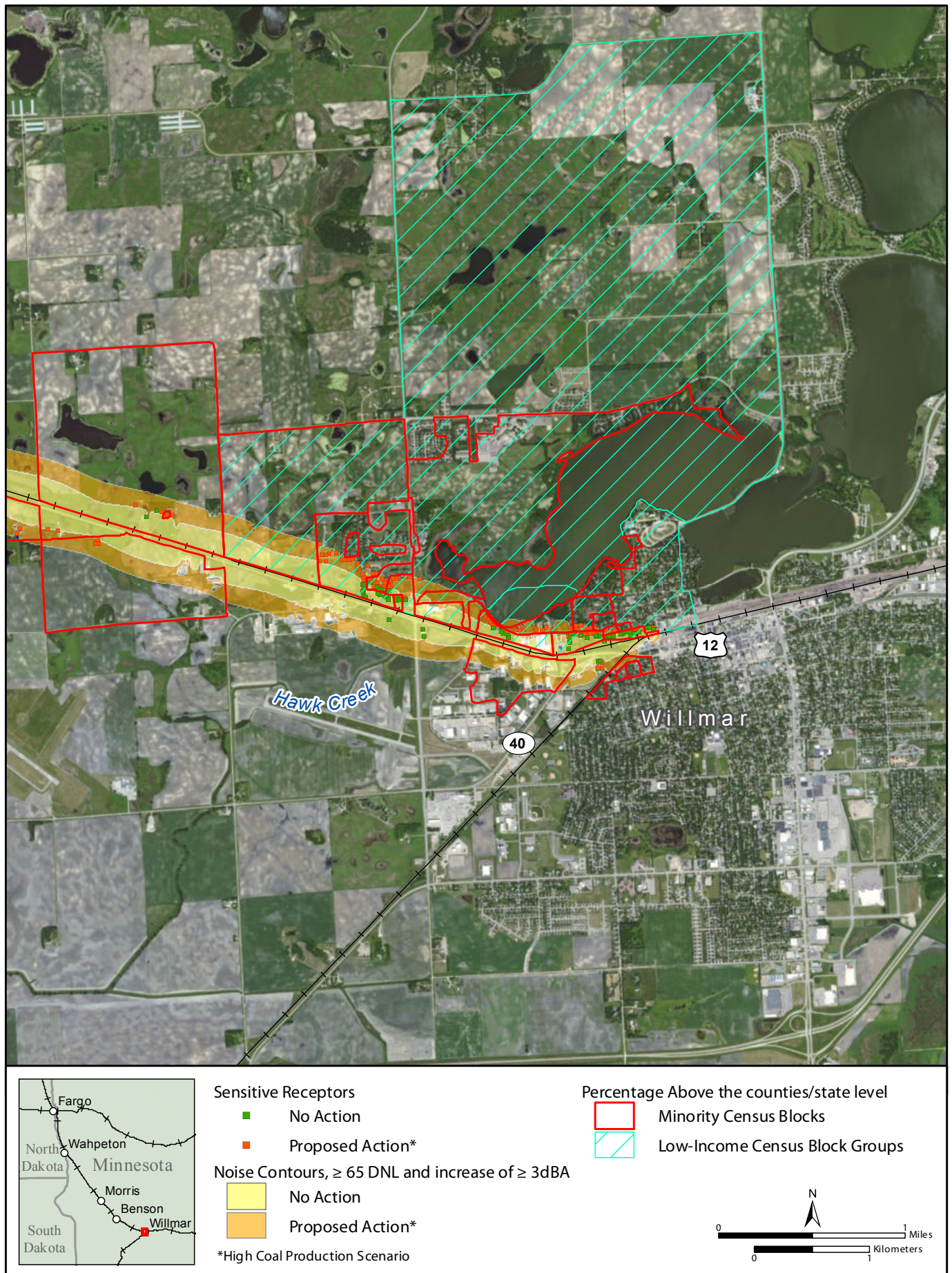


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