

SCANNED

JUN 17 2008

<b>SHEET 1</b> <b>LTPP TRAFFIC DATA</b> <b>SUMMARY TRANSMITTAL FORM</b>	*STATE ASSIGNED ID [1019] *STATE CODE [27] *SHRP SECTION ID [1085]
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STATE OR PROVINCE MN COUNTY Howe  
HIGHWAY ROUTE NO. TH 16 MILEPOST# MP 202.9  
NEAREST CITY/TOWN Grand Meadow NEAREST INTERSECTION 0.5 Mi. E. of CR 55  
FUNCTIONAL CLASS 06 NO. LANES EACH DIRECTION 1 TOTAL NO. LANES 2  
DIRECTION OF TRAVEL GPS LANE \_\_\_\_\_ DATE OPENED TO TRAF. - - - 84  
FIPS COUNTY CODE 099 FHWA STATION IDENTIFICATION NO. \_\_\_\_\_  
HPMS SAMPLE NO. 1000 HPMS SUBDIVISION NO. \_\_\_\_\_  
TYPE OF PAVEMENT: AC X PCC \_\_\_\_\_ OTHER \_\_\_\_\_  
CONTROL OF ACCESS: YES \_\_\_\_\_ NO X MEDIAN: YES \_\_\_\_\_ NO X  
CURRENT SURROUNDING DEVELOPMENT:  
URBAN \_\_\_\_\_ SUBURBAN \_\_\_\_\_ RURAL X  
HAS INTENSITY OF ROADSIDE DEVELOPMENT INCREASED OVER PAST 10 YEARS?  
YES \_\_\_\_\_ NO X  
IF YES, DESCRIBE CHANGES \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**NOTE:** ATTACH ALL RELATED FORMS AND COUNT DATA AND SUBMIT TO THE  
SHRP REGIONAL OFFICE. ATTACH MAP INDICATING THE LOCATION OF  
EACH TRAFFIC COUNT, VEHICLE CLASSIFICATION COUNT, OR WEIGHT  
STATION RELATIVE TO THIS GPS TEST SECTION.

NAME OF PREPARER <u>Curtis Dahlin</u>	PHONE # <u>(612) 296-6846</u>
DATE PREPARED <u>10-23-90</u>	

<b>SHEET 2</b> <b>LTPP TRAFFIC DATA</b> <b>TRAFFIC VOLUMES</b> <b>AND LOAD ESTIMATES</b>	*STATE ASSIGNED ID [ <u>1019</u> ] *STATE CODE [ <u>27</u> ] *SHRP SECTION ID [ <u>1085</u> ]
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YEAR	1. ESTIMATED TOTAL VEHICLES AADT (TWO-WAY)	2. ESTIMATED TOTAL TRUCK AADT (TWO-WAY)	3. ESTIMATED TOTAL VEHICLES AADT GPS LANE	4. ESTIMATED TOTAL TRUCKS AADT GPS LANE	5. ESTIMATED ESAL'S / YR GPS LANE (1000's)
1989	<u>1640</u>	<u>190</u>	<u>820</u>	<u>95</u>	<u>41</u>
1988	<u>1560</u>	<u>180</u>	<u>780</u>	<u>90</u>	<u>40</u>
1987	<u>1380</u>	<u>180</u>	<u>690</u>	<u>90</u>	<u>40</u>
1986	<u>1200</u>	<u>175</u>	<u>600</u>	<u>90</u>	<u>40</u>
1985	<u>1225</u>	<u>175</u>	<u>610</u>	<u>90</u>	<u>40</u>
1984	<u>1250</u>	<u>175</u>	<u>625</u>	<u>90</u>	<u>40</u>
1983					
1982					
1981					
1980					
1979					
1978					
1977					
1976					
1975					
1974					
1973					
1972					
1971					
1970					
1969					
1968					
1967					
1966					
1965					

NAME OF PREPARER <u>Cartis Dahlin</u>	PHONE # <u>(612) 296-6846</u>
DATE PREPARED <u>10-23-90</u>	

## SHEET 3

# LTPP TRAFFIC DATA PROCEDURES FOR ESTIMATING ANNUAL AVERAGE VOLUMES AND TOTAL ANNUAL ESALS

\*STATE ASSIGNED ID [1019]

\*STATE CODE [27]

\*SHRP SECTION ID [1085]

1. Year Applicable 84, 86, 88

## 2. METHOD FOR ESTIMATING AADT

- ☐ Factored a single count taken this year at the GPS site.  
☐ Averaged multiple counts taken this year at the GPS site.  
☐ Averaged and factored multiple counts taken this year at the GPS site.  
☐ Growth factored last year's estimate.  
☐ Estimated based on volume counts at nearby locations.  
☒ Used flow maps.  
☐ Used computerized network analyses.  
☐ Other: \_\_\_\_\_

↑  
84 counts not corrected for axles

## 3. METHOD FOR ESTIMATING TRUCK VOLUMES OR PERCENTAGES

- ☐ Used a single count taken this year at the GPS site.  
☐ Factored a single count taken this year at the GPS site.  
☐ Averaged multiple counts taken this year at the GPS site.  
☐ Used system averages from counts taken this year.  
☒ Used count data from nearby sites.  
☐ Used count data taken in earlier years at the GPS site.  
☐ Used system averages taken in earlier years at the GPS site.  
☐ Used computerized network analyses.  
☐ Other: \_\_\_\_\_

## 4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☐ Based on actual lane count data.  
☒ System distribution factors.  
☐ Other: \_\_\_\_\_

## 5. METHOD FOR ESTIMATING TRUCK AADT IN GPS LANES

- ☐ Based on actual lane count data.  
☒ System distribution factors.  
☐ Other: \_\_\_\_\_

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☐ ESAL/Truck.  
☒ ESAL/Vehicle class. (no. of classes) 8  
☐ Other: \_\_\_\_\_

## 7. ESAL ESTIMATES

## (A) Source of Data

- ☐ Weight data collected at GPS site this year.  
☐ Weight data collected at GPS site prior years.  
☒ Weight data from system averages this year.  
☒ Weight data from system averages prior years.  
☐ Weight data from historic W-4 Tables used.  
☐ Other: \_\_\_\_\_

## (B) Weight Scale Type

- ☐ WIM scale.  
☐ Static scale used for enforcement.  
☒ Static scale not used for enforcement.  
☐ Other: \_\_\_\_\_

NAME OF PREPARER Curtis DahlinPHONE # (612) 296-6846DATE PREPARED 10-23-90

## SHEET 3

# LTPP TRAFFIC DATA PROCEDURES FOR ESTIMATING ANNUAL AVERAGE VOLUMES AND TOTAL ANNUAL ESALS

\*STATE ASSIGNED ID [1019]

\*STATE CODE [27]

\*SHRP SECTION ID [1085]

1. Year Applicable 85, 87

## 2. METHOD FOR ESTIMATING AADT

- ☐ Factored a single count taken this year at the GPS site.  
☐ Averaged multiple counts taken this year at the GPS site.  
☐ Averaged and factored multiple counts taken this year at the GPS site.  
☐ Growth factored last year's estimate.  
☐ Estimated based on volume counts at nearby locations.  
☐ Used flow maps.  
☐ Used computerized network analyses.  
☒ Other: interpolated even year data

85 counts not factored for axles

## 3. METHOD FOR ESTIMATING TRUCK VOLUMES OR PERCENTAGES

- ☐ Used a single count taken this year at the GPS site.  
☐ Factored a single count taken this year at the GPS site.  
☐ Averaged multiple counts taken this year at the GPS site.  
☐ Used system averages from counts taken this year.  
☐ Used count data from nearby sites.  
☐ Used count data taken in earlier years at the GPS site.  
☐ Used system averages taken in earlier years at the GPS site.  
☐ Used computerized network analyses.  
☒ Other: interpolated even year data

## 4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☐ Based on actual lane count data.  
☒ System distribution factors.  
☐ Other: \_\_\_\_\_

## 5. METHOD FOR ESTIMATING TRUCK AADT IN GPS LANES

- ☐ Based on actual lane count data.  
☒ System distribution factors.  
☐ Other: \_\_\_\_\_

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☐ ESAL/Truck.  
☒ ESAL/Vehicle class. (no. of classes) 8  
☐ Other: \_\_\_\_\_

## 7. ESAL ESTIMATES

## (A) Source of Data

- ☐ Weight data collected at GPS site this year.  
☐ Weight data collected at GPS site prior years.  
☒ Weight data from system averages this year.  
☒ Weight data from system averages prior years.  
☐ Weight data from historic W-4 Tables used.  
☐ Other: \_\_\_\_\_

## (B) Weight Scale Type

- ☐ WIM scale.  
☐ Static scale used for enforcement.  
☒ Static scale not used for enforcement.  
☐ Other: \_\_\_\_\_

NAME OF PREPARER Curtis DahlinPHONE # (612) 296-6846DATE PREPARED 10-23-90

## SHEET 3

# LTPP TRAFFIC DATA PROCEDURES FOR ESTIMATING ANNUAL AVERAGE VOLUMES AND TOTAL ANNUAL ESALS

\*STATE ASSIGNED ID [1019]

\*STATE CODE [27]

\*SHRP SECTION ID [1085]

1. Year Applicable 89

## 2. METHOD FOR ESTIMATING AADT

- ☐ Factored a single count taken this year at the GPS site.  
☐ Averaged multiple counts taken this year at the GPS site.  
☐ Averaged and factored multiple counts taken this year at the GPS site.  
☒ Growth factored last year's estimate.  
☐ Estimated based on volume counts at nearby locations.  
☐ Used flow maps.  
☐ Used computerized network analyses.  
☐ Other: \_\_\_\_\_

## 3. METHOD FOR ESTIMATING TRUCK VOLUMES OR PERCENTAGES

- ☐ Used a single count taken this year at the GPS site.  
☐ Factored a single count taken this year at the GPS site.  
☐ Averaged multiple counts taken this year at the GPS site.  
☐ Used system averages from counts taken this year.  
☐ Used count data from nearby sites.  
☐ Used count data taken in earlier years at the GPS site.  
☐ Used system averages taken in earlier years at the GPS site.  
☐ Used computerized network analyses.  
☒ Other: Growth factored last year's est.

## 4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☐ Based on actual lane count data.  
☒ System distribution factors.  
☐ Other: \_\_\_\_\_

## 5. METHOD FOR ESTIMATING TRUCK AADT IN GPS LANES

- ☐ Based on actual lane count data.  
☒ System distribution factors.  
☐ Other: \_\_\_\_\_

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☐ ESAL/Truck.  
☒ ESAL/Vehicle class. (no. of classes) 8  
☐ Other: \_\_\_\_\_

## 7. ESAL ESTIMATES

## (A) Source of Data

- ☐ Weight data collected at GPS site this year.  
☐ Weight data collected at GPS site prior years.  
☐ Weight data from system averages this year.  
☒ Weight data from system averages prior years.  
☐ Weight data from historic W-4 Tables used.  
☐ Other: \_\_\_\_\_

## (B) Weight Scale Type

- ☐ WIM scale.  
☐ Static scale used for enforcement.  
☒ Static scale not used for enforcement.  
☐ Other: \_\_\_\_\_

NAME OF PREPARER Curtis DahlinPHONE # (612) 296-6846DATE PREPARED 10-23-90

<b>SHEET 4</b> <b>LTPP TRAFFIC DATA</b> <b>TRAFFIC VOLUME COUNTS</b>	*STATE ASSIGNED ID [ <u>1019</u> ]
	*STATE CODE [ <u>27</u> ]
	*SHRP SECTION ID [ <u>1085</u> ]

HIGHWAY ROUTE NO. (THIS COUNT) TH 16

MILEPOST# OR LOCATION (THIS COUNT) MP 205 (2 mi. E. of GPS Site) ←

BEGINNING DATE 6-6-88 ENDING DATE 6-8-88

BEGINNING TIME 11:05 am ENDING TIME 11:05 am

COUNT DURATION 48 [X] HOURS [ ] DAYS [ ] MONTHS

TYPE OF COUNTER \_\_\_\_\_ NAME/MODEL # \_\_\_\_\_

TYPE OF COUNT: TWO-WAY ☒ ONE DIRECTION ONLY \_\_\_\_\_ GPS TEST LANE ONLY \_\_\_\_\_

ITEM	ACTUAL COUNTS	UNITS
1. TOTAL NO. OF VEHICLES (RAW COUNT)		<u>4336</u>
2. ADJUSTMENT FACTORS (FILL IN AS APPLICABLE):		
A. ADJUSTMENT TO 24-HOUR COUNT		<u>.500</u>
B. AXLE CORRECTION FACTOR		<u>.890</u>
C. DAY OF WEEK FACTOR		<u>---</u>
D. MONTH FACTOR	→	<u>(957)</u>
E. OTHER FACTOR ( <u>Seasonal factor</u> )		<u>---</u>
3. ANNUAL AVERAGE DAILY TRAFFIC (AADT) (TWO-WAY)		<u>1850</u>
4. DIRECTIONAL DISTRIBUTION FACTOR		<u>.500</u>
5. GPS LANE DISTRIBUTION FACTOR		<u>---</u>
6. AADT GPS LANE		<u>---</u>

NOTE: COMPLETE ONE SHEET FOR EACH COUNTING SESSION.

NAME OF PREPARER <u>Curtis Dahlin</u>	PHONE # <u>(612) 296-6846</u>
DATE PREPARED <u>10-23-90</u>	

<b>SHEET 5</b>  <b>LTPP TRAFFIC DATA</b>  <b>VEHICLE CLASSIFICATION DATA</b> <b>FHWA 13-CLASS SYSTEM</b>	*STATE ASSIGNED ID [ <u>1019</u> ] *STATE CODE [ <u>27</u> ] *SHRP SECTION ID [ <u>1035</u> ]
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HIGHWAY RT. NO. (THIS COUNT) TH 16 MILEPOST# (THIS COUNT) 210

LOCATION (THIS COUNT) W. of TH 63 FUNCTIONAL CLASS 06

BEGINNING DATE 88 ENDING DATE 88

BEGINNING TIME 0600 ENDING TIME 2200 DURATION (HRS) 16 *Factored To*

TYPE OF COUNT: MANUAL X AUTOMATED \_\_\_\_\_ NO. OF LANES COUNTED 2 *24 hrs*

TYPE OF EQUIP.: AVC PERM. \_\_\_\_\_ AVC PORT. \_\_\_\_\_ WIM PERM. \_\_\_\_\_ WIM PORT. \_\_\_\_\_ *+ adj. for weekend*

EQUIPMENT NAME / MODEL # \_\_\_\_\_

TOTAL NO. OF VEHICLES CLASSIFIED \_\_\_\_\_ # TRUCKS \_\_\_\_\_ % TRUCKS \_\_\_\_\_

NO. OF TRUCKS IN GPS LANE \_\_\_\_\_ % OF TRUCKS IN GPS LANE \_\_\_\_\_

VEHICLE CLASSIFICATION METHOD: FHWA \_\_\_\_\_ OTHER X # BINS \_\_\_\_\_

NOTE: IF THIS COUNT DOES NOT USE THE FHWA 13-BIN CLASSIFICATION SYSTEM USE SHEET 6. PLEASE DESCRIBE ON AN ATTACHED PAGE THE VEHICLE CLASSIFICATION SYSTEM USED BY THE AGENCY AND COMPLETE SHEET 7 DESCRIBING HOW THE SHA WOULD EXPAND OR COLLAPSE THE USER CLASSIFICATION SYSTEM TO CORRESPOND WITH THE FHWA 13 CLASSES.

VEHICLE CLASSES	TOTAL NUMBER OF VEHICLES TWO-WAY	TOTAL NUMBER OF VEHICLES GPS DIRECTION	TOTAL NUMBER OF VEHICLES GPS LANE
1. FHWA CLASSES 1-3 (Cars, Motorcycles, Vans)	_____	_____	_____
2. FHWA CLASS 4 (Buses)	_____	_____	_____
3. FHWA CLASS 5 (Two Axle, 6-Tire, SU Truck)	_____	_____	_____
4. FHWA CLASS 6 (3 AXLE SU TRUCK)	_____	_____	_____
5. FHWA CLASS 7 (4 or more Axle SU Truck)	_____	_____	_____
6. FHWA CLASS 8 (4 or less axle 1-Trlr.Truck)	_____	_____	_____
7. FHWA CLASS 9 (5 Axle, 1-Trlr.Truck)	_____	_____	_____
8. FHWA CLASS 10 (6 or more Axle, 1-Trlr.Truck)	_____	_____	_____
9. FHWA CLASS 11 (5 or less Axle, Multi-Trlr.Truck)	_____	_____	_____
10. FHWA CLASS 12 (6 Axle, Multi-Trlr.Truck)	_____	_____	_____
11. FHWA CLASS 13 (7 or more Axle, Multi-Trlr.Truck)	_____	_____	_____
12. OTHER VEHICLES	_____	_____	_____

**GRAND TOTAL**

NAME OF PREPARER <u>Curtis Dahlin</u>	PHONE # <u>(612) 296-6846</u>
DATE PREPARED <u>10-23-90</u>	

<b>SHEET 6</b> <b>LTPP TRAFFIC DATA</b> <b>VEHICLE CLASSIFICATION DATA</b> <b>AGENCY DEFINED CLASSES</b>	*STATE ASSIGNED ID [ <u>1019</u> ] *STATE CODE [ <u>27</u> ] *SHRP SECTION ID [ <u>1085</u> ]
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FOR 4-BIN OR OTHER CLASSIFICATION SYSTEMS

HIGHWAY ROUTE NO. (THIS COUNT) TH 16 MILEPOST # (THIS COUNT) 210

BEGINNING DATE 88 ENDING DATE 88  
 BEGINNING TIME 0600 ENDING TIME 2200 DURATION (HRS) 16 hrs, have been factored to 24 hrs. + adjust for weekends

VEHICLE CLASSES (DESCRIBE VEHICLE TYPES IN EACH CLASS OR AXLE SPACING CATEGORY)	TOTAL NUMBER OF VEHICLES TWO-WAY	TOTAL NUMBER OF VEHICLES GPS DIRECTION	TOTAL NUMBER OF VEHICLES GPS LANE
A. <u>Cars + Pickups</u>	<u>1722</u>	<u>861</u>	<u>861</u>
B. <u>2 axle 6 Tire</u>	<u>67</u>	<u>33</u>	<u>33</u>
C. <u>3+4 axle single unit</u>	<u>14</u>	<u>7</u>	<u>7</u>
D. <u>3 axle semis</u>	<u>2</u>	<u>1</u>	<u>1</u>
E. <u>4 axle semis</u>	<u>1</u>		
F. <u>5+ axle semis</u>	<u>167</u>	<u>84</u>	<u>84</u>
G. <u>Buses + Truck Trailers</u>	<u>7</u>	<u>3</u>	<u>3</u>
H. <u>Twin Trailers</u>			
I. _____			
J. _____			
K. _____			
L. _____			
M. _____			
N. _____			
O. _____			
P. _____			
Q. _____			
R. _____			
S. _____			
T. _____			

GRAND TOTAL 1980 989 989

NAME OF PREPARER <u>Curtis Dehlin</u>	PHONE # <u>(612) 296-6846</u>
DATE PREPARED <u>10-23-90</u>	



SHEET 7  
LTPP TRAFFIC DATA  
VEHICLE CLASSIFICATION  
CONVERSION CHART

\*STATE ASSIGNED ID [ 1019 ]  
\*STATE CODE [ 27 ]  
\*SHRP SECTION ID [ 1085 ]

FOR 4-BIN, 6-BIN, OR OTHER NON FHWA CLASSIFICATION SYSTEMS

USE THIS SHEET TO DESCRIBE HOW THE AGENCY'S CLASSIFICATION SYSTEM CAN BE CONVERTED TO THE FHWA 13-CLASSES. ENTER PERCENTAGE OF TOTAL SHA CLASS DISTRIBUTED TO EACH FHWA CLASS. APPLICABLE PERIOD FROM 1960 TO 1989

FHWA CLASSES													
SHA CLASS	1-3	4	5	6	7	8	9	10	11	12	13	OTHER	TOTAL
A	100												100
B			100										100
C				90	10								100
D						100							100
E						100							100
F							96	4					100
G		50				5	40	5					100
H									94	6			100
I													
J													
K													
L													
M													
N													
O													
P													
Q													
R													
S													
T													
TOTAL													

NAME OF PREPARER Curtis Dahlin PHONE # (612)-296-6846  
DATE PREPARED 10-23-90

**SHEET 15  
LTPP TRAFFIC DATA**

**EQUIPMENT INSTALLATION LOG**

STATE ASSIGNED ID [ 1019 ]

STATE CODE [ 27 ]

SHRP SECTION ID [ 1085 ]

LOCATION Dexter, Mn LT-16 DATE OF INSTALLATION \_\_\_\_\_

	TYPE	BRAND NAME	SERIAL NUMBER
Control Unit(s) and peripheral equipment			
Control Unit	<u>1060</u>	<u>IRD</u>	
Interface			
Modem	<u>V32, 9600</u>	<u>Multi-Tech</u>	<u>206233P</u>
Loop Amplifiers		<u>Microsense</u>	
Other _____			
Sensor(s) / Platform(s)			
GPS Lane Sensor	<u>Bending Plate</u>	<u>IRD</u>	
Sensor Next Adjacent Lane (1)	<u>"</u>	<u>"</u>	
Sensor Next Adjacent Lane (2)			
Sensor Next Adjacent Lane (3)			
Diagonal Sensor			
Offscale Sensor			
Right Platform			
Left Platform			
Other _____			
Software			
Complete Package	<u>7.3.3</u>	<u>IRD</u>	
Axle Spacing Algorithm Only			
Other _____			
Loops			
Upstream - Lane 1			
Downstream - Lane 1			
Upstream - Other Lanes			
Downstream - Other Lanes			

SHEET 14

\*STATE ASSIGNED ID [ 1 0 1 9 ]

\*STATE CODE [27]

\*SHRP SECTION ID [1085]

MP # 203-34 MODEL # F20

[illegible]