

LTPP TRAFFIC DATA  
SUMMARY TRANSMITTAL FORM

\*STATE ASSIGNED ID [2811]

\*STATE CODE [46]

\*SHRP SECTION ID [2042]

STATE OR PROVINCE South Dakota COUNTY YanktonHIGHWAY ROUTE NO. US-81 MILEPOST# 10.81NEAREST CITY/TOWN Yankton (H) NEAREST INTERSECTION S of SR 46FUNCTIONAL CLASS 6 NO. LANES EACH DIRECTION 1 TOTAL NO. LANES 2DIRECTION OF TRAVEL GPS LANE S-B DATE OPENED TO TRAF. 07-01-80FIPS COUNTY CODE 135 FHWA STATION IDENTIFICATION NO. \_\_\_\_\_HPMS SAMPLE NO. N/A HPMS SUBDIVISION NO. \_\_\_\_\_TYPE OF PAVEMENT: AC ☒ PCC \_\_\_\_\_ OTHER \_\_\_\_\_CONTROL OF ACCESS: YES ☒ NO \_\_\_\_\_ MEDIAN: YES \_\_\_\_\_ NO ☒

CURRENT SURROUNDING DEVELOPMENT:

URBAN \_\_\_\_\_ SUBURBAN \_\_\_\_\_ RURAL ☒

HAS INTENSITY OF ROADSIDE DEVELOPMENT INCREASED OVER PAST 10 YEARS?

YES \_\_\_\_\_ NO ☒

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 \_\_\_\_\_ PHONE # \_\_\_\_\_  
DATE PREPARED \_\_\_\_\_

LDE  
10/26/01

<p>SHEET 2</p> <p><b>LTPP TRAFFIC DATA</b></p> <p><b>TRAFFIC VOLUMES AND LOAD ESTIMATES</b></p>	<p>*STATE ASSIGNED ID [7811]</p> <p>*STATE CODE [46]</p> <p>*SHRP SECTION ID [7049]</p>
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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	2312	347	1156	173 <sup>15</sup>	11.3 <sup>15.0</sup>
1988	2270	340	1245	170 <sup>14</sup>	14.0
1987	2465	365	1233	183	14.25*
1986	2140	370	1220	195 <sup>16</sup>	14.7
1985	2620	420	1310	210	12.65*
1984	2800	450	1400	225 <sup>16</sup>	10.6
1983	2800	450	1400	225	12.2*
1982	2800	450	1400	225 <sup>16</sup>	9.8
1981	2878	465	1439	233	9.75*
1980	2955	480	1478	240 <sup>16</sup>	9.7
1979					
1978					
1977			* lines which have been averaged		
1976					
1975					
1974					
1973					
1972					
1971					
1970					
1969				1010 kel	
1968					
1967					
1966					
1965					

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

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

\*STATE ASSIGNED ID [7811]

\*STATE CODE [46]

\*SHRP SECTION ID [2-42]

1. Year Applicable 1990-91

## 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: Flow maps

## 4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☐ Based on actual lane count data.
- ☐ System distribution factors.
- ☒ Other: EST 90/10

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

- ☐ Based on actual lane count data.
- ☐ System distribution factors.
- ☒ Other: Flow maps

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

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

## 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 \_\_\_\_\_ PHONE # \_\_\_\_\_

DATE PREPARED \_\_\_\_\_

## SHEET 3

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

\*STATE ASSIGNED ID [2911]

\*STATE CODE [46]

\*SHRP SECTION ID [7042]

1. Year Applicable 86 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: \_\_\_\_\_

## 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: Flow maps

## 4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☐ Based on actual lane count data.  
☐ System distribution factors.  
☒ Other: Flow maps

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

- ☐ Based on actual lane count data.  
☐ System distribution factors.  
☒ Other: Flow maps

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

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

## 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 \_\_\_\_\_

PHONE # \_\_\_\_\_

DATE PREPARED \_\_\_\_\_

SHEET 4 LTPP TRAFFIC DATA TRAFFIC VOLUME COUNTS	*STATE ASSIGNED ID [2311] *STATE CODE [46] *SHRP SECTION ID [2042]
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HIGHWAY ROUTE NO. (THIS COUNT) \_\_\_\_\_

MILEPOST# OR LOCATION (THIS COUNT) \_\_\_\_\_

BEGINNING DATE \_\_\_\_\_ ENDING DATE \_\_\_\_\_

BEGINNING TIME \_\_\_\_\_ ENDING TIME \_\_\_\_\_

COUNT DURATION \_\_\_\_\_ [ ] 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)	-----	
2. ADJUSTMENT FACTORS (FILL IN AS APPLICABLE):		
A. ADJUSTMENT TO 24-HOUR COUNT	-----	5000's 4-7
B. AXLE CORRECTION FACTOR	-----	NA
C. DAY OF WEEK FACTOR	-----	1500
D. MONTH FACTOR	-----	1000 1000
E. OTHER FACTOR (_____)	-----	
3. ANNUAL AVERAGE DAILY TRAFFIC (AADT) (TWO-WAY)	-----	
4. DIRECTIONAL DISTRIBUTION FACTOR	-----	
5. GPS LANE DISTRIBUTION FACTOR	-----	
6. AADT GPS LANE	-----	

NOTE: COMPLETE ONE SHEET FOR EACH COUNTING SESSION.

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

## LTPP TRAFFIC DATA

VEHICLE CLASSIFICATION DATA  
FHWA 13-CLASS SYSTEM

\*STATE ASSIGNED ID [7211]

\*STATE CODE [46]

\*SHRP SECTION ID [7042]

HIGHWAY RT. NO. (THIS COUNT) \_\_\_\_\_ MILEPOST# (THIS COUNT) \_\_\_\_\_

LOCATION (THIS COUNT) \_\_\_\_\_ FUNCTIONAL CLASS \_\_\_\_\_

BEGINNING DATE \_\_\_\_\_ ENDING DATE \_\_\_\_\_

BEGINNING TIME \_\_\_\_\_ ENDING TIME \_\_\_\_\_ DURATION (HRS) \_\_\_\_\_

TYPE OF COUNT: MANUAL \_\_\_\_\_ AUTOMATED \_\_\_\_\_ NO. OF LANES COUNTED \_\_\_\_\_

TYPE OF EQUIP.: AVC PERM. \_\_\_\_\_ AVC PORT. \_\_\_\_\_ WIM PERM. \_\_\_\_\_ WIM PORT. \_\_\_\_\_

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 \_\_\_\_\_ # 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 \_\_\_\_\_ PHONE # \_\_\_\_\_

DATE PREPARED \_\_\_\_\_

## LTPP TRAFFIC DATA

VEHICLE CLASSIFICATION DATA  
AGENCY DEFINED CLASSES

\*STATE ASSIGNED ID [7844]

\*STATE CODE [46]

\*SHRP SECTION ID [7042]

FOR 4-BIN OR OTHER CLASSIFICATION SYSTEMS

HIGHWAY ROUTE NO. (THIS COUNT) \_\_\_\_\_ MILEPOST # (THIS COUNT) \_\_\_\_\_

BEGINNING DATE \_\_\_\_\_ ENDING DATE \_\_\_\_\_

BEGINNING TIME \_\_\_\_\_ ENDING TIME \_\_\_\_\_ DURATION (HRS) \_\_\_\_\_

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. _____	_____	_____	_____
B. _____	_____	_____	_____
C. _____	_____	_____	_____
D. _____	_____	_____	_____
E. _____	_____	_____	_____
F. _____	_____	_____	_____
G. _____	_____	_____	_____
H. _____	_____	_____	_____
I. _____	_____	_____	_____
J. _____	_____	_____	_____
K. _____	_____	_____	_____
L. _____	_____	_____	_____
M. _____	_____	_____	_____
N. _____	_____	_____	_____
O. _____	_____	_____	_____
P. _____	_____	_____	_____
Q. _____	_____	_____	_____
R. _____	_____	_____	_____
S. _____	_____	_____	_____
T. _____	_____	_____	_____

GRAND TOTAL \_\_\_\_\_

NAME OF PREPARER \_\_\_\_\_

PHONE # \_\_\_\_\_

DATE PREPARED \_\_\_\_\_

<p>SHEET 7</p> <p>LTPP TRAFFIC DATA</p> <p>VEHICLE CLASSIFICATION CONVERSION CHART</p>	<p>*STATE ASSIGNED ID [ 7811 ]</p> <p>*STATE CODE [ 46 ]</p> <p>*SHRP SECTION ID [ 7042 ]</p>
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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 \_\_\_\_\_ TO \_\_\_\_\_

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

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	





<p>SHEET 9</p> <p>LTPP TRAFFIC DATA</p> <p>TRUCK AXLE LOAD MEASUREMENTS BY VEHICLE CLASSIFICATION</p>	<p>*STATE ASSIGNED ID [1311]</p> <p>*STATE CODE [46]</p> <p>*SHRP SECTION ID [7041]</p>
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FHWA CLASSIFICATION SCHEME: FHWA \_\_\_\_\_ OTHER \_\_\_\_\_ #BINS \_\_\_\_\_

NOTE: FOR CLASSIFICATION SCHEMES OTHER THAN FHWA, ATTACH SHEET 7  
DESCRIBING CONVERSION FROM AGENCY CLASSIFICATION SCHEME TO  
FHWA 13 CLASSES.

1. VEHICLE CLASS \_\_\_\_\_

2. TOTAL NUMBER VEHICLES COUNTED \_\_\_\_\_

3. SINGLE AXLES LOAD RANGE	NUMBER OF SINGLE AXLES WEIGHED	4. TANDEM AXLES LOAD RANGE	NUMBER OF TANDEM AXLES WEIGHED	5. TRIPLE AXLES LOAD RANGE	NUMBER OF TRIPLE AXLES WEIGHED
< 3000	-----	< 6000	-----	< 12000	-----
3000 - 3999	-----	6000 - 7999	-----	12000 - 14999	-----
4000 - 4999	-----	8000 - 9999	-----	15000 - 17999	-----
5000 - 5999	-----	10000 - 11999	-----	18000 - 20999	-----
6000 - 6999	-----	12000 - 13999	-----	21000 - 23999	-----
7000 - 7999	-----	14000 - 15999	-----	24000 - 26999	-----
8000 - 8999	-----	16000 - 17999	-----	27000 - 29999	-----
9000 - 9999	-----	18000 - 19999	-----	30000 - 32999	-----
10000 - 10999	-----	20000 - 21999	-----	33000 - 35999	-----
11000 - 11999	-----	22000 - 23999	-----	36000 - 38999	-----
12000 - 12999	-----	24000 - 25999	-----	39000 - 41999	-----
13000 - 13999	-----	26000 - 27999	-----	42000 - 44999	-----
14000 - 14999	-----	28000 - 29999	-----	45000 - 47999	-----
15000 - 15999	-----	30000 - 31999	-----	48000 - 50999	-----
16000 - 16999	-----	32000 - 33999	-----	51000 - 53999	-----
17000 - 17999	-----	34000 - 35999	-----	54000 - 56999	-----
18000 - 18999	-----	36000 - 37999	-----	57000 - 59999	-----
19000 - 19999	-----	38000 - 39999	-----	60000 - 62999	-----
20000 - 20999	-----	40000 - 41999	-----	63000 - 65999	-----
21000 - 21999	-----	42000 - 43999	-----	66000 - 68999	-----
22000 - 22999	-----	44000 - 45999	-----	69000 - 71999	-----
23000 - 23999	-----	46000 - 47999	-----	72000 - 74999	-----
24000 - 24999	-----	48000 - 49999	-----	75000 - 77999	-----
25000 - 25999	-----	50000 - 51999	-----	78000 - 79999	-----
26000 - 26999	-----	52000 - 53999	-----	> 80000	-----
27000 - 27999	-----	54000 - 55999	-----		
28000 - 28999	-----	56000 - 57999	-----		
29000 - 29999	-----	58000 - 59999	-----		
> 30000	-----	> 60000	-----		

6. USE SECOND PAGE FOR FOUR AXLE GROUPS.

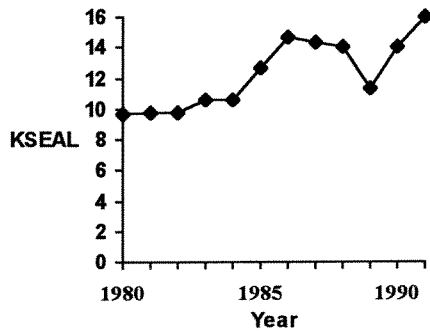
NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

Agency ID: 46

SHRP ID: 7049

Agency Name: South Dakota

### Historical Traffic Data



Year:	KESAL:	SRO:
1990	14	
1991	16	

Site Location US-81 SB

MP or Station MP 10.86

Design KESAL 68

Level P

Number of Lanes 2

Lanes Monitored 1S/1N

Equipment Location 3.4 MLS

### Construction Event 1

Layer Number	Layer Type	Thickness0	Thickness5
1	SS		
2	GB	3	4.2
3	PC	7.4	7.4
4	AC	2.4	2.9
5	AC	1.6	1.4
6	AC	0.1	0.2

### Construction Event 2

Layer Number	Layer Type	Thickness0	Thickness5
1	SS		
2	GB	3	4.2
3	PC	7.4	7.4
4	AC	2.4	2.9
5	AC	1.6	1.4
6	AC	0.1	0.2
7	AC	0.3	0.2