

16  
28

<b>SHEET 1</b> <b>LTPP TRAFFIC DATA</b> <b>SUMMARY TRANSMITTAL FORM</b>	*STATE ASSIGNED ID <u>[1011]</u> *STATE CODE <u>[25]</u> *SHRP SECTION ID <u>[1002]</u>
---	---

STATE OR PROVINCE Massachusetts COUNTY Hampden  
HIGHWAY ROUTE NO. I-391 MILEPOST# 1.93  
NEAREST CITY/TOWN Chicopee NEAREST INTERSECTION .5m. N of I-90  
FUNCTIONAL CLASS 11 NO. LANES EACH DIRECTION 3 TOTAL NO. LANES 6  
DIRECTION OF TRAVEL GPS LANE North DATE OPENED TO TRAF. 09 - 82  
FIPS COUNTY CODE 013 FHWA STATION IDENTIFICATION NO. \_\_\_\_\_  
HPMS SAMPLE NO. 06100770035<sup>00</sup> HPMS SUBDIVISION NO. 0  
TYPE OF PAVEMENT: AC X PCC \_\_\_\_\_ OTHER \_\_\_\_\_  
CONTROL OF ACCESS: YES X NO \_\_\_\_\_ MEDIAN: YES X NO \_\_\_\_\_  
CURRENT SURROUNDING DEVELOPMENT:  
URBAN X SUBURBAN \_\_\_\_\_ RURAL \_\_\_\_\_  
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>M. Turo</u>	PHONE # <u>617-973-7266</u>
DATE PREPARED <u>9/5/90</u>	

<p align="center"><b>SHEET 2</b></p> <p align="center"><b>LTPP TRAFFIC DATA</b></p> <p align="center"><b>TRAFFIC VOLUMES AND LOAD ESTIMATES</b></p>	<p>*STATE ASSIGNED ID [1011]</p> <p>*STATE CODE [25]</p> <p>*SHRP SECTION ID [1002]</p>
---	---

YEAR	1. ESTIMATED TOTAL VEHICLES AADT (TWO-WAY)	2. ESTIMATED TOTAL TRUCK AADT (TWO-WAY) <i>10%</i>	3. ESTIMATED TOTAL VEHICLES AADT GPS LANE	4. ESTIMATED TOTAL TRUCKS AADT GPS LANE	5. ESTIMATED ESAL'S / YR GPS LANE (1000's)
1989					
1988	23,300	2330	3720		
1987	23280	2328	3719		
1986	23260	2326	3719		
1985	23240	2324	3718		
1984	23220	2322	3717		
1983	23,200	2320	3740		
1982					
1981					
1980					
1979					
1978					
1977					
1976					
1975					
1974					
1973					
1972					
1971					
1970					
1969					
1968					
1967					
1966					
1965					

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

<p><b>SHEET 2</b></p> <p><b>LTPP TRAFFIC DATA</b></p> <p><b>TRAFFIC VOLUMES AND LOAD ESTIMATES</b></p>	<p>*STATE ASSIGNED ID [1011]</p> <p>*STATE CODE [25]</p> <p>*SHRP SECTION ID [1002]</p>
--	---

YEAR	1. ESTIMATED TOTAL VEHICLES AADT (TWO-WAY)	2. ESTIMATED TOTAL TRUCK AADT (TWO-WAY) 6%	3. ESTIMATED TOTAL VEHICLES AADT GPS LANE 15.76%	4. ESTIMATED TOTAL TRUCKS AADT GPS LANE 12%	5. ESTIMATED ESAL'S/YR GPS LANE (1000's)
1989	23320	1399	3674	441	160
1988	23300	1398	3671	441	160
1987	23280	1397	3668	440	160
1986	23260	1396	3665	440	160
1985	23230	1394	3660	439	160
1984	23210	1393	3655	439	160
1983	23190	1391	3654	438	159
1982	23170	1390	3650	438	159
1981					
1980					
1979					
1978					
1977					
1976					
1975					
1974					
1973					
1972					
1971					
1970					
1969					
1968					
1967					
1966					
1965					

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

# Sheet 2 Column 4 Estimated Total Trucks FDOT GPS Lane

1989 thru 1982

Based on actual lane count data from a count done at Station 2252, which was computer analyzed

GPS Lane = Northbound Travel Lane

Sta 2252 % Trucks in travel lane = 12.4%

Use 12%

$$\text{Column 4} = \text{Column 3} \times 0.12$$

% trucks in travel lane  $\frac{49}{2084} = 11.9\%$

Use 12%

Truck data  
Classes 4-13

Vehicle type	computer analysis for travel in % Travel lane
1	0.6
2	73.2
3	13.8
4	1.2
5	3.0
6	0.9
7	0.0
8	2.0
9	4.7
10	0.0
11	0.0
12	0.0
13	0.0

= 12.4%

## Sheet 2 Column 5 Estimated ESAL's / YEAR GPS Lane (1000's)

1989 thru 1982

Equivalent 18" axle applications per 1000 trucks, flexible pavement

Freeways/Expressways = 1500

$$\text{column 5} = \frac{1000}{1000 \text{ trucks}} = 1 \times \text{column 4}$$

taken from table 11.1 p. 11-3 Pavement Design Chapter  
Highway Design Manual MDPW July 1989  
See attached pages

# Sheet 2 Column 2 Estimated Total Truck AADT (2-way)

1989 thru 1982 Used count data from nearby site

		Classes 4-13	Classes 1-13
Sta 2252	Inter Ln	411	9573
	Travel Ln	249	2084
	Passover	14	724
SB	Inter Ln	449	7100
	Travel Ln	174	1666
	Passover	35	3232
		1352	23379
		1352/23379 = 5.7%	Use <u>6%</u>

$$\text{Column 2} = \text{Column 1} * 0.06$$

# Sheet 2 Column 3 Estimated Total Vehicle AADT GPS Lane

1989 thru 1982 taken from Figure 1 p. 6 of the Massachusetts  
1988 Vehicle Classification Procedures

6 Lane divided highway

GPS Lane = Northbound Travel Lane

Directional distribution factor = 0.50

GPS Lane distribution factor = 0.3151

from figure #1 p6

$$(0.50)(0.3151) = 0.15755$$

Use 16%

$$\text{Column 3} = \text{Column 1} * 0.15755$$

<b>SHEET 2</b> <b>LTPP TRAFFIC DATA</b> <b>TRAFFIC VOLUMES</b> <b>AND LOAD ESTIMATES</b>	*STATE ASSIGNED ID [1011]
	*STATE CODE [25]
	*SHRP SECTION ID [1002]

YEAR	1. ESTIMATED TOTAL VEHICLES AADT (TWO-WAY)	2. ESTIMATED TOTAL TRUCK AADT (TWO-WAY) 57	3. ESTIMATED TOTAL VEHICLES AADT GPS LANE 15.76%	4. ESTIMATED TOTAL TRUCKS AADT GPS LANE 12.7%	5. ESTIMATED ESAL'S/YR GPS LANE (1000's)
1989	23320	1399	3674	441	441
1988	23300	1396	3671	441	441
1987	23280	1397	3668	440	440
1986	23260	1396	3665	440	440
1985	23230	1394	3660	439	439
1984	23210	1393	3657	439	439
1983	23190	1391	3654	438	438
1982	23170	1390	3650	438	438
1981					
1980					
1979					
1978					
1977					
1976					
1975					
1974					
1973					
1972					
1971					
1970					
1969					
1968					
1967					
1966					
1965					

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

## SHEET 3

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

\*STATE ASSIGNED ID (1011)

\*STATE CODE (25)

\*SHRP SECTION ID (1002)

1. Year Applicable 1982

## 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: reverse growth factor from 1983.

## 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: no vehicle classification procedures.

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

- ☐ Based on actual lane count data.  
☐ System distribution factors.  
☒ Other: Based on actual lane count data from nearby side

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☒ ESAL/Truck.  
☐ ESAL/Vehicle class. (no. of classes) \_\_\_\_\_  
☐ 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: Used factor found in Highway Design Manual (11-3)

## (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 [1011]

\*STATE CODE [25]

\*SHRP SECTION ID [1002]

1. Year Applicable 1988, 1989

## 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: \_\_\_\_\_

## 4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☐ Based on actual lane count data.
- ☐ System distribution factors.
- ☒ Other: MA Vehicle Classification Procedures

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

- ☐ Based on actual lane count data.
- ☐ System distribution factors.
- ☒ Other: based on actual lane count data from a nearby site

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☐ ESAL/Truck.
- ☐ ESAL/Vehicle class. (no. of classes) \_\_\_\_\_
- ☒ Other: Used factor found in Highway Design Manual p. 11-3

## 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: Used factor found in Highway Design Manual p. 11-3

## (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 [1011]

\*STATE CODE [25]

\*SHRP SECTION ID [1002]

1. Year Applicable 1983, 1988

## 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: I.C.F.

## 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) \_\_\_\_\_
- ☐ 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 \_\_\_\_\_ PHONE # \_\_\_\_\_

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

## SHEET 3

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

\*STATE ASSIGNED ID [1011]

\*STATE CODE [25]

\*SHRP SECTION ID [1002]

1. Year Applicable '84, '85, '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: Pro-rated Difference Between Available Count years

## 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: I.C.E.  
Interstate Cost Estimate (I.C.E.)

## 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) \_\_\_\_\_  
☐ 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 \_\_\_\_\_ PHONE # \_\_\_\_\_

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

## SHEET 3

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

\*STATE ASSIGNED ID (1011)

\*STATE CODE (25)

\*SHRP SECTION ID (1002)

1. Year Applicable 1987, 1986, 1985, 1984

## 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: Projected differences between variable counts

## 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: MA Vehicle Classification Procedures

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

- ☐ Based on actual lane count data.  
☐ System distribution factors.  
☒ Other: based on actual lane count data from a nearby site

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☐ ESAL/Truck.  
☐ ESAL/Vehicle class. (no. of classes) \_\_\_\_\_  
☒ Other: Used factor found in Highway Design Manual p 11-3

## 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: Used factor found in Highway Design Manual p 11-3

## (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 (L011)

\*STATE CODE (25)

\*SHRP SECTION ID (1002)

1. Year Applicable 1981, 1982

## 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: \_\_\_\_\_

## 4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☐ Based on actual lane count data.  
☐ System distribution factors.  
☒ Other: MA Vehicle Classification Procedures

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

- ☐ Based on actual lane count data.  
☐ System distribution factors.  
☒ Other: based on actual lane count data from a nearby site

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☐ ESAL/Truck.  
☐ ESAL/Vehicle class. (no. of classes) \_\_\_\_\_  
☒ Other: Used factor found in Highway Design Manual p11-3

## 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: Used factor found in Highway Design Manual p11-3

## (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 (1001)

\*STATE CODE (25)

\*SHRP SECTION ID (1002)

1. Year Applicable 1989

## 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: \_\_\_\_\_

## 4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☐ Based on actual lane count data.  
☒ System distribution factors.  
☒ Other: MA Vehicle Classification Procedure

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

- ☐ Based on actual lane count data.  
☐ System distribution factors.  
☒ Other: Based on actual lane count data from nearby site

## 6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☒ ESAL/Truck.  
☐ ESAL/Vehicle class. (no. of classes) \_\_\_\_\_  
☐ 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: Used Factor Found in Highway Design Manual (11-3)

## (B) Weight Scale Type

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

NAME OF PREPARER \_\_\_\_\_ PHONE # \_\_\_\_\_  
 DATE PREPARED \_\_\_\_\_

<b>SHEET 4</b> <b>LTPP TRAFFIC DATA</b> <b>TRAFFIC VOLUME COUNTS</b>	*STATE ASSIGNED ID [ <u>1011</u> ] *STATE CODE [ <u>25</u> ] *SHRP SECTION ID [ <u>1002</u> ]
--	---

HIGHWAY ROUTE NO. (THIS COUNT) I.H. 391  
 MILEPOST# OR LOCATION (THIS COUNT) 0.5 miles North of I-90  
 BEGINNING DATE 11-21-83 ENDING DATE 11-23-83  
 BEGINNING TIME 1100 ENDING TIME 1100  
 COUNT DURATION 48 [X] HOURS [ ] DAYS [ ] MONTHS  
 TYPE OF COUNTER Streeter Amet NAME/MODEL # INR Traffic Counter  
 TYPE OF COUNT: TWO-WAY X ONE DIRECTION ONLY      GPS TEST LANE ONLY     

<u>ITEM</u>	<u>ACTUAL COUNTS</u>	<u>UNITS</u>
1. TOTAL NO. OF VEHICLES (RAW COUNT)	<u>45466</u>	
2. ADJUSTMENT FACTORS (FILL IN AS APPLICABLE):		
A. ADJUSTMENT TO 24-HOUR COUNT	<u>0.50</u>	
B. AXLE CORRECTION FACTOR	<u>1.00</u>	
C. DAY OF WEEK FACTOR	<u>1.00</u>	
D. MONTH FACTOR	<u>1.02</u>	
E. OTHER FACTOR ( <u>                                </u> )	<u>1.00</u>	
3. ANNUAL AVERAGE DAILY TRAFFIC (AADT) (TWO-WAY)	<u>23190</u>	
4. DIRECTIONAL DISTRIBUTION FACTOR	<u>0.50</u>	
5. GPS LANE DISTRIBUTION FACTOR	<u>0.3151</u>	
6. AADT GPS LANE	<u>3654</u>	

NOTE: COMPLETE ONE SHEET FOR EACH COUNTING SESSION.

NAME OF PREPARER <u>  </u>	PHONE # <u>                        </u>
DATE PREPARED <u>                        </u>	

<b>SHEET 4</b> <b>LTPP TRAFFIC DATA</b> <b>TRAFFIC VOLUME COUNTS</b>	*STATE ASSIGNED ID [1011] *STATE CODE [25] *SHRP SECTION ID [1002]
--	--

HIGHWAY ROUTE NO. (THIS COUNT) I. H. 391

MILEPOST# OR LOCATION (THIS COUNT) 0.5 mi North of I-90

BEGINNING DATE 11-21-83 ENDING DATE 11-23-83

BEGINNING TIME 1100 ENDING TIME 1100

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

TYPE OF COUNTER 2 NAME/MODEL # \_\_\_\_\_

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

	<u>ACTUAL COUNTS</u>	<u>UNITS</u>
1. TOTAL NO. OF VEHICLES (RAW COUNT)		<u>45466</u>
2. ADJUSTMENT FACTORS (FILL IN AS APPLICABLE):		
A. ADJUSTMENT TO 24-HOUR COUNT		<u>0.50</u>
B. AXLE CORRECTION FACTOR		<u>----</u>
C. DAY OF WEEK FACTOR		<u>----</u>
D. MONTH FACTOR		<u>1.02</u>
E. OTHER FACTOR (_____)		<u>----</u>
3. ANNUAL AVERAGE DAILY TRAFFIC (AADT) (TWO-WAY)		<u>23200</u>
4. DIRECTIONAL DISTRIBUTION FACTOR		<u>0.520</u>
5. GPS LANE DISTRIBUTION FACTOR		<u>0.31</u>
6. AADT GPS LANE		<u>3740</u>

NOTE: COMPLETE ONE SHEET FOR EACH COUNTING SESSION.

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

<b>SHEET 4</b> <b>LTPP TRAFFIC DATA</b> <b>TRAFFIC VOLUME COUNTS</b>	*STATE ASSIGNED ID [ 1 0 1 1 ] *STATE CODE [ 2 5 ] *SHRP SECTION ID [ 1 0 0 2 ]
--	---

HIGHWAY ROUTE NO. (THIS COUNT) I.H. 371  
 MILEPOST# OR LOCATION (THIS COUNT) 0.5 miles North of I.H. 90  
 BEGINNING DATE 08-08-88 ENDING DATE 08-10-88  
 BEGINNING TIME 1000 ENDING TIME 1000  
 COUNT DURATION 48 [X] HOURS [ ] DAYS [ ] MONTHS  
 TYPE OF COUNTER Streeter NAME/MODEL # 241  
 TYPE OF COUNT: TWO-WAY X ONE DIRECTION ONLY \_\_\_ GPS TEST LANE ONLY \_\_\_

ITEM	ACTUAL COUNTS	UNITS
1. TOTAL NO. OF VEHICLES (RAW COUNT)		<u>58940</u>
2. ADJUSTMENT FACTORS (FILL IN AS APPLICABLE):		
A. ADJUSTMENT TO 24-HOUR COUNT		<u>0.50</u>
B. AXLE CORRECTION FACTOR		<u>0.93</u>
C. DAY OF WEEK FACTOR		<u>---</u>
D. MONTH FACTOR		<u>0.85</u>
E. OTHER FACTOR (_____)		<u>---</u>
3. ANNUAL AVERAGE DAILY TRAFFIC (AADT) (TWO-WAY)		<u>23300</u>
4. DIRECTIONAL DISTRIBUTION FACTOR		<u>0.50</u>
5. GPS LANE DISTRIBUTION FACTOR		<u>0.3151</u>
6. AADT GPS LANE		<u>3671</u>

NOTE: COMPLETE ONE SHEET FOR EACH COUNTING SESSION.

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	





<b>SHEET 5</b> <b>LTPP TRAFFIC DATA</b> <b>VEHICLE CLASSIFICATION DATA</b> <b>FHWA 13-CLASS SYSTEM</b>	*STATE ASSIGNED ID [ <u>1011</u> ] *STATE CODE [ <u>25</u> ] *SHRP SECTION ID [ <u>1002</u> ]
---	---

HIGHWAY RT. NO. (THIS COUNT) I-391 MILEPOST# (THIS COUNT) 8.80

LOCATION (THIS COUNT) Chicopee Nof Rte I-91 FUNCTIONAL CLASS 11

BEGINNING DATE 5-5-88 ENDING DATE 5-5-88

BEGINNING TIME 0100 ENDING TIME 2400 DURATION (HRS) 24

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

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

EQUIPMENT NAME / MODEL # Streeter # 241

TOTAL NO. OF VEHICLES CLASSIFIED 23379 # TRUCKS 1332 % TRUCKS 6

NO. OF TRUCKS IN GPS LANE 249 % OF TRUCKS IN GPS LANE 12

VEHICLE CLASSIFICATION METHOD: FHWA X 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)	<u>23047</u>	<u>10707</u>	<u>1835</u>
2. FHWA CLASS 4 (Buses)	<u>111</u>	<u>53</u>	<u>25</u>
3. FHWA CLASS 5 (Two Axle, 6-Tire, SU Truck)	<u>394</u>	<u>198</u>	<u>63</u>
4. FHWA CLASS 6 (3 AXLE SU TRUCK)	<u>136</u>	<u>86</u>	<u>19</u>
5. FHWA CLASS 7 (4 or more Axle SU Truck)	<u>6</u>	<u>5</u>	<u>0</u>
6. FHWA CLASS 8 (4 or less axle 1-Trlr.Truck)	<u>200</u>	<u>109</u>	<u>42</u>
7. FHWA CLASS 9 (5 Axle, 1-Trlr.Truck)	<u>484</u>	<u>222</u>	<u>99</u>
8. FHWA CLASS 10 (6 or more Axle, 1-Trlr.Truck)	<u>1</u>	<u>1</u>	<u>1</u>
9. FHWA CLASS 11 (5 or less Axle, Multi-Trlr.Truck)	<u>0</u>	<u>0</u>	<u>0</u>
10. FHWA CLASS 12 (6 Axle, Multi-Trlr.Truck)	<u>0</u>	<u>0</u>	<u>0</u>
11. FHWA CLASS 13 (7 or more Axle, Multi-Trlr.Truck)	<u>0</u>	<u>0</u>	<u>0</u>
12. OTHER VEHICLES	<u>—</u>	<u>—</u>	<u>—</u>
<b>GRAND TOTAL</b>	<u>23379</u>	<u>11381</u>	<u>2084</u>

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

<b>SHEET 5</b>  <b>LTPP TRAFFIC DATA</b>  <b>VEHICLE CLASSIFICATION DATA</b> <b>FHWA 13-CLASS SYSTEM</b>	*STATE ASSIGNED ID [ <u>1011</u> ]  *STATE CODE [ <u>25</u> ]  *SHRP SECTION ID [ <u>1002</u> ]
---	---

HIGHWAY RT. NO. (THIS COUNT) I-391 MILEPOST# (THIS COUNT) 8.80

LOCATION (THIS COUNT) CHICOPPEE N. OF I-91 FUNCTIONAL CLASS 11

BEGINNING DATE 5-5-88 ENDING DATE 5-5-88

BEGINNING TIME 0100 ENDING TIME 2400 DURATION (HRS) 24

TYPE OF COUNT: MANUAL \_\_\_\_\_ AUTOMATED X NO. OF LANES COUNTED 6

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

EQUIPMENT NAME / MODEL # STREETER # 241

TOTAL NO. OF VEHICLES CLASSIFIED 23379 # TRUCKS 1332 % TRUCKS 6

NO. OF TRUCKS IN GPS LANE 249 % OF TRUCKS IN GPS LANE 19

VEHICLE CLASSIFICATION METHOD: FHWA X 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)	<u>22047</u>	<u>10707</u>	<u>1835</u>
2. FHWA CLASS 4 (Buses)	<u>111</u>	<u>53</u>	<u>25</u>
3. FHWA CLASS 5 (Two Axle, 6-Tire, SU Truck)	<u>394</u>	<u>198</u>	<u>63</u>
4. FHWA CLASS 6 (3 AXLE SU TRUCK)	<u>136</u>	<u>86</u>	<u>19</u>
5. FHWA CLASS 7 (4 or more Axle SU Truck)	<u>6</u>	<u>5</u>	<u>0</u>
6. FHWA CLASS 8 (4 or less axle 1-Trlr.Truck)	<u>200</u>	<u>109</u>	<u>42</u>
7. FHWA CLASS 9 (5 Axle, 1-Trlr.Truck)	<u>484</u>	<u>222</u>	<u>99</u>
8. FHWA CLASS 10 (6 or more Axle, 1-Trlr.Truck)	<u>1</u>	<u>1</u>	<u>1</u>
9. FHWA CLASS 11 (5 or less Axle, Multi-Trlr.Truck)	<u>0</u>	<u>0</u>	<u>0</u>
10. FHWA CLASS 12 (6 Axle, Multi-Trlr.Truck)	<u>0</u>	<u>0</u>	<u>0</u>
11. FHWA CLASS 13 (7 or more Axle, Multi-Trlr.Truck)	<u>0</u>	<u>0</u>	<u>0</u>
12. OTHER VEHICLES	<u>—</u>	<u>—</u>	<u>—</u>
<b>GRAND TOTAL</b>	<u>23379</u>	<u>11381</u>	<u>2084</u>

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	