

SHEET 1 LTPP TRAFFIC DATA SUMMARY TRANSMITTAL FORM	*STATE ASSIGNED ID [1022] *STATE CODE [25] *SHRP SECTION ID [1003]
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STATE OR PROVINCE Massachusetts COUNTY Norfolk
 HIGHWAY ROUTE NO. Route 27 MILEPOST# 39.70
 NEAREST CITY/TOWN Medfield NEAREST INTERSECTION S. of Hospital Rd
 FUNCTIONAL CLASS 14 NO. LANES EACH DIRECTION 1 TOTAL NO. LANES 2
 DIRECTION OF TRAVEL GPS LANE North DATE OPENED TO TRAF. 09 - 74
 FIPS COUNTY CODE 021 FHWA STATION IDENTIFICATION NO. _____
 HPMS SAMPLE NO. 175012703170 HPMS SUBDIVISION NO. 0
 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 <u>M. Turo</u> DATE PREPARED <u>9/5/90</u>	PHONE # <u>617-973-7266</u>
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SHEET 2 LTPP TRAFFIC DATA TRAFFIC VOLUMES AND LOAD ESTIMATES	*STATE ASSIGNED ID (1022) *STATE CODE (25) *SHRP SECTION ID (1003)
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YEAR	1. ESTIMATED TOTAL VEHICLES AADT (TWO-WAY)	2. ESTIMATED TOTAL TRUCK AADT (TWO-WAY) 3%	3. ESTIMATED TOTAL VEHICLES AADT GPS LANE	4. ESTIMATED TOTAL TRUCKS AADT GPS LANE 3%	5. ESTIMATED ESAL'S / YR GPS LANE (1000's)
1989	8650	260	4325	130	47
1988	8580	257	4290	128	46
1987	7925	235	3914	117	42
1986	7076	212	3558	106	38
1985	6324	190	3162	95	35
1984	5572	167	2786	83	30
1983	4820	145	2410	73	26
1982	5743	172	2875	86	31
1981	6667	200	3338	100	36
1980	7590	227	3800	113	41
1979	7000	210	3500	905	75
1978	6800	204	3400	102	37
1977	6750	202	3375	101	36
1976	6700	201	3375	100	36
1975	6700	201	3375	100	36
1974	6680	200	3340	100	36
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 (1027)

*STATE CODE (25)

*SHRP SECTION ID (1003)

1. Year Applicable 1974 → 1979
1981 → 1982 1984 → 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: Reverse growth Factor
From latest year

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) _____
☐ 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 [1027]

*STATE CODE [25]

*SHRP SECTION ID [1003]

1. Year Applicable 1981, '82, '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: Prorated difference between available 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: _____

4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☐ Based on actual lane count data.
☐ System distribution factors.
☐ Other: Based on lane count data from available years

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 (1 027)

*STATE CODE (25)

*SHRP SECTION ID (1003)

1. Year Applicable 1988, 1983, 1980

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: _____

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: 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 [1027]

*STATE CODE [25]

*SHRP SECTION ID [1003]

1. Year Applicable 1980, 1983

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: _____

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 [1022]

*STATE CODE [25]

*SHRP SECTION ID [1003]

1. Year Applicable 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: _____

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 (1027)

*STATE CODE (25)

*SHRP SECTION ID (1003)

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: Factor from previous year

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) _____
☐ 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 4 LTPP TRAFFIC DATA TRAFFIC VOLUME COUNTS	*STATE ASSIGNED ID (<u>1027</u>) *STATE CODE (<u>25</u>) *SHRP SECTION ID (<u>1003</u>)
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HIGHWAY ROUTE NO. (THIS COUNT) ST 27
 MILEPOST# OR LOCATION (THIS COUNT) So. of Hospital Rd
 BEGINNING DATE 05-15-80 ENDING DATE 05-28
 BEGINNING TIME 2400 ENDING TIME 2400
 COUNT DURATION 9 [] HOURS [X] DAYS [] MONTHS
 TYPE OF COUNTER _____ NAME/MODEL # _____
 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>74213</u>
2. ADJUSTMENT FACTORS (FILL IN AS APPLICABLE):		
A. ADJUSTMENT TO 24-HOUR COUNT		<u>0.111</u>
B. AXLE CORRECTION FACTOR		<u>0.99</u>
C. DAY OF WEEK FACTOR		<u>----</u>
D. MONTH FACTOR		<u>0.93</u>
E. OTHER FACTOR (_____)		<u>----</u>
3. ANNUAL AVERAGE DAILY TRAFFIC (AADT) (TWO-WAY)		<u>7590</u>
4. DIRECTIONAL DISTRIBUTION FACTOR		<u>0.50</u>
5. GPS LANE DISTRIBUTION FACTOR		<u>1.00</u>
6. AADT GPS LANE		<u>3800</u>

NOTE: COMPLETE ONE SHEET FOR EACH COUNTING SESSION.

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

SHEET 4 LTPP TRAFFIC DATA TRAFFIC VOLUME COUNTS	*STATE ASSIGNED ID (1027) *STATE CODE (25) *SHRP SECTION ID (1003)
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HIGHWAY ROUTE NO. (THIS COUNT) Bt. 27

MILEPOST# OR LOCATION (THIS COUNT) So. of Hospital Rd

BEGINNING DATE 06-23-83 ENDING DATE 07-11-83

BEGINNING TIME 700 ENDING TIME 1200

COUNT DURATION 18 [] HOURS [X] DAYS [] MONTHS

TYPE OF COUNTER _____ NAME/MODEL # _____

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>88952</u>	
2. ADJUSTMENT FACTORS (FILL IN AS APPLICABLE):		
A. ADJUSTMENT TO 24-HOUR COUNT	<u>0.059</u>	
B. AXLE CORRECTION FACTOR	<u>0.99</u>	
C. DAY OF WEEK FACTOR	<u>----</u>	
D. MONTH FACTOR	<u>0.93</u>	
E. OTHER FACTOR (_____)	<u>----</u>	
3. ANNUAL AVERAGE DAILY TRAFFIC (AADT) (TWO-WAY)	<u>4820</u>	
4. DIRECTIONAL DISTRIBUTION FACTOR	<u>0.50</u>	
5. GPS LANE DISTRIBUTION FACTOR	<u>1.00</u>	
6. AADT GPS LANE	<u>2410</u>	

NOTE: COMPLETE ONE SHEET FOR EACH COUNTING SESSION.

NAME OF PREPARER _____	PHONE # _____
DATE PREPARED _____	

SHEET 5 LTPP TRAFFIC DATA VEHICLE CLASSIFICATION DATA FHWA 13-CLASS SYSTEM	*STATE ASSIGNED ID <u>(1027)</u> *STATE CODE <u>(25)</u> *SHRP SECTION ID <u>(1003)</u>
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HIGHWAY RT. NO. (THIS COUNT) RTE 27 MILEPOST# (THIS COUNT) 3970

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 _____	