

SHEET 1 LTPP TRAFFIC DATA SUMMARY TRANSMITTAL FORM	*STATE ASSIGNED ID [0029]
	*STATE CODE [21]
	*SHRP SECTION ID [6043]

STATE OR PROVINCE KENTUCKY COUNTY CLAY
 HIGHWAY ROUTE NO. KY 9006 MILEPOST# 15.900
 NEAREST CITY/TOWN MANCHESTER NEAREST INTERSECTION US 421
 FUNCTIONAL CLASS 02 NO. LANES EACH DIRECTION 1 TOTAL NO. LANES 2
 DIRECTION OF TRAVEL GPS LANE WEST DATE OPENED TO TRAF. 11-28-71
 FIPS COUNTY CODE 051 FHWA STATION IDENTIFICATION NO. 216043
 HPMS SAMPLE NO. 9006-10593 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 <u>A. KUCKER</u>	PHONE # <u>564-7183</u>
DATE PREPARED <u>8-6-90</u>	

SHEET 2 LTPP TRAFFIC DATA TRAFFIC VOLUMES AND LOAD ESTIMATES	*STATE ASSIGNED ID [0029]
	*STATE CODE [21]
	*SHRP SECTION ID [6043]

NOTE: TRUCK AADT FROM KY TOLL RD. REPORT

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	5120	630	(2590)	(320)	292.3✓
1988	4960	660	2510	340	487.7
1987	4840	700	2440	360	1,112.6
1986	4690	710	2370	360	980.2
1985	4426	720	2230	370	880.4
1984	4330	720	2190	370	757.1
1983	3940	580	1990	300	521.3
1982	3950	600	1990	310	528.2
1981	3536	540	1780	280	471.4
1980	3290	570	1660	260	438.2
1979	3390	590	1710	300	494.3
1978	3400	580	1720	300	489.7
1977	3150	600	(1590)	(310)	503.2✓
1976	2850	460	1440	240	390.8
1975	2540	360	1280	190	301.7
1974	1820	280	920	150	239.2
1973	1690	180	850	100	126.0
1972	1400	160	710	90	141.6
1971					
1970					
1969					
1968					
1967					
1966					
1965					

NAME OF PREPARER <u>A. RUCKER</u>	PHONE # <u>564-7183</u>
DATE PREPARED <u>8-6-90</u>	<u>502-</u>

SHEET 3

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

*STATE ASSIGNED ID [0029]

*STATE CODE [21]

*SHRP SECTION ID [6043]

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: 1989 TOLL ROAD REPORT

REPORT - this count represents the average of 365 days for the 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: 1989 TOLL ROAD REPORT

4. METHOD FOR ESTIMATING AADT BY GPS LANE

- ☒ Based on actual lane count data. 1989 CC
- ☐ System distribution factors.
- ☐ Other: _____

5. METHOD FOR ESTIMATING TRUCK AADT IN GPS LANES

- ☒ Based on actual lane count data. 1989 CLASS C7.
- ☐ System distribution factors.
- ☐ Other: _____

6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☐ ESAL/Truck.
- ☐ ESAL/Vehicle class. (no. of classes) _____
- ☒ Other: Kentucky ESAL method.

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 1989'S ESAL ESTIMATION METHOD

(B) Weight Scale Type

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

Please note that truck 2's are counted at Toll Plaza. They do not break into 2 categories. That is why sheet 5 shows diff. truck 2. than sheet 2.

NAME OF PREPARER A. RUCKEL

DATE PREPARED 8-6-90

PHONE # 564-7183

SHEET 4 LTPP TRAFFIC DATA TRAFFIC VOLUME COUNTS	*STATE ASSIGNED ID [0029]
	*STATE CODE [21]
	*SHRP SECTION ID [6043]

HIGHWAY ROUTE NO. (THIS COUNT) KY 9006

MILEPOST# OR LOCATION (THIS COUNT) 15.900

BEGINNING DATE JAN 1 - 1989 ENDING DATE DEC. 31, 1989

BEGINNING TIME 12:00 AM ENDING TIME 12:00 PM

COUNT DURATION 365 [] HOURS [☒] DAYS [] MONTHS

TYPE OF COUNTER TOLL BOOTH NAME/MODEL # _____

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

Same
factor +
info for
every year

ITEM	ACTUAL COUNTS	UNITS
1. TOTAL NO. OF VEHICLES (RAW COUNT)	-----	
2. ADJUSTMENT FACTORS (FILL IN AS APPLICABLE):		
A. ADJUSTMENT TO 24-HOUR COUNT	-.----	
B. AXLE CORRECTION FACTOR	-.----	
C. DAY OF WEEK FACTOR	-.----	
D. MONTH FACTOR	-.----	
E. OTHER FACTOR (_____)	-.----	
3. ANNUAL AVERAGE DAILY TRAFFIC (AADT) (TWO-WAY)	__5120__	
4. DIRECTIONAL DISTRIBUTION FACTOR	0.505	
5. GPS LANE DISTRIBUTION FACTOR	50.5	
6. AADT GPS LANE	__2590__	

NOTE: COMPLETE ONE SHEET FOR EACH COUNTING SESSION.

NAME OF PREPARER <u>A. LUCKER</u>	PHONE # <u>564-7183</u>
DATE PREPARED <u>8-6-90</u>	

SHEET 5 LTPP TRAFFIC DATA VEHICLE CLASSIFICATION DATA FHWA 13-CLASS SYSTEM	*STATE ASSIGNED ID [<u>0029</u>] *STATE CODE [<u>21</u>] *SHRP SECTION ID [<u>6043</u>]
---	---

HIGHWAY RT. NO. (THIS COUNT) KY 9006 MILEPOST# (THIS COUNT) 15.900

LOCATION (THIS COUNT) MP 15.900 FUNCTIONAL CLASS 02
 BEGINNING DATE 2-28-88 ENDING DATE 8-4-88
 BEGINNING TIME 6:00 AM ENDING TIME 10:00 PM DURATION (HRS) 16

TYPE OF COUNT: MANUAL ☒ AUTOMATED ☐ NO. OF LANES COUNTED 2

TYPE OF EQUIP.: AVC PERM. ☐ AVC PORT. ☐ WIM PERM. ☐ WIM PORT. ☐

EQUIPMENT NAME / MODEL # _____

TOTAL NO. OF VEHICLES CLASSIFIED 4714 # TRUCKS 866 % TRUCKS 18.4

NO. OF TRUCKS IN GPS LANE 440 % OF TRUCKS IN GPS LANE 18.5

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)	<u>3848</u>	<u>1939</u>	<u>1939</u>
2. FHWA CLASS 4 (Buses)	<u>1</u>	<u>0</u>	<u>0</u>
3. FHWA CLASS 5 (Two Axle, 6-Tire, SU Truck)	<u>296</u>	<u>154</u>	<u>154</u>
4. FHWA CLASS 6 (3 AXLE SU TRUCK)	<u>59</u>	<u>28</u>	<u>28</u>
5. FHWA CLASS 7 (4 or more Axle SU Truck)	<u>1</u>	<u>0</u>	<u>0</u>
6. FHWA CLASS 8 (4 or less axle 1-Trlr.Truck)	<u>19</u>	<u>8</u>	<u>8</u>
7. FHWA CLASS 9 (5 Axle, 1-Trlr.Truck)	<u>341</u>	<u>165</u>	<u>165</u>
8. FHWA CLASS 10 (6 or more Axle, 1-Trlr.Truck)	<u>148</u>	<u>84</u>	<u>84</u>
9. FHWA CLASS 11 (5 or less Axle, Multi-Trlr.Truck)	<u>1</u>	<u>1</u>	<u>1</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>0</u>	<u>0</u>	<u>0</u>
GRAND TOTAL	<u>4714</u>	<u>2379</u>	<u>2379</u>

Notes:
No other
See note
on sheet 3

NAME OF PREPARER <u>A. Rucker</u>	PHONE # <u>564-7183</u>
DATE PREPARED <u>8-6-90</u>	

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY CLAYDATE 8-6-90NAME A. Rucker

ROUTE ID:

Road Name DANIEL BOONS PKWY Route No ICV 9006Project No SHRP 216043Project Limits MP 15.900Ref Stations TOLL CO. REPORTS, 1988 EAL TABLES, LAUREL COSTA 003 (88)
1989 COAL HAUL

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear)	
			(Percent Trucks Hauling Coal)	
Interstate	1 Less Than 5000	West	Less Than 1.00	
<u>2</u> FAP	5000 or More	South Central	1 - 4.99	
FAU		North Central	<u>2</u> 5 - 19.99	
FAS		<u>4</u> East	20 or more	
Non FA				

DATES:

Base Year _____

Design Period (Years) _____

Project Midyear 1989

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>2590</u>
Percent Trucks (XT)	x	=	<u>12.4</u>	+	<u>12.4</u>
Percent Trucks Hauling Coal (XCT)	x	=	<u>10.6</u>	+	<u>10.6</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	<u>4.089</u>	+	<u>0.036</u>
EAL's/Axle (EAL/NCA)	x	=	<u>0.193</u>	+	<u>0.003</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	<u>4.464</u>	+	<u>0.040</u>
EAL's/Axle (EAL/CA)	x	=	<u>3.674</u>	+	<u>3.674</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{2590}{\text{AADT}} \times \frac{0.876}{1-(\text{XT}/100)} \times 0.005 = \underline{11.34}$$

Non-Coal Trucks

$$\frac{2590}{\text{AADT}} \times \frac{0.111}{(\text{XT}/100)(1-\text{XCT}/100)} \times \frac{4.125}{\text{A/NCT}} \times \frac{0.196}{\text{EAL/NCA}} = \underline{232.42}$$

Coal Trucks

$$\frac{2590}{\text{AADT}} \times \frac{0.013}{(\text{XT}/100)(\text{XCT}/100)} \times \frac{4.504}{\text{A/CT}} \times \frac{3.674}{\text{EAL/CA}} = \underline{557.16}$$

Total Midyear Daily EAL's = 800.92

DESIGN EAL'S:

$$\frac{800.92}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1})} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1})} = \boxed{292,336}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY CLAYDATE 8-6-90NAME A. RUCKER

ROUTE ID:

Road Name DANIEL BOONE PKWY Route No KY 9006Project No SHRP 216043

Project Limits _____

Ref Stations LAUREL CO. STA 3 (88), 1988 EAL TABLES, TOLL RD. REPORT

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear)
Interstate	1 Less Than 5000	West	Less Than 1.00
<u>2</u> FAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		<u>4</u> East	<u>3</u> 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1988

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+		= <u>2510</u>
Percent Trucks (IT)	x	=	+		= <u>13.5</u>
Percent Trucks Hauling Coal (ICT)	x	=	+		= <u>20.6</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+		= <u>4.089</u>
EAL's/Axle (EAL/NCA)	x	=	+		= <u>0.193</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+		= <u>4.464</u>
EAL's/Axle (EAL/CA)	x	=	+		= <u>3.674</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{2510}{\text{AADT}} \times \frac{0.865}{1 - (IT/100)} \times 0.005 = \underline{10.86}$$

Non-Coal Trucks

$$\frac{2510}{\text{AADT}} \times \frac{0.108}{(IT/100)(1 - ICT/100)} \times \frac{4.089}{A/NCT} \times \frac{0.193}{EAL/NCA} = \underline{213.93}$$

Coal Trucks

$$\frac{2510}{\text{AADT}} \times \frac{0.027}{(IT/100)(ICT/100)} \times \frac{4.464}{A/CT} \times \frac{3.674}{EAL/CA} = \underline{1111.48}$$

Total Midyear Daily EAL's = 1336.27

DESIGN EAL'S:

$$\frac{1336.27}{\text{Midyear Daily EAL's (No. of Lanes)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{1}{\text{Lane Adjustment (1 or 2 Way)}} = \boxed{487,739}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY CLAYDATE 8-6-90NAME A. Rucker

ROUTE ID:

Road Name DANIEL BOONS Pkwy. Route No KY9006Project No SHRP 216043Project Limits MP 15.900Ref Stations TOLL RD. REPORT 7. 1988 EAL TABLES

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	Less Than 5000	West	Less Than 1.00
2 FAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		4 East	3 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1987

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>2440</u>
Percent Trucks (IT)	x	=	+	=	<u>14.8</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>47.7</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3,190</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.218</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4,069</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>4.124</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{2440}{\text{AADT}} \times \frac{0.852}{1 - (IT/100)} \times 0.005 = \underline{10.39}$$

Non-Coal Trucks

$$\frac{2440}{\text{AADT}} \times \frac{0.077}{(IT/100)(1 - ICT/100)} \times \frac{3,190}{\text{A/NCT}} \times \frac{0.218}{\text{EAL/NCA}} = \underline{130.66}$$

Coal Trucks

$$\frac{2440}{\text{AADT}} \times \frac{0.071}{(IT/100)(ICT/100)} \times \frac{4,069}{\text{A/CT}} \times \frac{4.124}{\text{EAL/CA}} = \underline{2907.06}$$

Total Midyear Daily EAL's = 3048.11

DESIGN EAL'S:

$$\frac{3048.11}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{1}{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}} = \boxed{1,112,560}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	/ Less Than 5000	West	Less Than 1.00
<u>2</u> PAF	5000 or More	South Central	1 - 4.99
PAU		North Central	5 - 19.99
PAS		<u>4</u> East	<u>3</u> 20 or more
Non PA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1986

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>2370</u>
Percent Trucks (IT)	x	=	+	=	<u>15.2</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>47.4</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3,178</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.209</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4,071</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>3.670</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{2370}{\text{AADT}} \times \frac{0.848}{1-(IT/100)} \times 0.005 = \underline{10.05}$$

Non-Coal Trucks

$$\frac{2370}{\text{AADT}} \times \frac{0.080}{(IT/100)(1-ICT/100)} \times \frac{3,178}{\text{A/NCT}} \times \frac{0.209}{\text{EAL/NCA}} = \underline{125.93}$$

Coal Trucks

$$\frac{2370}{\text{AADT}} \times \frac{0.072}{(IT/100)(ICT/100)} \times \frac{4,071}{\text{A/CT}} \times \frac{3.670}{\text{EAL/CA}} = \underline{2549.46}$$

Total Midyear Daily EAL's = 2685.44

DESIGN EAL'S:

$$\frac{2685.44}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}}{\text{Lane Adjustment}} = \boxed{980,186}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	/ Less Than 5000	West	Less Than 1.00
<u>2</u> FAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		<u>4</u> East	<u>3</u> 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1985

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>2230</u>
Percent Trucks (IT)	x	=	+	=	<u>16.6</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>47.1</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3.165</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.200</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.073</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>3.216</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{2230}{AADT} \times \frac{0.834}{1-(IT/100)} \times 0.005 = \underline{9.30}$$

Non-Coal Trucks

$$\frac{2230}{AADT} \times \frac{0.088}{(IT/100)(1-ICT/100)} \times \frac{3.165}{A/NCT} \times \frac{0.200}{EAL/NCA} = \underline{124.22}$$

Coal Trucks

$$\frac{2230}{AADT} \times \frac{0.078}{(IT/100)(ICT/100)} \times \frac{4.073}{A/CT} \times \frac{3.216}{EAL/CA} = \underline{2278.4}$$

Total Midyear Daily EAL's = 2411.92

DESIGN EAL'S:

$$\frac{2411.92}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{1}{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}} = \boxed{880,351}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	1 Less Than 5000	West	Less Than 1.00
2 FAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		4 East	3 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1984

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>2190</u>
Percent Trucks (IT)	x	=	+	=	<u>16.9</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>46.8</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3,152</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.191</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.075</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.761</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{2190}{\text{AADT}} \times \frac{0.831}{1-(IT/100)} \times 0.005 = \underline{9.10}$$

Non-Coal Trucks

$$\frac{2190}{\text{AADT}} \times \frac{0.090}{(IT/100)(1-ICT/100)} \times \frac{3,152}{\text{A/NCT}} \times \frac{0.191}{\text{EAL/NCA}} = \underline{118.66}$$

Coal Trucks

$$\frac{2190}{\text{AADT}} \times \frac{0.079}{(IT/100)(ICT/100)} \times \frac{4.075}{\text{A/CT}} \times \frac{2.761}{\text{EAL/CA}} = \underline{1946.55}$$

Total Midyear Daily EAL's = 2074.31

DESIGN EAL'S:

$$\frac{2074.31}{\text{Midyear Daily EAL's (No. of Lanes 1)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{1}{\text{Lane Adjustment (1 or 2 Way 1)}} = \boxed{757,123}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear)
Interstate	/ Less Than 5000	West	(Percent Trucks Hauling Coal) Less Than 1.00
<u>2</u> FAP	5000 or More	South Central	1 - 4.99
PAU		North Central	5 - 19.99
FAS		<u>✓</u> East	<u>5</u> 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1983

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>1990</u>
Percent Trucks (IT)	x	=	+	=	<u>15.1</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>46.5</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3,140</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.182</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.077</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{1990}{\text{AADT}} \times \frac{0.849}{1-(IT/100)} \times 0.005 = \underline{8.45}$$

Non-Coal Trucks

$$\frac{1990}{\text{AADT}} \times \frac{0.080}{(IT/100)(1-ICT/100)} \times \frac{3,140}{\text{A/NCT}} \times \frac{0.182}{\text{EAL/NCA}} = \underline{90.98}$$

Coal Trucks

$$\frac{1990}{\text{AADT}} \times \frac{0.071}{(IT/100)(ICT/100)} \times \frac{4,077}{\text{A/CT}} \times \frac{2.307}{\text{EAL/CA}} = \underline{1328.92}$$

Total Midyear Daily EAL's = 1428.35

DESIGN EAL'S:

$$\frac{1428.35}{\text{Midyear Daily EAL's (No. of Lanes)}} \times 365 \times \frac{\text{Design Period}}{\text{Lane Adjustment (1 or 2 Way)}} = \boxed{521,348}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits NOTE: EAL/CA FROM 1983 EAL TABLE USED
BACK TO 1972

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	1 Less Than 5000	West	Less Than 1.00
2 FAP	5000 or More	South Central	1 - 4.99
PAU		North Central	5 - 19.99
PAS		4 East	3 20 or more
Non PA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1982

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>1990</u>
Percent Trucks (IT)	x	=	+	=	<u>15.6</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>46.2</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3,127</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.173</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4,079</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2,307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{1990}{AADT} \times \frac{0.844}{1-(IT/100)} \times 0.005 = \underline{8.40}$$

Non-Coal Trucks

$$\frac{1990}{AADT} \times \frac{0.084}{(IT/100)(1-ICT/100)} \times \frac{3,127}{A/NCT} \times \frac{0.173}{EAL/NCA} = \underline{90.43}$$

Coal Trucks

$$\frac{1990}{AADT} \times \frac{0.072}{(IT/100)(ICT/100)} \times \frac{4,079}{A/CT} \times \frac{2,307}{EAL/CA} = \underline{1348.30}$$

Total Midyear Daily EAL's = 1447.13

DESIGN EAL'S:

$$\frac{1447.13}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}}{\text{Lane}} = \boxed{528,202}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	/ Less Than 5000	West	Less Than 1.00
2 FAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		4 East	3 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1981

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+		= <u>1780</u>
Percent Trucks (XT)	x	=	+		= <u>15.7</u>
Percent Trucks Hauling Coal (XCT)	x	=	+		= <u>45.9</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+		= <u>3.115</u>
EAL's/Axle (EAL/NCA)	x	=	+		= <u>0.164</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+		= <u>4.081</u>
EAL's/Axle (EAL/CA)	x	=	+		= <u>2.307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{1780}{\text{AADT}} \times \frac{0.843}{1-(\text{XT}/100)} \times 0.005 = \underline{7.50}$$

Non-Coal Trucks

$$\frac{1780}{\text{AADT}} \times \frac{0.085}{(\text{XT}/100)(1-\text{XCT}/100)} \times \frac{3.115}{\text{A/NCT}} \times \frac{0.164}{\text{EAL/NCA}} = \underline{77.29}$$

Coal Trucks

$$\frac{1780}{\text{AADT}} \times \frac{0.072}{(\text{XT}/100)(\text{XCT}/100)} \times \frac{4.081}{\text{A/CT}} \times \frac{2.307}{\text{EAL/CA}} = \underline{1206.67}$$

Total Midyear Daily EAL's = 1291.40

DESIGN EAL'S:

$$\frac{1291.4}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}}{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}} = \boxed{471,361}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	Less Than 5000	West	Less Than 1.00
<u>2</u> PAP	5000 or More	South Central	1 - 4.99
PAU		North Central	5 - 19.99
PAS		<u>4</u> East	<u>3</u> 20 or more
Non PA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1980

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>1660</u>
Percent Trucks (IT)	x	=	+	=	<u>15.7</u>
Percent Trucks Hauling Coal (XCT)	x	=	+	=	<u>45.6</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3.102</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.155</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.083</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{1660}{\text{AADT}} \times \frac{0.843}{1-(\text{IT}/100)} \times 0.005 = \underline{7.00}$$

Non-Coal Trucks

$$\frac{1660}{\text{AADT}} \times \frac{0.085}{(\text{IT}/100)(1-\text{XCT}/100)} \times \frac{3.102}{\text{A/NCT}} \times \frac{0.155}{\text{EAL/NCA}} = \underline{67.84}$$

Coal Trucks

$$\frac{1660}{\text{AADT}} \times \frac{0.072}{(\text{IT}/100)(\text{XCT}/100)} \times \frac{4.083}{\text{A/CT}} \times \frac{2.307}{\text{EAL/CA}} = \underline{1125.82}$$

Total Midyear Daily EAL's = 1200.66

DESIGN EAL'S:

$$\frac{1200.66}{\text{Midyear Daily EAL's (No. of Lanes)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{1}{\text{Lane Adjustment (1 or 2 Way)}} = \boxed{438,241}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	Less Than 5000	West	Less Than 1.00
<u>2</u> FAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		<u>4</u> East	<u>3</u> 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1979

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>1710</u>
Percent Trucks (T)	x	=	+	=	<u>17.5</u>
Percent Trucks Hauling Coal (TCT)	x	=	+	=	<u>45.3</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3.090</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.146</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.085</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{1710}{AADT} \times \frac{0.825}{1-(T/100)} \times 0.005 = \underline{7.05}$$

Non-Coal Trucks

$$\frac{1710}{AADT} \times \frac{0.096}{(T/100)(1-TCT/100)} \times \frac{3.090}{A/NCT} \times \frac{0.146}{EAL/NCA} = \underline{74.06}$$

Coal Trucks

$$\frac{1710}{AADT} \times \frac{0.079}{(T/100)(TCT/100)} \times \frac{4.085}{A/CT} \times \frac{2.307}{EAL/CA} = \underline{1273.10}$$

Total Midyear Daily EAL's = 1354.21

DESIGN EAL'S:

$$\frac{1354.21}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}}{\text{Lane}} = \boxed{494,287}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	1 Less Than 5000	West	Less Than 1.00
2 FAP	5000 or More	South Central	1 - 4.99
PAU		North Central	5 - 19.99
FAS		4 East	3 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1978

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>1720</u>
Percent Trucks (IT)	x	=	+	=	<u>17.4</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>45.0</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3.077</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.137</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.087</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{1720}{\text{AADT}} \times \frac{0.826}{1 - (\text{IT}/100)} \times 0.005 = \underline{7.1}$$

Non-Coal Trucks

$$\frac{1720}{\text{AADT}} \times \frac{0.096}{(\text{IT}/100)(1 - \text{ICT}/100)} \times \frac{3.077}{\text{A/NCT}} \times \frac{0.137}{\text{EAL/NCA}} = \underline{69.61}$$

Coal Trucks

$$\frac{1720}{\text{AADT}} \times \frac{0.078}{(\text{IT}/100)(\text{ICT}/100)} \times \frac{4.087}{\text{A/CT}} \times \frac{2.307}{\text{EAL/CA}} = \underline{1264.96}$$

Total Midyear Daily EAL's = 1341.67

DESIGN EAL'S:

$$\frac{1341.67}{\text{Midyear Daily EAL's (No. of Lanes)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{1}{\text{Lane Adjustment (1 or 2 Way)}} = \boxed{489,710}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear)
			(Percent Trucks Hauling Coal)
Interstate	1 Less Than 5000	West	Less Than 1.00
2 PAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		4 East	3 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1977

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>1590</u>
Percent Trucks (IT)	x	=	+	=	<u>19.5</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>44.7</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3.064</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.128</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.089</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{1590}{\text{AADT}} \times \frac{0.805}{1 - (\text{IT}/100)} \times 0.005 = \underline{6.4}$$

Non-Coal Trucks

$$\frac{1590}{\text{AADT}} \times \frac{0.108}{(\text{IT}/100)(1 - \text{ICT}/100)} \times \frac{3.064}{\text{A/NCT}} \times \frac{0.128}{\text{EAL/NCA}} = \underline{67.35}$$

Coal Trucks

$$\frac{1590}{\text{AADT}} \times \frac{0.087}{(\text{IT}/100)(\text{ICT}/100)} \times \frac{4.089}{\text{A/CT}} \times \frac{2.307}{\text{EAL/CA}} = \underline{1304.91}$$

Total Midyear Daily EAL's = 1378.66

DESIGN EAL'S:

$$\frac{1378.66}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}}{\text{Lane Adjustment}} = \boxed{503,211}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	Less Than 5000	West	Less Than 1.00
2 FAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		4 East	3 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1976

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>1440</u>
Percent Trucks (IT)	x	=	+	=	<u>16.7</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>44.4</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3.051</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>8.119</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.091</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{1440}{\text{AADT}} \times \frac{0.833}{1 - (\text{IT}/100)} \times 0.005 = \underline{6.0}$$

Non-Coal Trucks

$$\frac{1440}{\text{AADT}} \times \frac{0.092}{(\text{IT}/100)(1 - \text{ICT}/100)} \times \frac{3.051}{\text{A/NCT}} \times \frac{0.119}{\text{EAL/NCA}} = \underline{48.1}$$

Coal Trucks

$$\frac{1440}{\text{AADT}} \times \frac{0.075}{(\text{IT}/100)(\text{ICT}/100)} \times \frac{4.091}{\text{A/CT}} \times \frac{2.307}{\text{EAL/CA}} = \underline{1016.65}$$

Total Midyear Daily EAL's = 1070.75

DESIGN EAL'S:

$$\frac{1070.75}{\text{Midyear Daily EAL's (No. of Lanes 1)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way 1)}}{\text{Lane Adjustment (1 or 2 Way 1)}} = \boxed{390,824}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear)
	/ Less Than 5000		(Percent Trucks Hauling Coal)
Interstate	_____	West	Less Than 1.00
<u>2</u> FAP	_____	South Central	1 - 4.99
PAU	_____	North Central	5 - 19.99
FAS	_____	<u>4</u> East	<u>3</u> 20 or more
Non FA	_____		

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1975

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>1280</u>
Percent Trucks (IT)	x	=	+	=	<u>14.8</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>44.1</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3.038</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.110</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.093</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{1280}{\text{AADT}} \times \frac{0.852}{1 - (IT/100)} \times 0.005 = \underline{5.5}$$

Non-Coal Trucks

$$\frac{1280}{\text{AADT}} \times \frac{0.083}{(IT/100)(1 - ICT/100)} \times \frac{3.038}{\text{A/NCT}} \times \frac{0.110}{\text{EAL/NCA}} = \underline{35.5}$$

Coal Trucks

$$\frac{1280}{\text{AADT}} \times \frac{0.065}{(IT/100)(ICT/100)} \times \frac{4.093}{\text{A/CT}} \times \frac{2.307}{\text{EAL/CA}} = \underline{785.62}$$
Total Midyear Daily EAL's = 826.62

DESIGN EAL'S:

$$\frac{826.62}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}}{\text{Design EAL's in Critical Lane}} = \underline{301,716}$$

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	/ Less Than 5000	West	Less Than 1.00
<u>2</u> FAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		<u>4</u> East	<u>3</u> 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1974

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>920</u>
Percent Trucks (IT)	x	=	+	=	<u>16.3</u>
Percent Trucks Hauling Coal (ICT)	x	=	+	=	<u>43.8</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>3.025</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.101</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.095</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.307</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{920}{\text{AADT}} \times \frac{0.837}{1 - (\text{IT}/100)} \times 0.005 = \underline{3.85}$$

Non-Coal Trucks

$$\frac{920}{\text{AADT}} \times \frac{0.091}{(\text{IT}/100)(1 - \text{ICT}/100)} \times \frac{3.025}{\text{A/NCT}} \times \frac{0.101}{\text{EAL/NCA}} = \underline{25.58}$$

Coal Trucks

$$\frac{920}{\text{AADT}} \times \frac{0.072}{(\text{IT}/100)(\text{ICT}/100)} \times \frac{4.095}{\text{A/CT}} \times \frac{2.307}{\text{EAL/CA}} = \underline{625.78}$$

Total Midyear Daily EAL's = 655.21

DESIGN EAL'S:

$$\frac{655.21}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}}{\text{Lane}} = \boxed{239,152}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	/ Less Than 5000	West	Less Than 1.00
2 FAP	5000 or More	South Central	1 - 4.99
PAU		North Central	5 - 19.99
FAS		4 East	3 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1973

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	850
Percent Trucks (IT)	x	=	+	=	11.8
Percent Trucks Hauling Coal (XCT)	x	=	+	=	43.5
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	3.011
EAL's/Axle (EAL/NCA)	x	=	+	=	0.101
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	4.097
EAL's/Axle (EAL/CA)	x	=	+	=	2.307

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{850}{\text{AADT}} \times \frac{0.882}{1 - (IT/100)} \times 0.005 = 3.75$$

Non-Coal Trucks

$$\frac{850}{\text{AADT}} \times \frac{0.078}{(IT/100)(1 - XCT/100)} \times \frac{3.011}{A/NCT} \times \frac{0.101}{EAL/NCA} = 20.16$$

Coal Trucks

$$\frac{850}{\text{AADT}} \times \frac{0.040}{(IT/100)(XCT/100)} \times \frac{4.097}{A/CT} \times \frac{2.307}{EAL/CA} = 321.36$$

Total Midyear Daily EAL's = 345.27

DESIGN EAL'S:

$$\frac{345.27}{\text{Midyear Daily EAL's (No. of Lanes)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{1}{\text{Lane Adjustment (1 or 2 Way)}} = \boxed{126,024}$$

Design EAL's in Critical Lane

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY _____

DATE _____

NAME _____

ROUTE ID:

Road Name _____ Route No _____

Project No _____

Project Limits _____

Ref Stations _____

Federal Aid	Volume (Midyear)	Area	Coal Haul (Midyear) (Percent Trucks Hauling Coal)
Interstate	Less Than 5000	West	Less Than 1.00
<u>2</u> FAP	5000 or More	South Central	1 - 4.99
FAU		North Central	5 - 19.99
FAS		<u>4</u> East	<u>3</u> 20 or more
Non FA			

DATES:

Base Year _____ Design Period (Years) _____ Project Midyear 1972

TRAFFIC PARAMETERS:

	Unadjusted Base Year Estimate	Site- Specific Adjustment	Adjusted Base Year Estimate	Increment	Project Midyear Estimate
Volume (AADT)	x	=	+	=	<u>710</u>
Percent Trucks (T)	x	=	+	=	<u>12.7</u>
Percent Trucks Hauling Coal (CT)	x	=	+	=	<u>43.1</u>
Non-Coal Trucks					
Axles/Truck (A/NCT)	x	=	+	=	<u>2.998</u>
EAL's/Axle (EAL/NCA)	x	=	+	=	<u>0.101</u>
Coal Trucks					
Axles/Truck (A/CT)	x	=	+	=	<u>4.099</u>
EAL's/Axle (EAL/CA)	x	=	+	=	<u>2.301</u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles

$$\frac{710}{\text{AADT}} \times \frac{0.873}{1-(T/100)} \times 0.005 = \underline{3.1}$$

Non-Coal Trucks

$$\frac{710}{\text{AADT}} \times \frac{0.072}{(T/100)(1-CT/100)} \times \frac{2.998}{\text{A/NCT}} \times \frac{0.101}{\text{EAL/NCA}} = \underline{15.48}$$

Coal Trucks

$$\frac{710}{\text{AADT}} \times \frac{0.055}{(T/100)(CT/100)} \times \frac{4.099}{\text{A/CT}} \times \frac{2.301}{\text{EAL/CA}} = \underline{369.27}$$

Total Midyear Daily EAL's = 387.85

DESIGN EAL'S:

$$\frac{387.85}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}}{\text{Lane}} = \boxed{141,565}$$

Design EAL's in Critical Lane