

SHEET 1
LTPP TRAFFIC DATA
SUMMARY TRANSMITTAL FORM

*STATE ASSIGNED ID [0015]
*STATE CODE [21]
*SHRP SECTION ID [1034]

STATE OR PROVINCE KENTUCKY COUNTY BARREN
HIGHWAY ROUTE NO. KY 9008 MILEPOST# 9.200
NEAREST CITY/TOWN GLASGOW NEAREST INTERSECTION US 31E
FUNCTIONAL CLASS 2 NO. LANES EACH DIRECTION 2 TOTAL NO. LANES 4
DIRECTION OF TRAVEL GPS LANE EAST DATE OPENED TO TRAF. 2-28-73
FIPS COUNTY CODE 009 FHWA STATION IDENTIFICATION NO. 211034
HPMS SAMPLE NO. 9008-8224 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 A. RUCKER PHONE # 564-7183
DATE PREPARED 8-6-90

SHEET 2
LTPP TRAFFIC DATA
TRAFFIC VOLUMES
AND LOAD ESTIMATES

*STATE ASSIGNED ID [0015]
*STATE CODE [21]
*SHRP SECTION ID [1034]

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	4480	620	1465	190	47.5
1988	4230	580	1380	180	43.4
1987	3950	575	1290	165	39.5
1986	3670	525	1200	155	35.7
1985	3420	475	1120	145	32.3
1984	3310	460	1080	140	30.3
1983	3100	440	1010	130	27.3
1982	2920	400	950	120	25.0
1981	2920	360	950	120	24.3
1980	2580	345	840	110	20.7
1979	2610	355	850	110	20.3
1978	2520	330	820	105	18.8
1977	2360	310	770	100	17.1
1976	2170	290	710	90	15.2
1975	1940	230	630	80	13.0
1974	1690	220	550	70	11.0
1973	1300	115	430	55	8.3
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 [0015]

*STATE CODE [21]

*SHRP SECTION ID [1034]

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
used Toll Road Report for every AADT.

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.
☐ System distribution factors.
☐ Other: _____

See sheet 5 class count.

5. METHOD FOR ESTIMATING TRUCK AADT IN GPS LANES

- ☒ Based on actual lane count data. *See sheet 5 class count.*
☐ System distribution factors.
☐ Other: _____

6. METHOD FOR ESTIMATING ESAL/VEHICLE

- ☐ ESAL/Truck.
☒ ESAL/Vehicle class. (no. of classes) 13
☐ 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: _____

Note: Used Toll truck information to obtain truck percentages. Used 1989 machine count (sheet 5) for determining lane factors.

NAME OF PREPARER A. RUCKERPHONE # 564-7183DATE PREPARED 8-6-90

SHEET 5

LTPP TRAFFIC DATA

VEHICLE CLASSIFICATION DATA
FHWA 13-CLASS SYSTEM

*STATE ASSIGNED ID [0015]

*STATE CODE [21]

*SHRP SECTION ID [1034]

HIGHWAY RT. NO. (THIS COUNT) KY 9008 MILEPOST# (THIS COUNT) 9.200LOCATION (THIS COUNT) _____ FUNCTIONAL CLASS PRINCIPAL ARTERIAL
BEGINNING DATE 7-12-89 ENDING DATE 7-14-89
BEGINNING TIME 1 AM ENDING TIME 12 PM DURATION (HRS) 48TYPE OF COUNT: MANUAL _____ AUTOMATED ☒ NO. OF LANES COUNTED 4TYPE OF EQUIP.: AVC PERM. _____ AVC PORT. ☒ WIM PERM. _____ WIM PORT. ☒

EQUIPMENT NAME / MODEL # _____

TOTAL NO. OF VEHICLES CLASSIFIED 5783 # TRUCKS 763 % TRUCKS 13.2NO. OF TRUCKS IN GPS LANE 242 % OF TRUCKS IN GPS LANE 12.8VEHICLE 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>5020</u>	<u>2540</u>	<u>1651</u>
2. FHWA CLASS 4 (Buses)	<u>38</u>	<u>24</u>	<u>16</u>
3. FHWA CLASS 5 (Two Axle, 6-Tire, SU Truck)	<u>191</u>	<u>99</u>	<u>64</u>
4. FHWA CLASS 6 (3 AXLE SU TRUCK)	<u>20</u>	<u>18</u>	<u>5</u>
5. FHWA CLASS 7 (4 or more Axle SU Truck)	<u>8</u>	<u>7</u>	<u>5</u>
6. FHWA CLASS 8 (4 or less axle 1-Trlr.Truck)	<u>100</u>	<u>55</u>	<u>36</u>
7. FHWA CLASS 9 (5 Axle, 1-Trlr.Truck)	<u>386</u>	<u>174</u>	<u>113</u>
8. FHWA CLASS 10 (6 or more Axle, 1-Trlr.Truck)	<u>7</u>	<u>2</u>	<u>1</u>
9. FHWA CLASS 11 (5 or less Axle, Multi-Trlr.Truck)	<u>13</u>	<u>3</u>	<u>2</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>5783</u>	<u>2912</u>	<u>1893</u>

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

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BARRONDATE 8-6-90NAME A. Kuckler

ROUTE ID:

Road Name CUMBERLAND PARKWAYRoute No. 16Y9008Classified ☒Project No. SHRP 211034Unclassified ☐Project Limits AT MP 9.200Reference Stations BARRON CO. STA 599 (89) 1988 EAL TABLES, '89 TOLL CO. REPORT.

Functional Class		Percent Trucks Hauling Coal	
Rural	Urban	Less Than 3.0	3.0 or Greater
<input checked="" type="checkbox"/> 01 Interstate	<input type="checkbox"/> 11 Interstate		
<input type="checkbox"/> 02 Principal Arterial	<input type="checkbox"/> 12 Other Freeways & Expressways		
<input type="checkbox"/> 06 Minor Arterial	<input type="checkbox"/> 14 Other Principal Arterial		
<input type="checkbox"/> 07 Major Collector	<input type="checkbox"/> 16 Minor Arterial		
<input type="checkbox"/> 08 Minor Collector	<input type="checkbox"/> 17 Collector		
<input type="checkbox"/> 09 Local	<input type="checkbox"/> 19 Local		

DATES: Base Year _____ Design Period (Years) _____ Project Midyear 1989

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>1465</u>
Percent Trucks (%T)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>12.8</u>
% Trucks Hauling Coal (%CT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____
Non-Coal Trucks						
Axles/Truck (A/NCT)	_____ x _____	_____ x _____	_____ = _____	<u>0.023</u> + <u>3.360</u>	_____ = _____	<u>3.383</u>
EAL's/Axle (EAL/NCA)	_____ x _____	_____ x _____	_____ = _____	<u>0.005</u> + <u>0.190</u>	_____ = _____	<u>0.195</u>
Coal Trucks						
Axles/Truck (A/CT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____
EAL's/Axle (EAL/CA)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____

DAILY EAL'S AT MIDYEAR:

$$\begin{aligned}
 & \text{4-Tired Vehicles: } \frac{1465}{\text{AADT}} \times \frac{0.872}{1 - (\%T/100)} \times 0.005 = \underline{4.39} \\
 & \text{Non-Coal Trucks: } \frac{1465}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1 - \%CT/100)} \times \frac{3.383}{\text{A/NCT}} \times \frac{0.195}{\text{EAL/NCA}} = \underline{123.70} \\
 & \text{Coal Trucks: } \frac{\text{AADT}}{\text{AADT}} \times \frac{(\%T/100)(\%CT/100)}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}} = \underline{\quad} \\
 & \text{Total Midyear Daily EAL's} = \underline{130.09}
 \end{aligned}$$

DESIGN EAL'S:

$$\frac{130.09}{\text{Midyear Daily EAL's (No. of Lanes)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way)}}{\text{Lane Adjustment (1 or 2 Way)}} = \underline{47,480}$$

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BALLENDATE 8-6-90
NAME A. Rucker

ROUTE ID:

Road Name CUMBERLAND Pkwy.Route No. KY9008Classified ✓Project No. SARP 211034Unclassified Project Limits MP 9.200Reference Stations 1988 TOLL REPORT, 1988 EAL TABLES

Functional Class		Percent Trucks Hauling Coal
Rural	Urban	
<u>01</u> Interstate	<u>11</u> Interstate	<u> </u> Less Than 3.0 <u> </u> 3.0 or Greater
<u>02</u> Principal Arterial	<u>12</u> Other Freeways & Expressways	
<u>06</u> Minor Arterial	<u>14</u> Other Principal Arterial	
<u>07</u> Major Collector	<u>16</u> Minor Arterial	
<u>08</u> Minor Collector	<u>17</u> Collector	
<u>09</u> Local	<u>19</u> Local	

DATES: Base Year Design Period (Years) Project Midyear 1988

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>1380</u>
Percent Trucks (%T)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
Non-Coal Trucks						
Axles/Truck (A/NCT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>3.360</u>
EAL's/Axle (EAL/NCA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>0.190</u>
Coal Trucks						
Axles/Truck (A/CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
EAL's/Axle (EAL/CA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>

DAILY EAL'S AT MIDYEAR:

$$\begin{aligned}
 & \text{4-Tired Vehicles: } \frac{1380}{\text{AADT}} \times \frac{0.872}{1-(\%T/100)} \times 0.005 = \underline{6.02} \\
 & \text{Non-Coal Trucks: } \frac{1380}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3.360}{\text{A/NCT}} \times \frac{0.190}{\text{EAL/NCA}} = \underline{112.77} \\
 & \text{Coal Trucks: } \frac{\text{AADT}}{\text{AADT}} \times \frac{\text{EAL/CA}}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}} = \underline{118.79} \\
 & \text{Total Midyear Daily EAL's} = \underline{118.79}
 \end{aligned}$$

DESIGN EAL'S:

$$\frac{118.79}{\text{Midyear Daily EAL's (No. of Lanes } \underline{1} \text{)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}}{\text{Lane Adjustment}} = \underline{43,360}$$

Lane Distribution Adjustments

$$L = 0.497 - (1.84 + 1.42 \text{ FT})(\text{AADT})(10^{-6}) \text{ for 4-lane roadways (Minimum value} = 0.375)$$

$$L = 0.427 - (2.308 + 1.75 \text{ FT})(\text{AADT})(10^{-6}) \text{ for 6-lane roadways (Minimum value} = 0.25)$$

$$L = 0.50 \text{ for 2-lane roadways}$$

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BAKRENDATE 8-6-90NAME A. RUCKER

ROUTE ID:

Road Name CUMBERLAND Pkwy. Route No. 1019008 Classified ☒Project No. SHRP 211034 Unclassified ☐Project Limits MP 9.200Reference Stations 1987 TOLL CO. REPORT, 1988 EAL TABLES

Functional Class

Percent Trucks Hauling Coal
Less Than 3.0
3.0 or Greater

Rural	Urban
<input checked="" type="checkbox"/> 01 Interstate	<input type="checkbox"/> 11 Interstate
<input type="checkbox"/> 02 Principal Arterial	<input type="checkbox"/> 12 Other Freeways & Expressways
<input type="checkbox"/> 06 Minor Arterial	<input type="checkbox"/> 14 Other Principal Arterial
<input type="checkbox"/> 07 Major Collector	<input type="checkbox"/> 16 Minor Arterial
<input type="checkbox"/> 08 Minor Collector	<input type="checkbox"/> 17 Collector
<input type="checkbox"/> 09 Local	<input type="checkbox"/> 19 Local

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

TRAFFIC PARAMETERS:

	Base Year Estimate	x	Annual Change (Fractions)	x	No. Years to Midyear	=	Increment	+	Base Year Estimate	=	Project Midyear Estimate
Volume (AADT)	_____	x	_____	x	_____	=	_____	+	_____	=	<u>1290</u>
Percent Trucks (%T)	_____	x	_____	x	_____	=	_____	+	_____	=	<u>12.8</u>
% Trucks Hauling Coal (%CT)	_____	x	_____	x	_____	=	_____	+	_____	=	_____
Non-Coal Trucks											
Axles/Truck (A/NCT)	_____	x	_____	x	_____	=	_____	+	_____	=	<u>3.338</u>
EAL's/Axle (EAL/NCA)	_____	x	_____	x	_____	=	_____	+	_____	=	<u>0.186</u>
Coal Trucks											
Axles/Truck (A/CT)	_____	x	_____	x	_____	=	_____	+	_____	=	_____
EAL's/Axle (EAL/CA)	_____	x	_____	x	_____	=	_____	+	_____	=	_____

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles:	$\frac{1290}{AADT} \times \frac{0.872}{1-(\%T/100)} \times 0.005$	=	<u>5.62</u>
Non-Coal Trucks:	$\frac{1290}{AADT} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3.338}{A/NCT} \times \frac{0.186}{EAL/NCA}$	=	<u>102.52</u>
Coal Trucks:	$\frac{AADT}{AADT} \times \frac{(\%T/100)(\%CT/100)}{(\%T/100)(\%CT/100)} \times \frac{A/CT}{A/CT} \times \frac{EAL/CA}{EAL/CA}$	=	_____
Total Midyear Daily EAL's		=	<u>108.14</u>

DESIGN EAL'S:

<u>108.14</u>	x	365	x	$\frac{1}{\text{Design Period}}$	x	$\frac{\text{Lane Adjustment}}{\text{Lane Adjustment (1 or 2 Way)}}$	=	<u>39,470</u>
Midyear Daily EAL's (No. of Lanes)								

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BAXTERDATE 8-6-90NAME A. KUCKEN

ROUTE ID:

Road Name CUMBERLAND PKWY.Route No. KY9008Classified ☒Project No. SHRP 211034Unclassified ☐Project Limits MP 9.200Reference Stations 1986 TOLL RD. REPORT, 1988 EAL TABLES

Functional Class		
Rural	Urban	
<u>01</u> Interstate	<u>11</u> Interstate	
<u>02</u> Principal Arterial	<u>12</u> Other Freeways & Expressways	
<u>06</u> Minor Arterial	<u>14</u> Other Principal Arterial	
<u>07</u> Major Collector	<u>16</u> Minor Arterial	
<u>08</u> Minor Collector	<u>17</u> Collector	
<u>09</u> Local	<u>19</u> Local	

 Percent Trucks Hauling Coal
☐ Less Than 3.0
☐ 3.0 or Greater

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

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>1200</u>
Percent Trucks (%T)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	_____ x	_____ x	_____ =	_____ +	_____ =	_____
Non-Coal Trucks						
Axles/Truck (A/NCT)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>3.315</u>
EAL's/Axle (EAL/NCA)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>0.182</u>
Coal Trucks						
Axles/Truck (A/CT)	_____ x	_____ x	_____ =	_____ +	_____ =	_____
EAL's/Axle (EAL/CA)	_____ x	_____ x	_____ =	_____ +	_____ =	_____

DAILY EAL'S AT MIDYEAR:

$$\begin{aligned}
 & \text{4-Tired Vehicles: } \frac{1200}{\text{AADT}} \times \frac{0.872}{1 - (\%T/100)} \times 0.005 = \underline{5.23} \\
 & \text{Non-Coal Trucks: } \frac{1200}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1 - \%CT/100)} \times \frac{3.315}{\text{A/NCT}} \times \frac{0.182}{\text{EAL/NCA}} = \underline{92.67} \\
 & \text{Coal Trucks: } \frac{\text{AADT}}{\text{AADT}} \times \frac{\text{EAL/CA}}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}} = \underline{\quad} \\
 & \text{Total Midyear Daily EAL's} = \underline{97.9}
 \end{aligned}$$

DESIGN EAL'S:

$$\begin{aligned}
 & \frac{97.9}{\text{Midyear Daily EAL's}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment}}{\text{Lane Adjustment}} = \underline{35,734} \\
 & \text{(No. of Lanes } \underline{1} \text{)} \quad \text{Lane Adjustment (1 or 2 Way } \underline{1} \text{)}
 \end{aligned}$$

Lane Distribution Adjustments

 $L = 0.497 - (1.84 + 1.42 \text{ FT})(\text{AADT})(10^{-4})$ for 4-lane roadways (Minimum value = 0.375)

 $L = 0.427 - (2.308 + 1.75 \text{ FT})(\text{AADT})(10^{-4})$ for 6-lane roadways (Minimum value = 0.25)

 $L = 0.50$ for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BARKENDATE 8-6-90NAME A. RUCKER

ROUTE ID:

Road Name CUMBERLAND PKWYRoute No. KY 9008Classified ☒Project No. SHRP 211034Unclassified ☐Project Limits MP 9.200Reference Stations 1985 TOLL CO. REPORT 1988 EAL TABLES

Functional Class

Percent Trucks Hauling Coal
Less Than 3.0
3.0 or Greater

Rural	Urban
01 Interstate	11 Interstate
02 Principal Arterial	12 Other Freeways & Expressways
06 Minor Arterial	14 Other Principal Arterial
07 Major Collector	16 Minor Arterial
08 Minor Collector	17 Collector
09 Local	19 Local

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

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>1120</u>
Percent Trucks (%T)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	_____ x	_____ x	_____ =	_____ +	_____ =	_____
Non-Coal Trucks						
Axles/Truck (A/NCT)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>3.292</u>
EAL's/Axle (EAL/NCA)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>0.177</u>
Coal Trucks						
Axles/Truck (A/CT)	_____ x	_____ x	_____ =	_____ +	_____ =	_____
EAL's/Axle (EAL/CA)	_____ x	_____ x	_____ =	_____ +	_____ =	_____

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles:	$\frac{1120}{AADT} \times \frac{0.872}{1-(\%T/100)} \times 0.005$	=	<u>4.88</u>
Non-Coal Trucks:	$\frac{1120}{AADT} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3.292}{A/NCT} \times \frac{0.177}{EAL/NCA}$	=	<u>83.53</u>
Coal Trucks:	$\frac{AADT}{AADT} \times \frac{(\%T/100)(\%CT/100)}{(\%T/100)(\%CT/100)} \times \frac{A/CT}{A/CT} \times \frac{EAL/CA}{EAL/CA}$	=	_____
Total Midyear Daily EAL's		=	<u>88.41</u>

DESIGN EAL'S:

<u>88.41</u>	x	365	x	$\frac{1}{\text{Design Period}}$	x	$\frac{\text{Lane Adjustment}}{\text{Lane Adjustment (1 or 2 Way)}}$	=	<u>32,270</u>
Midyear Daily EAL's								
(No. of Lanes <u>1</u>)								

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BHACKENDATE 8-6-90NAME A. RUCKER

ROUTE ID:

Road Name CUMBERLAND PKWY.Route No. KY9008Classified ✓Project No. SHRP 211034Unclassified Project Limits MP 9.200Reference Stations 1984 TOLL RD. REPORT 1988 EAL TABLES

Functional Class		Percent Trucks Hauling Coal
Rural	Urban	
<u>01</u> Interstate	<u>11</u> Interstate	<u> </u> Less Than 3.0
<u>02</u> Principal Arterial	<u>12</u> Other Freeways & Expressways	<u> </u> 3.0 or Greater
<u>06</u> Minor Arterial	<u>14</u> Other Principal Arterial	
<u>07</u> Major Collector	<u>16</u> Minor Arterial	
<u>08</u> Minor Collector	<u>17</u> Collector	
<u>09</u> Local	<u>19</u> Local	

DATES: Base Year Design Period (Years) Project Midyear 1984

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>1080</u>
Percent Trucks (%T)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
Non-Coal Trucks						
Axles/Truck (A/NCT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>3,270</u>
EAL's/Axle (EAL/NCA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>0.173</u>
Coal Trucks						
Axles/Truck (A/CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
EAL's/Axle (EAL/CA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles:	$\frac{1080}{AADT} \times \frac{0.872}{1-(\%T/100)} \times 0.005$	=	<u>4.91</u>
Non-Coal Trucks:	$\frac{1080}{AADT} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3,270}{A/NCT} \times \frac{0.173}{EAL/NCA}$	=	<u>78.20</u>
Coal Trucks:	$\frac{AADT}{AADT} \times \frac{(\%T/100)(\%CT/100)}{(\%T/100)(\%CT/100)} \times \frac{A/CT}{A/CT} \times \frac{EAL/CA}{EAL/CA}$	=	<u> </u>
Total Midyear Daily EAL's			= <u>82.91</u>

DESIGN EAL'S:

<u>82.91</u>	x	365	x	$\frac{1}{\text{Design Period}}$	x	$\frac{\text{Lane Adjustment}}{(1 \text{ or } 2 \text{ Way})}$	=	<u>30,262</u>
Midyear Daily EAL's								
(No. of Lanes <u>1</u>)								

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BAXTERDATE 8-6-90NAME A. RUCKEN

ROUTE ID:

Road Name CUMBERLAND Hwy.Route No. KY9008Classified ✓Project No. SHRP 211034Unclassified Project Limits MP 9.200Reference Stations 1983 TOLL CO. REPORT, 1988 EAL TABLES

Functional Class		Percent Trucks Hauling Coal
Rural	Urban	
<u>01</u> Interstate	<u>11</u> Interstate	<u> </u> Less Than 3.0 <u> </u> 3.0 or Greater
<u>02</u> Principal Arterial	<u>12</u> Other Freeways & Expressways	
<u>06</u> Minor Arterial	<u>14</u> Other Principal Arterial	
<u>07</u> Major Collector	<u>16</u> Minor Arterial	
<u>08</u> Minor Collector	<u>17</u> Collector	
<u>09</u> Local	<u>19</u> Local	

DATES: Base Year Design Period (Years) Project Midyear 1983

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>1010</u>
Percent Trucks (%T)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
Non-Coal Trucks						
Axles/Truck (A/NCT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>3,247</u>
EAL's/Axle (EAL/NCA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>0.168</u>
Coal Trucks						
Axles/Truck (A/CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
EAL's/Axle (EAL/CA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>

DAILY EAL'S AT MIDYEAR:

$$\begin{aligned}
 & \text{4-Tired Vehicles: } \frac{1010}{\text{AADT}} \times \frac{0.872}{1-(\%T/100)} \times 0.005 = \underline{4.40} \\
 & \text{Non-Coal Trucks: } \frac{1010}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3.247}{\text{A/NCT}} \times \frac{0.168}{\text{EAL/NCA}} = \underline{70.52} \\
 & \text{Coal Trucks: } \frac{\text{AADT}}{\text{AADT}} \times \frac{\text{EAL/CA}}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}} = \underline{\text{ }} \\
 & \text{Total Midyear Daily EAL's} = \underline{74.92}
 \end{aligned}$$

DESIGN EAL'S:

$$\begin{aligned}
 & \frac{74.92}{\text{Midyear Daily EAL's (No. of Lanes)}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{1}{\text{Lane Adjustment (1 or 2 Way)}} = \underline{27,346}
 \end{aligned}$$

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BACKENDATE 8-6-90NAME A. RUCKEN

ROUTE ID:

Road Name CUMBERLAND HWY.Route No. 199008Classified ✓Project No. SHRP 211034Unclassified Project Limits MP 9.200Reference Stations 1982 TOLL RD. REPORT, 1988 EAL TABLES

Functional Class		Percent Trucks Hauling Coal	
Rural	Urban	Less Than 3.0	3.0 or Greater
01 Interstate	11 Interstate		
02 Principal Arterial	12 Other Freeways & Expressways		
06 Minor Arterial	14 Other Principal Arterial		
07 Major Collector	16 Minor Arterial		
08 Minor Collector	17 Collector		
09 Local	19 Local		

DATES: Base Year Design Period (Years) Project Midyear 1982

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>950</u>
Percent Trucks (%T)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
Non-Coal Trucks						
Axles/Truck (A/NCT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>3.224</u>
EAL's/Axle (EAL/NCA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>0.164</u>
Coal Trucks						
Axles/Truck (A/CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
EAL's/Axle (EAL/CA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles:	$\frac{950}{\text{AADT}} \times \frac{0.872}{1-(\%T/100)} \times 0.005$	=	<u>4.14</u>
Non-Coal Trucks:	$\frac{950}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3.224}{\text{A/NCT}} \times \frac{0.164}{\text{EAL/NCA}}$	=	<u>64.29</u>
Coal Trucks:	$\frac{\text{AADT}}{\text{AADT}} \times \frac{\text{EAL/CA}}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}}$	=	<u> </u>
Total Midyear Daily EAL's			= <u>68.43</u>

DESIGN EAL'S:

<u>68.43</u>	x	365	x	<u>1</u>	x	<u>1</u>	=	<u>24,977</u>
Midyear Daily EAL's		Design Period		Lane Adjustment		(1 or 2 Way)		
(No. of Lanes)	<u>1</u>							

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BARRONDATE 8-6-90NAME A. Ruckert

ROUTE ID:

Road Name CUMBERLAND HWY.Route No. 1649008Classified ✓Project No. SHRP 211034Unclassified Project Limits MP 9.200Reference Stations 1981 TOLL RD. REPORT, 1988 EAL TABLES

Functional Class		Percent Trucks Hauling Coal	
Rural	Urban	Less Than 3.0	3.0 or Greater
<u>✓</u> 01 Interstate	11 Interstate		
02 Principal Arterial	12 Other Freeways & Expressways		
06 Minor Arterial	14 Other Principal Arterial		
07 Major Collector	16 Minor Arterial		
08 Minor Collector	17 Collector		
09 Local	19 Local		

DATES: Base Year Design Period (Years) Project Midyear 1981

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>950</u>
Percent Trucks (%T)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
Non-Coal Trucks						
Axles/Truck (A/NCT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>3.202</u>
EAL's/Axle (EAL/NCA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>0.160</u>
Coal Trucks						
Axles/Truck (A/CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
EAL's/Axle (EAL/CA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles:	$\frac{950}{\text{AADT}} \times \frac{0.872}{1 - (\%T/100)} \times 0.005$	<u>4.14</u>
Non-Coal Trucks:	$\frac{950}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1 - \%CT/100)} \times \frac{3.202}{\text{A/NCT}} \times \frac{0.160}{\text{EAL/NCA}}$	<u>62.30</u>
Coal Trucks:	$\frac{\text{AADT}}{\text{AADT}} \times \frac{(\%T/100)(\%CT/100)}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}}$	<u> </u>
Total Midyear Daily EAL's		<u>66.44</u>

DESIGN EAL'S:

<u>66.44</u>	x	365	x	$\frac{1}{\text{Design Period}}$	x	$\frac{\text{Lane Adjustment}}{(1 \text{ or } 2 \text{ Way})}$	<u>24,250</u>
Midyear Daily EAL's							
(No. of Lanes <u>1</u>)							

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁶) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁶) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY

BARRON

DATE

8-6-90

NAME

A. RUCKEN

ROUTE ID:

Road Name

CUMBERLAND PKWY.

Route No.

619008Classified ☒

Project No.

SHRP 211034Unclassified ☐

Project Limits

MP 9.200

Reference Stations

1980 TOLL RD. REPORT, 1988 EAL TABLES

Functional Class

Rural

Urban

Percent Trucks Hauling Coal
Less Than 3.0
3.0 or Greater01 Interstate11 Interstate02 Principal Arterial12 Other Freeways & Expressways06 Minor Arterial14 Other Principal Arterial07 Major Collector16 Minor Arterial08 Minor Collector17 Collector09 Local19 Local

DATES: Base Year

Design Period (Years)

Project Midyear 1980

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>840</u>
Percent Trucks (%T)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
Non-Coal Trucks						
Axles/Truck (A/NCT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>3.179</u>
EAL's/Axle (EAL/NCA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>0.155</u>
Coal Trucks						
Axles/Truck (A/CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
EAL's/Axle (EAL/CA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>

DAILY EAL'S AT MIDYEAR:

$$\begin{aligned}
 & \text{4-Tired Vehicles: } \frac{840}{\text{AADT}} \times \frac{0.872}{1-(\%T/100)} \times 0.005 = 3.66 \\
 & \text{Non-Coal Trucks: } \frac{840}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3.179}{\text{A/NCT}} \times \frac{0.155}{\text{EAL/NCA}} = 52.98 \\
 & \text{Coal Trucks: } \frac{\text{AADT}}{\text{AADT}} \times \frac{(\%T/100)(\%CT/100)}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}} = \text{Total Midyear Daily EAL's} = 56.64
 \end{aligned}$$

DESIGN EAL'S:

$$\begin{aligned}
 & \frac{56.64}{\text{Midyear Daily EAL's}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment}}{\text{Lane Adjustment (1 or 2 Way)}} = 20,674
 \end{aligned}$$

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY

BALCON

DATE

8-6-90

NAME

A. RUCKEN

ROUTE ID:

Road Name

CUMBERLAND Hwy

Route No.

KY 9008Classified ✓

Project No.

SHRP 211034

Unclassified

Project Limits

MP 9.200

Reference Stations

1979 TOLL RD. REPORT, 1988 EAL TABLES

Functional Class

Rural

Urban

Percent Trucks Hauling Coal
Less Than 3.0
3.0 or Greater

<u>01</u> Interstate	<u>11</u> Interstate
<u>02</u> Principal Arterial	<u>12</u> Other Freeways & Expressways
<u>06</u> Minor Arterial	<u>14</u> Other Principal Arterial
<u>07</u> Major Collector	<u>16</u> Minor Arterial
<u>08</u> Minor Collector	<u>17</u> Collector
<u>09</u> Local	<u>19</u> Local

DATES: Base Year

Design Period (Years)

Project Midyear 1979

TRAFFIC PARAMETERS:

	Base Year Estimate	x	Annual Change (Fractions)	x	No. Years to Midyear	=	Increment	+	Base Year Estimate	=	Project Midyear Estimate
Volume (AADT)	_____	x	_____	x	_____	=	_____	+	_____	=	<u>850</u>
Percent Trucks (%T)	_____	x	_____	x	_____	=	_____	+	_____	=	<u>12.8</u>
% Trucks Hauling Coal (%CT)	_____	x	_____	x	_____	=	_____	+	_____	=	_____
Non-Coal Trucks											
Axles/Truck (A/NCT)	_____	x	_____	x	_____	=	_____	+	_____	=	<u>3,156</u>
EAL's/Axle (EAL/NCA)	_____	x	_____	x	_____	=	_____	+	_____	=	<u>0.151</u>
Coal Trucks											
Axles/Truck (A/CT)	_____	x	_____	x	_____	=	_____	+	_____	=	_____
EAL's/Axle (EAL/CA)	_____	x	_____	x	_____	=	_____	+	_____	=	_____

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles:	<u>850</u>	x	<u>0.872</u>	x	0.005	=	<u>3.71</u>
Non-Coal Trucks:	<u>850</u>	x	<u>0.128</u>	x	<u>3,156</u>	x	<u>0.151</u>
Coal Trucks:	<u>850</u>	x	<u>0.128</u>	x	<u>3,156</u>	x	<u>0.151</u>
Total Midyear Daily EAL's							
							<u>55.56</u>

DESIGN EAL'S:

<u>55.56</u>	x	365	x	<u>1</u>	x	<u>1</u>	=	<u>20,279</u>
Midyear Daily EAL's			Design Period		Lane Adjustment			
(No. of Lanes)					(1 or 2 Way)			

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BACGENDATE 8-6-90NAME D. RUCKEN

ROUTE ID:

Road Name CUMBERLAND Hwy.Route No. KY 9008Classified ☒Project No. SHRP 211034Unclassified ☐Project Limits MP 9.200Reference Stations 1978 TOLL CO. LIMIT 1988 EAL TABLES

Functional Class

Rural

Urban

<u>01</u> Interstate	<u>11</u> Interstate
<u>02</u> Principal Arterial	<u>12</u> Other Freeways & Expressways
<u>06</u> Minor Arterial	<u>14</u> Other Principal Arterial
<u>07</u> Major Collector	<u>16</u> Minor Arterial
<u>08</u> Minor Collector	<u>17</u> Collector
<u>09</u> Local	<u>19</u> Local

 Percent Trucks Hauling Coal
☐ Less Than 3.0
☐ 3.0 or Greater

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

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>820</u>
Percent Trucks (%T)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>12.8</u>
% Trucks Hauling Coal (%CT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____
Non-Coal Trucks						
Axles/Truck (A/NCT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>3,134</u>
EAL's/Axle (EAL/NCA)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>0.146</u>
Coal Trucks						
Axles/Truck (A/CT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____
EAL's/Axle (EAL/CA)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles:	$\frac{820}{AADT} \times \frac{0.872}{1-(\%T/100)} \times 0.005$	=	<u>3.58</u>
Non-Coal Trucks:	$\frac{820}{AADT} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3,134}{A/NCT} \times \frac{0.146}{EAL/NCA}$	=	<u>48.03</u>
Coal Trucks:	$\frac{AADT}{AADT} \times \frac{1}{(\%T/100)(\%CT/100)} \times \frac{A/CT}{A/CT} \times \frac{EAL/CA}{EAL/CA}$	=	_____
Total Midyear Daily EAL's		=	<u>51.61</u>

DESIGN EAL'S:

<u>51.61</u>	x	365	x	<u>1</u>	x	_____	=	<u>18,838</u>
Midyear				Design		Lane		
Daily EAL's				Period		Adjustment		
(No. of Lanes <u>1</u>)						(1 or 2 Way <u>1</u>)		

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BARNENDATE 8-6-90NAME A. Ruckert

ROUTE ID:

Road Name CUMBERLAND PKWY.Route No. KY9008Classified ✓Project No. SHRP 211034Unclassified Project Limits MD 9.200Reference Stations 1977 TOLL CO. REPORT 1988 EAL TABLES

Functional Class	
Rural	Urban
<u>✓</u> 01 Interstate	11 Interstate
02 Principal Arterial	12 Other Freeways & Expressways
06 Minor Arterial	14 Other Principal Arterial
07 Major Collector	16 Minor Arterial
08 Minor Collector	17 Collector
09 Local	19 Local

 Percent Trucks Hauling Coal
 Less Than 3.0
 3.0 or Greater

 DATES: Base Year Design Period (Years) Project Midyear 1977

TRAFFIC PARAMETERS:

	Base Year Estimate	x	Annual Change (Fractions)	x	No. Years to Midyear	=	Increment	+	Base Year Estimate	=	Project Midyear Estimate
Volume (AADT)	<u> </u>	x	<u> </u>	x	<u> </u>	=	<u> </u>	+	<u> </u>	=	<u>770</u>
Percent Trucks (%T)	<u> </u>	x	<u> </u>	x	<u> </u>	=	<u> </u>	+	<u> </u>	=	<u>12.8</u>
% Trucks Hauling Coal (%CT)	<u> </u>	x	<u> </u>	x	<u> </u>	=	<u> </u>	+	<u> </u>	=	<u> </u>
Non-Coal Trucks											
Axles/Truck (A/NCT)	<u> </u>	x	<u> </u>	x	<u> </u>	=	<u> </u>	+	<u> </u>	=	<u>3.111</u>
EAL's/Axle (EAL/NCA)	<u> </u>	x	<u> </u>	x	<u> </u>	=	<u> </u>	+	<u> </u>	=	<u>0.142</u>
Coal Trucks											
Axles/Truck (A/CT)	<u> </u>	x	<u> </u>	x	<u> </u>	=	<u> </u>	+	<u> </u>	=	<u> </u>
EAL's/Axle (EAL/CA)	<u> </u>	x	<u> </u>	x	<u> </u>	=	<u> </u>	+	<u> </u>	=	<u> </u>

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles:	<u>770</u>	x	<u>0.872</u>	x	<u>0.005</u>	=	<u>3.36</u>		
Non-Coal Trucks:	<u>770</u>	x	<u>0.128</u>	x	<u>3.111</u>	x	<u>0.142</u>	=	<u>43.54</u>
Coal Trucks:	<u> </u>	x	<u> </u>	x	<u> </u>	x	<u> </u>	=	<u> </u>
Total Midyear Daily EAL's							=	<u>46.9</u>	

DESIGN EAL'S:

<u>46.9</u>	x	365	x	<u>1</u>	x	<u> </u>	=	<u>17,119</u>
Midyear Daily EAL's (No. of Lanes <u>1</u>)				Design Period		Lane Adjustment (1 or 2 Way <u>1</u>)		

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BAXXENDATE 8-6-90NAME A. RUCKER

ROUTE ID:

Road Name CUMBERLAND PKWY.Route No. KY 9008Classified ☒Project No. SRP 211034Unclassified ☐Project Limits MP 9.200Reference Stations 1976 Toll Rd. Report, 1988 EAL TABLES

Functional Class		Percent Trucks Hauling Coal	
Rural	Urban	Less Than 3.0	3.0 or Greater
<input checked="" type="checkbox"/> 01 Interstate	<input type="checkbox"/> 11 Interstate		
<input checked="" type="checkbox"/> 02 Principal Arterial	<input type="checkbox"/> 12 Other Freeways & Expressways		
<input type="checkbox"/> 06 Minor Arterial	<input type="checkbox"/> 14 Other Principal Arterial		
<input type="checkbox"/> 07 Major Collector	<input type="checkbox"/> 16 Minor Arterial		
<input type="checkbox"/> 08 Minor Collector	<input type="checkbox"/> 17 Collector		
<input type="checkbox"/> 09 Local	<input type="checkbox"/> 19 Local		

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

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>710</u>
Percent Trucks (%T)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	_____ x	_____ x	_____ =	_____ +	_____ =	_____
Non-Coal Trucks						
Axles/Truck (A/NCT)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>3.088</u>
EAL's/Axle (EAL/NCA)	_____ x	_____ x	_____ =	_____ +	_____ =	<u>0.137</u>
Coal Trucks						
Axles/Truck (A/CT)	_____ x	_____ x	_____ =	_____ +	_____ =	_____
EAL's/Axle (EAL/CA)	_____ x	_____ x	_____ =	_____ +	_____ =	_____

DAILY EAL'S AT MIDYEAR:

$$\begin{aligned}
 & \text{4-Tired Vehicles: } \frac{710}{\text{AADT}} \times \frac{0.872}{1 - (\%T/100)} \times 0.005 = \underline{3.1} \\
 & \text{Non-Coal Trucks: } \frac{710}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1 - \%CT/100)} \times \frac{3.088}{\text{A/NCT}} \times \frac{0.137}{\text{EAL/NCA}} = \underline{38.45} \\
 & \text{Coal Trucks: } \frac{\text{AADT}}{\text{AADT}} \times \frac{\text{EAL/CA}}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}} = \underline{\quad} \\
 & \text{Total Midyear Daily EAL's} = \underline{41.55}
 \end{aligned}$$

DESIGN EAL'S:

$$\begin{aligned}
 & \frac{41.55}{\text{Midyear Daily EAL's}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment}}{\text{Lane Adjustment (1 or 2 Way)}} = \underline{15,166} \\
 & \text{(No. of Lanes } \underline{1} \text{)}
 \end{aligned}$$

Lane Distribution Adjustments

$$L = 0.497 - (1.84 + 1.42 \text{ FT})(\text{AADT})(10^{-4}) \text{ for 4-lane roadways (Minimum value} = 0.375)$$

$$L = 0.427 - (2.308 + 1.75 \text{ FT})(\text{AADT})(10^{-4}) \text{ for 6-lane roadways (Minimum value} = 0.25)$$

$$L = 0.50 \text{ for 2-lane roadways}$$

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BAKRENDATE 8-6-90NAME A. Rucker

ROUTE ID:

Road Name CUMBERLAND HwyRoute No. KY 9008Classified ☒Project No. SHRP 211034Unclassified ☐Project Limits MP 9.200Reference Stations 1975 TOLL RD REPORT 1988 EAL TABLES

Functional Class

Percent Trucks Hauling Coal
Less Than 3.0
3.0 or Greater

Rural	Functional Class	Urban
<input checked="" type="checkbox"/> 01 Interstate	<input type="checkbox"/> 11 Interstate	
<input checked="" type="checkbox"/> 02 Principal Arterial	<input type="checkbox"/> 12 Other Freeways & Expressways	
<input type="checkbox"/> 06 Minor Arterial	<input type="checkbox"/> 14 Other Principal Arterial	
<input type="checkbox"/> 07 Major Collector	<input type="checkbox"/> 16 Minor Arterial	
<input type="checkbox"/> 08 Minor Collector	<input type="checkbox"/> 17 Collector	
<input type="checkbox"/> 09 Local	<input type="checkbox"/> 19 Local	

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

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>630</u>
Percent Trucks (%T)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>12.8</u>
% Trucks Hauling Coal (%CT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____
Non-Coal Trucks						
Axles/Truck (A/NCT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>3,066</u>
EAL's/Axle (EAL/NCA)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>0.133</u>
Coal Trucks						
Axles/Truck (A/CT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____
EAL's/Axle (EAL/CA)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____

DAILY EAL'S AT MIDYEAR:

4-Tired Vehicles:	$\frac{630}{AADT} \times \frac{0.872}{1-(\%T/100)} \times 0.005$	=	<u>2.75</u>
Non-Coal Trucks:	$\frac{630}{AADT} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3.066}{A/NCT} \times \frac{0.133}{EAL/NCA}$	=	<u>32.88</u>
Coal Trucks:	$\frac{AADT}{AADT} \times \frac{(\%T/100)(\%CT/100)}{(\%T/100)(\%CT/100)} \times \frac{A/CT}{A/CT} \times \frac{EAL/CA}{EAL/CA}$	=	_____
Total Midyear Daily EAL's		=	<u>35.63</u>

DESIGN EAL'S:

<u>35.63</u>	x	365	x	$\frac{1}{\text{Design Period}}$	x	$\frac{\text{Lane Adjustment}}{\text{Lane Adjustment (1 or 2 Way)}}$	=	<u>13,005</u>
Midyear Daily EAL's								
(No. of Lanes <u>1</u>)								

Lane Distribution Adjustments

L = 0.497 - (1.84 + 1.42 FT)(AADT)(10⁻⁴) for 4-lane roadways (Minimum value = 0.375)L = 0.427 - (2.308 + 1.75 FT)(AADT)(10⁻⁴) for 6-lane roadways (Minimum value = 0.25)

L = 0.50 for 2-lane roadways

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BAKRENDATE 8-6-90NAME A. RUCKER

ROUTE ID:

Road Name Sumnerland Pkwy.Route No. KY 9008Classified ☒Project No. SRP 211034Unclassified ☐Project Limits MP 9.200Reference Stations 1974 TOLLK. CAPK 7, 1988 EAL TABLES

Functional Class		Percent Trucks Hauling Coal	
Rural	Urban	Less Than 3.0	3.0 or Greater
<input checked="" type="checkbox"/> 01 Interstate	<input type="checkbox"/> 11 Interstate		
<input checked="" type="checkbox"/> 02 Principal Arterial	<input type="checkbox"/> 12 Other Freeways & Expressways		
<input checked="" type="checkbox"/> 06 Minor Arterial	<input type="checkbox"/> 14 Other Principal Arterial		
<input checked="" type="checkbox"/> 07 Major Collector	<input type="checkbox"/> 16 Minor Arterial		
<input checked="" type="checkbox"/> 08 Minor Collector	<input type="checkbox"/> 17 Collector		
<input checked="" type="checkbox"/> 09 Local	<input type="checkbox"/> 19 Local		

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

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>550</u>
Percent Trucks (%T)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>12.8</u>
% Trucks Hauling Coal (%CT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____
Non-Coal Trucks						
Axles/Truck (A/NCT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>3,043</u>
EAL's/Axle (EAL/NCA)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	<u>0.129</u>
Coal Trucks						
Axles/Truck (A/CT)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____
EAL's/Axle (EAL/CA)	_____ x _____	_____ x _____	_____ = _____	_____ + _____	_____ = _____	_____

DAILY EAL'S AT MIDYEAR:

$$\begin{aligned}
 & \text{4-Tired Vehicles: } \frac{550}{\text{AADT}} \times \frac{0.872}{1-(\%T/100)} \times 0.005 = \underline{2.4} \\
 & \text{Non-Coal Trucks: } \frac{550}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3,043}{\text{A/NCT}} \times \frac{0.129}{\text{EAL/NCA}} = \underline{27.64} \\
 & \text{Coal Trucks: } \frac{\text{AADT}}{\text{AADT}} \times \frac{\text{EAL/CA}}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}} = \underline{\quad\quad\quad} \\
 & \text{Total Midyear Daily EAL's} = \underline{30.04}
 \end{aligned}$$

DESIGN EAL'S:

$$\begin{aligned}
 & \frac{30.04}{\text{Midyear Daily EAL's}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment}}{\text{Lane Adjustment (1 or 2 Way)}} = \underline{10,965}
 \end{aligned}$$

Lane Distribution Adjustments

$$L = 0.497 - (1.84 + 1.42 \text{ FT}) (\text{AADT}) (10^{-4}) \text{ for 4-lane roadways} \quad (\text{Minimum value} = 0.375)$$

$$L = 0.427 - (2.308 + 1.75 \text{ FT}) (\text{AADT}) (10^{-4}) \text{ for 6-lane roadways} \quad (\text{Minimum value} = 0.25)$$

$$L = 0.50 \text{ for 2-lane roadways}$$

ESTIMATION OF EQUIVALENT AXLELOAD ACCUMULATIONS

COUNTY BARKENDATE 8-6-90NAME A. RUCKER

ROUTE ID:

Road Name CUMBERLAND PKWY.Route No. KY9008Classified ✓Project No. SHRP 211034Unclassified Project Limits MP 9.200Reference Stations 1973 TOLL RD. REPORT, 1988 EAL TABLES

Functional Class

Percent Trucks Hauling Coal
Less Than 3.0
3.0 or Greater

Rural	Urban
01 Interstate	11 Interstate
02 Principal Arterial	12 Other Freeways & Expressways
06 Minor Arterial	14 Other Principal Arterial
07 Major Collector	16 Minor Arterial
08 Minor Collector	17 Collector
09 Local	19 Local

DATES: Base Year Design Period (Years) Project Midyear 1973

TRAFFIC PARAMETERS:

	Base Year Estimate	Annual Change (Fractions)	No. Years to Midyear	Increment	Base Year Estimate	Project Midyear Estimate
Volume (AADT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>430</u>
Percent Trucks (%T)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>12.8</u>
% Trucks Hauling Coal (%CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
Non-Coal Trucks						
Axles/Truck (A/NCT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>3,020</u>
EAL's/Axle (EAL/NCA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u>0.125</u>
Coal Trucks						
Axles/Truck (A/CT)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>
EAL's/Axle (EAL/CA)	<u> </u> x	<u> </u> x	<u> </u> =	<u> </u> +	<u> </u> =	<u> </u>

DAILY EAL'S AT MIDYEAR:

$$\begin{aligned}
 & \text{4-Tired Vehicles: } \frac{430}{\text{AADT}} \times \frac{0.872}{1-(\%T/100)} \times 0.005 = \underline{1.87} \\
 & \text{Non-Coal Trucks: } \frac{430}{\text{AADT}} \times \frac{0.128}{(\%T/100)(1-\%CT/100)} \times \frac{3,020}{\text{A/NCT}} \times \frac{0.125}{\text{EAL/NCA}} = \underline{20.78} \\
 & \text{Coal Trucks: } \frac{\text{AADT}}{\text{AADT}} \times \frac{\text{ }}{(\%T/100)(\%CT/100)} \times \frac{\text{A/CT}}{\text{A/CT}} \times \frac{\text{EAL/CA}}{\text{EAL/CA}} = \underline{\text{ }} \\
 & \text{Total Midyear Daily EAL's} = \underline{22.65}
 \end{aligned}$$

DESIGN EAL'S:

$$\begin{aligned}
 & \frac{22.65}{\text{Midyear Daily EAL's}} \times 365 \times \frac{1}{\text{Design Period}} \times \frac{\text{Lane Adjustment}}{\text{Lane Adjustment (1 or 2 Way)}} = \underline{8,267}
 \end{aligned}$$

Lane Distribution Adjustments

$$L = 0.497 - (1.84 + 1.42 \text{ FT})(\text{AADT})(10^{-4}) \text{ for 4-lane roadways (Minimum value} = 0.375)$$

$$L = 0.427 - (2.308 + 1.75 \text{ FT})(\text{AADT})(10^{-4}) \text{ for 6-lane roadways (Minimum value} = 0.25)$$

$$L = 0.50 \text{ for 2-lane roadways}$$