

## **Appendix G – TRAFFIC FORECAST REPORT**



## TRANSPORTATION CABINET

Frankfort, Kentucky 40622  
www.transportation.ky.gov/

**Steven L. Beshear**  
Governor

**Michael W. Hancock, P.E.**  
Secretary


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### MEMORANDUM

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**TO:** Joseph McClearn, P.E.  
Chief District Engineer  
District 2 - Madisonville

**ATTN:** Nick Hall

**FROM:** John Moore, P.E.  
Director  
Division of Planning 

**DATE:** March 25, 2015

**SUBJECT:** Hancock County Traffic Forecast  
Traffic Forecast for Scoping Study on KY 69  
Item No. 02-8708.00

In response to your December 9, 2014 request, we are providing the following forecasts on the attached report:

- 2015 and 2035 Average Daily Traffic
- 2015 and 2035 Daily and Design Hour Turning Movements
- Truck Percentages and 20 year ESALs

If you have any questions, please call Daniel Hulker of this Division at (502) 782-5064.

JM/DAH/BC

#### Attachments

c/att: Randy Turner  
John Rudd  
Shane McKenzie  
Dan Hite



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# *Executive Summary*

## **Traffic Forecast Report and Bike/Ped Accommodation Assessment for Hancock County Scoping Study on KY 69 Item No. 02-8708.00**

Prepared for:



Prepared by:  
**Daniel Hulker**  
Division of Planning  
Kentucky Transportation Cabinet  
March 25, 2015

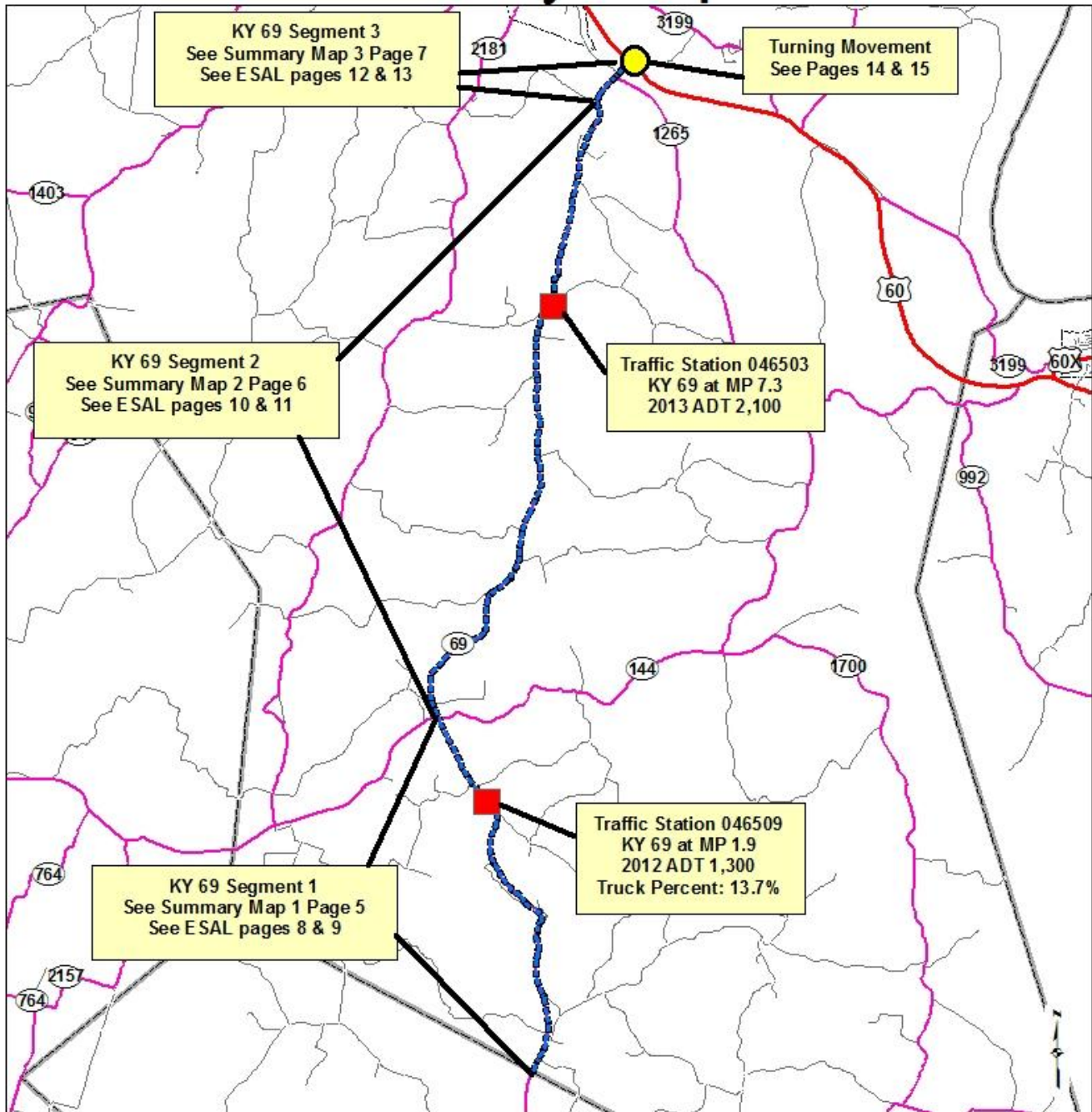
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## **Commonly Used Abbreviations and their Descriptions**

ADT	Average Daily Traffic	Without any adjustment
DHV	Design Hour Volume	30 <sup>th</sup> highest hour of a <u>year</u>
ESAL	Equivalent Single Axle Load	A measure of traffic's impact on roadway
%T	Truck Percentage	The percentage of trucks to total volume
FC	Functional Class	Refers to a road's importance
GR	Growth Rate	A value normally compounded annually
PHF	Peak Hour Factor	Considers a 15 minute spike in an hourly count
K-Factor	K-30 <sup>th</sup> hour Factor	DHV divided by ADT (DHV/ADT)
D-Factor	Directional Factor	Percentage of dominant flow to total
MP	Mile Point	Miles increase easterly and northerly
ATR	Automatic Traffic Recorder	A permanent & continuous recording station
KYSTM	Kentucky Statewide Model	A computerized representation of KY roads

# Vicinity Map



Scoping Study on KY 69  
 From MP 0 to MP 13.08  
 Item # 02-8708.00



**Legend**

- - - - - Project Location
- Turn movement
- Traffic Station

0      1.25      2.5  
 Miles

**Traffic Forecast Executive Summary  
Hancock County: KY 69 Scoping Study  
Item No. 02-8708.00**

**FORECAST SUMMARY**

This forecast is for a scoping study of KY 69 in Hancock County from milepoint 0 to 13.08.

**FORECAST TYPE**

The following types of forecasts were developed:

- 2015 and 2035 ADT and DHV values
- 2015 and 2035 Design Hour Build Turn Movements
- 2015 and 2035 Truck Percentages
- 20-year ESALs

**CURRENT-YEAR VOLUMES**

The current year volumes were based upon the most recent 48-hour count data collected at traffic stations 046503 and 046509 (see page 2) as well as a turning movement counted at the intersection of KY 69 and US 60 (see the turn movement section for more information). All figures are subject to rounding.

**DESIGN-YEAR/GROWTH FACTORS**

The growth rate of KY 69 was based upon the growth rate predicted by the new Daviess County traffic model, which includes all of Hancock County as well as census population projections for Hancock County. The model predicted annual growth rates for traffic to be 0.1% to 0.25%. Historic growth rates of traffic for traffic stations 046503 and 046509 have been higher with each station having increased traffic at 1.5% per year (see the vicinity map for locations). However census projections for Hancock County project a much lower rate of population growth at 0.21% per year (see the population projection spreadsheet on page 16). For this project, an annual growth rate of 0.5% for traffic was used. The design year volumes were calculated by increasing current year traffic volumes at 0.5% per year from 2015 to 2035.

**DESIGN HOUR FACTORS**

The design hour for segments 1 & 2 were based upon the peak hour of traffic stations 046503 and 046509. Segment 3 was based upon the Turning Movement count conducted at the intersection of KY 69 and US 60.

## **TRUCK PERCENTAGE**

The current year truck percentage was based upon the truck percentage at traffic station 046509. The truck percentage used was 13.7%. The growth rate for trucks was based upon the functional class average growth rate of rural major collectors. Truck percentages were increased at a rate of 1.0% per year.

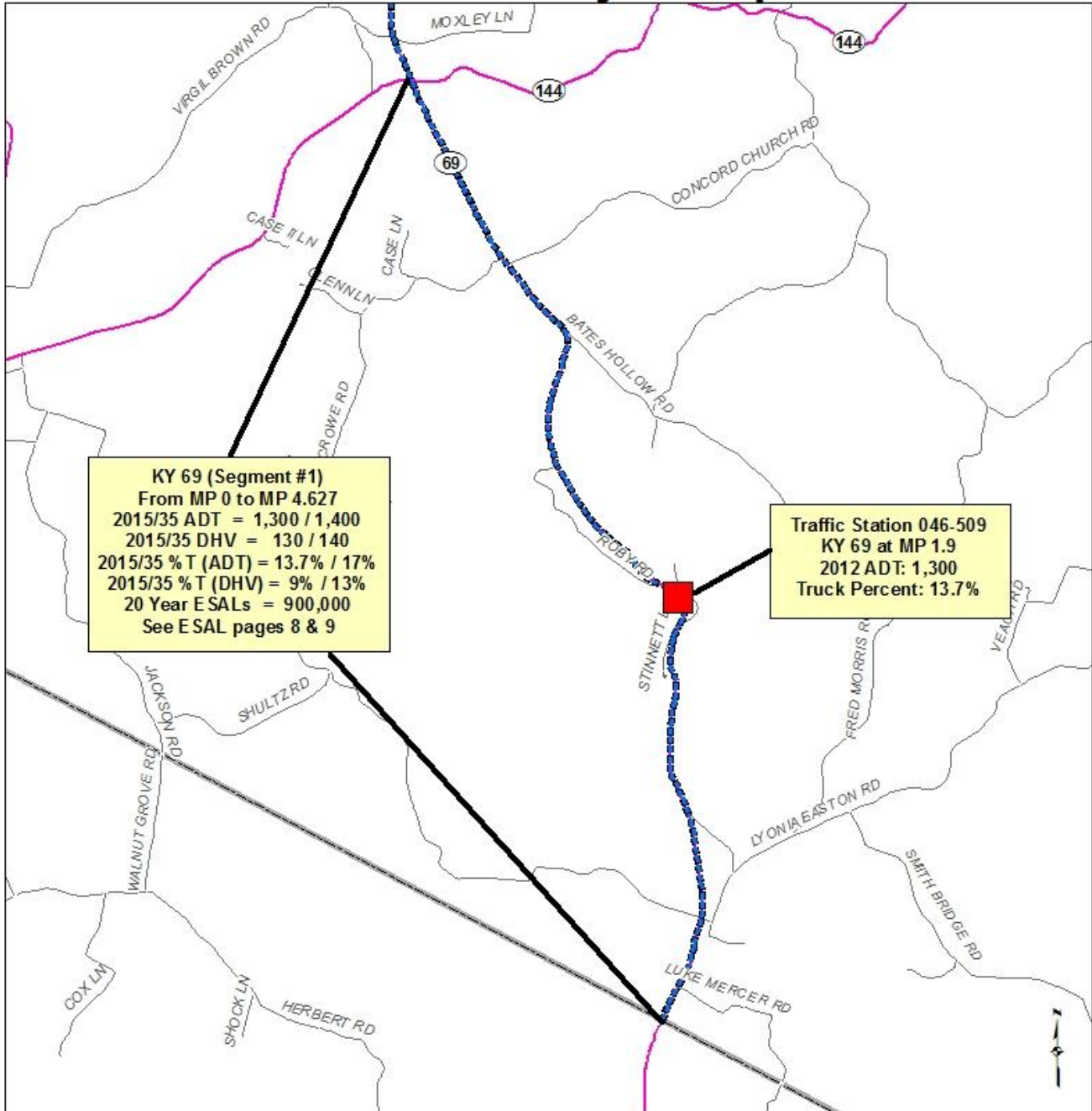
## **ESALs**

Three different ESAL segments were used for this project. Segment 1 covers KY 69 from MP 0 to MP 4.627. Segment 2 covers KY 69 from MP 4.627 to 12.54. Segment 3 covers KY 69 from MP 12.54 to 13.08. ESAL values were calculated through the ESAL spreadsheet. FC averages were calculated from the 2007 aggregated ESAL report generated by the Kentucky Transportation Center in collaboration with the Transportation Cabinet and were used to estimate the 20-yr ESALs. For more information, see the ESAL spreadsheets on pages 8-13.

## **TURN MOVEMENTS**

One turn movement was counted on January 13<sup>th</sup>, 2015 at the intersection of KY 69 and US 60. This turn movement was counted from 6-8 AM and from 3-5 PM. For more information, see the turn movement spreadsheets on pages 14 and 15.

# Summary Map 1



Scoping Study on KY 69  
 From MP 0 to MP 13.08  
 Item # 02-8708.00



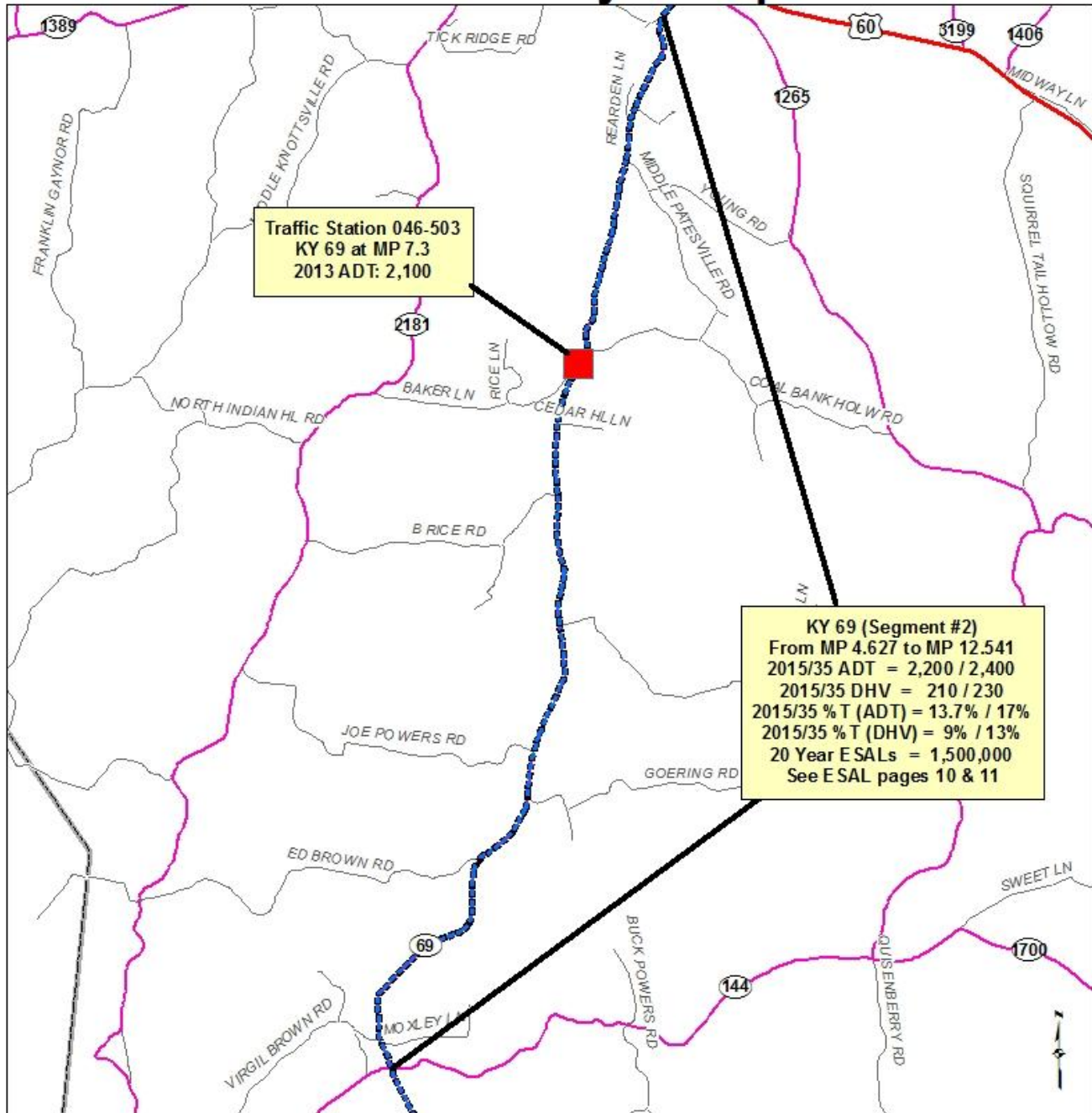
**Legend**

- Project Location
- Traffic Station

0 0.475 0.95 Miles



# Summary Map 2



Scoping Study on KY 69  
 From MP 0 to MP 13.08  
 Item # 02-8708.00

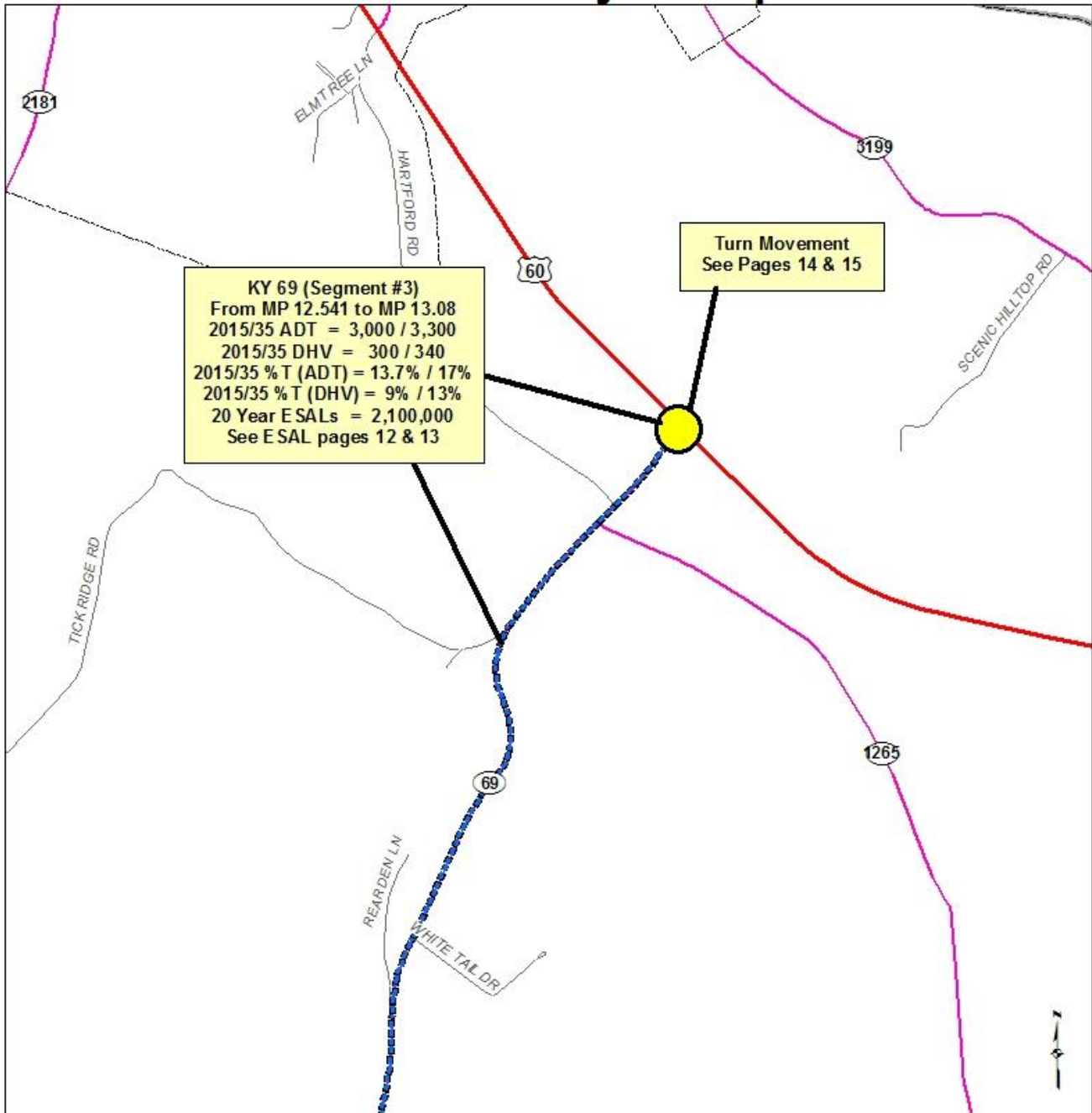


**Legend**

- Project Location
- Traffic Station

0 0.75 1.5 Miles

# Summary Map 3



Scoping Study on KY 69  
 From MP 0 to MP 13.08  
 Item # 02-8708.00



**Legend**

- Project Location
- Turn movement

0 0.2 0.4 Miles

*Traffic Forecast Technical Report  
Hancock County: Scoping Study on KY 69  
Item No. 02-8708.00*

**FORECAST OF EQUIVALENT SINGLE AXLE LOAD ACCUMULATIONS (20-year)**

**ROUTE ID:**

County	Hancock	Date	03/20/15
Road Name	KY 69	Forecaster	Daniel Hulker
Functional Class	7 - Rural Major Collector	MARS No.	9011901D
Project Description	Scoping Study on KY 69 from MP 0 to MP 13.08	Item No.	02-8708.00
Scenario	Build	Route No.	KY 69
Segment Description	Segment #1	Beg. MP	0
		End MP	4.627
		T.F. No.	TF 14-051
		No. of Lanes	2
		1 or 2 way	2

**REFERENCES:**

Previous Forecasts	None	K-Factor Value	9.0%
Traffic Volume Milepoint	046-509 2.3	K-Factor Source	046-509
Truck Percent Milepoint	046-509 2.3	PHF	0.85
ESAL Information	2007 Aggregated ESALS	Full Route Unique Identifier	046-KY-0069 -000
Growth Rate	0.50%		

**TRAFFIC PARAMETERS:**

	Present Year	Growth Rate	Construction Year	Median Year	Design Year
	2015		2015	2025	2035
Volume (AADT)	1300	0.50%	1300	1400	1400
Percent Trucks (%T)	13.7%	1.0%	14%	15%	17%
Number of Trucks	180	1.5%	180	210	240
Percent Trucks Hauling Coal (%CT)	0%	0.0%	0%	0%	0%
<i>Non-Coal Trucks:</i>					
Axles/Truck (A/T)	3.600	0.70%	3.600	3.860	4.139
ESALs/Axle (ESAL/A)	0.245	1.60%	0.245	0.287	0.337
<i>Coal Trucks:</i>					
Axles/Truck (A/CT)	0	0.00%	0.000	0.000	0.000
ESALs/Axle (ESAL/CA)	0	0.00%	0.000	0.000	0.000

**ESAL CALCULATIONS:** SEE ATTACHED ESAL CALCULATION SHEET

Design ESALs in Critical Lane 900,000

General Comments:

Traffic Forecast Technical Report  
Hancock County: Scoping Study on KY 69  
Item No. 02-8708.00

**Segment #1**

Year	ADT	Car %	Truck %	Cars	Trucks	CT%	AXT	ESAL/AX	AX/CT	ESAL/CA	LDF	ESALS
2015	1,300	86.3%	13.7%	1122	178	0.00%	3.60	0.25	0	0	0.500	29,751
2016	1,307	86.1%	13.9%	1125	181	0.00%	3.63	0.25	0	0	0.500	30,860
2017	1,313	86.0%	14.0%	1129	184	0.00%	3.65	0.25	0	0	0.500	32,013
2018	1,320	85.9%	14.1%	1133	187	0.00%	3.68	0.26	0	0	0.500	33,209
2019	1,326	85.7%	14.3%	1137	189	0.00%	3.70	0.26	0	0	0.500	34,452
2020	1,333	85.6%	14.4%	1141	192	0.00%	3.73	0.27	0	0	0.500	35,742
2021	1,339	85.4%	14.6%	1144	195	0.00%	3.75	0.27	0	0	0.500	37,082
2022	1,346	85.3%	14.7%	1148	198	0.00%	3.78	0.27	0	0	0.500	38,473
2023	1,353	85.1%	14.9%	1152	201	0.00%	3.81	0.28	0	0	0.500	39,918
2024	1,360	85.0%	15.0%	1156	204	0.00%	3.83	0.28	0	0	0.500	41,418
2025	1,366	84.8%	15.2%	1159	207	0.00%	3.86	0.29	0	0	0.500	42,976
2026	1,373	84.7%	15.3%	1163	210	0.00%	3.89	0.29	0	0	0.500	44,593
2027	1,380	84.5%	15.5%	1167	214	0.00%	3.91	0.30	0	0	0.500	46,273
2028	1,387	84.4%	15.6%	1170	217	0.00%	3.94	0.30	0	0	0.500	48,017
2029	1,394	84.2%	15.8%	1174	220	0.00%	3.97	0.31	0	0	0.500	49,829
2030	1,401	84.1%	15.9%	1178	223	0.00%	4.00	0.31	0	0	0.500	51,710
2031	1,408	83.9%	16.1%	1181	227	0.00%	4.03	0.32	0	0	0.500	53,663
2032	1,415	83.7%	16.3%	1185	230	0.00%	4.05	0.32	0	0	0.500	55,691
2033	1,422	83.6%	16.4%	1189	234	0.00%	4.08	0.33	0	0	0.500	57,798
2034	1,429	83.4%	16.6%	1192	237	0.00%	4.11	0.33	0	0	0.500	59,985
2035	1,436	83.2%	16.8%	1196	241	0.00%	4.14	0.34	0	0	0.500	62,256

5-yr ESALS  
200,000

10-yr ESALS  
400,000

15-yr ESALS  
600,000

20-yr ESALS  
900,000

*Traffic Forecast Technical Report  
Hancock County: Scoping Study on KY 69  
Item No. 02-8708.00*

**FORECAST OF EQUIVALENT SINGLE AXLE LOAD ACCUMULATIONS (20-year)**

**ROUTE ID:**

County	Hancock	Date	03/19/15
Road Name	KY 69	Forecaster	Daniel Hulker
Functional Class	7 - Rural Major Collector	MARS No.	9011901D
Project Description	Scoping Study on KY 69 from MP 0 to MP 13.08	Item No.	02-8708.00
Scenario	Build	Route No.	KY 69
Segment Description	Segment #2	Beg. MP	4.627
		End MP	12.541
		T.F. No.	TF 14-051
		No. of Lanes	2
		1 or 2 way	2

**REFERENCES:**

Previous Forecasts	None	K-Factor Value	10.0%
Traffic Volume	046-503	K-Factor Source	046-503
Milepoint	7.314	PHF	0.85
Truck Percent	046-509	Full Route Unique Identifier	046-KY-0069 -000
Milepoint	2.3		
ESAL Information	2007 Aggregated ESALS		
Growth Rate	0.50%		

**TRAFFIC PARAMETERS:**

		Present Year	Growth Rate	Construction Year	Median Year	Design Year
		2015		2015	2025	2035
Volume	(AADT)	2200	0.50%	2200	2300	2400
Percent Trucks	(%T)	13.7%	1.0%	14%	15%	17%
Number of Trucks		300	1.5%	310	350	410
Percent Trucks Hauling Coal	(%CT)	0%	0.0%	0%	0%	0%
<i>Non-Coal Trucks:</i>						
Axles/Truck	(A/T)	3.600	0.70%	3.600	3.860	4.139
ESALs/Axle	(ESAL/A)	0.245	1.60%	0.245	0.287	0.337
<i>Coal Trucks:</i>						
Axles/Truck	(A/CT)	0	0.00%	0.000	0.000	0.000
ESALs/Axle	(ESAL/CA)	0	0.00%	0.000	0.000	0.000

**ESAL CALCULATIONS:** SEE ATTACHED ESAL CALCULATION SHEET

Design ESALs in Critical Lane 1,500,000

General Comments:

Traffic Forecast Technical Report  
Hancock County: Scoping Study on KY 69  
Item No. 02-8708.00

**Segment #2**

Year	ADT	Car %	Truck %	Cars	Trucks	CT%	AX/T	ESAL/AX	AX/CT	ESAL/CA	LDF	ESALS
2015	2,200	86.3%	13.7%	1898	302	0.00%	3.60	0.25	0	0	0.500	50,347
2016	2,211	86.1%	13.9%	1904	307	0.00%	3.63	0.25	0	0	0.500	52,225
2017	2,222	86.0%	14.0%	1911	311	0.00%	3.65	0.25	0	0	0.500	54,175
2018	2,233	85.9%	14.1%	1917	316	0.00%	3.68	0.26	0	0	0.500	56,200
2019	2,244	85.7%	14.3%	1924	321	0.00%	3.70	0.26	0	0	0.500	58,303
2020	2,256	85.6%	14.4%	1930	325	0.00%	3.73	0.27	0	0	0.500	60,486
2021	2,267	85.4%	14.6%	1936	330	0.00%	3.75	0.27	0	0	0.500	62,754
2022	2,278	85.3%	14.7%	1943	335	0.00%	3.78	0.27	0	0	0.500	65,108
2023	2,290	85.1%	14.9%	1949	340	0.00%	3.81	0.28	0	0	0.500	67,553
2024	2,301	85.0%	15.0%	1956	345	0.00%	3.83	0.28	0	0	0.500	70,092
2025	2,313	84.8%	15.2%	1962	351	0.00%	3.86	0.29	0	0	0.500	72,728
2026	2,324	84.7%	15.3%	1968	356	0.00%	3.89	0.29	0	0	0.500	75,466
2027	2,336	84.5%	15.5%	1974	361	0.00%	3.91	0.30	0	0	0.500	78,308
2028	2,347	84.4%	15.6%	1981	367	0.00%	3.94	0.30	0	0	0.500	81,260
2029	2,359	84.2%	15.8%	1987	372	0.00%	3.97	0.31	0	0	0.500	84,326
2030	2,371	84.1%	15.9%	1993	378	0.00%	4.00	0.31	0	0	0.500	87,509
2031	2,383	83.9%	16.1%	1999	384	0.00%	4.03	0.32	0	0	0.500	90,814
2032	2,395	83.7%	16.3%	2005	389	0.00%	4.05	0.32	0	0	0.500	94,247
2033	2,407	83.6%	16.4%	2011	395	0.00%	4.08	0.33	0	0	0.500	97,811
2034	2,419	83.4%	16.6%	2018	401	0.00%	4.11	0.33	0	0	0.500	101,513
2035	2,431	83.2%	16.8%	2024	407	0.00%	4.14	0.34	0	0	0.500	105,357

5-yr ESALS  
300,000

10-yr ESALS  
600,000

15-yr ESALS  
1,000,000

20-yr ESALS  
1,500,000

*Traffic Forecast Technical Report  
Hancock County: Scoping Study on KY 69  
Item No. 02-8708.00*

**FORECAST OF EQUIVALENT SINGLE AXLE LOAD ACCUMULATIONS (20-year)**

**ROUTE ID:**

County	Hancock	Date	03/20/15
Road Name	KY 69	Forecaster	Daniel Hulker
Functional Class	7 - Rural Major Collector	MARS No.	9011901D
Project Description	Scoping Study on KY 69 from MP 0 to MP 13.08	Item No.	02-8708.00
Scenario	Build	Route No.	KY 69
Segment Description	Segment #3	Beg. MP	12.541
		End MP	13.08
		T.F. No.	TF 14-051
		No. of Lanes	2
		1 or 2 way	2

**REFERENCES:**

Previous Forecasts	None	K-Factor Value	10.0%
Traffic Volume Milepoint	Turn Movement Count 13.08	K-Factor Source	TM
Truck Percent Milepoint	046-509 2.3	PHF	0.85
ESAL Information	2007 Aggregated ESALS	Full Route Unique Identifier	046-KY-0069 -000
Growth Rate	0.50%		

**TRAFFIC PARAMETERS:**

		Present Year	Growth Rate	Construction Year	Median Year	Design Year
		2015		2015	2025	2035
Volume	(AADT)	3000	0.50%	3000	3200	3300
Percent Trucks	(%T)	13.7%	1.0%	14%	15%	17%
Number of Trucks		410	1.5%	420	480	560
Percent Trucks Hauling Coal	(%CT)	0%	0.0%	0%	0%	0%
<i>Non-Coal Trucks:</i>						
Axles/Truck	(A/T)	3.600	0.70%	3.600	3.860	4.139
ESALs/Axle	(ESAL/A)	0.245	1.60%	0.245	0.287	0.337
<i>Coal Trucks:</i>						
Axles/Truck	(A/CT)	0	0.00%	0.000	0.000	0.000
ESALs/Axle	(ESAL/CA)	0	0.00%	0.000	0.000	0.000

**ESAL CALCULATIONS:** SEE ATTACHED ESAL CALCULATION SHEET

Design ESALs in Critical Lane 2,100,000

General Comments:

Traffic Forecast Technical Report  
Hancock County: Scoping Study on KY 69  
Item No. 02-8708.00

**Segment #3**

Year	ADT	Cat %	Truck %	Cats	Trucks	CT%	AX/T	ESAL/AX	AX/CT	ESAL/CA	LDF	ESALS
2015	3,000	86.3%	13.7%	2588	412	0.00%	3.60	0.25	0	0	0.500	68,655
2016	3,015	86.1%	13.9%	2597	418	0.00%	3.63	0.25	0	0	0.500	71,216
2017	3,030	86.0%	14.0%	2606	424	0.00%	3.65	0.25	0	0	0.500	73,875
2018	3,045	85.9%	14.1%	2614	431	0.00%	3.68	0.26	0	0	0.500	76,637
2019	3,060	85.7%	14.3%	2623	437	0.00%	3.70	0.26	0	0	0.500	79,504
2020	3,076	85.6%	14.4%	2632	444	0.00%	3.73	0.27	0	0	0.500	82,482
2021	3,091	85.4%	14.6%	2641	450	0.00%	3.75	0.27	0	0	0.500	85,573
2022	3,107	85.3%	14.7%	2649	457	0.00%	3.78	0.27	0	0	0.500	88,784
2023	3,122	85.1%	14.9%	2658	464	0.00%	3.81	0.28	0	0	0.500	92,118
2024	3,138	85.0%	15.0%	2667	471	0.00%	3.83	0.28	0	0	0.500	95,580
2025	3,153	84.8%	15.2%	2675	478	0.00%	3.86	0.29	0	0	0.500	99,175
2026	3,169	84.7%	15.3%	2684	485	0.00%	3.89	0.29	0	0	0.500	102,908
2027	3,185	84.5%	15.5%	2692	493	0.00%	3.91	0.30	0	0	0.500	106,784
2028	3,201	84.4%	15.6%	2701	500	0.00%	3.94	0.30	0	0	0.500	110,809
2029	3,217	84.2%	15.8%	2709	508	0.00%	3.97	0.31	0	0	0.500	114,989
2030	3,233	84.1%	15.9%	2718	515	0.00%	4.00	0.31	0	0	0.500	119,330
2031	3,249	83.9%	16.1%	2726	523	0.00%	4.03	0.32	0	0	0.500	123,838
2032	3,265	83.7%	16.3%	2735	531	0.00%	4.05	0.32	0	0	0.500	128,519
2033	3,282	83.6%	16.4%	2743	539	0.00%	4.08	0.33	0	0	0.500	133,379
2034	3,298	83.4%	16.6%	2751	547	0.00%	4.11	0.33	0	0	0.500	138,427
2035	3,315	83.2%	16.8%	2759	555	0.00%	4.14	0.34	0	0	0.500	143,669

5-yr ESALS  
400,000

10-yr ESALS  
800,000

15-yr ESALS  
1,400,000

20-yr ESALS  
2,100,000

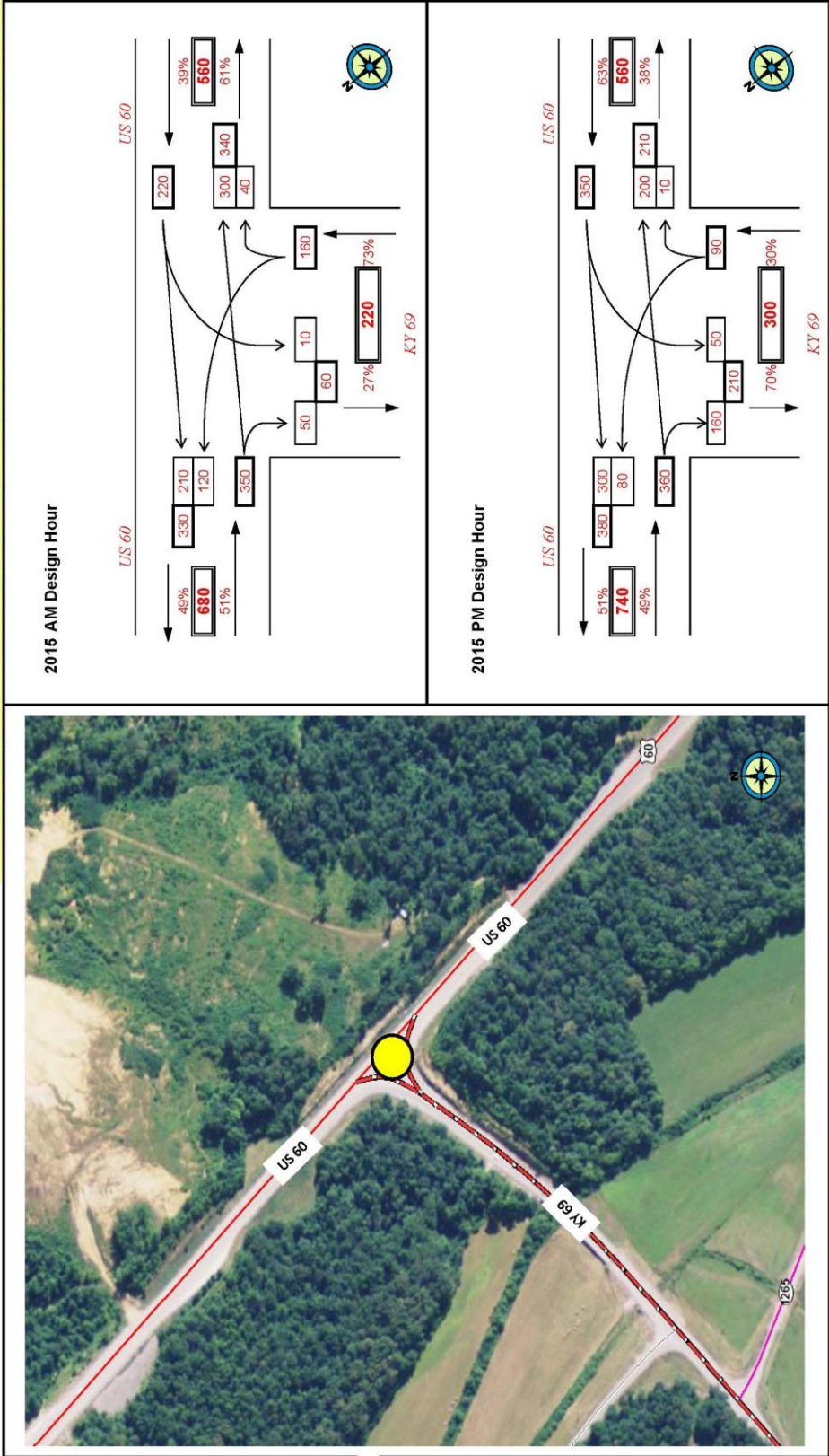


NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2014 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

### Turning Movement for 02-8708.00 (2015)

**\*\*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS**

PROJECT: Scoping Study on KY 69  
 ITEM NUMBER: 02-8708.00  
 MARS NUMBER: 9011901D  
 REQUEST DATE: 12/9/2014  
 ANALYST: Daniel Hulker  
 SCENARIO: 2015  
 INTERSECTION: KY 69 at the intersection of US 60

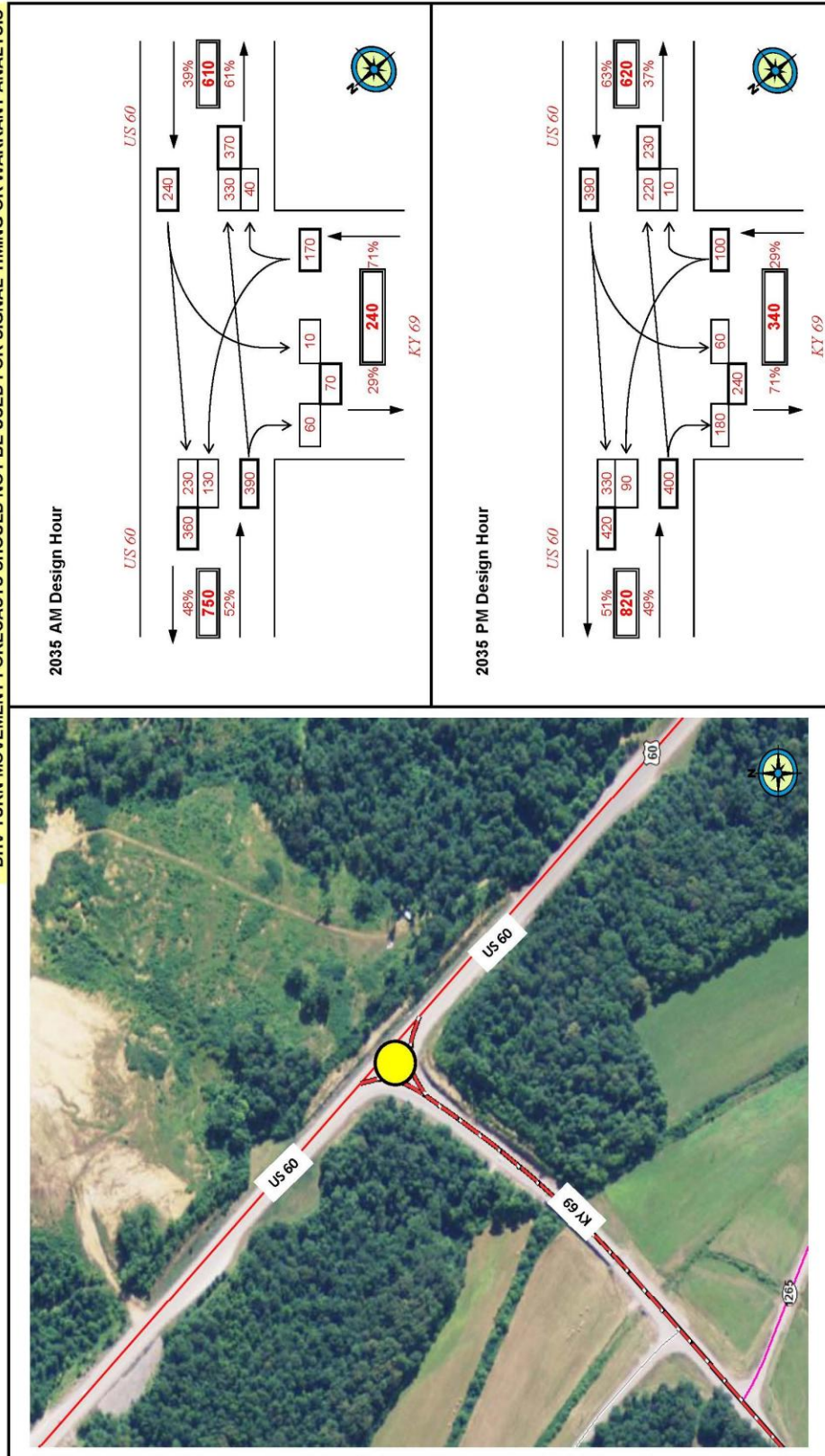


NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2014 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

### Turning Movement for 02-8708.00 (2035)

**\*\*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS**

PROJECT: Scoping Study on KY 69  
 ITEM NUMBER: 02-8708.00  
 MARS NUMBER: 9011901D  
 REQUEST DATE: 12/9/2014  
 ANALYST: Daniel Hulker  
 SCENARIO: 2035  
 INTERSECTION: KY 69 at the intersection of US 60



**HISTORICAL POPULATION SUMMARY**

	1960	1970	1980	1990	2000	2010	60 - 70	70 - 80	80 - 90	90 - 00	00 - 10
Population	3,038,156	3,220,711	3,660,334	3,686,892	4,041,769	4,339,367	Change 6.0%	Change 13.6%	Change 0.7%	Change 9.6%	Change 7.4%
Hancock Co	-	7,080	7,742	7,864	8,392	8,565	Pct -	Pct 9.4%	Pct 1.6%	Pct 6.7%	Pct 2.1%

Sources: US Bureau of the Census; Kentucky State Data Center

**FUTURE POPULATION PROJECTIONS SUMMARY**

	2010	2015	2020	2025	2030	2035	10 - 15	15 - 20	20 - 25	25 - 30	30 - 35
Projection	4,339,367	4,506,569	4,669,801	4,838,370	5,001,748	5,147,274	Change 3.9%	Change 3.6%	Change 3.6%	Change 3.4%	Change 2.9%
Hancock Co	8,565	8,828	8,940	9,020	9,054	9,031	Pct 3.1%	Pct 1.3%	Pct 0.9%	Pct 0.4%	Pct -0.3%

Sources: US Bureau of the Census; Kentucky State Data Center

**ANNUAL POPULATION GROWTH RATES FROM HISTORICAL DATA AND PROJECTIONS**

	60 - 70	70 - 80	80 - 90	90 - 00	05 - 10	10 - 15	15 - 20	20 - 25	25 - 30	10 - 30
GR	0.59%	1.29%	0.07%	0.92%	0.76%	0.71%	0.67%	0.67%	0.58%	0.69%
Hancock Co	-	0.90%	0.16%	0.65%	0.61%	0.25%	0.18%	0.08%	-0.05%	0.26%

Bicycle and Pedestrian Review for Project #02-8708.00

**Project Overview:**

This forecast is for a scoping study of Ky-69 in Hancock County from MP 0.0-12.08

**Local/regional Planning:**

- No known bicycle or pedestrian planning for Hancock County available from the local government
- Ohio County is in the process of developing a bicycle and pedestrian master plan and had identified KY-69 as desired corridor (through multiple counties which includes Hancock) for a shared-use facility

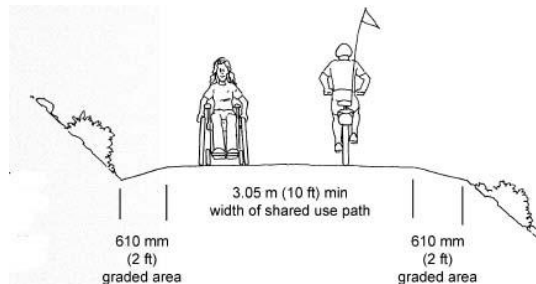
Contact for the Ohio County/ Hardford Bike/Ped master Plan: Treg Ward  
[treg.ward@gmail.com](mailto:treg.ward@gmail.com)

**Existing conditions:**

- KY-69 (MP0.00-12.08)
  - ADT range is 1300 (MP 0.00-4.6) – 2100 (MP 4.6-12.8)
  - Posted speed limit is 55 MPH
  - No shoulder space
  - Bicyclists Comfort Index (BCI) ❖ average rating is a D

**The KYTC Bicycle and Pedestrian program team recommendations are:**

**Best:** Construct a 10 foot wide (or wider) multiuse facility on the western side of the roadway (this would provide a BCI ❖ rating A+). The City of Hardford (in Ohio County) has indentified areas for proposed public rights of way (new bypass roadway construction) that may provide space for a greenway/multiuse path (Figure 1). This would be the foundation for a non-motorized transportation network that would connect several parks, residential development, commercial centers, county hospital, and much more. These connections to logical terminus (via spurs or side paths) have been identified along general green spaces, small urban areas, and secondary roadways in this area.



**Good:**

If a rural cross section design is used: Construct buffered 4 foot (or wider) bike lanes (2 foot buffer minimum) / (Figure 2) within an 8 foot (or wider) shoulder in both directions. Provide a spacing gap in the rumble strip (Figure 2) to better accommodate bicyclists, this would provide an anticipated BCI ❖ rating A (for bicyclists).

- A 2-3 foot painted stripe (buffer space) between the roadway and the bike lane ([http://www.fhwa.dot.gov/environment/bicycle\\_pedestrian/guidance/design\\_guidance/mutcd/](http://www.fhwa.dot.gov/environment/bicycle_pedestrian/guidance/design_guidance/mutcd/)).
- Rumble strip/stripe gap spacing of 10-14 feet within the rumble strips/stripes every 40-60 feet ([http://safety.fhwa.dot.gov/roadway\\_dept/pavement/rumble\\_strips/t504039/](http://safety.fhwa.dot.gov/roadway_dept/pavement/rumble_strips/t504039/)).

**Fair:**

If a rural cross section design is used: Construct an 8 foot (or wider) shoulder in both directions. Provide a spacing gap in the rumble strip (Figure 2) to better accommodate bicyclists, this would provide an anticipated BCI ❖ rating C (for bicyclists).

❖ BCI: <http://transportation.ky.gov/Bike-Walk/Documents/Bicyclists%20Comfort%20Index.pdf>

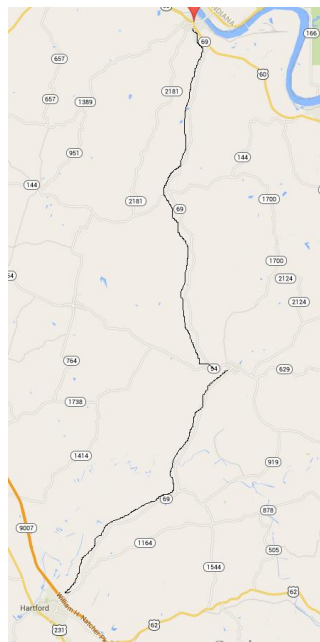


Figure 1(proposed multi use path corridor)

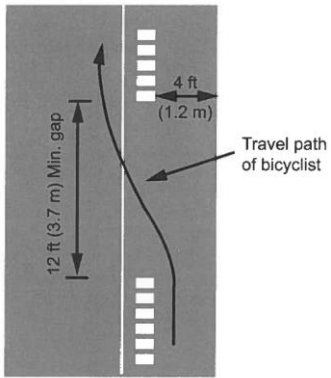


Figure 4-8. Rumble Strips

Figure 2 / [http://safety.fhwa.dot.gov/roadway\\_dept/pavement/rumble\\_strips/t504039/](http://safety.fhwa.dot.gov/roadway_dept/pavement/rumble_strips/t504039/)

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Kentucky Transportation Cabinet  
March 25, 2015