

APPENDIX C – KYTC TRAFFIC REPORT

Executive Summary

**Traffic Forecast Report and
Bike/Ped Accommodation Assessment
for Franklin/Anderson County
KY-151 Corridor Scoping Study
I-64 to US-127
Item Number: 05-0806.00**

Prepared for:



Prepared by:
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Division of Planning
Kentucky Transportation Cabinet
March 7, 2018

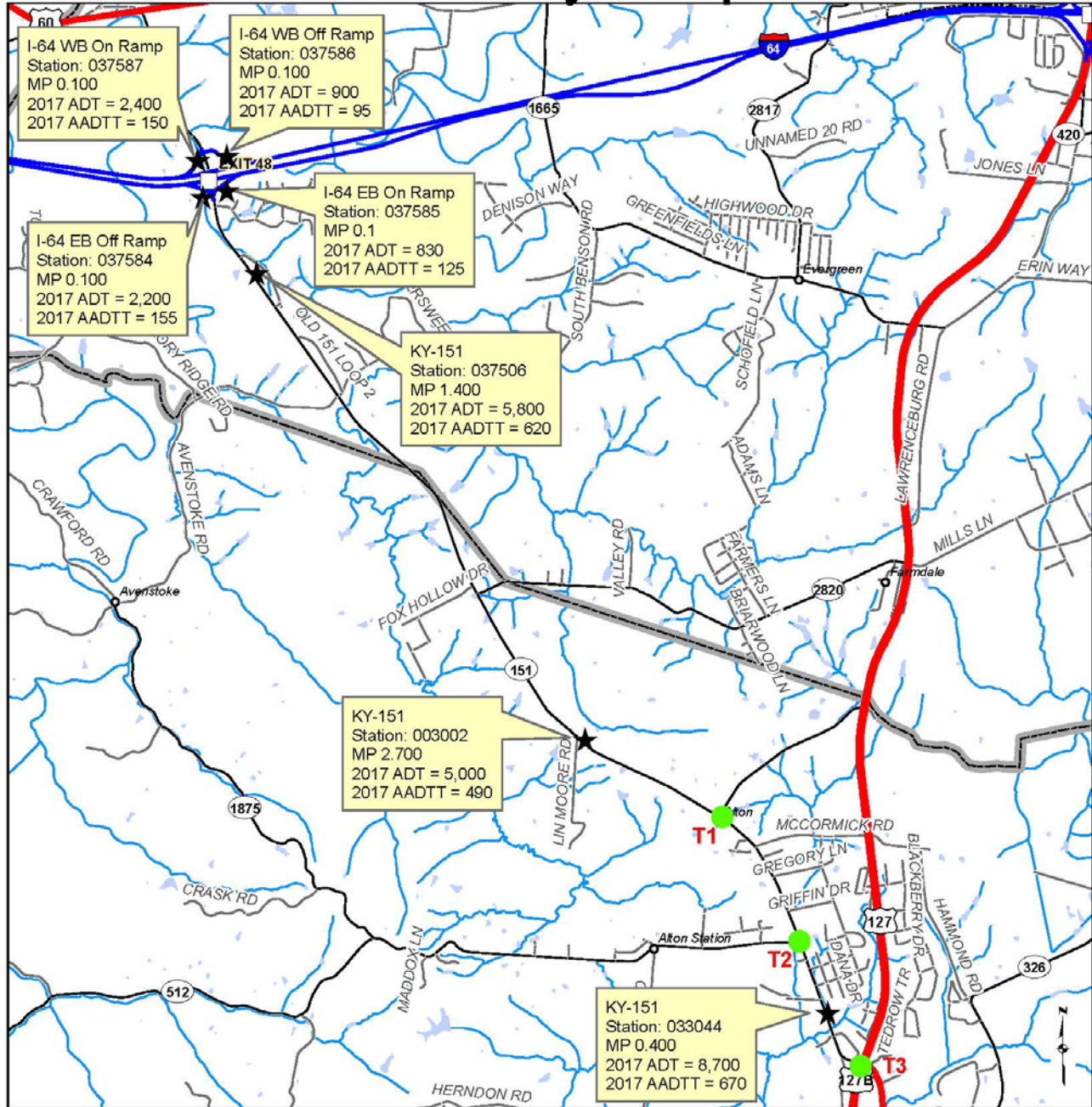
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Commonly Used Abbreviations and their Descriptions

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

Vicinity Map



Franklin/Anderson County
 Corridor Study - KY-151
 I-64 to US-127



Legend

- ★ Traffic Count Stations
- Turning Movements

0 0.5 1 Miles

Traffic Forecast Executive Summary

Franklin/Anderson County: KY-151 Corridor Scoping Study

FORECAST SUMMARY

This is a corridor scoping study to identify and evaluate improvements to the KY-151 corridor between I-64 in Franklin County and US-127 in Anderson County. The purpose of this report is to analyze current and future traffic utilizing KY-151 between I-64 and US-127.

FORECAST TYPE

The following types of forecasts were developed:

- 2020 and 2040 Average Daily and Design Hourly Volume Forecasts
- 2020 and 2040 AADTT Forecasts
- Turning Movements
- Bicycle and Pedestrian Accommodation Assessment

DESIGN-YEAR/GROWTH FACTORS

The Kentucky State Data Center forecasts that Franklin County's population will increase 0.03% annually over the next 20 years. The Kentucky State Data Center forecasts that Anderson County's population will increase 0.57% annually over the next 20 years. Exponential growth analyses performed on historical data at traffic stations 037506(MP 1.400), 003002(MP 2.700), 003044(MP 0.400) on KY-151 suggests traffic volumes have been increasing. Therefore, an annual growth rate of 1.00% was used for the purpose of this forecast.

TRUCK VOLUME

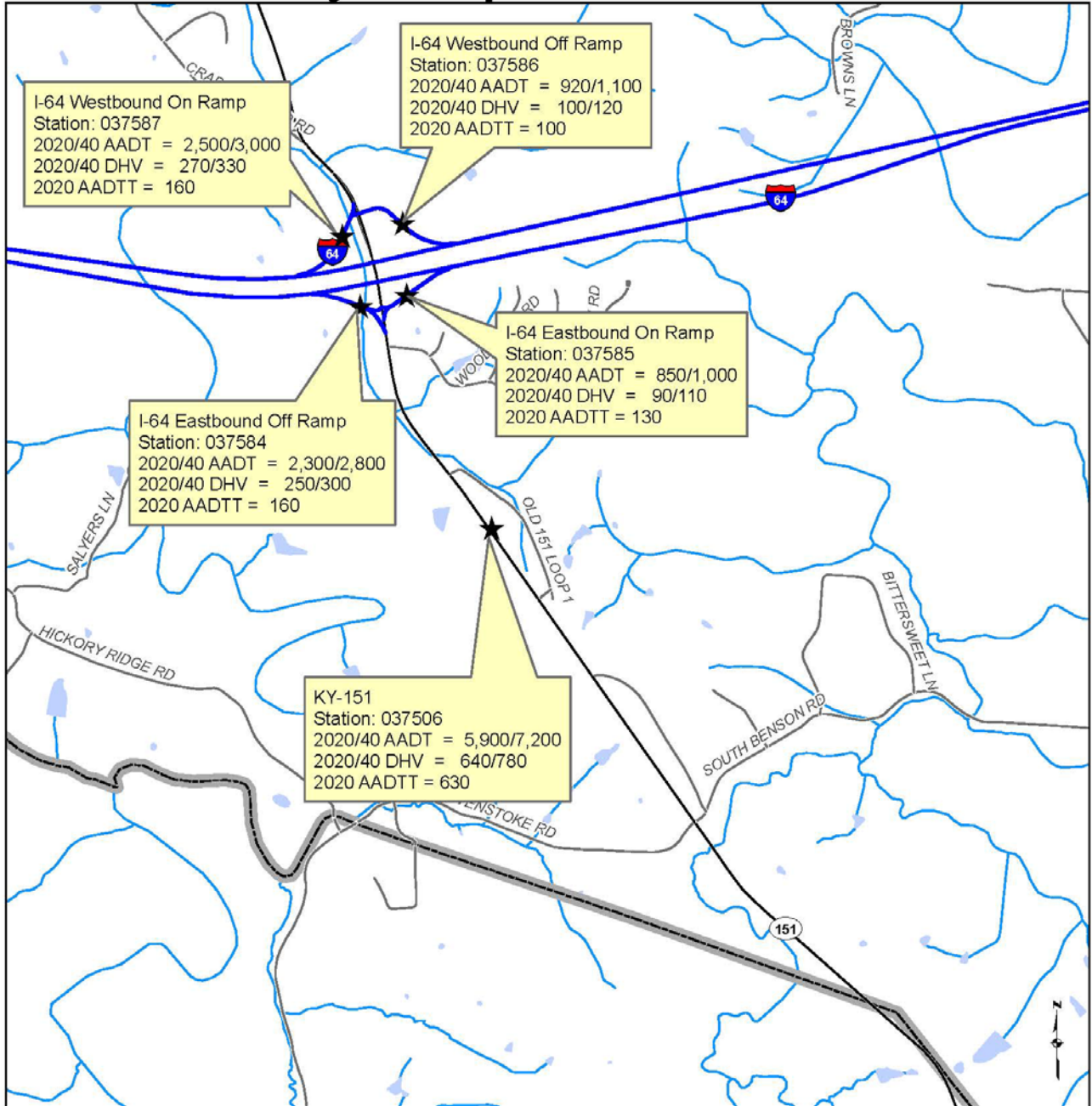
The truck volumes were calculated using several 2017 classification special counts on the I-64 EB/WB Ramps and KY-151. A truck volume growth rate of 1.00% was used to estimate future truck volumes due to the freight movement in the area along KY-151.

Since March 2016, KYTC and FHWA placed an emergency ban on Surface Transportation Assistance Act of 1982 (STAA) vehicles on route KY-151.

TURNING MOVEMENTS

Three turning movements were requested at the intersections of KY-151 at KY-512 (Old Frankfort Rd), KY-151 at KY-512 (Alton Station Rd), and KY-151 at US-127. Stantec provided the count information. It should be noted that significant traffic between each turning movement is present.

Summary Map 1 - Franklin Co.



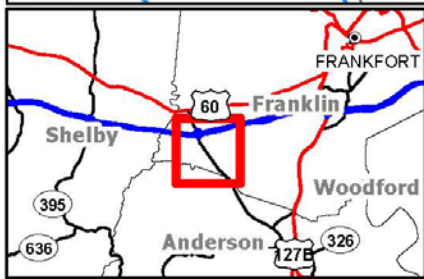
I-64 Westbound On Ramp
 Station: 037587
 2020/40 AADT = 2,500/3,000
 2020/40 DHV = 270/330
 2020 AADTT = 160

I-64 Westbound Off Ramp
 Station: 037586
 2020/40 AADT = 920/1,100
 2020/40 DHV = 100/120
 2020 AADTT = 100

I-64 Eastbound Off Ramp
 Station: 037584
 2020/40 AADT = 2,300/2,800
 2020/40 DHV = 250/300
 2020 AADTT = 160

I-64 Eastbound On Ramp
 Station: 037585
 2020/40 AADT = 850/1,000
 2020/40 DHV = 90/110
 2020 AADTT = 130

KY-151
 Station: 037506
 2020/40 AADT = 5,900/7,200
 2020/40 DHV = 640/780
 2020 AADTT = 630



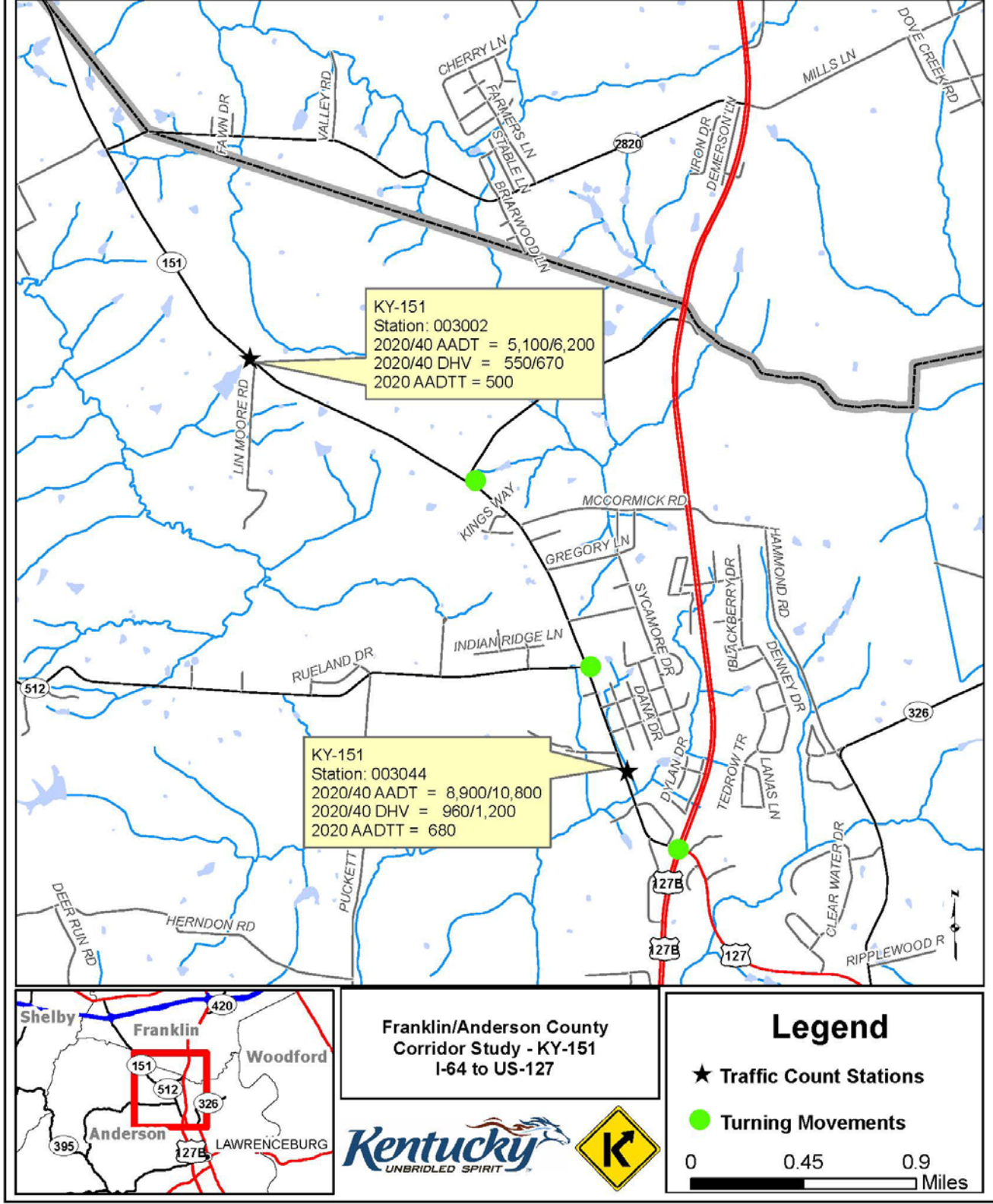
Franklin/Anderson County
 Corridor Study - KY-151
 I-64 to US-127



Legend

★ Traffic Count Stations

Summary Map 2 - Anderson Co.



Pavement Design Factors for KY-151 Corridor Scoping Study

Project information:

Date of Forecast	02/28/2018
Name of Forecaster	Justin Harrod
Item Number	05-0806.00
County name	Franklin
County Number	37
District	5
Emars Number	9351501P
Function	FD04
Fund	1100
Project Type	RECONSTRUCTION
Current Year	2018
Letting Year	2019
Construction Year	2020

Project Description: Reconstruct Ky 151 From Us 127 At Lawrenceburg To I-64 In Franklin County.

Route information:

Route ID	037-I -0064 -111
Road Name	Interstate 64 Eastbound Off Ramp
BMP	0.1
EMP	0.1
Functional Class	6 - Rural Minor Arterial
Total Lanes (both ways)	1
1 or 2 way	One way
Pavement Type	Asphalt
Are Trucks Prohibited in a lane?	NO

Volume Information:

Volume ADT station	037584
Current year Volume	2221

Truck Count and Truck Volume Information:

Truck Count Station	037584
Truck Count Volume	157
Truck Count year	0
Truck Volume in Design Direction	160
Truck Volume in Design Lane of Design Direction	160
AADTT	160

Truck % of ADT	7.1%
FC Average Truck %	13.2%
% of Trucks in Design Direction	100.0%
% of Trucks in Design Lane of Design Direction	100.0%
Truck Volume Growth Rate	1.0%

Distribution Factors for Functional Class:

Daily Volume Distribution Factors by vehicle Class			
Vehicle Class	Truck Volume	Truck Percent	
Bus	4	1	0.65%
2 axle, 6 tire single unit	5	76	47.40%
3 axles single unit	6	14	8.44%
4 or more axles, single unit	7	3	1.95%
3-4 axles, single trailer	8	0	0.00%
5 axles single trailer	9	64	40.26%
6 or more axles, single trailer	10	1	0.65%
5 or less axles, multi-trailer	11	1	0.65%
6 axles, multi trailer	12	0	0.00%
7 or more axles, multi-trailer	13	0	0.00%
All Truck Vehicle Classes		160	100.00%

6 - Rural Minor Arterial

Hourly Volume Distribution Factors			
Hour	Time	Volume	Percent
0	12 AM to 1 AM	1	0.65%
1	1 AM to 2 AM	0	0.00%
2	2 AM to 3 AM	1	0.65%
3	3 AM to 4 AM	1	0.65%
4	4 AM to 5 AM	3	1.95%
5	5 AM to 6 AM	1	0.65%
6	6 AM to 7 AM	1	0.65%
7	7 AM to 8 AM	12	7.79%
8	8 AM to 9 AM	12	7.79%
9	9 AM to 10 AM	21	12.99%
10	10 AM to 11 AM	1	0.65%
11	11 AM to 12 PM	14	8.44%
12	12 PM to 1 PM	15	9.09%
13	1 PM to 2 PM	11	7.14%
14	2 PM to 3 PM	10	6.49%
15	3 PM to 4 PM	7	4.55%
16	4 PM to 5 PM	10	6.49%
17	5 PM to 6 PM	9	5.84%
18	6 PM to 7 PM	17	10.39%
19	7 PM to 8 PM	4	2.60%
20	8 PM to 9 PM	1	0.65%
21	9 PM to 10 PM	2	1.30%
22	10 PM to 11 PM	2	1.30%
23	11 PM to 12 AM	2	1.30%
	ALL Hours	160	100.00%

Coal Haul Information:

Total Annual Tonnage:	N/A
Daily Coal Trucks:	0
Coal Trucks as a Percent of all Trucks:	N/A



Traffic Forecast Executive Summary
 Perry County: KY-151 Corridor Scoping Study
 Item Number: 05-0806.00

Pavement Design Factors for KY-151 Corridor Scoping Study

Project information:

Date of Forecast	02/28/2018
Name of Forecaster	Justin Harrod
Item Number	05-0806.00
County name	Franklin
County Number	37
District	5
Emars Number	9351501P
Function	FD04
Fund	1100
Project Type	RECONSTRUCTION
Current Year	2018
Letting Year	2019
Construction Year	2020

Project Description: Reconstruct Ky 151 From Us 127 At Lawrenceburg To I-64 In Franklin County.

Route information:

Route ID	037-I -0064 -121
Road Name	Interstate 64 Eastbound On Ramp
BMP	0.1
EMP	0.1
Functional Class	6 - Rural Minor Arterial
Total Lanes (both ways)	1
1 or 2 way	One way
Pavement Type	Asphalt
Are Trucks Prohibited in a lane?	NO

Volume Information:

Volume ADT station	037585
Current year Volume	830

Truck Count and Truck Volume Information:

Truck Count Station	037585
Truck Count Volume	127
Truck Count year	0
Truck Volume in Design Direction	130
Truck Volume in Design Lane of Design Direction	130
AADTT	130

Truck % of ADT	15.3%
FC Average Truck %	13.2%
% of Trucks in Design Direction	100.0%
% of Trucks in Design Lane of Design Direction	100.0%
Truck Volume Growth Rate	1.0%

Distribution Factors for Functional Class:

Daily Volume Distribution Factors by vehicle Class			
Vehicle Class	Truck Volume	Truck Percent	
Bus	4	0	0.00%
2 axle, 6 tire single unit	5	28	21.26%
3 axles single unit	6	37	28.35%
4 or more axles, single unit	7	27	20.47%
3-4 axles, single trailer	8	2	1.57%
5 axles single trailer	9	34	25.98%
6 or more axles, single trailer	10	2	1.57%
5 or less axles, multi-trailer	11	1	0.79%
6 axles, multi trailer	12	0	0.00%
7 or more axles, multi-trailer	13	0	0.00%
All Truck Vehicle Classes		130	100.00%

6 - Rural Minor Arterial

Hourly Volume Distribution Factors			
Hour	Time	Volume	Percent
0	12 AM to 1 AM	0	0.00%
1	1 AM to 2 AM	1	0.79%
2	2 AM to 3 AM	0	0.00%
3	3 AM to 4 AM	0	0.00%
4	4 AM to 5 AM	3	2.36%
5	5 AM to 6 AM	1	0.79%
6	6 AM to 7 AM	3	2.36%
7	7 AM to 8 AM	4	3.15%
8	8 AM to 9 AM	17	13.39%
9	9 AM to 10 AM	10	7.87%
10	10 AM to 11 AM	13	10.24%
11	11 AM to 12 PM	7	5.51%
12	12 PM to 1 PM	14	11.02%
13	1 PM to 2 PM	14	11.02%
14	2 PM to 3 PM	16	12.60%
15	3 PM to 4 PM	11	8.66%
16	4 PM to 5 PM	7	5.51%
17	5 PM to 6 PM	1	0.79%
18	6 PM to 7 PM	3	2.36%
19	7 PM to 8 PM	1	0.79%
20	8 PM to 9 PM	0	0.00%
21	9 PM to 10 PM	0	0.00%
22	10 PM to 11 PM	0	0.00%
23	11 PM to 12 AM	1	0.79%
	ALL Hours	130	100.00%

Coal Haul Information:

Total Annual Tonnage:	N/A
Daily Coal Trucks:	0
Coal Trucks as a Percent of all Trucks:	N/A



Pavement Design Factors for KY-151 Corridor Scoping Study

Project information:

Date of Forecast	02/28/2018
Name of Forecaster	Justin Harrod
Item Number	05-0806.00
County name	Franklin
County Number	37
District	5
Emars Number	9351501P
Function	FD04
Fund	1100
Project Type	RECONSTRUCTION
Current Year	2018
Letting Year	2019
Construction Year	2020

Project Description: Reconstruct Ky 151 From Us 127 At Lawrenceburg To I-64 In Franklin County.

Route information:

Route ID	037-I-0064 -131
Road Name	Interstate 64 Westbound Off Ramp
BMP	0.1
EMP	0.1
Functional Class	6 - Rural Minor Arterial
Total Lanes (both ways)	1
1 or 2 way	One way
Pavement Type	Asphalt
Are Trucks Prohibited in a lane?	NO

Volume Information:

Volume ADT station	037586
Current year Volume	903

Truck Count and Truck Volume Information:

Truck Count Station	037586
Truck Count Volume	98
Truck Count year	0
Truck Volume in Design Direction	100
Truck Volume in Design Lane of Design Direction	100
AADTT	100

Truck % of ADT	10.9%
FC Average Truck %	13.2%
% of Trucks in Design Direction	100.0%
% of Trucks in Design Lane of Design Direction	100.0%
Truck Volume Growth Rate	1.0%

Distribution Factors for Functional Class:

Daily Volume Distribution Factors by vehicle Class				
	Vehicle Class	Truck Volume	Truck Percent	
	Bus 4	0	0.00%	
	2 axle, 6 tire single unit 5	27	27.08%	
	3 axles single unit 6	46	45.83%	
	4 or more axles, single unit 7	14	13.54%	
	3-4 axles, single trailer 8	3	3.13%	
	5 axles single trailer 9	9	9.38%	
	6 or more axles, single trailer 10	1	1.04%	
	5 or less axles, multi-trailer 11	0	0.00%	
	6 axles, multi trailer 12	0	0.00%	
	7 or more axles, multi-trailer 13	0	0.00%	
	All Truck Vehicle Classes	100	100.00%	

6 - Rural Minor Arterial

Hourly Volume Distribution Factors			
	Hour	Volume	Percent
0	12 AM to 1 AM	1	1.04%
1	1 AM to 2 AM	1	1.04%
2	2 AM to 3 AM	0	0.00%
3	3 AM to 4 AM	0	0.00%
4	4 AM to 5 AM	2	2.08%
5	5 AM to 6 AM	2	2.08%
6	6 AM to 7 AM	3	3.13%
7	7 AM to 8 AM	14	13.54%
8	8 AM to 9 AM	6	6.25%
9	9 AM to 10 AM	7	7.29%
10	10 AM to 11 AM	14	13.54%
11	11 AM to 12 PM	12	12.50%
12	12 PM to 1 PM	9	9.38%
13	1 PM to 2 PM	9	9.38%
14	2 PM to 3 PM	12	12.50%
15	3 PM to 4 PM	2	2.08%
16	4 PM to 5 PM	0	0.00%
17	5 PM to 6 PM	1	1.04%
18	6 PM to 7 PM	0	0.00%
19	7 PM to 8 PM	1	1.04%
20	8 PM to 9 PM	2	2.08%
21	9 PM to 10 PM	0	0.00%
22	10 PM to 11 PM	0	0.00%
23	11 PM to 12 AM	0	0.00%
	ALL Hours	100	100.00%

Coal Haul Information:

Total Annual Tonnage:	N/A
Daily Coal Trucks:	0
Coal Trucks as a Percent of all Trucks:	N/A



Pavement Design Factors for KY-151 Corridor Scoping Study

Project information:

Date of Forecast	02/28/2018
Name of Forecaster	Justin Harrod
Item Number	05-0806.00
County name	Franklin
County Number	37
District	5
Emars Number	9351501P
Function	FD04
Fund	1100
Project Type	RECONSTRUCTION
Current Year	2018
Letting Year	2019
Construction Year	2020

Project Description: Reconstruct Ky 151 From Us 127 At Lawrenceburg To I-64 In Franklin County.

Route information:

Route ID	037-I -0064 -141
Road Name	Interstate 64 Westbound On Ramp
BMP	0.1
EMP	0.1
Functional Class	6 - Rural Minor Arterial
Total Lanes (both ways)	1
1 or 2 way	One way
Pavement Type	Asphalt
Are Trucks Prohibited in a lane?	NO

Volume Information:

Volume ADT station	037587
Current year Volume	2439

Truck Count and Truck Volume Information:

Truck Count Station	037587
Truck Count Volume	157
Truck Count year	0
Truck Volume in Design Direction	160
Truck Volume in Design Lane of Design Direction	160
AADTT	160

Truck % of ADT	6.4%
FC Average Truck %	13.2%
% of Trucks in Design Direction	100.0%
% of Trucks in Design Lane of Design Direction	100.0%
Truck Volume Growth Rate	1.0%

Distribution Factors for Functional Class:

Daily Volume Distribution Factors by vehicle Class			
	Vehicle Class	Truck Volume	Truck Percent
	Bus 4	2	1.31%
	2 axle, 6 tire single unit 5	63	39.22%
	3 axles single unit 6	24	15.03%
	4 or more axles, single unit 7	7	4.58%
	3-4 axles, single trailer 8	6	3.92%
	5 axles single trailer 9	54	33.99%
	6 or more axles, single trailer 10	3	1.96%
	5 or less axles, multi-trailer 11	0	0.00%
	6 axles, multi trailer 12	0	0.00%
	7 or more axles, multi-trailer 13	0	0.00%
	All Truck Vehicle Classes	160	100.00%

6 - Rural Minor Arterial

Hourly Volume Distribution Factors		
Hour	Volume	Percent
0 12 AM to 1 AM	1	0.65%
1 1 AM to 2 AM	3	1.96%
2 2 AM to 3 AM	2	1.31%
3 3 AM to 4 AM	2	1.31%
4 4 AM to 5 AM	3	1.96%
5 5 AM to 6 AM	3	1.96%
6 6 AM to 7 AM	16	9.80%
7 7 AM to 8 AM	14	8.50%
8 8 AM to 9 AM	9	5.88%
9 9 AM to 10 AM	8	5.23%
10 10 AM to 11 AM	15	9.15%
11 11 AM to 12 PM	8	5.23%
12 12 PM to 1 PM	17	10.46%
13 1 PM to 2 PM	16	9.80%
14 2 PM to 3 PM	17	10.46%
15 3 PM to 4 PM	12	7.19%
16 4 PM to 5 PM	4	2.61%
17 5 PM to 6 PM	5	3.27%
18 6 PM to 7 PM	1	0.65%
19 7 PM to 8 PM	0	0.00%
20 8 PM to 9 PM	1	0.65%
21 9 PM to 10 PM	2	1.31%
22 10 PM to 11 PM	1	0.65%
23 11 PM to 12 AM	0	0.00%
ALL Hours	160	100.00%

Coal Haul Information:

Total Annual Tonnage:	N/A
Daily Coal Trucks:	0
Coal Trucks as a Percent of all Trucks:	N/A



Pavement Design Factors for KY-151 Corridor Scoping Study

Project information:

Date of Forecast	02/28/2018
Name of Forecaster	Justin Harrod
Item Number	05-0806.00
County name	Franklin
County Number	37
District	5
Emars Number	9351501P
Function	FD04
Fund	1100
Project Type	RECONSTRUCTION
Current Year	2018
Letting Year	2019
Construction Year	2020

Project Description: Reconstruct Ky 151 From Us 127 At Lawrenceburg To I-64 In Franklin County.

Route information:

Route ID	037-KY-0151 -000
Road Name	KY Highway 151
BMP	0.000
EMP	2.300
Functional Class	6 - Rural Minor Arterial
Total Lanes (both ways)	3
1 or 2 way	Two way
Pavement Type	Asphalt
Are Trucks Prohibited in a lane?	NO

Volume Information:

Volume ADT station	037506
Current year Volume	5800

Truck Count and Truck Volume Information:

Truck Count Station	037506
Truck Count Volume	618
Truck Count year	2014
Truck Volume in Design Direction	380
Truck Volume in Design Lane of Design Direction	342
AADTT	630

Truck % of ADT	10.7%
FC Average Truck %	13.2%
% of Trucks in Design Direction	60.3%
% of Trucks in Design Lane of Design Direction	90.0%
Truck Volume Growth Rate	1.0%

Distribution Factors for Functional Class:

Daily Volume Distribution Factors by vehicle Class			
	Vehicle Class	Truck Volume	Truck Percent
	Bus 4	20	3.10%
	2 axle, 6 tire single unit 5	187	29.69%
	3 axles single unit 6	156	24.80%
	4 or more axles, single unit 7	102	16.15%
	3-4 axles, single trailer 8	9	1.47%
	5 axles single trailer 9	152	24.14%
	6 or more axles, single trailer 10	4	0.65%
	5 or less axles, multi-trailer 11	0	0.00%
	6 axles, multi trailer 12	0	0.00%
	7 or more axles, multi-trailer 13	0	0.00%
	All Truck Vehicle Classes	630	100.00%

6 - Rural Minor Arterial

Hourly Volume Distribution Factors			
	Hour	Volume	Percent
0	12 AM to 1 AM	2	0.33%
1	1 AM to 2 AM	2	0.33%
2	2 AM to 3 AM	4	0.65%
3	3 AM to 4 AM	6	0.98%
4	4 AM to 5 AM	13	2.12%
5	5 AM to 6 AM	11	1.79%
6	6 AM to 7 AM	32	5.06%
7	7 AM to 8 AM	53	8.48%
8	8 AM to 9 AM	55	8.65%
9	9 AM to 10 AM	58	9.14%
10	10 AM to 11 AM	46	7.34%
11	11 AM to 12 PM	43	6.85%
12	12 PM to 1 PM	52	8.32%
13	1 PM to 2 PM	62	9.79%
14	2 PM to 3 PM	58	9.14%
15	3 PM to 4 PM	52	8.32%
16	4 PM to 5 PM	31	4.89%
17	5 PM to 6 PM	21	3.26%
18	6 PM to 7 PM	9	1.47%
19	7 PM to 8 PM	3	0.49%
20	8 PM to 9 PM	2	0.33%
21	9 PM to 10 PM	9	1.47%
22	10 PM to 11 PM	3	0.49%
23	11 PM to 12 AM	2	0.33%
	ALL Hours	630	100.00%

Coal Haul Information:

Total Annual Tonnage:	N/A
Daily Coal Trucks:	0
Coal Trucks as a Percent of all Trucks:	N/A



Pavement Design Factors for KY-151 Corridor Scoping Study

Project information:

Date of Forecast	02/28/2018
Name of Forecaster	Justin Harrod
Item Number	05-0806.00
County name	Anderson
County Number	3
District	7
Emars Number	9351501P
Function	FD04
Fund	1100
Project Type	RECONSTRUCTION
Current Year	2018
Letting Year	2019
Construction Year	2020

Project Description: Reconstruct Ky 151 From Us 127 At Lawrenceburg To I-64 In Franklin County.

Route information:

Route ID	003-KY-0151 -000
Road Name	KY Highway 151
BMP	1.761
EMP	4.587
Functional Class	6 - Rural Minor Arterial
Total Lanes (both ways)	2
1 or 2 way	Two way
Pavement Type	Asphalt
Are Trucks Prohibited in a lane?	NO

Volume Information:

Volume ADT station	003002
Current year Volume	4970

Truck Count and Truck Volume Information:

Truck Count Station	003002
Truck Count Volume	490
Truck Count year	2013
Truck Volume in Design Direction	301
Truck Volume in Design Lane of Design Direction	301

AADTT 500

Truck % of ADT	9.9%
FC Average Truck %	13.2%
% of Trucks in Design Direction	60.3%
% of Trucks in Design Lane of Design Direction	100.0%

Truck Volume Growth Rate 1.0%

Distribution Factors for Functional Class:

Daily Volume Distribution Factors by vehicle Class			
Vehicle Class	Truck Volume	Truck Percent	
Bus	4	10	2.04%
2 axle, 6 tire single unit	5	205	41.02%
3 axles single unit	6	105	21.02%
4 or more axles, single unit	7	34	6.73%
3-4 axles, single trailer	8	2	0.41%
5 axles single trailer	9	138	27.55%
6 or more axles, single trailer	10	5	1.02%
5 or less axles, multi-trailer	11	1	0.20%
6 axles, multi trailer	12	0	0.00%
7 or more axles, multi-trailer	13	0	0.00%
All Truck Vehicle Classes		500	100.00%

6 - Rural Minor Arterial

Hourly Volume Distribution Factors		
Hour	Volume	Percent
0 12 AM to 1 AM	2	0.41%
1 1 AM to 2 AM	0	0.00%
2 2 AM to 3 AM	3	0.61%
3 3 AM to 4 AM	2	0.41%
4 4 AM to 5 AM	5	1.02%
5 5 AM to 6 AM	11	2.24%
6 6 AM to 7 AM	26	5.10%
7 7 AM to 8 AM	47	9.39%
8 8 AM to 9 AM	39	7.76%
9 9 AM to 10 AM	62	12.45%
10 10 AM to 11 AM	35	6.94%
11 11 AM to 12 PM	32	6.33%
12 12 PM to 1 PM	38	7.55%
13 1 PM to 2 PM	36	7.14%
14 2 PM to 3 PM	48	9.59%
15 3 PM to 4 PM	36	7.14%
16 4 PM to 5 PM	23	4.69%
17 5 PM to 6 PM	27	5.31%
18 6 PM to 7 PM	12	2.45%
19 7 PM to 8 PM	7	1.43%
20 8 PM to 9 PM	4	0.82%
21 9 PM to 10 PM	3	0.61%
22 10 PM to 11 PM	1	0.20%
23 11 PM to 12 AM	2	0.41%
ALL Hours	500	100.00%

Coal Haul Information:

Total Annual Tonnage:	N/A
Daily Coal Trucks:	0
Coal Trucks as a Percent of all Trucks:	N/A



Pavement Design Factors for KY-151 Corridor Scoping Study

Project information:

Date of Forecast	02/28/2018
Name of Forecaster	Justin Harrod
Item Number	05-0806.00
County name	Anderson
County Number	3
District	7
Emars Number	9351501P
Function	FD04
Fund	1100
Project Type	RECONSTRUCTION
Current Year	2018
Letting Year	2019
Construction Year	2020

Project Description: Reconstruct Ky 151 From Us 127 At Lawrenceburg To I-64 In Franklin County.

Route information:

Route ID	003-KY-0151 -000
Road Name	KY Highway 151
BMP	0.000
EMP	1.761
Functional Class	6 - Rural Minor Arterial
Total Lanes (both ways)	2
1 or 2 way	Two way
Pavement Type	Asphalt
Are Trucks Prohibited in a lane?	NO

Volume Information:

Volume ADT station	003044
Current year Volume	8680

Truck Count and Truck Volume Information:

Truck Count Station	003044
Truck Count Volume	667
Truck Count year	2014
Truck Volume in Design Direction	410
Truck Volume in Design Lane of Design Direction	410
AADTT	680

Truck % of ADT	7.7%
FC Average Truck %	13.2%
% of Trucks in Design Direction	60.3%
% of Trucks in Design Lane of Design Direction	100.0%
Truck Volume Growth Rate	1.0%

Distribution Factors for Functional Class:

Daily Volume Distribution Factors by vehicle Class			
Vehicle Class	Truck Volume	Truck Percent	
Bus	4	41	5.97%
2 axle, 6 tire single unit	5	223	32.84%
3 axles single unit	6	104	15.22%
4 or more axles, single unit	7	57	8.36%
3-4 axles, single trailer	8	10	1.49%
5 axles single trailer	9	236	34.63%
6 or more axles, single trailer	10	9	1.34%
5 or less axles, multi-trailer	11	0	0.00%
6 axles, multi trailer	12	1	0.15%
7 or more axles, multi-trailer	13	0	0.00%
All Truck Vehicle Classes		680	100.00%

6 - Rural Minor Arterial

Hourly Volume Distribution Factors		
Hour	Volume	Percent
0 12 AM to 1 AM	2	0.30%
1 1 AM to 2 AM	2	0.30%
2 2 AM to 3 AM	4	0.60%
3 3 AM to 4 AM	2	0.30%
4 4 AM to 5 AM	6	0.90%
5 5 AM to 6 AM	14	2.09%
6 6 AM to 7 AM	25	3.73%
7 7 AM to 8 AM	51	7.46%
8 8 AM to 9 AM	49	7.16%
9 9 AM to 10 AM	52	7.61%
10 10 AM to 11 AM	47	6.87%
11 11 AM to 12 PM	57	8.36%
12 12 PM to 1 PM	39	5.67%
13 1 PM to 2 PM	62	9.10%
14 2 PM to 3 PM	68	10.00%
15 3 PM to 4 PM	65	9.55%
16 4 PM to 5 PM	45	6.57%
17 5 PM to 6 PM	28	4.18%
18 6 PM to 7 PM	25	3.73%
19 7 PM to 8 PM	9	1.34%
20 8 PM to 9 PM	13	1.94%
21 9 PM to 10 PM	7	1.04%
22 10 PM to 11 PM	4	0.60%
23 11 PM to 12 AM	4	0.60%
ALL Hours	680	100.00%

Coal Haul Information:

Total Annual Tonnage:	N/A
Daily Coal Trucks:	0
Coal Trucks as a Percent of all Trucks:	N/A



TURNING MOVEMENT 1

KY-151 @ KY-512 (Old Frankfort Rd)

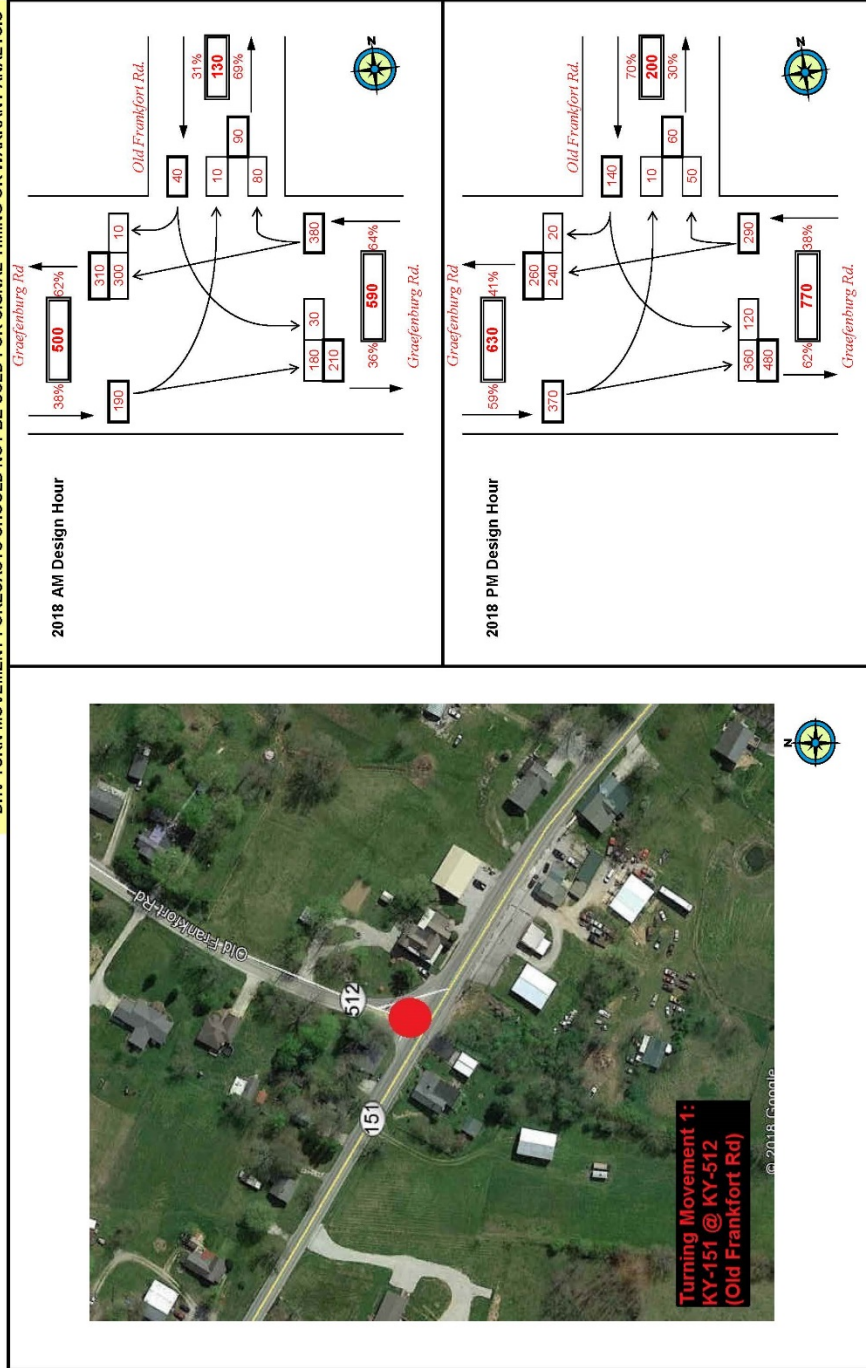
Traffic Forecast Executive Summary
 Perry County: KY-151 Corridor Scoping Study
 Item Number: 05-0806.00

PROJECT: KY-151 Corridor Scoping Study
 ITEM NUMBER: 05-0806.00
 MARS NUMBER: 9351501P
 REQUEST DATE: Wednesday, September 13, 2017
 ANALYST: Justin Harrod
 YEAR: 2018
 INTERSECTION: KY-151 @ Old Frankfort Rd

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2018 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

TURN MOVEMENT 1 (2018)

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



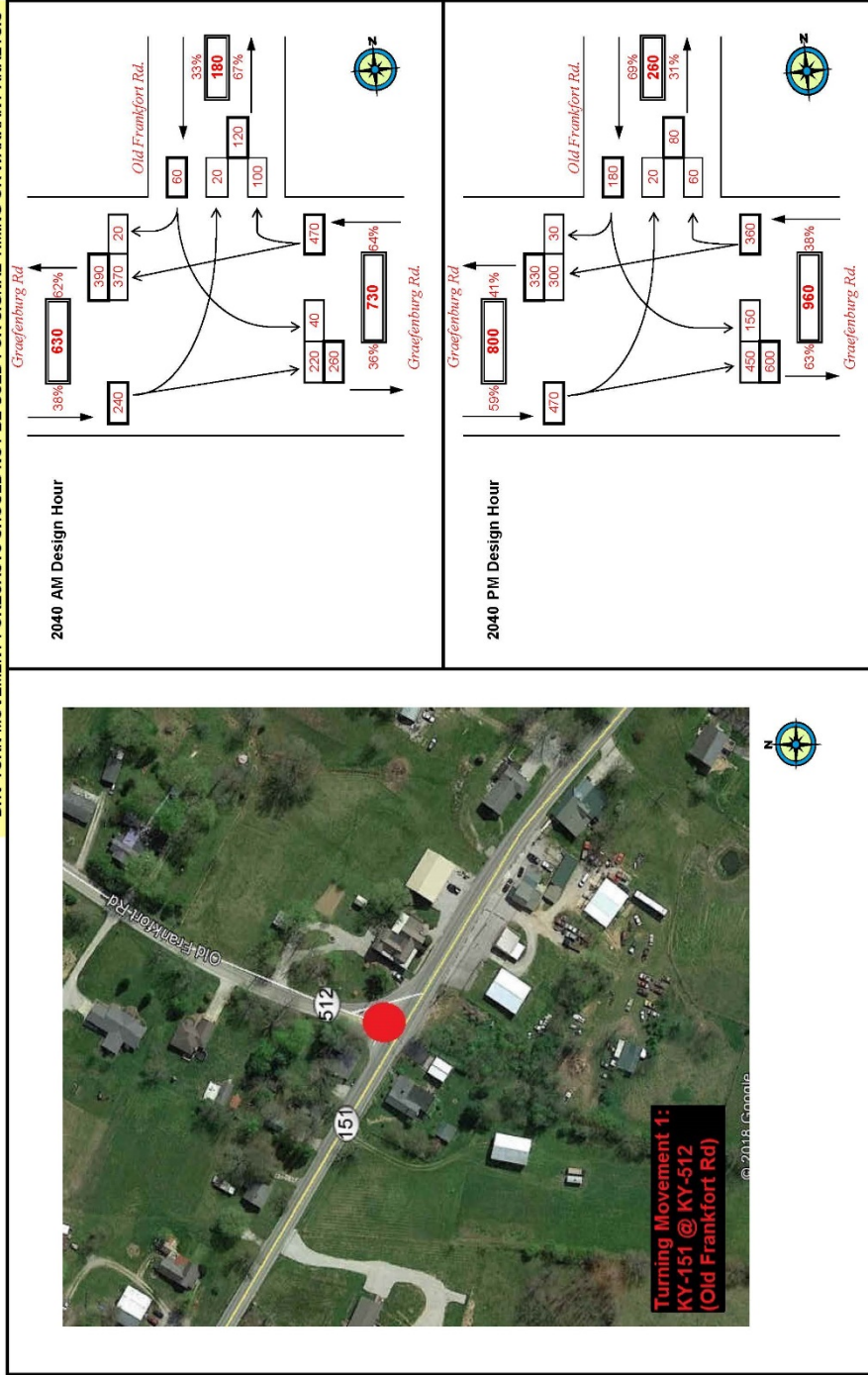
Traffic Forecast Executive Summary
 Perry County: KY-151 Corridor Scoping Study
 Item Number: 05-0806.00

PROJECT: KY-151 Corridor Scoping Study
 ITEM NUMBER: 05-0806.00
 MARS NUMBER: 9351501P
 REQUEST DATE: Wednesday, September 13, 2017
 ANALYST: Justin Harrod
 YEAR: 2040
 INTERSECTION: KY-151 @ Old Frankfort Rd

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2040 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

TURN MOVEMENT 1 (2040)

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



TURNING MOVEMENT 2

KY-151 @ KY-512 (Alton Station Rd)

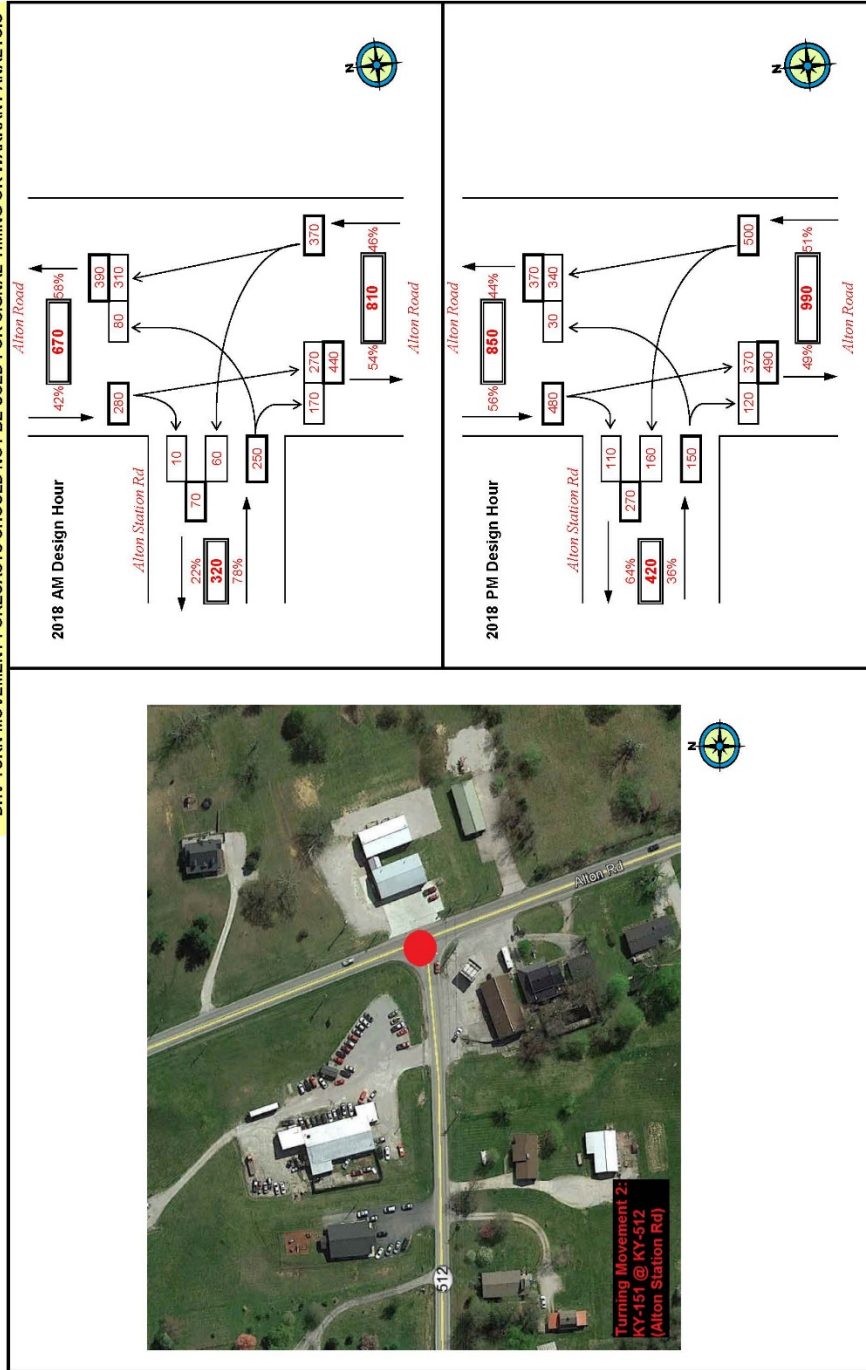
Traffic Forecast Executive Summary
 Perry County: KY-151 Corridor Scoping Study
 Item Number: 05-0806.00

PROJECT: KY-151 Corridor Scoping Study
 ITEM NUMBER: 05-0806.00
 MARS NUMBER: 9351501P
 REQUEST DATE: Wednesday, September 13, 2017
 ANALYST: Justin Harrod
 YEAR: 2018
 INTERSECTION: KY-151 @ Alton Station Rd

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2018 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

TURN MOVEMENT 2 (2018)

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



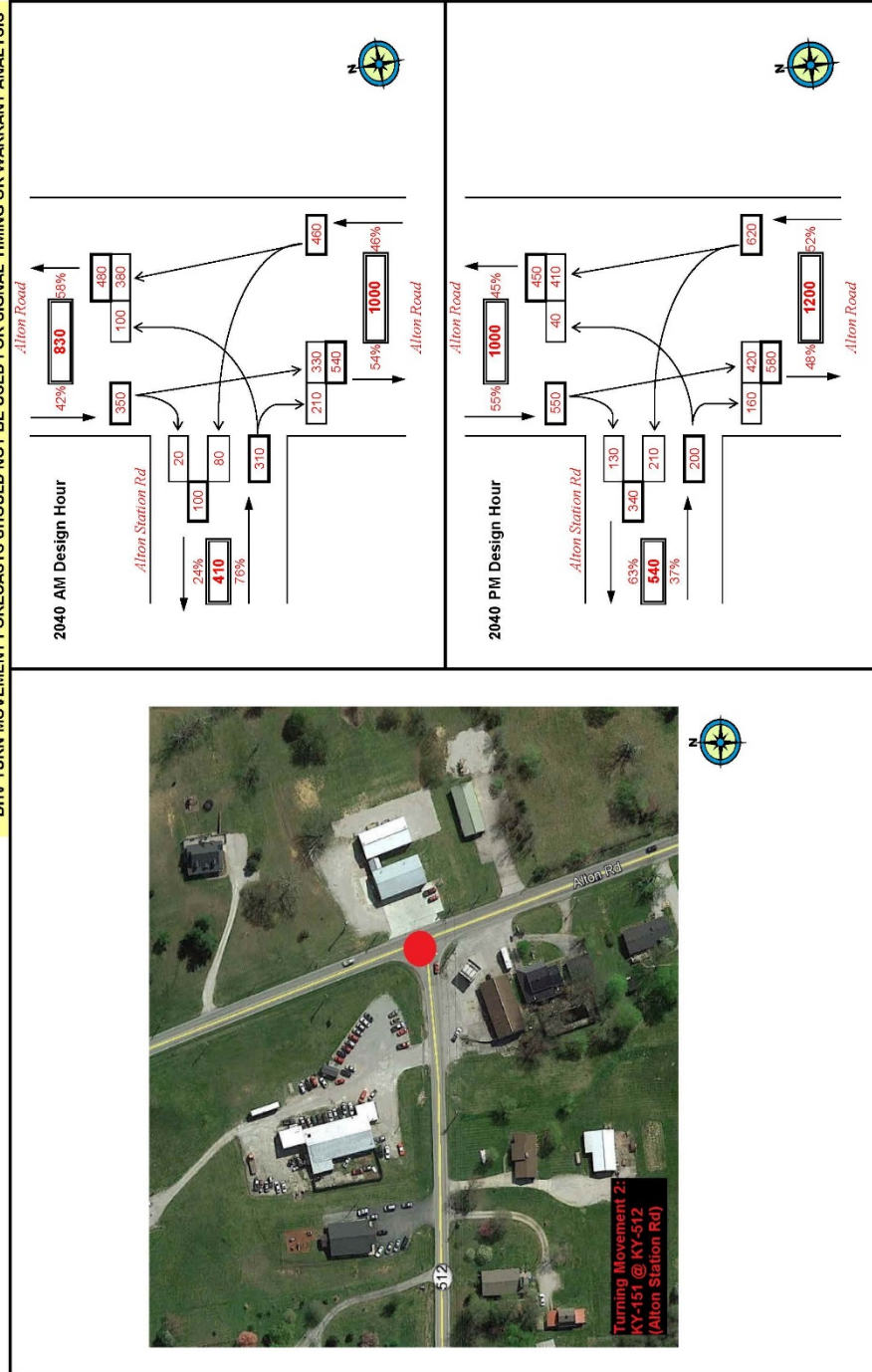
Traffic Forecast Executive Summary
 Perry County: KY-151 Corridor Scoping Study
 Item Number: 05-0806.00

PROJECT: KY-151 Corridor Scoping Study
 ITEM NUMBER: 05-0806.00
 MARS NUMBER: 9351501P
 REQUEST DATE: Wednesday, September 13, 2017
 ANALYST: Justin Harrod
 YEAR: 2040
 INTERSECTION: KY-151 @ Alton Station Rd

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2040 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

TURN MOVEMENT 2 (2040)

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



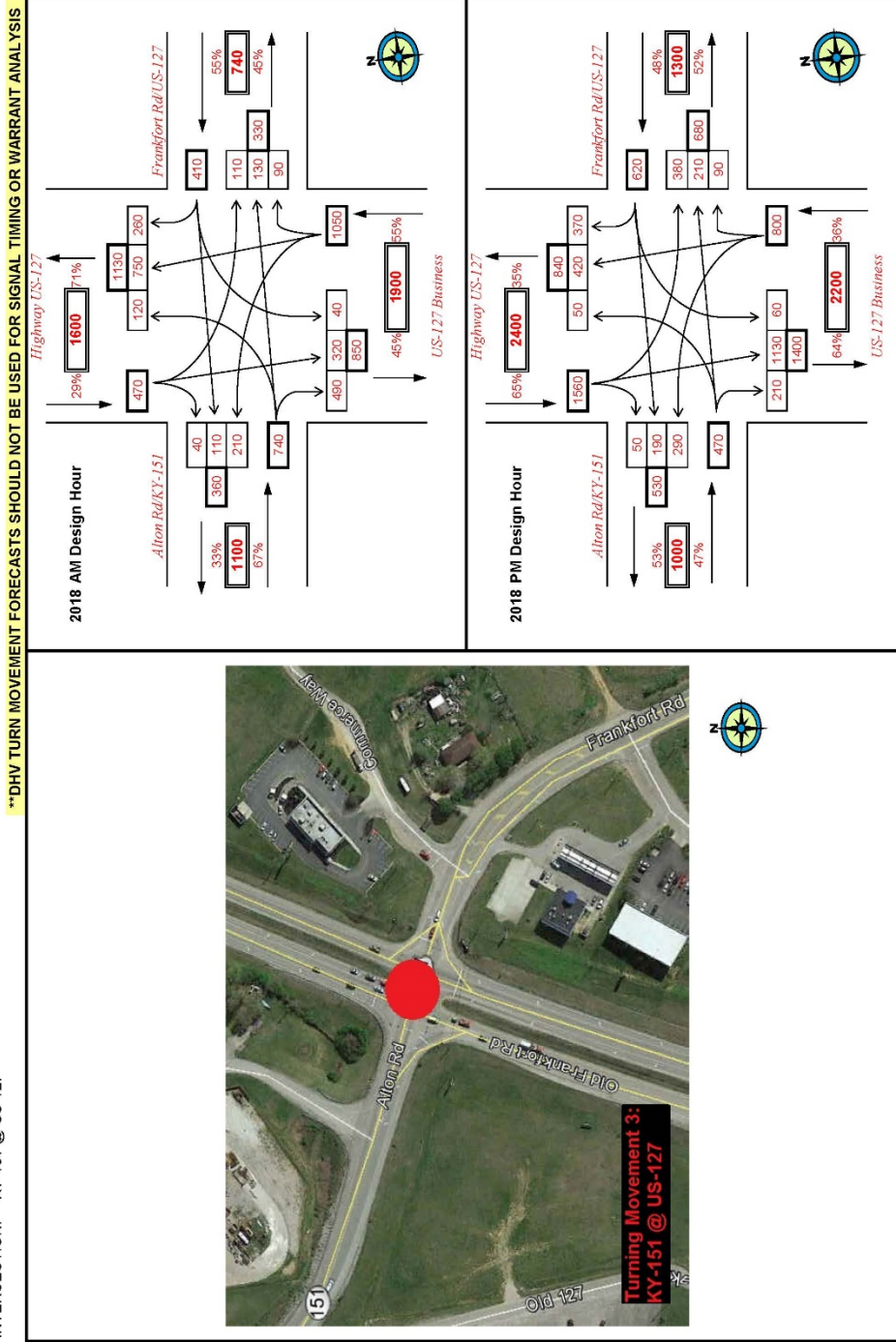
TURNING MOVEMENT 3

KY-151 @ US-127

PROJECT: KY-151 Corridor Scoping Study
 ITEM NUMBER: 05-0806.00
 MARS NUMBER: 9351501P
 REQUEST DATE: 4/29/11
 ANALYST: Justin Harrod
 YEAR: 2018
 INTERSECTION: KY-151 @ US-127
 Design Hour Volumes

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2018 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

TURN MOVEMENT 3 (2018)



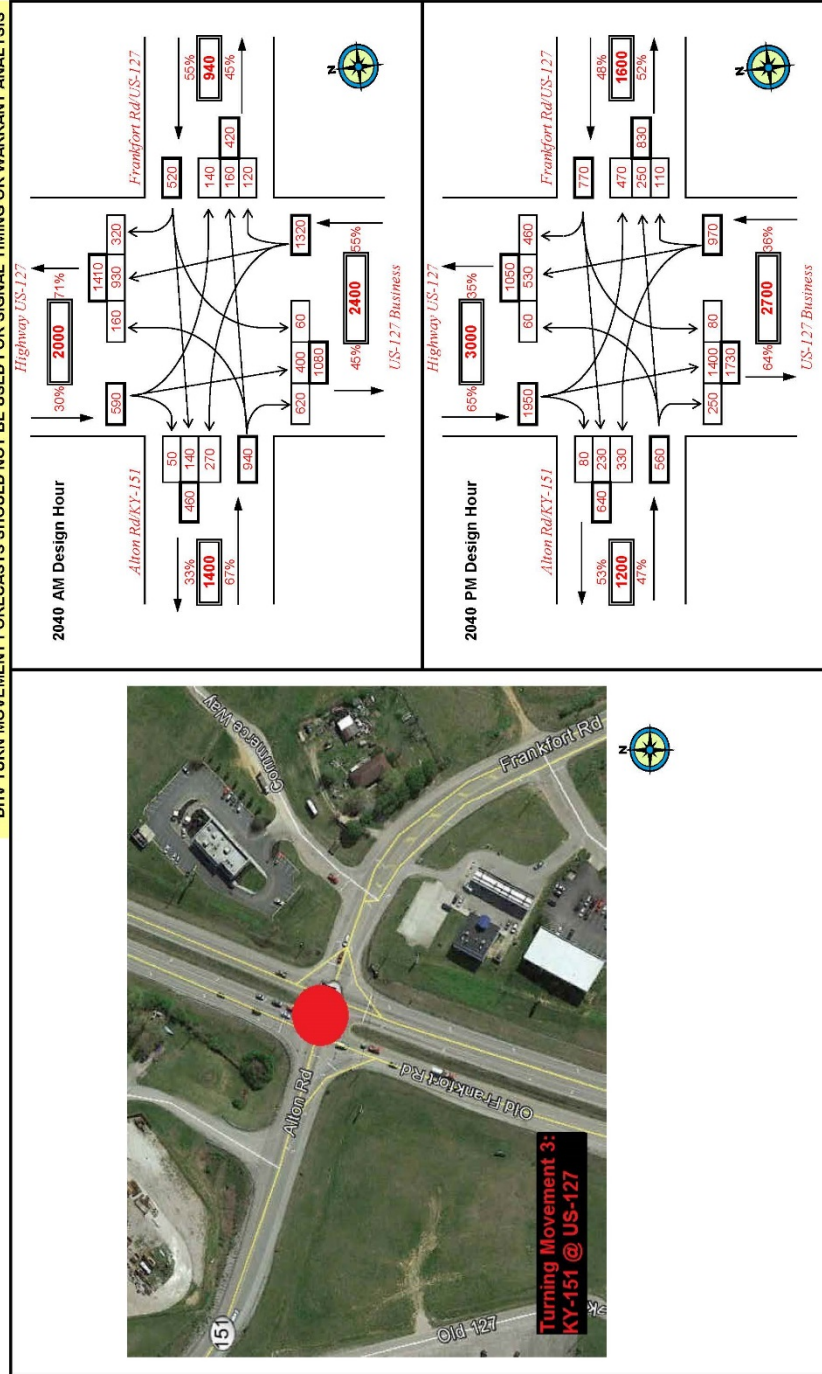
Traffic Forecast Executive Summary
 Perry County: KY-151 Corridor Scoping Study
 Item Number: 05-0806.00

NOTE: K-Factors, Directional Distributions, and Peak Hour Factors were determined from a 2040 Turning Movement Count. AM and PM DHVs represent 30th highest hour estimates for each turn maneuver.

PROJECT: KY-151 Corridor Scoping Study
 ITEM NUMBER: 05-0806.00
 MARS NUMBER: 9351501P
 REQUEST DATE: 4/29/11
 ANALYST: Justin Harrod
 YEAR: 2040
 INTERSECTION: KY-151 @ US-127

TURN MOVEMENT 3 (2040)

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



Bicycle and Pedestrian Review for Project #05-0806.00

Project Overview:

Planning study for the reconstruction of KY-151 from US-127 in Lawrenceburg to I-64 in Franklin County.

Local/regional Planning:

No known local government planning specific for bicycle or pedestrian travel accommodations

Existing conditions:

- KY-151

Franklin County Section (MP 0.00-2.14)

- ADT is 5090
- Posted speed limit is 55MPH
- Heavy truck ADT is 12% (654)
- Rural cross section design
- Paved shoulder space less than 4 feet
- Bicycle estimated activity is moderate to low (Strava Heat Map Figure 1)
- Pedestrian estimated activity is low (Strava Heat Map Figure 2)
- The Bicycle Comfort Index average rating is a level D

Anderson County section (MP 0.0-4.57)

- ADT range is 4580-7230
- Posted speed limit is 45MPH (MP 0.0-1.47), 35MPH (MP 1.47-1.84), and 55 MPH (MP 1.84-4.57)
- Rural cross section design
- Heavy truck ADT is 15-16% (765-1136)
- Mixed residential and commercial development
- Bicycle estimated activity is low (Strava Heat Map 1)
- Pedestrian estimated activity is moderate to high (Strava Heat Map Figure 2)
- Paved shoulder space 5' or greater (MP 0.0-0.469), paved shoulder less than 4' (MP 0.469-4.57)
- The Bicycle Comfort Index average rating is a level D

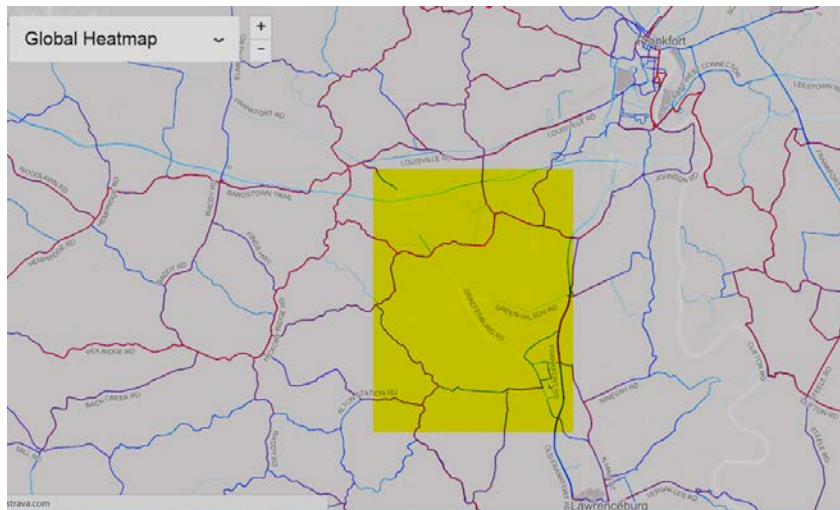


Figure 1 / Strava Bicycle Travel Heat Map with moderate estimated activity:
<https://labs.strava.com/heatmap/#12.00/-84.96077/38.11125/bluered/ride>

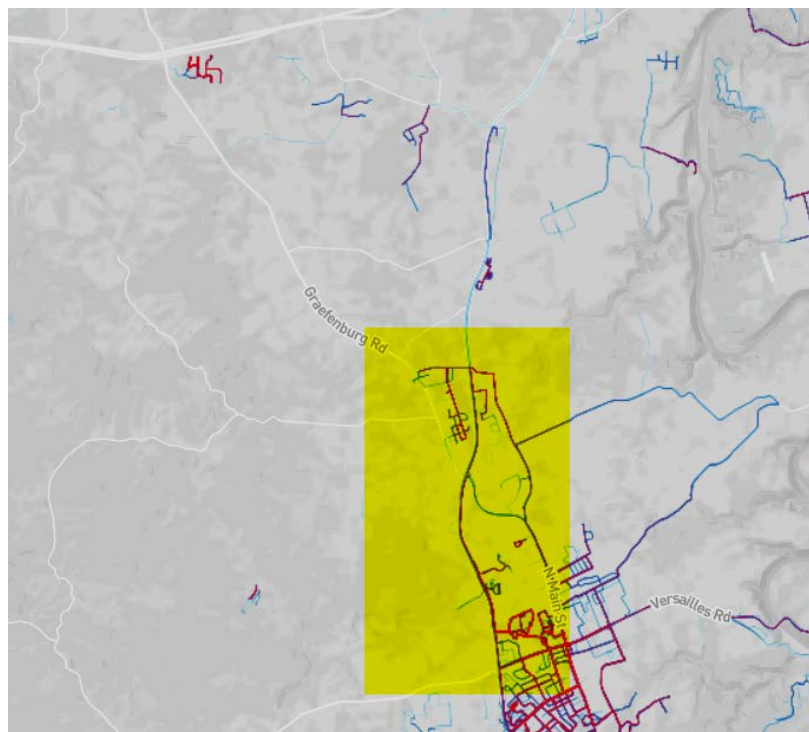


Figure 2 / Strava Pedestrian Travel Heat map with moderate to high estimated activity
(southern portion of project area): <https://labs.strava.com/heatmap/#12.00/-84.94051/38.07721/bluered/run>

The KYTC Bicycle and Pedestrian program team recommendations are:

KY-151:

Franklin County (MP 0.0-2.14)

Best:

Construct an 8' (or wider) paved shoulder along both sides of the roadway from MP 0.0-2.14. Provide a 10' gap space within the rumble strip every 40-50' (Figure 3). This would serve the current and future planned residential and commercial development for bicycle and pedestrian travel (including ADA access). The BCI average would improve to a level C.

Good:

Construct a 6' (or wider) paved shoulder along both sides of the roadway from MP 0.0-2.14. Provide a 10' gap space within the rumble strip every 40-50' (Figure 3). This would serve the current and future planned residential and commercial development for bicycle and pedestrian travel (including ADA access). The BCI average would improve to a level C.

Anderson County (MP 0.0-4.57)

Best:

Construct 5' (or wider) sidewalks along both sides of the roadway from MP 0.0-1.988 (residential development with moderate to high pedestrian activity). Construct an 8' (or wider) paved shoulder along both sides of the roadway for MP 1.989-4.57. Provide a 10' gap space within the rumble strip every 40-50' (Figure 3). This would serve the current and future planned residential and commercial development for bicycle and pedestrian travel (including ADA access). The BCI average would improve to a level C.

Good:

Construct a 5' (or wider) sidewalk along the cardinal direction (eastern side) of the roadway from MP 0.0-1.988 (residential development with moderate to high pedestrian activity). Construct a 6' (or wider) paved shoulder along both sides of the roadway for MP 1.989-4.57. Provide a 10' gap space within the rumble strip every 40-50' (Figure 3). This would serve the current and future planned residential and commercial development for bicycle and pedestrian travel (including ADA access). The BCI average would improve to a level C.

Fair:

Construct a 4' (or wider) paved shoulder along both sides of the roadway from MP 0.469-4.57. This would serve the current and future planned residential and commercial development for pedestrian travel (including ADA access). The BCI average would remain a level D.

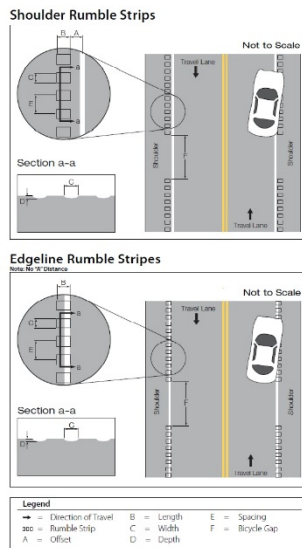


Figure 3 / https://safety.fhwa.dot.gov/roadway_dept/pavement/rumble_strips/t504039/

- 1 BCI: <http://transportation.ky.gov/Bike-Walk/Documents/Bicycle%20Comfort%20Index%20Rating%20%202014.pdf>
- 2 KYTC Pedestrian and Bicycle Travel Policy: <http://transportation.ky.gov/Bike-Walk/Documents/KYTC%20Pedestrian%20and%20Bicycle%20Travel%20Policy%20%202002.pdf>

Prepared by:
Troy Hearn, Bicycle & Pedestrian Program Coordinator
Division of Planning, www.transportation.ky.gov/Bike-Walk
Kentucky Transportation Cabinet
March 7, 2018