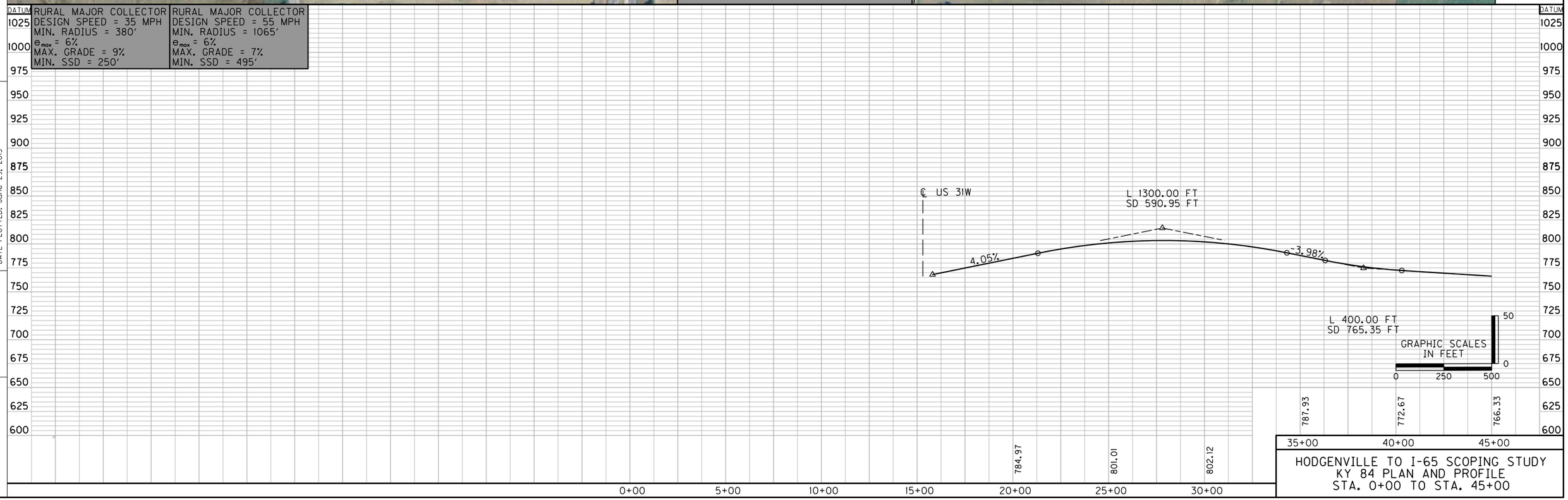
Appendix A:
Existing Plan and Profile Sheets

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	1

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION

RURAL MAJOR COLLECTOR DESIGN SPEED = 35 MPH MIN. RADIUS = 380' e_{max} = 6% MAX. GRADE = 9% MIN. SSD = 250'	RURAL MAJOR COLLECTOR DESIGN SPEED = 55 MPH MIN. RADIUS = 1065' e_{max} = 6% MAX. GRADE = 7% MIN. SSD = 495'



HODGENVILLE TO I-65 SCOPING STUDY
KY 84 PLAN AND PROFILE
STA. 0+00 TO STA. 45+00

FILE NAME: J:\185656 STATEWIDE PLANNING 2014 - 2016\LA4 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_1.DGN
USER: RiceM
DATE PLOTTED: June 29, 2015
E-SHEET NAME:
MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	2

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION

MATCHLINE STA. 45+00

MATCHLINE STA. 120+00

50+00 60+00 70+00 80+00 90+00 100+00 110+00

MILE 1

84

MURRIELTOWN RD.

COX LN.

OAK HILL RD.

R=2637'

R=2756'

R=1902'

CONTOUR INTERVAL = 5 FEET

250 0 250 500 750

GRAPHIC SCALE IN FEET

DATUM

RURAL MAJOR COLLECTOR
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065'
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495'

-1.26% 1.10% 2.26% 0.00% 1.87%

℄ MURRIELTOWN RD.

L 700.00 FT
SD 496.04 FT

RED DENOTES THAT VERTICAL CURVATURE DOES NOT MEET CURRENT SIGHT DISTANCE CRITERIA.

L 300.00 FT
SD 420.47 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 400.00 FT
SD 364.80 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 300.00 FT
SD 1007.82 FT

L 500.00 FT
SD 727.50 FT

℄ COX LN.

L 300.00 FT
SD 4146.91 FT

℄ OAK HILL RD.

L 700.00 FT
SD 682.26 FT

GRAPHIC SCALES IN FEET

0 250 500

50 0

766.33 760.03 753.73 747.43 743.91 746.82 733.61 737.05 742.55 748.06 757.73 761.92 766.95 776.28 785.60 792.45

45+00 50+00 55+00 60+00 65+00 70+00 75+00 80+00 85+00 90+00 95+00 100+00 105+00 110+00 115+00 120+00

HODGENVILLE TO I-65 SCOPING STUDY
KY 84 PLAN AND PROFILE
STA. 45+00 TO STA. 120+00

FILE NAME: J:\185656 STATEWIDE PLANNING 2014 - 2016\L44 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_2.DGN

USER: RiceM
DATE PLOTTED: June 29, 2015

E-SHEET NAME:

MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	3

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION

MATCHLINE STA. 120+00

MATCHLINE STA. 195+00

120+00 130+00 140+00 150+00 160+00 170+00 180+00

SIBERIA RD.

MILE 2

MILE 3

84

R = 1902'

R = 1935'

R = 3481'

R = 2877'

CONTOUR INTERVAL = 5 FEET

250 0 250 500 750

GRAPHIC SCALE IN FEET

RURAL MAJOR COLLECTOR
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065'
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495'

L 700.00 FT
SD 682.26 FT

-1.38%

L 300.00 FT
SD 703.42 FT

1.21%

L 500.00 FT
SD 565.01 FT

-2.22%

L 300.00 FT
SD 754.17 FT

-0.62%

L 400.00 FT
SD 536.89 FT

℄ SIBERIA RD.

-3.82%

L 400.00 FT
SD 232.53 FT

V.C. DOES NOT MEET SSD CRITERIA.

5.16%

V.C. DOES NOT MEET SSD CRITERIA.

L 600.00 FT
SD 420.50 FT

-2.16%

L 400.00 FT
SD 394.79 FT

V.C. DOES NOT MEET SSD CRITERIA.

V.C. DOES NOT MEET SSD CRITERIA.

L 700.00 FT
SD 451.12 FT

-5.01%

L 300.00 FT
SD 313.29 FT

V.C. DOES NOT MEET SSD CRITERIA.

-0.43%

V.C. DOES NOT MEET SSD CRITERIA.

L 600.00 FT
SD 442.03 FT

GRAPHIC SCALES IN FEET

0 250 500

50 0

792.45 788.77 781.87 774.97 773.77 777.29 769.29 764.76 747.72 757.66 763.40 763.03 760.29 742.71 740.47 722.92

185+00 190+00 195+00

HODGENVILLE TO I-65 SCOPING STUDY
KY 84 PLAN AND PROFILE
STA. 120+00 TO STA. 195+00

FILE NAME: J:\185656 STATEWIDE PLANNING 2014 - 2016\LA4 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_3.DGN

USER: RiceM
DATE PLOTTED: June 29, 2015

E-SHEET NAME:

MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	4

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION

MATCHLINE STA. 195+00

R = 2877'

200+00

BARREN RUN

210+00

220+00

MILE 4

R = 3805'

230+00

240+00

250+00

260+00

STRATT RD.

MATCHLINE STA. 270+00

84

BARREN RUN RD.

CONTOUR INTERVAL = 5 FEET

250 0 250 500 750

GRAPHIC SCALE IN FEET

RURAL MAJOR COLLECTOR
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065'
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495'

-7.06%

L 300.00 FT
SD 223.70 FT

V.C. DOES NOT MEET SSD CRITERIA.

0.03%

L 200.00 FT
SD 533.49 FT

1.62%

L 650.00 FT
SD 450.73 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 600.00 FT
SD 403.55 FT

V.C. DOES NOT MEET SSD CRITERIA.

3.91%

L 200.00 FT
SD 273.88 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 800.00 FT
SD 533.69 FT

-2.16%

L 300.00 FT
SD 321.80 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 600.00 FT
SD 566.86 FT

-1.74%

L 200.00 FT
SD 633.91 FT

-0.44%

L 200.00 FT
SD 1804.98 FT

℄ STRATT RD.

GRAPHIC SCALES IN FEET

50 0

0 250 500

722.92 704.11 704.27 709.17 733.29 760.62 771.47 780.45 772.46 761.68 750.91 748.04 750.11 741.57 737.13 733.49

195+00 200+00 205+00 210+00 215+00 220+00 225+00 230+00 235+00 240+00 245+00 250+00 255+00 260+00 265+00 270+00

DATUM 950 925 900 875 850 825 800 775 750 725 700 675 650 625 600 575 550 525

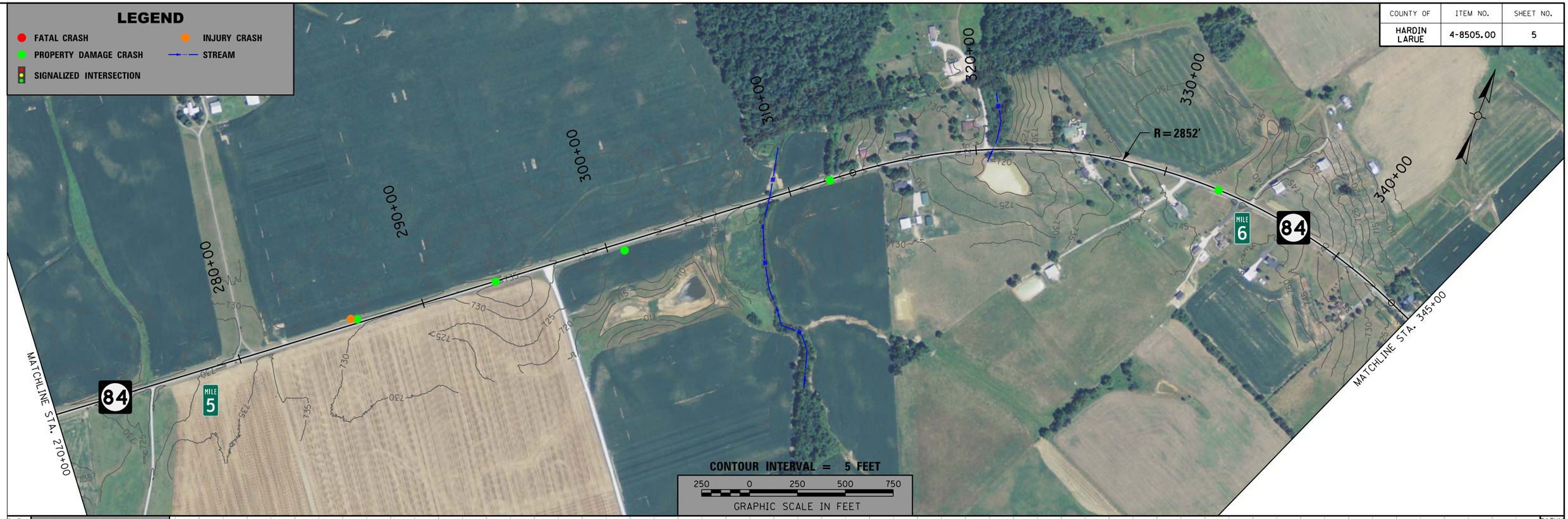
HODGENVILLE TO I-65 SCOPING STUDY
KY 84 PLAN AND PROFILE
STA. 195+00 TO STA. 270+00

FILE NAME: J:\185656 STATEWIDE PLANNING 2014 - 2016\LA4 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_4.DGN
USER: RiceM
DATE PLOTTED: June 29, 2015
E-SHEET NAME:
MicroStation v8.11.7.443

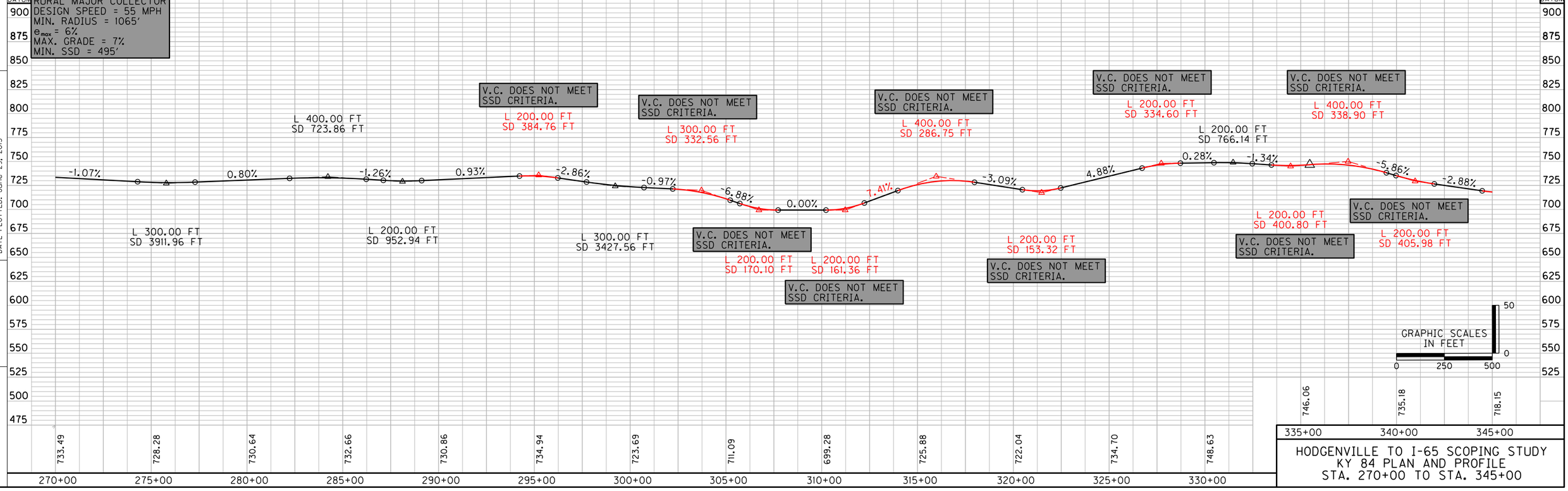
COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	5

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION



RURAL MAJOR COLLECTOR
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065'
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495'

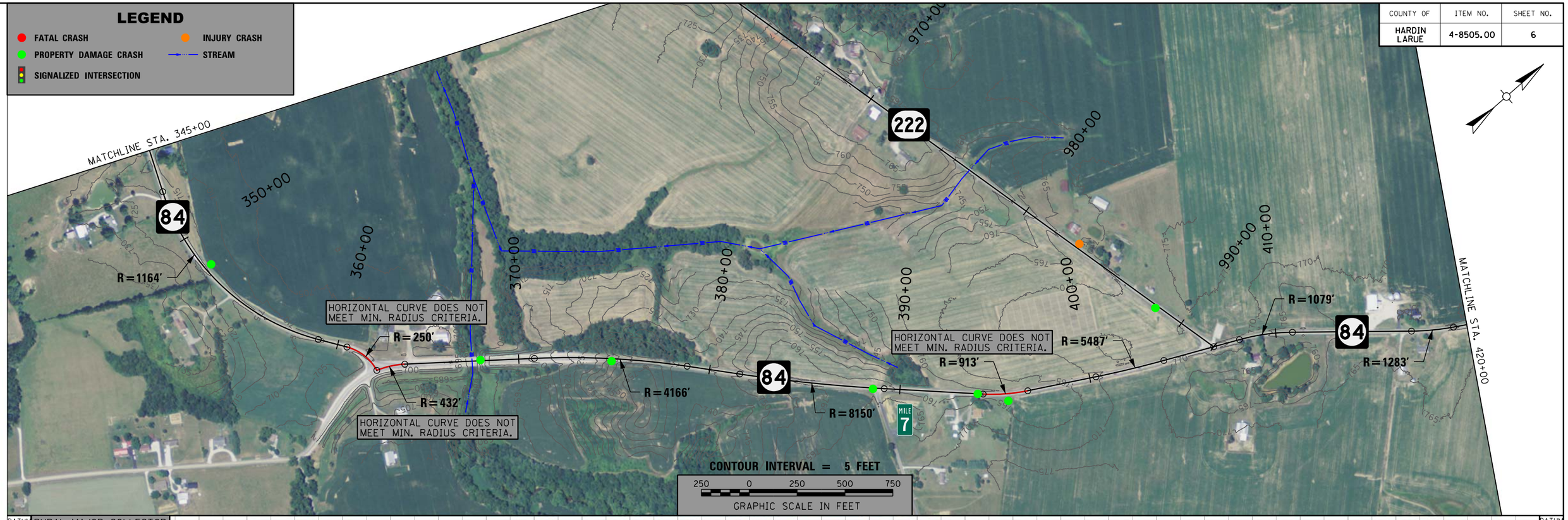


HODGENVILLE TO I-65 SCOPING STUDY
KY 84 PLAN AND PROFILE
STA. 270+00 TO STA. 345+00

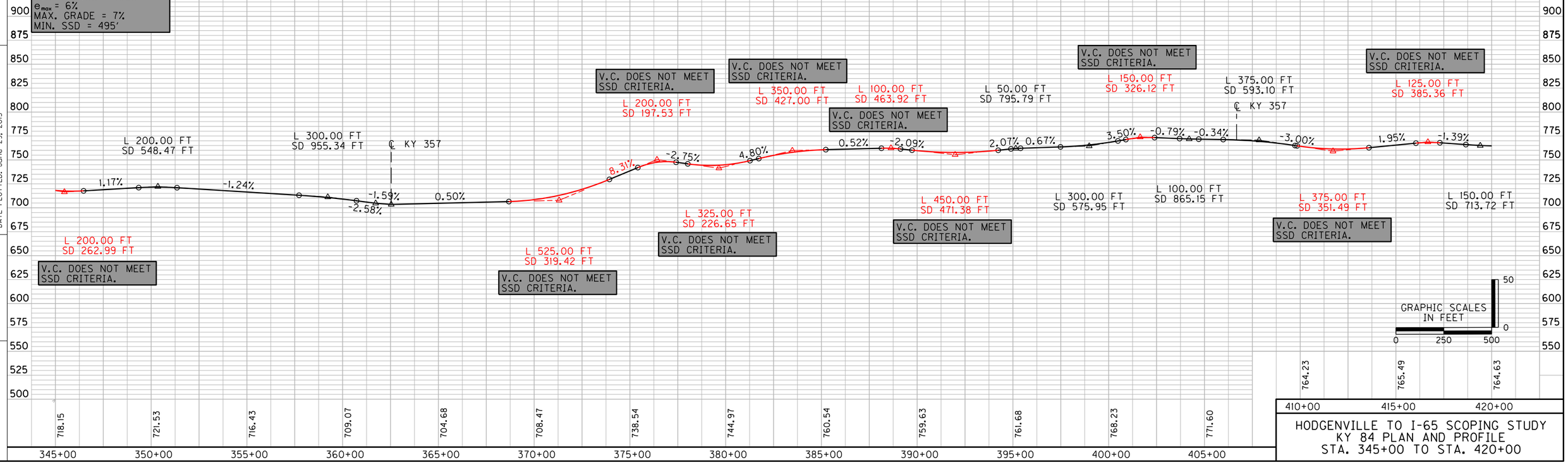
COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	6

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION



RURAL MAJOR COLLECTOR
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065'
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495'

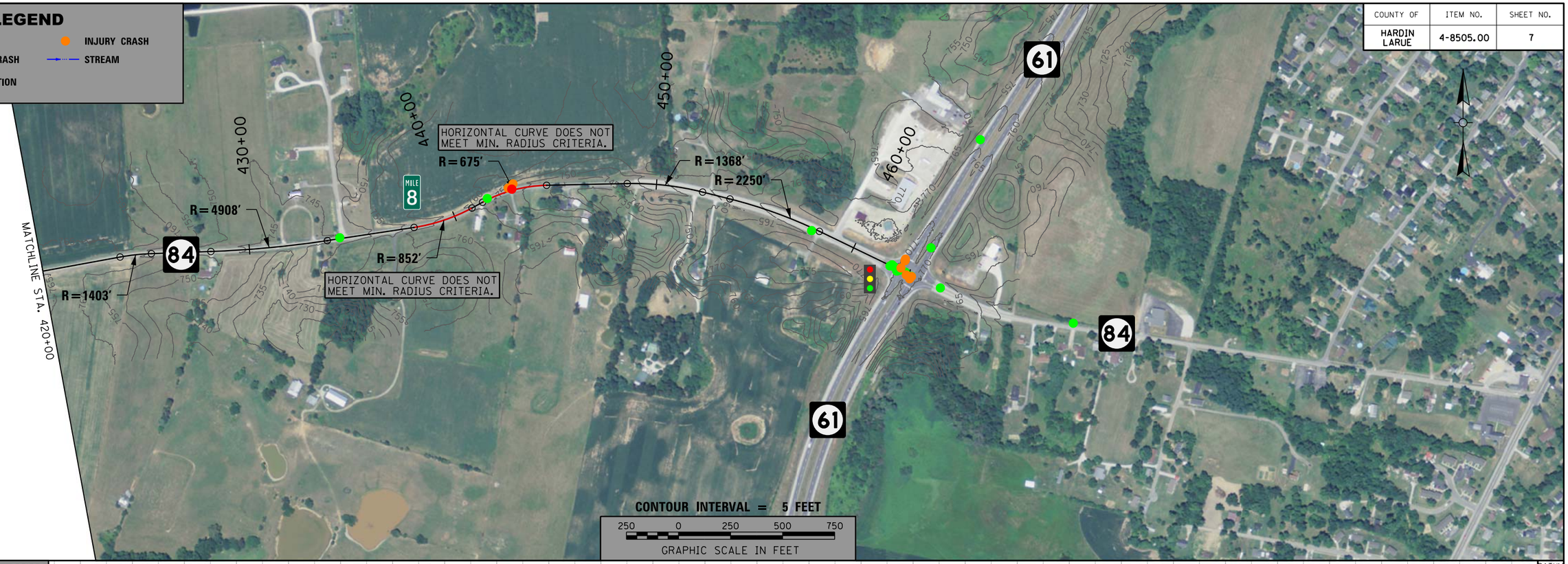


HODGENVILLE TO I-65 SCOPING STUDY
KY 84 PLAN AND PROFILE
STA. 345+00 TO STA. 420+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	7

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION



DATUM

RURAL MAJOR COLLECTOR
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065'
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495'

V.C. DOES NOT MEET SSD CRITERIA.
L 225.00 FT
SD 386.17 FT

V.C. DOES NOT MEET SSD CRITERIA.
L 175.00 FT
SD 251.02 FT

L 225.00 FT
SD 626.97 FT

L 350.00 FT
SD 831.82 FT

℄ KY 61

-0.54%
-4.48%
3.16%
-3.44%
4.17%
2.07%
0.43%

L 950.00 FT
SD 529.16 FT

L 450.00 FT
SD 288.82 FT

V.C. DOES NOT MEET SSD CRITERIA.

764.63 760.43 744.69 747.73 761.82 746.18 752.96 764.25 769.05

420+00 425+00 430+00 435+00 440+00 445+00 450+00 455+00 460+00 465+00

925 900 875 850 825 800 775 750 725 700 675 650 625 600 575 550 525 500

GRAPHIC SCALES IN FEET
50
0
0 250 500

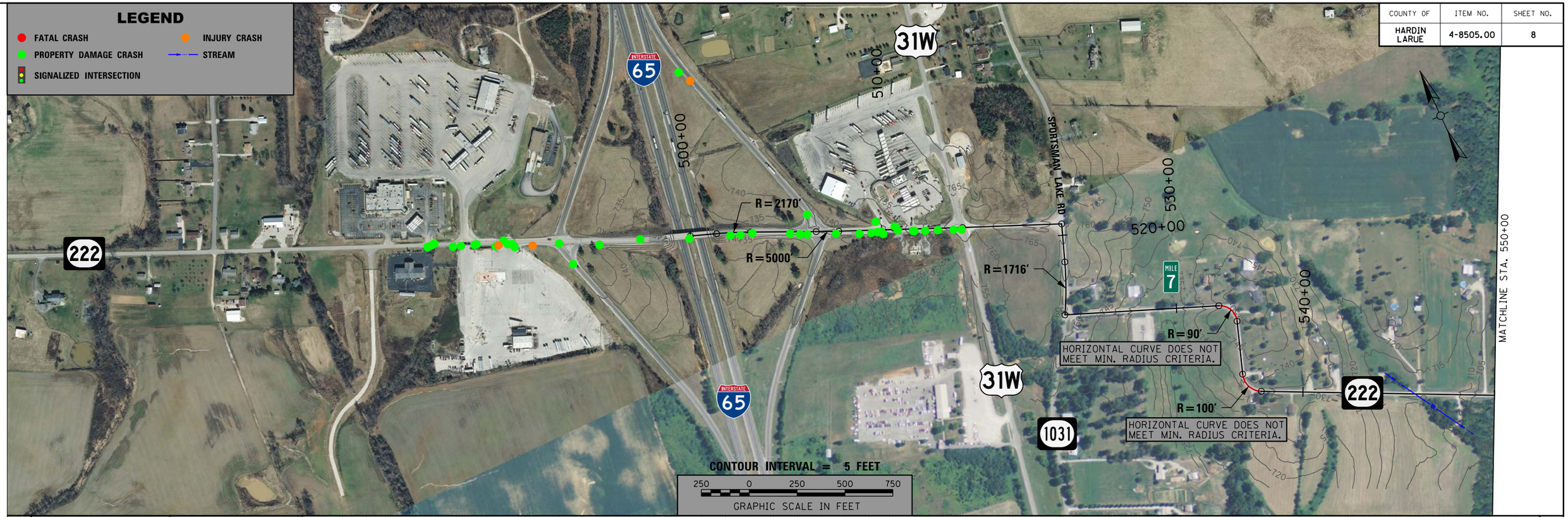
HODGENVILLE TO I-65 SCOPING STUDY
KY 84 PLAN AND PROFILE
STA. 420+00 TO STA. 462+92

FILE NAME: J:\185656 STATEWIDE PLANNING 2014 - 2016\LA4 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_7.DGN
USER: RiceM
DATE PLOTTED: June 29, 2015
E-SHEET NAME:
MicroStation v8.11.7.443

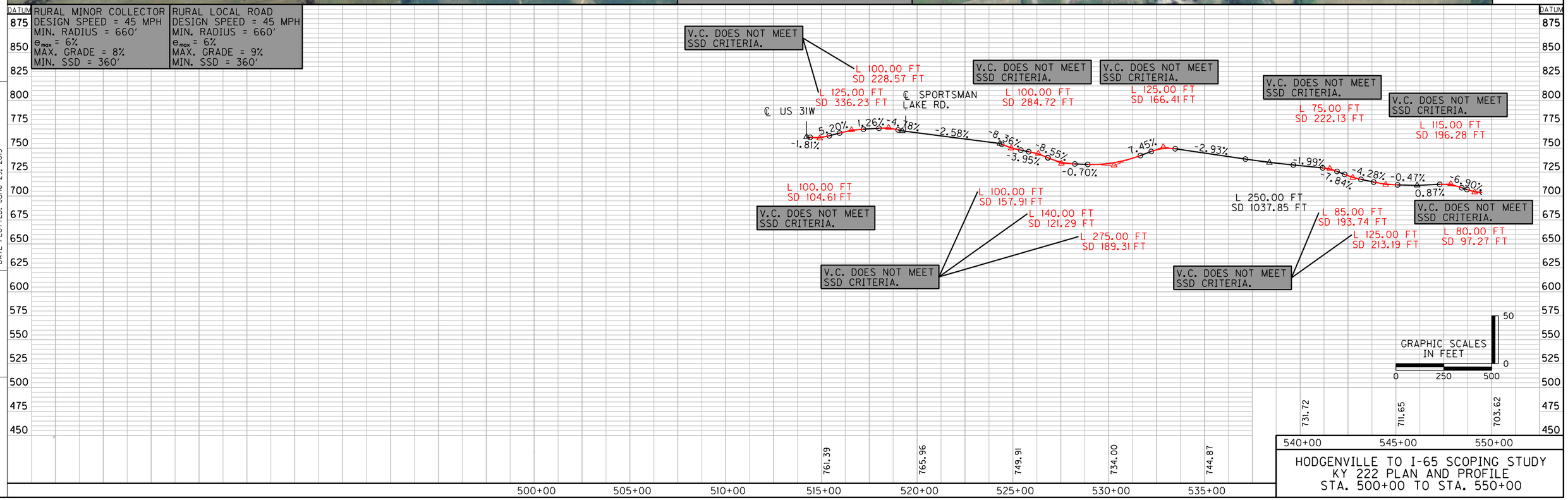
COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	8

LEGEND

- FATAL CRASH
- PROPERTY DAMAGE CRASH
- SIGNALIZED INTERSECTION
- INJURY CRASH
- STREAM



RURAL MINOR COLLECTOR	RURAL LOCAL ROAD
DESIGN SPEED = 45 MPH	DESIGN SPEED = 45 MPH
MIN. RADIUS = 660'	MIN. RADIUS = 660'
e_{max} = 6%	e_{max} = 6%
MAX. GRADE = 8%	MAX. GRADE = 9%
MIN. SSD = 360'	MIN. SSD = 360'



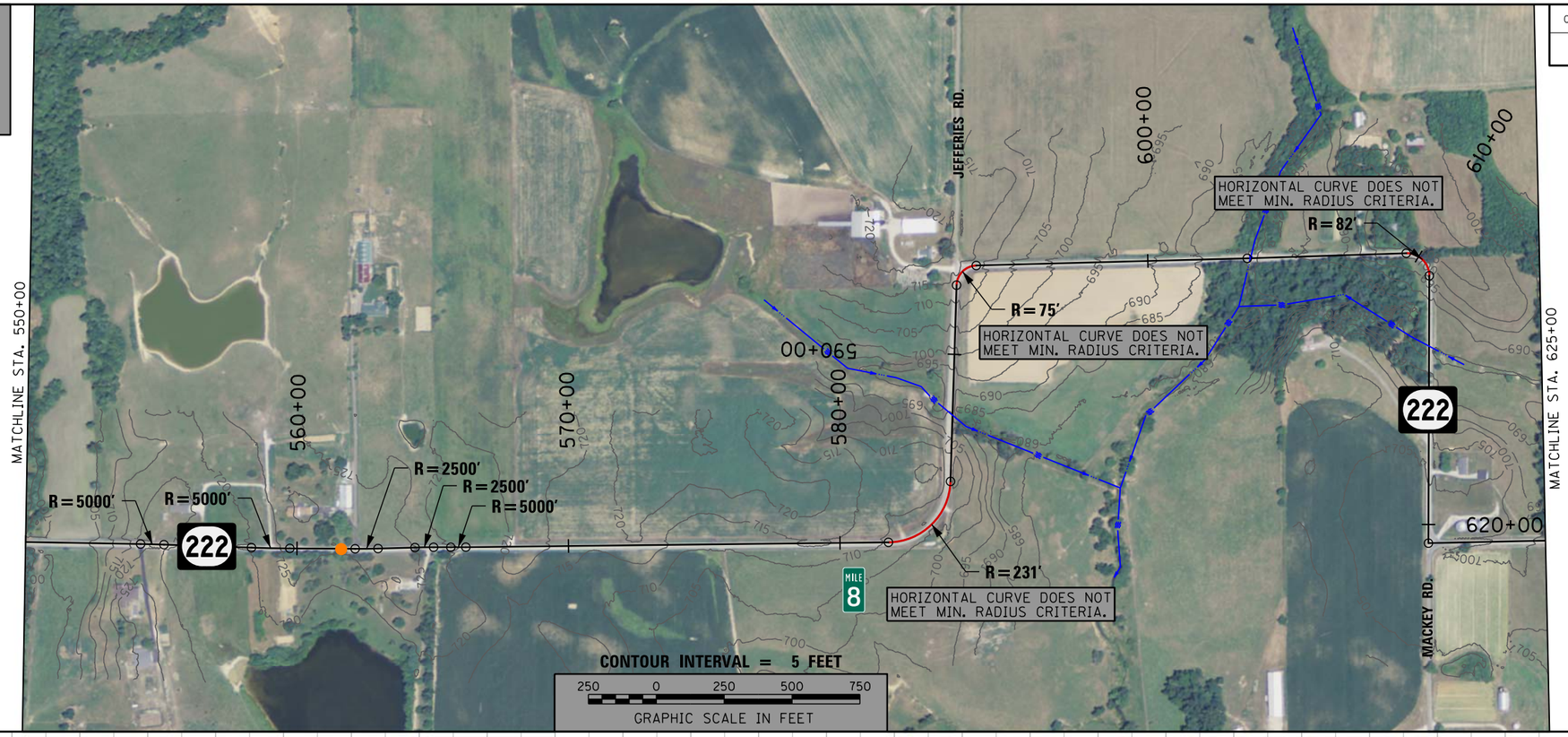
HODGENVILLE TO I-65 SCOPING STUDY
KY 222 PLAN AND PROFILE
STA. 500+00 TO STA. 550+00

FILE NAME: d:\185656 STATEWIDE PLANNING 2014 - 2016\LA4 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_8.DGN
USER: RiceM
DATE PLOTTED: June 29, 2015
E-SHEET NAME:
MicroStation v8.11.7.443

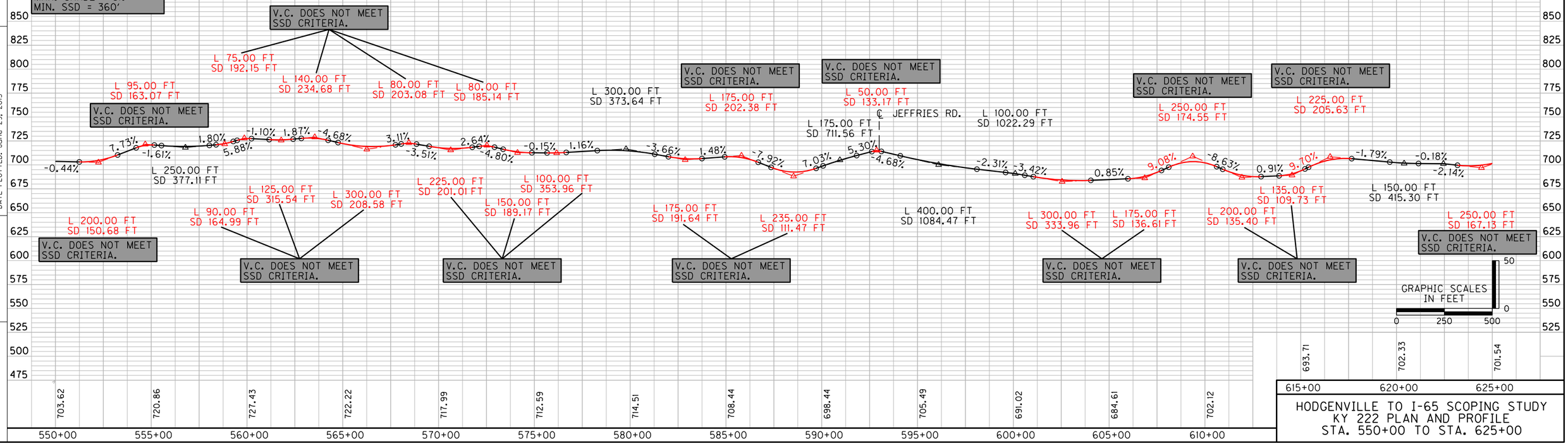
COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	9

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION



RURAL LOCAL ROAD
DESIGN SPEED = 45 MPH
MIN. RADIUS = 660'
e_{max} = 6%
MAX. GRADE = 9%
MIN. SSD = 360'



HODGENVILLE TO I-65 SCOPING STUDY
KY 222 PLAN AND PROFILE
STA. 550+00 TO STA. 625+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	10

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION

1135

630+00 640+00 650+00 660+00 670+00 680+00 690+00

MILE 9

222

MATCHLINE STA. 625+00

HORIZONTAL CURVE DOES NOT MEET MIN. RADIUS CRITERIA.

R = 320′ R = 568′ R = 356′ R = 25000′

R = 5000′ R = 5000′ R = 699′ R = 756′ R = 2500′ R = 5000′

HARDIN COUNTY
LARUE COUNTY

CEMETERY

MIDDLE CREEK RD.

MATCHLINE STA. 700+00

CONTOUR INTERVAL = 5 FEET

250 0 250 500 750
GRAPHIC SCALE IN FEET

DATUM

RURAL LOCAL ROAD	RURAL LOCAL ROAD
DESIGN SPEED = 45 MPH	DESIGN SPEED = 55 MPH
MIN. RADIUS = 660′	MIN. RADIUS = 1065′
e_{max} = 6%	e_{max} = 6%
MAX. GRADE = 9%	MAX. GRADE = 7%
MIN. SSD = 360′	MIN. SSD = 495′

V.C. DOES NOT MEET SSD CRITERIA.
L 115.00 FT
SD 147.02 FT

6.68% -5.38% -2.58% 1.61% -1.70% 1.21% 4.39% 0.78% -9.69% -2.23% -0.37% 0.51% 5.02%

L 150.00 FT
SD 390.38 FT

L 200.00 FT
SD 254.07 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 150.00 FT
SD 401.52 FT

L 450.00 FT
SD 736.56 FT

V.C. DOES NOT MEET SSD CRITERIA.
L 65.00 FT L 245.00 FT
SD 244.25 FT SD 224.75 FT

℄ KY 1135

L 125.00 FT
SD 279.67 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 125.00 FT
SD 381.45 FT

L 225.00 FT
SD 174.65 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 175.00 FT
SD 3424.01 FT

L 250.00 FT
SD 1094.17 FT

℄ MIDDLE CREEK RD.

L 225.00 FT
SD 256.34 FT

V.C. DOES NOT MEET SSD CRITERIA.

875 850 825 800 775 750 725 700 675 650 625 600 575 550 525 500 475 450

701.54 702.92 698.74 706.77 706.89 699.32 703.23 708.00 680.51 677.18 677.83 680.39 682.94

625+00 630+00 635+00 640+00 645+00 650+00 655+00 660+00 665+00 670+00 675+00 680+00 685+00

685.50 691.13 715.99

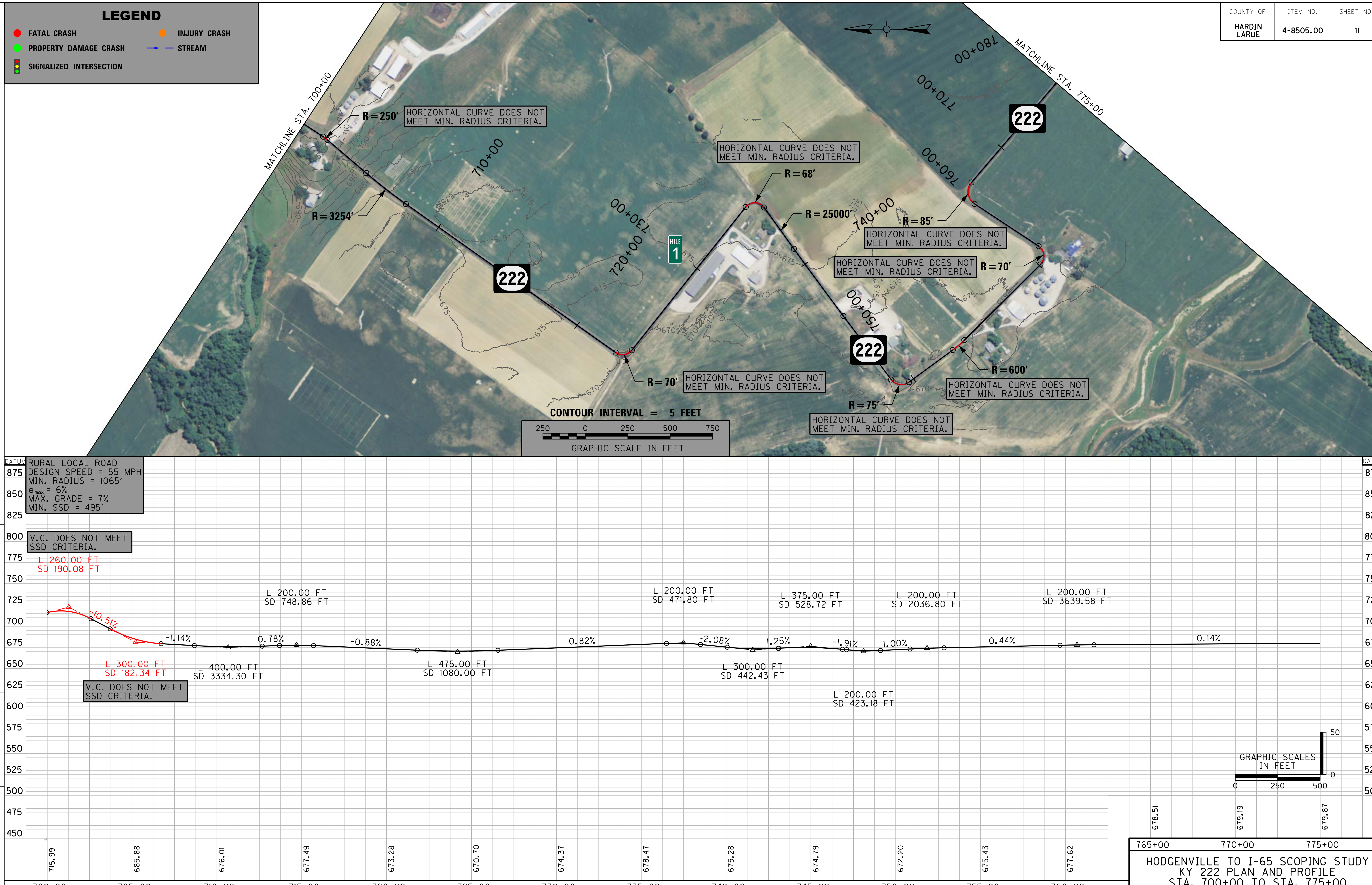
690+00 695+00 700+00

GRAPHIC SCALES IN FEET
0 250 500
50 0

HODGENVILLE TO I-65 SCOPING STUDY
KY 222 PLAN AND PROFILE
STA. 625+00 TO STA. 700+00

FILE NAME: d:\185656 STATEWIDE PLANNING 2014 - 2016\L44 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_10.DGN
USER: RiceM
DATE PLOTTED: June 29, 2015
E-SHEET NAME:
MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	11



LEGEND
FATAL CRASH
INJURY CRASH
PROPERTY DAMAGE CRASH
STREAM
SIGNALIZED INTERSECTION
MATCHLINE STA. 700+00
MATCHLINE STA. 775+00
R=250'
HORIZONTAL CURVE DOES NOT MEET MIN. RADIUS CRITERIA.
R=3254'
710+00
720+00
730+00
740+00
750+00
760+00
770+00
780+00
222
MILE 1
R=68'
R=25000'
R=85'
R=70'
R=75'
R=600'
CONTOUR INTERVAL = 5 FEET
250 0 250 500 750
GRAPHIC SCALE IN FEET
RURAL LOCAL ROAD
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065'
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495'
V.C. DOES NOT MEET SSD CRITERIA.
L 260.00 FT
SD 190.08 FT
L 300.00 FT
SD 182.34 FT
-10.51%
-1.14%
0.78%
-0.88%
0.82%
-2.08%
1.25%
-1.91%
1.00%
0.44%
0.14%
L 200.00 FT
SD 748.86 FT
L 400.00 FT
SD 3334.30 FT
L 475.00 FT
SD 1080.00 FT
L 200.00 FT
SD 471.80 FT
L 375.00 FT
SD 528.72 FT
L 300.00 FT
SD 442.43 FT
L 200.00 FT
SD 423.18 FT
L 200.00 FT
SD 2036.80 FT
L 200.00 FT
SD 3639.58 FT
DATUM
875 850 825 800 775 750 725 700 675 650 625 600 575 550 525 500 475 450
GRAPHIC SCALES IN FEET
0 250 500
50 0
715.99 685.88 676.01 677.49 673.28 670.70 674.37 678.47 675.28 674.79 672.20 675.43 677.62 678.51 679.19 679.87
700+00 705+00 710+00 715+00 720+00 725+00 730+00 735+00 740+00 745+00 750+00 755+00 760+00 765+00 770+00 775+00

HODGENVILLE TO I-65 SCOPING STUDY
KY 222 PLAN AND PROFILE
STA. 700+00 TO STA. 775+00

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	12

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION

MATCHLINE STA. 775+00

MATCHLINE STA. 850+00

790+00 800+00 810+00 820+00 830+00 840+00

MILE 2

MILE 3

222

R = 160'

HORIZONTAL CURVE DOES NOT MEET MIN. RADIUS CRITERIA.

R = 1700'

R = 3873'

R = 777'

HORIZONTAL CURVE DOES NOT MEET MIN. RADIUS CRITERIA.

R = 20000'

CONTOUR INTERVAL = 5 FEET

250 0 250 500 750

GRAPHIC SCALE IN FEET

DATUM

RURAL LOCAL ROAD
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065'
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495'

900 875 850 825 800 775 750 725 700 675 650 625 600 575 550 525 500 475

L 100.00 FT
SD 385.44 FT

3.61% 0.39% 3.47% -2.71% -1.59% 10.60% 4.50% -3.23% 4.72% -5.29% 2.88% -0.16% -0.80% 0.57% 2.09% -0.47% 1.96% -0.72%

L 150.00 FT
SD 267.06 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 400.00 FT
SD 615.58 FT

V.C. DOES NOT MEET SSD CRITERIA.
L 100.00 FT
SD 224.62 FT

L 100.00 FT
SD 401.62 FT

L 300.00 FT
SD 151.16 FT

V.C. DOES NOT MEET SSD CRITERIA.

V.C. DOES NOT MEET SSD CRITERIA.
L 200.00 FT
SD 276.69 FT

L 135.00 FT
SD 207.13 FT

L 125.00 FT
SD 170.29 FT

L 280.00 FT
SD 195.35 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 600.00 FT
SD 342.51 FT

V.C. DOES NOT MEET SSD CRITERIA.

L 150.00 FT
SD 429.59 FT

L 125.00 FT
SD 1749.46 FT

L 125.00 FT
SD 408.89 FT

L 150.00 FT
SD 497.99 FT

L 125.00 FT
SD 376.31 FT

L 300.00 FT
SD 832.15 FT

L 100.00 FT
SD 451.84 FT

L 300.00 FT
SD 633.26 FT

679.87 686.29 688.26 699.64 691.36 715.69 725.40 722.04 710.56 716.90 715.11 717.81 722.20 722.07 731.11 734.26

775+00 780+00 785+00 790+00 795+00 800+00 805+00 810+00 815+00 820+00 825+00 830+00 835+00 840+00 845+00 850+00

GRAPHIC SCALES IN FEET

50 0

0 250 500

HODGENVILLE TO I-65 SCOPING STUDY
KY 222 PLAN AND PROFILE
STA. 775+00 TO STA. 850+00

FILE NAME: J:\185656 STATEWIDE PLANNING 2014 - 2016\LA4 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_12.DGN

USER: RiceM
DATE PLOTTED: June 29, 2015

E-SHEET NAME:

MicroStation v8.11.7.443

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	13

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION

HORIZONTAL CURVE DOES NOT MEET MIN. RADIUS CRITERIA.

R = 163′

R = 225′

R = 750′

R = 1236′

R = 924′

R = 400′

R = 500′

R = 3750′

R = 18500′

R = 10511′

R = 2101′

R = 1943′

R = 170′

R = 1840′

00+870

880+00

890+00

900+00

910+00

920+00

00+098

CHURCH & CEMETERY

MILE 4

222

MATCHLINE STA. 850+00

MATCHLINE STA. 925+00

CONTOUR INTERVAL = 5 FEET

250 0 250 500 750

GRAPHIC SCALE IN FEET

RURAL LOCAL ROAD
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065′
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495′

V.C. DOES NOT MEET SSD CRITERIA.

L 100.00 FT
SD 294.89 FT

L 140.00 FT
SD 322.20 FT

L 350.00 FT
SD 437.06 FT

L 100.00 FT
SD 226.75 FT

L 200.00 FT
SD 407.00 FT

L 100.00 FT
SD 117.52 FT

L 160.00 FT
SD 252.12 FT

L 100.00 FT
SD 449.82 FT

L 575.00 FT
SD 262.22 FT

L 450.00 FT
SD 356.55 FT

L 425.00 FT
SD 372.74 FT

L 250.00 FT
SD 272.92 FT

L 100.00 FT
SD 440.91 FT

L 250.00 FT
SD 1162.95 FT

1.98% -2.42% 1.26% 4.64% 0.36% -3.16% 2.85% -3.10% -2.13% -8.39% 2.63% -5.01% 0.20% 4.78% 2.02% 0.98%

734.26 733.07 742.06 743.76 743.01 741.49 716.98 713.64 724.31 705.90 687.26 687.63 698.94

712.02 717.74 722.64

850+00 855+00 860+00 865+00 870+00 875+00 880+00 885+00 890+00 895+00 900+00 905+00 910+00

915+00 920+00 925+00

GRAPHIC SCALES IN FEET
0 250 500
50 0

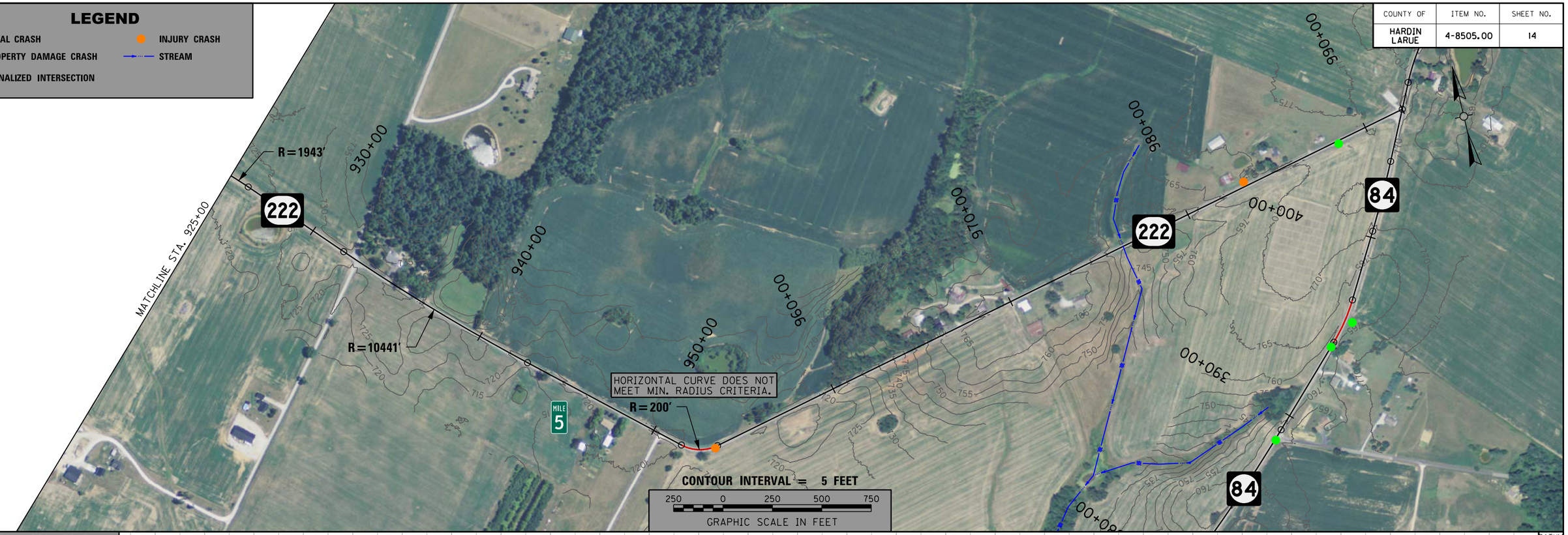
HODGENVILLE TO I-65 SCOPING STUDY
KY 222 PLAN AND PROFILE
STA. 850+00 TO STA. 925+00

FILE NAME: J:\185656 STATEWIDE PLANNING 2014 - 2016\LA4 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_13.DGN
USER: RiceM
DATE PLOTTED: June 29, 2015
E-SHEET NAME:
MicroStation v8.11.7.443

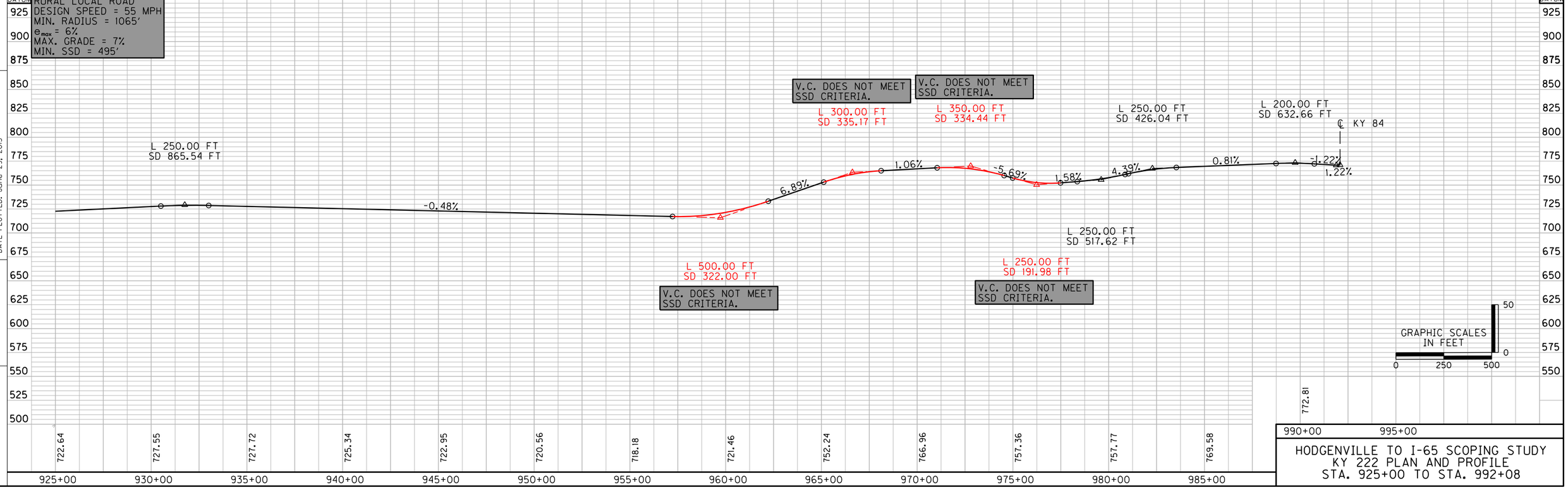
COUNTY OF	ITEM NO.	SHEET NO.
HARDIN LARUE	4-8505.00	14

LEGEND

- FATAL CRASH
- INJURY CRASH
- PROPERTY DAMAGE CRASH
- STREAM
- SIGNALIZED INTERSECTION



RURAL LOCAL ROAD
DESIGN SPEED = 55 MPH
MIN. RADIUS = 1065'
e_{max} = 6%
MAX. GRADE = 7%
MIN. SSD = 495'



HODGENVILLE TO I-65 SCOPING STUDY
KY 222 PLAN AND PROFILE
STA. 925+00 TO STA. 992+08

FILE NAME: J:\185656 STATEWIDE PLANNING 2014 - 2016\LA4 - HODGENVILLE TO I-65 CONNECTION\7 - CADD\PLAN AND PROFILE\SHEETS\SHEET_14.DGN
USER: RiceM
DATE PLOTTED: June 29, 2015
E-SHEET NAME:
MicroStation v8.11.7.443

Appendix B:
Additional Crash Information

MILEPOINT	LATITUDE	LONGITUDE	ROADWAY NUMBER	ROADWAY NAME	INTERSECTION ROADWAY NAME	BETWEEN STREET ROADWAY NAME 1	BETWEEN STREET ROADWAY NAME 2	COLLISION DATE	COLLISION TIME	FATAL	INJURED	ROADWAY CHARACTER	ROADWAY CONDITION	UNITS INVOLVED	HIT & RUN INDICATOR	WEATHER	MANNER OF COLLISION	SECONDARY COLLISION INDICATOR
0	37.6492648	-85.8380331	KY0061	LINCOLN	HARVEST			6/4/2010	1500	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
0.084	37.6104002	-85.7989407	KY0061	LINCOLN				11/3/2013	1918	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
0.563	37.6149659	-85.805549	KY0061	LINCOLN				9/19/2014	2251	0	0	CURVE & HILLCREST	DRY	1	N	CLEAR	SINGLE VEHICLE	N
0.688	37.616347	-85.8070705	KY0061	LINCOLN				10/26/2010	45	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
0.854	37.6182553	-85.8088712	KY0061	LINCOLN				4/4/2011	640	0	1	STRAIGHT & LEVEL	DRY	1	N	CLOUDY	SINGLE VEHICLE	N
1.013	37.6199907	-85.8107491	KY0061	LINCOLN				11/13/2011	2035	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
1.247	37.6223316	-85.8136982	KY0061	LINCOLN				6/26/2014	101	0	1	STRAIGHT & LEVEL	DRY	1	Y	CLEAR	SINGLE VEHICLE	N
1.386	37.6238276	-85.8154538	KY0061	LINCOLN				11/10/2010	1810	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
1.615	37.626485	-85.8179023	KY0061	LINCOLN				11/5/2013	550	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	Y
1.79	37.6283823	-85.8199781	KY0061	LINCOLN				11/5/2013	550	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
1.831	37.6288097	-85.8204937	KY0061	LINCOLN				12/6/2013	1600	0	0	STRAIGHT & LEVEL	ICE	1	N	SNOWING	SINGLE VEHICLE	N
1.908	37.6296233	-85.8214465	KY0061	LINCOLN	ROUNDTOP			7/21/2013	1933	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
1.909	37.6294459	-85.8215958	KY0061	LINCOLN	ROUNDTOP			8/18/2013	1820	2	2	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	ANGLE	N
1.909	37.6296311	-85.8214596	KY0061	LINCOLN	ROUNDTOP			10/24/2013	742	0	0	STRAIGHT & HILLCREST	DRY	2	N	CLOUDY	ANGLE	N
1.91	37.6294647	-85.8215936	KY0061	LINCOLN	ROUNDTOP			10/24/2012	1740	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
1.941	37.6297597	-85.8220173	KY0061	LINCOLN				7/11/2010	1340	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
2.161	37.6319264	-85.8250222	KY0061	LINCOLN		CALICO SPRINGS	ROUNDTOP	11/17/2012	1751	0	0	STRAIGHT & GRADE	DRY	1	N	CLEAR	SINGLE VEHICLE	N
2.195	37.6324333	-85.8253147	KY0061	LINCOLN				12/20/2011	1942	0	0	STRAIGHT & LEVEL	OTHER	2	N	CLOUDY	REAR END	N
2.213	37.632596	-85.8255568	KY0061	LINCOLN				10/27/2014	740	0	0	STRAIGHT & GRADE	DRY	1	N	CLEAR	SINGLE VEHICLE	N
2.231	37.6325642	-85.8258956	KY0061	LINCOLN				8/20/2010	2323	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	SIDESWIPE-OPPOSITE DIRECTION	N
2.25	37.6327714	-85.8262349	KY0061	LINCOLN				1/18/2011	1621	0	0	STRAIGHT & LEVEL	WET	2	N	OTHER	SIDESWIPE-SAME DIRECTION	N
2.437	37.6347155	-85.8286718	KY0061	LINCOLN				12/3/2014	452	0	0	CURVE & LEVEL	DRY	1	N	CLOUDY	SINGLE VEHICLE	N
2.53	37.6355727	-85.8299743	KY0061	LINCOLN				11/9/2012	1903	0	0	STRAIGHT & GRADE	DRY	1	N	CLEAR	SINGLE VEHICLE	N
2.689	37.6370965	-85.8321501	KY0061	LINCOLN				9/30/2014	2043	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
2.848	37.6384112	-85.8345518	KY0061	LINCOLN				9/28/2010	1032	0	0	STRAIGHT & GRADE	DRY	2	Y	CLEAR	SIDESWIPE-SAME DIRECTION	N
3.133	37.641814	-85.8376418	KY0061	LINCOLN				11/10/2010	605	0	0	CURVE & GRADE	DRY	2	N	CLEAR	SIDESWIPE-SAME DIRECTION	N
3.145	37.6418406	-85.8380108	KY0061	LINCOLN				10/4/2014	412	0	1	CURVE & GRADE	DRY	1	N	CLEAR	SINGLE VEHICLE	N
3.479	37.6473762	-85.8375389	KY0061	LINCOLN				12/7/2012	724	0	0	STRAIGHT & GRADE	WET	1	N	RAINING	SINGLE VEHICLE	N
3.54	37.6483494	-85.8376488	KY0061	LINCOLN	HARVEST			12/6/2012	1317	0	0	STRAIGHT & LEVEL	WET	2	N	RAINING	ANGLE	N
3.541	37.6483578	-85.837643	KY0061	LINCOLN				3/26/2013	935	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
3.569	37.6488059	-85.8375429	KY0061	LINCOLN				2/29/2012	1048	0	0	STRAIGHT & GRADE	WET	2	N	RAINING	REAR END	N
4.234	37.6576229	-85.8361666	KY0061	LINCOLN				2/27/2013	1935	0	0	STRAIGHT & LEVEL	WET	2	N	CLOUDY	HEAD ON	N
4.235	37.6576037	-85.8364311	KY0061	LINCOLN				9/11/2014	1319	0	1	CURVE & LEVEL	WET	1	N	RAINING	SINGLE VEHICLE	N
4.528	37.6617184	-85.8376095	KY0061	LINCOLN		SPORTSMAN LAKE	PRODUCTION	12/6/2013	1559	0	0	CURVE & GRADE	SNOW/SLUSH	2	N	SLEET/HAIL	ANGLE	N
4.582	37.6623102	-85.8382112	KY0061	LINCOLN				11/1/2013	25	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
4.597	37.6625097	-85.8383287	KY0061	LINCOLN				11/13/2014	1832	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	REAR END	N
4.712	37.6640312	-85.8390939	KY0061	LINCOLN		SPORTSMAN LAKE	PRODUCTION	10/10/2011	730	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
4.781	37.6651269	-85.8393669	KY0061	LINCOLN		SPORTSMAN LAKE	PRODUCTION	8/10/2010	823	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
4.82	37.6656395	-85.8396579	KY0061	LINCOLN	SPORTSMAN LAKE			11/9/2010	809	0	0	STRAIGHT & GRADE	OTHER	2	N	CLEAR	REAR END	N
4.822	37.6656651	-85.8396788	KY0061	LINCOLN	SPORTSMAN LAKE			1/10/2011	601	0	1	STRAIGHT & GRADE	DRY	2	N	CLOUDY	ANGLE	N
4.822	37.6656718	-85.8396845	KY0061	LINCOLN	SPORTSMAN LAKE			3/4/2014	855	0	0	STRAIGHT & GRADE	ICE	2	N	CLEAR	ANGLE	N
4.823	37.6654822	-85.8398597	KY0061	LINCOLN	SPORTSMAN LAKE			12/1/2014	1200	0	1	STRAIGHT & GRADE	WET	2	N	RAINING	ANGLE	N
4.824	37.6654763	-85.8398516	KY0061	LINCOLN	SPORTSMAN LAKE			5/3/2011	1302	0	0	CURVE & GRADE	WET	2	N	CLOUDY	ANGLE	N
4.824	37.6654763	-85.8398508	KY0061	LINCOLN	SPORTSMAN LAKE			10/10/2011	1344	0	4	STRAIGHT & LEVEL	DRY	5	N	CLEAR	REAR END	N
4.824	37.6654769	-85.8398505	KY0061	LINCOLN	SPORTSMAN LAKE			11/12/2011	2250	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	BACKING	N
4.825	37.6654857	-85.8398588	KY0061	LINCOLN	SPORTSMAN LAKE			4/3/2012	1303	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	ANGLE	N
4.825	37.6656812	-85.839692	KY0061	LINCOLN	SPORTSMAN LAKE			5/14/2013	917	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	ANGLE	N
4.825	37.6656821	-85.8396781	KY0061	LINCOLN	SPORTSMAN LAKE			1/3/2014	1840	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	OPPOSING LEFT TURN	Y
4.825	37.6656839	-85.8396689	KY0061	LINCOLN	SPORTSMAN LAKE			8/6/2014	1440	0	0	STRAIGHT & GRADE	DRY	2	N	CLOUDY	ANGLE	N
4.825	37.6654717	-85.8398353	KY0061	LINCOLN	SPORTSMAN LAKE			8/6/2014	2204	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
4.826	37.6656648	-85.8397205	KY0061	LINCOLN	SPORTSMAN LAKE			11/24/2013	2006	0	0	STRAIGHT & GRADE	DRY	2	Y	CLEAR	ANGLE	N
4.828	37.6655194	-85.839888	KY0061	LINCOLN		SPORTSMAN LAKE	DIXIE	5/7/2012	1427	0	1	CURVE & GRADE	DRY	2	N	CLEAR	REAR END	N
4.831	37.665571	-85.8399132	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	8/30/2011	1617	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	REAR END	N
4.839	37.6655789	-85.8399355	KY0061	LINCOLN	SPORTSMAN LAKE			4/6/2011	1607	0	0	STRAIGHT & GRADE	DRY	3	N	CLEAR	OPPOSING LEFT TURN	Y
4.84	37.6658811	-85.8398185	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	6/27/2014	2024	0	0	STRAIGHT & GRADE	WATER (STANDING OR MOVING)	1	N	RAINING	SINGLE VEHICLE	N
4.849	37.6657965	-85.840053	KY0061	LINCOLN		SPORTSMAN LAKE	DIXIE	3/19/2011	1824	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	REAR END	N
5.112	37.6686992	-85.8432968	KY0061	LINCOLN		SPORTSMAN LAKE	DIXIE	11/2/2011	1023	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	REAR END	N
5.193	37.6693086	-85.8446269	KY0061	LINCOLN				11/12/2011	1804	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
5.205	37.6691704	-85.8449186	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	1/13/2013	1715	0	0	STRAIGHT & LEVEL	WET	2	N	RAINING	SIDESWIPE-SAME DIRECTION	N
5.212	37.6694015	-85.8449837	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	8/24/2012	740	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	REAR END	N
5.214	37.6694668	-85.8449621	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	5/4/2013	1707	0	0	CURVE & GRADE	WET	1	N	RAINING	SINGLE VEHICLE	N
5.228	37.6695535	-85.8452127	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	2/25/2014	756	0	0	STRAIGHT & LEVEL	DRY	3	N	CLEAR	REAR END	N
5.244	37.6693601	-85.8456573	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	3/29/2014	556	0	2	CURVE & LEVEL	WET	1	N	CLOUDY	SINGLE VEHICLE	N
5.254	37.6696924	-85.8456911	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	9/21/2011	915	0	0	STRAIGHT & LEVEL	WET	2	N	CLOUDY	REAR END	N
5.256	37.6696851	-85.8457376	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	2/8/2014	1105	0	0	STRAIGHT & LEVEL	WET	2	N	SNOWING	REAR END	N
5.261	37.6697352	-85.8457968	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	8/12/2014	1604	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	REAR END	N
5.263	37.6697518	-85.8458431	KY0061	LINCOLN		SPORTSMAN LAKE	DIXIE	8/11/2011	1009	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
5.263	37.669566	-85.8460208	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	5/9/2014	1419	0	1	STRAIGHT & GRADE	DRY	2	N	CLEAR	SIDESWIPE-SAME DIRECTION	N
5.271	37.6697751	-85.8460057	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	5/26/2013	1229	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
5.274	37.6696129	-85.8460942	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	11/11/2010	1932	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	SIDESWIPE-SAME DIRECTION	N
5.274	37.6698221	-85.8460305	KY0061	LINCOLN		DIXIE	WK9001 W	5/14/2011	1440	0	0	STRAIGHT & LEVEL	WET	2	N	RAINING	REAR END	N
5.282	37.6698796	-85.8461473	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	11/8/2010	700	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
5.282	37.6697064	-85.8461839	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	8/19/2013	1546	0	0	CURVE & LEVEL	DRY	2	N	CLEAR	SIDESWIPE-SAME DIRECTION	N
5.285	37.6698933	-85.8462043	KY0061	LINCOLN		DIXIE	SPORTSMAN LAKE	5/22/2012	1324	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	BACKING	N
5.295	37.6699549	-85.8463685	KY0061	LINCOLN				11/7/2012	956	0	1	STRAIGHT & LEVEL	WET	2	N	RAINING	REAR END	N
5.296	37.6697881	-85.8464325	KY0061	LINCOLN	DIXIE			1/17/2014	724	0	0	CURVE & LEVEL	SNOW/SLUSH	2	N	SNOWING	REAR END	N
5.298	37.6699805	-85.8464222	KY0061	LINCOLN	DIXIE			7/19/2010	1536	0	3	CURVE & LEVEL	DRY	2	N	CLEAR	ANGLE	N
5.3	37.6700101	-85.8464354	KY0061	LINCOLN	DIXIE			2/29/2012	1059	0	0	STRAIGHT & LEVEL	WET	2	N	RAINING	ANGLE	N
9.13	37.5626297	-85.7479385	KY0061	LINCOLN				9/15/2010	1336	0	2	STRAIGHT & HILLCREST	DRY	2	N	CLEAR	OPPOSING LEFT TURN	N
9.133	37.56275	-85.7480038	KY0061	LINCOLN				4/28/2011	1845	0	2	STRAIGHT & LEVEL	DRY	3	N	CLEAR	HEAD ON	N
9.137	37.5627326	-85.7479824	KY0061	LINCOLN				10/19/2012	1344	0	3	STRAIGHT & LEVEL	DRY	4	N	CLOUDY	REAR END	Y
9.159	37.5631022	-85.7478608	KY0061	LINCOLN				12/10/2013	606	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
9.267	37.5645321	-85.748676	KY0061	LINCOLN				5/17/2011	1506	0	0	STRAIGHT & HILLCREST	DRY	2	N	CLOUDY	REAR END	N
9.498	37.5677585	-85.749845	KY0061	LINCOLN				7/9/2011	1328	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
9.604	37.569246	-85.7503856	KY0061	LINCOLN	OLD SONORA			3/28/2012	1537	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
9.886	37.5733209	-85.7516593	KY0061	LINCOLN				12/17/2012	1310	0	1	STRAIGHT & LEVEL	DRY	3	N	CLOUDY	ANGLE	N
9.887	37.5733176	-85.7519575	KY0061	LINCOLN				3/19/2013	1635	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
9.892	37.5734241	-85.7516653	KY0061	LINCOLN	MAIN			5/11/2010	1601	0	2	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	ANGLE	N
9.893	37.5734364	-85.751662	KY0061	LINCOLN	MAIN			8/31/2011	1330	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
9.893	37.5734362	-85.7516669	KY0061	LINCOLN	MAIN			11/10/2012	1718	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
9.893	37.5734338	-85.751666	KY0061	LINCOLN				12/24/2012	1828	0	4	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
9.894	37.5734443	-85.7516705	KY0061	LINCOLN	MAIN			10/4/2011	1500	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
9.909	37.5736562	-85.7517504	KY0061	LINCOLN				3/28/2010	1045	0	0	STRAIGHT & LEVEL	WET	2	N	RAINING	REAR END	N
10.284	37.5787978	-85.7536564	KY0061	LINCOLN				8/27/2014	2246	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
10.425	37.5807447	-85.7543721	KY0061	LINCOLN				3/2/2013	735	0	0	STRAIGHT & LEVEL	ICE	2	N	CLEAR	ANGLE	N
10.46	37.5812189	-85.7545467	KY0061	LINCOLN				11/2/2010	740	0	0	STRAIGHT & GRADE	DRY	1	N	CLEAR	SINGLE VEHICLE	N
10.474	37.58135	-85.7548667	KY0061	LINCOLN	TONIEVILLE			9/24/2010	1442	0	2	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
10.477	37.5814583	-85.754619	KY0061	LINCOLN	TONIEVILLE			7/20/2011	1616	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
10.482	37.5815285	-85.7546568	KY0061	LINCOLN				11/15/2013	1436	0	2	STRAIGHT & LEVEL	WET	2	N	CLEAR	HEAD ON	N
10.501	37.5817163	-85.7550556	KY0061	LINCOLN				2/17/2011	300	0	0	CURVE & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
10.555	37.582448	-85.7553266	KY0061	LINCOLN				3/2/2013	739	0	0	STRAIGHT & LEVEL	ICE	2	N	CLEAR	REAR END	N
10.995	37.5883346	-85.7581867	KY0061	LINCOLN				6/18/2010	1551	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
11.057	37.5890103	-85.7590399	KY0061	LINCOLN				10/18/2014	2000	0	0	CURVE & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
11.265	37.5909226	-85.7624466	KY0061	LINCOLN				4/22/2011	650	0	0	STRAIGHT & LEVEL	WET	1	N	RAINING	SINGLE VEHICLE	N
11.341	37.5914694	-85.7638558	KY0061	LINCOLN				8/8/2011	1834	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
11.589	37.593684	-85.7675418	KY0061	LINCOLN				5/10/2013	515	0	0	STRAIGHT & LEVEL	DRY	1	N	CLOUDY	SINGLE VEHICLE	N
11.78	37.5948538	-85.7696415	KY0061	LINCOLN				7/9/2011	1250	0	0	STRAIGHT & LEVEL	DRY	2	Y	CLEAR	ANGLE	N
11.809	37.5950782	-85.7700994	KY0061	LINCOLN				11/3/2010	738	0	2	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
11.81	37.5949084	-85.7702712	KY0061	LINCOLN				11/3/2010	705	0	1	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	HEAD ON	N
11.961	37.5961222	-85.7725768	KY0061	LINCOLN				9/12/2014	1400	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
11.972	37.5962259	-85.7727304	KY0061	LINCOLN				10/23/2013	953	0	0	STRAIGHT & LEVEL	DRY	2	Y	CLEAR	SIDESWIPE-SAME DIRECTION	N
12.476	37.6003811	-85.7803841	KY0061	LINCOLN				6/8/2013	2200	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	SIDESWIPE-SAME DIRECTION	N
13.046	37.6050481	-85.7890462	KY0061	LINCOLN				12/13/2012	1640	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	SIDESWIPE-SAME DIRECTION	N
13.53	37.6090119	-85.7964343	KY0061	LINCOLN	TONIEVILLE			10/12/2011	1600	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N

MILEPOINT	LATITUDE	LONGITUDE	ROADWAY NUMBER	ROADWAY NAME	INTERSECTION ROADWAY NAME	BETWEEN STREET ROADWAY NAME 1	BETWEEN STREET ROADWAY NAME 2	COLLISION DATE	COLLISION TIME	FATAL	INJURED	ROADWAY CHARACTER	ROADWAY CONDITION	UNITS INVOLVED	HIT & RUN INDICATOR	WEATHER	MANNER OF COLLISION	SECONDARY COLLISION INDICATOR
25.82	37.521583	-85.8836784	KY0084	WESTERN				10/6/2011	240	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
25.823	37.521572	-85.883621	KY0084	WESTERN				12/17/2012	1432	0	0	STRAIGHT & HILLCREST	WET	2	N	RAINING	SIDESWIPE-OPPOSITE DIRECTION	N
25.823	37.521545	-85.8835514	KY0084	WESTERN				4/28/2013	754	0	0	STRAIGHT & GRADE	WET	1	N	CLOUDY	SINGLE VEHICLE	N
25.828	37.5215375	-85.8835309	KY0084	WESTERN				7/24/2012	1815	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	SIDESWIPE-SAME DIRECTION	N
25.828	37.5215384	-85.8835337	KY0084	WESTERN				10/1/2012	753	0	2	STRAIGHT & LEVEL	WET	2	N	RAINING	HEAD ON	N
25.851	37.5214082	-85.8831581	KY0084	WESTERN				5/24/2013	1826	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	HEAD ON	N
25.852	37.5213933	-85.8831337	KY0084	WESTERN				7/24/2013	1600	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
25.859	37.5213462	-85.8830193	KY0084	WESTERN				12/13/2014	1255	0	0	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	BACKING	N
25.862	37.521316	-85.8829751	KY0084	WESTERN				10/31/2014	2119	0	0	STRAIGHT & LEVEL	WET	2	N	RAINING	ANGLE	N
25.872	37.5212751	-85.8828105	KY0084	WESTERN		I65 N EXIT81 OFF RAMP TO KY84	DIXIE	11/14/2013	339	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
25.88	37.5212	-85.8826947	KY0084	WESTERN				2/5/2010	1640	0	0	STRAIGHT & GRADE	WET	2	N	RAINING	REAR END	N
25.897	37.5210852	-85.8824217	KY0084	WESTERN				5/20/2012	1710	0	1	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	ANGLE	N
25.904	37.5210325	-85.8823083	KY0084	WESTERN				9/11/2013	1803	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	HEAD ON	N
25.905	37.5210961	-85.8822481	KY0084	WESTERN				12/14/2010	1705	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	BACKING	N
25.915	37.520947	-85.8821487	KY0084	WESTERN				10/5/2011	1135	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	SIDESWIPE-OPPOSITE DIRECTION	N
25.919	37.5208987	-85.8820897	KY0084	WESTERN				12/26/2010	1450	0	0	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	BACKING	N
25.919	37.5209058	-85.8820858	KY0084	WESTERN				3/13/2013	910	0	0	STRAIGHT & LEVEL	DRY	2	Y	CLOUDY	ANGLE	N
25.922	37.5209091	-85.8820226	KY0084	WESTERN				6/22/2013	757	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	REAR END	N
25.938	37.520797	-85.8817647	KY0084	WESTERN				7/3/2014	1418	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	SIDESWIPE-OPPOSITE DIRECTION	N
25.942	37.5207695	-85.8817012	KY0084	WESTERN				1/19/2013	1800	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	BACKING	N
25.957	37.5206731	-85.8814674	KY0084	WESTERN				6/26/2010	1551	0	1	STRAIGHT & HILLCREST	DRY	2	N	CLEAR	OPPOSING LEFT TURN	N
25.982	37.5205067	-85.881056	KY0084	WESTERN				5/6/2013	1305	0	0	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	BACKING	N
25.995	37.5204185	-85.8808477	KY0084	WESTERN				1/25/2012	2137	0	1	STRAIGHT & LEVEL	WET	2	N	CLOUDY	ANGLE	N
26	37.5204069	-85.880759	KY0084	WESTERN	DIXIE			1/6/2013	1515	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	ANGLE	N
26.028	37.520201	-85.8803209	KY0084	WESTERN	DIXIE			3/27/2011	1335	0	3	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
26.033	37.5201197	-85.880258	KY0084	WESTERN				6/26/2011	1235	0	0	STRAIGHT & LEVEL	DRY	3	N	CLOUDY	ANGLE	Y
26.033	37.5201585	-85.8802299	KY0084	WESTERN				10/29/2013	945	0	0	STRAIGHT & LEVEL	DRY	2	N	FOG/SMOG/SMOKE	ANGLE	Y
26.035	37.5201348	-85.8802102	KY0084	WESTERN	SONORA			3/15/2014	1938	0	2	STRAIGHT & GRADE	DRY	2	N	CLEAR	ANGLE	N
26.038	37.5201222	-85.8801495	KY0084	WESTERN	DIXIE			12/29/2012	1330	0	0	STRAIGHT & GRADE	WET	2	N	CLOUDY	ANGLE	N
26.041	37.5200926	-85.8801144	KY0084	WESTERN	DIXIE			9/22/2010	1304	1	2	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
26.041	37.5200919	-85.8801107	KY0084	WESTERN	SONORA			10/14/2011	1410	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
26.041	37.5200924	-85.8801146	KY0084	WESTERN	DIXIE			7/8/2014	702	0	0	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	ANGLE	N
26.041	37.5200909	-85.8801123	KY0084	WESTERN	DIXIE			9/12/2014	1206	0	0	STRAIGHT & LEVEL	WET	2	N	CLOUDY	ANGLE	N
0	37.5200738	-85.8800696	KY0084	SONORA	DIXIE			3/26/2011	1738	0	0	STRAIGHT & LEVEL	WET	2	N	RAINING	ANGLE	N
0	37.5200739	-85.8800688	KY0084	WESTERN	DIXIE			6/11/2013	1626	0	2	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
0	37.5200741	-85.8800692	KY0084	SONORA	DIXIE			7/28/2013	830	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	ANGLE	N
0	37.5200747	-85.8800682	KY0084	SONORA	DIXIE			10/2/2014	1115	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
0.001	37.5200861	-85.8800638	KY0084	SONORA	DIXIE			9/27/2014	1140	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
0.007	37.520061	-85.8799438	KY0084	SONORA				12/12/2010	2000	0	0	STRAIGHT & GRADE	SNOW/SLUSH	1	N	BLOWING SAND/SOIL/DIRT/SNOW	SINGLE VEHICLE	N
0.138	37.5198711	-85.8775632	KY0084	SONORA				10/24/2014	2125	0	0	STRAIGHT & GRADE	DRY	3	N	CLEAR	REAR END	N
0.504	37.51943333	-85.87088333	KY0084	SONORA				6/6/2014	1912	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
0.795	37.519569	-85.8655363	KY0084	SONORA				9/19/2012	743	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
0.958	37.5199063	-85.862713	KY0084	SONORA				6/17/2012	1842	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
0.959	37.5199065	-85.8627376	KY0084	SONORA				7/14/2013	1150	0	0	STRAIGHT & GRADE	DRY	1	N	CLEAR	SINGLE VEHICLE	N
1.323	37.5207119	-85.8560536	KY0084	SONORA				9/2/2013	2232	0	0	STRAIGHT & LEVEL	DRY	2	Y	CLEAR	SINGLE VEHICLE	N
1.393	37.5206669	-85.8547496	KY0084	SONORA				4/15/2014	2200	0	1	STRAIGHT & HILLCREST	DRY	2	N	CLEAR	SINGLE VEHICLE	N
1.946	37.5195747	-85.8447833	KY0084	SONORA				1/22/2013	1519	0	1	STRAIGHT & LEVEL	DRY	2	N	CLEAR	OPPOSING LEFT TURN	N
2.41	37.5224523	-85.8371177	KY0084	SONORA				1/12/2011	1300	0	0	STRAIGHT & LEVEL	SNOW/SLUSH	1	N	BLOWING SAND/SOIL/DIRT/SNOW	SINGLE VEHICLE	N
2.516	37.5230192	-85.8353111	KY0084	SONORA				12/13/2010	1830	0	1	STRAIGHT & LEVEL	SNOW/SLUSH	2	N	CLOUDY	HEAD ON	N
2.623	37.5236464	-85.8335114	KY0084	SONORA				10/22/2011	1441	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
2.625	37.5236337	-85.833465	KY0084	SONORA				1/13/2013	1813	0	0	STRAIGHT & LEVEL	WET	1	N	RAINING	SINGLE VEHICLE	N
2.626	37.5236492	-85.83344	KY0084	SONORA				2/8/2011	1110	0	0	CURVE & LEVEL	ICE	1	N	CLOUDY	SINGLE VEHICLE	N
2.905	37.5254721	-85.8290135	KY0084	SONORA				9/26/2013	820	0	2	STRAIGHT & LEVEL	DRY	2	N	CLEAR	SINGLE VEHICLE	N
2.905	37.5255588	-85.829069	KY0084	SONORA				11/18/2014	1718	0	1	STRAIGHT & HILLCREST	DRY	2	N	CLEAR	REAR END	N
3.149	37.5269447	-85.8249759	KY0084	SONORA				11/11/2010	1607	0	1	CURVE & GRADE	DRY	1	N	CLEAR	SINGLE VEHICLE	N
3.183	37.5268112	-85.8242329	KY0084	SONORA				10/21/2010	1645	0	0	STRAIGHT & HILLCREST	DRY	2	Y	CLEAR	SIDESWIPE-SAME DIRECTION	N
3.453	37.5270404	-85.8191124	KY0084	SONORA				11/14/2012	707	0	0	CURVE & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
3.466	37.5270515	-85.8188751	KY0084	SONORA				5/1/2013	1558	0	0	CURVE & HILLCREST	DRY	2	N	CLEAR	REAR END	N
3.492	37.5270576	-85.8183949	KY0084	SONORA				1/11/2011	1828	0	0	STRAIGHT & LEVEL	WET	2	N	SNOWING	SIDESWIPE-OPPOSITE DIRECTION	N
3.561	37.5268464	-85.8170249	KY0084	SONORA				8/11/2013	130	0	0	CURVE & LEVEL	DRY	2	Y	CLEAR	SIDESWIPE-OPPOSITE DIRECTION	N
3.6	37.5268049	-85.8169109	KY0084	SONORA				6/11/2013	2303	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
3.753	37.5266056	-85.8133855	KY0084	SONORA				1/21/2011	1036	0	0	STRAIGHT & GRADE	WET	2	N	CLEAR	SIDESWIPE-OPPOSITE DIRECTION	N
3.909	37.5267889	-85.8105478	KY0084	SONORA				3/18/2013	1330	0	1	CURVE & LEVEL	WET	1	N	RAINING	SINGLE VEHICLE	N
3.955	37.5268906	-85.8097217	KY0084	SONORA				9/13/2011	1512	0	0	CURVE & GRADE	DRY	2	Y	CLEAR	SIDESWIPE-OPPOSITE DIRECTION	N
3.969	37.5269289	-85.8094756	KY0084	SONORA				7/28/2012	2	0	0	STRAIGHT & HILLCREST	WET	1	N	RAINING	SINGLE VEHICLE	N
4.024	37.5272344	-85.8085306	KY0084	SONORA				12/8/2014	2118	0	0	CURVE & HILLCREST	DRY	1	N	CLEAR	SINGLE VEHICLE	N
4.462	37.5302147	-85.8024438	KY0084	SONORA				1/17/2013	135	0	0	STRAIGHT & GRADE	ICE	1	N	CLOUDY	SINGLE VEHICLE	N
5.12	37.5362208	-85.793103	KY0084	SONORA				4/13/2012	1600	0	1	STRAIGHT & GRADE	DRY	1	N	CLEAR	SINGLE VEHICLE	N
5.126	37.5362462	-85.7929984	KY0084	SONORA				1/25/2010	618	0	0	STRAIGHT & LEVEL	WET	1	N	RAINING	SINGLE VEHICLE	N
5.268	37.5374502	-85.7909022	KY0084	SONORA				9/2/2014	1456	0	0	STRAIGHT & GRADE	DRY	2	N	CLOUDY	SIDESWIPE-OPPOSITE DIRECTION	N
5.399	37.5385181	-85.7889248	KY0084	SONORA				9/18/2010	1610	0	0	CURVE & HILLCREST	DRY	1	N	CLEAR	SINGLE VEHICLE	N
5.613	37.5404911	-85.7859045	KY0084	SONORA				6/22/2010	1423	0	0	STRAIGHT & HILLCREST	DRY	1	N	CLEAR	SINGLE VEHICLE	N
6.003	37.5423102	-85.779293	KY0084	SONORA				7/20/2012	1600	0	0	STRAIGHT & LEVEL	DRY	2	Y	CLEAR	SIDESWIPE-OPPOSITE DIRECTION	N
6.344	37.5411238	-85.7730055	KY0084	SONORA				5/1/2012	900	0	0	CURVE & HILLCREST	WET	2	N	CLOUDY	SIDESWIPE-OPPOSITE DIRECTION	N
6.666	37.5431216	-85.7685065	KY0084	TANNER				12/26/2012	2214	0	0	STRAIGHT & HILLCREST	WET	1	N	CLEAR	SINGLE VEHICLE	N
6.795	37.5445253	-85.7669366	KY0084	TANNER				11/8/2013	725	0	0	STRAIGHT & LEVEL	DRY	2	Y	CLEAR	SIDESWIPE-OPPOSITE DIRECTION	N
7.053	37.5470827	-85.763462	KY0084	TANNER	MCDOWELL			4/9/2014	1535	0	0	STRAIGHT & LEVEL	WET	2	N	RAINING	REAR END	N
7.158	37.5481645	-85.7621468	KY0084	TANNER				7/27/2010	1418	0	0	CURVE & LEVEL	WET	1	N	RAINING	SINGLE VEHICLE	N
7.189	37.5484292	-85.7616845	KY0084	TANNER				1/2/2010	836	0	0	CURVE & GRADE	SNOW/SLUSH	1	N	BLOWING SAND/SOIL/DIRT/SNOW	SINGLE VEHICLE	N
7.912	37.5573257	-85.7544475	KY0084	TANNER	KYLE			5/13/2013	738	0	0	CURVE & GRADE	DRY	2	N	CLEAR	SIDESWIPE-SAME DIRECTION	N
8.05	37.5591299	-85.7533248	KY0084	TANNER				12/14/2010	1515	0	0	CURVE & GRADE	WET	1	N	CLOUDY	SINGLE VEHICLE	N
8.071	37.5594287	-85.7532292	KY0084	TANNER				2/12/2012	626	0	1	CURVE & GRADE	WET	1	N	RAINING	SINGLE VEHICLE	N
8.074	37.5594571	-85.7531741	KY0084	TANNER				1/7/2012	504	1	0	CURVE & HILLCREST	WET	1	N	CLOUDY	SINGLE VEHICLE	N
8.076	37.5595121	-85.7532256	KY0084	TANNER				3/16/2014	1901	0	2	CURVE & GRADE	ICE	2	N	SNOWING	HEAD ON	N
8.336	37.5620699	-85.7493851	KY0084	TANNER				9/12/2012	757	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
8.427	37.5625372	-85.7480821	KY0084	TANNER				4/19/2012	2314	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
8.428	37.5625703	-85.7480795	KY0084	TANNER				5/24/2013	1209	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	HEAD ON	N
8.431	37.562573	-85.7480264	KY0084	TANNER				7/7/2012	1005	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
8.431	37.5625729	-85.748038	KY0084	TANNER				1/25/2013	953	0	0	STRAIGHT & LEVEL	ICE	2	N	CLEAR	ANGLE	N
8.435	37.56256	-85.7479485	KY0084	TANNER	LINCOLN			11/29/2010	747	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
8.444	37.5626222	-85.7477915	KY0084	TANNER				10/15/2013	1541	0	1	STRAIGHT & HILLCREST	DRY	3	N	CLEAR	ANGLE	N
8.449	37.56266	-85.7477271	KY0084	TANNER	LINCOLN			10/20/2013	2135	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	OPPOSING LEFT TURN	N

MILEPOINT	LATITUDE	LONGITUDE	ROADWAY NUMBER	ROADWAY NAME	INTERSECTION ROADWAY NAME	BETWEEN STREET ROADWAY NAME 1	BETWEEN STREET ROADWAY NAME 2	COLLISION DATE	COLLISION TIME	FATAL	INJURED	ROADWAY CHARACTER	ROADWAY CONDITION	UNITS INVOLVED	HIT & RUN INDICATOR	WEATHER	MANNER OF COLLISION	SECONDARY COLLISION INDICATOR
6.483	37.5961281	-85.8687235	KY0222	GLENDALE HODGENVILLE				11/14/2013	740	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	SIDESWIPE-OPPOSITE DIRECTION	N
6.524	37.5959204	-85.8680239	KY0222	GLENDALE HODGENVILLE				7/8/2012	1515	0	0	STRAIGHT & LEVEL	DRY	3	N	CLOUDY	REAR END	N
6.533	37.5958673	-85.867861	KY0222	GLENDALE HODGENVILLE				10/24/2010	2210	0	0	STRAIGHT & GRADE	WET	1	N	CLEAR	SINGLE VEHICLE	N
6.545	37.5958171	-85.8676559	KY0222	GLENDALE HODGENVILLE				9/29/2011	630	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
6.582	37.5955851	-85.8670332	KY0222	GLENDALE HODGENVILLE				8/18/2013	1740	0	0	STRAIGHT & LEVEL	WET	2	N	CLOUDY	REAR END	N
6.592	37.5955167	-85.8668833	KY0222	GLENDALE HODGENVILLE	I65 N EXIT86 ON RAMP FROM KY222			12/14/2012	736	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
6.592	37.5955181	-85.8668776	KY0222	GLENDALE HODGENVILLE	I65 N EXIT86 ON RAMP FROM KY222			10/3/2014	1718	0	0	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	OPPOSING LEFT TURN	N
6.599	37.5954705	-85.8667612	KY0222	GLENDALE HODGENVILLE	I65 N EXIT86 OFF RAMP TO KY222			8/15/2014	700	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
6.628	37.5953073	-85.8662851	KY0222	GLENDALE HODGENVILLE				2/8/2013	1635	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	REAR END	N
6.651	37.5951652	-85.865909	KY0222	GLENDALE HODGENVILLE				12/17/2013	635	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	BACKING	N
6.663	37.5951035	-85.8656992	KY0222	GLENDALE HODGENVILLE				9/1/2010	2025	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	REAR END	N
6.668	37.595224	-85.8655481	KY0222	GLENDALE HODGENVILLE				2/4/2011	1651	0	0	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	BACKING	N
6.668	37.5950757	-85.8656018	KY0222	GLENDALE HODGENVILLE				4/13/2011	2227	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	BACKING	N
6.672	37.5950576	-85.8655303	KY0222	GLENDALE HODGENVILLE				8/25/2011	810	0	0	STRAIGHT & LEVEL	DRY	3	N	CLEAR	BACKING	N
6.677	37.5950211	-85.8655132	KY0222	GLENDALE HODGENVILLE				7/24/2010	930	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	BACKING	N
6.686	37.5950451	-85.8652748	KY0222	GLENDALE HODGENVILLE				5/14/2014	2216	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	BACKING	N
6.689	37.5949778	-85.8652518	KY0222	GLENDALE HODGENVILLE				2/15/2013	10	0	0	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	SIDESWIPE-SAME DIRECTION	N
6.703	37.5948804	-85.8650054	KY0222	GLENDALE HODGENVILLE				2/28/2013	2242	0	0	STRAIGHT & LEVEL	WET	2	N	CLEAR	OPPOSING LEFT TURN	N
6.705	37.594867	-85.8649841	KY0222	GLENDALE HODGENVILLE				8/24/2012	1552	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	OPPOSING LEFT TURN	N
6.715	37.5948052	-85.8648065	KY0222	GLENDALE HODGENVILLE				7/27/2012	2200	0	0	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	SIDESWIPE-OPPOSITE DIRECTION	N
6.728	37.5947371	-85.8645972	KY0222	GLENDALE HODGENVILLE				6/30/2012	1721	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	SIDESWIPE-SAME DIRECTION	N
6.743	37.5946493	-85.8643374	KY0222	GLENDALE HODGENVILLE				5/29/2010	1437	0	0	STRAIGHT & GRADE	DRY	2	N	CLEAR	OPPOSING LEFT TURN	N
6.751	37.5946048	-85.8642014	KY0222	GLENDALE HODGENVILLE				9/10/2010	830	0	0	STRAIGHT & LEVEL	WET	1	N	RAINING	SINGLE VEHICLE	N
6.751	37.5946046	-85.8642022	KY0222	GLENDALE HODGENVILLE	DIXIE			3/17/2012	1854	0	1	STRAIGHT & LEVEL	DRY	2	N	CLOUDY	ANGLE	N
6.751	37.5946027	-85.8642025	KY0222	GLENDALE HODGENVILLE	DIXIE			9/16/2012	909	0	0	STRAIGHT & GRADE	WET	2	N	RAINING	ANGLE	N
6.751	37.5946036	-85.8642034	KY0222	GLENDALE HODGENVILLE	DIXIE			10/4/2012	1345	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
6.751	37.594604	-85.8642025	KY0222	GLENDALE HODGENVILLE	DIXIE			3/7/2013	1635	0	0	STRAIGHT & LEVEL	DRY	2	N	CLEAR	ANGLE	N
7.582	37.5878241	-85.8531396	KY0222	GLENDALE HODGENVILLE				10/29/2010	905	0	2	STRAIGHT & HILLCREST	DRY	2	N	CLEAR	SINGLE VEHICLE	N
9.265	37.5799606	-85.832345	KY0222	GLENDALE HODGENVILLE				12/7/2011	1935	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
5.104	37.5487646	-85.7730129	KY0222	GLENDALE				1/7/2011	732	0	1	CURVE & LEVEL	ICE	1	N	SNOWING	SINGLE VEHICLE	N
5.57	37.550678	-85.7629723	KY0222	GLENDALE				3/18/2013	2014	0	1	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N
5.664	37.5508932	-85.7611985	KY0222	GLENDALE				12/22/2012	2245	0	0	STRAIGHT & LEVEL	DRY	1	N	CLEAR	SINGLE VEHICLE	N

Appendix C: Additional Environmental Documentation

Document Path: O:\2015\KY15-022_PB_Larue-Hardin_EC\Map\Mapping\Environmental_Constraints.mxd LAS 11/02/15

Legend

- Route 1 - New Corridor
- Route 2 - New Corridor
- Route 3 - Existing Corridor
- Route 4 - Existing Corridor
- Noise Activity Category B
- Noise Activity Category C
- Campground
- Medium-Density Residential Cluster
- High-Density Residential Cluster
- Indiana and Northern Long-Eared Bat Roosting Habitat
- Conservation Easement
- Sinkhole
- Hydric Soils
- National Wetland Inventory
- FEMA 100-year Floodplain
- County Boundary
- Stream
- Cemetery
- Observed Wetland
- Potential Hazardous Material Site*
- Oil/Gas Well
- Landfill

*Potential hazardous material sites in Route 1 have not been field verified.

Notes

Stream: National Hydrology Dataset. US Geological Survey. February 21, 2003.
NWI Wetland: National Wetlands Inventory. US Fish and Wildlife Service. May 31, 2001.
FEMA 100-year Floodplain: Q3 Flood Data. FEMA. US Department of Homeland Security. March, 2, 2001
Exceptional Use Water: 401 KAR 10:030 Exceptional Use Waters. Kentucky Division of Water. 2008
Oil / Gas Well: Kentucky Geological Survey. March 6, 2014.
Basemap: Esri, DeLorme, NAVTEQ, USGS, Intermap, IPC, Esri Japan, METI, Esri China (Hong Kong), Esri (Tailand), TomTom. 2013.
Study Area: PB data February 10, 2015
Permitted Water Withdrawals: Permitted Water Withdrawals. Kentucky Division of Water. January 23, 2014.
Landfill Solid Waste Landfills in Kentucky. Kentucky Division of Waste Management. March 13, 2014.
UST/Hazmt Data: Environmental Data Resources Inc, May 4, 2015

HARDIN

LARUE

Middle Creek

North Fork Nolin River

Barren Run

South Fork Nolin River

Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

Prepared by:
Third Rock Consultants, LLC
2526 Regency Road, Suite 180
Lexington, Kentucky 40503

Exhibit 1
Environmental Constraints

0 1 2 Miles

Improved Hodgenville to I-65 Connection
KYTC Item No. 4-8505.00
Larue and Hardin Counties, Kentucky

Document Path: Q:\2015\KY15-023_PB_Larue-Hardin_ECMap\Mapping\Environmental_Constraints2.mxd initials/date

Notes

Stream: National Hydrology Dataset. US Geological Survey. February 21, 2003.
NWI Wetland: National Wetlands Inventory. US Fish and Wildlife Service. May 31, 2001.
FEMA 100-year Floodplain: Q3 Flood Data. FEMA. US Department of Homeland Security. March, 2, 2001
Exceptional Use Water: 401 KAR 10:030 Exceptional Use Waters. Kentucky Division of Water. 2008
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Basemap: Esri, DeLorme, NAVTEQ, USGS, Intermap, iPC, Esri Japan, METI, Esri China (Hong Kong) , Esri (Tailand), TomTom. 2013.
Study Area: PB data February 10, 2015
Permitted Water Withdrawals: Permitted Water Withdrawals. Kentucky Division of Water. January 23, 2014.
Landfill:Solid Waste Landfills in Kentucky. Kentucky Division of Waste Management. March 13, 2014.
UST/Hazmt Data: Environmental Data Resources Inc, May 4, 2015

Legend

Possible Alternatives

New Corridor

- Route 1
- Route 2

Existing Corridors

- Route 3
- Route 4
- Conservation Easement
- FEMA 100-year Floodplain
- Hydric Soils
- Indiana and Northern Long-Eared Bat Roosting Habitat
- NWI Wetland
- Stream
- Water Wells
- Oil/Gas Wells
- Landfills
- Hazwaste
- Leaking UST
- Spill
- UST

THIRD ROCK

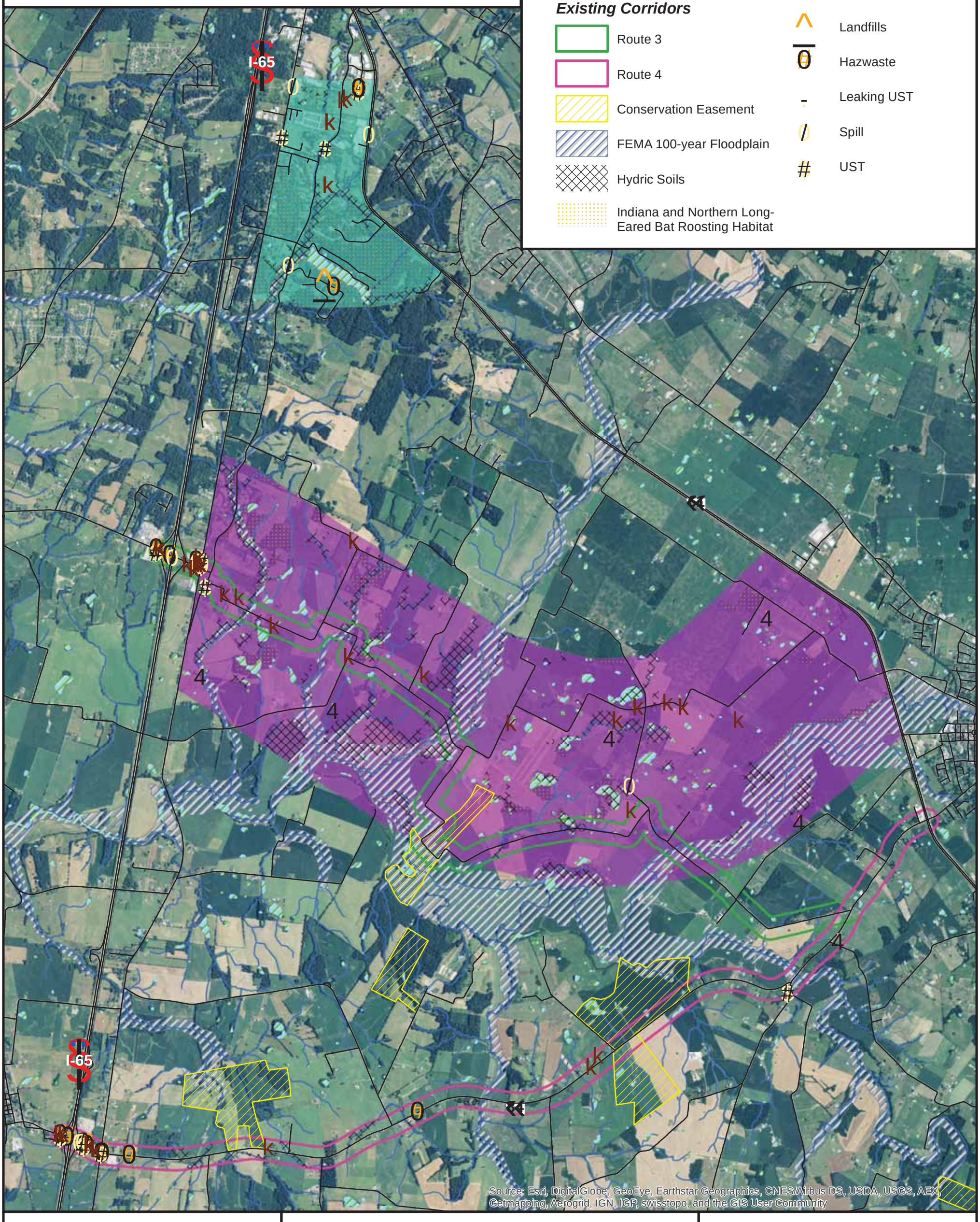

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Exhibit 2
Environmental Constraints

0 2,500 5,000 10,000 15,000 Feet

Improved Hodgenville to I-65 Connection
Larue and Hardin Counties, Kentucky

AQUATIC RESOURCES

Federal Emergency Management Agency mapping indicated 100-year floodplain is present along larger streams and rivers within the proposed corridors. The Route 1 Corridor has the least amount of floodplain that will be crossed by the proposed project.

Potential wetlands, as indicated by National Wetland Inventory (NWI) mapping, are present within all four proposed corridors. Hydric soils, which may indicate presence of wetlands, are also present within all four proposed corridors. During the windshield survey of Route 3 (KY 222) and Route 4 (KY 84), the majority of wetlands identified on NWI mapping were farm ponds, some of which had wetland vegetation on the fringes. Most of these ponds did not appear to have a connection to surface waters. Three potential wetlands, not indicated on the NWI mapping, were observed during the windshield survey. A cattail (*Typha* sp.) dominated potential wetland (W-1) was observed in a small drainage adjacent to the Petro gas station located west of the KY 222/I-65 interchange (Exhibit 1). This wetland is located outside of the 500 foot buffer and more than likely would not be impacted by the project. A shrub-scrub potential wetland (W-2) was located in a ditch in an agricultural field positioned to the east of Middle Creek and south of KY 222. Adjacent to Barren Run at the KY 84 crossing, a small cattail dominated potential wetland (W-3) was observed in the floodplain on the north side of KY 84. None of these additional potential wetlands were very large or of exceptional quality.

Numerous streams are located within the proposed corridors including North Fork of the Nolin River, South Fork of the Nolin River, Middle Creek, and Barren Run.

THREATENED AND ENDANGERED SPECIES

Three federally listed bats species, including Indiana bat (*Myotis sodalis*), gray bat (*Myotis grisescens*), and northern long-eared bat (*Myotis septentrionalis*), are known or have the potential to occur in Hardin and Larue counties (Table 1, page 2). Forested areas within the proposed corridors are potential summer roosting habitat for Indiana bat and northern long-eared bat. During the windshield survey of Routes 3 and 4, potential roost trees (*i.e.,* dead snags, shagbark hickories (*Carya ovata*)) were observed in forested areas within a 500-foot buffer of the proposed routes. Streams and rivers crossed by the proposed corridors represent foraging habitat and travel corridors for Indiana bat, northern long-eared bat, and gray bat. Karst features (*i.e.,* sinkholes) that could provide winter hibernacula habitat for the listed bat species are indicated on topographic mapping within all proposed corridors but are especially prevalent in the Route 2 Corridor. Numerous sinkholes were also observed adjacent to Routes 3 and 4 during the windshield survey.

Ten federally listed mussel species and four state listed mussel species are known or have the potential to occur in Hardin and Larue counties (Table 1, page 2). South Fork of the Nolin River, North Fork of the Nolin River, Middle Creek, and Barren Run are all potential habitat for listed mussel species. These streams are crossed by one or more corridors of the proposed project.

Table 1. Threatened and Endangered Species Listing for Hardin and Larue Counties* (4 pages)

Common Name	Species Name	County	US Status**	KY Status***	Habitat
Gray Bat	Myotis grisescens	Hardin, Larue	LE	T	Exclusively restricted to caves throughout the year with foraging along streams.
Indiana Bat	Myotis sodalis	Hardin, Larue	LE	E	Forested landscapes with hibernation in caves.
Northern Long-eared Bat	Myotis septentrionalis	Hardin, Larue	LT	E	Forested landscapes with hibernation in caves.
Southeastern Myotis	Myotis austroriparius	Hardin	SOMC	E	Forested landscapes with hibernation in caves.
Clubshell	Pleurobema clava	Hardin, Larue	LE	E	Streams and small to medium-sized rivers within runs and riffles where substrates are composed of coarse sand and gravel.
Elktoe	*Alasmidonta marginata*	Hardin	SOMC	T	Small, shallow rivers with a moderately fast current in a mixture of fine gravel and sand.
Fanshell	Cyprogenia stegaria	Hardin, Larue	LE	E	River habitats with gravel substrates and a strong current, in both deep and shallow water.
Fat Pocketbook	Potamilus capax	Hardin	LE	E	Large rivers in substrates of sand, mud, and fine gravel.
Kentucky Creekshell	Villosa ortmanni	Hardin, Larue	UR	T	Small to medium-sized streams and rivers with substrate of sand, mud, or gravel.

Common Name	Species Name	County	US Status**	KY Status***	Habitat
Little Spectaclecase	Villosa lienosa	Hardin, Larue	N	S	Mostly slow current, soft substrate areas of primarily smaller streams in lowlands, but also known from large rivers and upland habitats.
Northern Rifflesheell	Epioblasma torulosa rangiana	Hardin, Larue	LE	E	A wide variety of stream sizes with substrates of firmly packed sand or gravel.
Orangefoot Pimpleback	Plethobasus cooperianus	Hardin	LE	E	Medium to large rivers with fast-flowing water and silt-free substrates.
Pocketbook	Lampsilis ovata	Hardin	N	E	Both impoundment situations as well as free-flowing, shallow rivers.
Rabbitsfoot	Quadrula cylindrica cylindrica	Hardin, Larue	LT	T	Medium to large rivers with variable flows in shallower areas of sand and gravel substrates.
Rayed Bean	Villosa fabalis	Hardin	LE	X	Small creeks to large rivers in substrates of gravel or sand, often in and around roots of aquatic vegetation.
Rough Pigtoe	Pleurobema plenum	Hardin	LE	E	Small to large streams in substrates of sand or gravel.
Sheepnose	Plethobasus cyphyus	Hardin	LE	E	Medium to large rivers and streams in moderate to swift currents within substrates of coarse sand and gravel.
Snuffbox	Epioblasma triquetra	Hardin, Larue	LE	E	Riffles of medium and large rivers with stony or sandy bottoms, in swift currents, usually deeply buried.

Common Name	Species Name	County	US Status**	KY Status***	Habitat
Rattlesnake-master Borer Moth	Papaipema eryngii	Hardin	C	E	Occupies prairies where the rattlesnake-master, a prairie-loving plant, grows.
Bachman's Sparrow	Aimophila aestivalis	Hardin	SOMC	E	Habitat specialist. Historically found in mature to old growth southern pine woodland subject to frequent growing-season fires.
Bald Eagle	Haliaeetus leucocephalus	Larue	Delisted	T	Large water bodies with forested riparian zones typically conaining large trees for nesting.
Bewick's Wren	Thryomanes bewickii	Hardin	SOMC	S	Brushy areas, thickets, open and riparian woodland, and overgrown fields.
Henslow's Sparrow	Ammodramus henslowii	Hardin, Larue	SOMC	S	Typically breeds in weedy grasslands of the east-central United.
Eastern Hellbender	Cryptobranchsus alleganiensis allegniensis	Hardin, Larue	SOMC	E	Moderate to fast flowing streams and rivers with large flat rocks with well oxygenated water.
Kirtland's Snake	Clonophis kirtlandii	Hardin	SOMC	T	Inhabits damp open areas of marsh edges, wet-prairies, and pastures. Additionally, they are frequently encountered in riparian zones.
Northern Madtom	Noturus stigmosus	Hardin, Larue	SOMC	S	Medium to large rivers where swift currents flow over substrates of sand, silt and/or rocky substrates.
Northern Cavefish	Amblyopsis spelaea	Hardin	SOMC	S	Streams in limestone caves.

Common Name	Species Name	County	US Status**	KY Status***	Habitat
Eggert's Sunflower	Helianthus eggertii	Hardin, Larue	Delisted	T	Barrens and woodland ecosystems with a thin overstory of small to medium sized trees and a nearly continuous ground cover of mixed grasses.

Note: Yellow shading denotes federally threatened or endangered species.

*Only federally listed species (including SOMC species) are included in this table. Additional state listed species may be made available if requested.

**Status Under the US Endangered Species Act	Abbreviation
Listed endangered	LE
Listed threatened	LT
No federal status	N
Species of Management Concern	SOMC
Under Review	UR

***Kentucky State Nature Preserves	
Endangered	E
Threatened	T
Special Concern	S
Extirpated	X

Sources

KDFWR. Kentucky Department of Fish and Wildlife Resources. Species Information. NatureServe Explorer.
KSNPC. 2014. County Report of Endangered, Threatened, and Special Concern Plants, Animals, and Natural Communities of Kentucky.
KYTC. November 2014. KY Threatened and Endangered Species. http://transportation.ky.gov/Environmental-Analysis/Pages/Ecology-and-Permitting.aspx. Accessed May 22, 2015.

USFWS. 2014. Kentucky Threatened and Endangered Species List by County. http://www.fws.gov/frankfort/pdf/KY_te_list_by_county.pdf. Accessed April 29, 2015

Most of the project area is Activity Category F agricultural lands without noise sensitivity. Activity Category B residences are scattered along existing KY 222 and KY 84 rural roadways and within the Proposed Route 1 and 2 Corridors. Activity Category C cemeteries and churches are found along KY 222 and within the Proposed Route 2 Corridor. Additionally, within the Proposed Route 1 Corridor there are several Category F manufacturing and retail facilities. The noise abatement criteria (NAC) for the various activity categories are shown in Table 2 below.

Table 2 – Noise Abatement Criteria (NAC)

Activity Category	Description of Activity Category (Land Use)	Activity Criteria $L_{eq}(h)$ *	Evaluation Location
A	Lands on which serenity and quiet are of extraordinary significance and serve an important public need and where the preservation of those qualities is essential if the area is to continue its intended purpose.	57	Exterior
B**	Residential	67	Exterior
C**	Active sport areas, amphitheaters, auditoriums, campgrounds, cemeteries, day care centers, hospitals, libraries, medical facilities, parks, picnic areas, places of worship, playgrounds, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, recreation areas, Section 4(f) sites, schools, television studios, trails, and trail crossings	67	Exterior
D	Auditoriums, day care centers, hospitals, libraries, medical facilities, places of worship, public meeting rooms, public or nonprofit institutional structures, radio studios, recording studios, schools, and television studios	52	Interior
E**	Hotels, motels, offices, restaurants/bars, and other developed lands, properties or activities not included in A-D or F.	72	Exterior
F	Agriculture, airports, bus yards, emergency services, industrial, logging, maintenance facilities, manufacturing, mining, rail yards, retail facilities, shipyards, utilities (water resources, water treatment, electrical), and warehousing	---------- ---	----------
G	Undeveloped lands that are not permitted.	---------- ---	----------

**The $L_{eq}(h)$ Activity Criteria values are for impact determination only, and are not design standards for noise abatement measures.*

***Includes undeveloped lands permitted for this activity category.*

HAZARDOUS MATERIALS / UNDERGROUND STORAGE TANKS

Environmental Data Resources, Inc. (EDR) was contacted to produce an electronic review of applicable environmental databases associated with the proposed corridors. A variety of databases were reviewed, including those pursuant to ASTM standards. Sites identified by EDR were evaluated by Third Rock to determine if the subject site is likely to negatively impact the proposed corridors via a documented past or potential release of a hazardous substance or petroleum product. Various criteria were utilized for the evaluation including distance from the proposed corridors, geographic position, and the absence or presence of known hazardous substances. Table 3, page 8, lists potential hazardous material sites associated with the corridors.

Third Rock personnel conducted a windshield survey associated with Route 3 and Route 4. The windshield survey was conducted by driving existing area roadways and walking along the corridors in suspect areas. Primarily, state highways KY 222 and KY 84 were traveled for Routes 3 and 4 respectively. The numerous active gas station locations identified by EDR and listed on Table 3 were observed. Many of the historic gas stations identified by EDR are no longer present with the properties having been repurposed. In addition to the EDR sites, four additional sites of potential concern were identified by Third Rock personnel and are included on Table 3, page 8. Additional research is recommended to assess the potential hazardous material concerns associated with these properties.

Table 3. Potential Hazardous Materials Sites (2 pages)

Name	Address	City	Database	Potential Hazardous Material Site Map ID
AVERITT EXPRESS	510 ASSEMBLY DR	ELIZABETHTOWN	UST, Hazwaste	1**
EDWARDS RECYCLING CENTER	195 BUDCO LN	ELIZABETHTOWN	N/A - KYTC field data	2**
UNKNOWN NAME	3273 S DIXIE HWY	ELIZABETHTOWN	UST	3**
UNKNOWN NAME	1422 SPORTSMAN LAKE RD	ELIZABETHTOWN	UST	4**
PRIVATE RESIDENCE WORKSHOP	64 RHUDES CREEK RD	GLENDALE	N/A - KYTC field data	5**
UNKNOWN NAME	1002 KINGS WAY	ELIZABETHTOWN	Hazwaste	6**
PETRO	554 WEST GLENDALE HODGENVILLE RD	GLENDALE	UST	7
OLD KEYS TRUCK STOP	WEST GLENDALE HODGENVILLE RD	GLENDALE	UST	8
GLENDALE SHELL	ROUTE I-65 & KY 222	GLENDALE	Hazwaste	8*
HARDY'S UNOCAL 76 STATION	I-65 AND STATE ROAD 222	GLENDALE	Hazwaste	8*
QUALITY DIESEL SERVICE CENTER	473 WEST GLENDALE HODGENVILLE RD	GLENDALE	N/A - Third Rock field data	9
GOODYEAR COMMERCIAL TIRE AND SERVICE NETWORK	108 WEST GLENDALE HODGENVILLE RD	GLENDALE	N/A - Third Rock field data	10
PILOT TRAVEL CENTER #48	58 GLENDALE & HODGENVILLE	GLENDALE	UST, Leaking UST, Hazwaste	11
UNKNOWN NAME	6962 S DIXIE HWY	GLENDALE	UST	12
SUSPECTED HISTORIC GAS STATION	WEST GLENDALE HODGENVILLE RD	GLENDALE	UST	13
KY AUTO AUCTION	6915 S DIXIE HWY	SONORA	N/A - Third Rock field data	14

Name	Address	City	Database	Potential Hazardous Material Site Map ID
MATTINGLY PROPERTY #2	5504 SPORTSMAN LN RD	ELIZABETHTOWN	UST	15
EAST KY POWER COOPERATIVE - GLENDALE SUBSTATION	245 E GLENDALE HODGENVILLE RD	GLENDALE	N/A - Third Rock field data	16
FIVE STAR #9838	364 E WESTERN AVE	SONORA	UST, Leaking UST	17
FIVE STAR FOOD MART	365 E WESTERN AVE	SONORA	UST, Hazwaste	18
PILOT TRAVEL CENTER #392	450 E WESTERN AVE	SONORA	UST, Hazwaste	19
AKZO NOBEL CHEMICALS	470 EAST WESTERN AVE	SONORA	Hazwaste	19*
BALL BROTHERS	I-65 AND KY 222	GLENDALE	UST	19*
BLUE BEACON OF SONORA	440 EAST WESTERN AVE	SONORA	Hazwaste	19*
SONORA AUTO TRUCK PLAZA	I-65 & HIGHWAY 84	SONORA	Hazwaste	19*
FASTWAY #6	453 E WESTERN AVE	SONORA	UST	20
SUNOCO SERVICE STATION	SE COR I65 & KY RT 84	SONORA	Hazwaste	20*
SAMMY'S MARKET #1	490 E WESTERN AVE	SONORA	Hazwaste	21
HORTONS GARAGE	BOX 186/12285 S DIXIE HWY	SONORA	UST	22
REAL ESTATE HOLDING INC.	31W & HWY. 84	SONORA	Hazwaste	23
NSU CORP	9385 SONORA RD	SONORA	Hazwaste	24
KY RSA #4 CELLULAR GP - SONORA	9148 SONORA RD	SONORA	Hazwaste	25
YODER SAWMILL	6545 SONORA RD	SONORA	Hazwaste	26

Name	Address	City	Database	Potential Hazardous Material Site Map ID
TANNER FOOD MART	HWY 357	HODGENVILLE	UST	27
UNKNOWN NAME	SPORTSMAN LAKE RD	ELIZABETHTOWN	Landfill	N/A

Note: Sites with * could not be located but are believed to be in the vicinity based upon address information.

Note: Sites with ** are located in Area 1 and were not field verified during the windshield survey.

Source: Environmental Data Resources; Third Rock field data

cra
cultural resource analysts, inc.

June 15, 2015

Lindsay Walker, PE, PTOE, AICP
Traffic/Transportation Engineer
Parsons Brinckerhoff
1792 Alysheba Way, Suite 230
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RE: Cultural Historic Records Review and Windshield Survey for the Scoping Study for the Hodgenville to I-65 Connection in Hardin and Larue Counties, Kentucky
CRA Project Number: K15P005
Contract Publication Series: 15-190

Dear Ms. Walker:

In June 2015, Cultural Resource Analysts, Inc. (CRA), personnel completed a cultural historic records review and windshield survey for the scoping study for the Hodgenville to I-65 Connection in Hardin and Larue Counties, Kentucky (Figure 1). The study was conducted at the request of Parsons Brinckerhoff, on behalf of the Kentucky Transportation Cabinet (KYTC). The objective of the records review and windshield survey was to identify National Register of Historic Places (NRHP) listed, eligible, or potentially significant properties within the survey corridor and study area that should be taken into consideration as project plans are developed. CRA completed a records review for both the broad study area and the survey corridor, but only the survey corridor was subject to field investigations. The study area is comprised of two sections both between US 31W (S. Dixie Highway) and KY 61 (Lincoln Parkway) in southeast Hardin County and northwest Larue County. The northernmost study area is situated entirely in Hardin County, while the southern study area is located in both Hardin and Larue Counties. The survey corridors extend 500 ft to either side of existing routes that may be improved for the proposed project. The northern portion of the survey corridor, following KY 222, is located in the southern section of the study area but is much narrower than the overall study area. The southern section of the survey corridor is located between I-65 near Sonora to KY 61 (Lincoln Parkway) along KY 84. An archaeological study is being conducted by CRA in conjunction with the cultural historic component; it will be submitted under separate cover (Quick 2015).

CRA personnel completed a records review at the Kentucky Heritage Council (KHC) on May 14, 2015. GIS data provided by KHC (FY15_2120) indicated that there are 11 previously surveyed properties in the study area, 4 in Hardin County (HD 183, HD 187, HD 194, HD 195) and 7 in Larue County (LU 19, LU 20, LU 25, LU 27, LU 28, LU 29, LU 34). HD 187 is the John Stuart House, which is listed in the NRHP as part of the Hardin County Multiple Resource Area–Partial Inventory nomination. The other three sites in Hardin County have undetermined NRHP status and include the Clear Run School (HD 183), a dogtrot log house (HD 194), and the Cofer House (HD 195). LU 25, (School #24), and LU 29 (the Nolynn Baptist Church) are listed in the NRHP as part of the Larue County Multiple Resource Area nomination. LU 34, School #35, meets the NRHP criteria according to the KHC's GIS database. The other four sites in Larue County have undetermined NRHP status and include the Eagle Mills ruins (LU 19), the John Carter House (LU 20), the Cook House (LU 27),

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and the J.P. Shannon House (LU 28). In addition to these previously surveyed properties, the records review identified six survey reports for previous investigations in Hardin and Larue Counties, which are summarized on Table 1. These reports documented a total of 22 additional properties that were not identified in KHC's GIS database. One of the previously documented sites is the NRHP potentially eligible Camp Nevin Historic District comprised of a large area along and north of Nolin River. Only a small portion of this potential historic district's boundary is located in the southwest portion of the study area south of Glendale. The six previous survey reports included other sites that were recommended not eligible for listing in the NRHP (Powell Sites #5, 6 [HD 479], 7, 8, 9, 10, HD 195, HD 468, HD 469, HD 470, HD 478, HD 740, HD 936, HD 937, HD 938, HD 939, HD 940, HD 941, HD 942, HD 943, and HD 944). The NRHP status and current condition of each of the previously surveyed properties are noted in Tables 2–8.

Trent Spurlock and Will Goodman of CRA completed the windshield survey of the survey corridor on June 3, 2015, noting the current condition of previously surveyed resources and identifying undocumented resources and assessing them for potential significance. Both individual resources and potential historic districts were assessed during the survey. The NRHP-listed Nolynn Baptist Church and Cemetery (LU 29) is extant and retains those characteristics that make it eligible for listing in the NRHP. The NRHP-listed Thomas Patterson House (LU 35) and the William Phillips House (LU 36) are both located outside the survey corridor but the property associated with both resources extends into the survey corridor. The integrity of these two NRHP-listed properties could not be determined because of their distance from the right-of-way.

Five previously identified resources in the survey corridor have been demolished: the Clear Run School (HD 183); a commercial building (HD 468); a residence (HD 469); a house (HD 479); and the Minit Burger and garage (HD 740). During the windshield survey, CRA's architectural historian noted the locations of five additional potentially significant resources, which are briefly described and pictured in Table 3 and mapped on Figure 1. Two previously surveyed properties were identified during the corridor survey that are potentially eligible for listing in the NRHP: the J. P. Shannon House (LU 28), which is incorrectly mapped on the KHC's GIS database; and School #35 (LU 34), which meets the NRHP criteria according to the KHC's GIS database. Also during the corridor survey CRA staff identified three previously unidentified properties that may be potentially eligible for listing in the NRHP: a Gothic Revival vernacular house with barns (CRA 1); the Big Spring Cemetery (CRA 2); and a hip-roof frame house (CRA 3). Additional properties along the survey corridor may be potentially eligible although they were not visible from the right-of-way during the survey effort. The two remaining previously recorded resources along the survey corridor (HD 470 and HD 478) appear much as previously reported and thus remain ineligible for listing in the NRHP. No potential historic districts were identified by the windshield survey.

Generally, there were few intact cultural historic sites observed throughout the survey corridor. The area has always been relatively sparsely populated, and many historic residences have been demolished, although a large number of historic barns and other outbuildings remain and appear to be in generally good condition. The windshield survey did not identify any barns or outbuildings that appear individually eligible for listing in the NRHP, although a more detailed survey, including examination of the building's interiors, may identify particularly old or significant examples. Only two cemeteries were identified in the survey corridor (Nolynn Baptist Church and Cemetery [LU 29] and Big Spring Cemetery [CRA 2]) although additional cemeteries unmarked on the topographic map may be located in both the survey corridor and study area. The remaining resources 50 years of age or older observed in the survey corridor are generally common late-nineteenth- and early- to mid-twentieth-century residences such as I-houses, bungalows, Ranch houses, and modest vernacular front- and side-gable frame houses. Some of these are abandoned and thus severely deteriorated or have undergone material changes that have diminished their integrity, so they are unlikely to be eligible for listing in the NRHP.

The attached tables and maps detail the extent of the survey corridor and study area and the locations and NRHP-eligibility recommendations of the identified resources. Since the majority of the study area has not been subject to formal cultural historic survey, additional investigations may be required as project plans are developed. If you have any questions, please do not hesitate to contact me at your convenience.

Sincerely,

Trent Spurlock

Architectural Historian, Principal Investigator

Cecilia, KY 1992
USGS 7.5 minute series digital topographic quadrangle. Map M30, Governor's Office for Technology, Office of Geographic Information.

Elizabethtown, KY 1991
USGS 7.5 minute series digital topographic quadrangle. Map M31, Governor's Office for Technology, Office of Geographic Information.

Nelsonville, KY 1967 (Photorevised 1987)
USGS 7.5 minute series digital topographic quadrangle. Map M32, Governor's Office for Technology, Office of Geographic Information.

HD 195
HD 944
HD 942
HD 943
HD 937
HD 938
HD 936
HD 941
HD 940
HD 939
HD 194
Powell 9
Powell 7
Powell 8
Powell 10
HD 478
LU 740
LU 479
CRA 3
Powell 5
HD 183
HD 187
CRA 2
LU 27
LU 25
LU 28
LU 29
LU 19
LU 20
CRA 1
LU 34
LU 36
LU 35
HD 469
HD 470
HD 468
Potential Camp Nevin NRHP Historic District Boundary (Powell 2004 [revised 2005])

Galthera
Glendale
Tonieville
Nolin
Eagle Mills
Sonora
Mathers Mill
HODGENVILLE
Tanner

HARDIN CO
LARUE CO

QUADRANGLE LOCATION

0 1000 2000 feet
0 300 600 meters

Sonora, KY 1992
USGS 7.5 minute series digital topographic quadrangle. Map N30, Governor's Office for Technology, Office of Geographic Information.

Figure 1. Topographic map depicting the locations of previously surveyed and potentially significant cultural historic resources within the survey corridor and study area.

Tonieville, KY 1992
USGS 7.5 minute series digital topographic quadrangle. Map N31, Governor's Office for Technology, Office of Geographic Information.

CULTURAL HISTORIC LEGEND
- Study Area
- Survey Corridor
- Demolished Previously Surveyed Site
- Ineligible/Undetermined Previously Surveyed Site
- Potentially NRHP Eligible Site
- NRHP Listed Site

Hodgenville, KY 1953 (Photorevised 1987)
USGS 7.5 minute series digital topographic quadrangle. Map N32, Governor's Office for Technology, Office of Geographic Information.

K:\SPDOS (SULPHER,KS) 1MA

Table 1. Previous Cultural Historic Surveys Completed within the Survey Corridor and Study Area.

Report Title	Report Author and Associated Company	Prepared For	Report Date	Associated Surveyed Resources in Study Area	Associated Surveyed Resources in Survey Corridor
Hardin County					
Eligibility Report for Proposed I-65 Interchanges / Glendale in Hardin County, Kentucky (Item No. 4-20)	Helen C. Powell, H. Powell and Co., Inc.	The Engineers	2004 (Revised 2005)	Potential NRHP boundary for Camp Nevin (small portion located in southwest section of study area); Powell Report Sites #5, 7, 8, 9, and 10 (Resources in report not assigned Kentucky Historic Resource numbers)	Powell Report Site # 6 (HD 479)
A Cultural Historic Resource Survey of the Interstate 65 / KY 222 Interchange, Glendale, Hardin County, Kentucky	Helen C. Powell, H. Powell and Co., Inc.	Third Rock Consultants	2007	N/A	HD 740
FCC Form 620 Submission Packet for the Proposed 199-ft Production Drive Cellular Communications Tower in Hardin County, Kentucky (Contract Publications Series 09-114)	Matthew D. McMahan, Cultural Resource Analysts, Inc.	MACTEC Engineering and Consulting, Inc.	2009	N/A	N/A
FCC Form 620 and Attachments for the Phillips Road Telecommunications Tower, Hardin County, Kentucky	Anthony W. Adderley, Active Environmental Services, Inc.	Professional Services Industries, Inc. and GTE Wireless of the Midwest, Inc. (dba Verizon Wireless)	2009	N/A	N/A
Cultural Historic Determination of Eligibility Survey for the Proposed Ring Road (KY 3005) Extension From the Western Kentucky Parkway to I-65 in Hardin County, Kentucky (Item No. 4-198.00) (Contract Publication Series 14-096)	Sarah J. Reynolds, Cultural Resource Analysts, Inc.	Qk4, Inc.	2014	HD 936, HD 937, HD 938, HD 939, HD 940, HD 941, HD 942, HD 943, HD 944, HD 195	N/A
Larue County					
No previous reports in Study Area or Survey Corridor					
Multiple Counties					
Cultural Historic Survey for the Widening of Interstate 65 From Munfordville to Elizabethtown (MP 65.3 to MP 91) in Hart, Larue, and Hardin Counties, Kentucky (4-10.05) (Contract Publication Series 03-161)	Bethany W. Rogers, Cultural Resource Analysts, Inc.	Kentucky Transportation Cabinet	2003	N/A	HD 468, HD 469, HD 470, HD 478, HD 479

Table 2. NRHP-Listed Properties Located in the Survey Corridor.

Site/Survey #	Resource Name	Address/location	NRHP Status	Condition	Photo
			Hardin County		
			No listed properties		
			Larue County		
LU 29	Nolynn Baptist Church and Cemetery	KY 222 at intersection with Dorsey Lane	Part of Larue County MRA	Good; maintains adequate integrity for continued NRHP listing	
LU 35	Thomas Patterson House	KY 84, approximately .21 mi northeast of intersection with Spratt Road	Part of Larue County MRA	Inaccessible because of distance from right-of-way Located outside Study Area and Survey Corridor but portion of property is within Survey Corridor	
LU 36	William Phillips House	KY 84, approximately .81 mi northeast of intersection with Siberia Road	Part of Larue County MRA	Inaccessible because of distance from right-of-way Located outside Study Area and Survey Corridor but portion of property is within Survey Corridor	

Table 3. Eligible and Potentially Significant Properties in the Survey Corridor.

Site/Survey #	Resource Name/Function	Address/location	NRHP Status	Condition	Photo
			Hardin County		
CRA 3	house	Intersection of KY 222 and Jeffries Road	Potentially Significant based on CRA field observations	Good; retains historic materials and integrity	
			Larue County		
LU 28	J. P. Shannon House	KY 222 approximately 0.4 mi southwest of intersection with Harned McCubbins Road	Potentially Significant based on CRA field observations	Good; retains historic materials and integrity	
LU 34	School #35	KY 84 approximately 1 mi west of intersection with KY 357	Meets the NRHP criteria according to the KHC's GIS database	Good; only portion of building was visible from right-of-way because of vegetation	

Site/Survey #	Resource Name/Function	Address/location	NRHP Status	Condition	Photo
CRA 1	Gothic Revival vernacular house with barns	3388 KY 84	Potentially Significant based on CRA field observations	Good; only portion of building was visible because of distance from right-of-way	
CRA 2	Big Spring Cemetery	KY 222 approximately .6 mi northwest of intersection with Middle Creek Road	Potentially Significant based on CRA field observations	Good; retains historic materials and integrity	

Table 4. Ineligible Previously Surveyed Properties in the Survey Corridor.

Site/Survey #	Resource Name/Function	Address/location	NRHP Status	Condition
		Hardin County		
HD 470	house and 2 barns	165 Chenault Avenue	Recommended Not Eligible in 2003 (Rogers 2003); not eligible based on CRA field observations	
HD 478	house	5250 Sportsman Lake Road	Recommended Not Eligible in 2003 (Rogers 2003); not eligible based on CRA field observations	
		Larue County		
N/A				

Table 5. Previously Surveyed Non-Extant Properties in the Survey Corridor.

Site/Survey #	Resource Name/Function	Address/location	NRHP Status	Condition
		Hardin County		
HD 183	Clear Run School	on KY 222, approximately .33 mi northwest of intersection with KY 1135	Undetermined	demolished
HD 468	commercial building	intersection of KY 84 and US 31W	Recommended Not Eligible in 2003 (Rogers 2003)	demolished
HD 469	house	358 KY 84	Recommended Not Eligible in 2003 (Rogers 2003)	demolished
HD 479	house	5237 Sportsman Lake Road	Recommended Not Eligible in 2003 (Rogers 2003)	demolished
HD 740	Minit Burger/Garage	6962 US 31W (S. Dixie Highway)	Recommended Not Eligible in 2007 (2007 Powell)	demolished
		Larue County		
N/A				

Table 6. NRHP-Listed Properties Located in the Study Area.

Site/Survey #	Resource Name	Address/location	NRHP Status
		Hardin County	
HD 187	John Stuart House	north side of Mackey Road, approximately 1.04 mi north-northeast of intersection with US 31W	Part of Hardin County MRA
		Larue County	
LU 25	School #24	west side of Harned McCubbins Road, approximately .07 mi south of intersection with McCubbins Road	Part of Larue County MRA

Table 7. Eligible and Potentially Significant Properties in the Study Area.

Site/Survey #	Resource Name/Function	Address/location	NRHP Status
		Hardin County	
HD XXX (No site number assigned to potential district)	Potential Camp Nevin NRHP Historic District	Roughly bounded to south by Nolin River, to west along railroad tracks, north partially along Gilead Church Road, and east of US 31W	Recommended Eligible (Powell 2004 [revised 2005]); KHC conditional concurrence letter 2005
		Larue County	
N/A			

Table 8. Ineligible or Undetermined Previously Surveyed Properties in the Study Area.

Site/Survey #	Resource Name/Function	Address/location	NRHP Status
		Hardin County	
Powell Site #5	2-story, frame, hip-roof, central passage house	7662 US 31W (Dixie Highway)	Recommended Not Eligible (Powell 2004 [revised 2005]); KHC did not concur with recommendation in conditional concurrance letter
Powell Site #7	Colonial Revival House	6736 US 31W (Dixie Highway)	Recommended Not Eligible (Powell 2004 [revised 2005]); conditional concurrance by KHC
Powell Site #8	Colonial Revival House	6632 US 31W (Dixie Highway)	Recommended Not Eligible (Powell 2004 [revised 2005]); conditional concurrance by KHC
Powell Site #9	Colonial Revival House	6648 US 31W (Dixie Highway)	Recommended Not Eligible (Powell 2004 [revised 2005]); conditional concurrance by KHC
Powell Site #10	Commercial Garage	6648 US 31W (Dixie Highway)	Recommended Not Eligible (Powell 2004 [revised 2005]); conditional concurrance by KHC
HD 194	Dogtrot log house	approximately .05 mi west of Sportsman Lake Road (KY 1031), approximately .62 mi south-southwest of intersection with Puckett Road	Undetermined
HD 195	Cofer House	1674 Sportsman Lake Road	Recommended Not Eligible (Reynolds 2014); KHC conncurred
HD 936	Ranch house	4084 US 31W (South Dixie Highway)	Recommended Not Eligible (Reynolds 2014); KHC conncurred
HD 937	House and barn	2272 Sportsman Lake Road	Recommended Not Eligible (Reynolds 2014); KHC conncurred
HD 938	Houses	Lakeshore and Woods Road (area around Sportsman Lake)	Undetermined (Reynolds 2014, as author was unable to access the private area)
HD 939	House and outbuildings	2618 Sportsman Lake Road	Recommended Not Eligible (Reynolds 2014); KHC conncurred
HD 940	Frame barn and non-historic house	south side of Kings Way, approximately .03 mi east-southeast of intersection with Sportsman Lake Road	Recommended Not Eligible (Reynolds 2014); KHC conncurred
HD 941	Ranch house	115 Kings Way	Recommended Not Eligible (Reynolds 2014); KHC conncurred
HD 942	Ranch house	1933 Sportsman Lake Road	Recommended Not Eligible (Reynolds 2014); KHC conncurred
HD 943	Concrete box culvert with rails	Sportsman Lake Road, approximately .32 mi northeast of intersection with E. Rhudes Creek Road	Recommended Not Eligible (Reynolds 2014); KHC conncurred
HD 944	Ranch house	1883 Sportsman Lake Road	Recommended Not Eligible (Reynolds 2014); KHC conncurred
		Larue County	
LU 19	Eagle Mills Ruins	Old bed of Nolin River, south of KY 222, approimately 1.16 mi southwest of intersection with Harned McCubbins Road	Undetermined
LU 20	John Carter House	approximately .45 mi south of KY 222	Undetermined
LU 27	Cook House	approximately .40 mi southwest of Tonieville Road	Undetermined

Bibliography

Adderley, Anthony W.
2009 *FCC Form 620 and Attachments for the Phillips Road Telecommunications Tower, Hardin County, Kentucky*. Active Environmental Services, Inc., Indianapolis, Indiana.

McMahan, Matthew D.
2009 *FCC Form 620 Submission Packet for the Proposed 199-ft Production Drive Cellular Communications Tower in Hardin County, Kentucky.* Cultural Resource Analysts, Inc., Lexington, Kentucky.

Powell, Helen
2004 (revised 2005) *Eligibility Report for Proposed I-65 Interchanges / Glendale in Hardin County, Kentucky*. H. Powell and Co., Inc., Lexington, Kentucky.

2007 *A Cultural Historic Resource Survey of the Interstate 65 / KY 222 Interchange, Glendale, Hardin County, Kentucky.* H. Powell and Co., Inc., Lexington, Kentucky.

Quick, Russell S.
2015 *An Archaeological Records Review for the Proposed Hodgenville to I-65 Connection in Hardin and Larue Counties, Kentucky.* Cultural Resource Analysts, Inc., Lexington, Kentucky.

Reynolds, Sarah J.
2014 *Cultural Historic Determination of Eligibility Survey for the Proposed Ring Road (KY 3005) Extension From the Western Kentucky Parkway to I-65 in Hardin County, Kentucky* (Item No. 4-198.00). Cultural Resource Analysts, Inc., Lexington, Kentucky.

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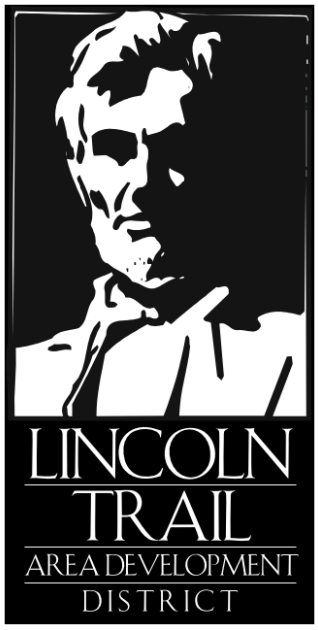
2003 *Cultural Historic Survey for the Widening of Interstate 65 from Munfordville to Elizabethtown (MP 64.3 to MP 91) in Hart, Larue, and Hardin Counties, Kentucky (4-10.05).* Cultural Resource Analysts, Inc., Lexington, Kentucky.

Appendix D:
Socioeconomic Study

Improved I-65 To Hodgenville Connection Study

Larue Co/Hardin Co Item No. 4-8505.00

Socioeconomic Study



June 2015

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Kentucky
UNBRIDLED SPIRIT

Table of Contents

1.0 Introduction

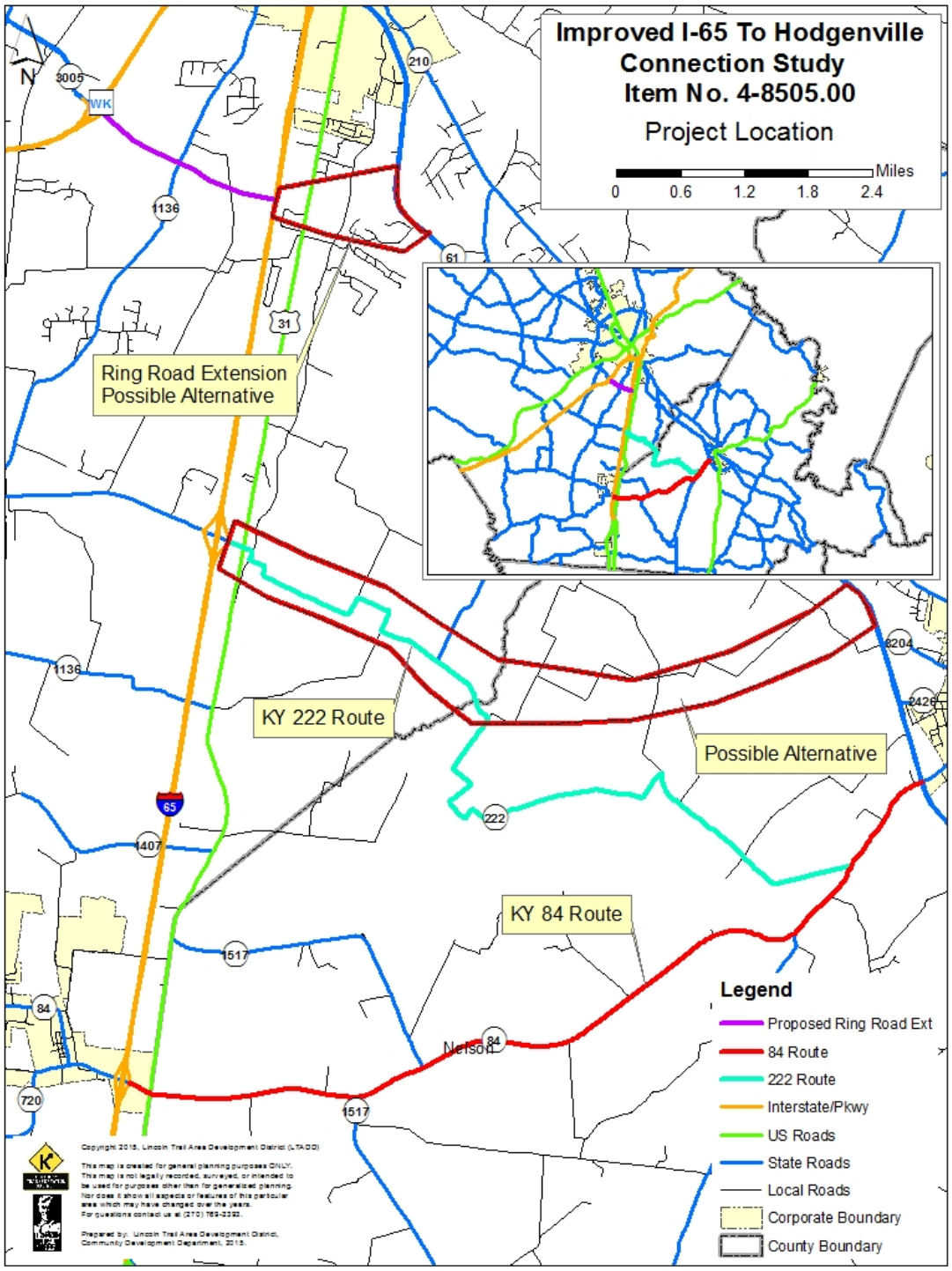
The following document is an assessment of the community demographics and characteristics related to the defined project study area of KY 222 from I-65 (Mile Point 6.621) in Hardin County to KY 84 in Hodgenville city limits (Mile Point 8.436) in Larue County, project alternative study area of KY 84 from I-65 (Mile Point 25.827) in Hardin County to the Hodgenville city limits at the Lincoln Parkway (Mile Point 8.436) in Larue County, and a second project alternative study area of an extension of Ring Road in Hardin County to the Lincoln Parkway which would potentially give trucks an easier access route from the Hodgenville Industrial Park to I-65. This project is listed as Item Number 4-8505.00 in the Kentucky Six-Year Highway Plan FY 2014-2020 and is currently in the Planning phase.

The resources used to compile the data contained herein are the U.S. Census Bureau, Kentucky State Data Center, local elected officials, community leaders, and field observations of the study area. The information and results are intended to assist the Kentucky Transportation Cabinet in making informed and prudent decisions in the study area, particularly as it pertains to the requirements of Executive Order 12898[1], to ensure equal environmental protection to all groups potentially impacted by both short and long-term improvement strategies for this section of KY 222 and KY 84.

This report includes data tables comparing the populations of the census divisions directly in and around the study area at the county, state, and national levels. Statistics are provided for minority, elderly, low-income, disabled, and limited English proficiency populations for census tracts and block groups, except where not available. For ease of analysis, maps are included that highlight areas of interest.

Of note, the data presented in this document is intended to highlight areas of concern that will require additional analysis should the project be advanced to future phases.

[1] Executive Order 12898 signed on February 11, 1994 states "…each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations…"



Map 1 Project Location

2.0 What is Environmental Justice?

The U.S. EPA Office of Environmental Justice (EJ) defines EJ as:

> "The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including racial, ethnic, or socio-economic group should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local and tribal programs and policies."

A disproportionately high and adverse effect on a minority or low-income population means an adverse effect that:

> 1. is predominately borne by a minority population and/or low-income population, or
>
> 2. will be suffered by the minority population and/or low-income population and is appreciably more severe or greater in magnitude than the adverse effect that will be suffered by the non-minority population and/or non-low-income population.

2.1 Definitions

USDOT Order 5610.2 on EJ, issued in the April 15, 1997 Federal Register defines what constitutes low-income and minority population.

- **Low-Income** is defined as a person whose median household income is at or below the U.S. Department of Health and Human Services poverty guidelines.
- **Minority** is defined as a person who is: (1) Black (a person having origins in any black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition).
- **Low-Income Population** is defined as any readily identifiable group of low-income persons who live in geographic proximity, and if circumstances warrant geographically dispersed/transient persons who will be similarly affected by a proposed DOT program, policy or activity.

- **Minority Population** is defined as any readily identifiable group of minority persons who live in geographic proximity, and if circumstances warrant, geographically dispersed/transient persons who will be similarly affected by a proposed DOT program, policy or activity.

EO12898 and USDOT Order 5610.2 do not address consideration of the elderly population. However, the U.S. DOT encourages the study of these populations in EJ discussions and in accordance with EJ, Title VI of the Civil Rights Act of 1964 and the Kentucky Transportation Cabinet's advocacy of inclusive public involvement and equal treatment of all persons this study includes statistics for persons age 65 and over that are within the study and comparison areas.

3.0 Methodology

For this study, data was collected by using the method outlined by the Kentucky Transportation Cabinet document, "Methodology for Assessing Potential Environmental Justice Concerns for KYTC Planning Studies." If applicable under the National Environmental Policy Act (NEPA), a more detailed analysis will be required when assessing the potential for adverse and disproportionate impacts to low-income and minority populations.

The primary sources of data used in the compilation of this report were the U.S. Census Bureau's 2010 Census, the U.S. Census Bureau's 2009-2013 ACS, Kentucky State Data Center, local elected officials, community leaders, and field observations. Statistics were compiled to present a detailed analysis of the community conditions for the project study area.

The American Community Survey 2013 was used to calculate block group level population percentage age 65 and older; minority population percentage; percentage of limited English proficiency (using speaks English Very Well as the threshold for proficiency); percentage below the poverty line; and median income. Kentucky, Hardin and Larue County block group averages were then determined for each socioeconomic factor. The following analysis compares the state and county averages for each socioeconomic factor with the study area block groups.

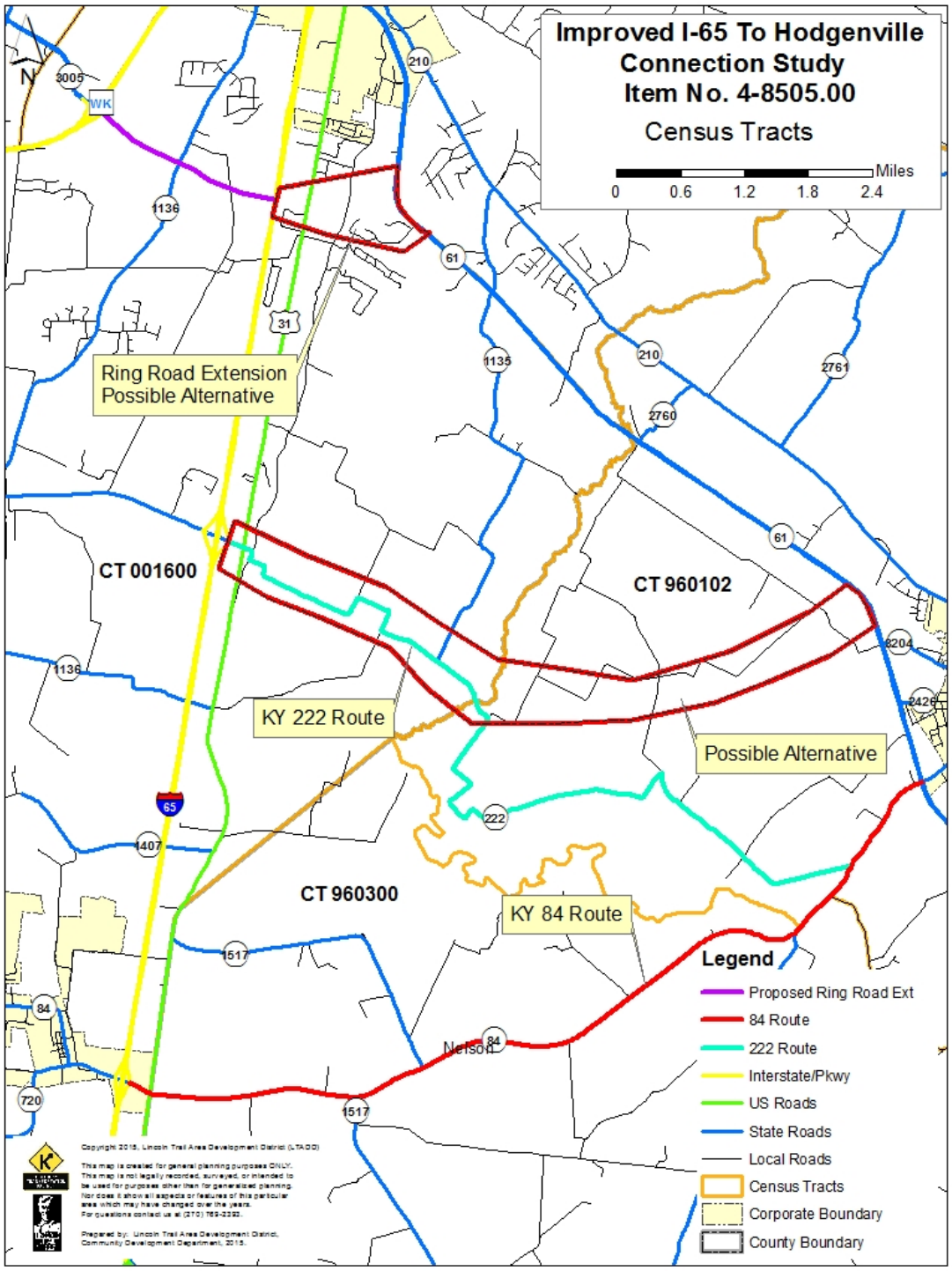
The methodologies used in this planning document are appropriate for identifying possible areas of concern in small urban areas and potential project corridors. However, during future phases of project development a more detailed and robust analysis would be required for the NEPA documentation when assessing the potential for adverse and disproportionate impacts to low-income and minority populations.

4.0 Census Data Analysis

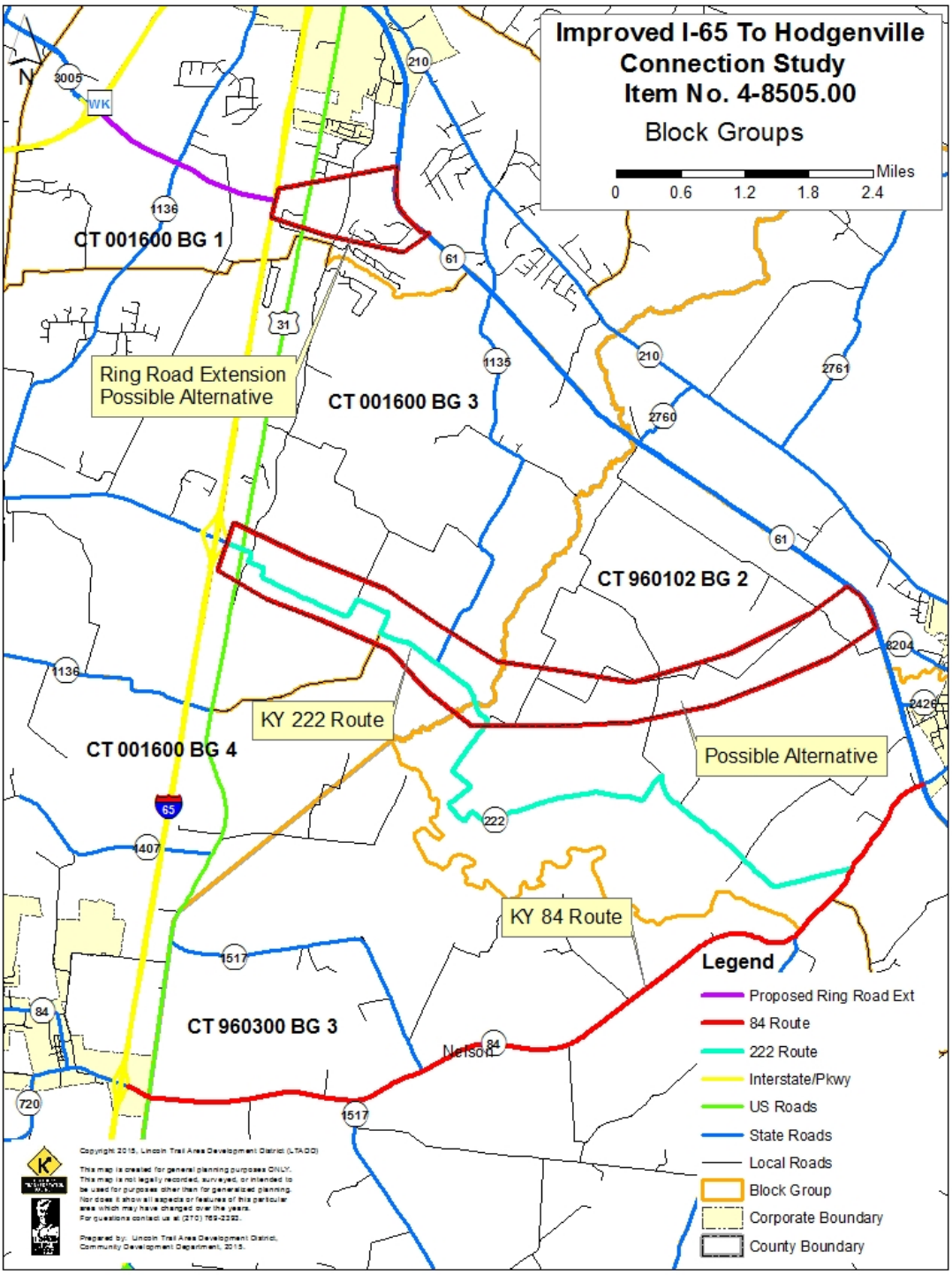
The U.S. Census Bureau defines geographical units as:

- **Census Tract (CT)** – A small, relatively, permanent statistical subdivision of a county or statistically equivalent entity delineated for data presentation purposes by a local group of census data users or the geographic staff of a regional census center in accordance with Census Bureau guidelines. CTs generally contain between 1,000 and 8,000 people. CT boundaries are delineated with the intention of being stable over many decades, so they generally follow relatively permanent visible features. They may also follow governmental unit boundaries and other invisible features in some instances; the boundary of a state or county is always a census tract boundary.
- **Block Group (BG)** – A statistical subdivision of a CT. A BG consists of all tabulation blocks whose numbers begin with the same digit in a CT. BGs generally contain between 300 and 3,000 people, with an optimum size of 1,500 people.
- **Census Block (CB)** – An area bounded on all sides by visible and/or invisible features shown on a map prepared by the Census Bureau. A CB is the smallest geographic entity for which the Census Bureau tabulates decennial census data.

The census data tables include percentages for minority, elderly, and low-income populations in the United States, Kentucky, Larue County, Hardin County, Census Tracts and Block Groups located in and around the study area, except where not available. This data was separated into similar geographical census units to obtain accurate measures of demographic data.



Map 2 Census Tracts in Project Scope



Map 3 Block Groups in Project Scope

5.0 Study Findings

The Socioeconomic Report is to be used as a component of a programming study currently being conducted by the Kentucky Transportation Cabinet Division of Planning for the identification of short and long-term improvement strategies for the defined section(s) of KY 222 and KY 84. This study is intended to help define the location and purpose of the project and meet federal requirements regarding consideration of environmental issues as defined in the National Environmental Policy Act (NEPA).

According to the 2010 Census, there are three (3) Census Tracts and five (5) Block Groups that encompass the population of the defined study area. These are listed below. (See Map 10.1 for geographic location.)

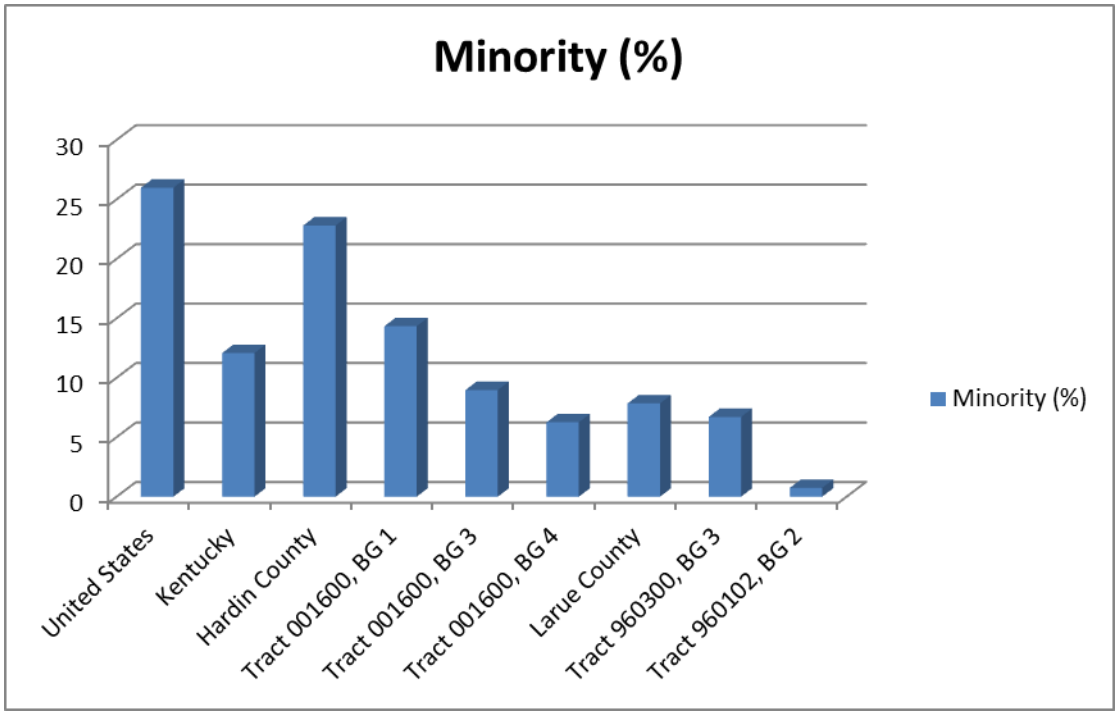
Larue County Total Population	14,149
Hardin County Total Population	106,211
Study Area Total Populations	7,323
Census Tract 001600 (Hardin)	9,319
Block Group 1	2,722
Block Group 3	692
Block Group 4	1,505
Census Tract 960300 (Larue)	3,848
Block Group 3	1,598
Census Tract 960102 (Larue)	5,674
Block Group 2	806

6.0 Study Findings / Population by Persons of Minority Origin

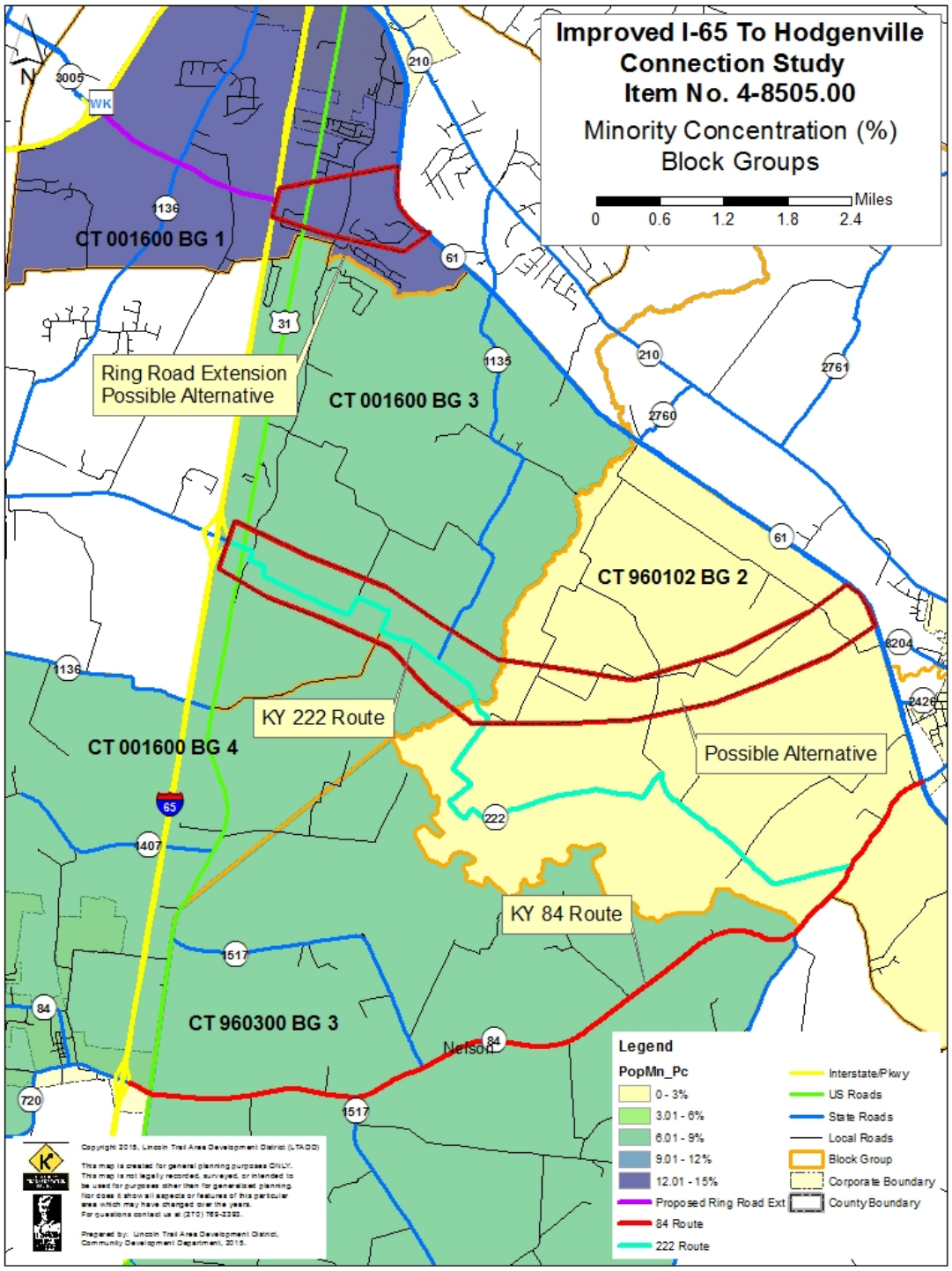
As described in the census data, the "White Alone" population percentage for the state of Kentucky, Hardin County and Larue County is 87.93%, 77.20% and 92.16%, respectively, which is much higher than the national percentage of 74.02%. The total minority population percentage for the state has been calculated and found to be 12.07%. The total minority percentage for Hardin County is well above this value at 22.80% and well below the state averages at 7.84% for Larue County.

An analysis of block groups in the area reveals that BG 1 in CT 001600 in Hardin County (14.33%) is the only BG in the study area above the state average (12.07%). All other BG's in the study area are well below the state average and are below their respective County's percentage. Those BG's are Hardin County BG 3 in CT 001600 (8.96%),

Hardin County BG 4 in CT 001600 (6.25%), Larue County BG 3 in CT 960300 (6.70%) and Larue County BG 2 in CT 960102 (0.74%). All BG's in the study area have a minority percentage that is lower than the national (25.98%) average.



In accordance with the USDOT definition of *Minority*, all races were included in the minority concentration analysis. It is worth noting, though, that of the total minority population in CT 001600 BG 1 Hardin County, 10.73% are Black or African American Alone. All other minority groups in all study area BG's are under 5% of total population. For a more detailed breakdown of each minority segment, please refer to the table in Appendix B.

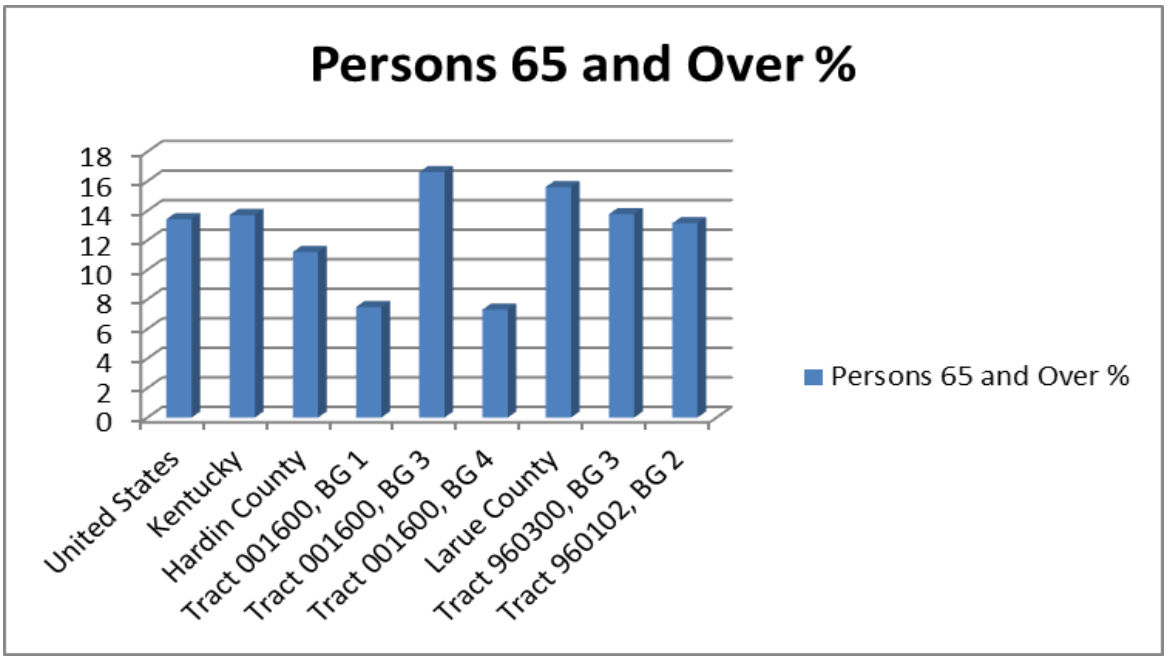


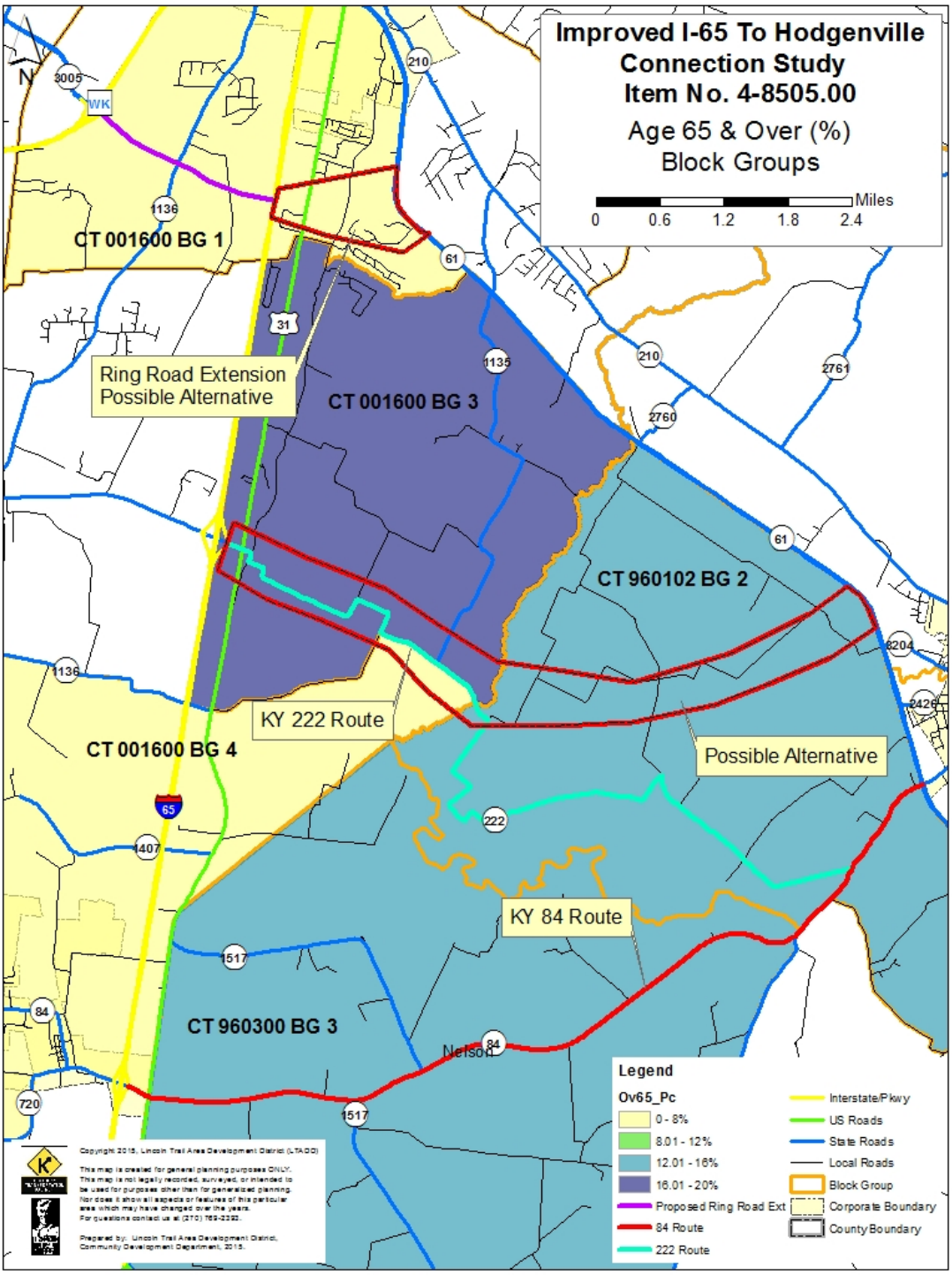
Maps 10.4 displays the minority concentrations geographically

7.0 Study Findings / Population by Persons 65 and Over

As described in the census data, the population percentage of Persons 65 and Over are very consistent at the national and state levels – 13.43% and 13.71%, respectively. The Hardin County level is slightly below the national and state average at 11.21% whereas the Larue County level is slightly higher than the national and state average at 15.61%.

When comparing block groups directly impacted by the study scope, CT 001600 BG 3 in Hardin County (16.62%) is the only BG above the national and state averages. All other BG's in the study area are either at or below the national and state averages.



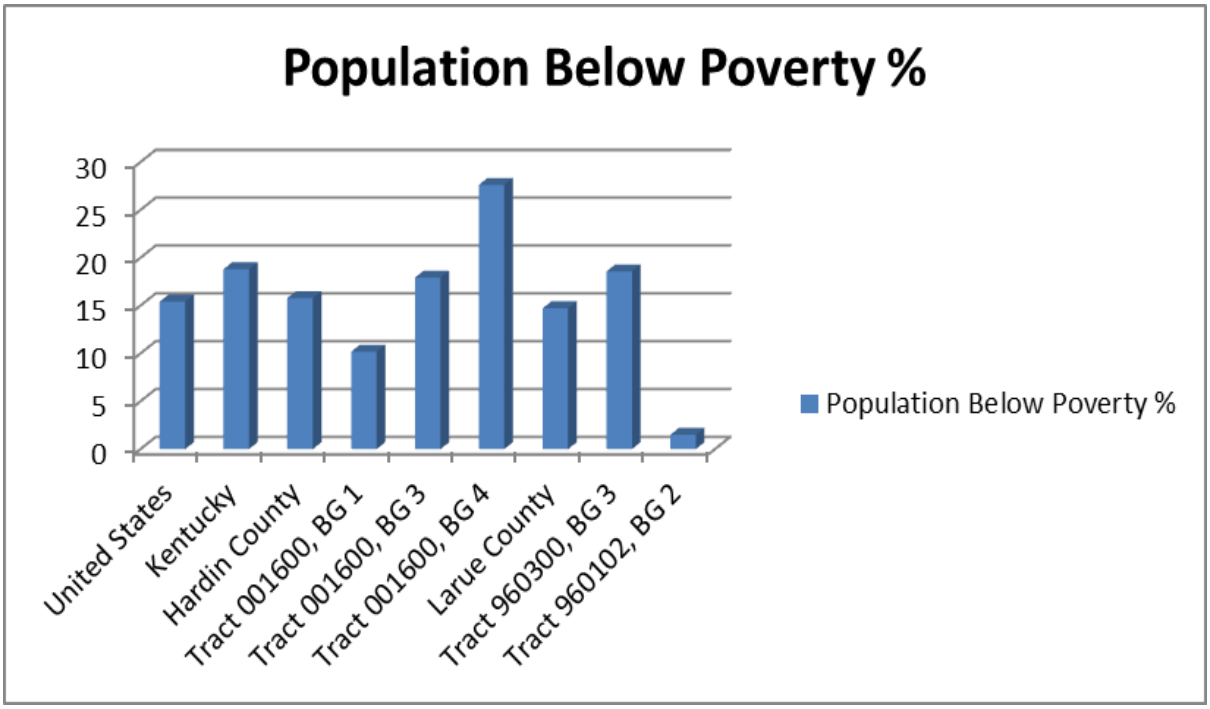


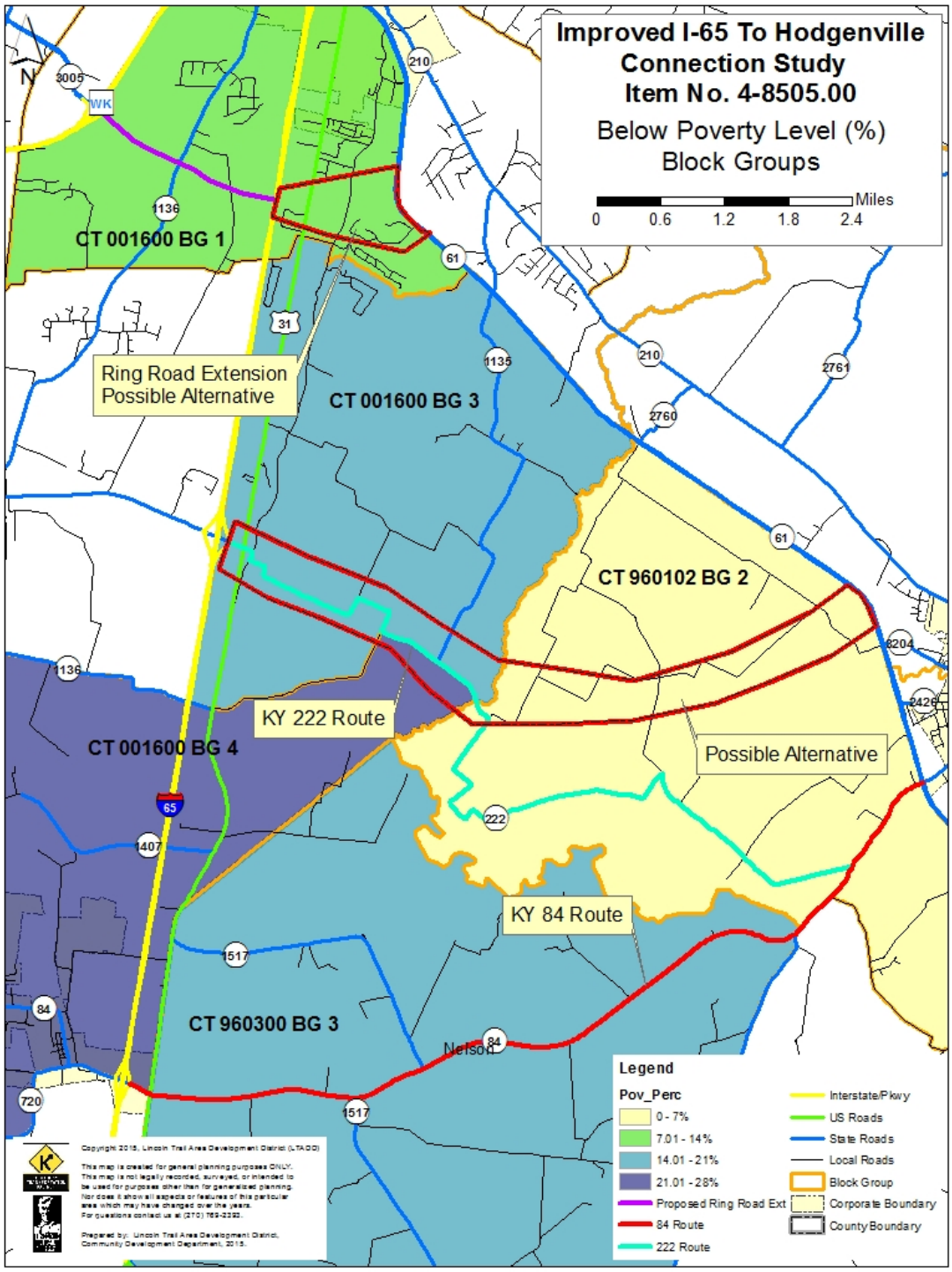
Maps 10.5 displays the 65 and over concentrations geographically

8.0 Study Findings / Population by Persons Below Poverty Level

As described in the 2013 American Community Survey of the U.S. Census Bureau data, the percentage of persons below the poverty level in the last 12 months in Kentucky is 18.8%, well above the national level of 15.41%. However, Hardin County (15.79%) and Larue County (14.71%) had a percentage of persons below the poverty level in the last 12 months at or below both the National and the State levels.

As illustrated in Map 10.8 and the Census Data table in Appendix B, CT 001600 BG 4 in Hardin County had a rate of persons below the poverty level in the last 12 months of 27.61%, well above National, State and County rates. All other BG's in the study area had levels of Persons Below the Poverty Level in the last 12 months below the State level and ranging anywhere from slightly above to well below the national average.

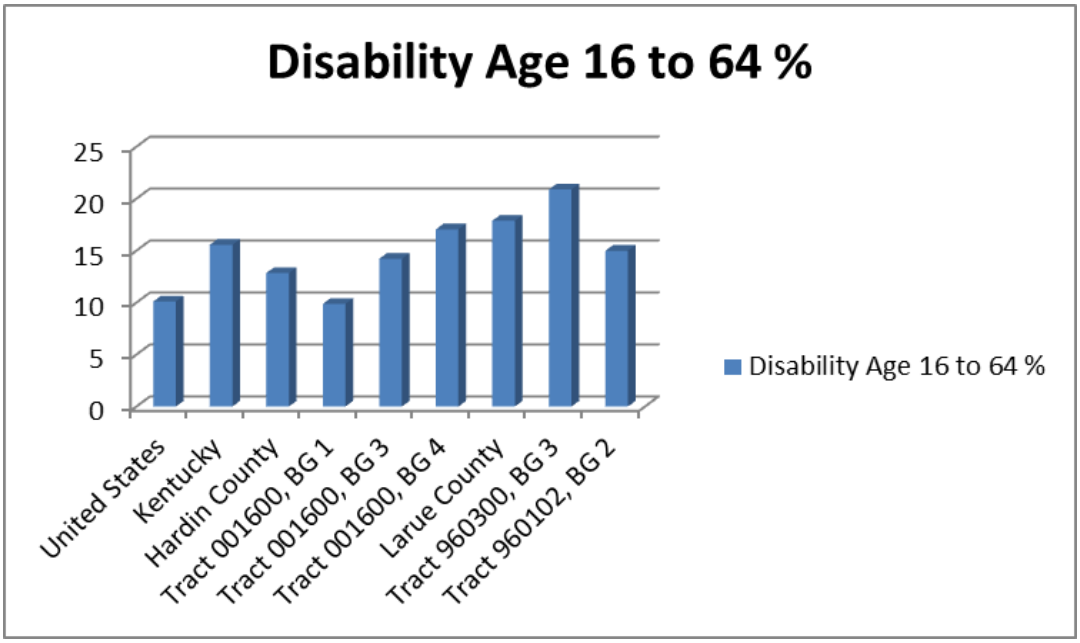


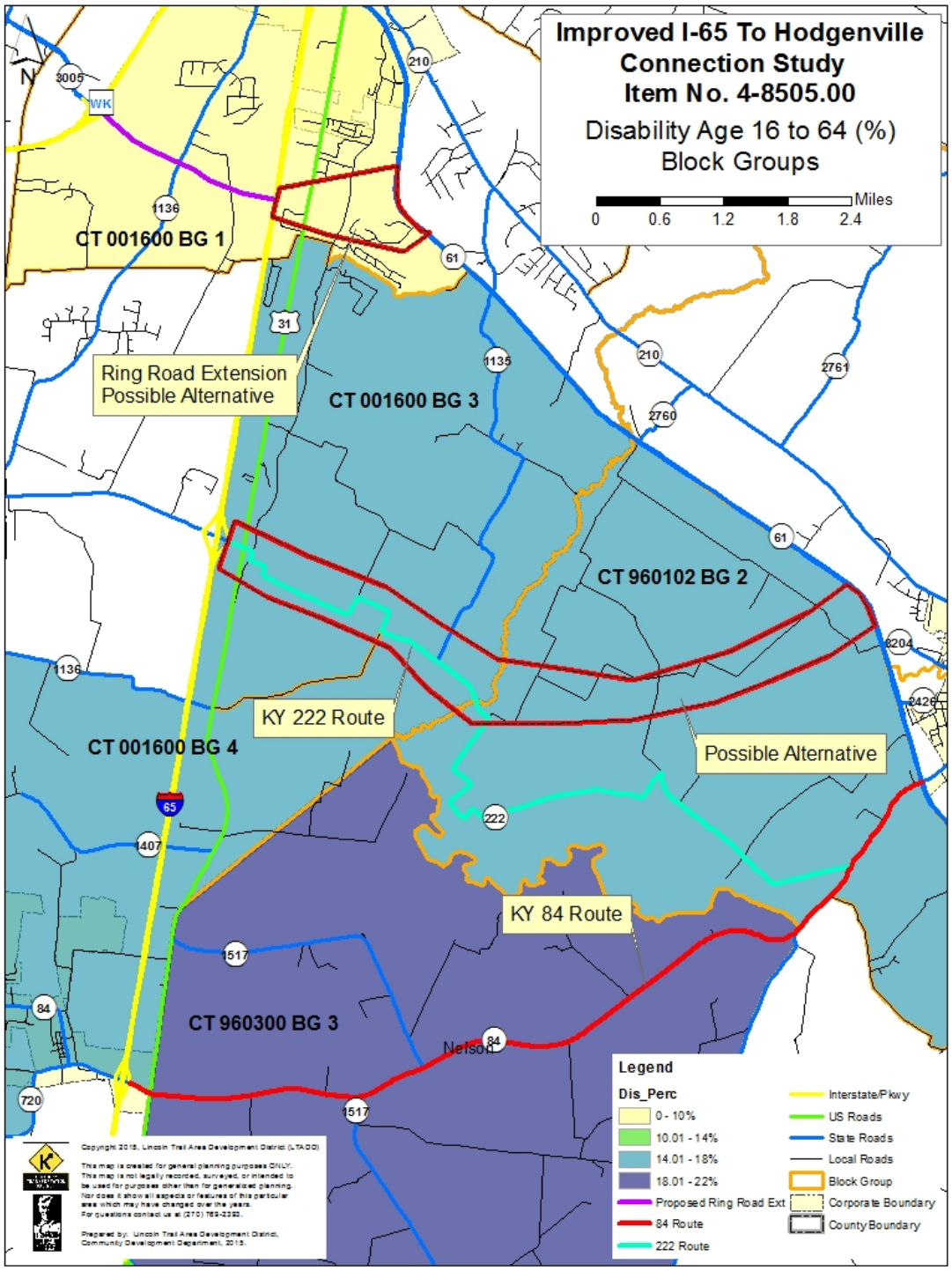


Map 10.6 displays the concentration of persons below the poverty level geographically.

9.0 Study Findings / Population by Disability Age 16 to 64

After an analysis of the 2013 American Community Survey of the U.S. Census Bureau's data of the population by disability age 16 to 64, the following results were found. All levels studied were above the national average of disability (10.11%) with the exception of CT 001600 BG 1 which was at 9.88%. Hardin County had a disability percentage between the national and state level (15.57%) at 12.85% while Larue County had a percentage above both the national and state level at 17.88%. With regards to the study area, only two BG's came in above the state level, and they were CT 001600 BG 4 in Hardin County (17.05%) and CT 960300 BG 3 in Larue County (20.88%). All other BG's were below the state average.

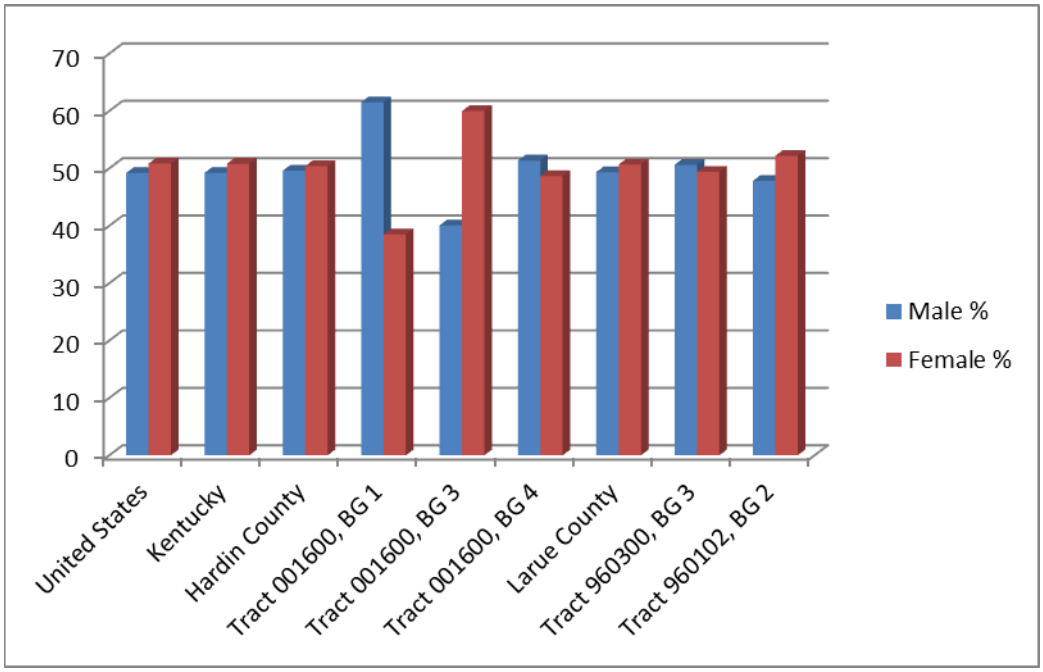


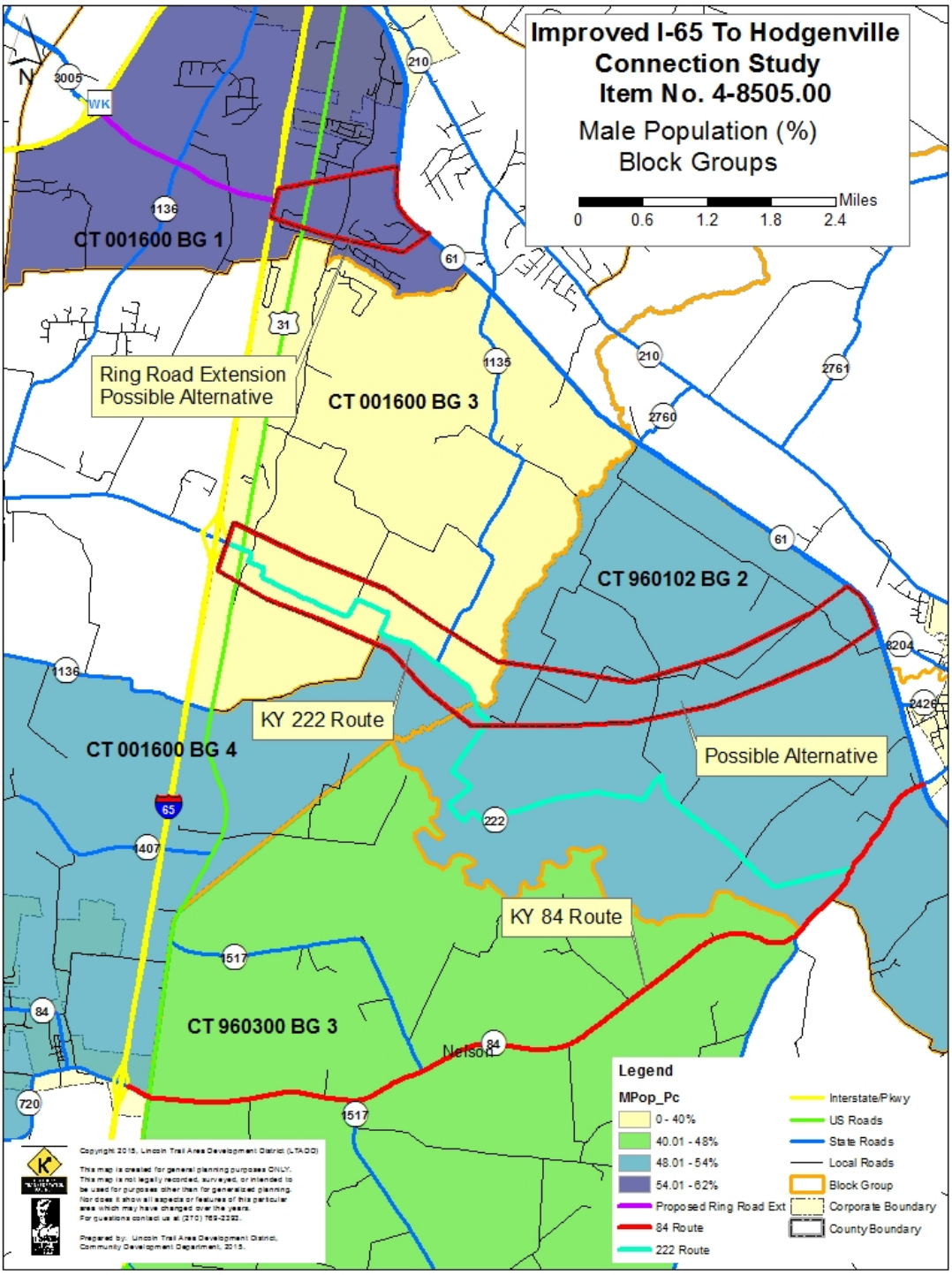


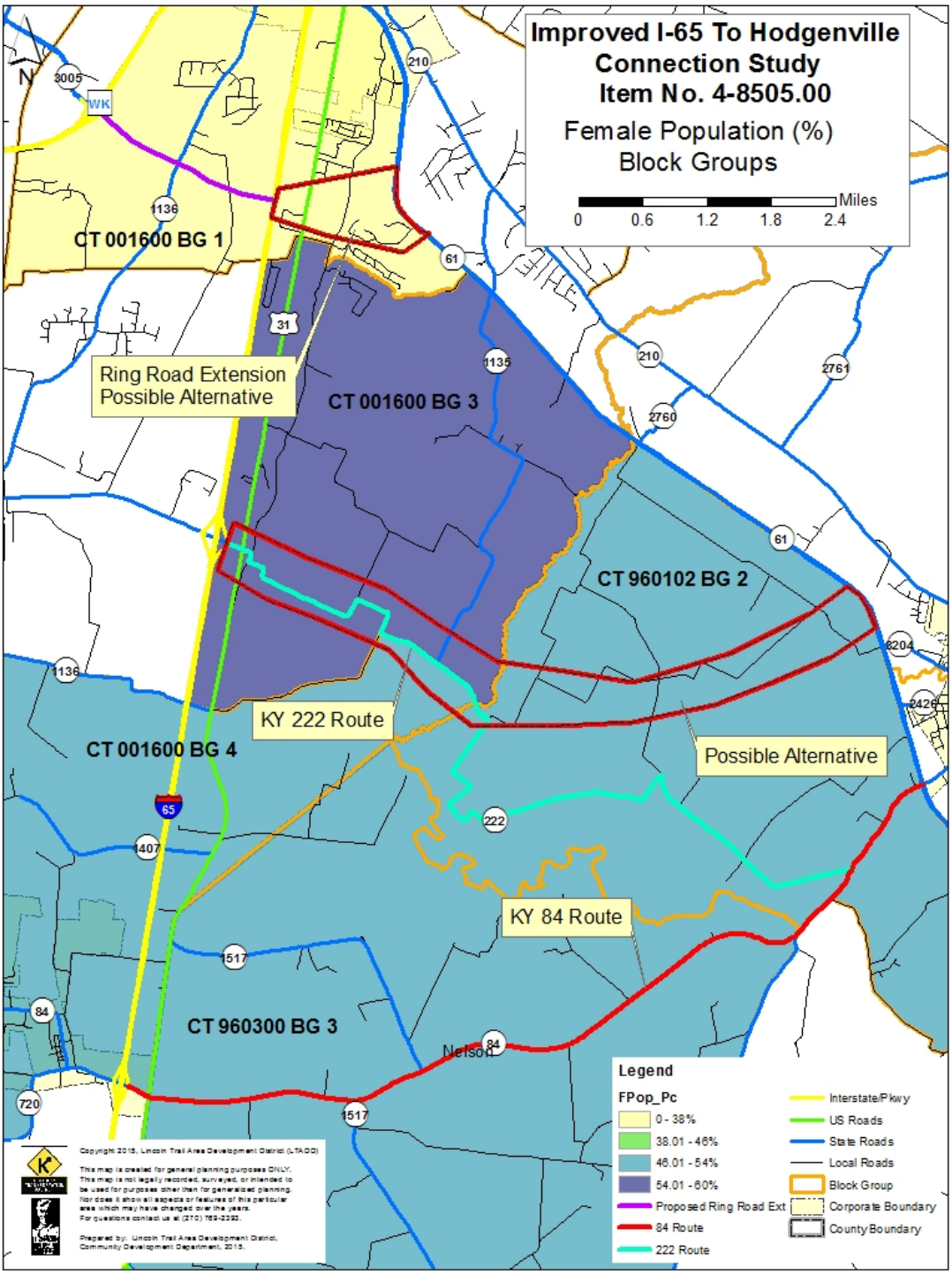
Map 10.7 displays the concentration of persons with a disability aged 16 to 64 geographically

10.0 Study Findings / Population by Sex

As the 2013 American Community Survey of the U.S. Census Bureau data points out, the distribution of population broken up by sex is fairly evenly distributed at the National (49.19% male/50.81% female), State (49.20% male/50.80% female), and County (Hardin 49.61% male/50.39% female; Larue 49.34% male/50.66% female) levels. The data at the census block group level slightly deviates from that fairly even distribution. CT 001600 BG 1 (61.50% male/38.50% female), CT 001600 BG 3 (40.06% male/59.97% female) and CT 001600 BG 4 (51.36% male/48.64% female) in Hardin County. CT 960300 BG 3 (50.62% male/49.38% female) in Larue County is fairly evenly distributed whereas CT 960102 BG 2 (47.8% male/52.19% female) is a little more spread out.



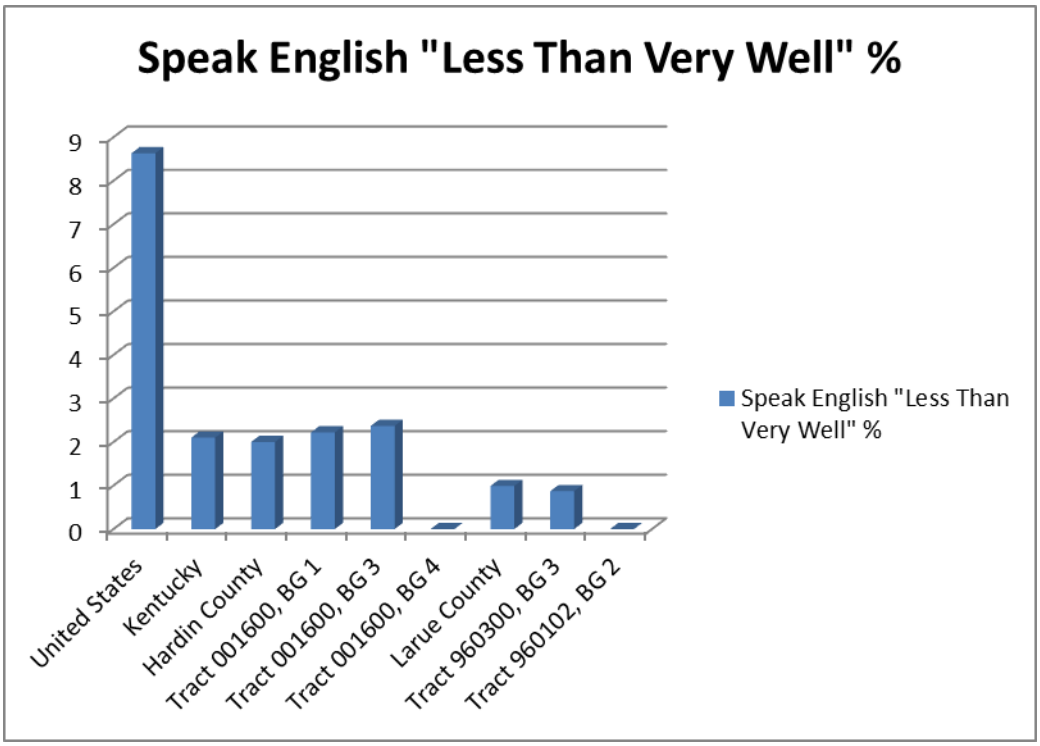

Improved I-65 To Hodgenville
Connection Study
Item No. 4-8505.00
Male Population (%)
Block Groups
Miles
0 0.6 1.2 1.8 2.4
CT 001600 BG 1
CT 001600 BG 3
CT 960102 BG 2
CT 001600 BG 4
CT 960300 BG 3
Ring Road Extension
Possible Alternative
KY 222 Route
Possible Alternative
KY 84 Route
Nelson
Legend
MPop_Pc
0 - 40%
40.01 - 48%
48.01 - 54%
54.01 - 62%
Proposed Ring Road Ext
84 Route
222 Route
Interstate/Pkwy
US Roads
State Roads
Local Roads
Block Group
Corporate Boundary
County Boundary

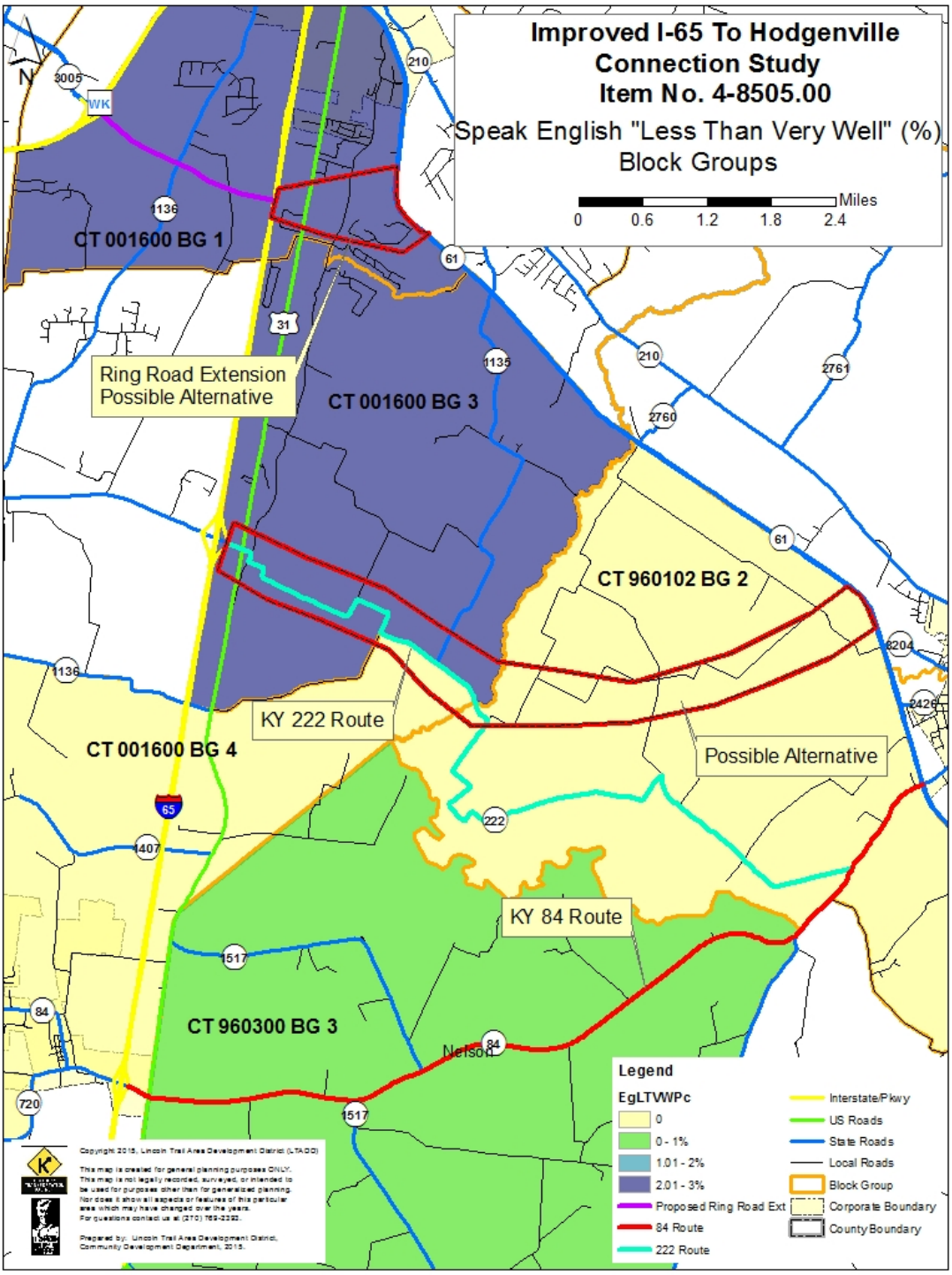


Maps 10.8 and 10.9 display the distribution of persons by sex geographically

11.0 Study Findings / Population by English Proficiency

An analysis of the U.S. Census 2013 American Community Survey data shows that there is a large discrepancy of rates of all persons who speak a primary language other than English that are 5 years of age or older nationally (8.63%) vs. state (2.10%) and county (2.00% for Hardin County and 0.99% for Larue County). When examining the block groups in the study area, it is found that two BG's have zero persons who speak English Less Than Very Well, and they are CT 001600 BG 4 in Hardin County and CT 960102 BG 2 in Larue County. All other BG's in the study have rates that are comparable to their respective county rates.





Map 10.10 displays the concentration of persons aged 5+ who speak English "Not Well" geographically

12.0 Conclusion

After a comprehensive analysis of the KY 222 and KY 84 study areas, all block groups in the study area were comparable to national and state levels. There were some slight deviations but it was never more than three percentage points. Only two areas had levels that were of considerable difference and they were levels of disability (CT 001600 BG 4 in Hardin County and CT 001600 BG 3 in Larue County) and male/female ratio in CT 001600 BG 1 and CT 001600 BG 3 (both in Hardin County).

Of note, the data presented in this document is intended to highlight areas that may require additional analysis should the project be advanced to future phases.

Appendix A: Planning Study Contact List

Honorable Tommy Turner
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209 West High Street
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Honorable Harry Barry
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Mayor of Sonora
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Ronnie Goodman, Supervisor
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Elizabethtown, KY 42701
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Mrs. Donna Rae Clark
Sonora City Clerk
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Sonora, KY 42776
270.369.9651

Mr. Bob Sims
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Hodgenville, KY 42748
270.358.4400

Mr. Rick Games, President and COO
Elizabethtown Hardin County Industrial Foundation
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Planning Study Contact List (continued)

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Hardin Co. Attorney
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Mr. Wesley Wright, Director
Hardin Co. Planning and Development
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270.769.5479

Mrs. Mary G. Locke
Hodgenville City Attorney
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Hodgenville, KY
270.358.3710

Mr. Matt Hess
Sonora City Attorney
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Elizabethtown, KY 42701
270.737.9088

Senator Dennis Parrett
KY State Senator (Hardin)
731 Thomas Rd.
Elizabethtown, KY 42701
270.765.4565

Senator Carroll Gibson
KY State Senator (Larue)
PO Box 506
Leitchfield, KY 42755
270.230.5866

Representative Terry Mills
KY State Representative (Larue)
695 McElroy Pike
Lebanon, KY 40033
270.692.2757

Representative Jim DuPlessis
KY State Representative (Hardin)
102 Utah Street
Elizabethtown, KY 42701
270.737.8708

Appendix B: Census Data Tables

Statistics for Racial and Ethnic Minorities

	Total	Total Minority	Minority (%)	Black or African American Alone	Black or African American Alone (%)	American Indian and Alaska Native Alone	American Indian and Alaska Native Alone (%)
United States	311,536,594	80,944,015	25.98	39,167,010	12.57	2,540,309	1.01
Kentucky	4,361,333	526,320	12.07	341,576	7.83	8,811	0.20
Hardin County	106,211	24,220	22.80	12,167	11.46	260	0.24
Tract 001600, BG 1	2,722	390	14.33	292	10.73	4	0.15
Tract 001600, BG 3	692	62	8.96	-	0.00	-	0.00
Tract 001600, BG 4	1,505	94	6.25	46	3.06	-	0.00
Larue County	14,149	1,109	7.84	461	3.26	13	0.09
Tract 960300, BG 3	1,598	107	6.70	28	1.75	1	0.06
Tract 960102, BG 2	806	6	0.74	-	0.00	6	0.74

	Total	Some Other Race Alone	Some Other Race Alone (%)	Two or More Races	Two or More Races (%)	Asian Alone	Asian Alone (%)
United States	311,536,594	14,746,054	4.73	8,732,333	2.80	15,231,962	4.89
Kentucky	4,361,333	41,980	1.01	80,523	1.85	51,411	1.28
Hardin County	106,211	109	0.01	3,406	3.21	2,313	2.18
Tract 001600, BG 1	2,722	-	0.00	12	0.44	-	0.00
Tract 001600, BG 3	692	-	0.00	26	3.76	15	2.17
Tract 001600, BG 4	1,505	-	0.00	30	1.99	2	0.13
Larue County	14,149	-	0.00	218	1.54	-	0.00
Tract 960300, BG 3	1,598	-	0.00	32	2.00	-	0.00
Tract 960102, BG 2	806	-	0.00	-	0.00	-	0.00

	Total	Native Hawaiian and other Pacific Islander alone	Native Hawaiian and other Pacific Islander alone (%)	White Alone	White Alone (%)	Hispanic or Latino Origin*	Hispanic or Latino Origin (%)*
United States	311,536,594	526,347	0.17	230,592,579	74.02	51,786,591	16.62
Kentucky	4,361,333	2,019	0.04	3,835,013	87.93	136,340	3.13
Hardin County	106,211	374	0.35	81,991	77.20	5,591	5.26
Tract 001600, BG 1	2,722	7	0.26	2,332	85.67	75	2.76
Tract 001600, BG 3	692	-	0.00	630	91.04	21	3.03
Tract 001600, BG 4	1,505	-	0.00	1,411	93.75	16	1.06
Larue County	14,149	-	0.00	13,040	92.16	417	2.95
Tract 960300, BG 3	1,598	-	0.00	1,491	93.30	46	2.88
Tract 960102, BG 2	806	-	0.00	800	99.26	-	0.00

Source: US Census Bureau, 2009-2013 American Community Survey

Table: B03002

Statistics for Age, Poverty, and Disabled Populations

	Total	Persons 65 and Over	Persons 65 and Over (%)
United States	311,536,594	41,851,042	13.43
Kentucky	4,361,333	597,875	13.71
Hardin County	106,211	11,909	11.21
Tract 001600, BG 1	2,722	204	7.49
Tract 001600, BG 3	692	115	16.62
Tract 001600, BG 4	1,505	110	7.31
Larue County	14,149	2,209	15.61
Tract 960300, BG 3	1,598	220	13.77
Tract 960102, BG 2	806	106	13.15

Source: US Census Bureau, 2009-2013 American Community Survey
Table: B01001

	Total Population Age 16 to 64	Disability Age 16 to 64	Disability Age 16 to 64 (%)
United States	192,168,613	19,403,946	10.11
Kentucky	2,680,541	417,332	15.57
Hardin County	69,792	8,965	12.85
Tract 001600, BG 1	2,237	221	9.88
Tract 001600, BG 3	415	59	14.22
Tract 001600, BG 4	968	165	17.05
Larue County	9,022	1,613	17.88
Tract 960300, BG 3	1,001	209	20.88
Tract 960102, BG 2	607	91	14.99

Source: US Census Bureau, 2009-2013 American Community Survey
Table: C23023

	Total Population Poverty Status Can Be Determined	Population Below Poverty Level (Last 12 Months)	Population Below Poverty Level (Last 12 Months) (%)
United States	311,536,594	47,976,635	15.41
Kentucky	4,361,333	819,930	18.80
Hardin County	102,113	16,127	15.79
Tract 001600, BG 1	1,798	183	10.18
Tract 001600, BG 3	692	124	17.92
Tract 001600, BG 4	1,485	410	27.61
Larue County	13,876	2,351	14.71
Tract 960300, BG 3	1,578	293	18.57
Tract 960102, BG 2	806	12	1.49

Source: US Census Bureau, 2009-2013 American Community Survey
Table: B17021

Statistics for Sex, English Proficiency

	Total	Male Population	Male Population (%)	Female Population	Female Population (%)
United States	311,536,594	153,247,412	49.19	158,289,182	50.81
Kentucky	4,361,333	2,145,986	49.20	2,215,347	50.80
Hardin County	106,211	52,691	49.61	53,520	50.39
Tract 001600, BG 1	2,722	1,674	61.50	1,048	38.50
Tract 001600, BG 3	692	277	40.06	415	59.97
Tract 001600, BG 4	1,505	773	51.36	732	48.64
Larue County	14,149	6,981	49.34	7,168	50.66
Tract 960300, BG 3	1,598	809	50.62	789	49.38
Tract 960102, BG 2	806	385	47.81	421	52.19

Source: US Census Bureau, 2009-2013 American Community Survey
Table: B01001

	Total Population 5+	Speak English 'Less Than Very Well' (Age 5+)	Speak English 'Less Than Very Well' (Age 5+) (%)
United States	291,484,482	25,148,900	8.63
Kentucky	4,082,467	85,829	2.10
Hardin County	98,430	1,966	2.00
Tract 001600, BG 1	2,653	59	2.22
Tract 001600, BG 3	674	16	2.37
Tract 001600, BG 4	1,352	-	0.00
Larue County	13,414	133	0.99
Tract 960300, BG 3	1,489	13	0.87
Tract 960102, BG 2	806	-	0.00

Source: US Census Bureau, 2009-2013 American Community Survey
Table: B16004

Appendix E:
Local Officials and Stakeholder Meeting Minutes

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

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

June 3, 2015

«Mailing_Title» «First_Name» «Last_Name»
«Title»
«Organization»
«Address1»
«Address2»
«City», «State» «Zip»

SUBJECT: Improved Hodgenville to I-65 Connection Scoping Study
LaRue & Hardin Counties
Local Officials/Stakeholders Meeting Invitation

Dear «Letter_Title» «Last_Name»:

We would like to invite you to participate in a Local Officials/Stakeholders Meeting for the Improved Hodgenville to I-65 Connection Scoping Study. This meeting will be held on Tuesday, June 30, 2015 and will begin promptly at 2:00 p.m., Eastern Time. We will meet at:

Lincoln Museum
(Community Room)
66 Lincoln Square
Hodgenville, KY 42748

The Kentucky Transportation Cabinet (KYTC), with assistance from Parsons Brinckerhoff and the Lincoln Trail Area Development District (LTADD), has assembled a project team to identify a more reliable and safer connection between Hodgenville and I-65 / Glendale in LaRue and Hardin Counties, Kentucky. The study will include a scoping process to focus on identifying short-term improvements that can be quickly and effectively implemented along existing routes (KY 222 and KY 84), as well as long-term corridor wide solutions that seek to address future transportation needs while addressing existing traffic, connectivity, and safety issues. The level of detail for evaluation will include cost estimates and an analysis of impacts and benefits. This information will be included in a final report.

This meeting will be to discuss known issues, receive feedback about the project's Goals and Objectives, as well as to begin the identification of potential improvements. We are inviting a diverse group of community representatives to include local elected officials and stakeholders such as fire departments, police, EMS, and local schools. We aim to get a local perspective on transportation issues and needs in the area. Be prepared to offer your input on the project.

We appreciate your attendance and contribution to this project. Please have your comments, questions, or requests prepared for the meeting. We look forward to meeting with you. If you cannot attend, please send a representative from your office on your behalf. A second meeting will be scheduled later in the project process to discuss and receive feedback on potential solutions identified.

For additional information please contact Kevin Young in KYTC District 4 by phone at (270) 766-5066 or by e-mail at kevinm.young@ky.gov. Please address all written correspondence to John W. Moore, P.E., Director, Division of Planning, Kentucky Transportation Cabinet, 200 Mero Street, 5th Floor, Frankfort, KY 40622. Include a return address on such correspondence and note this project.

Sincerely,

John W. Moore, P.E.
Director
Division of Planning

JWM/EV/BC

Attachments

c: John Callahan
Patty Dunaway
Brad Bottoms
Kevin Young
David Martin
Scott Schurman
Lindsey Walker (Parsons Brinckerhoff)

Mailing Title	Letter Title	First Name	Last Name	Title	Organization	Address1	Address2	City	State	Zip
Hon.	Hon.	Carroll	Gibson	Senator	Kentucky State Legislature	P.O. Box 506		Leitchfield	KY	42755
Hon.	Hon.	Dennis	Parrett	Senator	Kentucky State Legislature	2851 S. Wilson Road		Radcliff	KY	40160
Hon.	Hon.	Terry	Mills	Representative	Kentucky State Legislature	695 McElroy Pike		Lebanon	KY	40033
Hon.	Hon.	Jim	DuPlessis	Representative	Kentucky State Legislature	901 Dogwood Drive		Elizabethtown	KY	42701
Hon.	Hon.	Tommy	Turner	County Judge Executive	Larue County Government	209 West High Street		Hodgenville	KY	42748
Hon.	Hon.	Harry	Berry	County Judge Executive	Hardin County Government	P.O. Box 568; Suite 300	Courthouse, 100 Public Squa	Elizabethtown	KY	42701
Hon.	Hon.	Kenny	DeVore	Mayor	City of Hodgenville	P.O. Box 189	208 N. Lincoln Boulevard	Hodgenville	KY	42748
Hon.	Hon.	Larry	Copelin	Mayor	City of Sonora	330 E. Western Avenue		Sonora	KY	42776
Mr.	Mr.	Mike	Cottrell	Director	Larue County EMS	209 West High Street		Hodgenville	KY	42748
Mr.	Mr.	Dennis	Wells	911/Emergency Coordinator	Larue County Emergency Management	209 West High Street		Hodgenville	KY	42748
Mr.	Mr.	John	Malcomson	Director	Hardin County EMS	170 Provident Way		Elizabethtown	KY	42701
Mr.	Mr.	Doug	Finlay	Director	Hardin County Emergency Management	1450 Rineyville Road		Elizabethtown	KY	42701
Mr.	Mr.	Clyde	Veirs	County Road Supervisor	Larue County Government	209 West High Street		Hodgenville	KY	42748
Mr.	Mr.	Ronnie	Goodman	County Road Supervisor	Hardin County Government	502 Bacon Creek Road		Elizabethtown	KY	42701
Mr.	Mr.	Russell	McCoy	Sheriff	Larue County Sheriff's Department	209 West High Street	Larue County Courthouse	Hodgenville	KY	42748
Mr.	Mr.	John	Ward	Sheriff	Hardin County Sheriff's Department	100 Public Square; Suite 101		Elizabethtown	KY	42701
Mr.	Mr.			Fire Chief	Larue County Fire Department	209 E. Water Street		Hodgenville	KY	42748
Mr.	Mr.	Richard	Peters	Fire Chief	Glendale Fire Department	P.O. Box 55		Glendale	KY	42740
Mr.	Mr.	Frank	Donehoo	Fire Chief	Sonora Fire Department	200 Main Street		Sonora	KY	42776
Mr.	Mr.	Phil	Fulkerson	Transportation Director	Larue County Schools	208 College Street		Hodgenville	KY	42748
Mr.	Mr.	John	Skaggs	Transportation Director	Hardin County Schools	65 W.A. Jenkins Road		Elizabethtown	KY	42701
Mr.	Mr.	Bob	Sims		Larue County Community and Economic Development	209 West High Street		Hodgenville	KY	42748
Mr.	Mr.	Rick	Games	President and COO	Elizabethtown Hardin County Industrial Foundation	233 Ring Road; Suite 150		Elizabethtown	KY	42701
Mr.	Mr.	Matt	Romano		Pilot Travel Center	58 Glendale-Hodgenville Road W.		Glendale	KY	42740
		Management			Petro Stopping Center	522 Glendale-Hodgenville Road W.		Glendale	KY	42740
		Management			Pilot Travel Center #392	450 East Western Avenue		Sonora	KY	42776
Mr.	Mr.	Otto	Woodall		Lincoln Tool, Inc.	200 Commerce Parkway		Hodgenville	KY	42748
Mr.	Mr.	Gerald	Barrett		Konsei USA, Inc.	401 Commerce Parkway		Hodgenville	KY	42748
Mr.	Mr.	Scott	Tubbs		Quadrant Magnetics	103 Commerce Parkway		Hodgenville	KY	42748
Mr.	Mr.	Paul	Lassanske		Southeast DME	285 Commerce Parkway		Hodgenville	KY	42748
Mr.	Mr.	Bob	Lucas		Eagle Thermoplastics, Inc.	P.O. Box 192	120 Commerce Parkway	Hodgenville	KY	42748
Mr.	Mr.	Wayne	Moore		Cumberland Products	50 Commerce Parkway		Hodgenville	KY	42748
		Superintendent			Abraham Lincoln Birthplace National Historical Park	2995 Lincoln Farm Road		Hodgenville	KY	42748

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TO: Kevin Young
Eileen Vaughan, PE
Project Manager(s), KYTC

FROM: Parsons Brinckerhoff

DATE: June 30, 2015

SUBJECT: Improved Hodgenville to I-65 Connection Scoping Study
Minutes of Local Officials / Stakeholder Meeting #1

The first meeting with the Local Officials / Stakeholders for the Improved Hodgenville to I-65 Connection Scoping Study was held at 2:00 PM (EST) on Tuesday, June 30, 2015, at the Lincoln Museum Community Room in Hodgenville, Kentucky. The following people were in attendance:

NAME	AGENCY/COMPANY	E-MAIL ADDRESS
Bob Sims	LaRue County Economic Development	bsims@laruecounty.org
Jamie Armstrong	Hardin County EMS	jlarmstrong@hardin.co
Ron Durfee	NSU Corporation	rond@nsucorp.com
Bob Lucas	Eagle Thermoplastics Inc.	blucas4@windstream.net
Dominic Decalands	Petro	rsgm330@travelcenters.com
Harry Berry	Hardin County Judge / Executive	n/a
Ed Poppe	City of Elizabethtown	ed.poppe@elizabethtownky.gov
Adam King	Hardin County Planning	adamk.hcpdc@hcky.org
Terry Mills	State Representative – District 24	terry.mills@lrc.ky.gov
Doug Finlay	Hardin County EMA	emdirector@hardin.co
Mike Cottrell	LaRue County EMS	mcottrell@laruecounty.org
Aaron Hawkins	LTADD	Aaron@ltadd.org
Alex LaRue	LaRue Insurance	alex@larueinsurance.net
Stacy Humphreys	National Park Service	stacy-humphreys@nps.gov
Kenny Devore	City of Hodgenville Mayor	hodgenvillemayor@windstream.net
Jason Sadler	LaRue County Fire & Rescue	jsadler.laruefire@yahoo.com
Russell McCoy	LaRue County SO	rmccoy@laruecounty.org
Lisa French	Glendale FD	lfrench2502@gmail.com
Nathanial Hall	LaRue County E-911 / Deputy EM	nhall@laruecounty.gov
Mikael Pelfrey	KYTC – C.O. Planning	Mikael.Pelfrey@ky.gov

Eileen Vaughan	KYTC – C.O. Planning	Eileen.Vaughan@ky.gov
Patty Dunaway	KYTC – District 4	Patty.Dunaway@ky.gov
Charlie Allen	KYTC – District 4	CharlieA.Allen@ky.gov
Kevin Young	KYTC – District 4	KevinM.Young@ky.gov
Brad Bottoms	KYTC – District 4	Bradley.Bottoms@ky.gov
Larry Krueger	KYTC – District 4	Larry.Krueger@ky.gov
Chris Jessie	KYTC – District 4	Chris.Jessie@ky.gov
Shawn Dikes	Parsons Brinckerhoff	Dikes@pbworld.com
Lindsay Walker	Parsons Brinckerhoff	WalkerLi@pbworld.com

Introductions

Kevin Young began the meeting by welcoming those in attendance and thanking them for coming. He then asked for self-introductions. He noted that this was the first meeting of the project's Local Officials / Stakeholders (LO/S) and that the project began in April 2015. He noted that this is a planning level study and no other funds are committed beyond the planning process. He then turned the meeting over to Lindsay Walker of Parsons Brinckerhoff.

Lindsay remarked that the meeting turnout was very good and expressed her appreciation for those who came to the meeting. She presented a PowerPoint based set of project information slides and noted that the agenda included:

- Overview
- Purpose and Need
- Existing Conditions
- Alternatives
- Next Steps

Lindsay commented that this is a planning study and the goal is to identify solutions along KY 84 and / or KY 222 that could be implemented in the short term as well as to identify longer term corridor improvements, including potentially identifying a new route / corridor connecting I-65 to Hodgenville. The study is just beginning so getting input on the existing conditions and issues is important.

Throughout the course of the presentation, attendees made various comments. This discussion and / or comments are provided in the following notes:

- Related to Purpose and Need, there was some discussion and sentiment to add tourism to the needs list.

- There was discussion about the proposed industrial park at KY 222 and I-65. If an automobile manufacturer comes to this area, the workforce will come from the southeast

and southwest, including Hodgenville. A similar example of development was given with the Toyota facility in Georgetown, Kentucky.

- The question was raised if KY 84 is a bike route and some concern expressed if this was the case. Large vehicles often clip mirrors here. It was expressed that bicycles on the route might be dangerous. The route is used when there are detours from I-65 and that the route is rough in the winter with unreported crashes. It does not take much snow or ice to make the roadway treacherous.

- Regarding the Environmental Overview and cultural-historic maps, there were no additional comments.

- Noting the location of industrial / manufacturing facilities, it was suggested that Hodgenville would benefit from a direct truck route connecting it to I-65.

- Related to safety, improved access for fire, police and EMS was noted as a concern. Attendees remarked that the KY 61 / KY 84 intersection has sight distance issues. In addition, a suggestion was made to evaluate the signal timing. The intersection of KY 84 / KY 357 is also of concern.

- The main focus of the discussion related to safety issues was at the KY 84 / US 31W intersection. The high speed route of US 31W combined with large trucks, RVs, etc. and visual clutter makes this a highly unsafe intersection. There were numerous attendees that wanted improvements at this location.

- In terms of alternatives, an attendee expressed a need to keep KY 61 as the main roadway from I-65 / Elizabethtown to Hodgenville. Attendees expressed a reservation at upgrading KY 222. Some also expressed skepticism at upgrading KY 84, although there was unanimity on not doing anything to KY 222. The attendees stated that fixing KY 222 would cause more disruption to farm lands and farm operations than building a new roadway. One participant voiced an approval for extending Ring Road and upgrading KY 222 to the county line then using a new route to extend KY 222 to KY 61 / Hodgenville. It was noted that KY 222 is not suited to be a state maintained roadway and if a replacement route is built, the existing KY 222 may revert to a county road. There was some discussion on limiting access on a new roadway with a sentiment expressed to do that.

Lindsay then discussed the next steps and invited those in attendance to participate in the next LO/S meeting and public meeting to be held in October 2015. She then invited those in attendance to fill out the survey questionnaire distributed and to put a dot on the maps displayed in the room indicating the area they thought would be best for an alternative. She presented a study area map that outlined four areas where possible improvements could be made. Those include a northern section primarily concentrating on an extension of Ring Road (KY 3005), two middle sections largely centered on KY 222 and a southern section along KY 84.

For the meeting record, the consensus was unanimous (11 out of 11 dots placed) for a new corridor in the green band (through the middle of the study area).

The meeting was officially adjourned at 3:20 PM (EST).

FYI

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

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

September 29, 2015

«Mailing_Title» «First_Name» «Last_Name»«Suffix»
«Title»
«Organization»
«Address1»
«Address2»
«City», «State» «Zip»

Dear «Letter_Title» «Last_Name»:

Subject: Improved Hodgenville to I-65 Connection Scoping Study
Larue and Hardin Counties
Item No. 4-8505.00
Second Local Officials/Stakeholders Meeting

The Kentucky Transportation Cabinet would like to invite you to participate in a Local Officials/Stakeholders meeting to discuss the *Improved Hodgenville to I-65 Connection Scoping Study.* This second and final meeting will be held on **Tuesday, October 27, 2015, and begin promptly at 2:00 p.m., Eastern Time.** We will meet at:

First Baptist Church
Christian Fellowship Center
730 Tonieville Road
Hodgenville, KY 42748

The Kentucky Transportation Cabinet (KYTC), with assistance from Parsons Brinckerhoff, Inc. and the Lincoln Trail Area Development District (LTADD), has assembled a project team to identify a more reliable and safe connection between Hodgenville and I-65/Glendale. The level of detail for evaluation will include cost estimates and an analysis of impacts and benefits. This information will be included in a final report.

The previous meeting held for the study was on June 30, 2015. The purpose of the upcoming meeting is to present and review preliminary findings and discuss potential alternative solutions – including concepts for a new roadway corridor near existing KY 222, as well as possible improvements to KY 84. As was the case for the initial meeting, we are inviting a diverse group of community representatives to include local elected officials and stakeholders such as fire departments, police, EMS, and school officials. Please be prepared to offer your input on the project.

We look forward to meeting with you, and appreciate your attendance and contribution to this project. Please have your comments, questions, or requests prepared for the meeting. If you cannot attend, please send a representative from your office on your behalf.

For additional information please contact Kevin Young at KYTC – District 4 by phone at (270) 766-5066 or by e-mail at KevinM.Young@ky.gov. Please address all written correspondence to John W. Moore, P.E., Director, Division of Planning, Kentucky Transportation Cabinet, 200 Mero Street, 5th Floor, Frankfort, KY 40622. Include a return address on such correspondence and note this project.

Sincerely,

John Moore, P.E.
Director
Division of Planning

JM/EV/NH

c: Bernadette Dupont
Patty Dunaway
Brad Bottoms
Kevin Young
David Martin
Scott Schurman
Lindsay Walker (Parsons Brinckerhoff)

The Honorable Carroll Gibson
Senator
Kentucky State Legislature
P.O. Box 506
Leitchfield KY 42755

The Honorable Dennis Parrett
Senator
Kentucky State Legislature
2851 S. Wilson Road
Radcliff KY 40160

The Honorable Terry Mills
Representative
Kentucky State Legislature
695 McElroy Pike
Lebanon KY 40033

The Honorable Jim DuPlessis
Representative
Kentucky State Legislature
901 Dogwood Drive
Elizabethtown KY 42701

The Honorable Tommy Turner
County Judge Executive
Larue County Government
209 West High Street
Hodgenville KY 42748

The Honorable Harry Berry
Hardin County Judge Executive
P.O. Box 568; Suite 300
Courthouse, 100 Public Square
Elizabethtown KY 42701

The Honorable Kenny DeVore
Mayor, City of Hodgenville
P.O. Box 189
208 N. Lincoln Boulevard
Hodgenville KY 42748

The Honorable Larry Copelin
Mayor
City of Sonora
330 E. Western Avenue
Sonora KY 42776

Mr. Mike Cottrell
Director
Larue County EMS
209 West High Street
Hodgenville KY 42748

Mr. Dennis Wells
911/Emergency Coordinator
Larue County Emergency Management
209 West High Street
Hodgenville KY 42748

Mr. John Malcomson
Director
Hardin County EMS
170 Provident Way
Elizabethtown KY 42701

Mr. Doug Finlay
Director
Hardin County Emergency Management
1450 Rineyville Road
Elizabethtown KY 42701

Mr. Clyde Veirs
County Road Supervisor
Larue County Government
209 West High Street
Hodgenville KY 42748

Mr. Ronnie Goodman
County Road Supervisor
Hardin County Government
502 Bacon Creek Road
Elizabethtown KY 42701

Mr. Russell McCoy, Sheriff
Larue County Sheriff's Department
209 West High Street
Larue County Courthouse
Hodgenville KY 42748

Mr. John Ward
Sheriff
Hardin County Sheriff's Department
100 Public Square; Suite 101
Elizabethtown KY 42701

Fire Chief
Larue County Fire Department
209 E. Water Street
Hodgenville KY 42748

Mr. Richard Peters
Fire Chief
Glendale Fire Department
P.O. Box 55
Glendale KY 42740

Mr. Frank Donehoo
Fire Chief
Sonora Fire Department
200 Main Street
Sonora KY 42776

Mr. Phil Fulkerson
Transportation Director
Larue County Schools
208 College Street
Hodgenville KY 42748

Mr. John Skaggs
Transportation Director
Hardin County Schools
65 W.A. Jenkins Road
Elizabethtown KY 42701

Mr. Bob Sims
Larue County Community and Economic Development
209 West High Street
Hodgenville KY 42748

Mr. Rick Games
President and COO
Elizabethtown Hardin County Industrial Foundation
233 Ring Road; Suite 150
Elizabethtown KY 42701

Mr. Matt Romano
Pilot Travel Center
58 Glendale-Hodgenville Road W.
Glendale KY 42740

Management
Petro Stopping Center
522 Glendale-Hodgenville Road W.
Glendale KY 42740

Management
Pilot Travel Center #392
450 East Western Avenue
Sonora KY 42776

Mr. Otto Woodall
Lincoln Tool, Inc.
200 Commerce Parkway
Hodgenville KY 42748

Mr. Gerald Barrett
Konsei USA, Inc.
401 Commerce Parkway
Hodgenville KY 42748

Mr. Scott Tubbs
Quadrant Magnetics
103 Commerce Parkway
Hodgenville KY 42748

Mr. Paul Lassanske
Southeast DME
285 Commerce Parkway
Hodgenville KY 42748

Mr. Bob Lucas
Eagle Thermoplastics, Inc.
P.O. Box 192
120 Commerce Parkway
Hodgenville KY 42748

Mr. Wayne Moore
Cumberland Products
50 Commerce Parkway
Hodgenville KY 42748

Superintendent
Abraham Lincoln Birthplace National Historical Park
2995 Lincoln Farm Road
Hodgenville KY 42748

Senior Manager
NSU Corporation
9385 Sonora Road
Sonora KY 42776

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TO: Kevin Young
Eileen Vaughan, PE
Project Manager(s), KYTC

FROM: Parsons Brinckerhoff

DATE: October 27, 2015

SUBJECT: Improved Hodgenville to I-65 Connection Scoping Study
Minutes of Local Officials / Stakeholder Meeting #2

The second meeting with the Local Officials / Stakeholders for the Improved Hodgenville to I-65 Connection Scoping Study was held at 2:00 PM (EDT) on Tuesday, October 27, 2015, at the First Baptist Church in Hodgenville, Kentucky. The following people were in attendance:

NAME	AGENCY/COMPANY	E-MAIL ADDRESS
Bob Sims	LaRue County Economic Development	bsims@laruecounty.org
Bob Lucas	Eagle Thermoplastics Inc.	blucas4@windstream.net
Larry Howell	LaRue Co. Magistrate	Lhowell@laruecounty.org
Dennis Wells	LaRue Co. EM	dwells@laruecounty.org
Kenny DeVore	City of Hodgenville	HodgenvilleMayor@windstream.net
Adam King	Hardin County Planning	adamk.hcpdc@hcky.org
Tommy Turner	LaRue County Fiscal Court	LCjudge@scrtc.com
Ricky Whitlock	LaRue Co Magistrate	rwhitlock@laruecounty.org
Mike Cottrell	LaRue County EMS	mcottrell@laruecounty.org
Aaron Hawkins	LTADD	Aaron@ltadd.org
Russell McCoy	LaRue County SO	rmccoy@laruecounty.org
Mikael Pelfrey	KYTC – C.O. Planning	Mikael.Pelfrey@ky.gov
Steve Ross	KYTC – C.O. Planning	Steve.Ross@ky.gov
Eileen Vaughan	KYTC – C.O. Planning	Eileen.Vaughan@ky.gov
Patty Dunaway	KYTC – District 4	Patty.Dunaway@ky.gov
Charles Allen	KYTC – District 4	CharlieA.Allen@ky.gov
Kevin Young	KYTC – District 4	KevinM.Young@ky.gov
Brad Bottoms	KYTC – District 4	Bradley.Bottoms@ky.gov
Chris Jessie	KYTC – District 4	Chris.Jessie@ky.gov
Lindsay Walker	Parsons Brinckerhoff	WalkerLi@pbworld.com
Amy Thomas	Parsons Brinckerhoff	Thomasaj@pbworld.com

Anne Warnick	Parsons Brinckerhoff	Warnick@pbworld.com
Chris Barrow	Parsons Brinckerhoff	Barrowcp@pbworld.com

Lindsay Walker, project manager for Parsons Brinckerhoff, began the official meeting at 2:15 PM by welcoming those in attendance and thanking them for coming. Prior to the meeting, the attendees were given the opportunity to view the presentation boards and maps that would be displayed during the public meeting scheduled later that evening.

Lindsay remarked that the meeting turnout was very good and expressed her appreciation for those attending. She presented project information slides including the following agenda items:

- Overview
- Purpose and Need
- Existing Conditions
- Alternatives
- Next Steps

Lindsay reminded the attendees that this is a planning study and the goal is to identify solutions that satisfy the purpose and need, but primarily to improve connectivity between I-65 and Hodgenville. Primary focus areas of the study included the identification of projects along the KY 84 and KY 222 corridors that could be implemented in the short term as well as to identify longer term corridor improvements connecting I-65 to Hodgenville, including potentially new routes or corridors. The results of this study will be a draft report submitted in January 2016 with the final report expected in March 2016. No funding has been identified for further project development after this study is complete.

Some information was previously presented during the first Local Officials / Stakeholder meeting. Specifically on the existing conditions and Purpose and Need. Feedback from the attendees at the meeting as well as the Project Team helped to refine the Purpose and Need, incorporating tourism componenets into the need.

Throughout the course of the presentation, attendees made various comments. This discussion and / or comments are provided in the following notes:

- There was an expressed concern that the results and recommendations of the study would not be available during the 2016 Legislative Session when the project priorities of the next KYTC Highway Plan are expected to be approved. Kevin Young with KYTC assured that recommendations and cost estimates from this study will be provided to local officials in advance of the 2016 Legislative Session.

- During the review of the first Local Officials / Stakeholders Meeting, a question was asked about the viability of reconstructing KY 222 as an alternative to building a new route through that area. Lindsay mentioned that further details will be covered in the alternatives section of the presentation, but did acknowledge that it was considered in the alternative development. Due to the number of identified geometric deficiencies and the discontinuity of the route, it was determined improvements to KY 222 would not be pursued as a

feasible alternative. Portions of the western section may be utilized as part of the alternative to construct a new route through the KY 222 area.

- Another question was asked about whether the study considered traffic diversion based on opening an improved KY 222. Lindsay acknowledged the possibility for such a change in travel patterns with a new route but mentioned that in this study the KYTC traffic forecasting group provided the data for the traffic volume each route individually would draw, but not in combination with other improvements.

- A recommendation was made to reduce the speed limit to 25 along the KY 222 corridor in order to minimize the traffic diversions to KY 222. That recommendation was followed by a comment about speed limits being set based on data such as lane widths, shoulders, and other types of information. Any changes in the speed limit must follow federal and state guidelines.

- For the yellow corridor (refer to the Revised Alternatives map from the presentation), questions were asked about where this corridor would connect to KY 61 and what was the potential for expansion of the corridor to the industrial park west of I-65. Lindsay noted that at this point in the planning process no determination has been made as to the connection locations. One of the purposes of this meeting and the public meeting held later in the day was to solicit feedback from the public as to possible connection points.

- Additional discussion regarding the eastern connection of the yellow corridor identified on the Revised Alternatives map included the comment that connecting at Tonieville Road would be a good compromise for downtown Hodgenville, the Industrial Park and tourism for the area in general.

- The discussion continued on with the recent increase in heavy truck traffic coming from US 31E east of Hodgenville and the desire to keep those trucks from coming downtown if the yellow corridor were to be connected at KY 61 and W. Main St.

- Continued alternative discussion about the green corridor, an additional extension of Ring Road, indicated a consensus that the route would not meet the needs of Hodgenville or further the intent of the study. Improvements to this route will serve Elizabethtown and the immediate vicinity.

- Comments about the orange corridor along KY 84 included the need for shoulders and that spot improvements should be completed in order to improve the road for the many types of traffic users. This is a major grain truck route in addition to heavy use by the Amish community. A question arose about the need for additional right of way for the corridor. It was estimated that some right of way would need to be purchased in order to maintain the typical section based on the current right of way for the route, but that the exact locations and amounts would not be known until further project development occured.

- An additional location for a spot improvement was identified on KY 84 east of KY 1517. This location is a bridge over Barren Run Creek, with approaches at the bottom of a sag

curve which bottoms out heavy vehicles. During the winter months in particular, this spot is a high crash location (according to stakeholders) and is a major cause for delay. It was mentioned that this improvement was included in the cost of the overall KY 84 improvement project (orange corridor); however, a specific spot improvement would be developed and included with the others presented.

- There was a question if the Spot Improvement 84-A would need to take any right of way from the factory. It was noted that the only impact was to utilities and no right of way is required for the improvement.

- During discussions about the costs for improvements, a general comment was made that the lowest cost solutions are Spot Improvements A and E. These are also the locations with the most crashes outside of the fatal crash in the curve.

- There was also a question about the items included in the cost estimate, and if right of way was included. Right of way and utilities costs have been prepared for all spot improvements as well as the three corridor options to provide a total estimated cost.

- The environmental matrix was displayed and specific areas were identified that would need to be taken into consideration in further project development efforts. Particular notice was given to the identification of a significant farmland impact for the yellow corridor alternative. During this discussion, it was also noted that a number of homes and neighborhood would be impacted through the subdivision for the green corridor.

- Finally, Lindsay reviewed the community matrix and local official / stakeholder response from the previous meeting. Lindsay then discussed what to expect at the public meeting and asked for the help of all those in attendance to bring others to the meeting to increase public participation. She invited those in attendance to fill out the survey questionnaire to provide additional feedback and individual responses. In total 9 surveys were returned from those in attendance.

The meeting was officially adjourned at 3:30 PM (EDT).

Appendix F:
Project Development Team Meeting Minutes

PARSONS BRINCKERHOFF

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TO: Kevin Young
Eileen Vaughan, PE
Project Manager(s), KYTC

FROM: Parsons Brinckerhoff

DATE: June 30, 2015

SUBJECT: Improved Hodgenville to I-65 Connection Scoping Study
Minutes of Project Development Team (PDT) Meeting #1

The first Project Development Team (PDT) Meeting was held at 10:30 AM (EST) on Tuesday, June 30, 2015, at KYTC District 4 Office in Elizabethtown, Kentucky. The following people were in attendance:

NAME	AGENCY/COMPANY	E-MAIL ADDRESS
Mikael Pelfrey	KYTC – C.O. Planning	Mikael.Pelfrey@ky.gov
Eileen Vaughan	KYTC – C.O. Planning	Eileen.Vaughan@ky.gov
Jayalakshmi Balaji*	KYTC – C.O. Planning	Jayalakshmi.Balaji@ky.gov
Patty Dunaway	KYTC – District 4	Patty.Dunaway@ky.gov
Charlie Allen	KYTC – District 4	CharlieA.Allen@ky.gov
Kevin Young	KYTC – District 4	KevinM.Young@ky.gov
Brad Bottoms	KYTC – District 4	Bradley.Bottoms@ky.gov
Joseph Ferguson	KYTC – District 4	Joseph.Ferguson@ky.gov
Larry Krueger	KYTC – District 4	Larry.Krueger@ky.gov
Chris Jessie	KYTC – District 4	Chris.Jessie@ky.gov
Chad Filiatreau	KYTC – District 4 Bardstown Section	Chad.Filiatreau@ky.gov
Aaron Hawkins	LTADD	Aaron@ltadd.org
Arlen Sandlin	Parsons Brinckerhoff	Sandlin@pbworld.com
Shawn Dikes	Parsons Brinckerhoff	Dikes@pbworld.com
Lindsay Walker	Parsons Brinckerhoff	WalkerLi@pbworld.com

* joined via videoconference

Introductions

Kevin Young began the meeting by welcoming those in attendance and asking for self introductions. He noted that this was the first meeting of the PDT. He then turned the meeting over to Lindsay Walker of Parsons Brinckerhoff.

PARSONS BRINCKERHOFF

Meeting Overview

Lindsay presented a PowerPoint based set of project information slides and noted that the agenda included:

- Overview
- Purpose and Need
- Existing Conditions
- Alternatives
- Next Steps

In general, the study includes identifying short-term solutions along existing routes (KY 222 and KY 84) as well as longer-term solutions for the corridor to improve safety and provide a more reliable connection between I-65 and Hodgenville.

Lindsay displayed a schedule of the remaining tasks for the project and remarked that the Parsons Brinckerhoff team is doing the geotechnical overview and is on track for completion per the schedule. The next few months will be spent working on the alternatives and the analysis with completion of the project by March 2016. In December, the focus will be on Alternatives Evaluation with a selection of a preferred alternative and a DRAFT report in January 2016.

Jayalakshmi Balaji will be doing the traffic forecasting for the project. She stated there may be 2 to 3 development scenarios to account for varying levels of development near the I-65 / KY 222 industrial site in Glendale. Local roadways in the area such as KY 84 and KY 222 are likely to remain 2-lane facilities with some programmed upgrades, depending upon traffic forecasts. The Ring Road extension is a 4-lane roadway. The PDT is looking for a completion date of September 2015 for the traffic forecasting. The actual forecasting report may be delivered to Parsons Brinckerhoff sooner as the forecast has been completed by KYTC CO and is currently being reviewed. It is expected that the forecast be be sent to Parsons Brinckerhoff in a week to ten days. Parsons Brinckerhoff will review the traffic forecast and will coordinate with KYTC CO if any adjustments need to be made to account for the development scenarios.

Related to the project schedule, it was also noted that the first Local Officials / Stakeholders' (LO/S) Meeting would be held later this same day in Hodgenville. The next LO/S meeting would be held in October 2015 on the same day as the Public Meeting.

Next Lindsay presented slides detailing the project's purpose and need. The PDT had a few comments including the following:

- Patty Dunaway commented that the project needs to be more about a pure transportation need and less about economic development.
- The PDT concluded that promoting / enabling tourism should be part of the need as well as many travelers to the region go to the Lincoln Birthplace site.
- It was also discussed whether or not the need should include any accommodations of bicycle and / or pedestrians. No one recalled seeing much of these users in the corridor. However, Per the Traffic Forecast prepared by KYTC no additional bicycle and / or pedestrian facilities are recommended at this time. This can be revised in the future if

needed. It was noted that there is a nearby Amish community and they do use KY 84 for travel with their horses and buggies.

Next, Lindsay went through the Existing Conditions beginning with the Environmental Overview. It was noted that the KYTC would like to review the maps and documentation that has been produced to date regarding the overview. It was noted by the PDT that there did seem to be a number of hazardous waste sites; however, the 35 hazardous waste sites are generally USTs and other sites generally associated with automotive services.

Lindsay then presented some socioeconomic data including larger employers. It was noted that the NSU plant needs to be moved to the KY 84 / 31W intersection. The database had an address that was erroneous. Parsons Brinckerhoff will correct the map for the LO/S meeting. Lindsay then presented the Environmental Justice analysis of populations in the study area noting that there are different populations of concern throughout the study area with minority populations in the north towards Elizabethtown, populations of elderly people in the middle, low-income populations to the east and disabled populations towards the south. The Lincoln Traill Area Development District (LTADD) performed the Environmental Justice review and agreed with the summary assessment shown at the meeting.

Next the cultural historic information was presented. There are some properties of significance in the study area along the existing routes. Most of the properties along KY 84 are set back from the existing roadway so any potential widening is not likely to affect them. Along KY 222, there are some areas where the specific property is closer to the roadway. The Camp Nevin site is rather large as noted on the map. Similarly the study area's archaeological resources are located in areas along existing routes nearer to I-65 and near Hodgenville. At this stage, there does not seem to be resources in either of these two areas that would preclude the alternatives the study may consider.

Traffic was then discussed with maps showing existing AM and PM traffic volumes, levels of service and volume to capacity ratios. The maps depicting AM and PM operations both show no issues with traffic operations. The volumes on KY 61 range from 14,000 near Elizabethtown to 10,000 closer to Hodgenville. On KY 222, the volume is 8,400 near the interchange with I-65, but then drops dramatically to below 200 and below 100 closer to Hodgenville. On KY 84, there are 4,400 vehicles near Sonora, about 1,700 to 1,500 in the middle sections and 2,400 near Hodgenville. One key item is to see how the volumes change in the future which could influence the type of improvement(s) considered.

The crash distribution and severity were discussed next. Parsons Brinckerhoff examined a 5 year span of reported crash data from January 2010 to December 2014. There are a number of injury and property damage only (PDO) crashes in the study area along with 3 fatal crashes. The crashes along KY 61 are fairly evenly distributed. There was one fatal crash along KY 61 and alcohol was a factor. It has no area of special concern as it does not have a higher than normal critical crash rate factor (CCRF). KY 222 has crashes at the ends near I-65 and near Hodgenville but few reported crashes in the middle. This is commensurate with the traffic volumes. The area near the interchange at Glendale has a higher than normal CCRF which is typical of interchanges that have automobile oriented businesses. Likewise, KY 84 has an even distribution of crashes along the route, with a crash cluster and higher than normal CCRF near the interchange with I-65

at Sonora. There was one fatal crash near the intersection of KY 84 and 31W and another fatal crash along KY 84 in a curve approaching Hodgenville just west of KY 61. Angle and single vehicle crashes are the most predominant types with weather and lighting not a determining factor. It was noted that the District has identified PIF projects at the intersection of KY 84 / US 31W as well as the section of KY 84 between KY 357 and KY 61 to address the crash issue. While the intersection of KY 61 / KY 84 was not identified as a high crash location, there were several crashes that occurred on the KY 84 approach. It was noted by District staff that backplates may have recently been added to the signal at the KY 61 / KY 84 intersection to address some of the crash issues.

Lindsay outlined the existing conditions of KY 61, KY 222 and KY 84. KY 61 is an urban / rural minor arterial with 2 12-foot wide lanes and 10-foot shoulders. It has a posted speed of 55 mph. KY 222 is a rural minor collector / local roadway with 2 9-foot lanes and 2-5 foot shoulders. It has a speed limit of 45 to 55 mph. It was also pointed out that KY 222 has many geometric deficiencies (horizontal / vertical). These are shown on the the existing plan and profile sheets. KY 84 has a few horizontal / vertical geometric deficiencies but much less than KY 222. It was also noted that a portion of KY 84 had recently been repaved (within the last two months) from KY 61 to just past KY 357. There are no other plans to repave the remaining portion of KY 84 or any section of KY 222.

Attention then turned to the Preliminary Alternatives. Those include Route 1: Ring Road extension, Route 2: a new roadway from I-65 near Glendale to KY 61 near Hodgenville, Route 3: improvements / realignment to KY 222, and Route 4: improvements / realignment to KY 84. It was noted that Ring Road is currently in the design phase and that there is no additional funding for the project. Summaries of the alternatives were presented along with the existing typical sections for each. The typical section of any new or upgraded route would be determined later in conjunction with the impending traffic forecasting results.

Given the many deficiencies along KY 222 and the likely cost of those, it was concluded that the KY 222 improvement may be eliminated from consideration. Given the existing and likely future traffic volumes, it does not make sense to upgrade this roadway that is largely rural in nature. This option will still be presented to the Local Officials / Stakeholders in the afternoon meeting, hoping the concensus would be the same from them and it could be officially eliminated from consideration at this point in the project.

Evaluation factors were presented next. Those include:

- Meets Purpose and Need
- Impacts to the Environment
- Costs

It was noted that Local Officials / Stakeholder support might want to be included if there is a clear consensus among them at a future date regarding an alternative.

Lastly, Lindsay then detailed the next work items per the scope including developing a list of improvement options, evaluating those, holding future PDT and LO/S meetings and a public meeting.

Next Steps

Parsons Brinckerhoff will prepare meeting minutes from this PDT meeting and send them to all those in attendance. Upon acceptance of the minutes, Parsons Brinckerhoff will finalize them and make them part of the project records.

With no further comments, the meeting was adjourned at 11:50 AM (EST).

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TO: Kevin Young
Eileen Vaughan, PE
Project Manager(s), KYTC

FROM: Parsons Brinckerhoff

DATE: September 1, 2015

SUBJECT: Improved Hodgenville to I-65 Connection Scoping Study
Minutes of Project Development Team (PDT) Meeting #2

The second Project Development Team (PDT) Meeting was held at 10:30 AM (EDT) on Tuesday, September 1, 2015, at KYTC District 4 Office in Elizabethtown, Kentucky. The following people were in attendance:

NAME	AGENCY/COMPANY	E-MAIL ADDRESS
Mikael Pelfrey	KYTC – C.O. Planning	Mikael.Pelfrey@ky.gov
Eileen Vaughan	KYTC – C.O. Planning	Eileen.Vaughan@ky.gov
Jayalakshmi Balaji*	KYTC – C.O. Planning	Jayalakshmi.Balaji@ky.gov
Patty Dunaway	KYTC – District 4	Patty.Dunaway@ky.gov
Charlie Allen	KYTC – District 4	CharlieA.Allen@ky.gov
Kevin Young	KYTC – District 4	KevinM.Young@ky.gov
Brad Bottoms	KYTC – District 4	Bradley.Bottoms@ky.gov
Joseph Ferguson	KYTC – District 4	Joseph.Ferguson@ky.gov
Larry Krueger	KYTC – District 4	Larry.Krueger@ky.gov
Josh Hornbeck	KYTC – District 4	Josh.Hornbeck@ky.gov
Aaron Hawkins	LTADD	Aaron@ltadd.org
Chris Barrow	Parsons Brinckerhoff	BarrowCP@pbworld.com
Shawn Dikes	Parsons Brinckerhoff	Dikes@pbworld.com
Lindsay Walker	Parsons Brinckerhoff	WalkerLi@pbworld.com

* joined via teleconference

Introductions

Kevin Young began the meeting by welcoming those in attendance. No formal introductions were made as everyone was familiar with each other through the previous project meetings. He then turned the meeting over to Lindsay Walker of Parsons Brinckerhoff.

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Meeting Overview

Lindsay presented a PowerPoint based set of project information slides and noted that the agenda included:

- Project Review
- Local Officials / Stakeholder Feedback
- Purpose and Need Revised
- Traffic Forecast
- Revised Alternatives
- Preparation / Discussion of Public Meeting
- Next Steps

She detailed that this was an interim meeting to mainly go over stakeholder feedback and discuss the refined corridor options and analysis to date, as well as to plan for the upcoming public meeting,

The following sections provide specific detail on what was presented and the resulting discussion.

Project Review – In general, the study includes identifying short-term solutions along existing routes (KY 222 and KY 84) as well as longer-term solutions for the corridor to improve safety and provide a more reliable connection between I-65 and Hodgenville.

The study was begun in April 2015 and we are at the midway point (or slightly beyond) related to project schedule. A public meeting is to be held in October 2015 with the overall draft document completed by January 2016. The final document is to be completed in March 2016.

Local Officials / Stakeholder Feedback – A summary of the first Local Officials / Stakeholder (LO/S) Meeting held on June 30, 2016 was presented. Nineteen attendees participated and twelve returned a questionnaire. The summary included some overall themes heard at the meeting as well as compiled survey results. Those themes included safety, need for a new route, and facilitating tourist and industrial traffic.

Purpose and Need – The purpose and need statement was presented with any modifications that were incorporated as a result of the previous project meetings. The purpose statement was not modified; however "tourism" was added to the list of needs. It was agreed upon by those in attendance that tourism is not specifically a standalone need. It serves the purpose as a component of other needs including safety and access. Improving the safety of the existing routes for traffic including tourism traffic is a need as well as providing increased access to tourist sites in the Hodgenville area. The list of needs will be presented to the public with brief statements listing the identified needs for clarification.

Traffic Forecast – Jayalakshmi Balaji provided prior to the meeting revised traffic forecast numbers for previously identified scenarios. These include the following:

- Low Growth: KY 84 (Ring Road Open and Closed)
- Low Growth: KY 222 New Route (Ring Road Open and Closed)
- High Growth: KY 84 (Ring Road Open and Closed)
- High Growth: KY 222 New Route (Ring Road Open and Closed)
-

In addition to these scenarios, it was requested that KYTC run another scenario where the Ring Road Extension is Open (from US 31W to KY 61) and no improvements are made to KY 84 or KY 222. This will hopefully test the independent utility of a Ring Road extension between US 31W and KY 61.

An addendum document would be created so that future tracking of the process can be easily followed and added into the appendix.

Revised Alternatives – Lindsay next presented the revised alternatives. At the previous meetings, Route 3 (KY 222 Improvement) was eliminated from further consideration. The PDT concluded at this meeting not to show it to the public as it had been previously eliminated by both the PDT and the LO/S. To avoid confusion about numbering it was decided and to change the routes to colors instead of numbers or letters.

Discussion related to the other three remaining alternatives is presented below.

Route #1 – Ring Road Extension:

- The typical section of this roadway should match existing design plans for the section of Ring Road between the Western Kentucky Parkway and US 31W. This will maintain continuity and provide a more conservative cost estimate which can be scaled back if needed during design.

Route #2 – New Corridor to Hodgenville:

- New alignment should be a 55 mph design speed. The western most section should show a larger radius as the existing one may be for a 45 mph design speed (PB will check on this).
- Interchange upgrade text should be shown in the maps at the public meeting noting the upgrades to the interchange are a separately proposed project.
- Concern was expressed about the eastern tie into KY 61. It was suggested to show a larger area for potential connection closer to the industrial park and to ask in the survey questions where the public would like to see the connection.
- This route will be shown going forward as a wider band similar to the initial identification to allow for future flexibility in design.
- Typical sections for a new route should be shown as 12’ lanes with a 10’ graded shoulder.

Route #4 – Improve Existing KY 84:

- Typical sections for KY 84 should be shown as 12’ lanes with a 10’ graded shoulder.
- KY 84 at US 31W – During the I-65 interchange work plans include moving some utilities away from the intersection.
- KY 84 at KY 357 – This is better suited as a corridor improvement only and not a spot improvement.

    - Traffic split is needed to make sure KY 84 to KY 84 is the major movement (and not traffic turning onto KY 357).
- KY 84 at KY 222 – This is better suited as a corridor improvement only and not a spot improvement.
    - District agreed with a better approach angle for minor streets.
- KY 84 near Mile Point 8 – Spot Improvement
    - All agreed on improvement
- KY 84 at KY 61 – Intersection Improvements
    - Already Completed by District:
        - Reviewed signal timing
        - Added back plates to signal heads
        - Added supplemental signal heads
    - Proposed Ideas:
        - Offset left turns in median space
        - Consider adding concrete island or enhance striping to catch drivers attention that they are approaching an intersection
        - Consider traffic signal with two red inserts "T"

Evaluation Matrix – Lindsay continued with the presentation and next presented evaluation matrices which included the following categories:

- System / Operation
    - The existing ADT is portrayed as we know it now. With the additional model runs and more information provided by KYTC, those numbers will change.
    - Travel times should be compared across all alternatives for trips from the center of Hodgenville to the Glendale interchange on I-65.
- Environmental
    - Waiting to hear comments back from DEA
    - The impacts are a general range, especially considering the options for tie in points of the new KY 222 near KY 61.
- Community
    - No comment
- Cost
    - Only Design and Construction cost were available
        - PB to provide acreage for needed new route and will assign a value per acre based on KYTC District specific costs.
        - KYTC will provide utilities cost estimates
        - Construction cost estimates will also be provided for the spot improvements by Parsons Brinckerhoff.

Preparation / Discussion of Public Meeting –

- Possible Dates: October 27th or 29th for the LO/S and public meeting. October 27th is the preferred date.
- Possible Locations, High School, Middle School or the Hodgenville First Baptist Church
- Meeting Times
    - LO/S meeting around 2 pm
    - Public meeting from 5-7 pm

- Format: Open House, with stations / boards and a survey form; short presentation at 5:15 to kick off meeting.
- Meeting Materials
    - All materials requested to be submitted 2 weeks before the meetings for review.

Next Steps – Lindsay then closed the meeting by talking through the rest of the schedule including the PDT #3 meeting, Draft Report and Final Report.

Parsons Brinckerhoff will prepare meeting minutes from this PDT meeting and send them to all those in attendance. Upon acceptance of the minutes, Parsons Brinckerhoff will finalize them and make them part of the project records.

With no further comments, the meeting was adjourned at 12:05 PM (EDT).

PARSONS BRINCKERHOFF

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TO: Kevin Young
Eileen Vaughan, PE
Project Manager(s), KYTC

FROM: Parsons Brinckerhoff

DATE: December 3, 2015

SUBJECT: Improved Hodgenville to I-65 Connection Scoping Study
Minutes of Project Development Team (PDT) Meeting #3

The third Project Development Team (PDT) Meeting was held at 9:30 AM (EST) on Thursday, December 3, 2015, at KYTC District 4 Office in Elizabethtown, Kentucky. The following people were in attendance:

NAME	AGENCY/COMPANY	E-MAIL ADDRESS
Mikael Pelfrey	KYTC – C.O. Planning	Mikael.Pelfrey@ky.gov
Eileen Vaughan	KYTC – C.O. Planning	Eileen.Vaughan@ky.gov
Steve Ross	KYTC – C.O. Planning	Steve.Ross@ky.gov
Patty Dunaway	KYTC – District 4	Patty.Dunaway@ky.gov
Charlie Allen	KYTC – District 4	CharlieA.Allen@ky.gov
Kevin Young	KYTC – District 4	KevinM.Young@ky.gov
Brad Bottoms	KYTC – District 4	Bradley.Bottoms@ky.gov
Joseph Ferguson	KYTC – District 4	Joseph.Ferguson@ky.gov
Larry Krueger	KYTC – District 4	Larry.Krueger@ky.gov
Josh Hornbeck	KYTC – District 4	Josh.Hornbeck@ky.gov
John Edwards	KYTC – District 4	Johnr.Edwards@ky.gov
Mike Skaggs	LTADD	mskaggs@ltadd.org
Arlen Sandlin	Parsons Brinckerhoff	Sandlin@pbworld.com
Shawn Dikes	Parsons Brinckerhoff	Dikes@pbworld.com
Amy Thomas	Parsons Brinckerhoff	ThomasAJ@pbworld.com
Lindsay Walker	Parsons Brinckerhoff	WalkerLi@pbworld.com

Introductions

Kevin Young began the meeting by welcoming those in attendance. No formal introductions were made as everyone was familiar with each other through the previous project meetings. He then turned the meeting over to Lindsay Walker of Parsons Brinckerhoff.

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Meeting Overview

Lindsay presented a PowerPoint based set of project information slides focused on the following topics:

- Project Review / Status
- Local Officials / Stakeholder Meeting Summary
- Public Meeting Summary
- Corridor Alternatives Discussion
- Spot Improvements Discussion
- Next Steps

The following sections provide specific detail on what was presented and the resulting discussion.

Project Review – The study objectives include identifying short-term solutions along existing routes as well as longer-term solutions including new route options to improve safety and provide a more reliable connection between I-65 and Hodgenville.

The study began in April 2015 and the current progress point for the study is the review of alternatives. The draft document is scheduled to be completed in January 2016 with the final document completed in March 2016.

Local Officials / Stakeholder Summary – A summary of the second Local Officials / Stakeholder (LO/S) Meeting held on October 27, 2015 was presented. Ten attendees participated and nine returned a completed survey. The summary included corridor alternative preferences and the review of spot improvement suggestions.

During the discussion of the corridor alternatives, the Ring Road extension corridor (green) was identified as a good project, but it was stated that it does not meet the purpose and need of the project. The new corridor through the middle of the study area (yellow) was identified as the preferred alternative by the stakeholders who returned surveys. Spot improvements along KY 84 were generally favored as well, but the major widening project (orange) was not a preferred alternative as it was also felt that this project does not meet the purpose and need of the project.

A new spot improvement location identified at the LO/S Meeting was the bridge east of KY 1517 over the Barren Run Creek.

Lindsay then presented LO/S summarized survey results. Below are question results:

- *Question 2: In your opinion, what do you see as the most important need for this project to address?* The most important needs for this project were identified as safety and connectivity.

- *Question 3: Please rank the spot improvements.* In order, the results were as follows: 84-E, 84-D, 84-A, 84-B, and 84-C.

- *Question 5: What is your preference for improving connectivity between Hodgenville and I-65?* Every respondent to the survey chose the yellow corridor as the highest preference.

- *Question 6: If the Yellow option was selected, please identify your preferred intersection with KY 61.* The preferred intersection with KY 61 was with KY 3204, Tonieville Road.

Public Meeting Summary – Lindsay then presented an overview of the public meeting held on October 27, 2015. The public meeting took place at the First Baptist Church in Hodgenville, Kentucky. There were 91 attendees, and 87 total surveys completed. There were 42 surveys returned at the meeting, 24 additional surveys mailed to the Kentucky Transportation Cabinet (KYTC), and 21 online surveys were completed.

There was a very high interest in this study from the public. The dot ranking exercise at the public meeting produced the following results: Green corridor (Ring Road extension) = 22; Yellow corridor (new route through the middle of the study area) = 22; Orange corridor (KY 84 major widening) = 16. There were consistent high concerns about the cost of project improvements, and the impacts to farmlands.

Spot improvements were also prioritized in a dot exercise during the meeting with the following results:

- Priority 1 = 84-A
- Priority 2/3 = 84-C and 84-D
- Priority 4/5 = 84-B and 84-E

Also, the bridge approaches and bridge east of KY 1517 over the Barren Run Creek was identified as a new spot improvement based on public input. This is similar to what was heard from the LO/S.

The survey results were then discussed. Below are question results:

- *Question 1: How frequently do you travel between I-65 and Hodgenville?* The most frequent time selected was 1-2 times per week.

- *Question 2: What path do you take?* The KY 61 route was used by most respondents, with KY 84 as the second highest route.

- *Question 3: What types of trips are you making?* The trip type responses, in order, were recreational, errands, and work. School and other had very low responses.

- *Question 4: In your opinion, what do you see as the most important need for this project to address?* In order, the most important needs were property impacts, safety, environmental impacts, aesthetics, connectivity, and travel time.

- *Question 5: What is your preference for improving connectivity between Hodgenville and I-65?* The orange corridor was selected as the highest preference, with the green corridor as the next highest preference and the yellow corridor as the lowest preference.

- *Question 6: If the Yellow option was selected, please identify your preferred intersection with KY 61.* Of the respondents choosing the yellow corridor, the KY 3204 Tonieville Road intersection and the LaRue County Industrial Park intersection were tied.

- *Question 7: Please rank the KY 84 near term fixes from 1 to 5.* In order, the preferences for spot improvements were 84-A, 84-D, 84-B, 84-C, and 84-E.

Some comments and questions about the results included the following:

- The public ranked property impacts as the highest importance over safety, function, etc.
- The attendees included a good mix of residents throughout all of the corridors.

Corridor Alternatives Recommendations – Lindsay next led the discussion with an overview of the corridor alternatives, typical sections for the corridors, and an evaluation matrix with the costs for each phase. The Project Development Team (PDT) has the responsibility to identify the key priorities and recommendations of the study. Questions were asked about the changes in costs. There were some changes to the right of way (ROW) costs on the orange and yellow corridors to reflect current price trends, and an increase in construction costs on the orange corridor to reflect the additional spot improvement 84-F. Traffic forecasts, environmental impacts, and the LO/S and public corridor survey responses were reviewed. An overall discussion of each alternative continued.

The PDT developed the following recommendations:

- The green corridor, while a viable project, does not appear to meet the purpose and need for this study. Future development of the green corridor can take place independently as growth in that section of the study warrants and completion of the roadway to the east and northeast takes place.

- The yellow corridor appears to meet the purpose and need of the project; however, the review of the cost/benefit of the project does not appear to warrant further action until the projected growth at the industrial park demonstrates the travel volume / traffic needed for this project. Also, impacts to farmland and environmental concerns are challenges for further project development.

- The orange corridor project to complete a major widening of KY 84 does not meet the purpose and need and is not recommended for further project development. However, some of the spot improvements identified in the study are recommended to improve safety of the route.

Spot Improvement Recommendations – Next, Lindsay discussed the six spot improvements that have been identified along KY 84. Discussions about each spot improvement project included a review of issues and recommended improvements. The new spot improvement, 84-

F – KY 84 at Barren Run Creek Bridge, had been suggested from the LO/S and public meetings. Analysis of 84-F identified the issues as a narrow bridge with geometric deficiencies and a history of winter weather crashes. Recommended improvements include improving the approaches and widening the bridge.

Further discussion of each spot improvement is below:

- *84-A: Intersection Improvement:* Work is already being conducted within the scope of the I-65 widening project. However, there may be issues beyond the scope of I-65, primarily on the east side of the intersection.

- *84-B: Intersection Realignment:* The realignment to make KY 84 the primary route is justified by traffic volumes but may not be warranted as a stand-alone project (not in conjunction with widening).

- *84-C: Intersection Realignment:* The realignment of the approach of KY 222 to provide a better connection to KY 84 is a project that could be considered a stand-alone project but is not a high priority at this time.

- *84-D: Curve Realignment*: The geometric issue could be fixed and is a potentially good project, especially without a major widening project.

- *84-E: Intersection Realignment*: Signal timing adjustments and an offset for left turns from KY 61 could be made to improve intersection operations.

- *84-F: Barren Run Creek Bridge:* This spot improvement project has the highest cost. There was a discussion of whether additional maintenance on the immediate approaches may alleviate some of the issues for a lower cost than the full bridge replacement project.

The PDT recommended that two improvements, 84-A, and 84-D, would be identified as high priorities in the study, with the rest of the projects unranked. Project identification forms (PIFs) will be completed by KYTC for each of the spot improvements and for potential further project development following the study.

Next Steps – Lindsay then closed the meeting by talking through the rest of the schedule including action items. The 84-A spot improvement will need updated costs (including construction dollars) to address issues that are not corrected as part of the I-65 widening project. The draft public meeting notebook was provided for review with an anticipated finalization and submittal in conjunction with the draft report. Comments on the public meeting notebook should be transmitted to Parsons Brinckerhoff. The draft report is expected in January 2016 with the final report expected March 2016.

Parsons Brinckerhoff will prepare meeting minutes from this PDT meeting and send them to all those in attendance. Upon acceptance of the minutes, Parsons Brinckerhoff will finalize them and make them part of the project records.

With no further comments, the meeting was adjourned at 11:05 AM (EST).

Appendix G:
Traffic Forecast

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

Steven L. Beshear
Governor

Michael W. Hancock, P.E.
Secretary

INTRA-DEPARTMENTAL MEMO

TO: Patricia Dunaway, P.E.
Chief District Engineer
District 4 – Elizabethtown

ATTN: Charlie Allen, P.E.

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

DATE: July 13, 2015

SUBJECT: Larue County Traffic Forecast
I-65 to Hodgenville Connector
Item No. 4-8505.00

In response to your December 30, 2014 request, we are providing the following forecasts on the attached report:

- 2015 and 2040 Average Daily Traffic and Design Hour Volumes
- 2015 and 2040 Daily and Design Hour Turning Movements
- Truck Percentages and 20-year ESALs

If you have any questions, please contact Jay Balaji of this Division at (502) 782-5045.

JM/JB/BC

Attachments

c/att: David Martin
Brad Bottoms
Joseph Tucker
Dan Hite

Executive Summary

Traffic Forecast Report and Bike/Ped Recommendations for Larue County Hodgenville to I-65 Major Widening or New Route Item No. 4-8505

Prepared for:

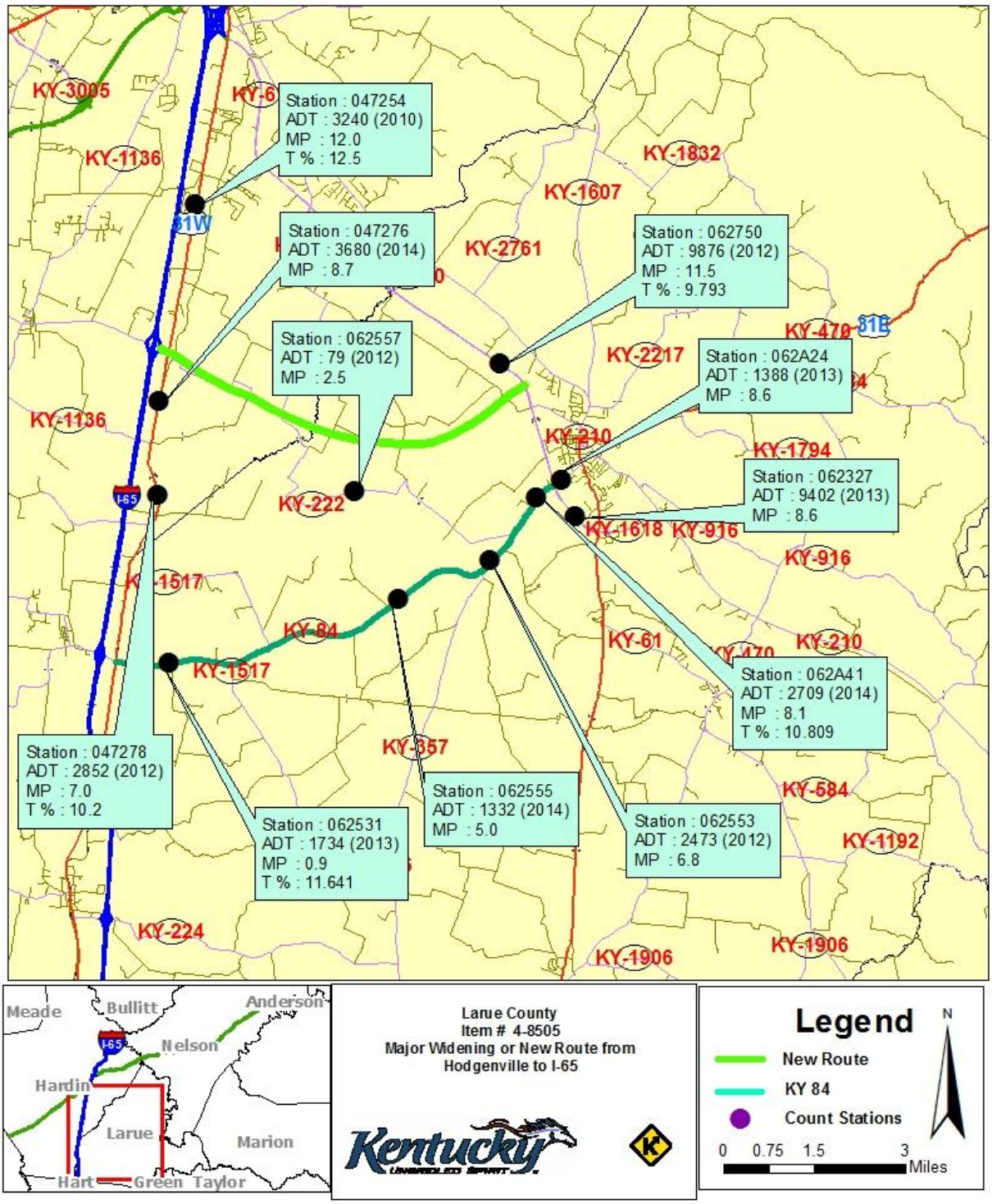
Prepared by:
Jayalakshmi Balaji, P.E.
Division of Planning
Kentucky Transportation Cabinet
July 13, 2015

Table of Contents

Commonly Used Abbreviations and their Descriptions

ADT	Average Daily Traffic	Without any adjustment
ATR	Automatic Traffic Recorder	A permanent & continuous recording station
BCI	Bicycle Comfort Index	Rating of bicyclists' comfort level
D-Factor	Directional Factor	Percentage of dominant flow to total
DHV	Design Hour Volume	30th highest hour of a year
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-30th hour Factor	DHV divided by ADT (DHV/ADT)
T%	Truck Percentage	The percentage of trucks to total volume
PHF	Peak Hour Factor	Considers a 15 minute spike in an hourly count
MP	Mile Point	Miles increase easterly and northerly
KYSTM	Kentucky Statewide Model	A computerized representation of KY roads
RUCA	Road User Cost Analysis	The total cost to daily users and overall Project

Vicinity Map



Traffic Forecast Executive Summary
Larue County: New Route or Major Widening
Item No. 4-8505

FORECAST SUMMARY

The project calls for improving mobility between Hodgenville and US 31W. The purpose of this report is to analyze current and future traffic utilizing the route. This forecast includes three scenarios for 2 alternate routes.

- Scenario A --------Low Growth (No industry in Glendale and no realignment of KY 222)
- Scenario B---------High Growth (New Industry with new alignment of KY 222)

FORECAST TYPE

The following types of forecasts were developed:

- 2015 and 2040 Average Daily and Design Hourly Truck Percent Forecasts
- 2015 and 2040 Turning Movements
- 2015 and 2040 ADT and DHV values
- Peak Hour Factor
- 20-year ESALs

CURRENT-YEAR VOLUMES

The 2015 ADT volumes were based on the most recent volumes counts (page 2), special turn movement counts collected for this forecast and the Hardin Meade Model. Current counts were compared to the 2015 assignments of the Hardin Meade Model in the same area.

The Hardin Meade County Model was then ran with and without new industry in the Glendale industrial site and the new route between KY 61 and US 31W.The existing counts were then used to create a chart that revealed volumes for the forecast area and the percentage of assigned traffic was calculated on each link that feeds the new route. These percentages were then applied to existing counts to add or subtract traffic volume and arrive at the traffic volume for the new routes in the future year.

Table 1: Traffic Stations, T% and Growth

Traffic Stations	Growth Rate Trendline	Growth Rate using Model (Scen A)	Growth Rate using Model (Scen B)	ADT Current	ADT Year	Truck Precentage
062A24	-0.30%	3.30%	3.01%	1,388	2013	N/A
062327	1.50%	0.51%	0.55%	9,402	2013	N/A
062A41	1.70%	1.61%	3.00%	2,709	2014	10.809
062553	1.30%	0.95%	2.10%	2,473	2012	N/A
062555	1.40%	1.03%	2.16%	1,332	2014	N/A
062531	1.60%	1.27%	2.50%	1,734	2013	11.641
047278	1.20%	0.60%	1.20%	2,852	2012	10.2
047254	1.00%	0.50%	0.60%	3,240	2010	12.5
047276	1.50%	0.80%	3.20%	3,680	2014	N/A
062750	1.30%	1.37%	1.55%	9,876	2012	9.793

DESIGN-YEAR/GROWTH FACTORS

Adjacent to Glendale is a 1,551 acre parcel of land, zoned for Heavy Industrial District (I-2) use. A restrictive covenant requires that the property be used for a single manufacturing, processing or assembly plant. It cannot be subdivided into an industrial or office park. This implies that the land has to be utilized completely or not build at all. Based on this objective, the ITE trip generation manual (8th edition) gave a vehicular rate ranging from 1.66 to 25.01. For the purpose of this forecast an average trip rate of 6.75 /per acre was used, which generated about 10500 vehicular trips per day, for this site. The Glendale Area Transportation Study by URS assumed ultimate employment at the development site could be 5,000 employees (10,000 trips) by the 2030 design year based upon input from the LTADD staff and Technical Committee members. New residential developments that are expected in the next 25 years are incorporated in the new Hardin Meade model 2040 TAZ zones. The model was run with and without the industry as well as with and without the new route for the year 2040. The volumes on each link were adjusted using methods described in the previous section to estimate 2040 volumes.

TRUCK PERCENTAGE

The truck percentage was calculated using a 2013/2014 vehicle classification counts on count stations 062531 and 062750 (see page 2). A T% of 10.8%, the functional class average for rural arterials was used for KY 84 and the new route and to grow the truck percentage a growth rate of 0.5 % was used.

TURN MOVEMENTS

Four turn movements for each scenario were provided in this forecast. The turn movement counts collected for this forecast were factored to determine current year DHV turn movements. The peak AM and PM volumes were derived by dividing the highest hourly volumes from these counts by the daily total. Functional class design hour factors based on the day and month of these counts were then applied. Finally, the calculated K-factors were used in combination with the ADT forecast to produce DHVs for 2015 and 2040.

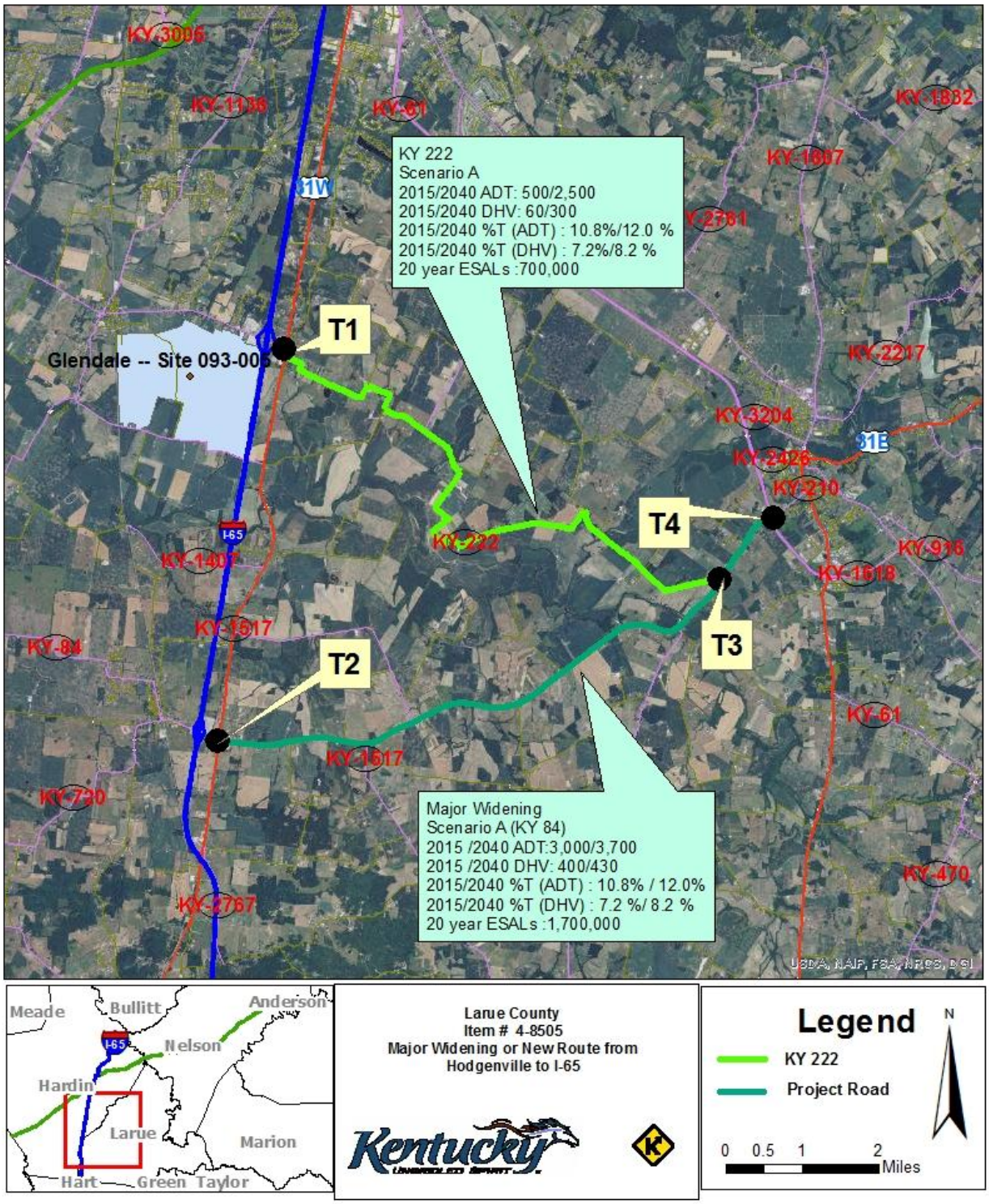
1. US 31W@ KY 222
2. US 31W @ KY 84
3. KY 84 @ KY 222
4. KY 84 @ KY 61

Scenario B includes an additional turn movement at the intersection of KY 61 and the new route.

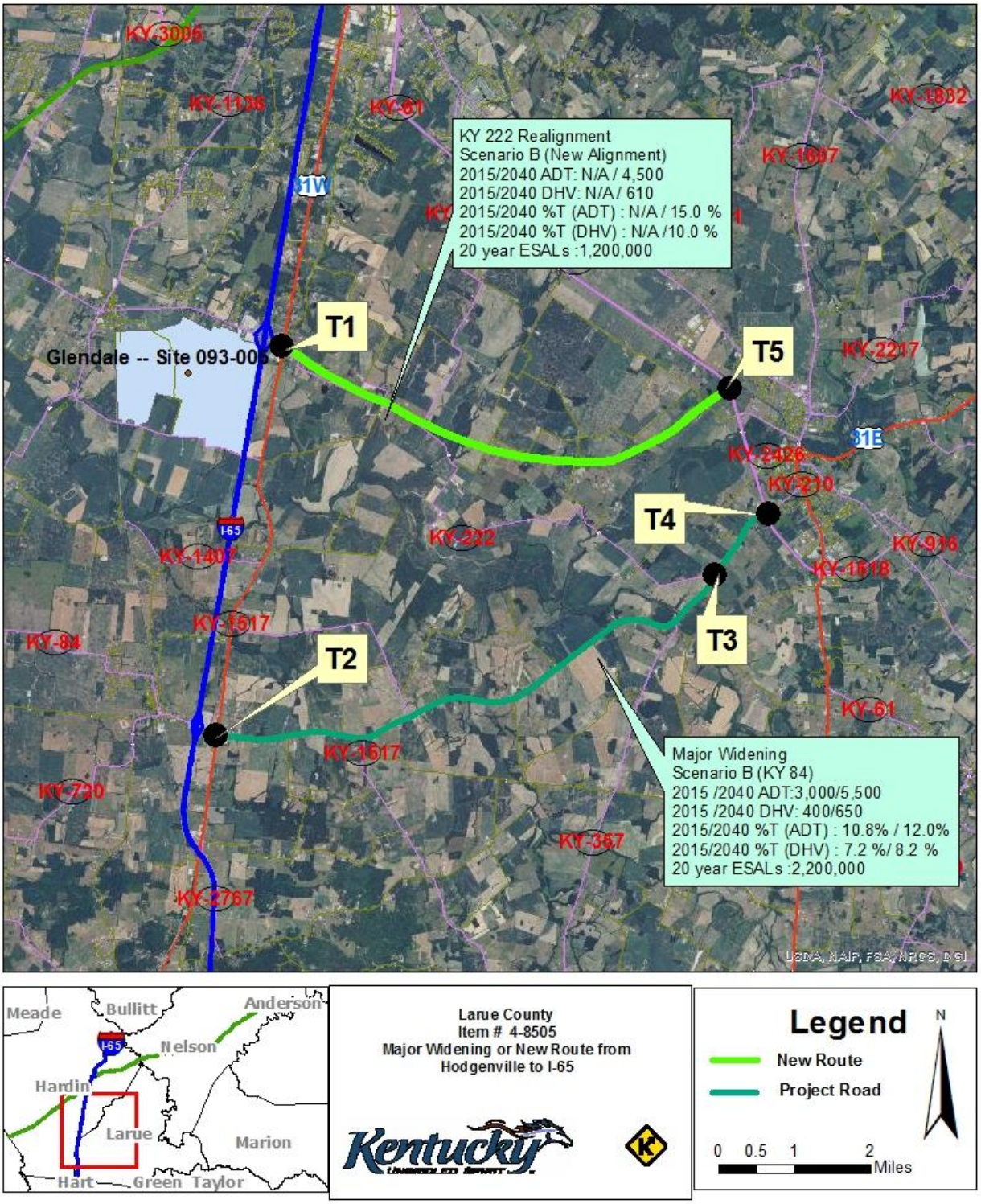
Table 2: Volume, T% and ESALs

Route ID	Scenario	2015 ADT	2040 ADT	2015 DHV	2040 DHV	2015/2040 %T ADT	2015/2040 %T DHV	20 YR ESALs
KY 84	A	3,000	3700	400	430	10.8%/12.0%	7.2% / 8.2%	1,700,000
KY 222	A	500	2500	60	300	10.8%/12.0%	7.2% / 8.2%	700,000
KY 84	B	3,000	5,500	400	650	10.8%/12.0%	7.2% / 8.2%	2,200,000
KY 222 new alignment	B	N/A	4,500	N/A	610	N/A/15.0%	N/A/10.0%	1,200,000

Summary Map (Scenario A)



Summary Map (Scenario B)



Turn Movements

US 31W@ KY 222

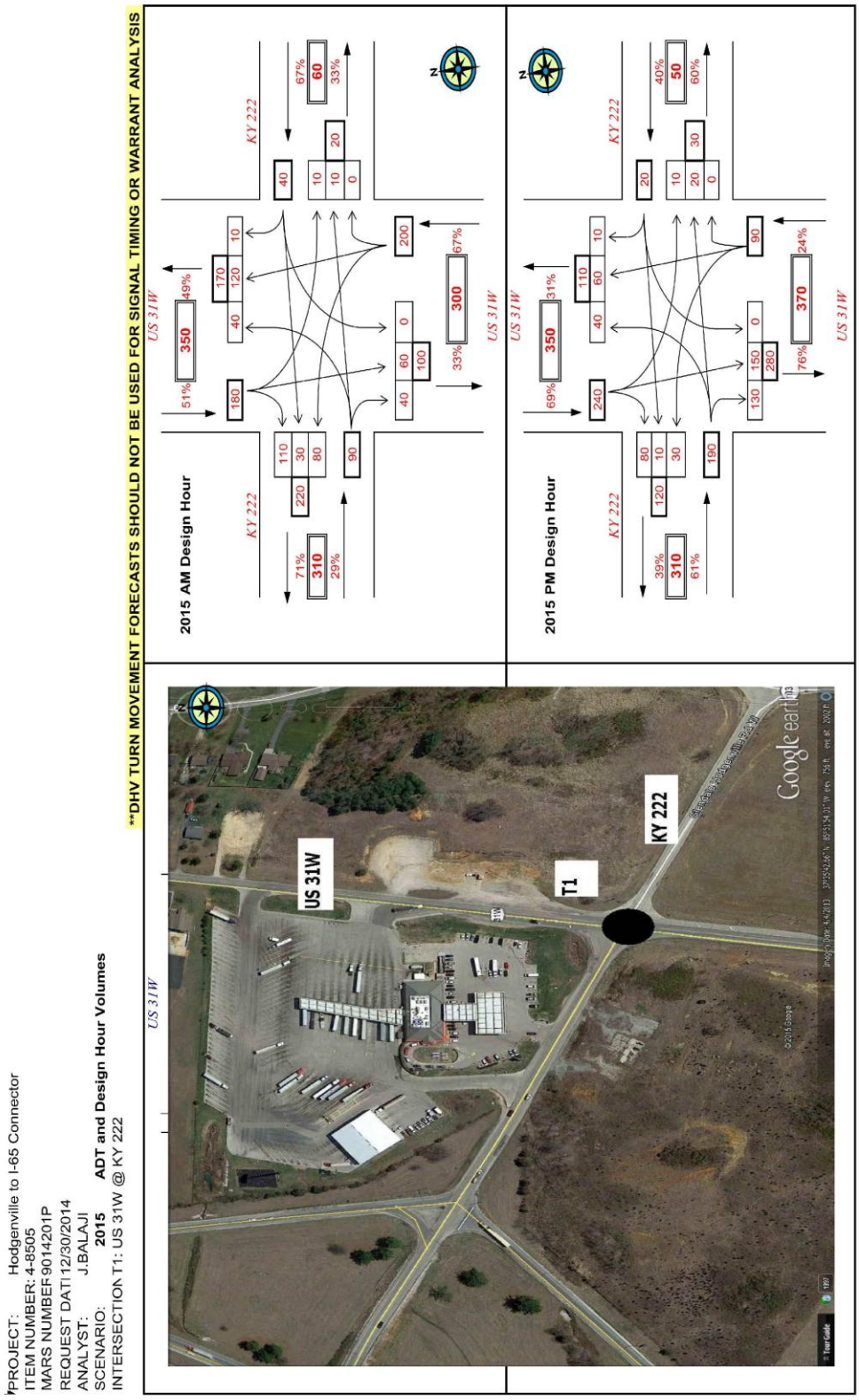
US 31W @ KY 84

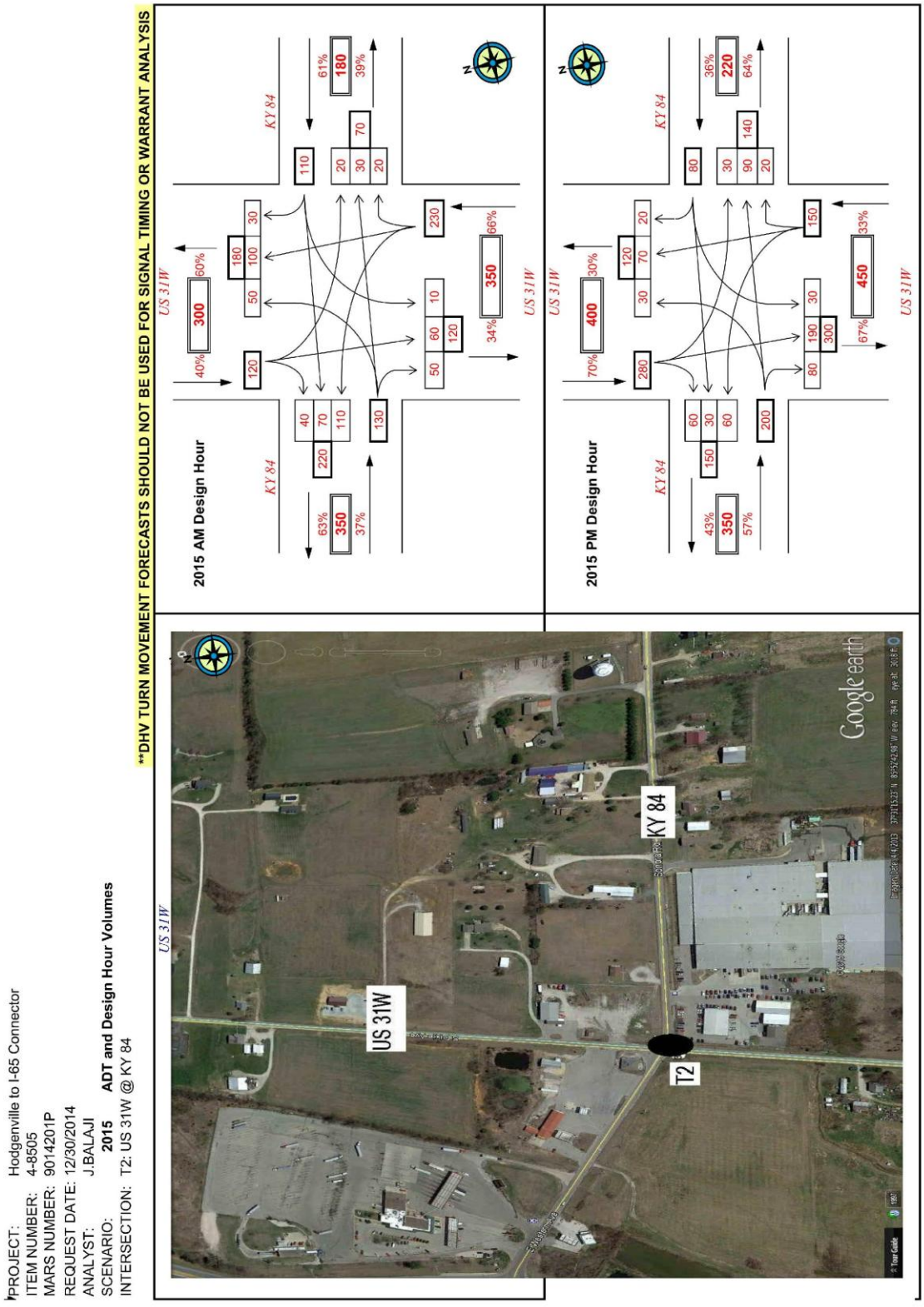
KY 84 @ KY 222

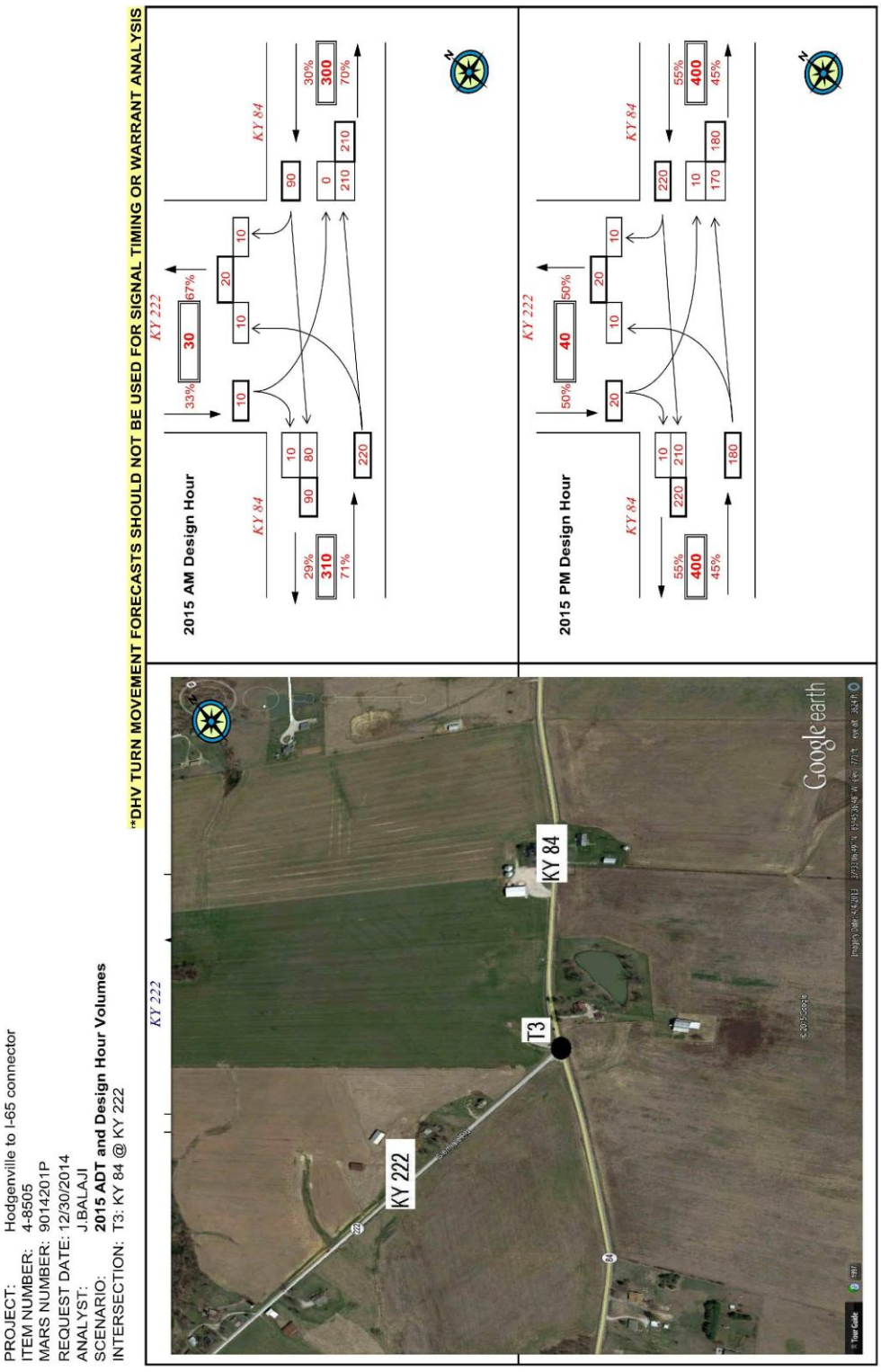
KY 84 @ KY 61

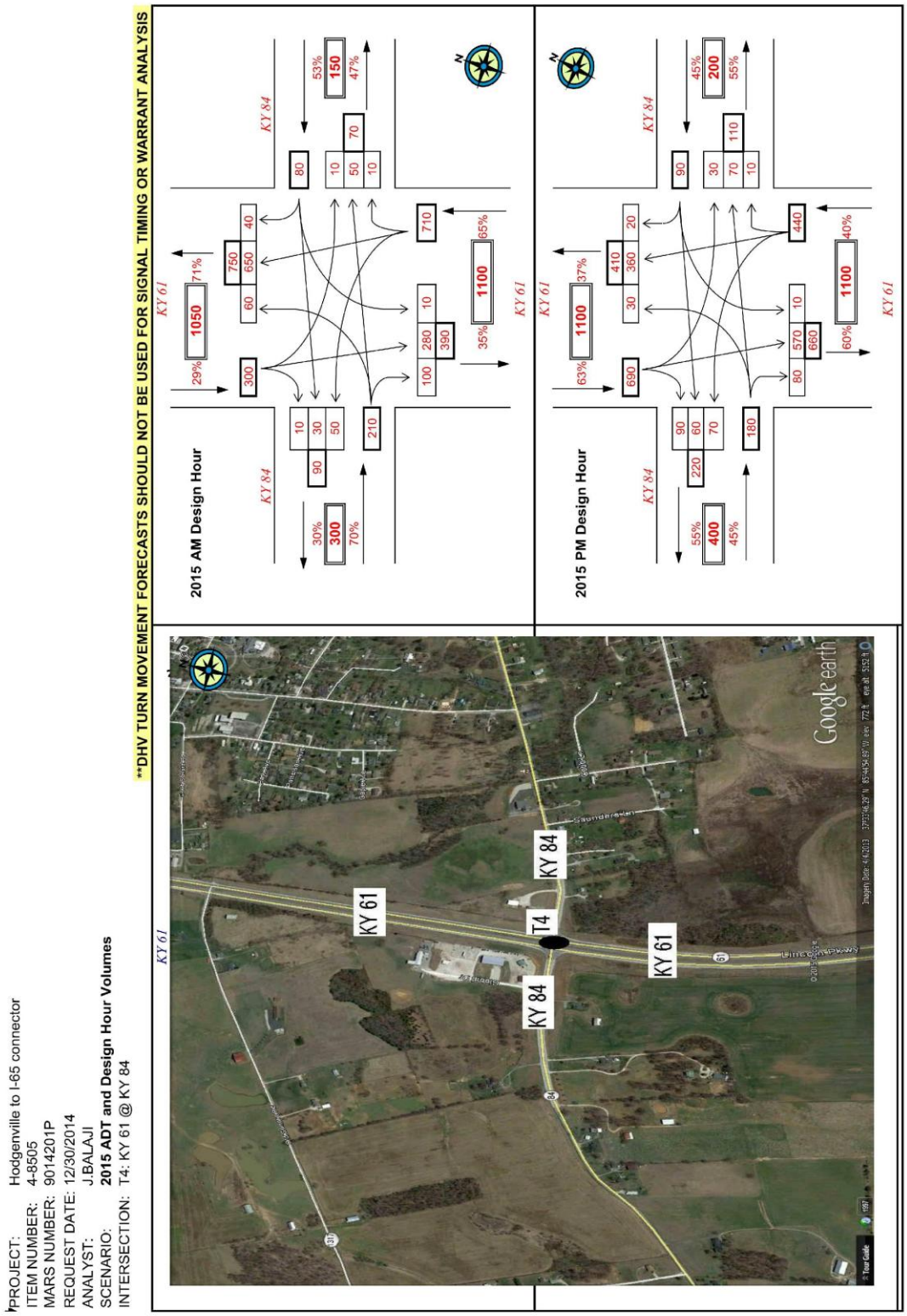
KY 61 @ KY 222 new alignment

2015

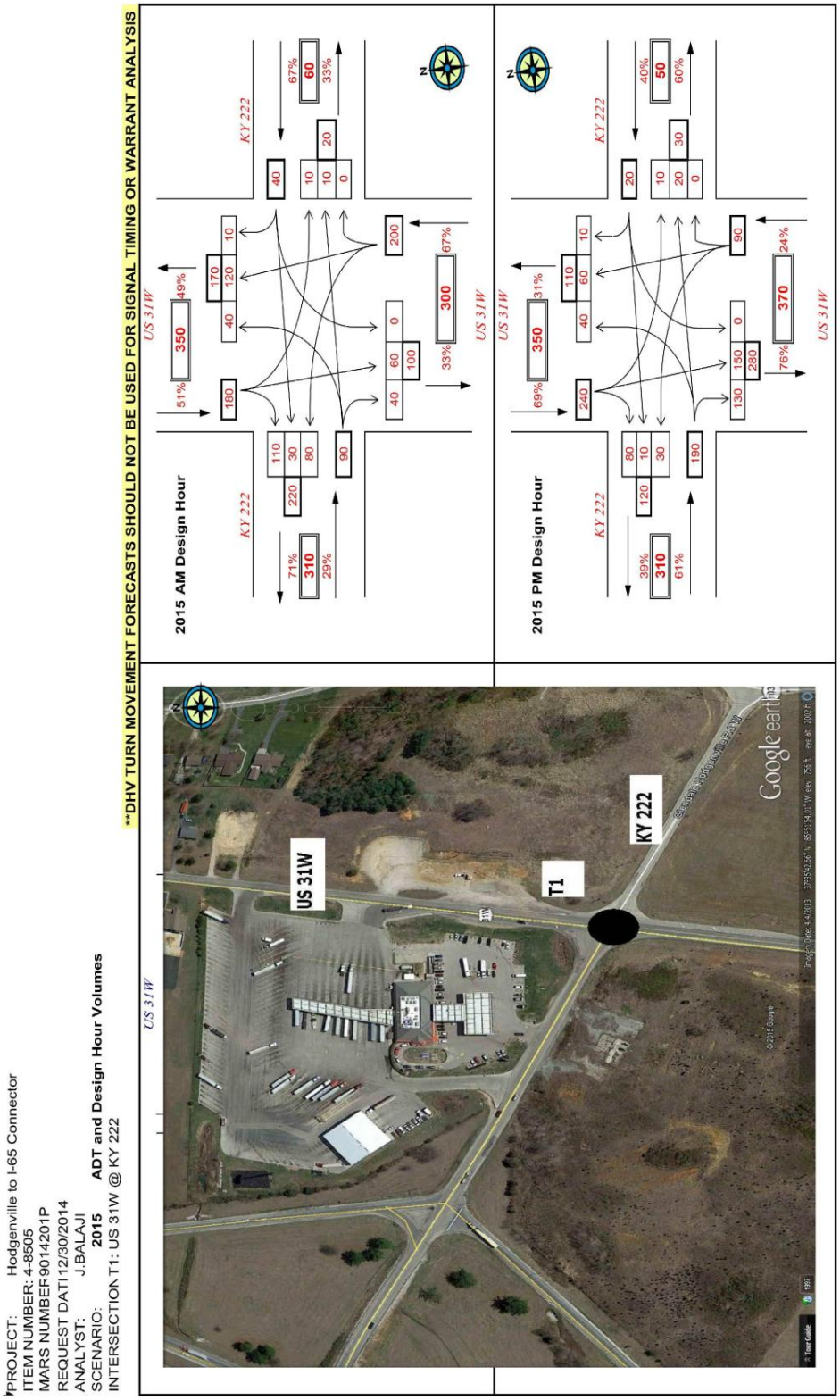

**DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS
PROJECT: Hodgenville to I-65 Connector
ITEM NUMBER: 4-8505
MARS NUMBER: 9014201P
REQUEST DATE: 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2015 ADT and Design Hour Volumes
INTERSECTION: T1: US 31W @ KY 222
US 31W
KY 222
2015 AM Design Hour
2015 PM Design Hour
T1
Google earth

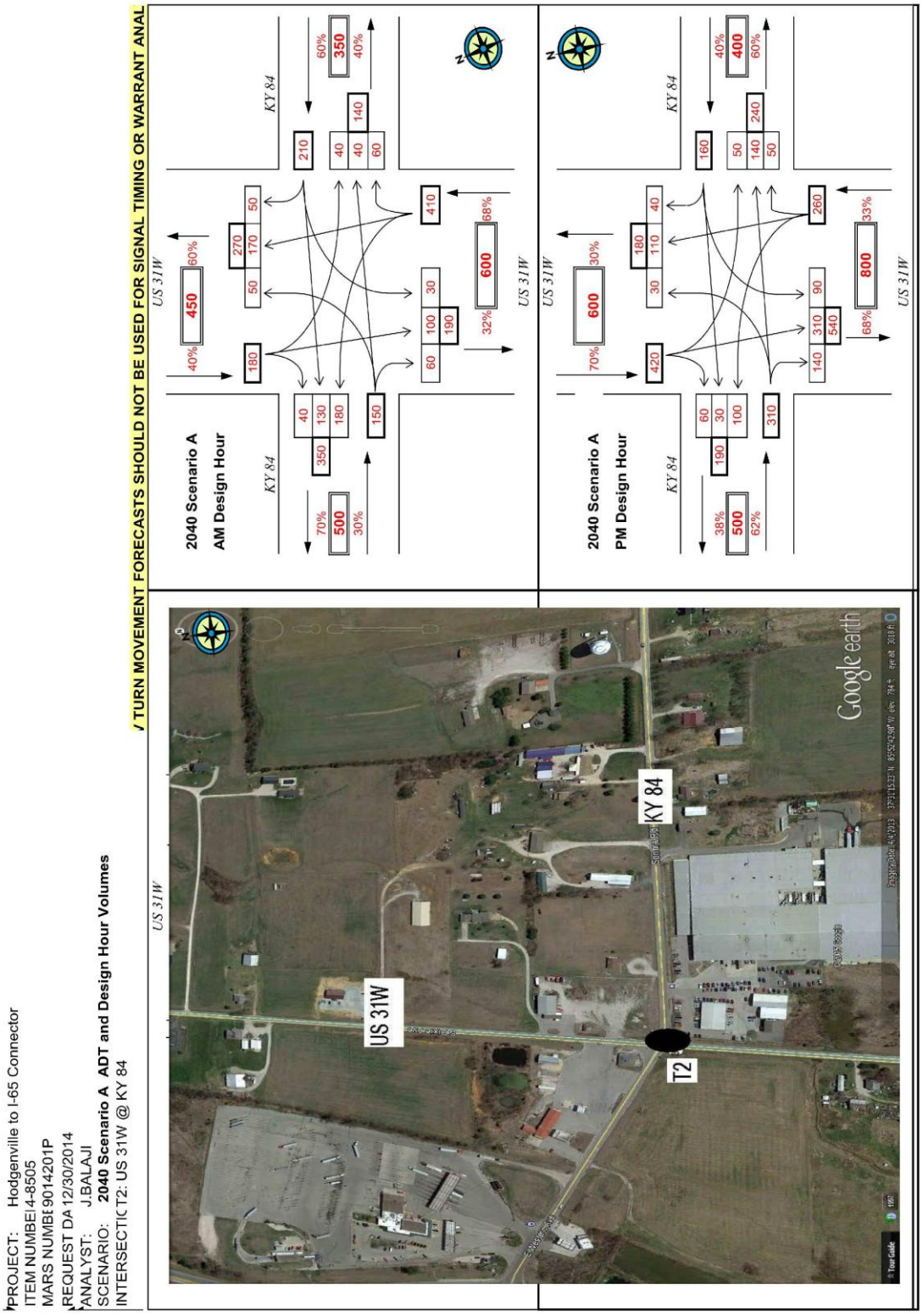

PROJECT: Hodgenville to I-65 Connector
ITEM NUMBER: 4-8505
MARS NUMBER: 9014201P
REQUEST DATE: 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2015 ADT and Design Hour Volumes
INTERSECTION: T2: US 31W @ KY 84
**DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS
2015 AM Design Hour
2015 PM Design Hour
US 31W
KY 84
T2
Google earth

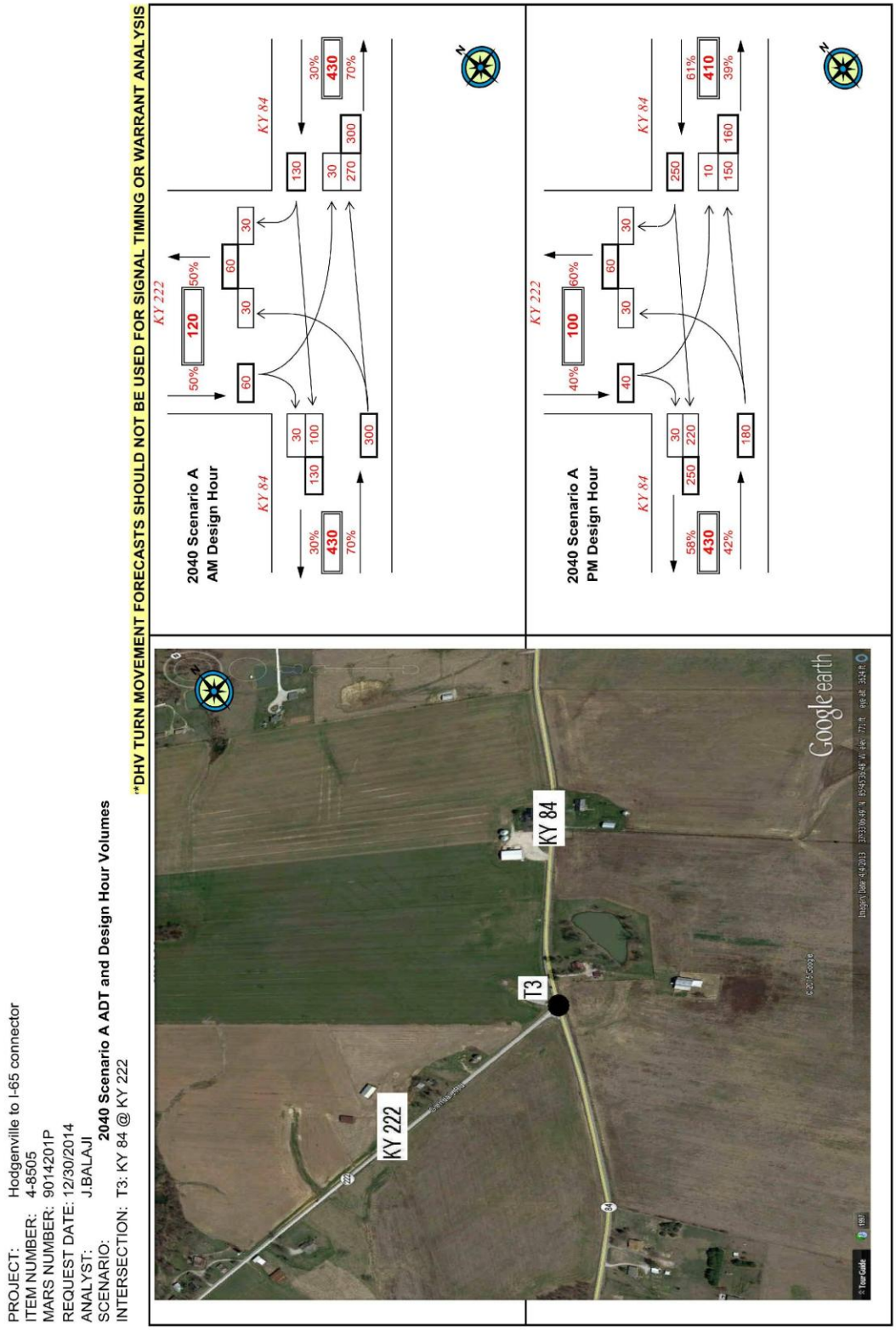

PROJECT: Hodgenville to I-65 connector
ITEM NUMBER: 4-8505
MARS NUMBER: 9014201P
REQUEST DATE: 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2015 ADT and Design Hour Volumes
INTERSECTION: T3: KY 84 @ KY 222
*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS
2015 AM Design Hour
2015 PM Design Hour
KY 222
KY 84
T3
Google earth

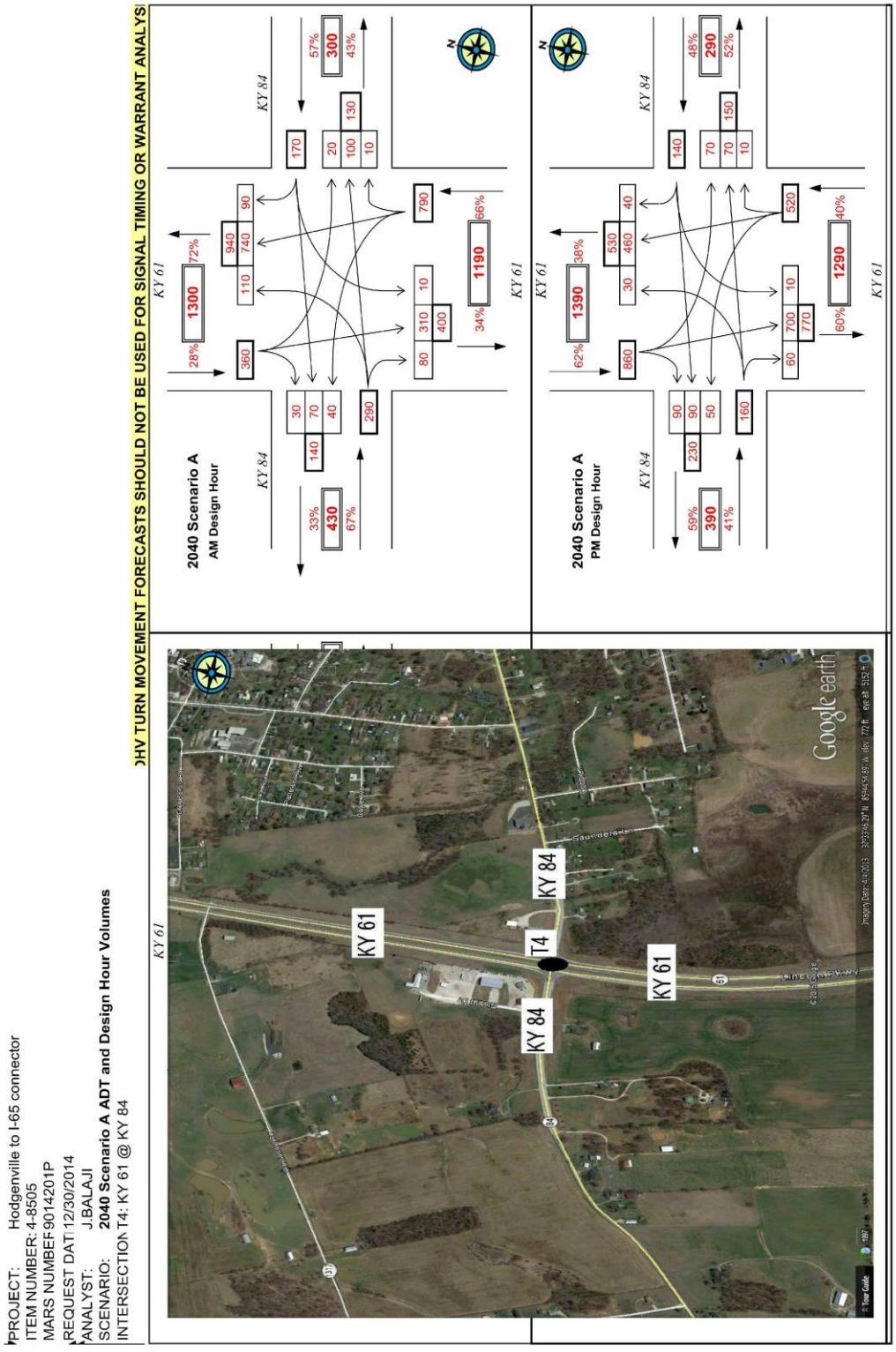

PROJECT: Hodgenville to I-65 connector
ITEM NUMBER: 4-8505
MARS NUMBER: 9014201P
REQUEST DATE: 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2015 ADT and Design Hour Volumes
INTERSECTION: T4: KY 61 @ KY 84
**DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS
KY 61
KY 84
T4
2015 AM Design Hour
2015 PM Design Hour
Google earth

2040 SCENARIO A

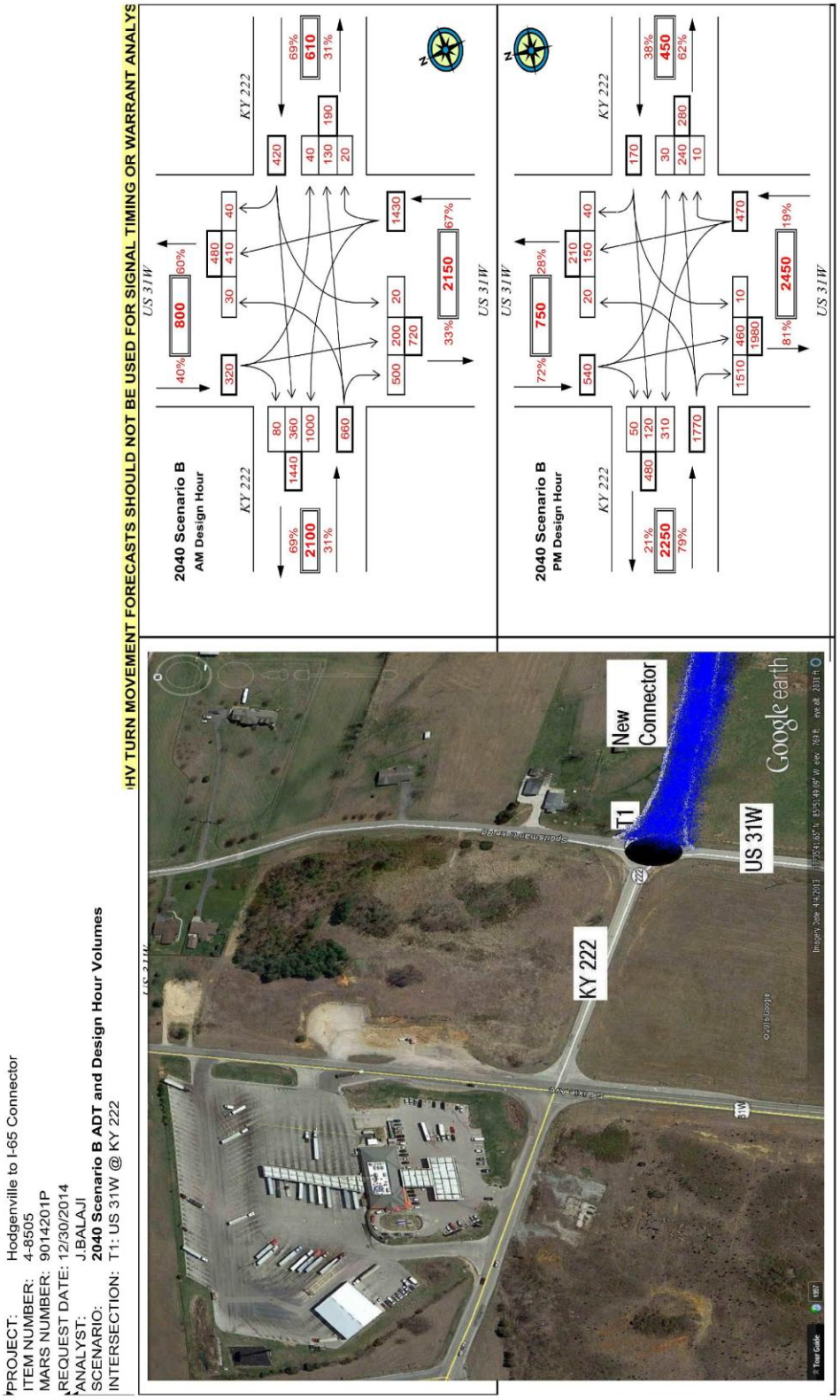


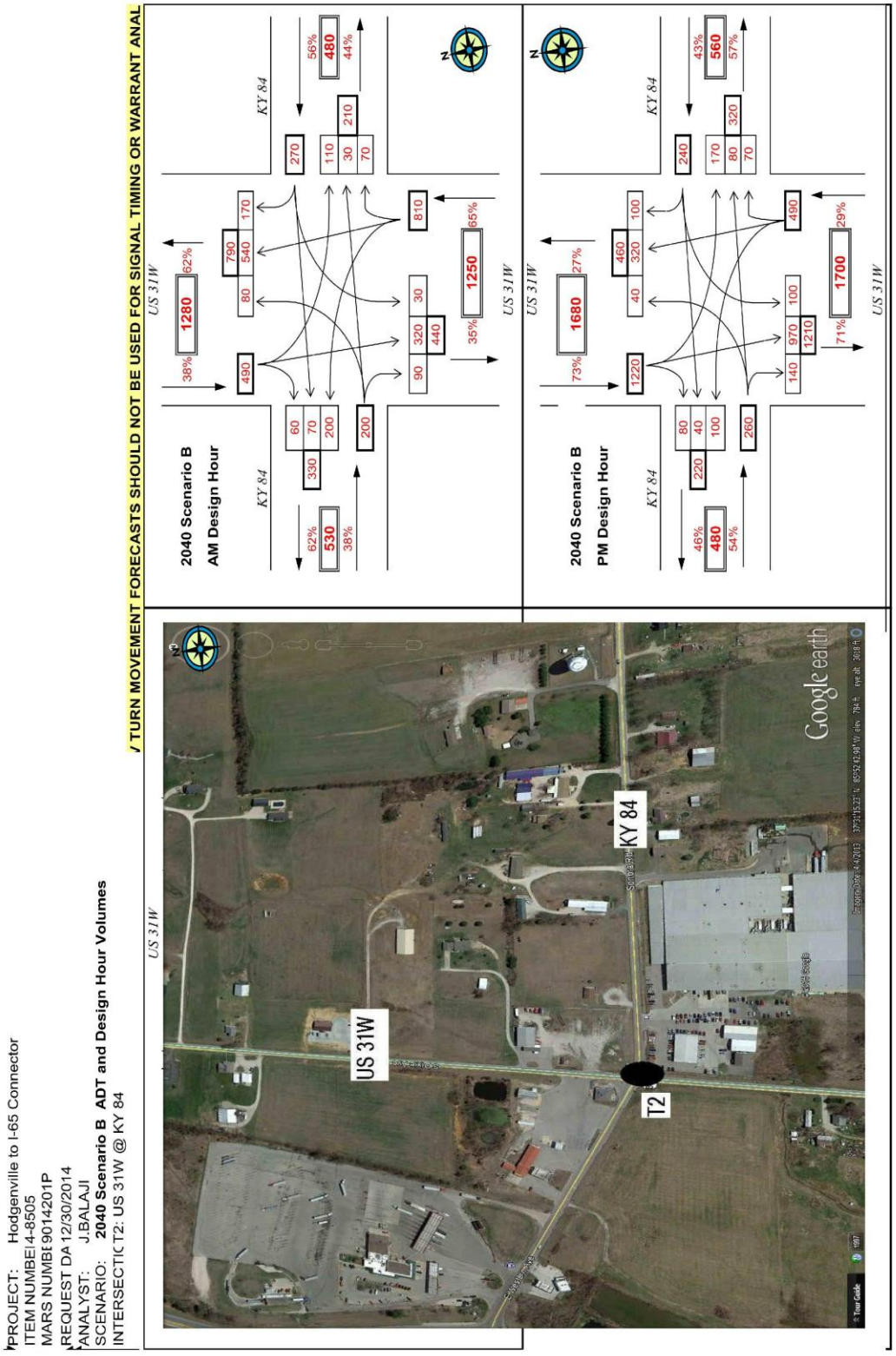

PROJECT: Hodgenville to I-65 Connector
ITEM NUMBE 4-8505
MARS NUMBE 9014201P
REQUEST DA 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2040 Scenario A ADT and Design Hour Volumes
INTERSECTIC T2: US 31W @ KY 84
TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANAL
US 31W
KY 84
T2
2040 Scenario A
AM Design Hour
2040 Scenario A
PM Design Hour
Google earth


PROJECT: Hodgenville to I-65 connector
ITEM NUMBER: 4-8505
MARS NUMBER: 9014201P
REQUEST DATE: 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2040 Scenario A ADT and Design Hour Volumes
INTERSECTION: T3: KY 84 @ KY 222
*DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS
KY 222
KY 84
T3
2040 Scenario A AM Design Hour
2040 Scenario A PM Design Hour
Google earth


PROJECT: Hodgenville to I-65 connector
ITEM NUMBER: 4-8505
MARS NUMBEF 9014201P
REQUEST DAT 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2040 Scenario A ADT and Design Hour Volumes
INTERSECTION T4: KY 61 @ KY 84
HV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYS
2040 Scenario A
AM Design Hour
2040 Scenario A
PM Design Hour
KY 61
KY 84
T4
Google earth

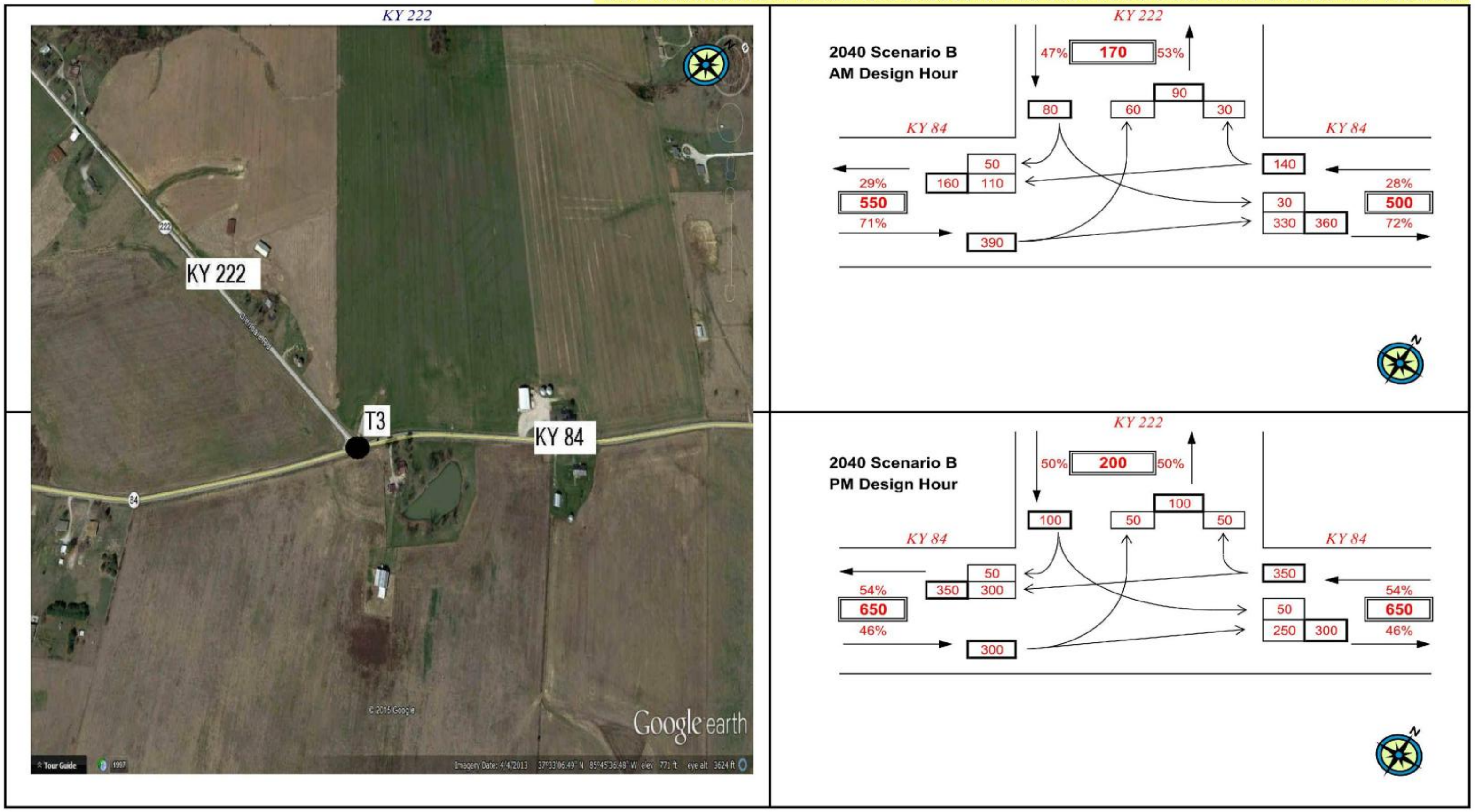
2040 SCENARIO B

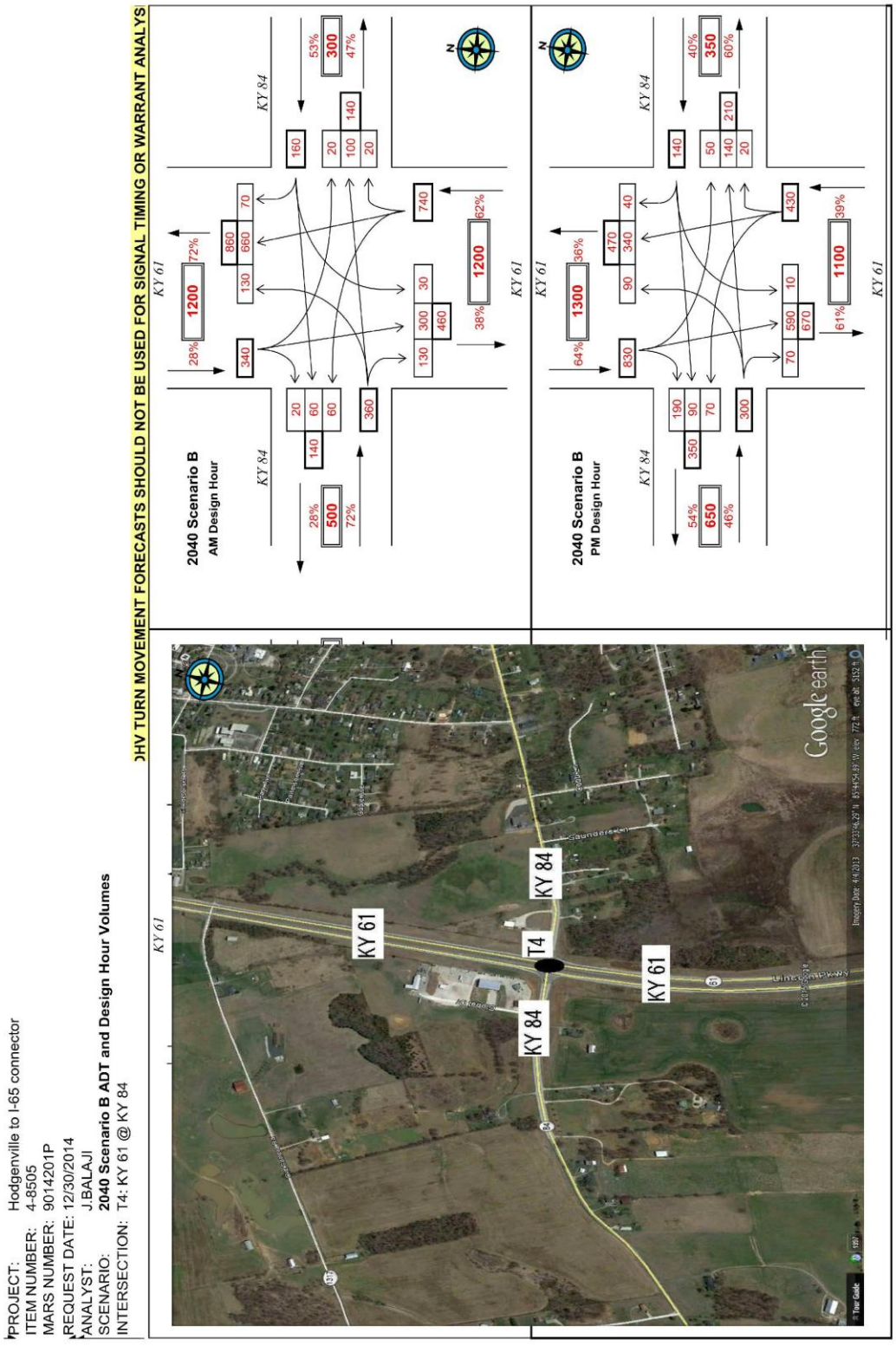


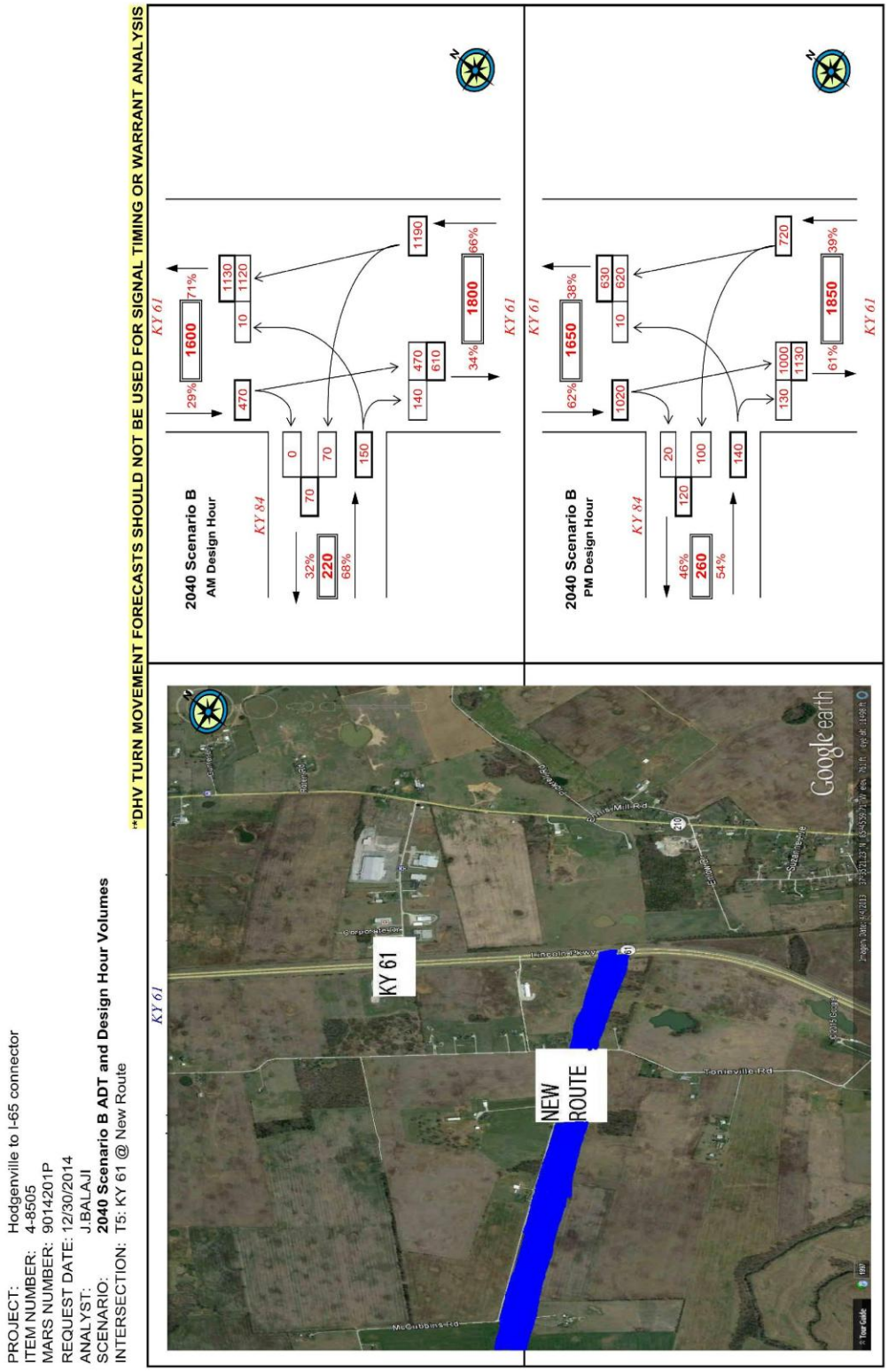

PROJECT: Hodgenville to I-65 Connector
ITEM NUMBE 4-8505
MARS NUMBE 9014201P
REQUEST DA 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2040 Scenario B ADT and Design Hour Volumes
INTERSECTIC T2: US 31W @ KY 84
TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANAL
2040 Scenario B
AM Design Hour
2040 Scenario B
PM Design Hour
US 31W
KY 84
T2
Google earth

PROJECT: Hodgenville to I-65 connector
ITEM NUMBER: 4-8505
MARS NUMBER: 9014201P
REQUEST DATE: 12/30/2014
ANALYST: J.BALAJI
SCENARIO: **2040 Scenario B ADT and Design Hour Volumes**
INTERSECTION: T3: KY 84 @ KY 222

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




PROJECT: Hodgenville to I-65 connector
ITEM NUMBER: 4-8505
MARS NUMBER: 9014201P
REQUEST DATE: 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2040 Scenario B ADT and Design Hour Volumes
INTERSECTION: T4: KY 61 @ KY 84
OHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYS
2040 Scenario B
AM Design Hour
2040 Scenario B
PM Design Hour
KY 61
KY 84
T4
Google earth


PROJECT: Hodgenville to I-65 connector
ITEM NUMBER: 4-8505
MARS NUMBER: 9014201P
REQUEST DATE: 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2040 Scenario B ADT and Design Hour Volumes
INTERSECTION: T5: KY 61 @ New Route
**DHV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYSIS
KY 61
KY 61
NEW ROUTE
2040 Scenario B
AM Design Hour
KY 84
KY 61
KY 61
2040 Scenario B
PM Design Hour
KY 84
KY 61

ESAL
Scenario A
Scenario B

Scenario A (KY 84)

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

ROUTE ID:

County	Larue	Date	06/24/15
		Forecaster	Jay Balaji
Road Name	Sonara Rd		
		MARS No.	9014201P
Functional Class	7 - Rural Major Collector	Item No.	4-8505
		Route No.	KY-84
Project Description	Hodgenville to I-65 Connector New Route or Major Widening	Beg. MP	0
		End MP	8.449
Scenario	No Build (Scenario A)	T.F. No.	TF14-052
Segment Description	KY 84 from MP 0 to MP 8.449	No. of Lanes	2
		1 or 2 way	2

REFERENCES:

Previous Forecasts	N/A	K- Factor Value	11.9%
		K-Factor Source	062A41
Traffic Volume	062A41 & TM	PHF	0.91
Milepoint	7.92		
Truck Percent	062A41	Full Route Unique Identifier	
Milepoint	7.8	062-KY-0084 -000	
ESAL Information			
Growth Rate	1.00%		

TRAFFIC PARAMETERS:

		Present Year	Growth Rate	Construction Year	Median Year	Design Year
		2015		**2020**	**2030**	**2040**
Volume	(AADT)	3000	1.00%	3200	3500	3700
Percent Trucks	(%T)	10.8%	0.5%	11%	12%	12%
Number of Trucks		320	1.5%	350	420	440
Percent Trucks Hauling Coal	(%CT)	0%	0.0%	0%	0%	0%
Non-Coal Trucks:						
Axles/Truck	(A/T)	3.160	0.70%	3.272	3.509	3.762
ESALs/Axle	(ESAL/A)	0.245	1.60%	0.265	0.311	0.364
Coal Trucks:						
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: 1,700,000

General Comments:

Scenario A (KY 222)

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

ROUTE ID:

County	Larue
Road Name	KY-222
Functional Class	8 - Rural Minor Collector
Project Description	Hodgenville to I-65 Connector New Route or Major Widening
Scenario	Scenario A
Segment Description	KY 222 from US 31W to KY 61

Date	07/07/15
Forecaster	Jay Balaji
MARS No.	9014201P
Item No.	4-8505
Route No.	KY-222
Beg. MP	0
End MP	0
T.F. No.	TF14-052
No. of Lanes	2
1 or 2 way	2

REFERENCES:

Previous Forecasts	N/A
Traffic Volume	HardinMeade TDM
Milepoint	0
Truck Percent	062A41
Milepoint	7.8
ESAL Information	
Growth Rate	7.60%

K- Factor Value	10.8%
K-Factor Source	062A41
PHF	0.91

Full Route Unique Identifier: 062-KY-222 -000

TRAFFIC PARAMETERS:

		Present Year	Growth Rate	Construction Year	Median Year	Design Year
		2015		**2020**	**2030**	**2040**
Volume	(AADT)	400	7.60%	580	1200	2500
Percent Trucks	(%T)	10.8%	0.5%	11%	12%	12%
Number of Trucks		40	8.1%	60	140	300
Percent Trucks Hauling Coal	(%CT)	0%	0.0%	0%	0%	0%
Non-Coal Trucks:						
Axles/Truck	(A/T)	3.160	0.70%	3.272	3.509	3.762
ESALs/Axle	(ESAL/A)	0.254	1.60%	0.275	0.322	0.378
Coal Trucks:						
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: 700,000

General Comments:

Scenario B (KY 84)

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

ROUTE ID:

County	Larue	Date	06/09/15
		Forecaster	Jay Balaji
Road Name	Sonara Rd		
		MARS No.	9014201P
Functional Class	7 - Rural Major Collector	Item No.	4-8505
		Route No.	KY-84
Project Description	Hodgenville to I-65 Connector New Route or Major Widening	Beg. MP	0
		End MP	8.449
Scenario	Build (Scenario B)	T.F. No.	TF14-052
Segment Description	KY 84 from MP 0 to MP 8.449	No. of Lanes	2
		1 or 2 way	2

REFERENCES:

Previous Forecasts	N/A	K- Factor Value	11.9%
		K-Factor Source	062A41
Traffic Volume	Hardin Meade TDM	PHF	0.91
Milepoint			
Truck Percent	062A41	Full Route Unique Identifier	
Milepoint	7.8	062-KY-0084 -000	
ESAL Information			
Growth Rate	2.50%		

TRAFFIC PARAMETERS:

		Present Year	Growth Rate	Construction Year	Median Year	Design Year
		2015		**2020**	**2030**	**2040**
Volume	(AADT)	3000	2.50%	3400	4300	5500
Percent Trucks	(%T)	10.8%	0.5%	11%	12%	12%
Number of Trucks		320	3.0%	370	520	660
Percent Trucks Hauling Coal	(%CT)	0%	0.0%	0%	0%	0%
Non-Coal Trucks:						
Axles/Truck	(A/T)	3.160	0.70%	3.272	3.509	3.762
ESALs/Axle	(ESAL/A)	0.245	1.60%	0.265	0.311	0.364
Coal Trucks:						
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: 2,200,000

General Comments:

Scenario B (KY 222 new alignment)

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

ROUTE ID:

County	Larue
Road Name	N/A
Functional Class	6 - Rural Minor Arterial
Project Description	Hodgenville to I-65 Connector New Route
Scenario	Build (Scenario B)
Segment Description	New Route

Date	07/07/15
Forecaster	Jay Balaji
MARS No.	9014201P
Item No.	4-8505
Route No.	N/A
Beg. MP	N/A
End MP	N/A
T.F. No.	TF14-052
No. of Lanes	2
1 or 2 way	2

REFERENCES:

Previous Forecasts	N/A
Traffic Volume Milepoint	Hardin Meade TDM
Truck Percent Milepoint	FC
ESAL Information	
Growth Rate	13.30%

K- Factor Value	11.9%
K-Factor Source	062A41
PHF	0.91

Full Route Unique Identifier: N/A

TRAFFIC PARAMETERS:

		Present Year	Growth Rate	Construction Year	Median Year	Design Year
		2015		**2020**	**2030**	**2040**
Volume	(AADT)	200	13.30%	370	1300	4500
Percent Trucks	(%T)	13.2%	0.5%	14%	14%	15%
Number of Trucks		30	13.9%	50	180	680
Percent Trucks Hauling Coal	(%CT)	0%	0.0%	0%	0%	0%
Non-Coal Trucks:						
Axles/Truck	(A/T)	3.500	0.00%	3.500	3.500	3.500
ESALs/Axle	(ESAL/A)	0.260	1.60%	0.281	0.330	0.387
Coal Trucks:						
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: 1,200,000

General Comments:

BIKE PED RECOMMENDATIONS

Bicycle and Pedestrian Review for Project #04-8505.00

Project Overview:

This project is a planning study for a new route and major widening from Hodgenville to I-65

Local/regional Planning:

No known specific bicycle or pedestrian plans for this area

Existing conditions:

- KY-222
  a) ADT is 200 (east of I-65 / 2012 Sta. 275)
  b) Posted speed limit is 45 MPH (both Larue and Hardin Counties)
  c) No shoulder space
  d) Bicyclists Comfort Index (BCI [1]) rating is a B

- KY-84
  a) ADT is 1700 (2013 Sta. 641) / Truck % is 11.64
  b) Posted speed limit is 35 MPH (the Hardin County section and MP 0-0.329 in Larue County)
  c) Posted speed limit is 55 MPH (Hardin County 0.329-4.423)
  d) No shoulder space
  e) Bicyclists Comfort Index (BCI [1]) rating is a D (average for entire section)

The KYTC Bicycle and Pedestrian program team recommendations are:

No additional bicycle or pedestrian facilities are recommended for the project area

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

Prepared by:
Troy Hearn, Bicycle & Pedestrian Program Coordinator
Division of Planning, www.transportation.ky.gov/Bike-Walk
Kentucky Transportation Cabinet
July 13, 2015

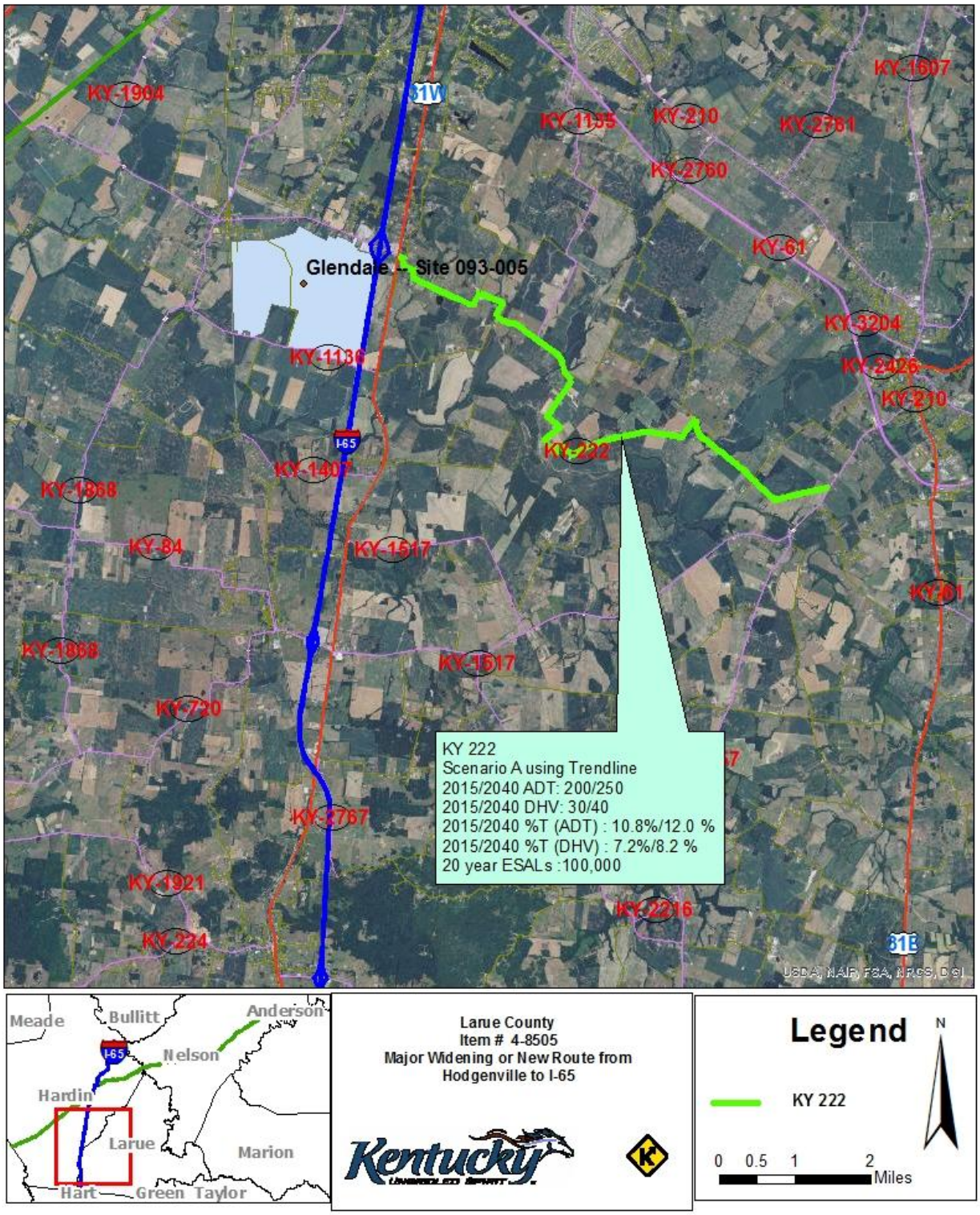
Executive Summary

Traffic Forecast Report Addendum
Larue County
Hodgenville to I-65 Major Widening or New Route
Item No. 4-8505

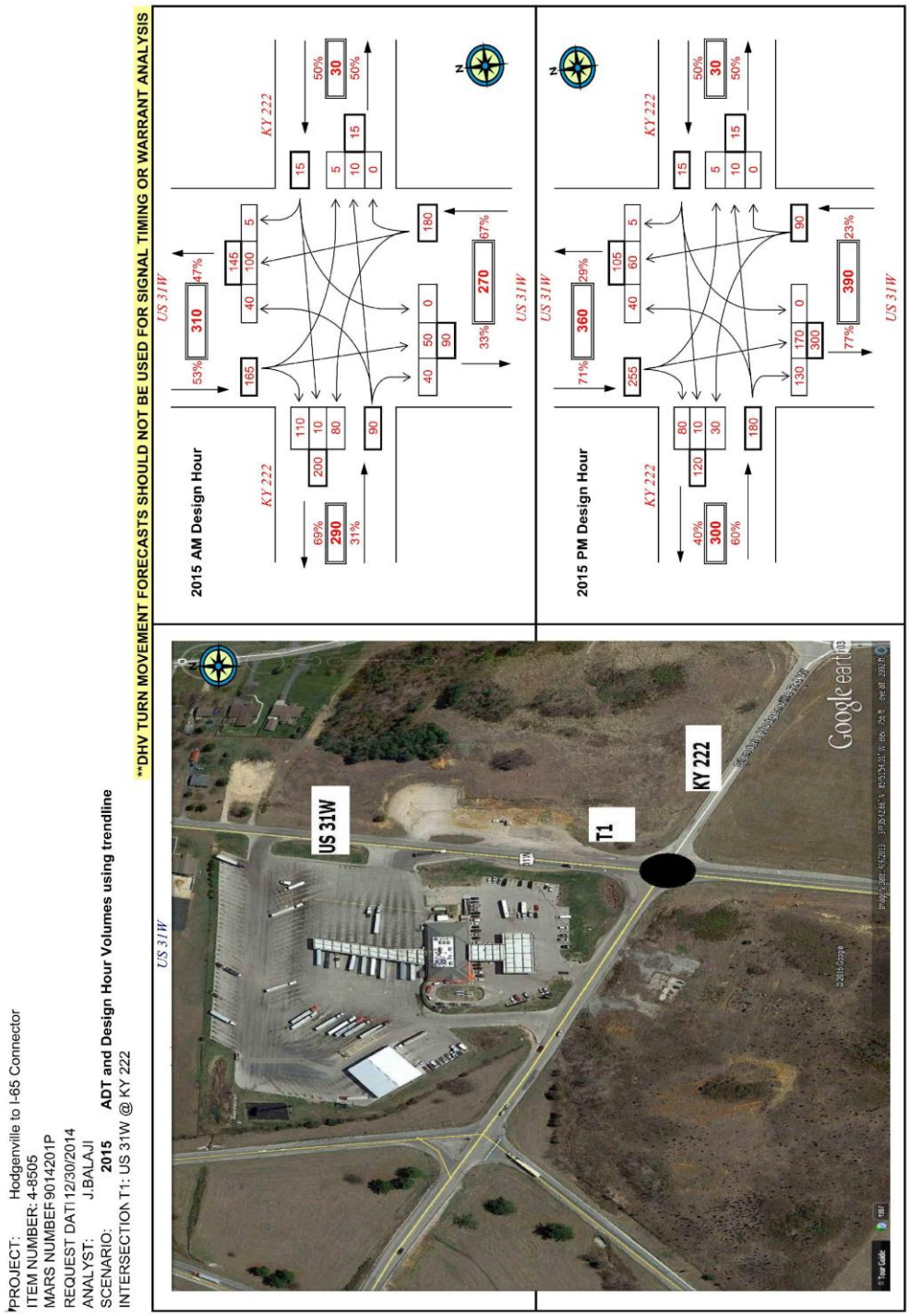
Prepared for:

Prepared by:
Jayalakshmi Balaji, P.E.
Division of Planning
Kentucky Transportation Cabinet

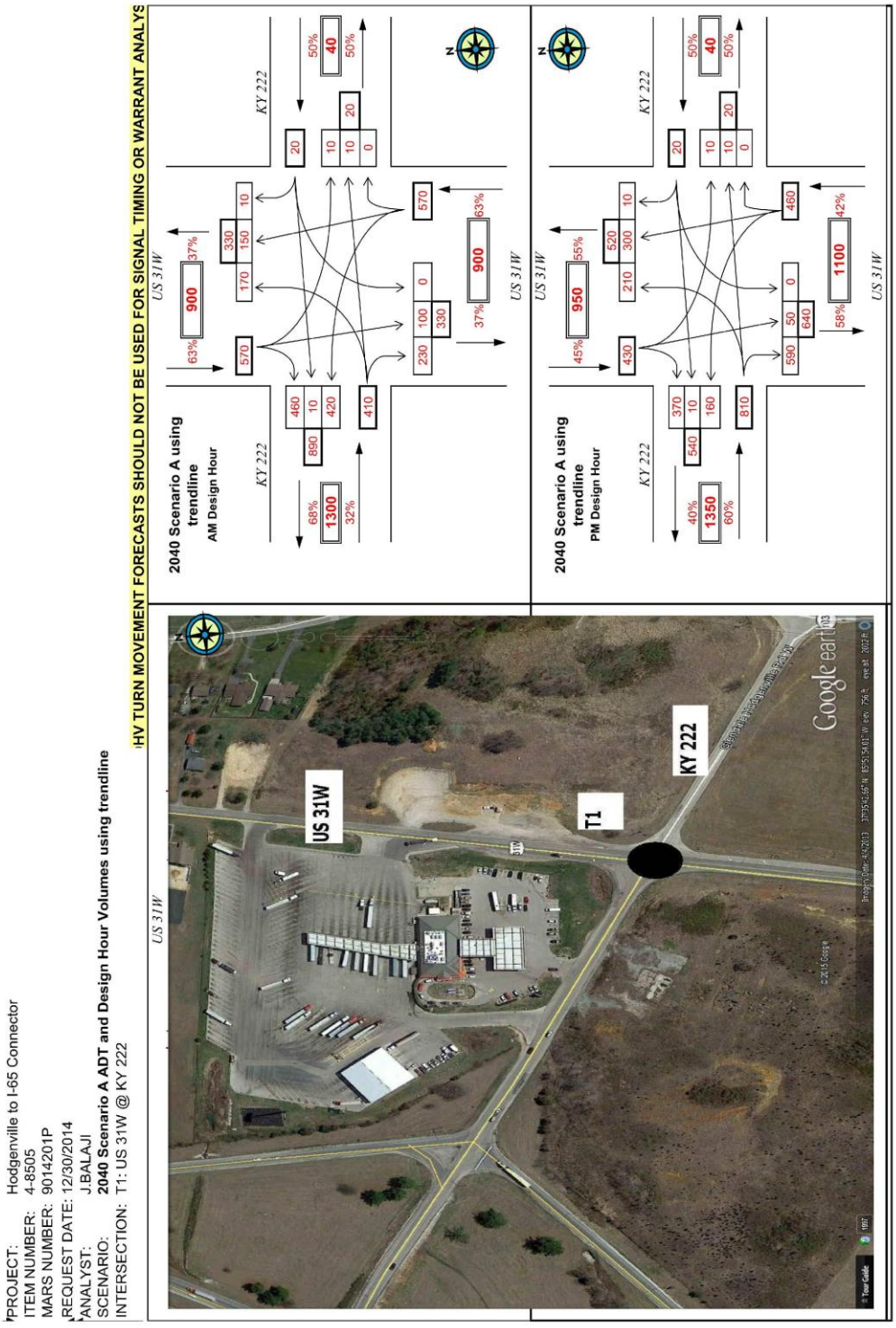
Summary Map (Scenario A using Trendline)



Turn Movements Using Trend line
US 31W@ KY 222
2015



2040


PROJECT: Hodgenville to I-65 Connector
ITEM NUMBER: 4-8505
MARS NUMBER: 9014201P
REQUEST DATE: 12/30/2014
ANALYST: J.BALAJI
SCENARIO: 2040 Scenario A ADT and Design Hour Volumes using trendline
INTERSECTION: T1: US 31W @ KY 222
HV TURN MOVEMENT FORECASTS SHOULD NOT BE USED FOR SIGNAL TIMING OR WARRANT ANALYS
2040 Scenario A using trendline
AM Design Hour
2040 Scenario A using trendline
PM Design Hour
US 31W
KY 222
T1
Google earth

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

ROUTE ID:

County	Larue	Date	07/21/15
		Forecaster	Jay Balaji
Road Name	KY-222		
		MARS No.	9014201P
Functional Class	8 - Rural Minor Collector	Item No.	4-8505
		Route No.	KY-222
Project Description	Hodgenville to I-65 Connector New Route or Major Widening	Beg. MP	0
		End MP	0
Scenario	Scenario A	T.F. No.	TF14-052
Segment Description	KY 222 from US 31W to KY 61	No. of Lanes	2
		1 or 2 way	2

REFERENCES:

Previous Forecasts	N/A	K- Factor Value	16.0%
		K-Factor Source	'047275
Traffic Volume	047275	PHF	0.91
Milepoint	8.4		
Truck Percent	FC	Full Route Unique Identifier	
Milepoint	0	062-KY-222 -000	
ESAL Information			
Growth Rate	0.50%		

TRAFFIC PARAMETERS:

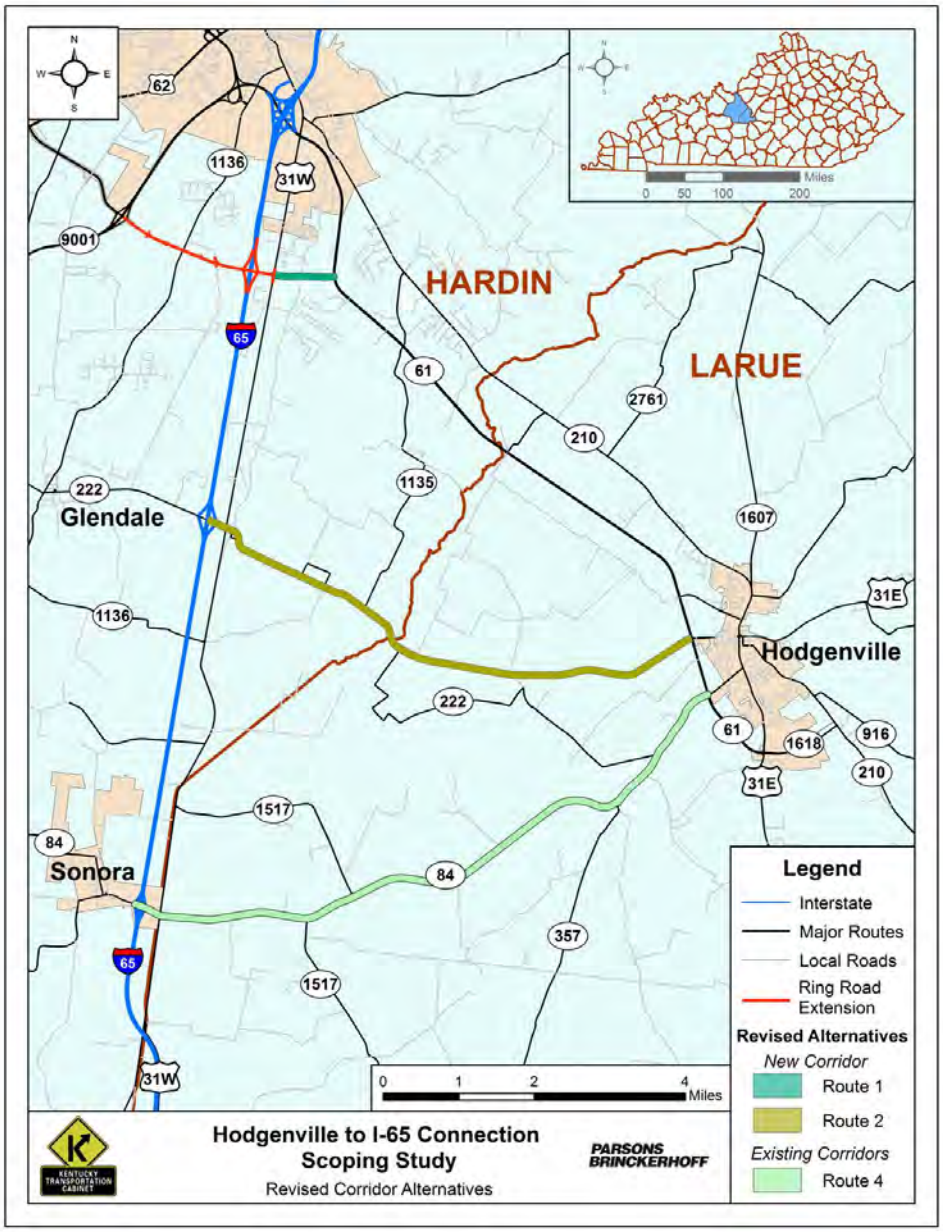
		Present Year	Growth Rate	Construction Year	Median Year	Design Year
		2015		**2020**	**2030**	**2040**
Volume	(AADT)	200	0.50%	210	220	250
Percent Trucks	(%T)	10.8%	0.5%	11%	12%	12%
Number of Trucks		20	1.0%	20	30	30
Percent Trucks Hauling Coal	(%CT)	0%	0.0%	0%	0%	0%
Non-Coal Trucks:						
Axles/Truck	(A/T)	3.160	0.70%	3.272	3.509	3.762
ESALs/Axle	(ESAL/A)	0.254	1.60%	0.275	0.322	0.378
Coal Trucks:						
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: 100,000

General Comments: This ESAL replaces the ESAL provided for KY 222 in scenario A. Upon districts' request future year volume for KY 222 was based on trendline analysis and the model output was not used for this segment.

Appendix H:
Geotechnical Overview



GEOTECHNICAL OVERVIEW REPORT P-005-2015

Hodgenville to I-65 Scoping Study

Hardin and Larue Counties, KY

Item No. 4-8505.00

September 2015

DESIGNING YOUR FUTURE, TODAY. AEI

AEI
AMERICAN
ENGINEERS, INC.

September 10, 2015

Ms. Lindsay Walker, PE, PTOE, AICP
Traffic/ Transportation Engineer
Parsons Brinckerhoff
1792 Alysheba Way
Suite 230
Lexington, KY 40509

Re: Geotechnical Overview Report
Hodgenville to I-65 Scoping Study
Hardin and Larue Counties, Kentucky
AEI Project No. 215-059

Dear Ms. Walker:

American Engineers, Inc. Field Services Center is pleased to submit this geotechnical overview that details the results of our site and mapping reconnaissance at the above referenced site.

The attached report describes the site conditions and near-surface geology and also details potential design recommendations for the proposed project. The Appendices to the report contains a karst potential map for the study area and an oil and gas well location map. Site photographs have also been included following the report.

We appreciate the opportunity to be of service to you on this project and hope to provide further support on this and other projects in the future. Please contact us if you have any questions regarding this report.

Respectfully,
AMERICAN ENGINEERS, INC.

Brad High, PG
Project Geologist

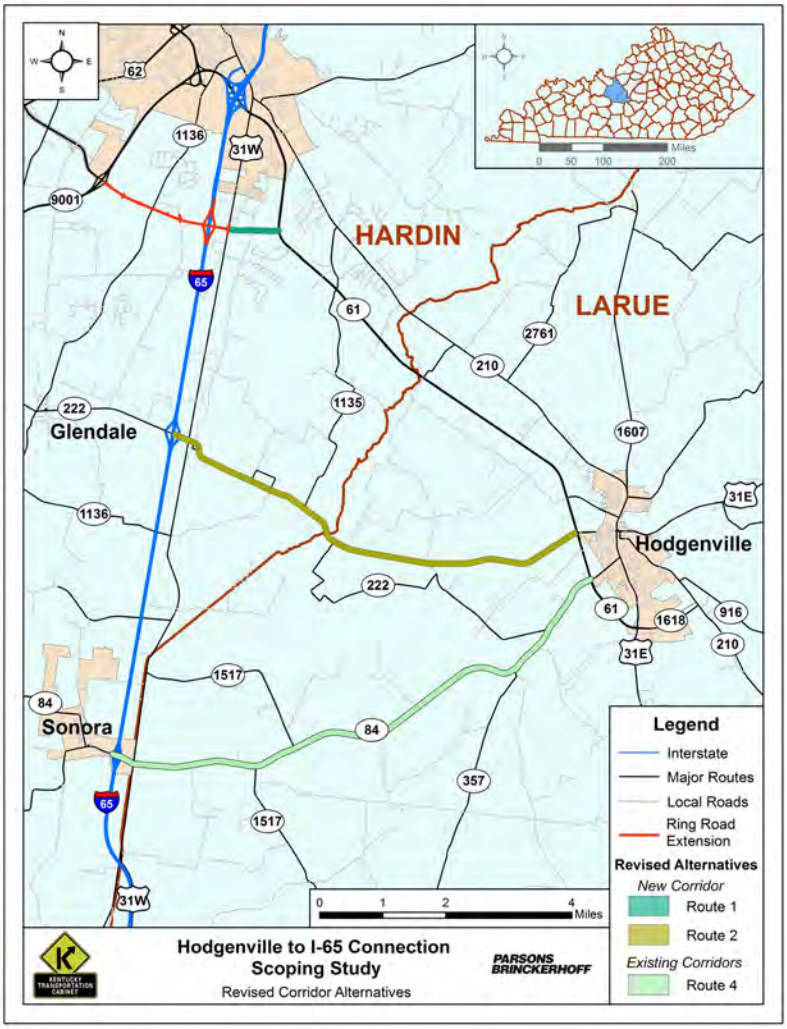
Dennis Mitchell, PE
Geotechnical Project Manager

Geotechnical Overview

Hodgenville to I-65 Connection Scoping Study

Larue & Hardin Counties, Kentucky

Item No. 4-8505.00



Geotechnical Overview
Hodgenville to I-65 Connection Scoping Study
Larue & Hardin Counties, Kentucky

1. Project Description

The study area includes three bands from I-65 to KY 61; these bands will encompass possible alternatives that are to be studied for a new connector to improve traffic flow from Hodgenville to Interstate 65. For Routes 1 and 2 which includes newly proposed new routes, the study area will include a one-mile area from the conceptual centerline for the evaluation of a potential corridor. Route 1 begins near the proposed Ring Road extension at Interstate 65 near Elizabethtown. The Route 2 study area would propose to connect to Interstate 65 at the existing interchange in Glendale and tie in with KY 61 west of Hodgenville likely utilizing a portion of the existing Highway 222 alignment on the west side. Route 3 which includes evaluation along existing KY 84 will include a 500 foot area on each side of the existing roadway centerline. The study areas will also include the intersections of KY 61 and I-65 to allow for any additional planning-level analysis required at the tie-in locations. Approximate coordinates for the northwestern section of the study areas are 37.643580, -85.858225 and approximate coordinates for the southeastern section of the study areas are 37.560951, -85.748949.

The study areas are dissected by several small streams and creeks, numerous roadways, existing roadway structures, two pipelines and at least one small cemetery near the intersection of KY 222 and Dorsey Lane near Route 2. Generally, the Route 1 area is the most highly developed corridor of the three. Both pipelines are indicated on topographic mapping and generally trend northwest to southeast. Mapping indicates any of the new routes will cross at least one of the pipelines. The Hardin County Detention Center, multiple commercial and industrial properties and an automotive salvage yard are located

in this area, however primarily lie to the north of the proposed Route 1. The Routes 2 and 3 corridors include predominantly agricultural areas with associated rural housing. The areas within these two corridors are most developed near I-65 and KY 61 near Hodgenville.

The purpose of this project is a scoping study to identify a more reliable and safer connection route between Hodgenville and I-65/Glendale in Larue and Hardin Counties, Kentucky. The planning study will focus on identifying short term improvements that can be implemented along existing KY 84 and long term solutions by examining corridor-wide improvements and new route options.

This geotechnical overview was conducted in relative accordance with a copy of Scope of Work for Geotechnical Overviews for Planning Studies provided by KYTC Planning Division, as well as Section 801 of the Kentucky Transportation Cabinet Geotechnical Manual. The study was conducted during July and August, 2015 and included field reconnaissance and geologic research of available geologic and topographic quadrangle maps, soil survey of Larue and Hardin Counties, Kentucky, as well as online resources available from the Kentucky Geological Survey and the United States Geological Survey. Past reports from geotechnical investigations of portions of the existing roadways and structures in the area were also reviewed in preparation of the overview.

2. Site Geology

United States Geological Survey (USGS) 7.5-minute geologic quadrangle maps were reviewed (*Geologic Map of the Elizabethtown quadrangle, Hardin and Larue Counties, Kentucky, Kepferle, R.C., 1966; Geologic Map of the Tonieville quadrangle, Larue and Hardin Counties, Kentucky, Moore, F.B., 1966)* for each of the proposed routes. Available geologic mapping indicates the study area is underlain primarily by, in order of descending order of lithology, Quaternary-aged alluvium, slumped deposits and Mississippian-aged deposits of the Ste. Genevieve and St. Louis Limestone Formations.

Mapping indicates the Quaternary-aged alluvium consists of sand, silt, clay and gravel. Fine to very fine sand predominates along tributaries feeding from sand covered areas. Clay and silt deposits are typical along the Nolin River. Gravel within the alluvium consists mainly of chert and silicified limestone fragments of cobble size or smaller. The majority of the alluvial deposits are located in and near the Route 2 area and along KY 84 as a result of several small streams in this area including Middle Creek.

Slumped deposits of sandstone and shale are also known to exist within the project area. These deposits resulted from rocks that overlay the Ste. Genevieve Limestone which slumped into sinkholes in the Ste. Genevieve and St. Louis Limestone formations during early cycles of karst erosion. The Slumped sandstone deposits are described as fine grained, poorly consolidated or disintegrated into sand, locally crosscut by thin, red or gray clay dikes. Slumped shale deposits are gray or greenish gray, largely weathered to clay and is intermixed in all proportions with cherty red clay soil from deeply weathered Ste. Genevieve and St. Louis Limestone Formations. The slumped sandstone and shale deposits may be as thick as 220 feet based on mapping descriptions.

The Ste. Genevieve Limestone Formation predominantly consists of limestone, but also contains dolomite and clay shale. The limestone of this formation is described as medium-grained, light olive gray to yellowish gray, thick bedded, locally crossbedded and characteristically oolitic. The dolomite is described as very fine grained, yellowish gray, very thick bedded, locally calcareous and contains fist-sized vugs filled with crystalline calcite near the base of the formation. The clay shale is described as yellowish to greenish gray and locally calcareous. The Ste. Genevieve Limestone Formation underlies much of the Route 1 corridor and a small section of KY 84 near the I-65 interchange at Sonora.

The St. Louis Limestone Formation is comprised predominantly of limestone in the area but also contains dolomite and shale. Limestone of the St. Louis Limestone Formation is described as very fine to medium grained, yellowish gray to light gray, thick bedded, argillaceous, highly fossiliferous and contains beds of highly fossiliferous chert as much as 1 foot thick. Dolomite of the St. Louis Limestone is described as fine to very-fine grained, yellowish brown, very thick bedded and siliceous. Shale of the formation is described as light olive, calcareous and interbedded with very argillaceous limestone.

Karst potential mapping provided by the Kentucky Geologic Survey indicates that each corridor within the study area exhibits very high karst potential. Numerous sinkholes were also indicated on karst potential mapping and noted during the site reconnaissance, however much of the ground terrain was planted in row crops at the time of the review. The highest concentration of closed hachures on topographic mapping indicating closed depressions was noted near Spratt Road north of KY 84 and near Hodgenville and also in the Route 2 corridor near Tonieville and KY 61. One fault was also noted from review of geologic mapping. The fault is part of a series of northwest to southeast trending faults which are a part of the Pennyrile Fault System. The fault crosses the Route 1 corridor near the intersection of Budco Lane and US 31-W on the western side of the Route 1 corridor and south of the intersection of Harvest Drive and KY 61 on the eastern side of the corridor. Regional dip of the area was reviewed based on structure contours drawn on the base of the New Albany Shale on geologic mapping. Regional dip of the study areas was determined to trend toward the northwest at about 60 feet per mile, or just over one percent. Geotechnical reports reviewed indicate that the residual soils within the potential new corridors typically classify as low to moderate plasticity clays with USCS Classifications of CL, CH, CL-ML, SM or as SC. Geotechnical reports also indicate depths to bedrock in excess of 40 feet are common. Published mapping indicated both active and abandoned quarries to lie within each quadrangle, however none were noted proximate to the proposed corridors during field reconnaissance.

3. Topography and Drainage

The study areas lie within the Mississippian Plateau physiographic region of north-central Kentucky, just east of the Dripping Springs Escarpment and west of Muldraugh Hill. Topographic relief throughout the project area ranges from a high of approximately 850 feet in the northernmost section of the study area to a low of approximately 660 feet near the Nolin River flood plain. Generally, the topography of this area is described as a karst landscape, characterized by red clay soils, numerous sinkholes and depressions, gently rolling hills and small streams and creeks. The limestone bedrock in this area is highly soluble and prone to dissolution resulting in the development of sinkholes, caves, springs and other karst features.

Surface runoff in the area is typically intercepted by surface depressions and sinkholes or ultimately drains toward the Nolin River. In general, low-lying areas in karst terrain or sinkhole plains such as the study area, will tend to exhibit soft, silty and wet soils. These areas will also be more prone to sinkhole collapse during and following construction of any new roadway or structures.

Underground drainage is a function of surface and groundwater flows that are controlled by the nature of these rocks and the associated surface features. Slopes generally control the runoff from precipitation and stream drainage, with ridgelines forming drainage boundaries. Underground water in most watersheds and drainage basins tend to follow the lay of the land. Yet, in areas containing soluble limestone or karst regions, the underground drainage may differ from the boundary of its surface watershed; flowing through caves, cracks or faults in the rocks beneath surface ridges. This phenomenon is typically referred to as misbehaved karst drainage (Kentucky Division of Water).

4. Geotechnical Considerations

- Subgrade soils which lie within the study area are anticipated to have a design CBR value ranging from 3 to 6. Chemical treatment, such as lime

or cement stabilization may be desired to effectively stabilize road subgrades, however past projects have indicated large cobbles and boulders (chert) in the soils could make chemical modification problematic. In areas where rock is encountered during roadway excavations, it should be considered for use as a more affordable yet effective alternative.

- Construction utilizing subgrade soils in areas of slumped sandstone and shale deposits can be problematic. As the underlying limestone layers weather into residual clay soils it can become mixed with the remnants of the younger sandstone and shale deposits. Depths to rock in these areas can vary greatly with depths to rock in excess of 100 feet. At depth or near the surface in low-lying areas these soils tend to be soft and excessively wet. Additional stabilization may be required beyond chemical stabilization where these soils are present in any new or existing alignment.

- Wet areas could require stabilization for embankment construction. Likewise, subgrade soils under existing pavements could be very wet and might require stabilization if pavements are removed due to grade changes, etc.

- Any open sinkholes or solution cavities identified within the construction limits that are not utilized for drainage purposes should be filled and/ or capped in accordance with Section 215 of the current edition of the Standard Specifications for Road and Bridge Construction.

- Sinkholes were noted within the study area both during field reconnaissance and from review of geologic mapping. Any sinkholes utilized for drainage purposes for new roadway construction should incorporate adequate measures to minimize water infiltration into the subgrade and erosion control measures to minimize siltation of open sinkholes and adhere to KYTC Drainage policy.

- High plasticity clays may be encountered within the study area. High plasticity clays tend to shrink and swell with corresponding changes in moisture content. These areas will best be delineated after a thorough geotechnical investigation and subsequent lab testing. Treatment methods will vary dependent upon lateral and vertical extent of any high plasticity clays. Chemical treatment of subgrade soils such as lime or cement is one method to minimize the shrink/ swell potential of expansive clays.

- Any new structures or existing structures scheduled for widening as part of the roadway realignment are likely to be designed for nonyielding foundations or H-piles on bedrock. Specific site investigations will be required for any new structures or additions to existing structures once locations are known.

- Adequate drainage will be of primary concern with any new design or new construction in the area to minimize environmental impacts by surface runoff into the underlying karst network. Proper management of surface water will also lessen the occurrence of sinkhole dropouts during construction. Mitigation of surface runoff should be performed by silt checks, silt traps, sediment basins and lined ditches where appropriate. Siltation of sinkholes should be avoided, especially those to remain open after construction.

- Roadway embankments and cut slopes will be likely required for construction of any new roadway or current roadway realignment. Based on prior experience with residual soils weathered from the Ste. Genevieve Limestone and St. Louis Limestone Formations, embankments constructed at 2H:1V or flatter will likely provide an acceptable factor of safety for embankments less than 60 feet in height. Soil cuts in the residual soils can be problematic due to softening of the clays upon exposure in the cuts. Soil cut slopes should not be steeper than 2H:1V. Based on review of the KYTC Geotechnical Manual, typical cut slope configurations for massive limestone of ½H:1V will likely be used. During design of cut slopes in bedrock, the presence of joints, fractures, solution features and crossbedding should be taken into consideration.

- Oil or gas wells, many of which have been abandoned, were identified through review of online mapping review of the study area. Any oil or gas wells identified prior to or during construction should be closed in accordance with Section 708 of the current edition of the Standard Specifications for Road and Bridge Construction. Approximate locations of mapped wells are indicated on a drawing at the conclusion of this report. Locations were derived from the oil and gas well database on the Kentucky Geological Survey database online.

- Numerous water wells were indicated to lie within the study area upon review of online mapping. Any water wells, cisterns, manholes or catch basins not incorporated into any new design and identified prior to or during construction should be closed in accordance with Section 708 of the current edition of the Standard Specifications for Road and Bridge Construction.

- A list of previously completed Geotechnical Investigations proximate to the study area is included below. These reports can be accessed through the KYTC Geotechnical Branch Database.

List of Projects & Reports

Project ID	Project Type	Route	Project Description
L-014-1995	Landslide	KY 61	KY 61 @ MP 1.1 & 1.35 Sinkholes
R-006-1980	Roadway	KY 61	Elizabethtown-Hodgenville Rd, Stations 115+56.12 to 397+00
S-010-1980	Structure	KY 61	KY 61 Bridge over Middle Creek Station 395+12.5
S-075-1980	Structure	KY 61	KY 61 Box Culverts @ Stations 142+29, 149+56 and 237+24
R-008-1980	Roadway	KY 61	Elizabethtown-Hodgenville Rd, Stations 395+25 to 747+55.37
S-040-1974	Structure	KY 84	Mathers Mill-Hodgenville Rd Bridge over South Fork of Nolin River
R-022-1994	Roadway	I-65	I-65 Northbound Rest Area
R-004-2010	Roadway	I-65	I-65/ Glendale Interchange/ KY-222

5. Summary

Karst terrain in the study area will be likely be the most detrimental factor to any new construction in the area. The St. Louis Limestone and Ste. Genevieve Limestone Formations are the uppermost bedded formations which underlie each of the proposed corridors. Each of these formations exhibit significant potential for karst impacts during construction. Slumped sandstone and shale deposits also may be encountered which are a result of ancient karst and can be problematic with new construction.

Much of the Route 1 study area is also highly developed which can mask the existence of karst features such as sinkholes and surface depressions. Row crops were also planted throughout much of the Route 2 corridor as well as along the existing KY 84 alignment which made it difficult to identify individual sinkholes. While any new construction within the study area will not likely be at any greater risk to ground subsidence or other impact from karst than existing roadways and structures which lie within the study area, a site specific geotechnical investigation will provide critical information with regard to karst potential, problematic soils and other pertinent information for design. A salvage yard, an electric substation

and several commercial and manufacturing facilities exist near route 1. Any new route should avoid these areas to minimize the potential for environmental concerns associated with roadway construction.

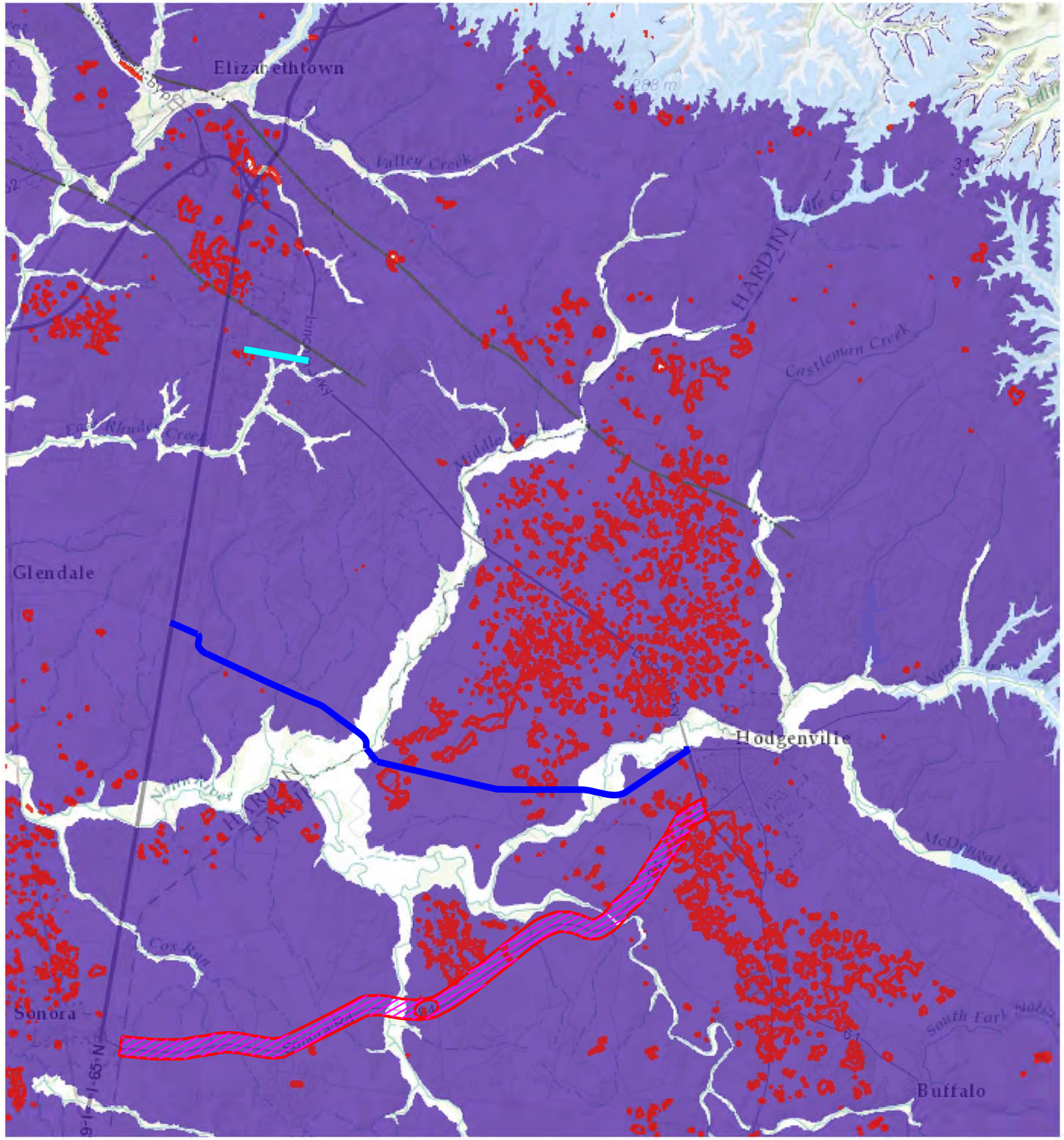
Site Photographs

Figure 1 Typical rolling terrain, Tonieville Road

Figure 2 Wooded surface depression near McCubbins Road

Figure 3 Electric Substation, Route 1 corridor near Elizabethtown

Figure 4 Tree lined surface depression, Route 1 corridor



LEGEND

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN/LARUE	4-8505.00	1

- POSSIBLE ROUTE 1 CORRIDOR
- POSSIBLE ROUTE 2 CORRIDOR
- EXISTING ROUTE (HWY 84)

Karst Potential Units
- very high
- high
- medium
- low
- non-karst

Floyds Fork Sinkholes

KGS Sinkholes

Kentucky Sinkhole Outlines
- Sinkhole

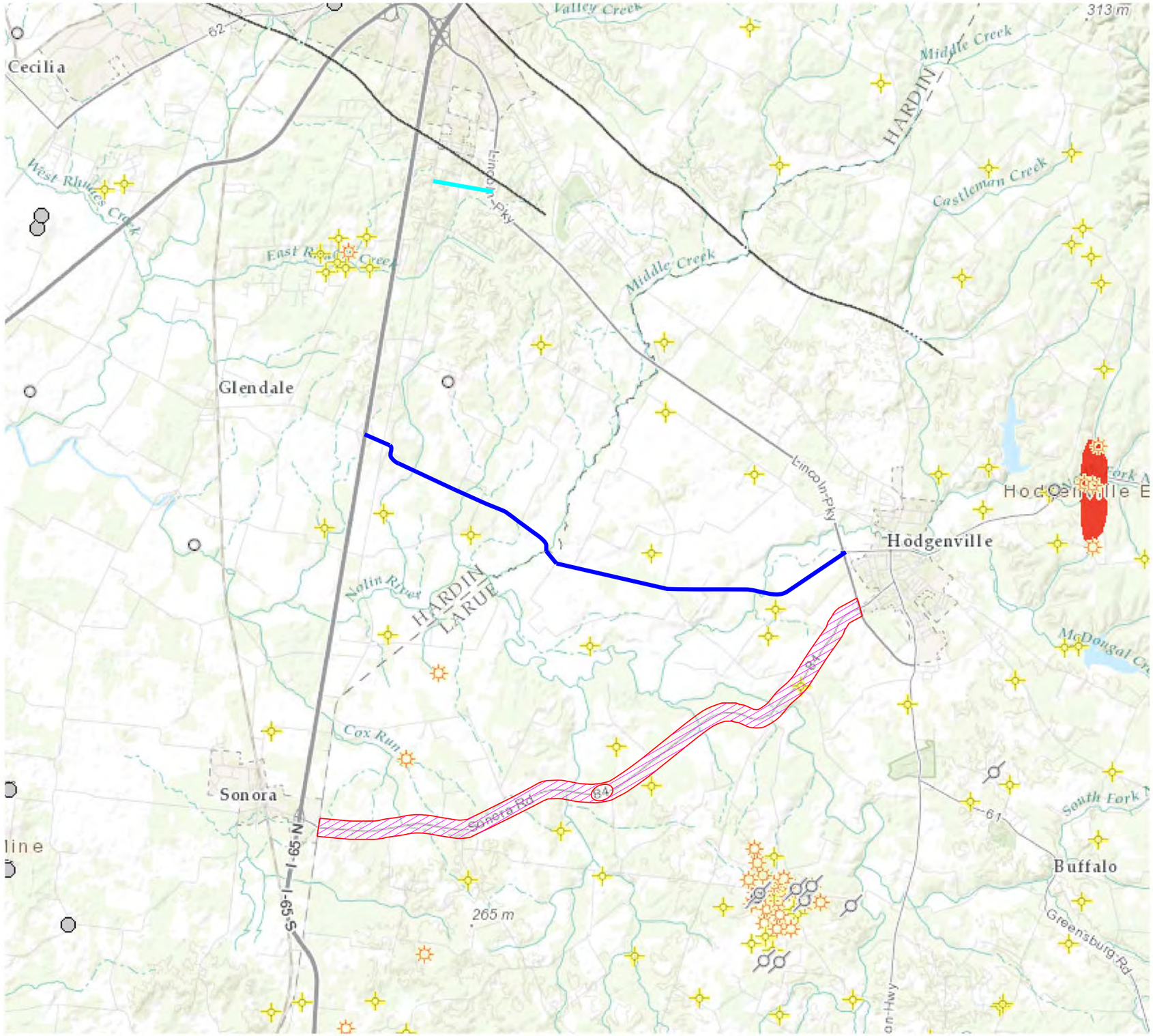
KGS Geology

24K Geologic Faults
- fault - concealed
- fault
- fault - inferred
- fault - scarp
- fault - secondary

NOTE: ALL LOCATIONS APPROXIMATE
DRAWING NOT TO SCALE

HODGENVILLE TO I-65 CONNECTION
KARST POTENTIAL
SHEET 1 OF 1

COUNTY OF	ITEM NO.	SHEET NO.
HARDIN/LARUE	4-8505.00	1



LEGEND

POSSIBLE ROUTE 1 CORRIDOR

POSSIBLE ROUTE 2 CORRIDOR

EXISTING ROUTE (HWY 84)

KY Oil and Gas Fields

- Oil
- Gas
- Waterflood
- Big Sandy
- Consolidated

KGS Terminated Oil and Gas Records

KY Oil and Gas Terminated Permit

- Terminated Permit Well

KGS Oil and Gas Wells

KY Oil and Gas Wells

- Other Well
- Service or Secondary Recovery Well
- Coal Bed Methane Gas Well
- Dry and Abandoned Well
- Gas Well
- Incomplete Well
- Oil and Gas Well
- Oil Well

NOTE: ALL LOCATIONS APPROXIMATE

DRAWING NOT TO SCALE

HODGENVILLE TO I-65 CONNECTION
OIL AND GAS WELL LOCATIONS
SHEET 1 OF 1