

Executive Summary

Pembroke Commerce Park Travel Time Scenarios Addendum to the 2017 Pembroke Corridor Study Report Item No. 02-0381.00

Prepared for:



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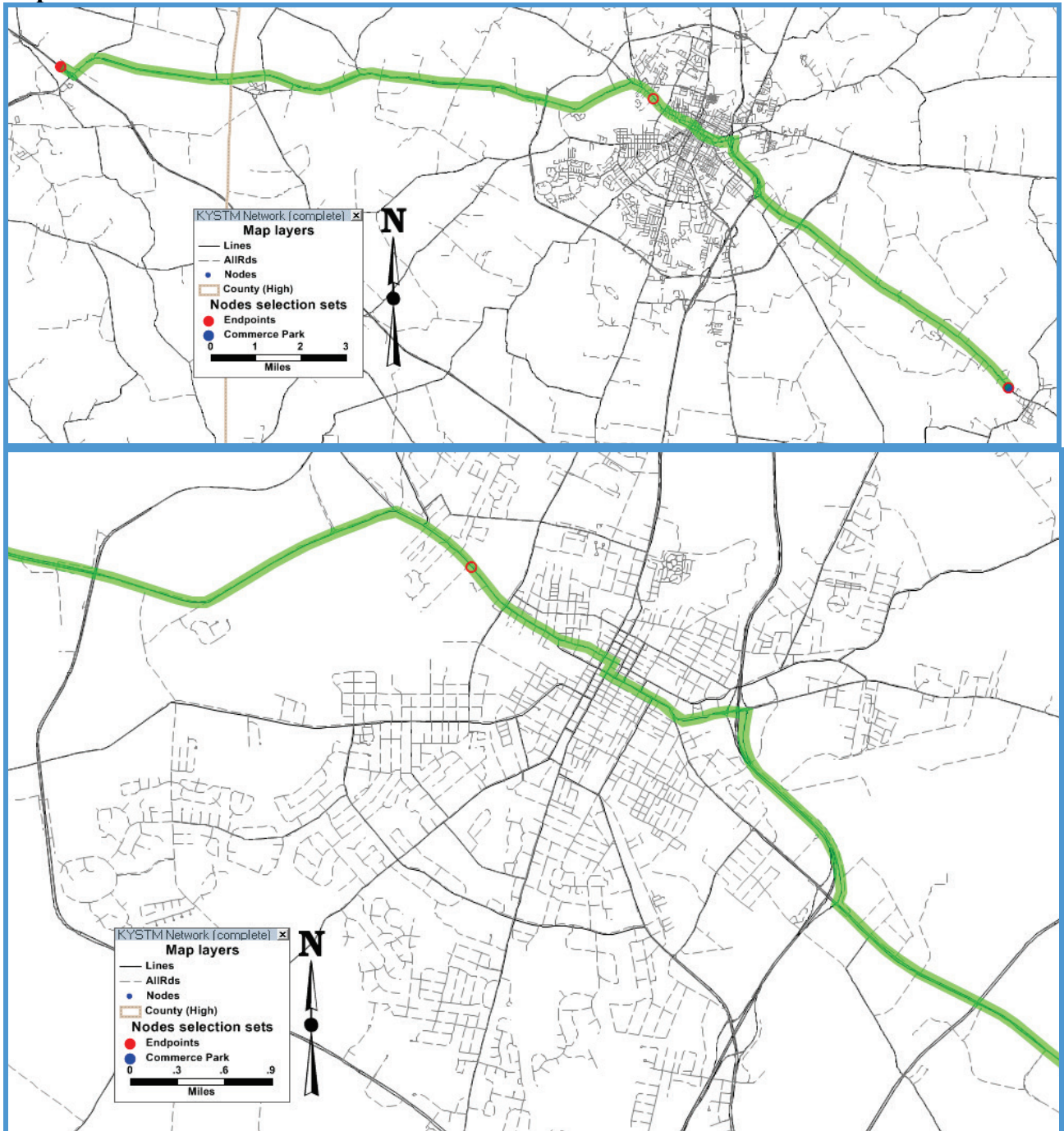
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Travel Time Scenarios from the Pembroke Commerce Park to Interstate 24 Exits 4 (TN) and 65 (KY).

A corridor study was conducted by QK4 to analyze access from Pembroke KY to Interstate 24. The purpose of the study was to examine ways to improve safety and mobility of traffic, with a special emphasis on freight traffic, from I-24 to Commerce Park. The Multimodal Branch of the Division of Planning was asked to evaluate travel-time scenarios from the Pembroke Commerce Park to either Interstate 24 Exit 65 in Kentucky or Interstate 24 Exit 4 in Tennessee as an addendum to the final report. Nine different scenarios were chosen for further examination.

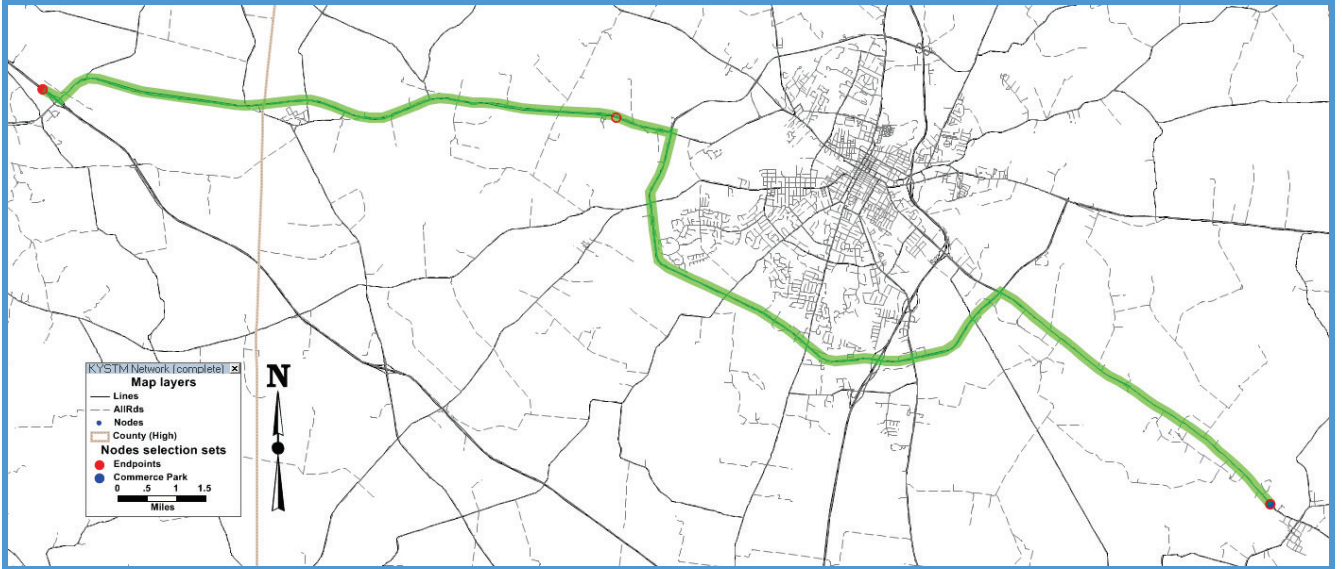
The Kentucky Statewide Model network was used to evaluate each of the scenarios. The model network speeds were filled in from available 2014 speed data that KYTC has purchased from HERE (formerly NAVTEQ). Approximately 2/3 of the network links in the network had available speed data. Where no speed information was available, the model network's calculated travel speed was used instead. The Kentucky Statewide Model Network did not incorporate any changes proposed by the study. Each scenario has a picture depicting the route analyzed, a short description, and a travel time from Pembroke to the destination. Each scenario picture represents the results from a TransCAD "path tool". Open red circles depict points along the pathway that forces the tool to analyze the desired route. Otherwise the tool chooses the shortest (travel time) path.

Scenario 1: From the Pembroke Commerce Park to Interstate 24 Exit 65 through Hopkinsville



The route for scenario 1 starts at the Pembroke Commerce Park and travels on US 41 towards Hopkinsville. The route goes through Hopkinsville on the Edward T. Breathitt Parkway and US 68, continuing until US 68 meets Interstate 24. The total travel time estimated by the Kentucky Statewide Model was 35.6 minutes.

Scenario 2: From Pembroke Commerce Park to Interstate 24 Exit 65 via the Hopkinsville Bypass.



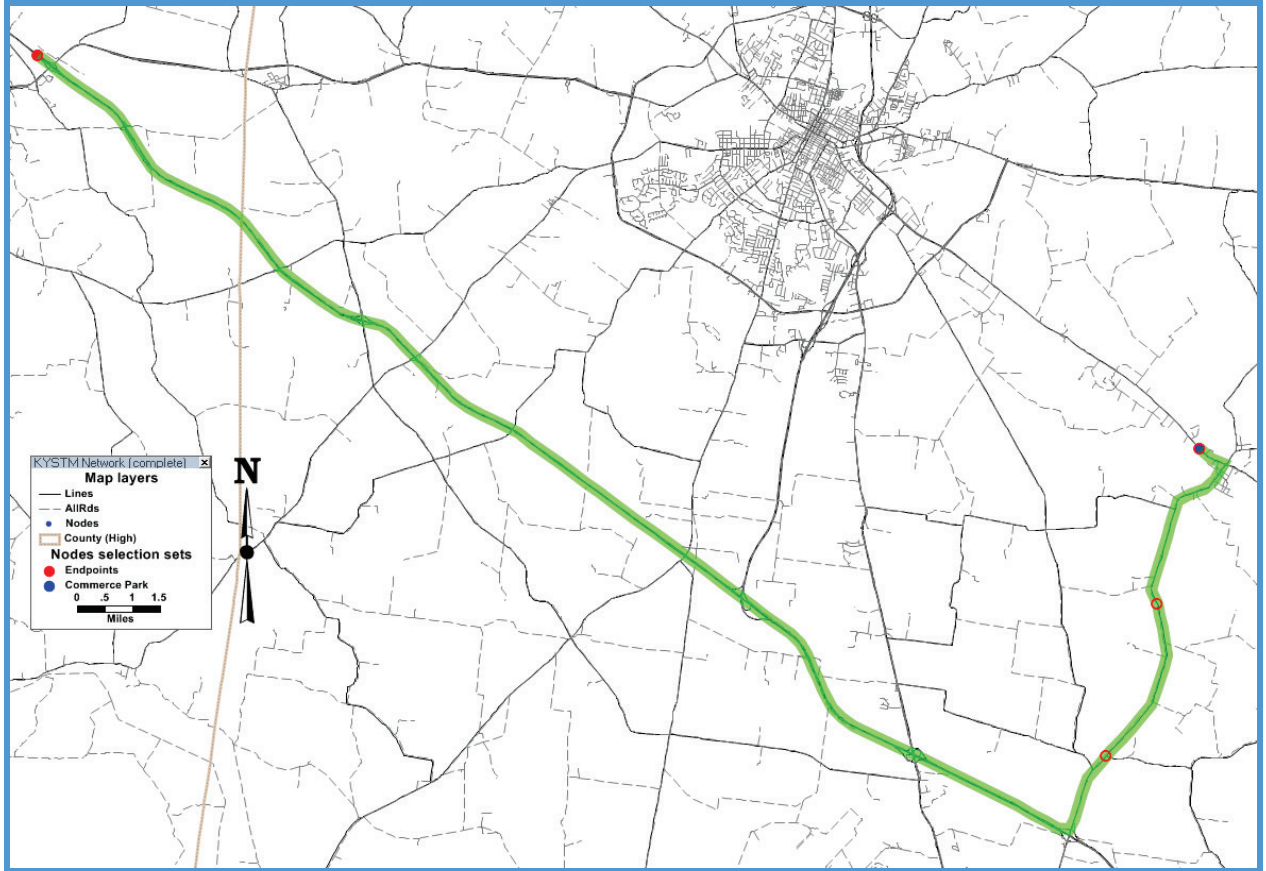
The route for scenario 2 starts at the Pembroke Commerce Park and travels on US 41 until it reaches the Hopkinsville bypass. The route follows the Hopkinsville bypass until it reaches the junction with US 68. From there it follows US 68 until it reaches Interstate 24. The total travel time estimated by the Kentucky Statewide Model was 31.1 minutes.

Scenario 3: From Pembroke Commerce Park to Interstate 24 Exit 65 via the Pennyrile Parkway



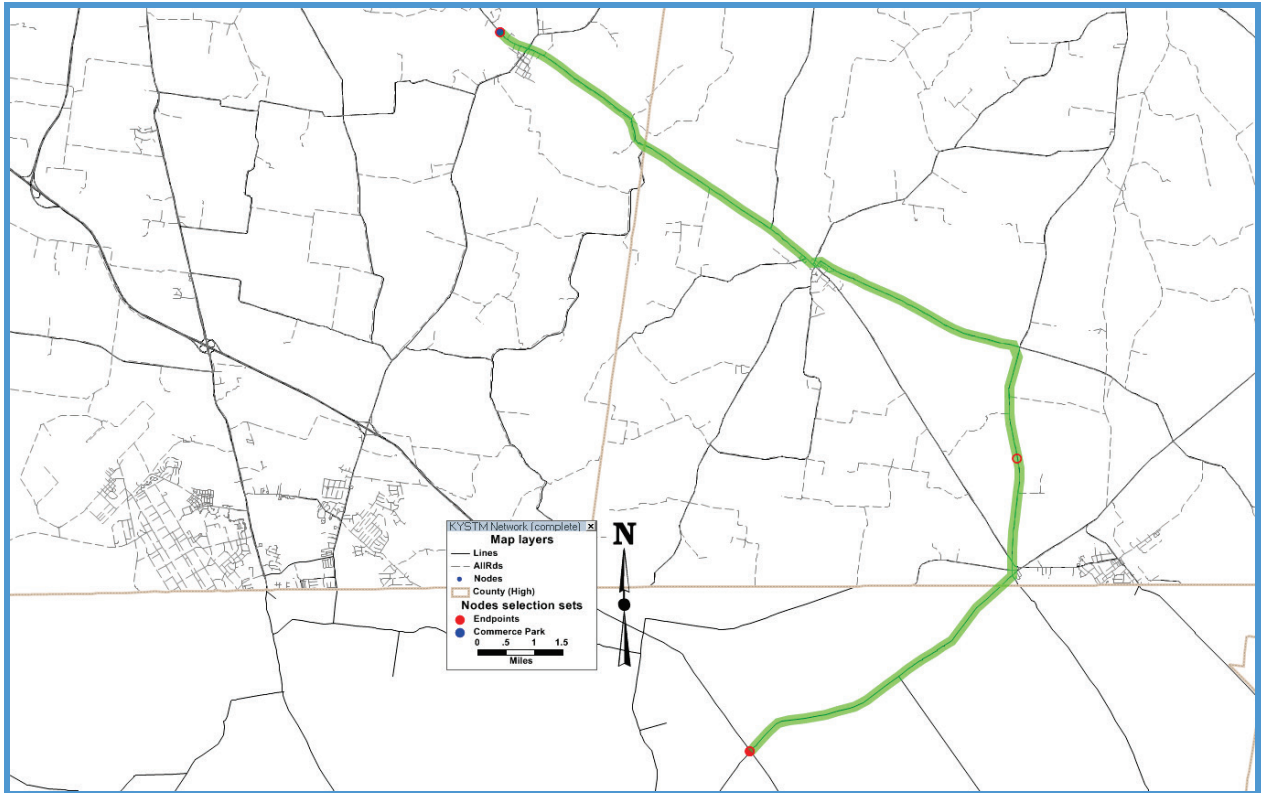
The route for scenario 3 starts at the Pembroke Commerce Park and follows US 41 until it reaches the Hopkinsville Bypass. The route continues on the Hopkinsville Bypass until it reaches the Edward T. Breathitt Pennyrile Parkway. This route stays on the Pennyrile Parkway until it reaches Interstate 24 and follows the interstate to the same point as scenarios 1, 2, and 4. The total travel time estimated by the Kentucky Statewide Model was 30.3 minutes. This scenario was the quickest of all scenarios that began in Pembroke at the Commerce Park and ended at exit 65 on Interstate 24 (Scenarios 1-4).

Scenario 4: From the Pembroke Commerce Park to Interstate 24 Exit 65 via KY 115



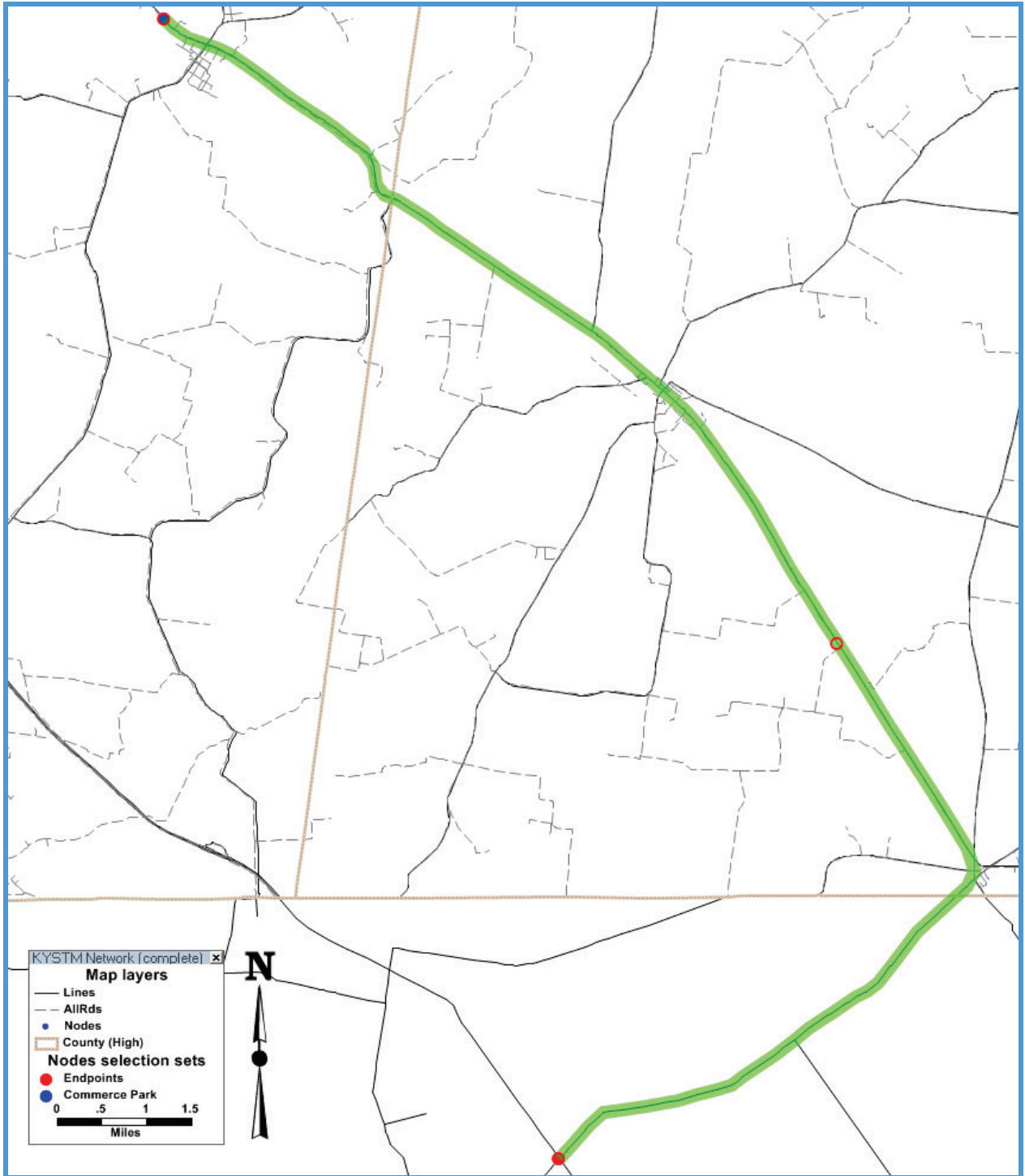
The route for scenario 4 begins at the Pembroke Commerce Park and travels via KY 115 to Interstate 24. From the exit 89 on-ramp, the route continues on interstate 24 until exit 65. The total travel time estimated by the Kentucky Statewide Model was 33.0 minutes.

Scenario 5: From the Pembroke Commerce Park to Interstate 24 Exit 4 in Tn. via KY 181



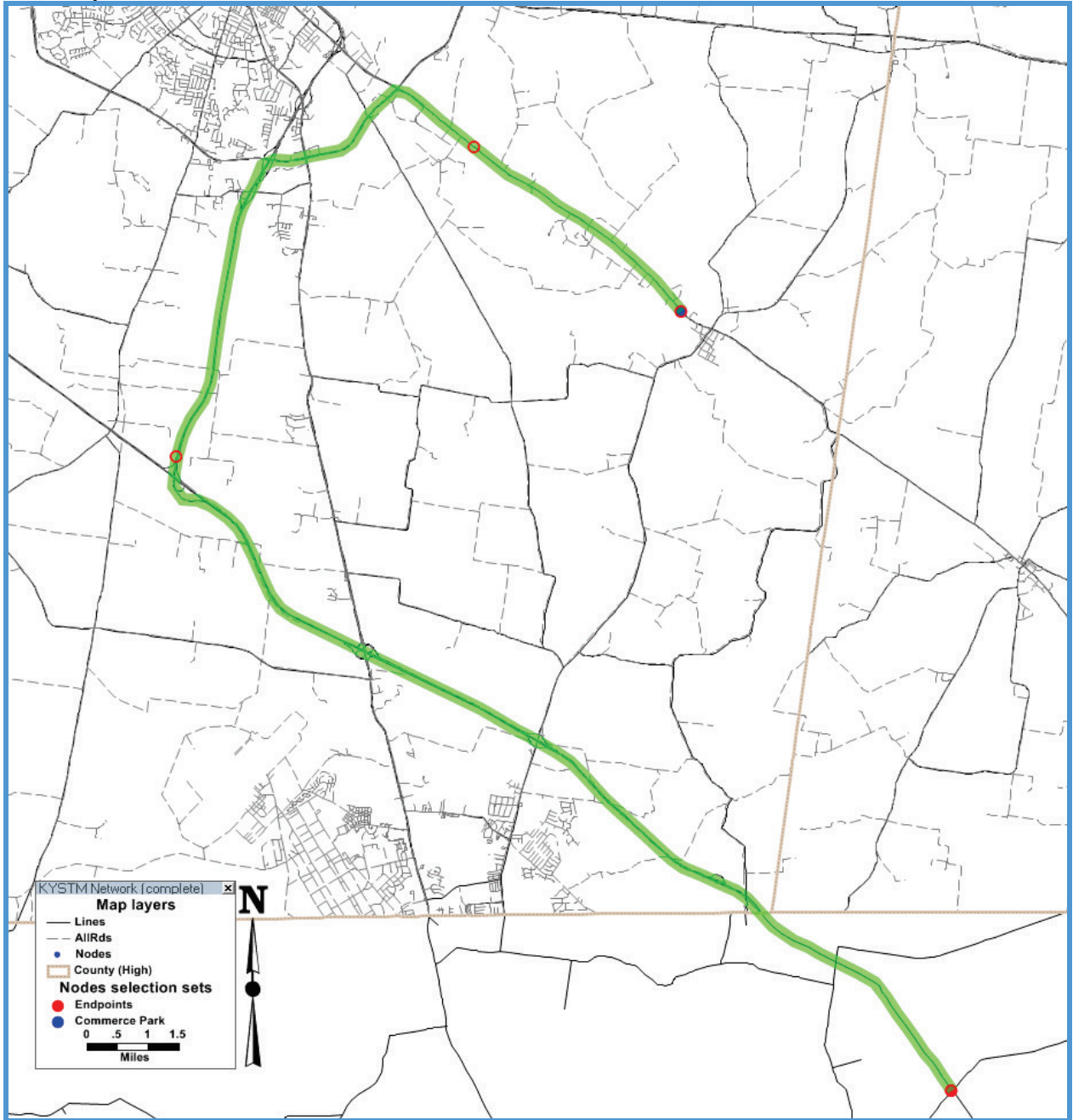
Scenario 5 begins at the Pembroke Commerce Park and continues south and east on US 41 until it reaches Trenton. The route then turns on KY 848 and follows it until the intersection of Guthrie Rd. in Todd County. The route then follows Guthrie Rd. (KY 181) south until the Guthrie Knott intersection. From there the route follows Guthrie Highway into Tennessee until it reaches exit 4 on Interstate 24. The total travel time estimated by the Kentucky Statewide Model was 26.7 minutes.

Scenario 6: From the Pembroke Commerce Park to Interstate 24 Exit 4 via US 41



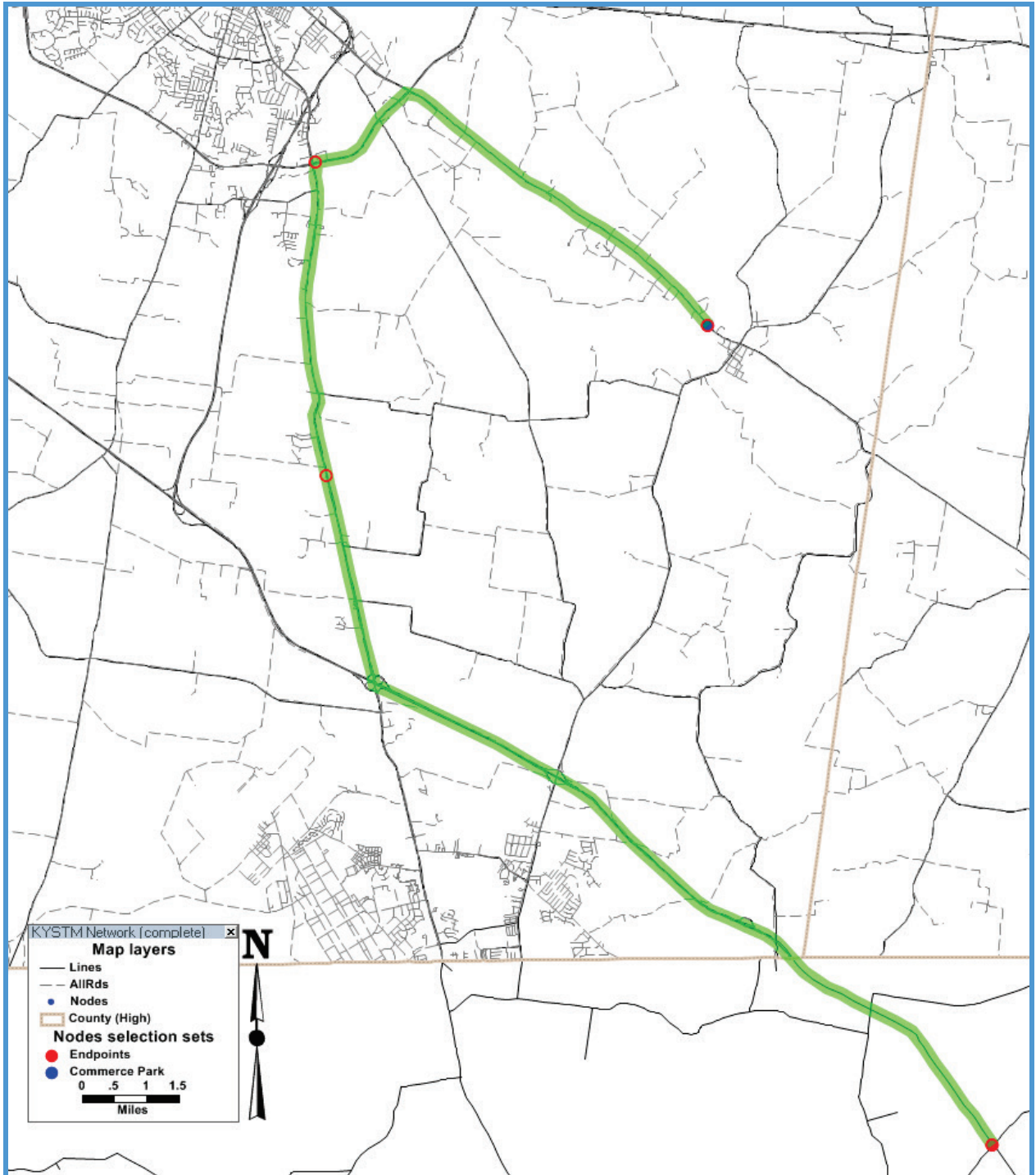
Scenario 6 begins at the Pembroke Commerce Park and continues on US 41 (passing through Trenton) until it reaches The Guthrie Knot intersection. From there it follows Guthrie Highway to exit 4 on Interstate 24. The total travel time estimated by the Kentucky Statewide Model was 25.6 minutes.

Scenario 7: From the Pembroke Commerce Park to Interstate Exit 4 via the Pennyrile Parkway



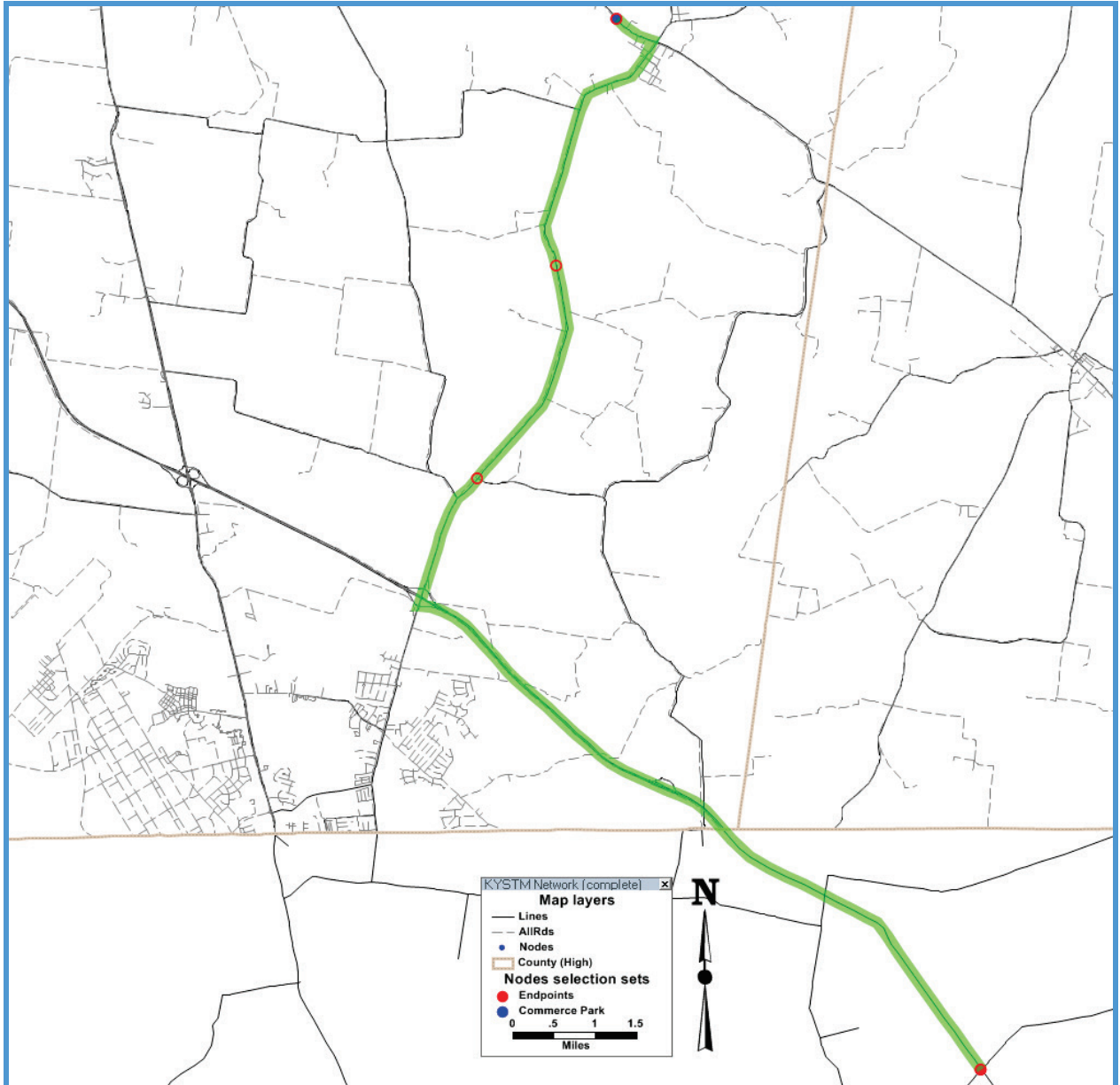
Scenario 7 starts at the Pembroke Commerce Park and follows US 41 until it reaches the Hopkinsville Bypass. It follows the bypass until it reaches the Pennyrile Parkway. The route then follows the Pennyrile Parkway until reaching Interstate 24 and then follows Interstate 24 into Tennessee to exit 4. The total travel time estimated by the Kentucky Statewide model was 31.4 Minutes.

Scenario 8: From the Pembroke Commerce Park to Interstate 24 Exit 4 via US 41A



Scenario 8 starts at the Pembroke Commerce Park and follows US 41 to the Hopkinsville Bypass and then follows the bypass to US 41A. The route then follows US 41A south to Interstate 24, eventually leading to exit 4 in Tennessee. The total travel time estimated by the Kentucky Statewide Model was 31.6 minutes.

Scenario 9: From the Pembroke Commerce Park to Interstate 24 Exit 4 via KY 115



Scenario 9 starts at Pembroke and travels south on KY 115 until reaching Interstate 24. From there, the route follows Interstate 24 until it reaches exit 4 in Tennessee. The total travel time estimated by the Kentucky Statewide Model was 20.4 minutes. This scenario was the quickest of all scenarios that began in Pembroke at the Commerce Park and ended at exit 4 on Interstate 24 in Tennessee (Scenarios 5-9).

Conclusion:

Nine different Scenarios were modeled to compare relative travel times from the Pembroke Commerce Park to Interstate exits 65 in Kentucky and 4 in Tennessee. For the four scenarios that start at the Pembroke Commerce Park and end at Interstate 24 exit 65, travel times ranged from 30.3 to 35.6 minutes. For the five scenarios that start at the Pembroke Commerce Park and end at Interstate 24 exit 4 in Tennessee, travel times ranged between 20.4 to 31.6 minutes. The scenarios suggest that there are multiple routes of travel available from the Pembroke Commerce Park to Interstate 24 exit 65 in Kentucky and exit 4 in Tennessee and presumably other destinations reachable by Interstate 24. The Kentucky Statewide Travel Demand Model was used for all nine scenarios.

All Scenarios:

#	I-24 Exit Destination	Travel Time
1	65	35.6 Minutes
2	65	31.1 Minutes
3	65	30.3 Minutes
4	65	33.0 Minutes
5	4	26.7 Minutes
6	4	25.6 Minutes
7	4	31.4 Minutes
8	4	31.6 Minutes
9	4	20.4 Minutes