

Work on the next section alone.

Before starting the problems below, follow these **instructions**:

- Open the UNC NC Maps site (<http://www.lib.unc.edu/dc/ncmaps/>). Find the 1940 Highway Map on this site by following these steps: Using the Browse menu, search “Browse by Date,” and click on 1940-1949. Click on the “North Carolina Primary Highway System” map.
- You should see the map on your screen. Try zooming in and out on different parts of the map. Next, find the **legend** in the bottom right corner of the map.

INFORMATION TO KNOW:

US Highways (Red Lines): Speed Limit is 65 mph

State Highways (Blue Lines): Speed Limit is 55 mph

Gravel Roads (Dotted Blue): Speed Limit is 40 mph

Earth Roads (White/Blue): Speed Limit is 25 mph

- In a separate window or tab, go to www.mapquest.com.
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Problem One:

Mike works at the Durham Performing Arts Center. He has a two-week vacation and wants to visit his parents in New Bern. He has two route choices:

- a. He can drive Highway 70 the entire way.
- b. He can drive HWY 70 to Raleigh, HWY 64 to Wilson, HWY 117 to Mount Olive, and HWY 55 to New Bern.

Solve the following four questions to figure out the fastest way for Mike to get to his parents' house.

I. Use Mapquest to find the distances between the following cities:

Durham to New Bern: _____ miles

Durham to Raleigh: _____ miles

Raleigh to Wilson: _____ miles

Wilson to Mount Olive: _____ miles

Mount Olive to New Bern: _____ miles

2. Using the speed limit for Highway 70 and the distance to New Bern, figure out how long it will take Mike to drive straight from Durham to New Bern. (Remember the speed limits listed in the instructions!)

_____ Hours

3. How long will the second route take Mike? (Remember the different speed limits.)

Time from Durham to Raleigh: _____

Time from Raleigh to Wilson: _____

Time from Wilson to Mount Olive: _____

Time from Mount Olive to New Bern: _____

Total time to New Bern: _____ Hours

How does this second route compare to the first route (driving straight from Durham to New Bern along Highway 70)?

4. If Mike is caught in traffic on Highway 70 and is only moving at 35 mph, would it be faster for him to take the second route or to stay on Highway 70? Show your work.

Problem Two:

Jane and Sally want to drive from Charlotte to Bakersville. They can choose one of two different routes:

- a. Drive Hwy 29 to Hwy 64 to Garden City, then take the road to Hwy 26 to Bakersville.
- b. Drive Hwy 74 to Hwy 221 to Hwy 26 to Bakersville.

Using the 1940 map to find speed limits and Mapquest to find distances, calculate which route would be quicker. Look at Problem One if you need a reminder of which steps to follow. Be sure to show all of your work!

Problem Three:

You want to take a road trip from Asheville to Fayetteville. On the way, you want to stop in Asheboro, Hickory, and Lenoir. List each road that you would take and calculate how long it would take for you to make the entire trip.