

North Carolina
Statewide Intercity Bus Network Plan

Prepared for:

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Division of Public Transportation**

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June 2009

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The purpose of this statewide intercity bus network plan is to provide a framework that can be used for decision making about which intercity bus services to add (or preserve) in the short- to mid-term that will have the greatest likelihood of success. This document describes the methodology used to develop the recommended plan. (It should be noted that this framework is not intended to define which specific highways or roads the buses would use, where they would stop, or how often or when they would operate. That level of planning would be done in subsequent stages.)

It was assumed that the routes or corridors that would most effectively support intercity bus service would be the ones that are the most populated, have the highest population density (persons per square mile), and the highest density of individuals regarded as most likely to use intercity bus (“transit-dependent” persons). “Transit-dependent” persons were defined to be:¹

- Youth, ages 18-24
- Elderly, ages 60 and above
- Autoless households
- Persons living below the poverty level
- Persons with a disability, ages 16 and above

The general population of each county was determined. The population density and the transit-dependent population density of each county were subsequently determined. The one-third of the counties having the highest numeric values for each of these three categories was then identified--some counties based on their population, some based on their population density, and some based on the density of their transit-dependent population.

A series of state maps was then developed showing the counties with the highest numbers for each of these three factors. Figure 1 shows the top one-third of counties with the most population.

¹ These “transit-dependent” definitions are the same as those used in intercity bus studies done by KFH Associates in Colorado and Washington.

Figure 1: Top One-Third of Counties Based on Population

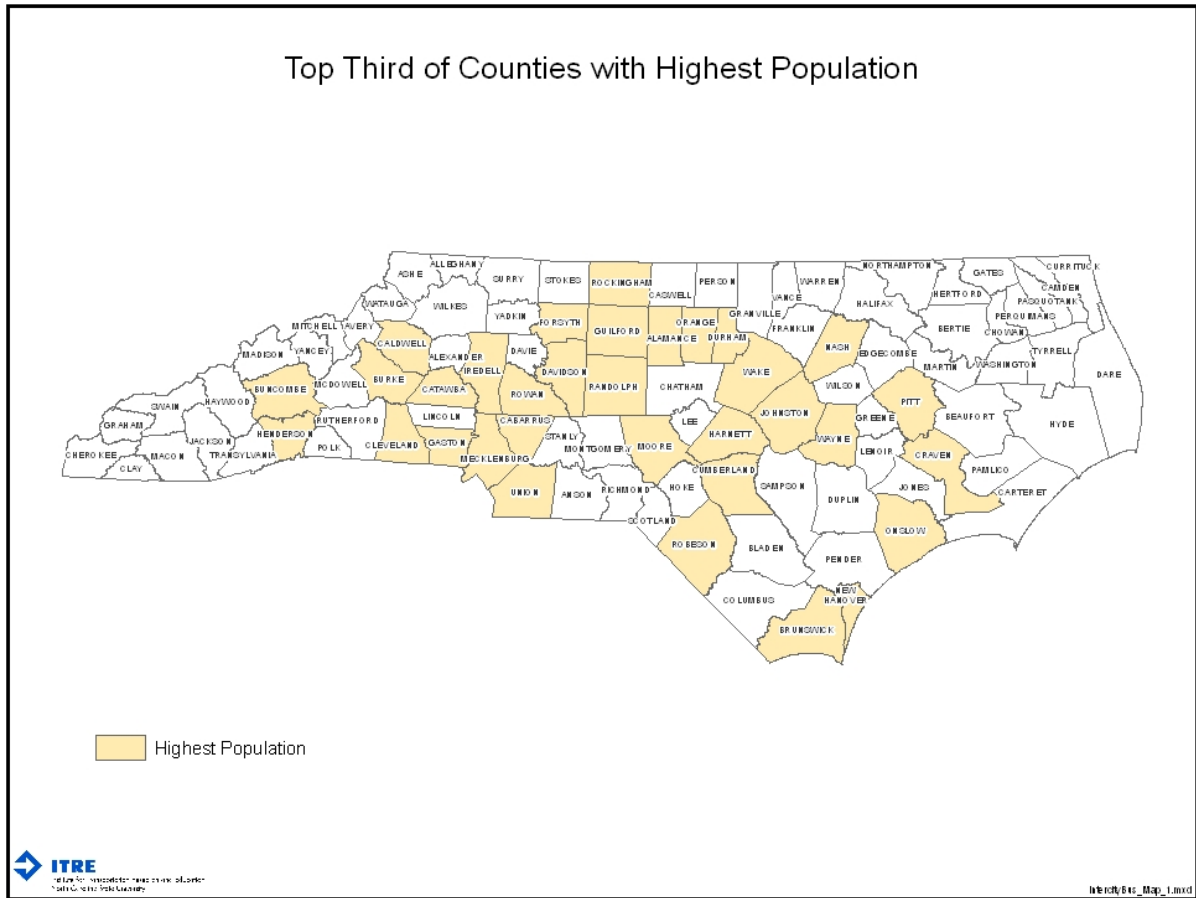
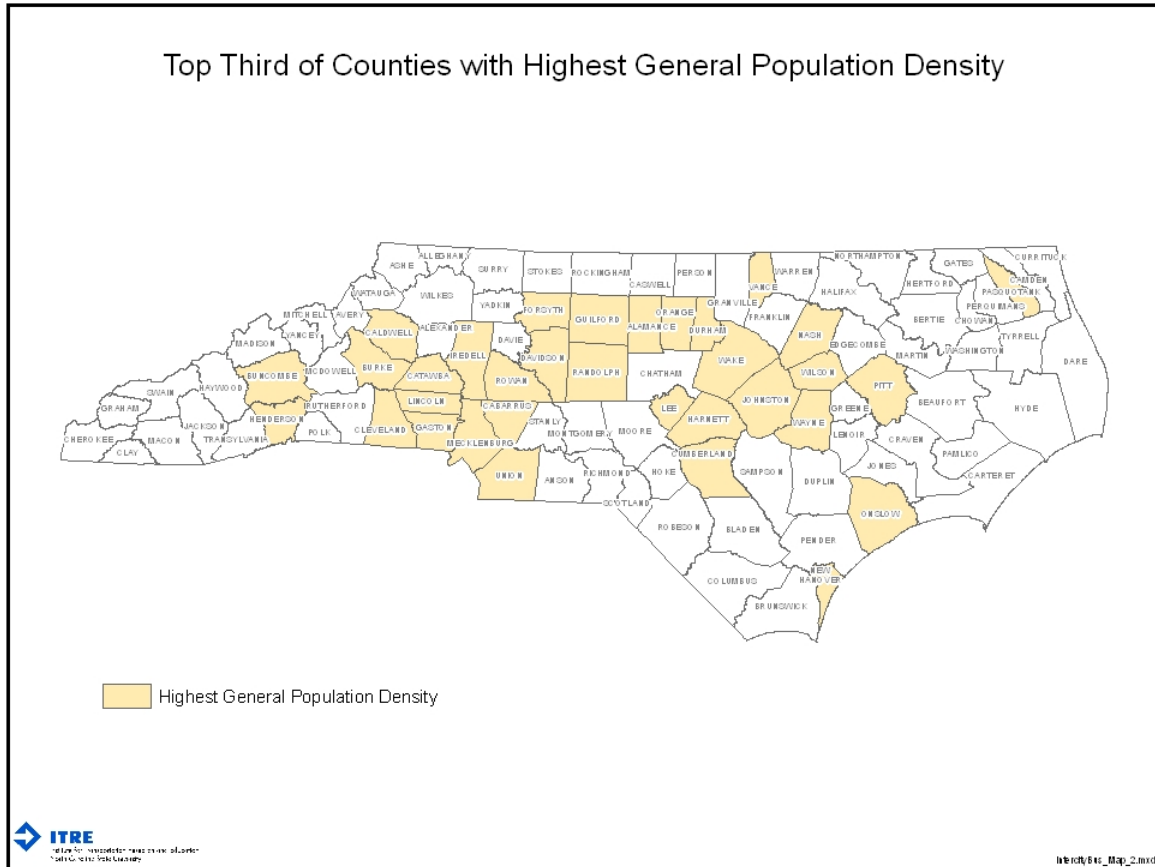


Figure 2 shows the top one-third of counties with the greatest population density.

Figure 2: Top One-Third of Counties Based on Population Density



As can be seen, there is a great deal of similarity between maps 1 and 2. The differences are summarized in Table 1.

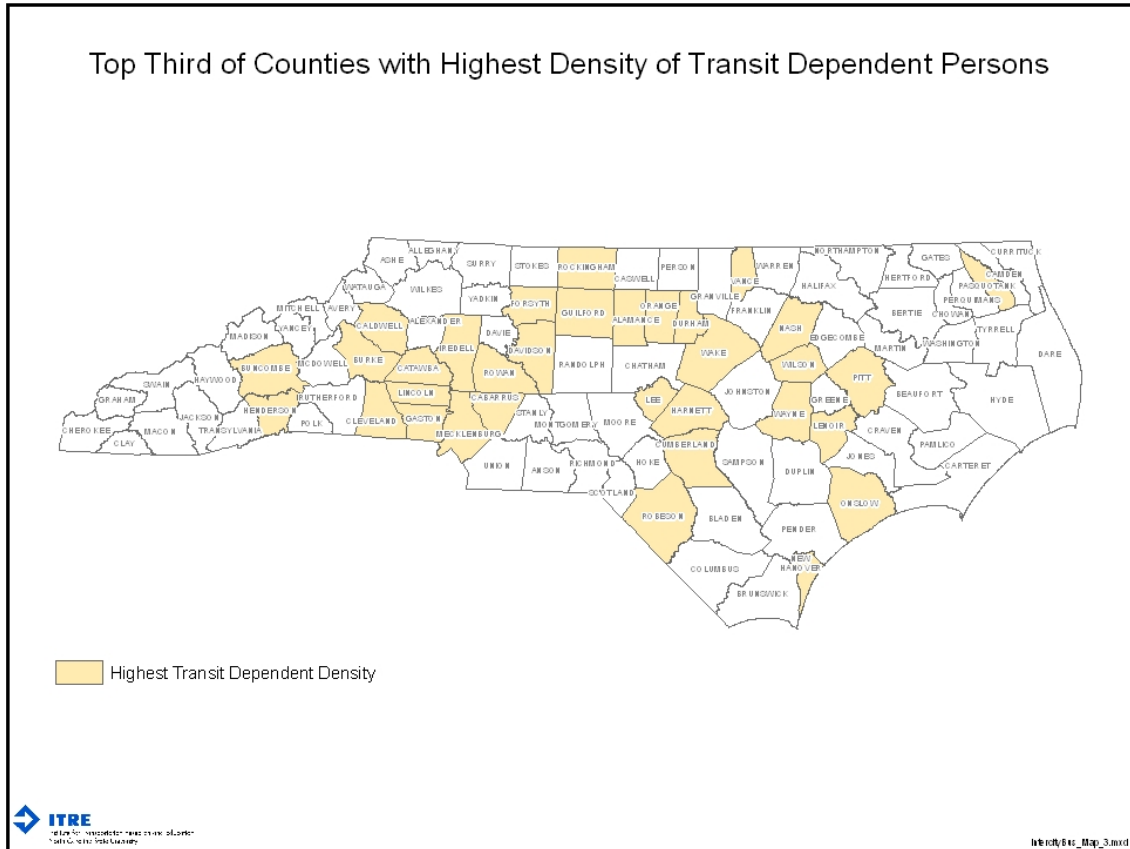
Table 1: Map Differences—Population Density vs. Population

| Counties Added (with a higher ranking on Population Density than Population) | Counties Removed (with a higher ranking on Population than Population Density) |
|---|---|
| Lincoln | Rockingham |
| Vance | Moore |
| Lee | Robeson |
| Wilson | Brunswick |
| Pasquotank | Craven |

The counties removed are counties with a large geographic area and a relatively spread-out population. This results in a lower population density.

Figure 3 shows the top one-third of counties with the greatest density of transit-dependent persons.

Figure 3: Top One-Third of Counties Based on Density of Transit-Dependent Population



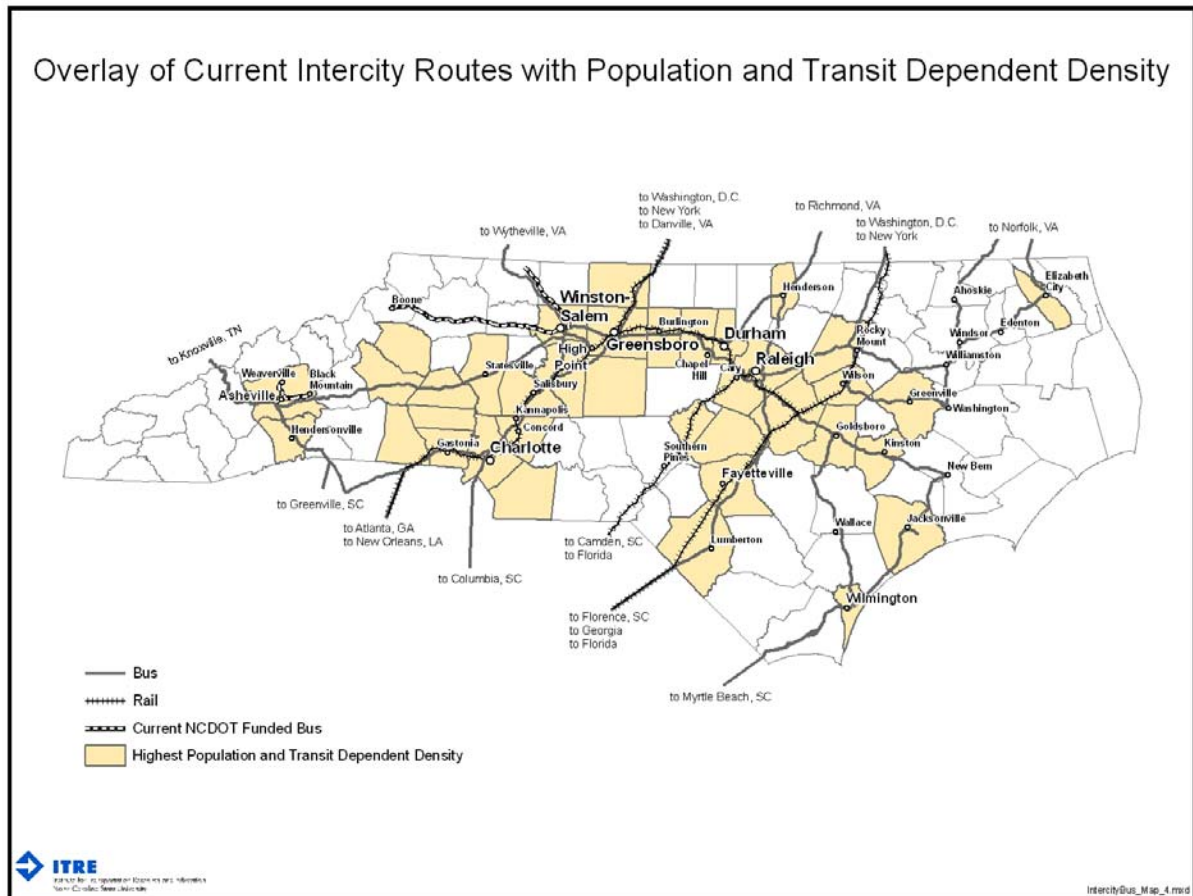
As can be seen, this is very similar to the map showing only general population density. The differences are summarized in Table 2.

Table 2: Map Differences—Transit-Dependent Density vs. General Population Density

| Counties Added (with a higher ranking on Transit Dependent Population Density than General Population Density) | Counties Removed (with a higher ranking on General Population Density than Transit Dependent Population Density) |
|--|--|
| Rockingham | Union |
| Robeson | Randolph |
| Lenoir | Johnston |

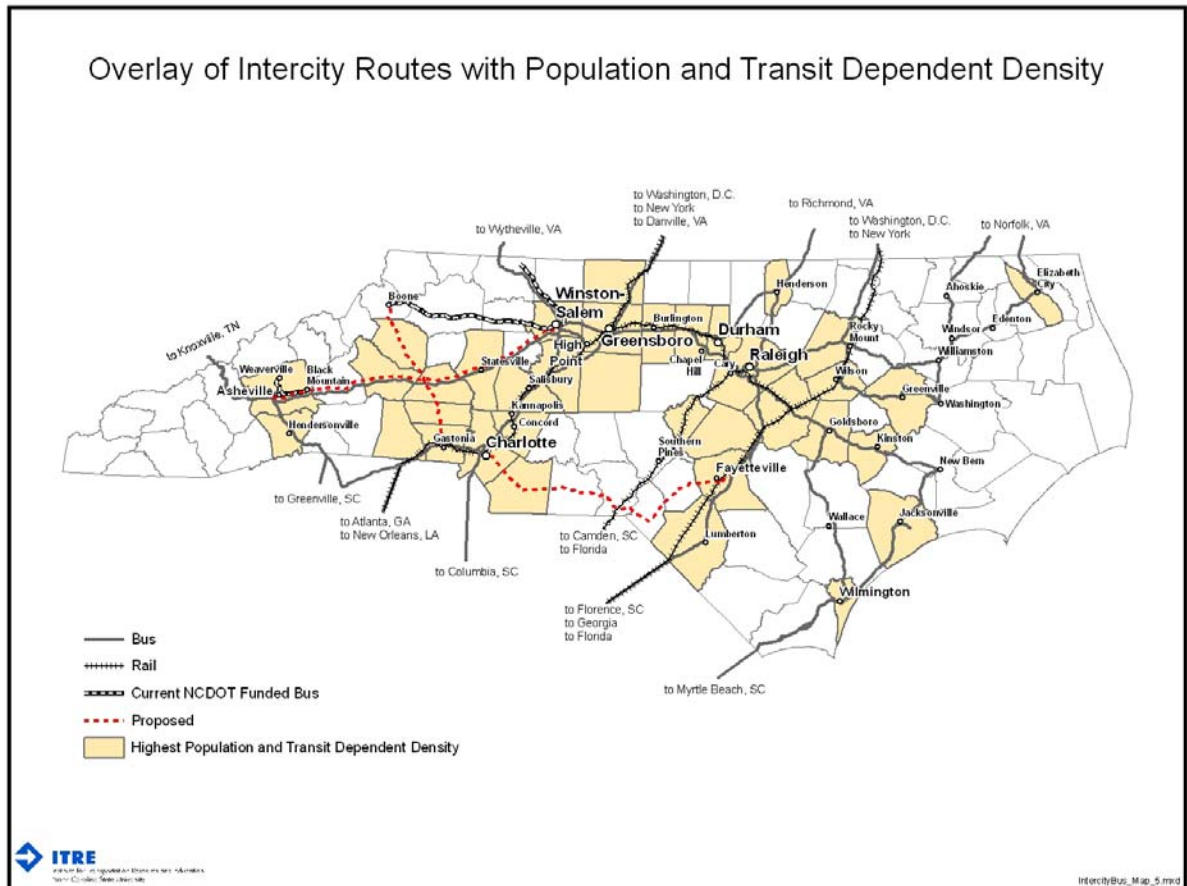
In many transportation planning studies, population density is one of the most important variables in terms of where transit is likely to be most feasible and effective. It was therefore decided to use both general population density and transit dependent density in order to evaluate which areas of the state, and which transportation corridors, would best support intercity bus service. These high-density counties were therefore superimposed on a map showing the existing intercity bus and rail network (Figure 4).

Figure 4: High-Density Counties and Intercity Bus and Rail Service



The next map (Figure 5) shows the three highest-priority intercity routes that were proposed in the ITRE FY 2008 Report “Assessing Potential Intercity Bus Services for FTA Section 5311(f) Funding” in order to indicate how they supplement the existing network and also how they would serve high-density counties and/or corridors.

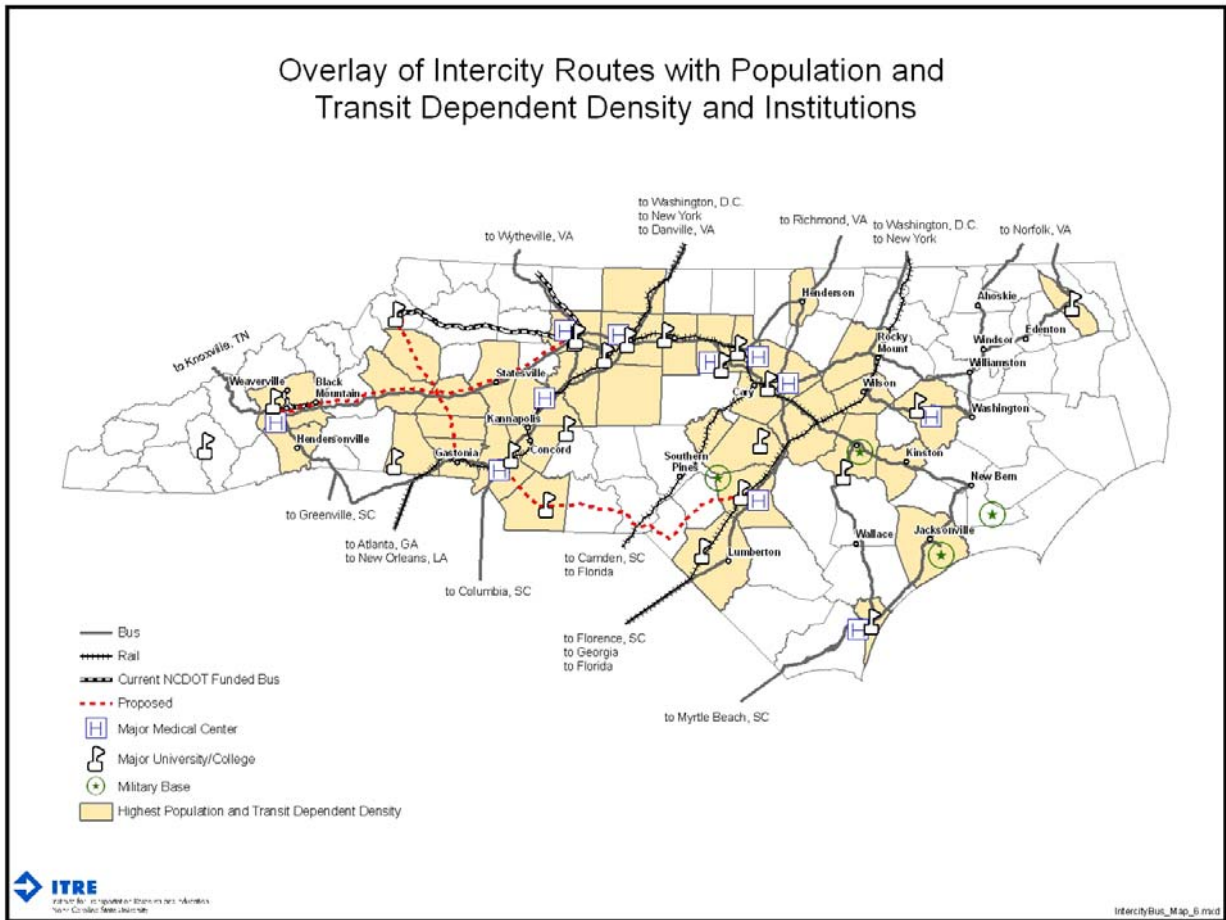
Figure 5: Proposed New Intercity Bus Services



Note: Greyhound Lines currently operates a route between Asheville and Winston-Salem. However, it operates non-stop. Discussions will be held with Greyhound to see if some intermediate stops can be added (instead of adding a new route).

Finally, the location of major military bases, educational facilities, and medical centers have been added to the map in order to show the extent to which they would be served by this proposed intercity bus network (Figure 6). These facilities are considered to be significant origins/destinations for intercity bus travelers. Although they are shown on the map with symbols, the Appendix provides a detailed listing of them.

Figure 6: Major Military, Educational and Medical Facilities



A relevant question to ask is “who are the likely users of intercity bus service in North Carolina?” In general, they might be intrastate travelers going from one point in the state to another. Or, they might be interstate travelers, going to or from other states. In some cases, they might simply be going through the state, for example from the northeast to Florida on I-95. Such travelers might be tourists, people visiting family or friends, or people going to or from various institutions such as military bases, colleges or universities, or regional medical centers. As mentioned above, they are likely to be “transit dependent,” i.e. individuals not able to use an automobile for this travel for some reason. It is not believed that intercity bus services would be used by many business travelers—they would be more likely to drive or travel by air. (Or, in the case of travel between Raleigh and Charlotte, to use rail service.)

Some conclusions that emerged from this analysis are as follows:

- Most of the counties and corridors with a high density of general population and/or transit dependent residents are already served by intercity bus (and/or rail) service.
- The three highest priority intercity routes recommended in ITRE's FY 2008 study would mainly serve high-density corridors that are not already served (or that currently have only limited service). These three corridors are:
 - Boone – Charlotte (no current service)
 - Charlotte – Fayetteville (no current service)
 - Asheville – Greensboro (Greyhound currently has one trip per day that runs between Asheville and Winston-Salem in each direction, but this service is operated non-stop)²
- Most major military, educational and medical institutions are in areas served by existing (or proposed) intercity bus services.
- Prospective future services might include a route from Fayetteville to Wilmington.
- County public transportation systems, available in most rural counties, could provide demand-response feeder services to the statewide bus/rail network. And, of course, urban transit systems could provide feeder services to intercity bus stations or stops (and should be encouraged to do so).

Of course, actual implementation of additional intercity bus routes will always be dependent on the availability of adequate federal and state funding, and on the availability of NCDOT/Public Transportation Division staff to adequately manage the process.

It was recently learned that Greyhound Lines is considering the elimination of four of its routes in eastern North Carolina due to operating losses, namely:

- Raleigh-Norfolk (VA)
- Raleigh-Wilmington
- Raleigh-Camp Lejeune
- Wilmington-Myrtle Beach

This could occur as early as mid-2009. The net operating deficit of the North Carolina portion of these routes is currently estimated at about \$1-million annually. Therefore, the preservation of these routes must be weighed against the likely success of the proposed new routes. Other things being equal, it makes more sense to preserve existing routes than experiment with new ones. This is because there is an established and known market for the service, and the necessary infrastructure is in place (vehicles, stations/stops, interlining equipment, etc.). In addition, it would be far simpler to negotiate continuation of an existing service than it would be to implement a new route which would require finding and selecting a service provider, entering into a service contract, acquiring necessary equipment and facilities, marketing the new service, monitoring service quality, etc. etc. Finally, it seems likely that Greyhound would be willing to

² One idea worth considering for the proposed route between Asheville and Winston-Salem would be to use the refurbished rail stations in Morganton, and perhaps Black Mountain for bus stops. Such service might provide valuable information about the potential market for eventual restoration of intercity rail service in this corridor.

provide “in-kind” matching funds for such service under the federal pilot project that allows such matching.

Longer-term, it will be advisable to communicate on a regular basis with Greyhound Lines about routes that may become “at risk.”

Appendix
Major Military, Educational and Medical Facilities
(in alphabetical order by location)

| Military Bases | |
|-----------------------|---|
| <i>Location</i> | <i>Base</i> |
| Fayetteville | 1. Ft. Bragg |
| | 2. Pope Air Base |
| Goldsboro | 3. Seymour Johnson Air Force Base |
| Havelock | 4. Marine Corps Air Station, Cherry Point |
| Jacksonville | 5. Marine Corps Base, Camp Lejeune |

| Major Universities/Colleges³ | |
|--|-------------------------------------|
| <i>Location</i> | <i>Educational Institution</i> |
| Asheville | 1. UNC-Asheville |
| Boiling Springs | 2. Gardner-Webb University |
| Boone | 3. Appalachian State University |
| Buies Creek | 4. Campbell University |
| Charlotte | 5. UNC-Charlotte |
| | 6. Queens/University of Charlotte |
| Chapel Hill | 7. UNC-Chapel Hill |
| Cullowhee | 8. Western Carolina University |
| Durham | 9. NC Central University |
| | 10. Duke University |
| Elizabeth City | 11. Elizabeth City State University |
| Elon | 12. Elon University |
| Fayetteville | 13. Fayetteville State University |
| | 14. Methodist University |
| Greensboro | 15. UNC-Greensboro |
| | 16. NC A&T University |
| | 17. Guilford College |
| Greenville | 18. Eastern Carolina University |
| High Point | 19. High Point University |
| Misenheimer | 20. Pfeiffer University |
| Mt. Olive | 21. Mt. Olive College |
| Pembroke | 22. UNC-Pembroke |
| Raleigh | 23. NC State University |
| | 24. Meredith College |

³ Included are public universities that are part of the UNC system, and private universities with enrollment of 2000 or more.

| Major Universities/Colleges³ | |
|--|--|
| <i>Location</i> | <i>Educational Institution</i> |
| | 25. Shaw University |
| Wilmington | 26. UNC-Wilmington |
| Wingate | 27. Wingate University |
| Winston-Salem | 28. Winston-Salem State University 29. UNC School of the Arts 30. Wake Forest University |

| Major Medical Centers | |
|------------------------------|---|
| <i>Location</i> | <i>Medical Center</i> |
| Asheville | 1. Mission St. Joseph's Hospital |
| | 2. VA Medical Center |
| Chapel Hill | 3. UNC Hospitals |
| Charlotte | 4. Carolinas Medical Center |
| Durham | 5. Duke University Medical Center |
| | 6. VA Medical Center |
| Fayetteville | 7. VA Medical Center |
| Greensboro | 8. Moses Cone Hospital |
| Greenville | 9. Pitt County Memorial Hospital |
| Raleigh | 10. Wake Med |
| Salisbury | 11. VA Medical Center |
| Wilmington | 12. New Hanover Regional Medical Center |
| Winston-Salem | 13. Wake Forest University Baptist Medical Center |