PHASE II
SUMMARY REPORT
Long Range Rural Transportation Plan

Prepared by

Central Shenandoah Planning District Commission

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Background

The Rural Long Range Transportation Plan process began in July 2006 with a new initiative from VDOT prompting the drafting of Rural Long Range Transportation Plans to complement those being done in urban Metropolitan Planning Organization (MPO) areas. The planning process is a four year process and this year begins Phase II of the Plan. Phase I was completed at the end of FY 07. The communities in the CSPDC region affected are all non-MPO communities in Rockingham County and all localities in Augusta, Highland, Bath and Rockbridge Counties. The Plan will be used to identify interstate and primary system priorities for inclusion in the Six-Year Improvement Plan and to quantify State-wide magnitude of transportation needs.

The Rural Long Range planning process has been modeled after that of the MPO in which the 3-C process (Continuous, Comprehensive, Cooperative) is used. The Plan will have a minimum planning horizon of 20 years and will be reviewed every five years. Phase I tasks include a large data collection effort from each locality of land use information, demographics, growth zones, and transportation networks. Phase II contains five work tasks.

1. Complete all deficiencies from Phase I
2. Identify current and future traffic and transit demand
3. Review performance measures for capacity/mobility and safety issues
4. Formally identify current and future year capacity/mobility, transit, and safety deficiencies
5. Public Involvement

The schedule for Phase II FY 08 work completion is contained in Appendix A.

Phase II Work Tasks

1.0 Identifying Current and Future Demand

Roadway Demand
The Central Shenandoah PDC was tasked with updating the most recent version of the SPS-Lite database. To do this, the PDC cooperated heavily with its member localities for assistance in the identification of traffic demand. In Phase I, a rural technical advisory committee was created and during Phase II, this group met regularly to discuss and complete all tasks in Phase II. To ensure adequate completion of each task, the advisory committee met monthly to cooperatively complete a comprehensive regional plan.

For each locality, future year traffic forecasts and historic traffic volumes from the SPS-Lite database were printed and distributed. The committee then proofread the traffic numbers and reported back to the PDC the results of their review. Both the committee and the PDC analyzed
traffic amounts in anticipated high growth areas and determined where traffic forecasts were 
underestimating expected future year volumes.

Transit Demand
Transit stakeholder interviews were conducted as part of the Phase II process. Interview 
questions were specifically designed to solicit meaningful input from transit providers about their 
current services offered and future services proposed. These transit interviews are particularly 
important because they disclose transportation issues and concerns faced by transit providers in 
the region. Furthermore, stakeholder interviews provide one-on-one interaction which is 
important when discussing issues of a sensitive nature.

There are two primary transit providers in the rural portion of the CSPDC region: Rockbridge 
Area Transportation System (RATS) and the Coordinated Area Transportation System (CATS) 
in Rockbridge County and Augusta County, respectively. Representatives from both transit 
systems were identified and interviewed as part of the Phase II completion and two interviews 
were conducted.

The following is a listing of common issues and concerns expressed by both CATS and RATS 
stakeholders during the interview process. Actual transit interviews are provided in Appendix B.

CATS and RATS Transit Systems’ Common Issues

- Both transit systems (CATS and RATS) both play an integral part in the community 
  particularly among senior and disabled populations and generally carry a positive 
  public impression.

- Expansion of service areas and days of service is being strongly considered by both 
  systems, but no definite plans are in place.

- Both transit systems, in the future, envision a more integrated system using buses on 
  fixed routes along with demand response shuttles and other possible transportation 
  modes.

- Fostering local political support is critical for both systems to acquire greater financial 
  support as needed from participating localities.

- Extensive public outreach campaigns are about to commence for both systems to 
  further expose the general public to transit services available.

- Coordination with transportation from human service providers is key to providing 
  efficient, non-duplicative service in the transit service areas.
2.0 Review Performance Measures

Capacity and Mobility/Safety
The rural technical advisory committee identified intersections and corridors where transportation deficiencies currently existed for inclusion in Phase III analysis. In addition, several locality visits and monthly rural transportation meetings resulted in a region-wide listing of all intersections and corridors in which locality officials recommended further study of traffic movements, functionality and volumes. This listing was then prioritized based on several criteria of importance from the rural technical advisory committee.

Criteria used from the committee included:

- Importance of study area to movement and safety of traffic in the community.
- Has the intersection or corridor been identified in a previous transportation study?
- Is there a current project included in the Six Year Improvement Plan involving the intersection or corridor?
- The complexity of the intersection
- AADT of the intersection or corridor
- Truck traffic percentage at this location
- Number and type of accidents at this location
- Are there multi-jurisdictional interests for this corridor or intersection or a shared benefit between jurisdictions to study this location?
- Recognition of smaller jurisdictions and their limited staff or expertise to address transportation issues

3.0 Identify Current and Future Year Deficiencies

Capacity and Mobility/Safety
The draft listing of identified intersections and corridors from the rural technical advisory committee was reviewed based on the prioritization criteria and a final priority was given. In addition to prioritization, point values were calculated for each identified intersection or length of corridor. Most intersections were calculated as one point each, except for interchange ramps in which additional points were given as appropriate. Corridors were calculated with a minimum of two points (one for each terminus) with additional points added for major intersections along that particular section of corridor. The total intersections and corridors listing exceeded the number of “points” given to the CSPDC region, so the top priorities from each locality were recommended in the final Phase II listing based on availability of “points.” Each intersection or corridor was identified as a safety concern or based on roadway congestion.

The finalized list of recommended intersections and corridors was then sent to the localities for one final review and comment period. Comments and changes were then made to the listing to produce the finalized Phase III listing of intersections and corridors. The final intersection listing for Phase III inclusion is shown as Table 1 and the corridor listing is shown as Table 2. Additionally, the intersection and corridor listings are depicted graphically in Figures 1 – 4 for each county within the rural planning area.
<table>
<thead>
<tr>
<th>Locality</th>
<th>Type</th>
<th>Roadway Name</th>
<th>Starting Point</th>
<th>Ending Point</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>City of</td>
<td>Proposed Connector</td>
<td>Shenandoah Village Drive Extension</td>
<td>Rosser Avenue</td>
<td>Lyndhurst Rd. (UR 5105)</td>
<td>Exact location of proposed connector not yet determined</td>
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<tr>
<td>Waynesboro</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Town of</td>
<td>Designated Study Corridor</td>
<td>New Market Rd. (SR 211)</td>
<td>Main St. (SR 42)</td>
<td>Plains Mill Rd. (SC 953)</td>
<td>Improve to four lanes</td>
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<td>Timberville</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rockbridge</td>
<td>Proposed Connector</td>
<td>Ross Rd. (SC 687)</td>
<td></td>
<td>Thornhill Rd. (SR 251)</td>
<td>Exact location of proposed connector not yet determined</td>
</tr>
<tr>
<td>County</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of</td>
<td>Designated Study Corridor</td>
<td>Walker Street</td>
<td>East Nelson Street</td>
<td>Houston Street</td>
<td></td>
</tr>
<tr>
<td>Lexington</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of</td>
<td>Designated Study Corridor</td>
<td>East Nelson Trail, E. Midland Trail (US 60)</td>
<td>Lewis Street</td>
<td>Bordens School Road, End of commercial strip, near Mast Shopping Center</td>
<td>Inadequacy of turn lanes- poorly designed interchange, high pedestrian activity, too many unsignalized streets with increasing traffic volumes</td>
</tr>
<tr>
<td>Lexington</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rockingham</td>
<td>Designated Study Corridor</td>
<td>Spotswood Trl. (US 33)</td>
<td>Approx. 0.2 miles north of Water Tower Rd. (SC 683) - HRMPO SE Boundary</td>
<td>Old Spotswood Trl. (BUS 1 US 33)</td>
<td></td>
</tr>
<tr>
<td>County</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rockingham</td>
<td>Designated Study Corridor</td>
<td>Port Republic Rd. (SR 253)</td>
<td>Cross Keys Rd. (SR 276) - HRMPO SE Boundary</td>
<td>East Side Hwy. (US 340)</td>
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</tr>
<tr>
<td>County</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staunton</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>City of</td>
<td>Designated Study Corridor</td>
<td>Old Greenville Rd. (UR 4942)</td>
<td>Greenville Ave. (US 11)</td>
<td>ST Hwy. (SR 262)</td>
<td>Safety issues from Old Greenville Rd. to Bypass</td>
</tr>
<tr>
<td>Staunton</td>
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Table 2: Recommended Intersections for Phase III

<table>
<thead>
<tr>
<th>Locality</th>
<th>Intersection Location</th>
<th>Comments</th>
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<tbody>
<tr>
<td>Augusta County</td>
<td>Jefferson Hwy. (US 250) &amp; Woodrow Wilson Ave. (SR 358)</td>
<td>Congested intersection</td>
</tr>
<tr>
<td>Augusta County</td>
<td>Jefferson Hwy. (US 250) &amp; Tinkling Spring Rd. (SR 285)</td>
<td>Offset traffic intersections</td>
</tr>
<tr>
<td>Augusta County</td>
<td>I-81 &amp; Weyers Cave Rd. (SR 256)</td>
<td>Interchange Improvements</td>
</tr>
<tr>
<td>Town of Glasgow</td>
<td>Rockbridge Rd. (SR 130) &amp; Blue Ridge Rd. (SC 684)</td>
<td>Traffic signal needed</td>
</tr>
<tr>
<td>City of Waynesboro</td>
<td>Windigrove Dr (210) &amp; Rosser Ave. (US 340)</td>
<td></td>
</tr>
<tr>
<td>City of Waynesboro</td>
<td>Hopeman Pkwy. &amp; Ivy St. (254)</td>
<td></td>
</tr>
<tr>
<td>City of Waynesboro</td>
<td>Lew Dewitt Blvd. (5122) &amp; Main St. (US 250)</td>
<td></td>
</tr>
<tr>
<td>Timberville</td>
<td>Main St. (SR 42) &amp; American Legion Dr. (SC 800)</td>
<td>Inadequacy of turn lanes-poorly designed interchange</td>
</tr>
<tr>
<td>Rockbridge County</td>
<td>Route 11 &amp; Midland Trl. (US 60)</td>
<td></td>
</tr>
<tr>
<td>City of Lexington</td>
<td>Nelson St. (US 60) &amp; Lee Ave. (UR 2)</td>
<td>Most congested intersections</td>
</tr>
<tr>
<td>City of Lexington</td>
<td>Nelson St. (US 60) &amp; Jefferson St. (BUS 2 US 11)</td>
<td>Most congested intersections</td>
</tr>
<tr>
<td>City of Lexington</td>
<td>Nelson St. (US 60) &amp; Main St. (BUS 2 US 11)</td>
<td>Most congested intersections</td>
</tr>
<tr>
<td>Highland County</td>
<td>Main St. (US 250) &amp; Myers-Moon Rd. (SC 649)</td>
<td>School bus safety issue - only access route of school</td>
</tr>
<tr>
<td>Bath County</td>
<td>Mountain Valley Rd. (SR 39) &amp; Windy Cove Rd. (SC 690)</td>
<td>Safety hazard. No sight distance. Hill preceding intersection</td>
</tr>
<tr>
<td>Bath County</td>
<td>Sam Snead Hwy. (US 220) &amp; Muddy Run Rd. (SC 614)</td>
<td>Safety hazard. No sight distance. 55 mph speed limit</td>
</tr>
<tr>
<td>Town of Broadway</td>
<td>Lee St. (SR 259) &amp; Spar Mine Rd. (SC 617)</td>
<td>Install Turn Lanes</td>
</tr>
<tr>
<td>Rockingham County</td>
<td>Mayland Rd. (SR 259) &amp; Wampler Rd. (SC 619)</td>
<td>Poorly designed intersection</td>
</tr>
<tr>
<td>Rockingham County</td>
<td>Route 340 &amp; Port Republic Rd. (SR 253)</td>
<td>Poorly designed intersection</td>
</tr>
<tr>
<td>City of Buena Vista</td>
<td>Beech Ave. (US 501) &amp; Park Ave. (US 501)</td>
<td>Poorly configured intersection</td>
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<td>City of Buena Vista</td>
<td>Magnolia Ave. (US 501) &amp; 10th St. (UR 3360)</td>
<td>Install traffic lights</td>
</tr>
<tr>
<td>City of Staunton</td>
<td>Greenville Ave. (US 250) &amp; Commerce Ave. (US 11)</td>
<td>Congested intersection - safety issues</td>
</tr>
<tr>
<td>City of Staunton</td>
<td>Commerce Rd. (US 11) &amp; Woodrow Wilson Pkwy. (SR 275)</td>
<td>Congestion and safety issues</td>
</tr>
</tbody>
</table>

Intersections Identified due to Roadway Congestion
Corridors Identified due to Safety Conditions
Figure 1: Augusta County Recommended Intersections and Corridors for Phase III

Designated Study Intersections
- Type
  - Intersections identified due to roadway congestion
  - Intersections identified due to safety conditions

Designated Study Corridors
- Type
  - Designated Study Corridor, Corridor identified due to roadway congestion
  - Designated Study Corridor, Corridor identified due to safety conditions
  - Proposed Corridor, Corridor identified due to roadway congestion

Interstate Crashes (2004-2006)
- Injuries and Fatalities
  - 0 - 17
  - 18 - 41
  - 42 - 75
  - 76 - 149
  - 150 - 315

*All close-up maps are at 1:10,000 scale represented by scale at bottom right (directly above) unless scale bar is included in map.
Figure 2: Bath and Highland Counties Recommended Intersections and Corridors for Phase III
Figure 3: Rockbridge County Recommended Intersections and Corridors for Phase III
Figure 4: Rockingham County Recommended Intersections and Corridors for Phase III
Transit
To identify current transit deficiencies within the region based on demographic census data, a comprehensive set of GIS maps for the region as a whole and for each individual county were produced. Five categories were identified and then evaluated spatially at the Census Tract level for the region and individual counties to better reveal concentrations of populations of interest. Categories specifically evaluated were:
- 2000 Persons Living Below Poverty Level Percentage
- 2000 Population Density
- 2000 Minority population Percentage
- 2000 Median Household Income
- 2000 Disabled (Non-Institutionalized) Population Percentage (16 years or older)
- 2000 Elderly Population Percentage (65 years or older)

The categories chosen for evaluation typically identify transportation disadvantaged populations which, because of their physical or mental disability, income status or age are unable to transport themselves and are dependent on others to obtain access to employment, health care, education, shopping, or social activities. In smaller communities like those found within the CSPDC region, which has low levels of congestion and free parking provided by most employers and retail establishments, transportation disadvantaged persons are the primary users of public transit services.

Socio-Economic Characteristics of the Population
Data for this analysis is at the Census tract level. In addition, color graduated maps were produced to easily show clusters of population. Note that Highland and Bath Counties contain only one census tract because of their low population amount. Each socio-economic category was spatially evaluated for the CSPDC region as a whole and for each of the five counties contained in the region. Each of the following maps shows concentrations for each category for the CSPDC region and for each of the five counties in the region. Graduated color socio-economic maps are found in Appendix C organized by locality.

Population Density
Population density is one variable that measures potential transit needs. In the CSPDC region as a whole, population density is, as expected; lower in the rural areas and higher in the designated cities in the region.

Elderly Population (65 years or older)
The elderly are a potential market for public transit services since they often do not have access to an automobile, and, due to limitations sometimes resulting from the ageing process, are no longer able and/or willing to drive. The distributions of elderly persons in the CSPDC region are fairly evenly distributed across the region. The unincorporated portions of Augusta and Rockingham Counties appear to have a smaller percentage of elderly persons.
Disabled Persons
This segment of the population is very dependent on transit and could potentially be a frequent user of a transit system. Like elderly persons, the distribution of disabled persons seems to be fairly uniform across the region with no one cluster identifiable.

Minority Population
Minority populations are sometimes dependent on transit to serve their mobility needs. A high concentration of minority persons can be found in the westernmost tract in Augusta County and within each individual city in the region.

Poverty Status and Household Income
Poverty status and median household income are also important factors when determining transit feasibility. The highest concentrations of poverty can be found within the city limits with some high poverty tracts in all five counties. Tracts with the highest median household incomes are found in the eastern sections of Augusta and Rockingham County.

Analysis to determine underserved areas by comparing the current transit routes to graduated color demographic maps was completed as part of this phase in the Long Range Transportation Plan. Individual route maps for the CATS System are found in Appendix D. Route maps were not produced for the RATS system since it is a demand response system. There were no corridors underserved by either system identified through the demographic, socio-economic analysis. This is not to say there are not portions of each county that would benefit from increased transit service. The RATS system is solely a demand response system that serves the entirety of Rockbridge County. Therefore because of the nature of that particular transit system, it is difficult to name certain corridors that would benefit from increased service.

Similarly, within the CATS service area, there are few evident clusters of certain populations found. Concentrations of most socio-economic characteristics are fairly uniform across the region. Higher concentrations of certain populations do exist in Augusta and Rockingham County but the added benefit of more transit services to those populations is difficult to determine. Furthermore, the absolute highest clusters of populations are found within the cities in the region and those areas are currently being served by both the CATS and RATS systems. From the transit interviews, some expansion of service areas are expected, but the majority of expansion in either of these transit systems will be in the form of longer service hours and weekend service.