City of Tullahoma
Comprehensive Transportation Plan

DRAFT

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City of Tullahoma
Comprehensive Transportation Plan

I. INTRODUCTION

Purpose of Comprehensive Transportation Plan

The purpose of this transportation study is to update the existing plan to meet current transportation planning requirements and goals.

The updated plan provides a framework for implementation of transportation improvements in the Tullahoma area over a 20-year period. The plan provides an opportunity to coordinate land use development with transportation needs. In addition, the plan contains a financially constrained element, which includes only those projects which can be expected to be funded during the study period. Any remaining capacity or safety problems must be addressed through a series of management systems, or by finding additional sources of funding. Other management systems may include pavement, bridge, safety, congestion and public transportation solutions.

Background

Tullahoma, Tennessee is the largest city of Coffee County and is located in the southern Middle Tennessee area. It has seen moderate population growth over the period since the adoption of the 1996 Comprehensive Transportation Plan ("1996 CTP") was prepared in 1996 and also has experienced significant growth in commercial and industrial sectors. The current (2012) city limits boundary and urban growth boundary are shown in Map I-1 (page 10).

The region as a whole has been negatively impacted during the last four years due to the weak national economy causing a decline in retail sales and building activity, but local economic indicators in recent months have taken a positive turn and therefore it is anticipated that the downturn merely reflected with the cyclical nature of the economy. However, some changes in the economy do not fall into that category, such as the relocation and off-shoring of industry outside the United States. This has resulted in the necessity to re-examine assumptions made in the 1996 projections and traffic counts. Some transportation improvements may also be necessary to position the community to compete in a global economy.

Subsequent Studies and Plans

With the aging of the data in the 1996 CTP horizon, comes the need to update the plan and prepare for growth within the next 20-year planning horizon. The Tullahoma Regional Planning Commission has seen completed that process and has a plan in place for the next twenty year period.

In reviewing the proposed transportation improvements on existing and new alignments outlined in the 1996 CTP, it is noted that a number of the short-term and long-term system upgrades were executed as planned. Traffic trends have changed in sections of the city due to a shift in commercial development and residential housing resulting in the need to reevaluate some unexecuted roadway plans outlined in the previous plan.

This plan will revise the previous twenty year plan and short-term improvement list. This plan will assess recent traffic counts, traffic accidents, and growth projections in order to develop an updated twenty year plan of capital projects and short-term improvements to the transportation system. This plan will also address intermodal transportation including pedestrian and bicycle facilities and Tullahoma airport and rail plans.

The City of Tullahoma revised its Major Thoroughfare Plan in 2007. A proposed update to it will be outlined later in this comprehensive plan. The major thoroughfare plans for Coffee County and Franklin County are provided in the Appendix (page 55 & 56). It should be noted that the Franklin County plan has not been updated in more than forty years. A copy of the Bedford County plan or Moore County plan is not available.

In addition the *Tullahoma Regional Airport Area Development Study* was completed in 2000 by the City. It outlined options for future development of the airport and runways, as well as identified areas adjacent to the airport that might be viable for economic development. Another land use and improvement plan was completed in 2003. This Land Use Study focused on the Cedar Lane roadway from US41-A to Wilson Avenue as well as the area between US41-A and State Route 130.

Changes in Regional Transportation Planning

In Tennessee, there have been a number of significant legislative and administrative changes since the adoption of the 1996 CTP. These changes include the passage by the Tennessee General Assembly of Public Chapter 1101 and the establishment of Rural Transportation Planning Organizations (RPO's) by the Tennessee Department of Transportation.

The Chapter 1101 legislation created growth boundaries for both cities and counties in Tennessee. These boundaries were established through a public process during 1999-2001 and the intent was to provide for the orderly growth and development of communities. Tullahoma is doubly impacted in that its population and corporate boundaries are in two counties; Coffee and Franklin, and therefore, it has two Urban Growth Boundaries (UGB's). Tullahoma has no growth boundary, nor planning authority or jurisdiction in Moore County. This is a fundamental constraint on the development of any roadway infrastructure beyond the western margin of Tullahoma's corporate limits.

The other major change was in the creation of Rural Planning Organizations (RPO's), which is a relatively new application of a concept that has been in place for over three decades for large urbanized areas. Metropolitan Planning Organization's (MPO's) have long been used to allocate Federal and State funds used for regional transportation improvements, congestion mitigation/air quality and other transportation enhancement projects.

Tullahoma is located in the South Central East Rural Planning Organization (SCERPO) which includes Bedford, Coffee, Franklin, Giles, Lincoln, Marshall and Moore counties. Transportation projects proposed in the Tullahoma area, once they are classified as part of the regional transportation network, must compete for funding through the SCERPO and are evaluated by a Technical Advisory Committee and then forwarded to the SCERPO Executive Committee. The final recommendations and rankings of SCERPO must then compete with other RPO's within the State of Tennessee. Finally the Commissioner of Transportation will submit a recommended Transportation Improvement Plan (TIP) to the General Assembly for funding as part of the Tennessee Department of Transportation's (TDOT) budget.

To qualify for State and Federal funding, the projects must have a regional impact, be integrated into the TIP, and be already designated, or eligible to be designated, state routes. In the case of new highway construction on new alignments, they typically will have termini with existing state routes. Also, as a general rule road projects, planned outside a city's or a county's corporate or legal boundaries, require that the applicable local government approve of the concept, project development, right-of-way acquisition, and local cost sharing, if any.

The regional projects recommended by the South Central East Rural Planning Organization for the 2013-2015 Three Year Work Program are shown on the map in Appendix A (page 53). All are projects on state routes. The projects in the Tullahoma area include the widening of SR 55 from Jackson Street (SR 16/US41-A) to First Avenue, which is in the city limits, and the widening of SR/16/US41-A from the northern Tullahoma city limits to Shelbyville. The Tullahoma project would include improvements to the intersection of SR 55/Wilson Avenue at Cedar Lane, including additional lanes west of that intersection. The improvement of SR16/US41-A includes widening from two lanes to five lanes as well as geometric improvements, of which a phase of that project is under construction (2012).

Goals of the Comprehensive Transportation Plan

- To safely and efficiently move people and goods with minimum impact on residents and activities within the community
- To enable residents to move safely and easily from one part of the community to another
- To develop an internal street system that effectively and safely integrates into the regional and state highway system
- To develop a local street system that will encourage safe integration and practical separation of through and local traffic
- To configure the local street system to provide adequate internal circulation
- To minimize pedestrian-vehicular conflict through the development of adequate pedestrian access-ways throughout the community
- To improve existing arterials and collectors and eliminate or minimize deficiencies

Conclusions

Findings are as follows:

- Several major projects recommended in the 1996 CTP have been completed. These include:
    - South Jackson Street (US41-A; SR16) from Carroll Street to the southern city limits was widened to 5 12-ft. lanes with curb & gutter.

- Hermitage Drive Extension (designated Connector 3) from Turkey Creek Road to Westside Drive was constructed with 2 12-ft. lanes with extruded curb, box culvert and turn lanes at intersections and at West Middle School.
- Carroll Street (SR55) Viaduct from Washington Street to Jackson Street was rehabilitated.
- North Jackson Street (US41-A; SR16) from Cedar Lane to the northern city limits was widened to 5 12-ft. lanes with curb and gutter and included signalization modifications at Cedar Lane/Washington Street; Hoover Lane; and Ledford Mill Road.

Recommendations

Establish Priorities

It is recommended that the City adopt the plan and to implement the cost-constrained concept plan outlined in Chapter VI.

Update Functional Classification Map

Tullahoma's functional classification map (Appendix B, page 54) will be reviewed in relation to the recommended final plan as documented in this report. The functional classification map should be amended to include any major new routes on new alignments that are proposed for funding within the first five years after this plan is adopted. If necessary, the map will be amended so that all proposed major improvements are on routes that are shown on the map either as urban collectors or as minor or principal arterials.

Adopt Final Plan & File with the Tennessee Department of Transportation

In order for this plan to be an effective tool for setting funding priorities or for guiding new development, it is essential that the plan be officially adopted. Under Tennessee law, the planning commission has the authority and the responsibility to adopt a major thoroughfare plan. In order to ensure that the plan is followed when local budgets are prepared, it will be presented by planning staff for adoption by the Mayor and Board of Aldermen. A copy of the plan will also be submitted to the Tennessee Department of Transportation for acceptance ***Record Plan with County Registrar.***

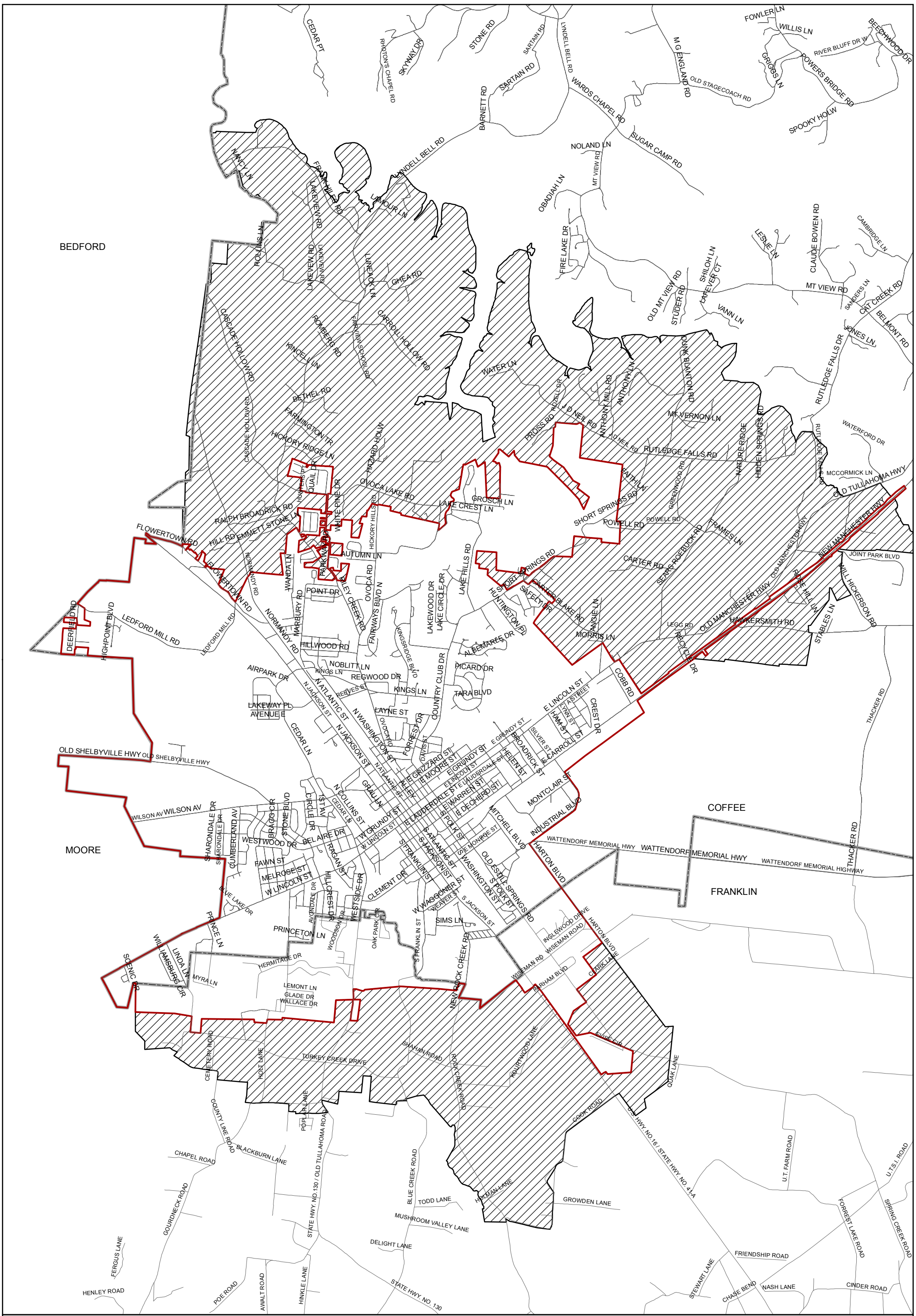
As a final step in the adoption of this plan, a large scale copy of the plan will be officially filed with the County Registrar in Coffee and Franklin counties. Besides meeting state legislative requirements, this action will serve to notify affected property owners that new routes, and improvements to existing routes, have been officially proposed and adopted within the study area.

Provide for Monitoring and Routine Appraisals of Plan

In order for the plan to remain an effective tool for guiding spending decisions and new development, it is essential for the plan to be kept up to date. It is recommended that the land use estimates and forecasts documented in this plan be reviewed by planning staff annually, on or about the anniversary of the official adoption of the plan. If actual development trends are found to be different from the trends that have been predicted, it may be necessary to revise the land use forecast and to revise traffic forecasts.

Similarly, annual traffic counts available from the Tennessee D.O.T. should be reviewed in relation to the 2010 traffic counts and the year 2030 traffic forecasts. If actual traffic trends are significantly different from the trends that have been forecast, then the plan will be revised.

Finally, the status of the plan will be reviewed as projects are implemented. If a major project included in the plan is significantly revised prior to implementation (for example, if the cross section or the alignment is significantly different from the plan proposal), or if a major project is determined to be infeasible or unnecessary, then the plan will be revised to reflect these changes. As projects included in the plan are completed, they will be removed from the list of proposed new projects.



Tullahoma City Limits & UGB - 2012
Map I-1

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II. EXISTING CONDITIONS

Functional Classifications

Tullahoma's street system includes streets that have been functionally classified as arterials (figure II-1, page 12), collectors (figure II-2, page 13) or local streets (figure II-3, page 14). Those streets classified as local streets are not typically included as part of the Tullahoma street system for analysis purposes.

Urban functional classification is a means of categorizing streets and highways according to how they function within the study area. The existing street system in Tullahoma was classified according to the following definitions:

- Urban Principal Arterials are facilities that serve major centers of activity, the highest volume corridors, and the longest trips within the study area. The recommended right-of-way for roads in this classification ranges between 84 – 150 feet.
- Urban Minor Arterials are roads that interconnect with and augment the urban principal arterial network, and provide service to trips of moderate lengths. They also distribute travel to geographic areas smaller than identified with the principal arterial system. Right-of-way for this classification ranges between 60 – 84 feet in width.
- Urban Collectors are streets which provide both land access service and traffic circulation within residential, commercial and industrial areas. This system also collects traffic from local streets in the residential neighborhoods and channels it into the arterial system. The typical right-of-way width is 60 feet.
- Local Streets are facilities that provide direct access to abutting land and access to the higher order systems. Service to through traffic movement usually is discouraged. The typical right-of-way for a local street is 50 feet.

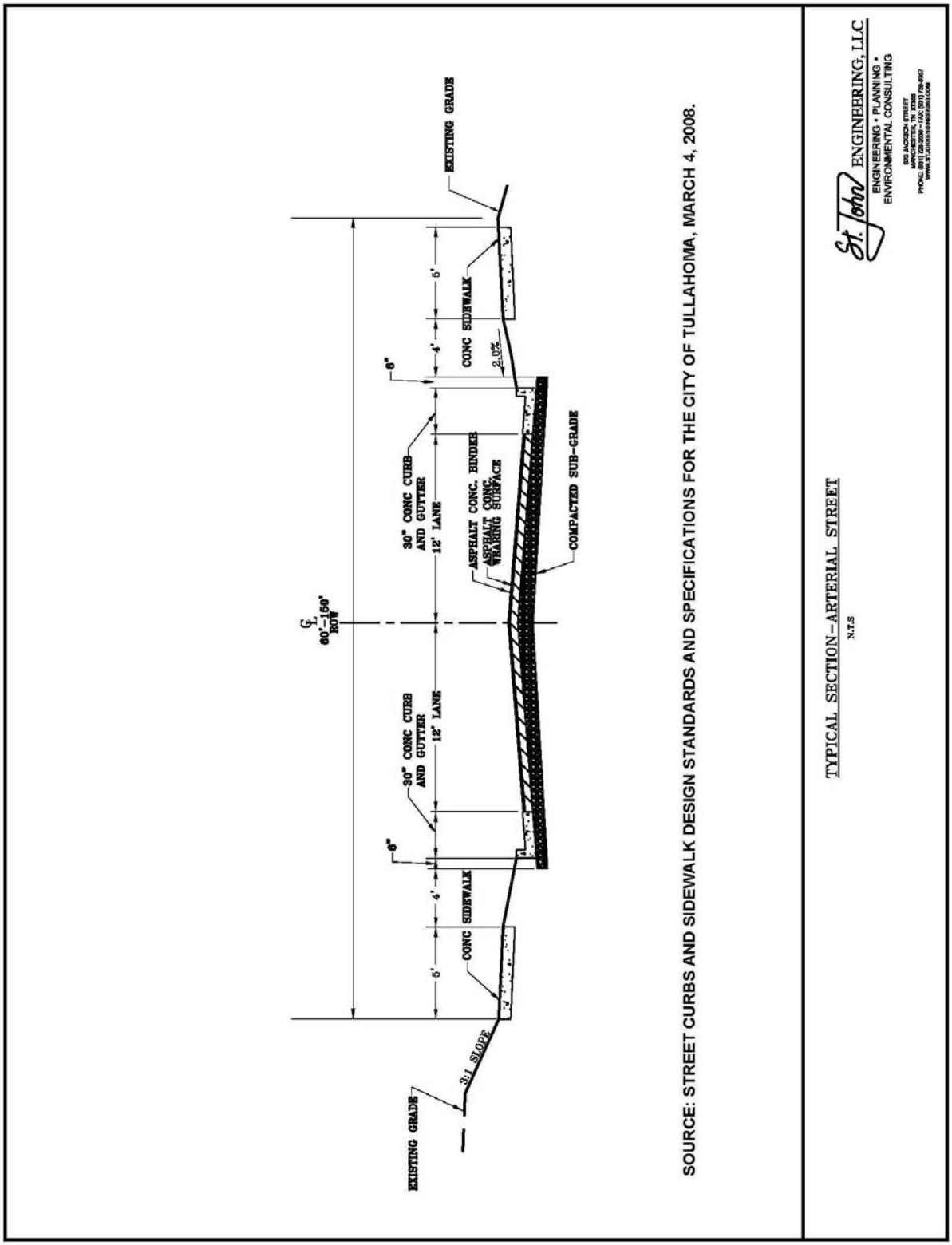


Figure II-1
Arterial Street – Typical Cross Section

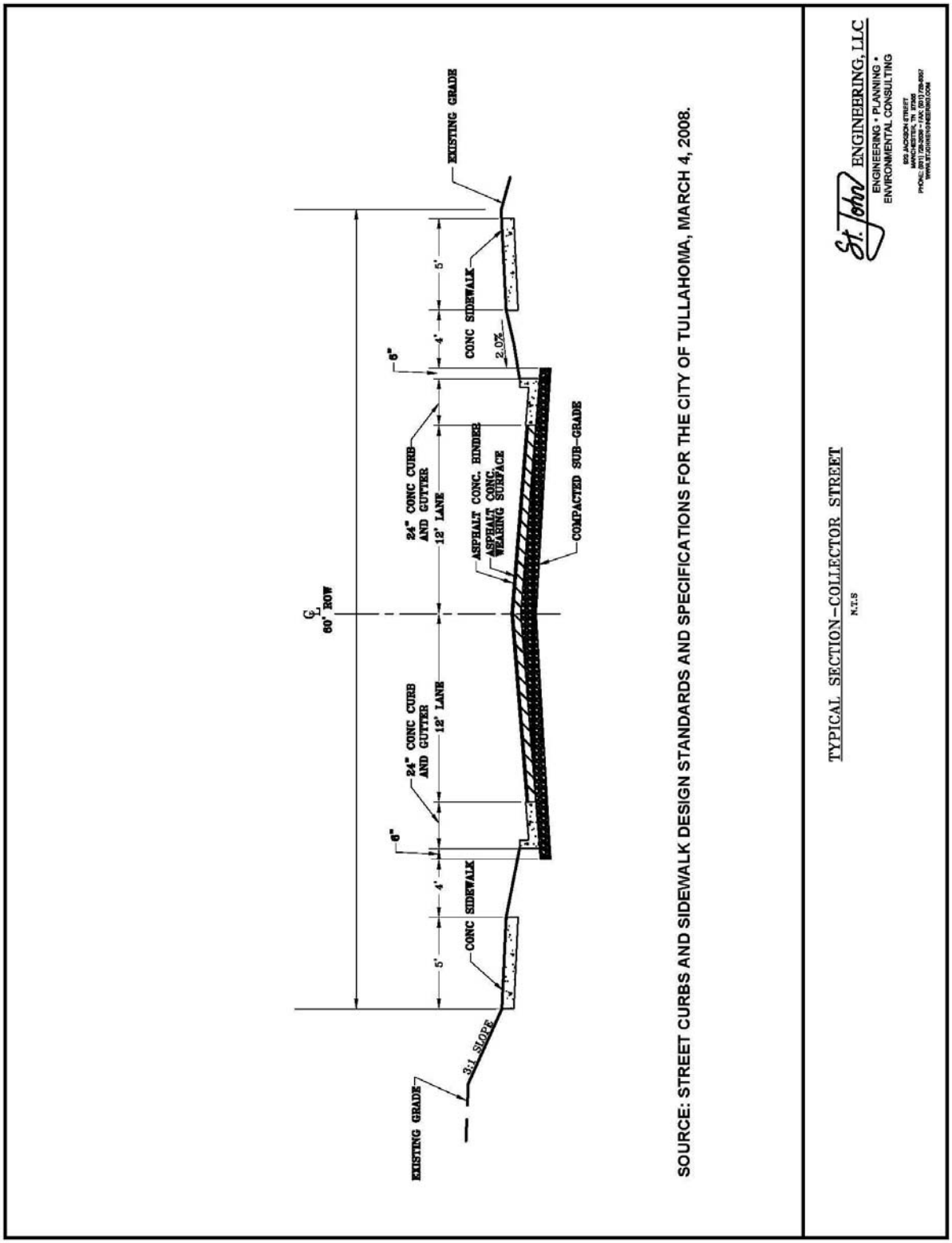


Figure II-2
Collector Street – Typical Cross Section

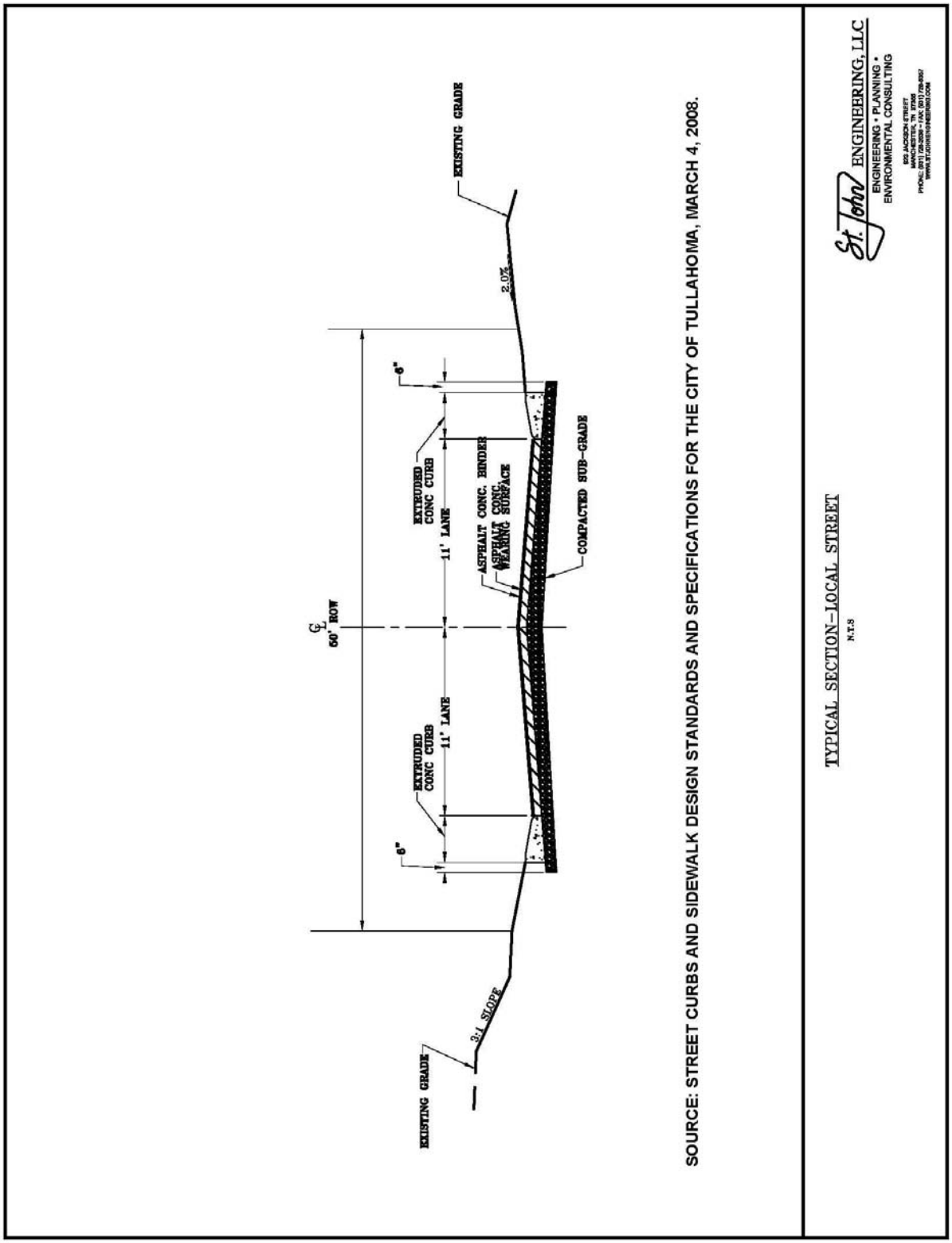


Figure II-3
Local Street – Typical Cross Section

Roadway Deficiencies

Roadway deficiencies can fall into one or more for the following categories; pavement width, pavement condition, and capacity.

- Pavement width can be a safety issue for roadways that have less than twenty feet in total width. While most of these facilities 1)carry low volumes of traffic; 2) have acceptable volume-to-capacity ratios, and, 3) have low to acceptable accident rates, these roadways should be monitored for statistical changes.
- Pavement condition is an important factor in evaluating the street system. Adequate funding for roadway pavement maintenance reduces costly roadway reconstruction and prevents damage to user vehicles.
- Roadway capacity is a measure of the ability of a street or intersection to accommodate traffic while the Level of Service defines the quality of traffic flow. Levels of Service range from 'A' which is a category of a free flow, to 'F' which represents a breakdown of flow. 'A' Level of Service designation means that the roadway has a reasonable quality of traffic flow which provides a stable flow at acceptable speeds and maneuverability for urban areas.

The Tennessee Department of Transportation (TDOT) obtains and documents traffic counts on State highways and on local streets on an annual basis. These past and present traffic counts are important to the proper planning of roadway improvements at the state and local level. Table II-1 (page 16) provides a comparison between the 1994 counts and the 2010 traffic counts. TDOT traffic count stations are shown on Map II-1 (page 19) as well as tabulated average daily traffic (ADT) counts at the stations for the study period. The traffic counts are used to evaluate the usage and resulting congestion of the streets within the City.

Roadway segment traffic counts were obtained from annual coverage counts performed by TDOT. Roadway segment traffic counts are two-directional average daily traffic (ADT) counts, which are conducted for a twenty-four hour period. The locations of the roadway segments and the 1994 ADT counts used in the 1996 CTP compared with the 2010 ADT counts are provided in Table II-1.

TABLE II-1
AVERAGE DAILY COUNT (ADT) COMPARISON

TDOT COUNT STATION	ROADWAY SEGMENT	TDOT 1994 COUNT	TDOT 2010 COUNT
150	Anderson St., s. of SR55	8,500	7,682
63	Atlantic St., n. of Washington St.	1,590	2,616
143	Carroll St. (SR55), e. of Washington	16,410	16,234
59	Carroll St. (SR55), w. of Cobb Rd.	12,400	13,631
107	Clement Dr., w. of Jackson St. (US41-A)	6,550	6,848
125	Cedar Ln., n. of W. Lincoln St.	11,428	10,017
126	Cedar Ln., n. of McKellar Dr.	8,963	10,281
214	Cedar Ln., n. of Airpark Dr.	N/a	10,288
171	Country Club Dr., n. of Kings Ln.	2,920	N/a
61	Country Club Dr., s. of Kings Ln.	4,040	3,676
183	Cumberland Springs Rd., w. of Linda Ln.	2,450	2,795
168*	Ledford Mill Rd., e. of Jackson St. (US41-A)	920	1,370
80	Forrest Blvd., e. of Anderson St.	5,500	4,189
155	Hogan St., e. of Atlantic St.	3,500	4,135
163	Hogan St., e. of Washington St.	3,340	N/a
101	Jackson St. (US41-A), s. of Wilson Ave. (SR55)	17,100	20,212
149	Jackson St. (US41-A), n. of Carroll St. (SR55)	18,200	18,542
69	Jackson St. (US41-A), s. of city limits	9,990	10,558
160	Jackson St. (US41-A), n. of Wilson Ave. (SR55)	16,770	22,463
64	Jackson St. (US41-A), n. of Washington St.	13,490	18,126
99	Jackson St. (US41-A), s. of Carroll St.	13,220	14,215
100	Lincoln St., w. of Jackson St. (US41-A)	12,010	8,365
67	Lincoln St., e. of Turkey Creek Rd.	8,400	6,457
62	Ovoca Road, n. of Kings Ln.	4,240	4,738
68	New Rock Creek Road, s. of Jackson St.	1,400	1,509
161	Washington St., n. of Hogan St.	6,460	5,546
157	Wilson Avenue (SR55), w. of Old Shelbyville Hwy.	6,690	7,641
156	Wilson Avenue (SR55), e. of Old Shelbyville Hwy.	8,380	9,878
102	Wilson Avenue (SR55), e. of Cedar Lane	9,570	8,992

Source: Tennessee DOT; *TDOT Station 168 was incorrectly listed as Flowertown Rd. in the 1996 CTP

TABLE II-2
LEVEL OF SERVICE (LOS) COMPARISON

TDOT COUNT STATION	ROADWAY SEGMENT	1994 LOS	2010 LOS
150	Anderson St., s. of SR55	B	B
63	Atlantic St., n. of Washington St.	A	A
143	Carroll St. (SR55), e. of Washington	C	C
59	Carroll St. (SR55), w. of Cobb Rd.	B	B
107	Clement Dr., w. of Jackson St. (US41-A)	B	B
125	Cedar Ln., n. of W. Lincoln St.	C	C
126	Cedar Ln., n. of McKeller Dr.	B	C
214	Cedar Ln., n. of Airpark Dr.	N/a	C
171	Country Club Dr., n. of Kings Ln.	A	N/a
61	Country Club Dr., s. of Kings Ln.	A	A
183	Cumberland Springs Rd., w. of Linda Ln.	A	A
168*	Ledford Mill Rd., e. of Jackson St. (US41-A)	A	A
80	Forrest Blvd., e. of Anderson St.	B	A
155	Hogan St., e. of Atlantic St.	A	A
163	Hogan St., e. of Washington St.	A	N/a
101	Jackson St. (US41-A), s. of Wilson Ave. (SR55)	B	C
149	Jackson St. (US41-A), n. of Carroll St. (SR55)	C	C
69	Jackson St. (US41-A), s. of city limits	B	A
160	Jackson St. (US41-A), n. of Wilson Ave. (SR55)	B	D
64	Jackson St. (US41-A), n. of Washington St.	C	C
99	Jackson St. (US41-A), s. of Carroll St.	B	B
100	Lincoln St., w. of Jackson St. (US41-A)	B	A
67	Lincoln St., e. of Turkey Creek Rd.	B	B
62	Ovoca Road, n. of Kings Ln.	A	A
68	New Rock Creek Road, s. of Jackson St.	A	A
161	Washington St., n. of Hogan St.	B	B
157	Wilson Avenue (SR55), w. of Old Shelbyville Hwy.	B	B
156	Wilson Avenue (SR55), e. of Old Shelbyville Hwy.	A	A
102	Wilson Avenue (SR55), e. of Cedar Lane	B	B

Sources: 1996 CTP, *TDOT Station 168 was incorrectly listed as Flowertown Rd. in the 1996 CTP; TDOT 2010 ADT

TABLE II-3
CLASSIFICATION COMPARISON

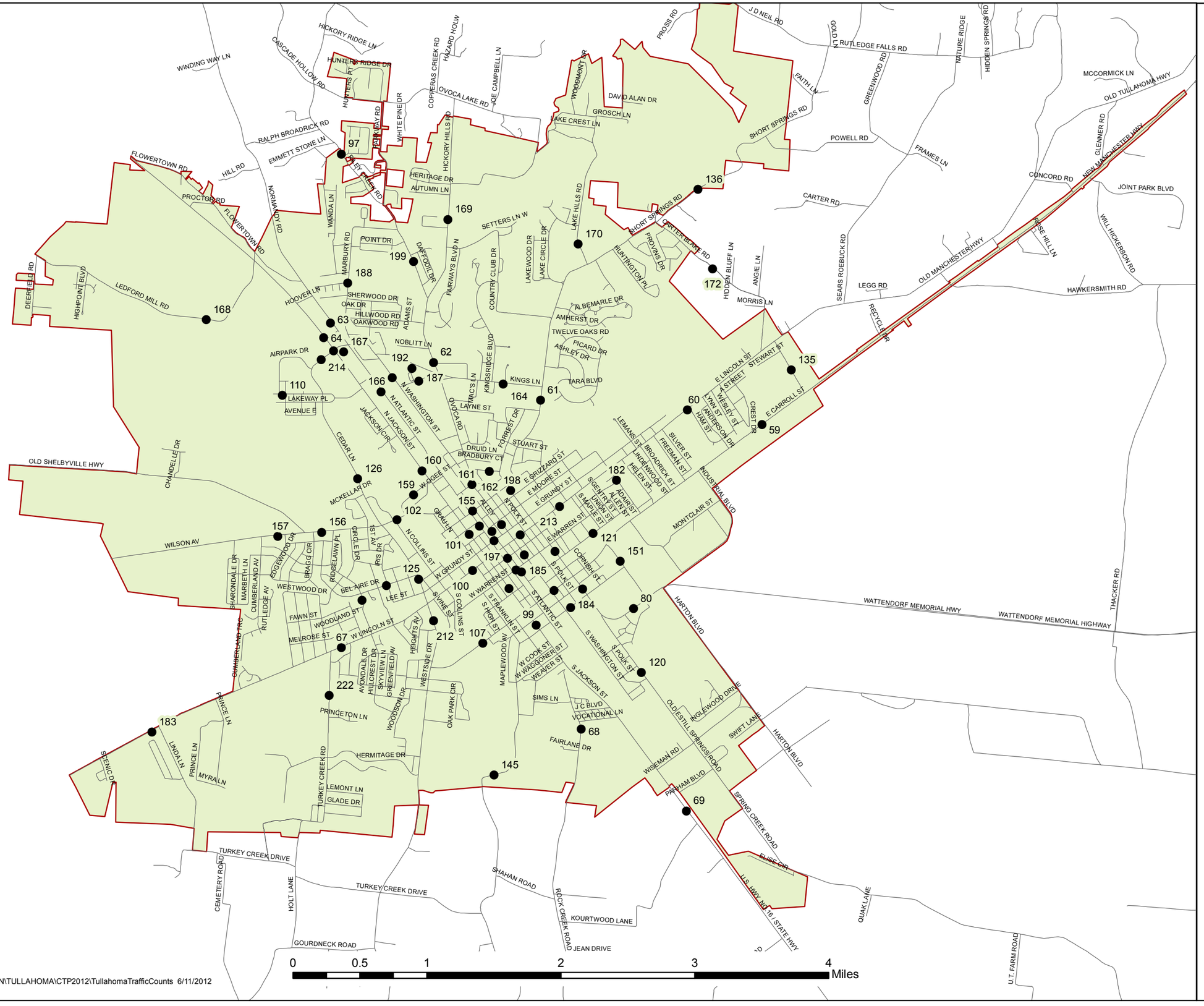
ROADWAY SEGMENT	ROAD TYPE	2007 THOROUGHFARE PLAN
Anderson St., s. of SR55	2 Lane Arterial Urban	Urban Minor Arterial
Atlantic St., n. of Washington St.	2 Lane Collector Urban	Urban Collector
Carroll St. (SR55), e. of Washington	4 Lane Arterial Urban	Urban Principal Arterial
Carroll St. (SR55), w. of Cobb Rd.	4 Lane Arterial Urban	Urban Principal Arterial
Cedar Ln., n. of W. Lincoln	2 Lane Arterial Urban	Urban Minor Arterial
Cedar Ln., n. of McKeller Dr.	2 Lane Arterial Urban	Urban Minor Arterial
Cedar Ln., n. of Airpark Dr.	2 Lane Arterial Urban	Urban Minor Arterial
Clement Dr., w. of Jackson St. (US41-A)	2 Lane Arterial Urban	Urban Minor Arterial
Country Club Dr., n. of Kings Ln.	2 Lane Collector Urban	Urban Collector
Country Club Dr., s. of Kings Ln.	2 Lane Collector Urban	Urban Collector
Cumberland Springs Rd., w. of Linda Ln.	2 Lane Collector Urban	Urban Collector
Ledford Mill Rd., e. of Jackson St. (US41-A)	2 Lane Collector Rural	Minor Street
Forrest Blvd., e. of Anderson St.	2 Lane Arterial Urban	Urban Minor Arterial
Hogan St., e. of Atlantic St.	2 Lane Collector Urban	Urban Collector
Hogan St., e. of Washington St.	2 Lane Collector Urban	Urban Collector
Jackson St. (US41-A), s. of Wilson Ave. (SR55)	5 Lane Arterial Urban	Urban Principal Arterial
Jackson St. (US41-A), n. of Carroll St. (SR55)	5 Lane Arterial Urban	Urban Principal Arterial
Jackson St. (US41-A), s. of city limits	5 Lane Arterial Urban	Urban Principal Arterial
Jackson St. (US41-A), n. of Wilson Ave. (SR55)	5 Lane Arterial Urban	Urban Principal Arterial
Jackson St. (US41-A), n. of Washington St.	5 Lane Arterial Urban	Urban Principal Arterial
Jackson St. (US41-A), s. of Carroll St.	5 Lane Arterial Urban	Urban Principal Arterial
Lincoln St., w. of Jackson St. (US41-A)	5 Lane Collector Urban	Urban Collector
Lincoln St., e. of Turkey Creek Rd.	2 Lane Collector Urban	Urban Collector
Ovoca Road, n. of Kings Ln.	2 Lane Collector Urban	Urban Collector
New Rock Creek Road, s. of Jackson St.	2 Lane Collector Rural	Minor Street
Washington St., n. of Hogan St.	2 Lane Collector Urban	Urban Collector
Wilson Ave. (SR55), w. of Old Shelbyville Hwy.	2 Lane Arterial Urban	Urban Principal Arterial
Wilson Ave. (SR55), e. of Old Shelbyville Hwy.	5 Lane Arterial Urban	Urban Principal Arterial
Wilson Ave. (SR55), e. of Cedar Lane	3 Lane Arterial Urban	Urban Principal Arterial

Tullahoma Traffic Count Stations Map II-1

Tullahoma City Limits

Traffic Count Stations

Source: TDOT



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Tullahoma Traffic Count Stations - ADT 1985 to 2010

Source: Tennessee DOT

Year	59	60	61	62	63	64
1985	7874	3354	2601	2115	1037	7715
1986	9007	3560	3007	2528	1350	9960
1987	9485	5203	3460	3181	1471	7891
1988	11775	3495	3635	2778	1386	9778
1989	10085	3303	4001	3597	1400	12110
1990	10087	4076	3586	3056	1282	11843
1991	10198	3398	3293	2811	1044	12286
1992	12155	4164	3928	3579	1276	11624
1993	11556	3838	3992	3711	1726	13394
1994	12398	3928	4043	4237	1587	13487
1995	13256	3900	3718	3997	2000	20400
1996	13107	3240	3721	4157	2119	18412
1997	12891	4012	3939	4290	1873	18637
1998	12820	4172	3406	4227	2441	19150
1999	12771	4083	3561	4355	2503	19102
2000	12761	3885	3886	4569	2518	19048
2001	13303	4108	3649	3994	2676	17938
2002	15143	4377	4211	4378	2709	20705
2003	14310	4086	4112	5085	3543	19735
2004	14467	3799	4100	5237	3211	22343
2005	15194	4049	4276	4962	3969	20360
2006	13525	3468	3963	4761	3668	23067
2007	13962	3435	4082	4904	3120	20971
2008	13695	3007	3315	4280	3213	19394
2009	13546	3330	3569	4600	2550	20223
2010	13631	3430	3676	4738	2616	18126

Year	67	68	69	80	97	99
1985	3915	951	6500	4143	1422	15804
1986	4395	1035	8342	4614	1867	13867
1987	4306	1147	8321	4366	1553	15141
1988	6367	1214	8318	4580	1650	15500
1989	4796	1144	8570	4724	1768	15600
1990	4669	1284	8571	4917	2159	11592
1991	4893	1258	8509	4959	1802	13585
1992	5209	1281	10060	5186	1854	12303
1993	5250	1411	9757	5597	1850	12732
1994	8400	1399	9993	5500	2125	13216
1995	5684	1346	9960	5748	1760	14071
1996	5833	1317	9985	5600	2048	12443
1997	5906	1533	10274	4789	1900	12904
1998	5910	1742	8739	4552	1910	12163
1999	5855	1574	9839	4486	1742	12305
2000	6406	1453	10149	4228	1972	13233
2001	6311	1618	10961	4753	1826	13771
2002	6768	1508	11551	4539	1985	15409
2003	7369	1531	10965	4458	1709	14236
2004	7113	1443	11547	5172	1780	15258
2005	7049	1594	11746	4536	1928	14929
2006	6415	1432	11064	4243	1942	14747
2007	6657	1510	11746	3973	2151	15196
2008	6139	1425	10870	3653	1809	15215
2009	6240	1415	10723	3760	1977	15671
2010	6457	1509	10558	4189	1986	14215

Year	100	101	102	107	110	120
1985	14251	23655	11255	4408	119	2039
1986	13227	20978	12329	5387	187	2434
1987	12897	20773	13603	5881	165	2325
1988	11404	21850	11304	5549	166	2300
1989	11403	18681	11329	6141	178	2416
1990	12434	20852	9859	5886	203	2548
1991	11905	21251	9304	5940	165	2353
1992	11518	22748	10662	6127	291	2893
1993	12265	21368	10415	6410	214	3297
1994	12012	17099	9569	6547	156	2991
1995	12100	24888	14017	6525	152	2863
1996	11046	24000	10922	6267	198	3028
1997	11090	21516	10476	6703	228	2971
1998	11100	21563	12471	7003	395	3544
1999	9694	20463	11086	5775	291	3561
2000	10233	22337	11565	6429	387	3505
2001	9260	22071	11683	6274	388	3359
2002	10755	25130	12011	7023	306	2827
2003	10907	22276	12253	7255	340	2903
2004	11234	22294	12554	7446	363	2746
2005	10400	21265	11416	8170	419	2791
2006	9979	20605	11336	7223	361	2527
2007	9254	21142	11676	7235	342	2664
2008	9812	20309	9974	8336	366	2534
2009	9811	19757	10273	6380	353	2675
2010	8365	20212	8992	6848	330	2651

Year	121	122	123	124	125	126
1985	412	8845	4281	1509	4850	1850
1986	723	7944	2963	1300	7537	1900
1987	886	7783	2805	0	9214	7033
1988	683	8590	2990	1748	9868	7421
1989	626	8570	3293	1732	9896	7300
1990	666	8600	3300	2101	9641	7361
1991	861	8538	3040	1659	9396	7793
1992	694	9358	3991	1887	10150	8381
1993	617	9019	3900	2101	11056	8584
1994	730	9000	5290	3002	11428	8963
1995	632	9050	4362	2191	12992	10326
1996	695	8493	4193	2359	12429	9667
1997	606	8824	4242	2305	11333	9577
1998	536	10124	4197	3114	11111	9971
1999	573	10752	4440	2090	10680	9589
2000	615	9313	4449	2277	10757	9777
2001	613	9584	4679	2442	10686	9852
2002	643	10040	4730	2515	11765	10727
2003	682	10203	5331	2105	13073	10782
2004	704	9367	5490	2798	11421	12052
2005	615	10656	5346	2152	12752	12277
2006	621	9725	4635	2216	11347	10919
2007	646	9192	4626	1833	10080	9696
2008	808	8613	4755	1846	10082	9858
2009	890	9071	4422	1625	10781	10165
2010	857	10587	4368	1713	10017	10281

Year	135	137	143	145	148	149
1985	434	1230	12989	0	0	0
1986	632	753	14249	207	2504	16463
1987	472	1201	12898	326	2535	14188
1988	619	1318	13973	290	1896	16053
1989	715	1448	15244	413	1882	16772
1990	593	1252	15450	410	1561	17603
1991	682	1243	16087	367	1893	16971
1992	722	1273	15949	410	1988	17983
1993	746	1359	15087	604	2110	20681
1994	805	1472	16407	451	1975	18201
1995	1016	1287	16000	382	1966	23893
1996	903	1323	16083	382	1958	19663
1997	887	1414	16961	525	1841	18588
1998	872	1221	16970	649	1663	17294
1999	899	1223	13254	564	1822	16434
2000	855	1357	15684	629	2024	19107
2001	903	1232	16066	697	1900	19575
2002	903	1309	18557	721	2131	20508
2003	1040	1322	17044	615	1985	19877
2004	1005	1360	17125	647	1942	20499
2005	1128	1493	17909	650	2159	19564
2006	1161	1250	17127	593	1921	17376
2007	1017	1300	17841	627	1979	19266
2008	1072	1252	17473	609	1598	19709
2009	1000	1261	16564	594	1550	18428
2010	1030	1299	16234	589	1688	18542

Year	150	151	152	153	154	155
1985	0	0	0	0	0	0
1986	7810	2388	7577	4121	1352	6046
1987	10180	2224	7366	4155	1568	4388
1988	7146	2450	7665	5225	1500	6101
1989	8105	2000	7707	4068	1593	5570
1990	7613	2241	7536	4391	1481	5674
1991	8915	1696	7348	4889	1500	4619
1992	9211	1834	8569	4833	1461	4591
1993	8653	1769	8227	6745	1102	4117
1994	8500	1592	7651	5408	1252	3504
1995	8072	1723	7575	5500	1142	4575
1996	8127	1562	8127	4865	1200	4608
1997	8482	1339	8572	4915	1006	4414
1998	8716	1314	7872	6359	1073	4588
1999	8674	1406	9132	5089	925	4183
2000	8462	1382	8829	4750	969	4331
2001	8292	1549	8455	4563	842	4326
2002	8364	1601	8433	4627	894	4609
2003	8260	1486	8475	5093	936	4324
2004	7916	1558	8559	5310	961	4248
2005	8258	1689	8424	4485	1079	4454
2006	7677	1706	7677	4036	957	4210
2007	7614	1513	7681	3975	879	3942
2008	7177	1460	7496	4076	838	3899
2009	7110	1432	7034	3109	753	4162
2010	7682	1652	7409	2891	749	4135

Year	156	157	159	160	161	162
1985	0	0	0	0	0	0
1986	3575	4487	2344	8729	3473	597
1987	8250	4976	1685	21695	3550	680
1988	7710	4178	1176	18018	3500	730
1989	9089	4200	1200	15461	4308	732
1990	8252	6164	1350	26871	4235	872
1991	7469	6164	1212	22066	4111	746
1992	9407	9258	1260	20246	4200	760
1993	10706	7867	1510	20675	5206	758
1994	8379	6693	1541	16770	6460	685
1995	8198	7655	1805	28193	6305	809
1996	10269	7765	1656	21751	6528	860
1997	10245	7990	1765	22326	5495	786
1998	10564	8100	1781	21361	5980	756
1999	9789	7595	1617	22137	5679	813
2000	10238	9843	1690	21105	5687	960
2001	9953	7146	1640	21126	6295	905
2002	10939	8465	1880	24840	6095	1008
2003	10449	7609	1973	22707	6966	1091
2004	11408	7534	2052	24470	6235	1124
2005	9530	7084	2094	22060	6743	1227
2006	9333	6964	2102	20426	5742	1170
2007	10092	7269	2156	20632	5305	1046
2008	9779	7637	2112	21880	5881	1016
2009	9615	7980	2234	21310	5981	1116
2010	9878	7641	2008	22463	5546	1009

Year	164	165	166	167	168	169
1985	0	0	0	0	0	0
1986	1193	2152	1934	4972	657	743
1987	1544	2174	3199	5469	843	746
1988	1445	2410	2560	4921	850	700
1989	1440	1870	2600	5000	799	725
1990	1361	1384	1427	836	1101	1039
1991	2219	2066	1219	581	728	721
1992	2693	2707	1601	600	948	857
1993	3069	3234	4120	693	910	829
1994	3251	3775	3061	740	918	996
1995	3354	3715	3424	692	986	997
1996	3272	3840	3340	643	990	964
1997	3184	3725	4434	720	1071	1138
1998	3364	3658	4290	678	1086	1115
1999	3592	4099	3806	728	1129	1234
2000	3503	4342	4543	798	1225	1231
2001	3317	4317	4476	777	1144	1197
2002	3732	4329	5210	856	1330	1214
2003	3819	4544	5086	793	1461	1289
2004	3659	4882	5167	817	1504	1148
2005	3787	4627	4466	842	1380	1262
2006	3984	4176	4785	1106	1280	1320
2007	3901	4017	4929	829	1240	1360
2008	3326	3999	3562	747	1296	1319
2009	3592	4163	3942	871	1335	1018
2010	3700	4288	3593	793	1370	1109

Year	170	172	182	183	184	185
1985	0	0	0	0	0	0
1986	452	344	0	0	0	0
1987	634	402	1000	2600	0	0
1988	1000	642	1150	2490		
1989	615	534	1146	2192	614	1584
1990	513	482	1242	2355	580	1648
1991	416	434	1074	2264	547	1465
1992	603	606	1227	2162	678	1595
1993	493	727	998	2306	533	2045
1994	516	764	1209	2446	668	1798
1995	504	769	1676	2473	736	1800
1996	466	673	1223	2347	735	1748
1997	527	757	1111	2573	714	1744
1998	487	804	1374	2757	804	1887
1999	570	772	1296	2664	869	1390
2000	567	678	1235	3080	763	1487
2001	495	784	1347	3078	750	1476
2002	510	786	1363	2994	718	1170
2003	668	1006	1589	3297	769	1221
2004	688	1036	1454	3179	828	1386
2005	571	960	1425	3385	736	1423
2006	544	922	1372	2924	719	1234
2007	615	849	1213	3086	741	1145
2008	492	864	1114	2744	546	1129
2009	493	804	1197	2582	466	1035
2010	534	769	1219	2795	509	1119

Year	186	187	188	192
1985	0	0	0	0
1986	0	0	0	0
1987	0	0	0	0
1988	0	0	0	0
1989	4176	729	1412	0
1990	4596	188	1680	3559
1991	3969	163	1883	3185
1992	4337	198	2025	3495
1993	4739	190	2708	4003
1994	4700	189	2313	5095
1995	5403	176	2813	4941
1996	5785	195	2916	5183
1997	5447	234	2556	5427
1998	6064	203	2682	5992
1999	6060	260	2649	5936
2000	6053	272	2316	5948
2001	5585	215	2379	5231
2002	5658	241	2523	5954
2003	5428	301	2646	6641
2004	6252	310	2871	6812
2005	5930	290	2645	6517
2006	6448	263	2659	6812
2007	5021	204	2473	5803
2008	4770	206	2495	5497
2009	4766	253	2789	5896
2010	4694	261	2879	6073

Year	193	196	197	198
1985	0	0	0	0
1986	0	0	0	0
1987	0	0	0	0
1988	0	0	0	0
1989	0	0	0	0
1990	0	0	0	0
1991	0	0	0	0
1992	0	0	0	0
1993	0	0	0	0
1994	0	0	0	0
1995	0	0	0	0
1996	10521	0	0	0
1997	10530	0	0	0
1998	11647	0	0	0
1999	11648	0	0	0
2000	11509	3386	2315	5332
2001	11790	2743	2148	5962
2002	12187	3113	2436	5764
2003	12789	2719	2392	6174
2004	12888	2435	2452	5705
2005	13148	2919	1769	6397
2006	12233	3180	1787	5628
2007	11838	3275	1841	5748
2008	12043	2229	1754	4955
2009	13240	1941	1510	5904
2010	13637	2322	1740	5503

Year	199	212	213	214	222
1985	0	0	0	0	0
1986	0	0	0	0	0
1987	0	0	0	0	0
1988	0	0	0	0	0
1989	0	0	0	0	0
1990	0	0	0	0	0
1991	0	0	0	0	0
1992	0	0	0	0	0
1993	0	0	0	0	0
1994	0	0	0	0	0
1995	0	0	0	0	0
1996	0	0	0	0	0
1997	0	0	0	0	0
1998	0	0	0	0	0
1999	0	0	0	0	0
2000	2254	0	0	0	0
2001	1467	8414	6564	8880	1170
2002	2356	8878	6334	9561	1294
2003	2723	9171	6561	9669	1751
2004	2774	9061	6143	9514	1847
2005	2376	9900	6261	11163	1902
2006	2525	8582	6194	10011	1965
2007	2251	8241	5434	9829	2024
2008	2198	7795	5126	9457	1790
2009	2308	7960	5450	10192	1801
2010	2459	7914	5176	10288	1992

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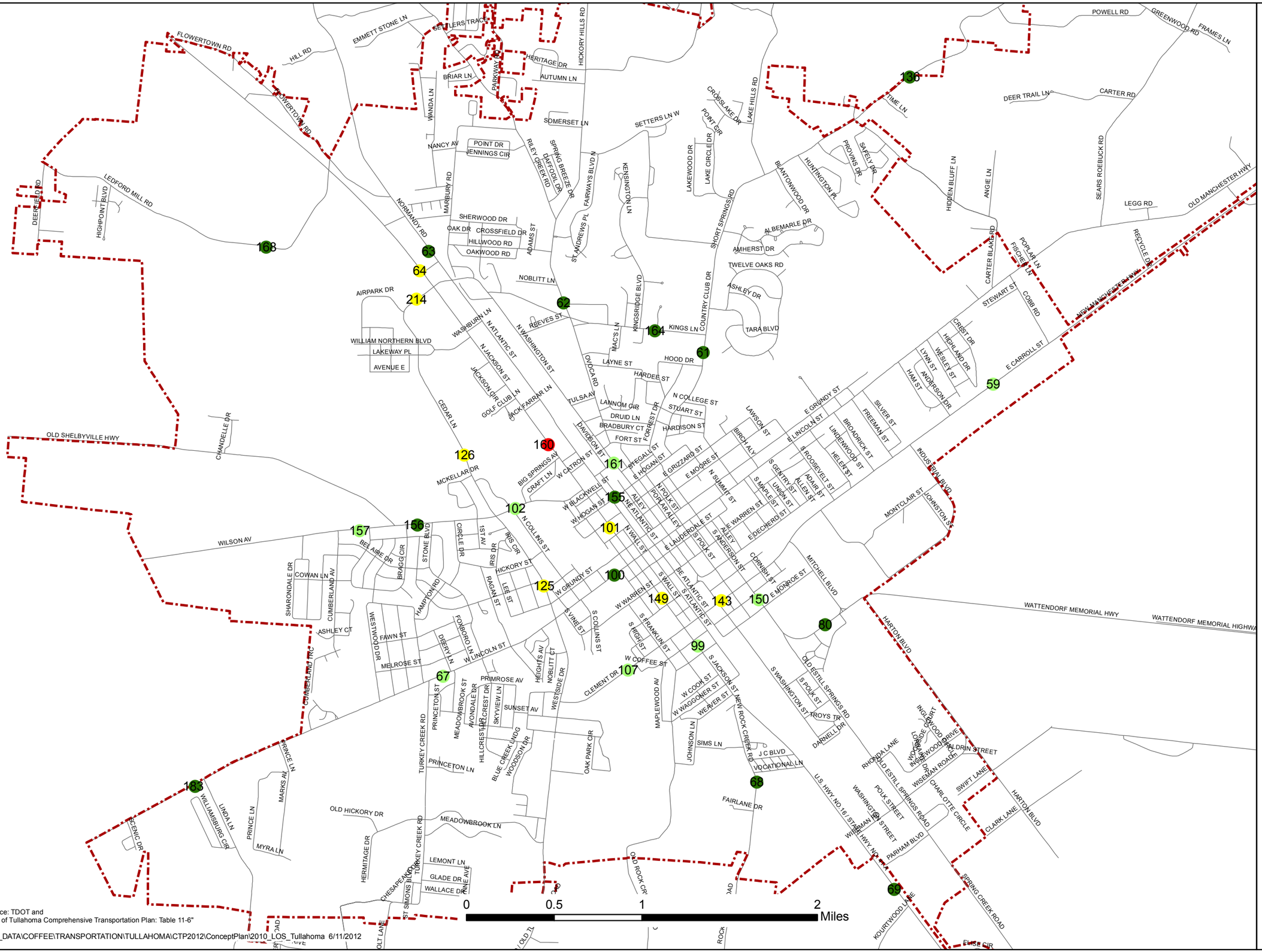
LOS 2010 by Classification Map II-2

Level of Service (LOS)
By Class - 2010

- A, Arterial Urban
- A, Collector Urban
- B, Arterial Urban
- B, Collector Urban
- C, Arterial Urban
- C, Collector Urban
- D, Arterial Urban



Source: TDOT and
"City of Tullahoma Comprehensive Transportation Plan: Table 11-6"

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Level of Service

The level of service (LOS) of a street is a term used to evaluate the level of congestion or extent of use of a street. Table II-4 (below) shows an accepted method of evaluating the street classifications by relating each to a level of service. In general terms, a level of service of 'A' reflects the highest quality or free-flowing, least congested street. A level of service of 'F' represents jammed conditions and the worst condition. As a general rule, a level of service of 'C' or better is desirable, with a level of service of 'D' considered the lowest acceptable during peak hours. Table II-5 (page 22) and Table II-6 (page 22) show descriptions for LOS for signalized intersections and unsignalized intersections. Intersection traffic counts were not obtained as a part of this plan, so roadway segments and the resulting LOS are evaluated.

Map II-2 (page 20) identifies the resulting LOS at traffic count stations in the City limits for the year 2010 counts. The figure indicates one station with LOS 'D' along N. Jackson Street north of the Wilson Avenue intersection. There are a number of stations with LOS 'C' along Jackson Street (south of Wilson Avenue), Cedar Lane, Carroll Street, and Anderson Street. Levels of service at stations in the rural areas contiguous to the city but outside of the city limits were found to be at a LOS of 'A'. The evaluation of the level of service of streets in the City of Tullahoma using current traffic counts indicates what is apparent to most motorists travelling within the city. The most congested areas are along Jackson Street in the northern section of town where commercial growth has occurred in recent years. As a Federal route, US 41-A, Jackson Street serves not only community traffic but traffic of a regional nature, therefore any improvements to improve local access while facilitating regional traffic would be of great benefit. Also, Cedar Lane, which acts as an alternate route to N. Jackson Street, is heavily travelled. Carroll Street and Anderson Street are heavily travelled due to the entrance into the city in the southerly section and movements to the Arnold Engineering Development Complex (AEDC) and Interstate 24.

TABLE II-4
DAILY VOLUMES (ADT) RELATED TO LEVEL OF SERVICE

ROAD TYPE	LOS A	LOS B	LOS C	LOS D	LOS E
2 Lane Arterial Urban	6,500	9,400	11,600	14,000	18,700
3 Lane Arterial Urban	8,200	11,600	14,400	17,500	23,300
4 Lane Arterial Urban	10,700	15,400	19,000	23,000	30,700
5 Lane Arterial Urban	12,400	17,600	21,900	26,500	35,300
6 Lane Arterial Urban	20,500	29,400	36,400	44,000	58,700
7 Lane Arterial Urban	22,400	32,000	39,700	48,000	64,000
8 Lane Arterial Urban	25,700	36,600	45,400	55,000	73,300
2 Lane Arterial Rural	8,400	12,000	14,900	18,000	24,000
3 Lane Arterial Rural	10,500	15,000	18,600	22,500	30,000
4 Lane Arterial Rural	13,100	18,600	23,100	28,000	37,300
5 Lane Arterial Rural	15,200	21,600	26,800	32,500	43,300
2 Lane Collector Urban	5,100	7,400	9,100	11,000	14,700
3 Lane Collector Urban	6,400	9,200	11,300	13,700	18,300
4 Lane Collector Urban	8,400	12,000	14,900	18,000	24,000
5 Lane Collector Urban	10,700	15,400	19,000	23,000	30,700
2 Lane Collector Rural	6,500	9,400	11,600	14,000	18,700
3 Lane Collector Rural	8,200	11,600	14,500	17,500	23,300

Source: Alabama DOT and Maryland SHA

TABLE II-5
DESCRIPTION OF LEVEL OF SERVICE FOR SIGNALIZED INTERSECTIONS

LOS	Description	Delay/Veh (sec)
A	Operations with very low delay. This occurs when progression is extremely favorable. Most vehicles do not stop at all.	≤ 5.0
B	Operations with stable flows. This generally occurs with good progression and/or short cycle lengths. More vehicles stop than for LOS A, causing higher levels of average delay.	5.1 - 15.0
C	Operations with stable flow. Occurs with fair progression and/or longer cycle lengths. The number of vehicles stopping is significant, although many still pass through the intersection.	15.1 - 25.0
D	Approaching unstable flow. The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high V/C ratios. Many vehicles stop.	25.1 - 40.0
E	Unstable flow. This is considered to be the limit for acceptable delay. These high delays generally indicate poor progression, long cycle lengths, and high V/C ratios.	40.1 - 60.0
F	Unacceptable delay. This condition often occurs with oversaturation or with high V/C ratios. Poor progression and long cycle lengths may also cause such delay levels.	> 60.0

Source: Highway Capacity Manual. TRB Special Report 209

TABLE II-6
DESCRIPTION OF LEVEL OF SERVICE FOR UNSIGNALIZED INTERSECTIONS

LOS	Reserve Capacity (pcph)	Description
A	≥ 400	Little or no delay
B	300 – 399	Short traffic delay
C	200 – 299	Average traffic delay
D	100 – 199	Long traffic delay
E	0 – 99	Very long traffic
F	< 0	Extreme traffic delay

Source: Highway Capacity Manual. TRB Special Report 209

III. TRAFFIC ACCIDENT DATA

Data Collection

Traffic accidents were analyzed to determine problematic intersections or roadway segments due to geometric problems, high volumes, sight visibility problems, or similar deficiencies. The Tullahoma Police Department prepared data for the previous two-year period on the highest accident areas within the city as summarized in Table III-1.

TABLE III-1
MOTOR VEHICLE ACCIDENT (MVA) DATA
DATE RANGE: MAY 2009 THROUGH MAY 2011

Intersection	Total No. of MVA	No. of MVA with Injuries
Jackson St. (US41-A/SR16) at Lincoln St.	15	2
Jackson St. (US41-A/SR16) at Cedar Lane	51	7
Jackson St. (US41-A/SR16) at Carroll St.	31	2
Jackson St. (US41-A/SR16) at Washington St.	25	1
Jackson St. (US41-A/SR16) at Wilson Ave.	20	4
Jackson St. (US41-A/SR16) at Lauderdale St.	10	1
Jackson St. (US41-A/SR16) at K-Mart	3	0
Jackson St. (US41-A/SR16) at Northgate Mall	4	0
Lincoln St. at Anderson St.	22	4
Lincoln St. at Washington St.	8	1
Lincoln St. at Cedar Lane	24	4
Wilson Ave. (SR55) at Cedar Lane	22	3
Wilson Ave. (SR55) at Old Shelbyville Hwy. (SR 130)	3	1
Anderson St. at Hogan St.	2	0
Anderson St. at Carroll St. (SR 55)	14	4
Country Club Dr. at Kings Lane	9	2
Westside Dr. at Clement Dr.	1	0

Source: Tullahoma Police Department

Accident Analysis

The accident data was evaluated and ranked using TDOT's accepted methodology. Table III-2 (page 24) shows the ranking criteria and results to correctly evaluate the degree of concern with the safety of the major intersections or segments in the City. This calculation statistically normalizes the data based on traffic volumes and uses statewide average accident rates, 'Ra', in the comparative evaluation. The '**R/Rc'** factor in Table III-2 indicates the most problematic intersections.

Table III-2 shows that nine of the intersections have a high R/Rc value. The following intersections have the most significant accident histories in Tullahoma for the two year period studied and are listed in descending order of R/Rc:

- North Jackson Street (US41-A/SR16) at Cedar Lane/Washington Street
- South Jackson Street (US41-A/SR16) at Carroll Street

- West Lincoln Street at Cedar Lane
- Wilson Avenue (SR55) at Cedar Lane
- East Lincoln Street at Anderson Street
- North Jackson Street (US41-A/SR16) at Wilson Avenue (SR55)
- Anderson Street at Carroll Street (SR55)
- North Jackson Street (US41-A/SR16) at Lincoln Street
- Kings Lane at Country Club Drive

Table III-2

Intersection Accident Analysis Using TDOT Methodology

Intersection	A	PI+F	V	T	Ra *	E	Rc	R	R/Rc	SI
Jackson St. & Cedar/Washington	76	8	12,279	730	0.3175	8.96	0.81	8.48	**10.45**	0.11
Jackson St. & Carroll St.	31	2	12,974	730	0.3175	9.47	0.80	3.27	**4.11**	0.06
Lincoln St. & Cedar Ln	24	4	8,443	730	0.4151	6.16	1.10	3.89	**3.54**	0.17
Wilson Ave. & Cedar Ln	22	3	10,000	730	0.3175	7.30	0.87	3.01	**3.46**	0.14
Lincoln St. & Anderson St.	22	4	7,017	730	0.4970	5.12	1.32	4.29	**3.26**	0.18
Jackson St. & Wilson Ave.	20	4	17,167	730	0.3175	12.53	0.73	1.60	**2.19**	0.20
Anderson St. & Carroll St.	14	4	11,208	730	0.3175	8.18	0.84	1.71	**2.04**	0.29
Jackson St. & Lincoln St	15	2	14,536	730	0.3175	10.61	0.77	1.41	**1.84**	0.13
Kings Ln. & Country Club Dr.	9	2	3,634	730	0.5891	2.65	1.87	3.39	**1.81**	0.22
Lincoln St. & Washington St.	8	1	5,809	730	0.4970	4.24	1.41	1.89	**1.34**	0.13
Jackson St. & Lauderdale St.	10	1	13,365	730	0.3175	9.76	0.79	1.02	**1.30**	0.10
Anderson St. & Hogan St.	2	0	4,926	730	0.4151	3.60	1.34	0.56	**0.41**	0.00
Westside Dr. & Clement Dr.	1	0	3,969	730	0.2383	2.90	1.08	0.35	**0.32**	0.00

* Ra Values from: *TDOT: Statewide Average Rate for Sections & Spots (2006-2008)*

Where: A= Total Number of Accidents
PI + F = Total Personal Injury and Fatality Accidents
V = Volume of Traffic Entering Intersection on a Daily Basis
T = Analysis Time Period Measured in Days
Ra = Average Rate of Accident per Million Vehicles (Source: TDOT)
E = (V x T)/1,000,000
Rc = Critical Accident Rate
R = Rate of Accident per Million Vehicles Entering the Intersection (A/E)
R/Rc = Ratio of Actual Accident Rate to the Critical Accident Rate
SI = Severity Index (PI+F)/A

The high R/Rc factor of 10.45 shows the N. Jackson St/Cedar Lane/Washington Street intersection is of most concern. This intersection experienced 76 accidents, including 8 personal injuries or fatalities, over the two year period. The review of the individual accident reports indicated that a various types of accidents occurred including tail-end accidents, head-on collisions, and other types of collisions. The multiple turn-lane lines markings and off-set of opposing lanes is a source of the driver confusion and resulting accidents. Since this intersection is on a State highway and a recent highway widening project, TDOT's regional traffic engineer should be requested to evaluate intersection and provide recommendations for improvements.

The next highest ranked intersection for accidents is Jackson Street and Carroll Street with and R/Rc value of 4.11. This intersection experienced 31 accidents, including 2 personal injuries or fatalities. This intersection was also part of the viaduct construction project over the past decade administered by TDOT. TDOT's regional traffic engineer should also be requested to evaluate intersection and provide recommendations for improvements.

IV. LAND USE AND TRAFFIC PROJECTIONS

Population and Growth

The population of the City of Tullahoma grew at a relatively high rate from the 1940's through the 1960's, as indicated in Table IV-1 (below). Since that period, the City has grown at a moderate single-digit rate to a population of 18,655 in the 2010 census. Coffee County has grown at a double-digit rate over the last two decades to a population of 52,796 in the 2010 census. The City of Tullahoma continues to experience economic growth and expects steady, moderate growth over the upcoming decade. With a rebounding economy, Tullahoma is expected to yield positive economic benefits of an expanding commercial sector.

TABLE IV-1
POPULATION DATA – HISTORICAL

	COFFEE COUNTY, TN		TULLAHOMA, TN	
YEAR	POPULATION	% Change	POPULATION	% Change
1940	n/a	- - -	4,549	- - -
1950	23,049	- - -	7,562	66.1%
1960	28,603	24.1%	12,242	61.9%
1970	32,572	13.9%	15,311	25.1%
1980	38,311	17.6%	15,800	3.2%
1990	40,339	5.3%	16,761	6.1%
2000	48,014	19.0%	17,994	7.4%
2010	52,796	10.0%	18,655	3.7%

With growth in the residential and commercial sectors, traffic counts are expected to increase. The previous Comprehensive Transportation Plan noted traffic counts at numerous TDOT traffic stations and calculated the traffic increases and decreases over a 10-year period up to 1994. Table IV-2 (page 28) lists the traffic counts at these major roadway segments for the period from 1995 to 2010 and notes the average growth per year for that period for each segment. Table IV-2 also lists the projected traffic counts in year 2030 by projecting the 'average growth rate per year' over the upcoming 20-year period.

Level of Service Traffic Projections

Map IV-1 (page 29) shows the projected level of service (LOS) in year 2030 for these major roadway segments. The 2030 projected traffic counts are utilized in determining the LOS if a positive average growth rate is listed. If a negative growth rate is listed, the 2010 traffic count was used instead of the lower 2030 projected count for the determination of the future LOS.

In comparing the results of Map IV-1 to Map II-2, current levels of service, it is evident that some stations deteriorate from an LOS of 'B' to an LOS of 'C', while most other remain the same. Overall, there were no additional 'D' or lower rated stations from the 2010 ratings, with the exception of station 214 on Cedar Lane which changed to an LOS of 'E'. It should be noted that this station will have an LOS of 'D' if considered as a three lane minor arterial street as proposed in the Concept Plan listed in Section VI. As a whole, the average growth rates, whether negative or positive, are small in magnitude and reflect only anticipated minor changes in the overall level of service within the City.

It must be noted that the traffic counts over the past 15-year period are affected by a number of significant issues. North Jackson Street underwent a major construction project (widening from three to five lanes) during the 2005 to 2008 time frame. This had a negative impact on traffic counts. The recessionary period from 2008 to present time also impacted traffic throughout the City. These issues have dampened the calculated average growth rate through 2010 as well as the 2030 projected counts. The proper planning strategy should be to consider the 4% to 17% increases seen on N. Jackson Street during the period from 2000 to 2004 and plan for positive growth mirroring those increases over the upcoming decades.

As the North Jackson Street corridor reaches build-out, other areas should be identified for the future growth of the community. The primary area is between Jackson Street and the Tullahoma Municipal Airport which Cedar Lane bisects. A secondary area is that area north of Ledford Mill road on both the east and west side of Jackson Street. A tertiary area that has potential for redevelopment is along the Anderson Street corridor, east of US41-A. Another potential area for development that would have traffic impacts would be associated with any redevelopment or the enhanced lease use of lands held by the U. S. Air Force under the Arnold Engineering Development Complex.

Roadway	Segment	TDOT Station	Average Daily Traffic/ % Per Year Growth																Avg Growth per Year	Projected 2030
			1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010		
Anderson Street	S of Carroll St. (Hwy 55)	150	8,072	8,127	8,482	8,716	8,674	8,462	8,292	8,364	8,260	7,916	8,258	7,677	7,614	7,177	7,110	7,682		
				0.68%	4.37%	2.76%	-0.48%	-2.44%	-2.01%	0.87%	-1.24%	-4.16%	4.32%	-7.04%	-0.82%	-5.74%	-0.93%	8.05%	-0.26%	7,299
Atlantic St. (Normandy Rd.)	N of Washington Street	63	2,000	2,119	1,873	2,441	2,503	2,518	2,676	2,709	3,543	3,211	3,969	3,668	3,120	3,213	2,550	2,616		
				5.95%	-11.61%	30.33%	2.54%	0.60%	6.27%	1.23%	30.79%	-9.37%	23.61%	-7.58%	-14.94%	2.98%	-20.63%	2.59%	2.85%	4,589
Carroll Street (Hwy 55)	W of Cobb Road	59	13,256	13,107	12,891	12,820	12,771	12,761	13,303	15,143	14,310	14,467	15,194	13,525	13,962	13,695	13,546	13,631		
				-1.12%	-1.65%	-0.55%	-0.38%	-0.08%	4.25%	13.83%	-5.50%	1.10%	5.03%	-10.98%	3.23%	-1.91%	-1.09%	0.63%	0.32%	14,529
	E of Washington Street	143	16,000	16,083	16,961	16,970	13,254	15,684	16,066	18,557	17,044	17,125	17,909	17,127	17,841	17,473	16,564	16,234		
				0.52%	5.46%	0.05%	-21.90%	18.33%	2.44%	15.50%	-8.15%	0.48%	4.58%	-4.37%	4.17%	-2.06%	-5.20%	-1.99%	0.52%	18,021
Clement Drive	W of Jackson St. (US 41A)	107	6,525	6,267	6,703	7,003	5,775	6,429	6,274	7,023	7,255	7,446	8,170	7,223	7,235	8,336	6,380	6,848		
				-3.95%	6.96%	4.48%	-17.54%	11.32%	-2.41%	11.94%	3.30%	2.63%	9.72%	-11.59%	0.17%	15.22%	-23.46%	7.34%	0.94%	8,259
Country Club Drive	S of Kings Lane	61	3,718	3,721	3,939	3,406	3,561	3,886	3,649	4,211	4,112	4,100	4,276	3,963	4,082	3,315	3,569	3,676		
				0.08%	5.86%	-13.53%	4.55%	9.13%	-6.10%	15.40%	-2.35%	-0.29%	4.29%	-7.32%	3.00%	-18.79%	7.66%	3.00%	0.31%	3,908
Cumberland Springs Rd.	W of Linda Lane	183	2,473	2,347	2,573	2,757	2,664	3,080	3,078	2,994	3,297	3,179	3,385	2,924	3,086	2,744	2,582	2,795		
				-5.10%	9.63%	7.15%	-3.37%	15.62%	-0.06%	-2.73%	10.12%	-3.58%	6.48%	-13.62%	5.54%	-11.08%	-5.90%	8.25%	1.16%	3,517
Forrest Boulevard	E of Anderson St.	80	5,748	5,600	4,789	4,552	4,486	4,228	4,753	4,539	4,458	5,172	4,536	4,243	3,973	3,653	3,760	4,189		
				-2.57%	-14.48%	-4.95%	-1.45%	-5.75%	12.42%	-4.50%	-1.78%	16.02%	-12.30%	-6.46%	-6.36%	-8.05%	2.93%	11.41%	-1.73%	2,957
Hogan Street	E of N. Atlantic	155	4,575	4,608	4,414	4,588	4,183	4,331	4,326	4,609	4,324	4,248	4,454	4,210	3,942	3,899	4,162	4,135		
				0.72%	-4.21%	3.94%	-8.83%	3.54%	-0.12%	6.54%	-6.18%	-1.76%	4.85%	-5.48%	-6.37%	-1.09%	6.75%	-0.65%	-0.56%	3,699
Jackson Street (US 41A)	N of Washington Street	64	20,400	18,412	18,637	19,150	19,102	19,048	17,938	20,705	19,735	22,343	20,360	23,067	20,971	19,394	20,223	18,126		
				-9.75%	1.22%	2.75%	-0.25%	-0.28%	-5.83%	15.43%	-4.68%	13.22%	-8.88%	13.30%	-9.09%	-7.52%	4.27%	-10.37%	-0.43%	16,628
	S of City Limits	69	9,960	9,985	10,274	8,739	9,839	10,149	10,961	11,551	10,965	11,547	11,746	11,064	11,746	10,870	10,723	10,558		
				0.25%	2.89%	-14.94%	12.59%	3.15%	8.00%	5.38%	-5.07%	5.31%	1.72%	-5.81%	6.16%	-7.46%	-1.35%	-1.54%	0.62%	11,946
	S of Carroll St. (Hwy 55)	99	14,071	12,443	12,904	12,163	12,305	13,233	13,771	15,409	14,236	15,258	14,929	14,747	15,196	15,215	15,671	14,215		
				-11.57%	3.70%	-5.74%	1.17%	7.54%	4.07%	11.89%	-7.61%	7.18%	-2.16%	-1.22%	3.04%	0.13%	3.00%	-9.29%	0.28%	15,018
	S of Wilson Ave. (Hwy 55)	101	24,888	24,000	21,516	21,563	20,463	22,337	22,071	25,130	22,276	22,294	21,265	20,605	21,142	20,309	19,757	20,212		
				-3.57%	-10.35%	0.22%	-5.10%	9.16%	-1.19%	13.86%	-11.36%	0.08%	-4.62%	-3.10%	2.61%	-3.94%	-2.72%	2.30%	-1.18%	15,937
	N of Carroll Street (Hwy 55)	149	23,893	19,663	18,588	17,294	16,434	19,107	19,575	20,508	19,877	20,499	19,564	17,376	19,266	19,709	18,428	18,542		
				-17.70%	-5.47%	-6.96%	-4.97%	16.27%	2.45%	4.77%	-3.08%	3.13%	-4.56%	-11.18%	10.88%	2.30%	-6.50%	0.62%	-1.33%	14,172
	N of Wilson Ave. (Hwy 55)	160	28,193	21,751	22,326	21,361	22,137	21,105	21,126	24,840	22,707	24,470	22,060	20,426	20,632	21,880	21,310	22,463		
				-22.85%	2.64%	-4.32%	3.63%	-4.66%	0.10%	17.58%	-8.59%	7.76%	-9.85%	-7.41%	1.01%	6.05%	-2.61%	5.41%	-1.07%	18,104
Ledford Mill Road	E of Jackson St. (US 41A)	168	986	990	1,071	1,086	1,129	1,225	1,144	1,330	1,461	1,504	1,380	1,280	1,240	1,296	1,335	1,370		
				0.41%	8.18%	1.40%	3.96%	8.50%	-6.61%	16.26%	9.85%	2.94%	-8.24%	-7.25%	-3.13%	4.52%	3.01%	2.62%	2.43%	2,214
Lincoln Street	E of Turkey Creek Road	67	5,684	5,833	5,906	5,910	5,855	6,406	6,311	6,768	7,369	7,113	7,049	6,415	6,657	6,139	6,240	6,457		
				2.62%	1.25%	0.07%	-0.93%	9.41%	-1.48%	7.24%	8.88%	-3.47%	-0.90%	-8.99%	3.77%	-7.78%	1.65%	3.48%	0.99%	7,859
	W of Jackson St. (US 41A)	100	12,100	11,046	11,090	11,100	9,694	10,233	9,260	10,755	10,907	11,234	10,400	9,979	9,254	9,812	9,811	8,365		
				-8.71%	0.40%	0.09%	-12.67%	5.56%	-9.51%	16.14%	1.41%	3.00%	-7.42%	-4.05%	-7.27%	6.03%	-0.01%	-14.74%	-2.12%	5,454
New Rock Creek Road	S of Jackson St. (US 41A)	68	1,346	1,317	1,533	1,742	1,574	1,453	1,618	1,508	1,531	1,443	1,594	1,432	1,510	1,425	1,415	1,509		
				-2.15%	16.40%	13.63%	-9.64%	-7.69%	11.36%	-6.80%	1.53%	-5.75%	10.46%	-10.16%	5.45%	-5.63%	-0.70%	6.64%	1.13%	1,889
Ovoca Road	N of Kings Lane	62	3,997	4,157	4,290	4,227	4,355	4,569	3,994	4,378	5,085	5,237	4,962	4,761	4,904	4,280	4,600	4,738		
				4.00%	3.20%	-1.47%	3.03%	4.91%	-12.58%	9.61%	16.15%	2.99%	-5.25%	-4.05%	3.00%	-12.72%	7.48%	3.00%	1.42%	6,281
Short Springs Road	E of Carter Blake Rd.	136	777	872	880	1,010	1,000	872	951	1,009	1,056	911	958	900	927	753	788	812		
				12.23%	0.92%	14.77%	-0.99%	-12.80%	9.06%	6.10%	4.66%	-13.73%	5.16%	-6.05%	3.00%	-18.77%	4.65%	3.05%	0.75%	943
Washington Street	N of Hogan St.	161	6,305	6,528	5,495	5,980	5,679	5,687	6,295	6,095	6,966	6,235	6,743	5,742	5,305	5,881	5,981	5,546		
				3.54%	-15.82%	8.83%	-5.03%	0.14%	10.69%	-3.18%	14.29%	-10.49%	8.15%	-14.85%	-7.61%	10.86%	1.70%	-7.27%	-0.40%	5,114
Wilson Avenue (Hwy 55)	E of Cedar Lane	102	14,017	10,922	10,476	12,471	11,086	11,565	11,683	12,011	12,253	12,554	11,416	11,336	11,676	9,974	10,273	8,992		
				-22.08%	-4.08%	19.04%	-11.11%	4.32%	1.02%	2.81%	2.01%	2.46%	-9.06%	-0.70%	3.00%	-14.58%	3.00%	-12.47%	-2.43%	5,500
	E of Old Shelbyville Hwy.	156	8,198	10,269	10,245	10,564	9,789	10,238	9,953	10,939	10,449	11,408	9,530	9,333	10,092	9,779	9,615	9,878		
				25.26%	-0.23%	3.11%	-7.34%	4.59%	-2.78%	9.91%	-4.48%	9.18%	-16.46%	-2.07%	8.13%	-3.10%	-1.68%	2.74%	1.65%	13,707
	W of Old Shelbyville Hwy.	157	7,655	7,765	7,990	8,100	7,595	9,843	7,146	8,465	7,609	7,534	7,084	6,964	7,269	7,637	7,980	7,641		
				1.44%	2.90%	1.38%	-6.23%	29.60%	-27.40%	18.46%	-10.11%	-0.99%	-5.97%	-1.69%	4.38%	5.06%	4.49%	-4.25%	0.74%	8,850
Cedar Lane	N of Airpark Dr.	214	0	0	0	0	0	0	8880	9561	9669	9514	11163	10011	9829	9457	10192	10288		
										7.67%	1.13%	-1.60%	17.33%	-10.32%	-1.82%	-3.78%	7.77%	0.94%	1.92%	15,049
	N of W Lincoln St.	125	12,992	12,429	11,333	11,111	10,680	10,757	10,686	11,765	13,073	11,421	12,752	11,347	10,080	10,082	10,781	10,017		
				-4.33%	-8.82%	-1.96%	-3.88%	0.72%	-0.66%	10.10%	11.12%	-12.64%	11.65%	-11.02%	-11.17%	0.02%	6.93%	-7.09%	-0.14%	9,740
	N of McKellar Dr.	126	10,326	9,667	9,577	9,971	9,589	9,777	9,852	10,727	10,782	12,052	12,277	10,919	9,696	9,858	10,165	10,281		
				-6.38%	-0.93%	4.11%	-3.83%	1.96%	0.77%	8.88%	0.51%	11.78%	1.87%	-11.06%	-11.20%	1.67%	3.11%	1.14%	0.16%	10,615
Kings Lane	W of Country Club Dr.	164	3,354	3,272	3,184	3,364	3,592	3,503	3,317	3,732	3,819	3,659	3,787	3,984	3,901	3,326	3,592	3,700		
				-2.44%	-2.69%	5.65%	6.78%	-2.48%	-5.31%	12.51%	2.33%	-4.19%	3.50%	5.20%	-2.08%	-14.74%	8.00%	3.01%	0.87%	4,400

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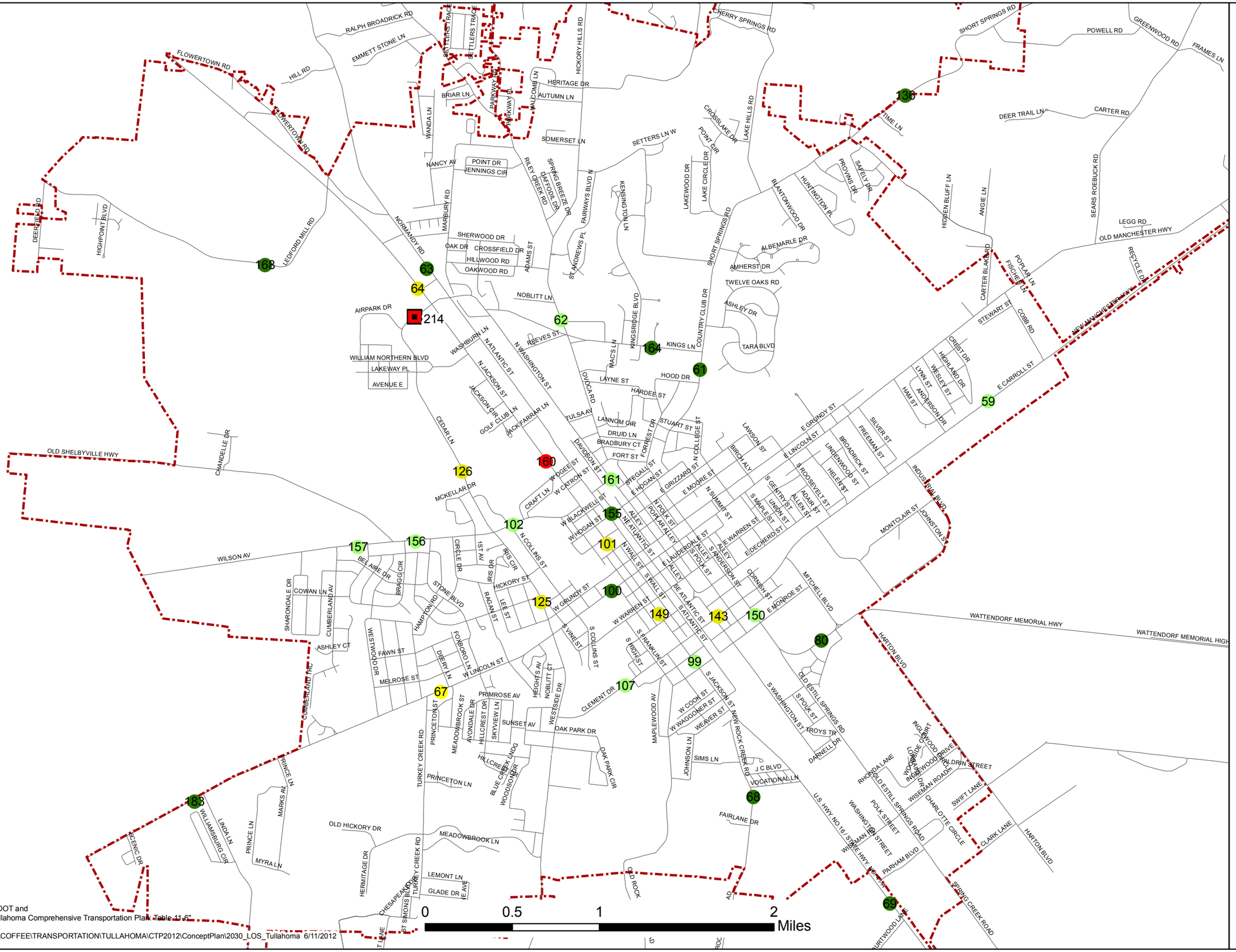
TABLE IV-2
Traffic Data - Historical and Projected

LOS 2030 by Classification Map IV-1



Level of Service (LOS)

Classification

- A, Arterial Urban
- A, Collector Urban
- B, Arterial Urban
- B, Collector Urban
- C, Arterial Urban
- C, Collector Urban
- D, Arterial Urban
- E, Arterial Urban

Using 2010 LOS on Stations with Negative Avg Growth per Year

#214 Projection Calculated From 2001-2010

Cedar Lane LOS is Based Current Lane Conditions, LOS Will Improve One Step with Added Lane

Source: TDOT and
"City of Tullahoma Comprehensive Transportation Plan Table 11.6"

\GIS_DATA\COFFEE\TRANSPORTATION\TULLAHOMA\CTP2012\ConceptPlan\2030_LOS_Tullahoma 6/11/2012

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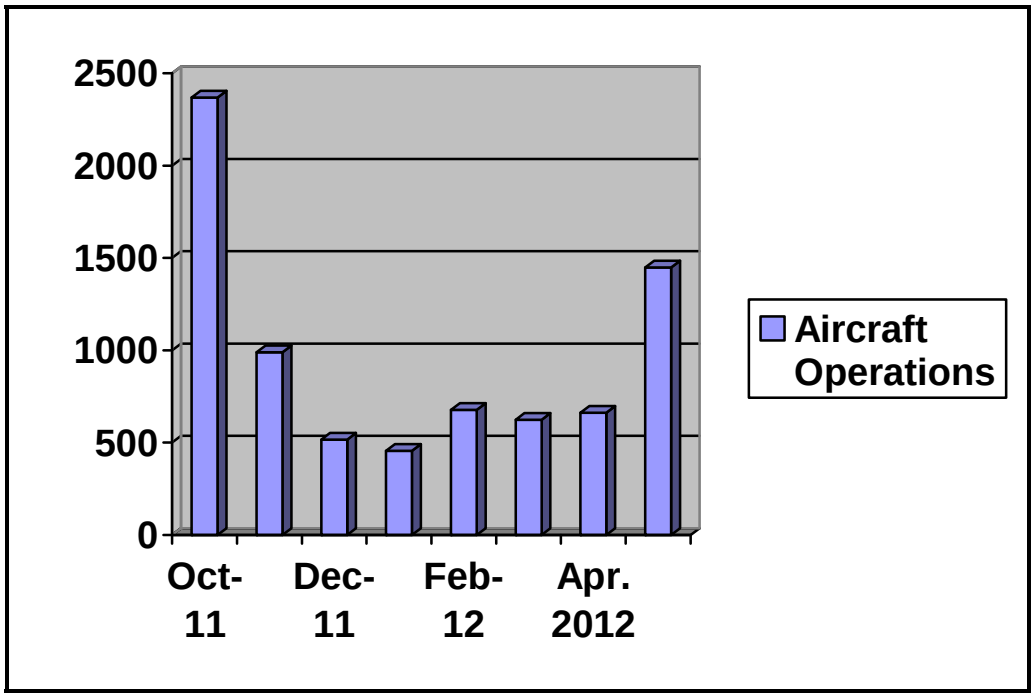
V. INTERMODALITY

Intermodality consists of the combination of more than one mode of transportation and typically results in the interchange of equipment. In Tullahoma examples can include the interaction between air transportation and transfer to vehicular transportation and can involve a passenger or passengers or the transfer of freight. Other local examples would include vehicular transportation to pedestrian or bicycle modes, typically using trailheads or the transfer of freight or materials from rail to trucks or trailers by way of depots, yards or transfer stations.

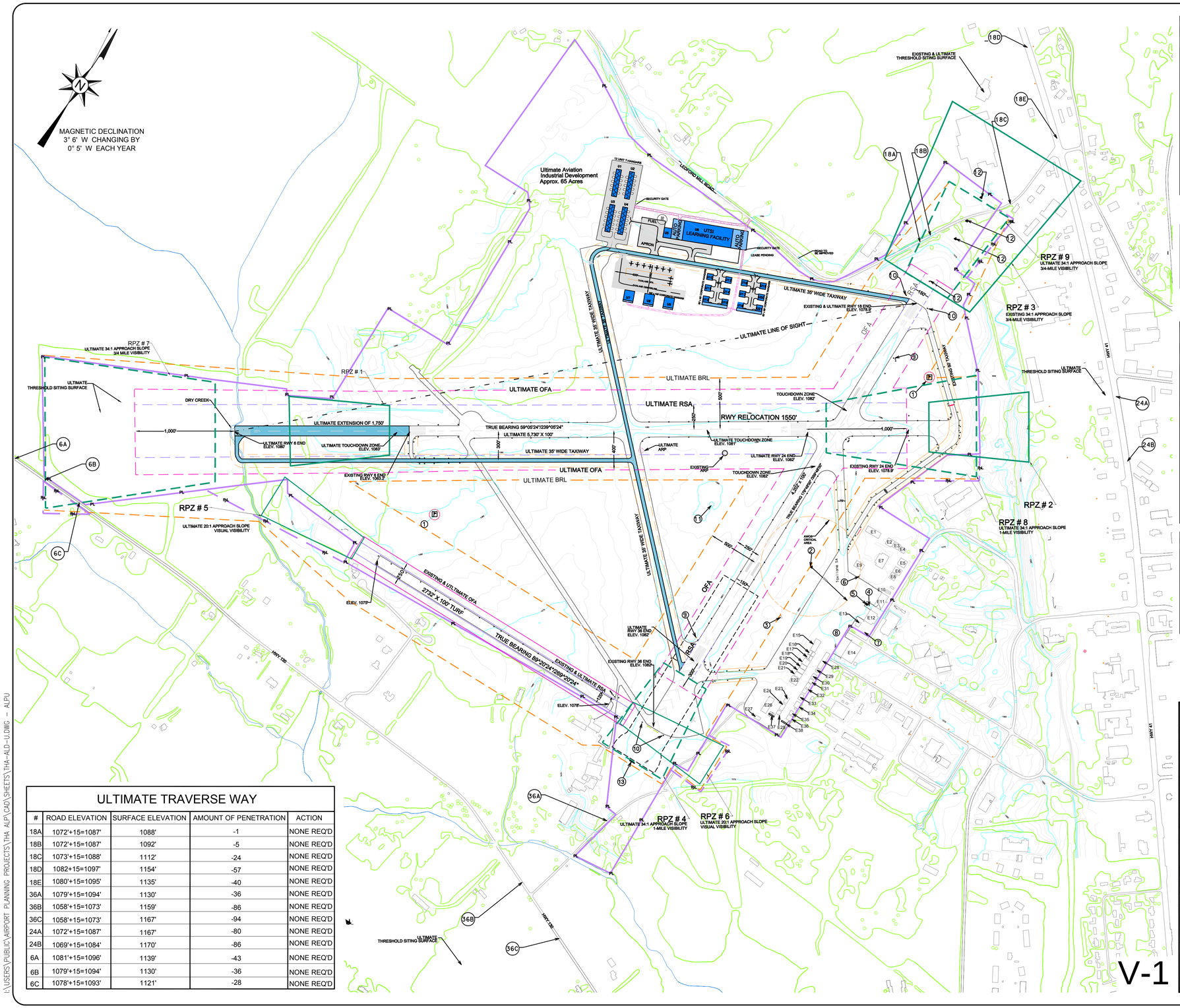
Airport Infrastructure

The City of Tullahoma has an active general aviation municipal airport in the northwest quadrant of the City with Airport Operations activity levels for the period October 2011 thru May 2012 listed in Table V-1 (below). There are two paved runways and a grassed runway. The primary runway, Runway 06/24, is oriented in the east-west position and extends westward towards the Tullahoma-Coffee County/ Moore County boundary. This primary runway has been extended in recent years and a long-range plan for an additional extension westward is shown on the Ultimate Airport Layout Map (page 31).

TABLE V-1
TULLAHOMA AIRPORT AIRCRAFT OPERATIONS – OCT. 2011 THRU MAY 2012



Source: Tullahoma Airport Authority



ULTIMATE FACILITIES

#	DESCRIPTION	TOP ELEVATION	#	DESCRIPTION	TOP ELEVATION
U1	12 UNIT T-HANGAR	1112'	U12	60' x 60' HANGAR	1109'
U2	12 UNIT T-HANGAR	1112'	U13	60' x 60' HANGAR	1109'
U3	12 UNIT T-HANGAR	1112'	U14	60' x 60' HANGAR	1109'
U4	12 UNIT T-HANGAR	1112'	U15	60' x 60' HANGAR	1109'
U5	75' x 40' HANGAR	1122'	U16	60' x 60' HANGAR	1109'
U6	490' x 195' HANGAR	1122'	U17	60' x 60' HANGAR	1109'
U7	100' x 100' HANGAR	1114'	U18	60' x 60' HANGAR	1109'
U8	100' x 100' HANGAR	1114'	U19	60' x 60' HANGAR	1109'
U9	100' x 100' HANGAR	1114'	U20	60' x 60' HANGAR	1109'
U10	60' x 60' HANGAR	1109'	U21	60' x 60' HANGAR	1109'
U11	60' x 60' HANGAR	1109'			

NOTE : For planning purposes, ultimate building height for 100' x 100' is 30', 60' x 60' is 25', t-hangar is 20' and 75' x 40' is 30'.

ULTIMATE RUNWAY PROTECTION ZONES

RPZ 7	1,700'L, 1,000'IW, 1,510'OW
RPZ 8	1,700'L, 500'IW, 1,010'OW
RPZ 9	1,000'L, 500'IW, 700'OW

EXISTING OBJECTS

NUMBER	FEATURE
1	WINDSOCK & SEGMENTED CIRCLE
2	AWOS III
3	TETRAHEDRON
4	ROTATING BEACON
5	AVGAS PUMPS
6	JET-A PUMPS
7	AUTO PARKING
8	AIRCRAFT PARKING APRON
9	GVGSI
10	REIL
11	VOR
12	ODALS
13	SDF

EXISTING RUNWAY PROTECTION ZONES

RPZ 1	1,000'L, 500'IW, 700'OW
RPZ 2	1,000'L, 500'IW, 700'OW
RPZ 3	1,700'L, 1,000'IW, 1,510'OW
RPZ 4	1,000'L, 500'IW, 700'OW
RPZ 5	1,000'L, 250'IW, 450'OW
RPZ 6	1,000'L, 250'IW, 450'OW

ULTIMATE TRAVERSE WAY

#	ROAD ELEVATION	SURFACE ELEVATION	AMOUNT OF PENETRATION	ACTION
18A	1072'+15=1087'	1088'	-1	NONE REQ'D
18B	1072'+15=1087'	1092'	-5	NONE REQ'D
18C	1073'+15=1088'	1112'	-24	NONE REQ'D
18D	1082+15=1097'	1154'	-57	NONE REQ'D
18E	1080'+15=1095'	1135'	-40	NONE REQ'D
36A	1079'+15=1094'	1130'	-36	NONE REQ'D
36B	1058'+15=1073'	1159'	-86	NONE REQ'D
36C	1058'+15=1073'	1167'	-94	NONE REQ'D
24A	1072'+15=1087'	1167'	-80	NONE REQ'D
24B	1069'+15=1084'	1170'	-86	NONE REQ'D
6A	1081'+15=1096'	1139'	-43	NONE REQ'D
6B	1079'+15=1094'	1130'	-36	NONE REQ'D
6C	1078'+15=1093'	1121'	-28	NONE REQ'D

LEGEND

DESCRIPTION	EXISTING	ULTIMATE
Runway Markings		
Runway Safety Area (RSA)		
Runway Object Free Area (ROFA)		
Runway Protection Zone (RPZ)		
Taxiway Object Free Area (TOFA)		
Taxiway Safety Area		
Building Restriction Line (BRL)		
Runway Visibility Zone		N/A
Airfield Pavement		
Automobile Parking		
Airport Apron		
Airport Reference Point		
Airport Buildings		
Airport Property Line/Easements	PL	PL
Roads		
Tree line		
Stream		
Ground Elevation Contours	2' 1090 10' 1075	2' 1090 10' 1075
GVGSI		

DATE	REVISION	BY

TULLAHOMA REGIONAL AIRPORT
WILLIAM NORTHERN FIELD
TULLAHOMA, TENNESSEE

APPROVED
Chairman, General John Miller
DATE

HEI Project No.	06S8015		
Filename	THA-ALD-U.DWG		
Scale	1"=500'		
Date	5/13/08		
LAYOUT	JLB2	2/07	
DRAWN	JLB2	5/13/08	
REVIEWED	TSH	5/13/08	

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ULTIMATE
AIRPORT LAYOUT
DRAWING

3

MAY 13, 2008 11:13 AM BINGH01213
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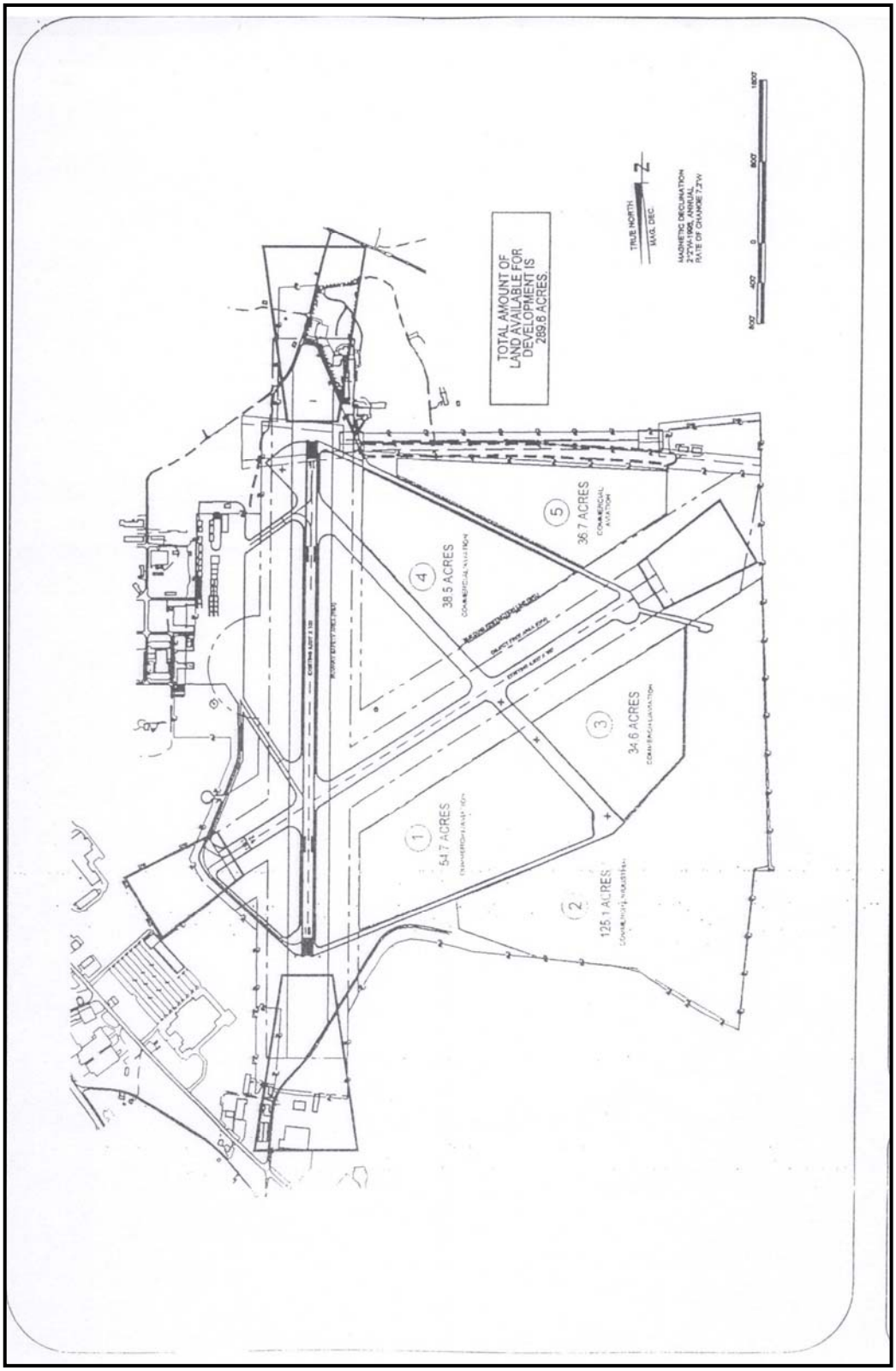
The airport is important to the economic growth of the community due to the existence of airport related businesses, industries, and its generation of tourism to the area. The airport generates vehicular traffic in support of, and as a result of, aircraft related activity, businesses, and industries. The 2000 Airport Area Development Study identified land development options which are shown on Map V-2 (page 33). Since the 2000 study, the airport authority has worked to construct airport infrastructure in support of general aviation use of the airport. The next project is the development of an airport business park to be located within the designated plan area. An airport business park is expected to generate additional commercial business, industries, and private aircraft hangars for the facility. Roadway improvements will be needed on Ledford Mill Road in support of the development, but will consist primarily of resurfacing, pavement marking, and some widening to provide for two 12-ft. lanes, and shoulders.



Source: *Tullahoma Airport Area Study*

Map V -2
Land Development Options

Pedestrian and Bicycle Infrastructure

Pedestrian facilities including sidewalks, greenways, and bicycle routes are important alternate modes of transportation. These types of facilities also are important to improving the quality of life of citizens. The City has historically placed emphasis on developing sidewalks and greenways within the community.

- **Bike Paths** are pathways specifically constructed for bicycle or combined with pedestrian use. These paths are physically separated from the roadway (Figure V-1, page 35).

- **Bike Lanes** include striped lanes on the edges of the roadway that are specifically designated for bicycle travel (Figure V-2, page 36).

- **Shared Roadways** are roadways with wider than normal lanes. These roadways are signed for bicycle, but are not striped for bike lanes.

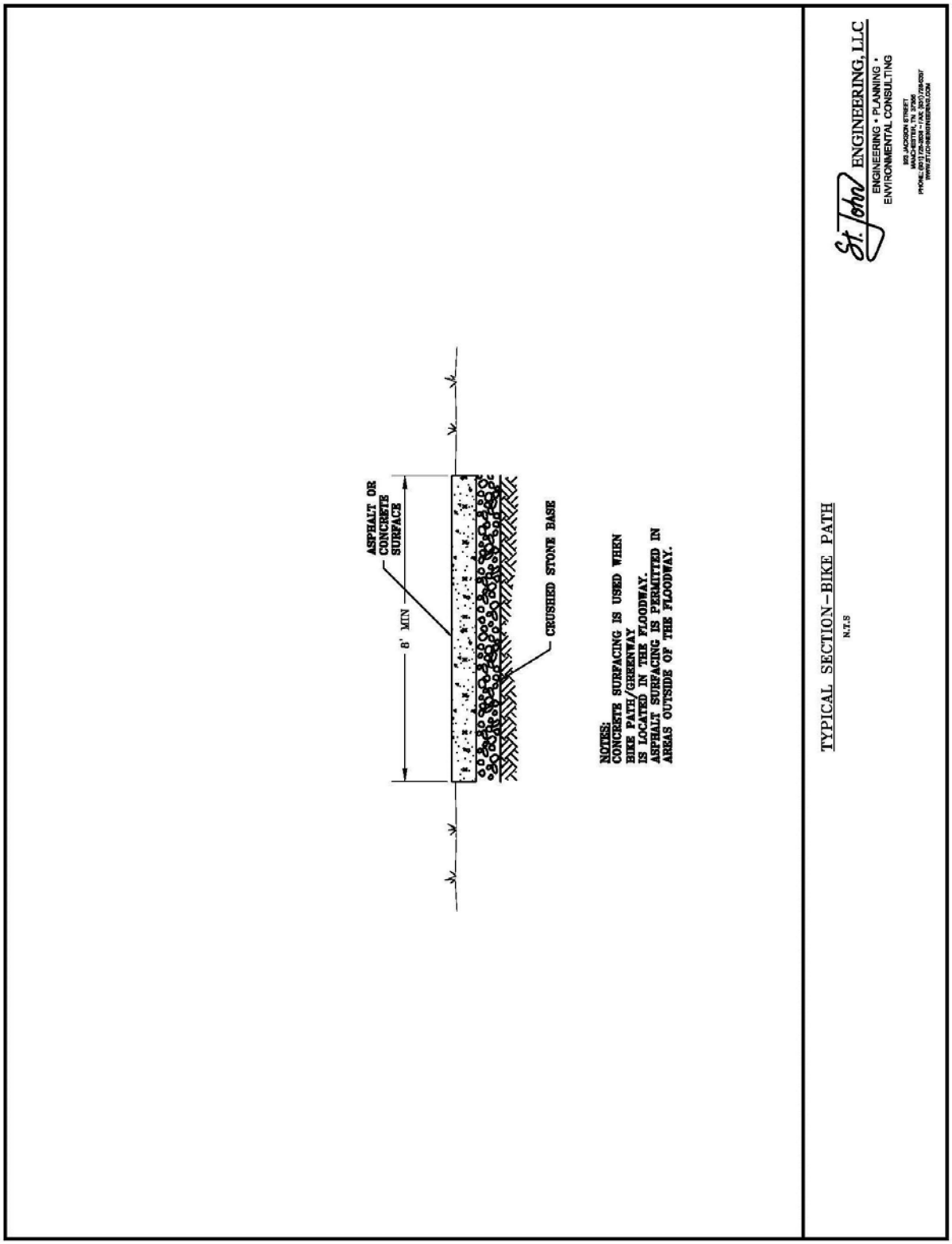


Figure V-1
Bike Path

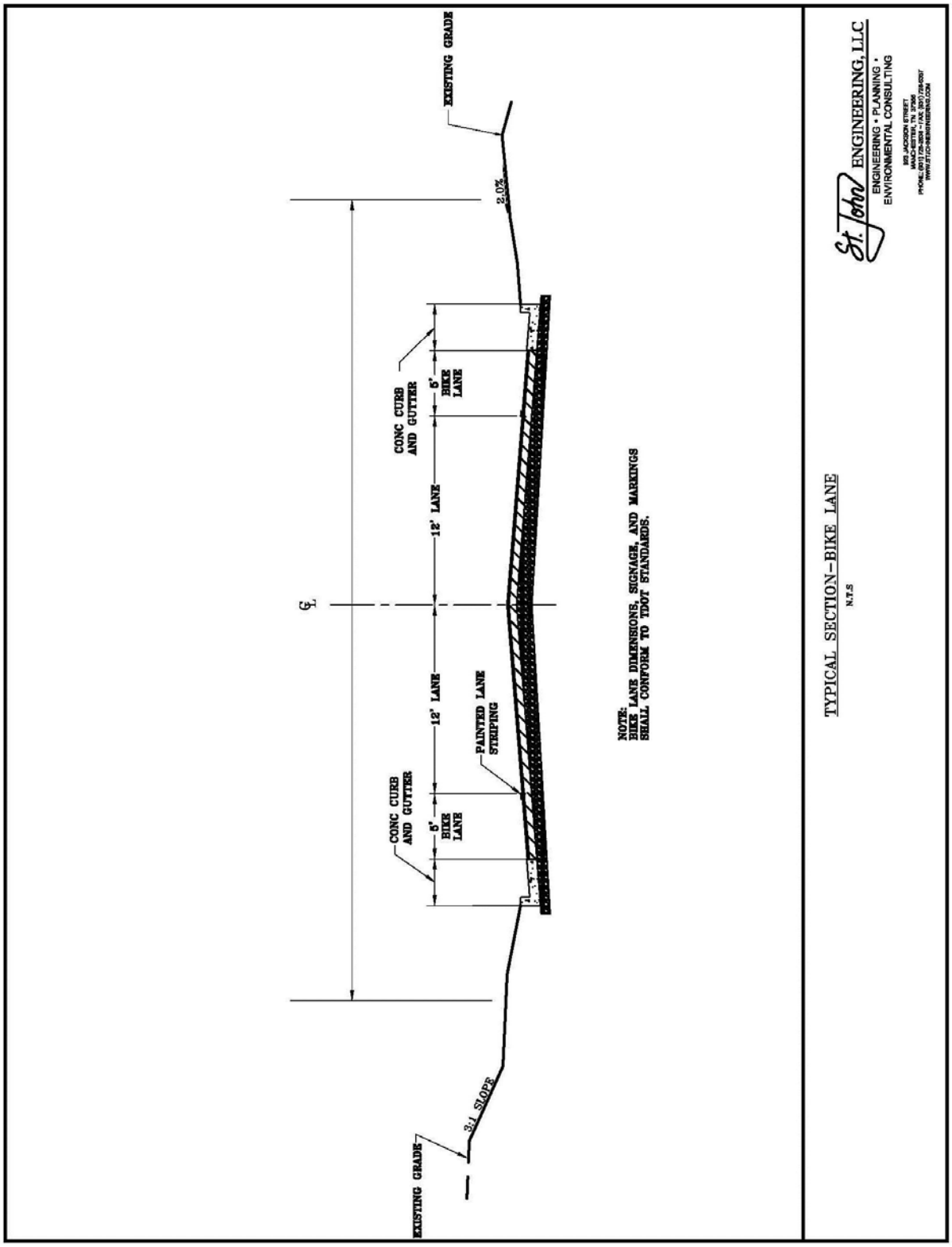


Figure V-2
Bike Lanes

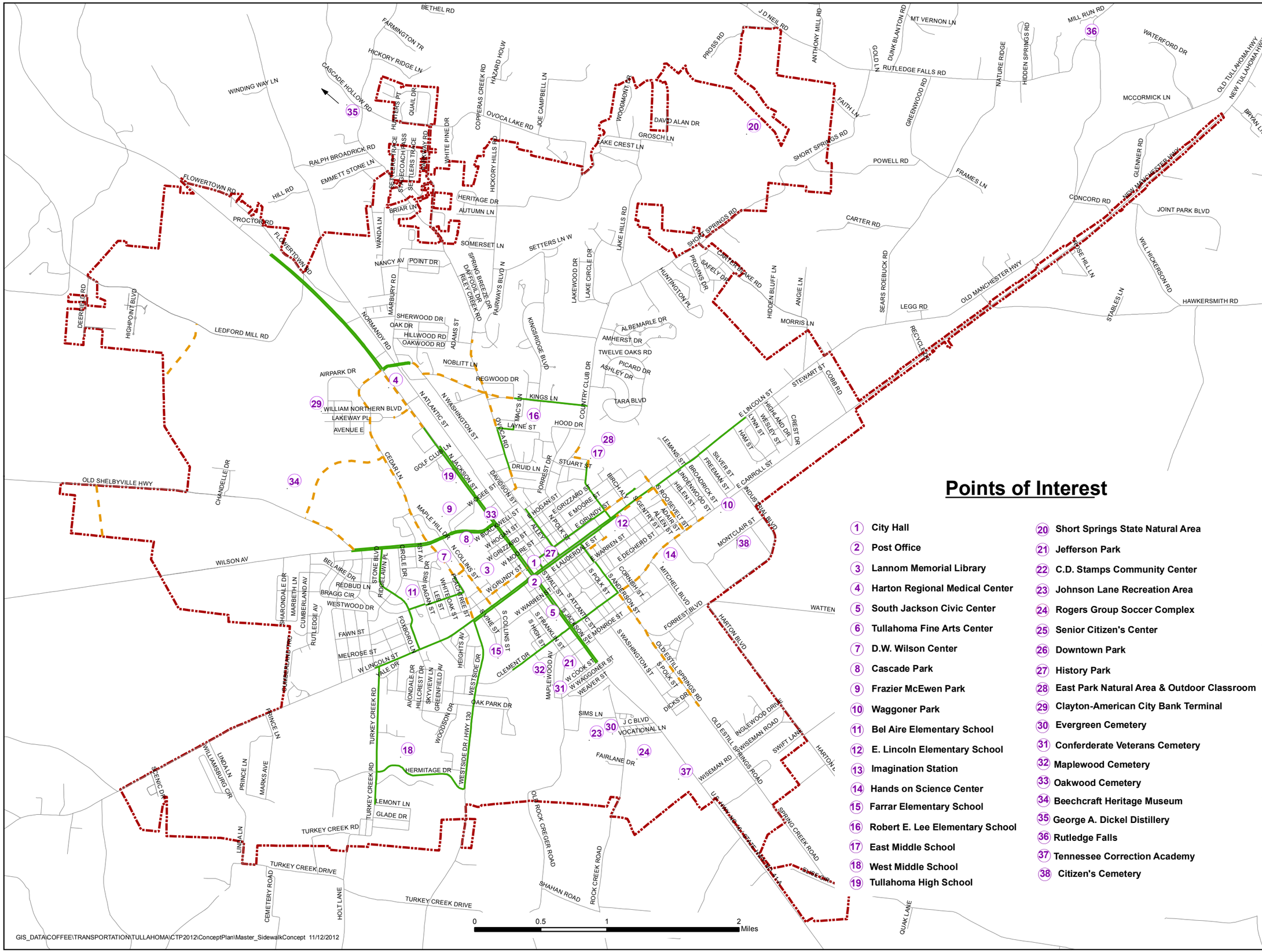
Map V-5 (page 40) illustrates desirable locations for bike routes. The figure is not meant to be all inclusive of any and all enhancement projects which the City should undertake during the planning period; but, rather to be used as a guide for where bikeways may be best utilized.

The Sidewalk Master Plan, Map V-3(page 38), and the Greenway Master Plan, Map V-4 (page 39), outline the proposed development of pedestrian infrastructure in Tullahoma. Over the last decade, the City has applied for, received awards for, and constructed a number of pedestrian facility extensions with federal and state grants. The grants have included TDOT Enhancement funds, TDOT Safe-Routes-To-School grants, TDEC Recreational Trails Program, and TDEC LPRF funds. Grant applications continue to be submitted annually to further extend these pedestrian facilities.

Currently, the City has been awarded and is in various phases of implementation for pedestrian projects including the West Lincoln Street Sidewalk Extension Project (TDOT SRTS), Collins Street Greenway Extension (TDOT Enhancement), East Lincoln Street Sidewalk Extension Project (TDOT SRTS), and the Downtown Revitalization Projects Phase I and II (TDOT Enhancement).

The intent is to implement bike routes into roadway improvement projects on numerous arterial and collector streets planned for the future. Bike lanes adjacent to the vehicle lanes are a standard design feature in many communities on selected streets. Bike lanes are encouraged by TDOT as an alternate mode of transportation and will be implemented in the future in the City of Tullahoma.

City of Tullahoma Sidewalk Plan Map V-3



Points of Interest

1. City Hall
2. Post Office
3. Lannom Memorial Library
4. Harton Regional Medical Center
5. South Jackson Civic Center
6. Tullahoma Fine Arts Center
7. D.W. Wilson Center
8. Cascade Park
9. Frazier McEwen Park
10. Waggoner Park
11. Bel Aire Elementary School
12. E. Lincoln Elementary School
13. Imagination Station
14. Hands on Science Center
15. Farrar Elementary School
16. Robert E. Lee Elementary School
17. East Middle School
18. West Middle School
19. Tullahoma High School
20. Short Springs State Natural Area
21. Jefferson Park
22. C.D. Stamps Community Center
23. Johnson Lane Recreation Area
24. Rogers Group Soccer Complex
25. Senior Citizen's Center
26. Downtown Park
27. History Park
28. East Park Natural Area & Outdoor Classroom
29. Clayton-American City Bank Terminal
30. Evergreen Cemetery
31. Conferderate Veterans Cemetery
32. Maplewood Cemetery
33. Oakwood Cemetery
34. Beechcraft Heritage Museum
35. George A. Dickel Distillery
36. Rutledge Falls
37. Tennessee Correction Academy
38. Citizen's Cemetery

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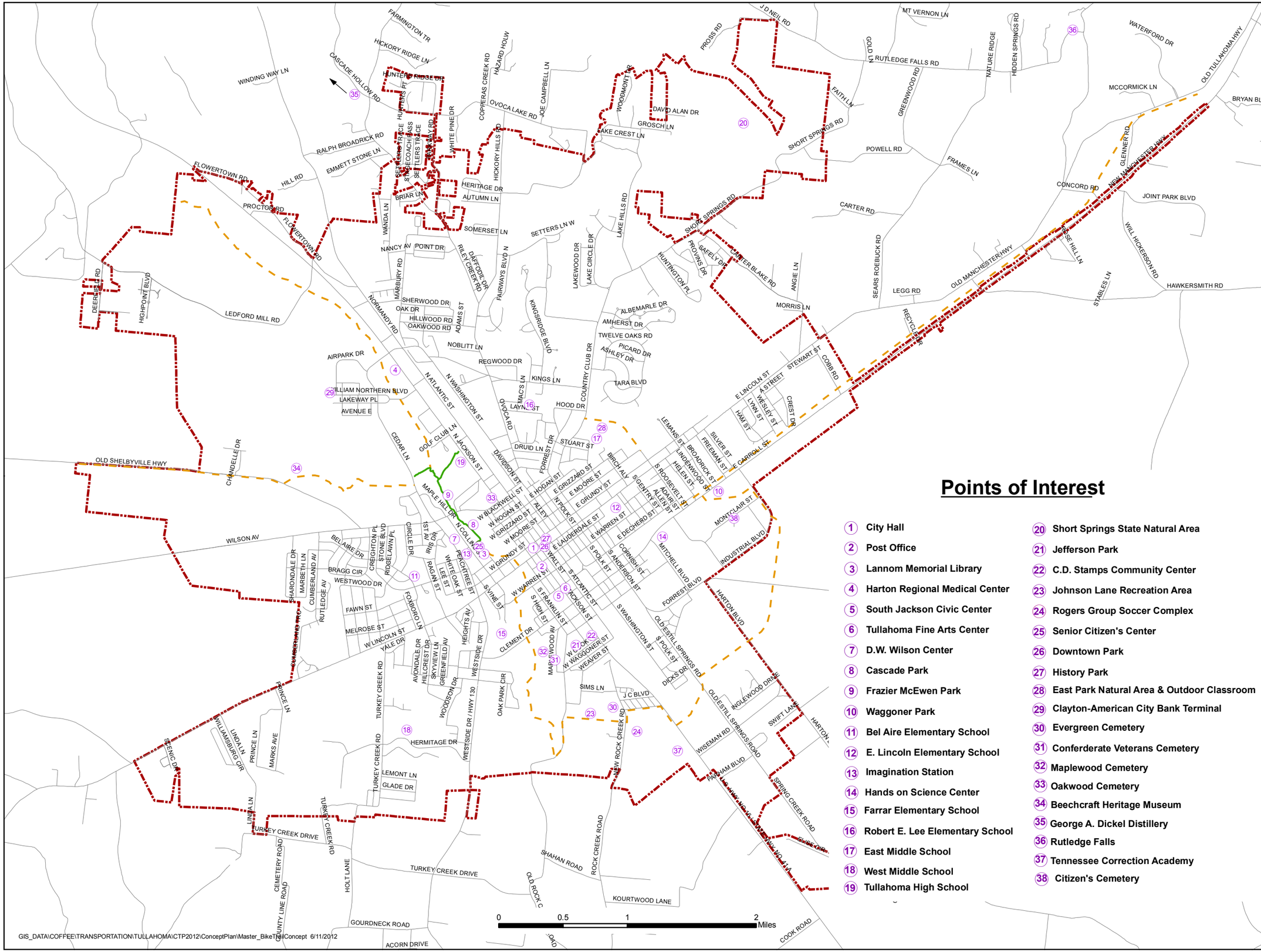
City of Tullahoma Greenway Plan Map V-4



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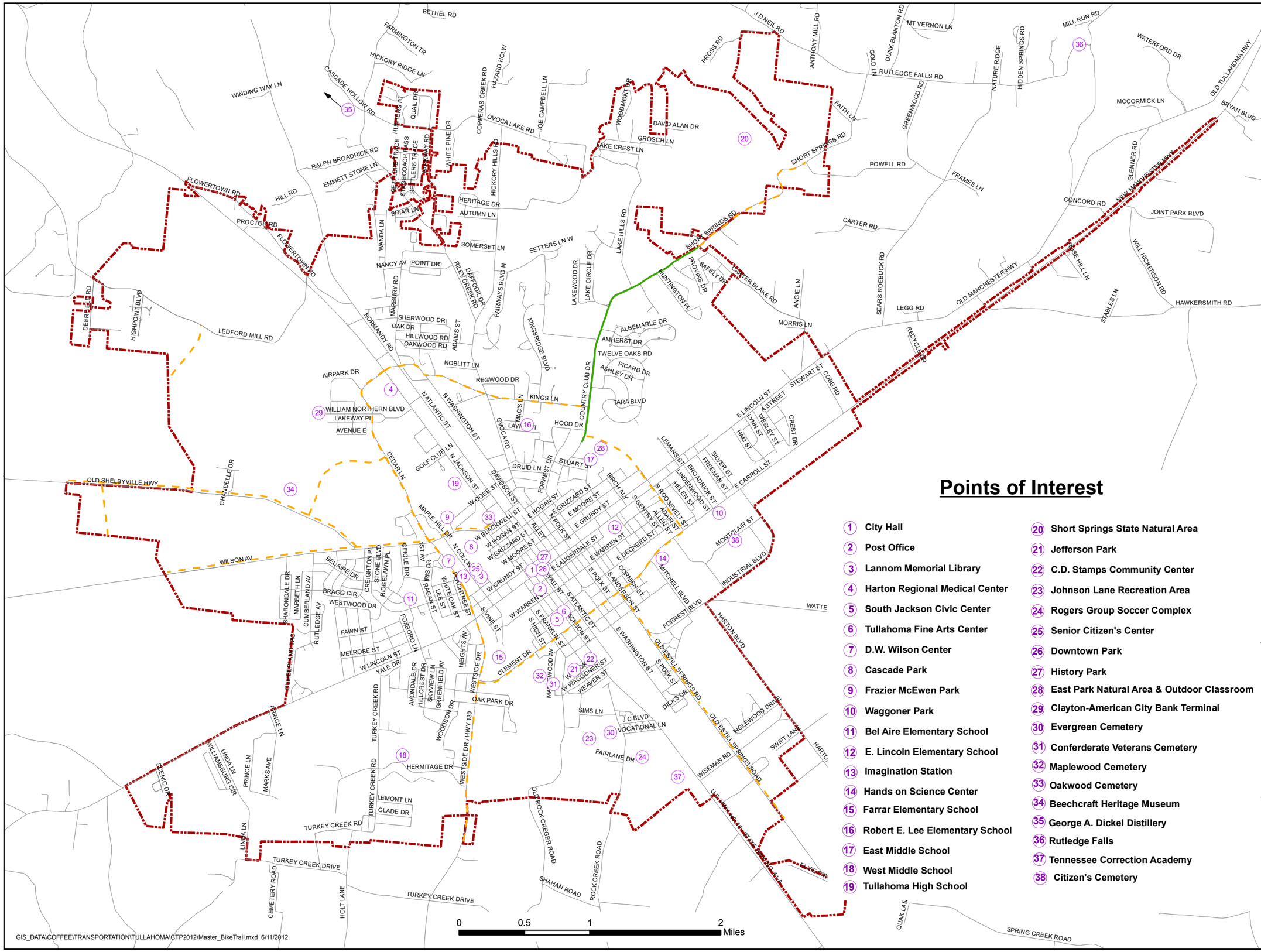
City of Tullahoma Bike Route Plan Map V-5



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Rail Facilities

The Tennessee Department of Transportation has funded two rail plans within the last ten years. The *Tennessee Rail System Plan* (2003) provided a review of existing lines, rail program recommendations and funding options. The other study was associated with high-speed rail. The *Maglev Feasibility Study* (2008) focused on evaluating a high-speed railroad corridor between Atlanta and Nashville with further points north.

The TDOT *Tennessee Rail System Plan* also provided a rail system inventory that included information on the Class of Track. Depending on condition and geometry of the railroad track, the Federal Railroad Administration (FRA) categorized track into separate classes. Geometry of the track includes the degree of curvature, super-elevation, and gage variances of the railroad track. Condition of the track includes such items as the overall maintenance of the roadbed and railroad. Table V-2 (below) lists the FRA's speed limits for each class of track.

TABLE V-2
FRA – SPEED LIMITS BY CLASS OF TRACK

Class of Track	Maximum Allowable Operating Speed for Freight Trains
Excepted	10
1	10
2	25
3	40
4	60
5	80

"Excepted track" is track that is allowed to operate by the FRA with certain limitations. Some of these limitations include limiting the number of hazardous material carloads on a train to five and forbidding passenger trains altogether. By keeping the railroads maintained at the highest class of track possible, railroads are allowed to operate trains at higher speeds.

The City of Tullahoma is served by a Class I railroad, CSX Transportation (CSX) and a non-Class I short line railroad, the Caney Fork & Western (CF&W). There is also a spur to AEDC that is partly used by CSX to serve businesses in the Tullahoma Industrial Park. Beyond that point the track is under the jurisdiction of AEDC, though that remainder has not been used in a decade. Railroad classifications are established by the Surface Transportation Board (STB), based on the operating revenues for each of the railroads. A Class I railroad is one in which the operating revenues exceed $250 million.

CSX Transportation

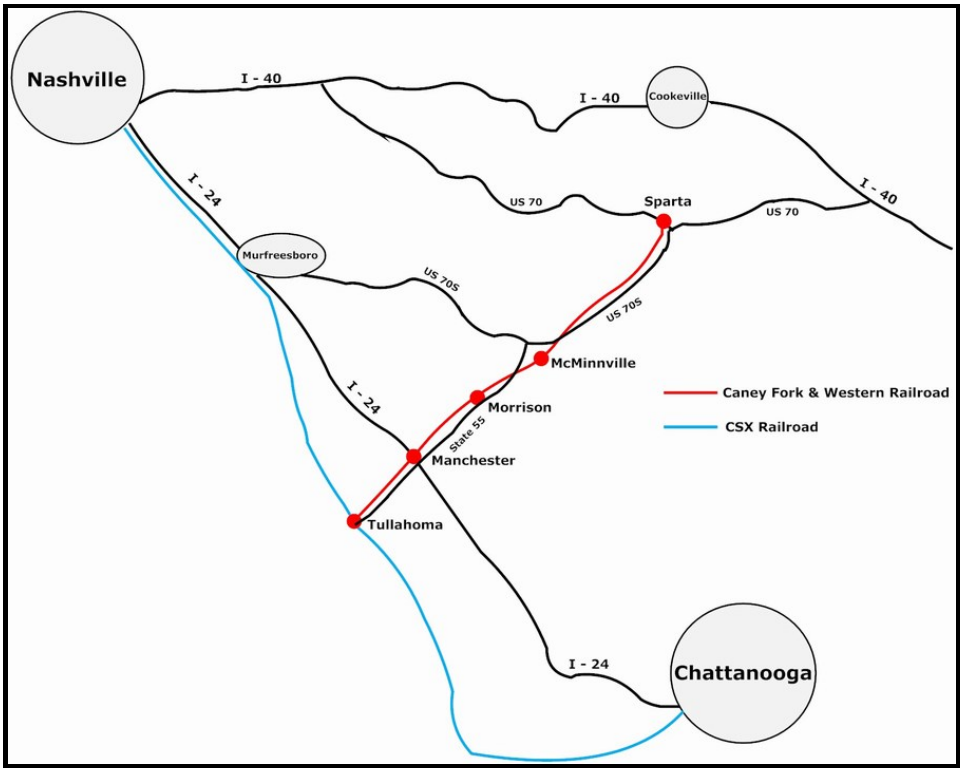
CSX Transportation operates 23,357 miles of track in 23 states in the eastern United States. In Tennessee, CSX operates 1,137 miles of track. The CSX track that runs through the heart of Tullahoma has a high volume of traffic and has been rated as congested.

Caney Fork & Western Railroad

Connecting with CSX's Class I rail line in Tullahoma, is a local rail line, also known as a short line, managed and operated by the Caney Fork & Western Railroad (CF&W), which is owned by Iron Horse, Inc. (Map V-6). Both rail lines carry freight and there is no passenger service in Tullahoma. There is a CSX depot and small rail yard in Tullahoma. The railroad corridor is owned by the Tri-County Railroad Authority, which was established by state law and who purchased the line from CSX in 1983 in order to maintain rail transportation capabilities for economic development. The Caney Fork & Western Railroad operates on a 59.1 mile corridor from Tullahoma to Sparta. The CF&W has proposed to construct a transfer facility north of the existing city limits adjacent to the tracks that will provide a rail-truck connection.

High-Speed Rail

TDOT studied several corridors between Nashville and Chattanooga, including one along the US41-A route through Tullahoma, and their preferred route has been identified as the Interstate 24 corridor. If implemented, this would put the corridor through Manchester, but there would be no stops between Nashville and Chattanooga.



Source: Caney Fork & Western Railroad

Map V – 6.
Rail Connections in Tullahoma

Table V-3 provides the breakdown for CSX and CF&W.

TABLE V-3
CLASS OF TRACK (in Tennessee)

Railroad	Excepted Track	Class 1	Class 2	Class 3	Class 4	Class 5
Caney Fork & Western	59.1	0	0	0	0	0
CSX Transportation	0	46.2	147.6	194.8	586.4	0

TABLE V-4
RAIL CROSSINGS IN TULLAHOMA

Location	Railroad	No. of Tracks	Crossing Type	Signals	Gates	Notes
Marbury Rd.	CSX	2	At-grade	N	N	Closed
N. Washington St.	CSX	2	Grade-separated	N/a	N/a	Underpass
N. Atlantic St.	CSX	1	At-grade	N	N	Inactive spur
Brown St.	CSX	2	At-grade	Y	Y	
E. Hogan St.	CSX	2	At-grade	Y	Y	
E. Grundy St.	CSX	1	At-grade	Y	Y	
E. Lincoln St.	CSX	1	At-grade	Y	Y	
E. Lauderdale St.	CSX	2	At-grade	Y	Y	
E. Warren St.	CSX	2	At-grade	Y	Y	
SR 55/Carroll St.	CSX	2	Grade-separated	N/a	N/a	Viaduct
Wiseman Rd.	CSX	1	At-grade	Y	Y	
Parham Rd.	CSX	1	At-grade	Y	Y	
S. E. Atlantic St.	CSX	1	At-grade	Y	N	Connects CFW/AEDC
S. Washington alley	CSX	1	Grade-separated	N/a	N/a	RR bridge
Polk St.	CSX	1	At-grade	N	N	
Anderson St.	CSX	1	At-grade	Y	Y	
SR 55	AEDC	1	At-grade	N	N	
Industrial Blvd.	AEDC	1	At-grade	N	N	
Montclair St.	AEDC	2	At-grade	N	N	
Industrial Blvd. (2)	AEDC	1	At-grade	N	N	
Roosevelt St.	CFW	1	At-grade	N	N	
Helen St.	CFW	1	At-grade	N	N	
Broadrick St.	CFW	1	At-grade	N	N	
Freeman St.	CFW	1	At-grade	N	N	
Anderson Dr.	CFW	1	At-grade	N	N	
Cobb Rd.	CFW	1	At-grade	N	N	

VI. CONCEPT PLAN

Long-Range Improvements

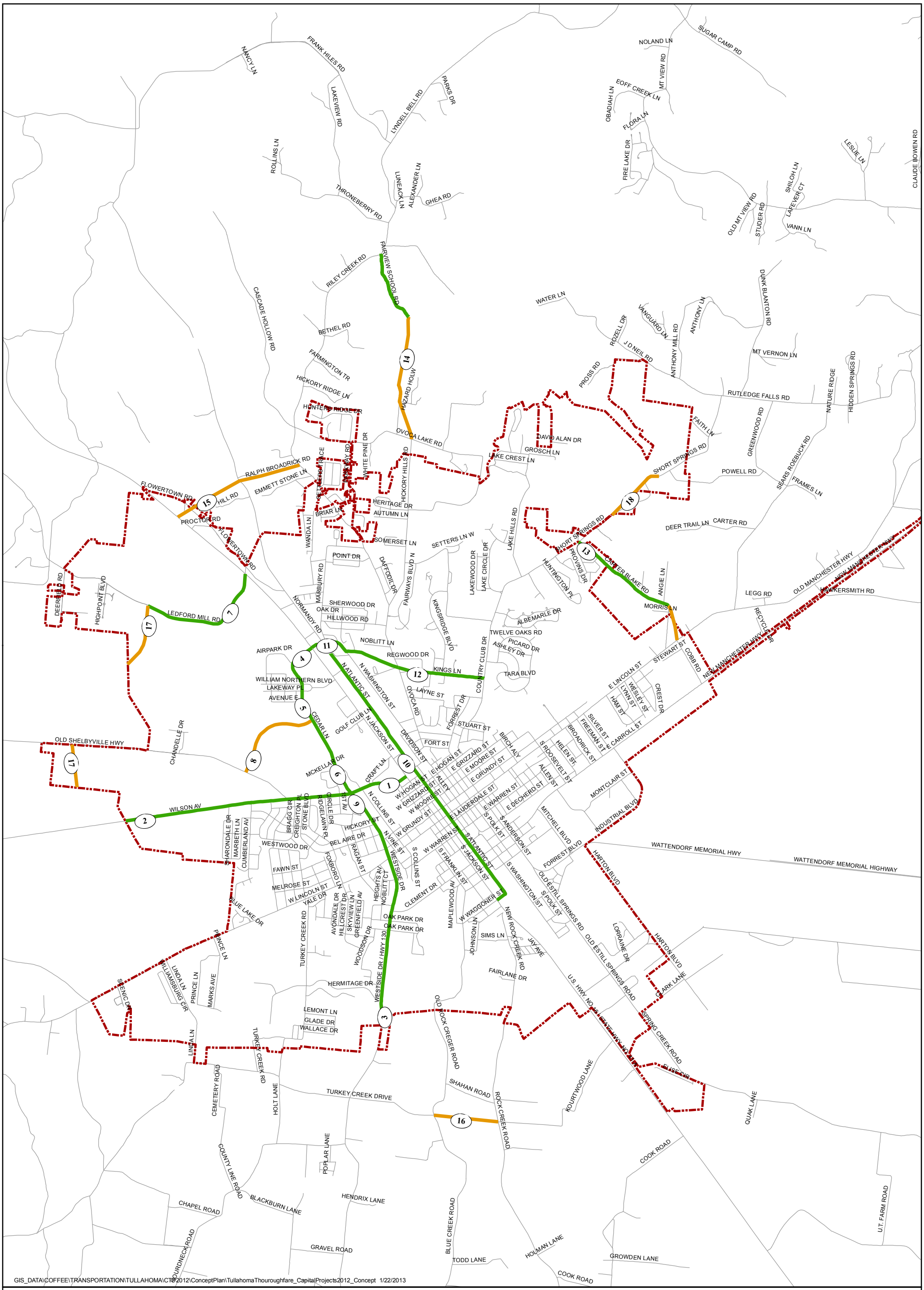
During the preparation of this Comprehensive Transportation Plan, the Planning Commission has been actively involved in its development. The Commission has reviewed traffic counts, traffic projections, levels of service, and accident rates. The members have evaluated the current transportation system and discussed needed improvements to current roadway segments. The Commission has solicited input from citizens through the media on needed improvements to the transportation system. All of the proposed roadway projects on existing alignments outlined in later sections were thoroughly evaluated by the Commission. The proposed improvements are shown in a Concept Plan on Map VI-1 (page 45).

A number of proposed projects on existing alignments are projects already under consideration or active projects by the Tennessee Department of Transportation. The projects include the widening of US Hwy 41A from Tullahoma to Shelbyville and two projects on SR 55 from Tullahoma to Lynchburg. Another project that has been discussed as a future need by TDOT is the widening of SR 130 (Westside Drive) from Clement Drive to the Urban Growth Boundary. These projects will be completely funded by TDOT.

In 2003, the City developed a study of the Cedar Lane corridor with an emphasis on the area bounded to the west by the Tullahoma Municipal Airport. The need for transportation improvements in the airport area was a recommendation in order to accompany an expanding hospital, additional medical facilities, and to market the development of aviation-related businesses and industries. It is noted that some of the roadway improvements will be driven by the public sector while others will be developed by the private sector. Based on recommendations of the study, the City of Tullahoma has moved forward a Surface Transportation Project to widen Cedar Lane from North Jackson Street to William Northern Boulevard with construction expected to begin in 2012. The study also recommended improved access from Cedar Lane to SR 130.

Several other proposed projects on existing alignments have been discussed with a high priority level assigned, such as improvements to future phases of Cedar Lane to create a three-lane minor arterial street on the west side of the City that serves as an alternate route to North and South Jackson Street. On the east side of the City, Atlantic Street has also been evaluated as a project to better serve as an alternate to North and South Jackson Street. Other projects on existing alignments include Ledford Mill Road which was discussed earlier, and improvements to Ralph Broadrick Road in the northern portion of the City.

In 2007, the Planning Commission updated the Major Thoroughfare Plan for the City of Tullahoma and added four proposed roadway segments on new alignments. Those projects consisted of a northward extension of Hickory Hills Road connecting to Riley Creek Road, a westward extension of Ralph Broadrick Road to US Hwy 41A, a connector road from Ledford Mill Road to Old Shelbyville Hwy (SR 130), and a new segment of roadway from Turkey Creek Road to Kourtwood Lane in the southern section of the UGB. The development of this Comprehensive Transportation Plan has maintained these proposed segments.



Capital Projects APR2012

- Project on Existing Alignment
- Project on Proposed AlignmenT
- Tullahoma City Limits

Concept Plan
Map VI-1

0 0.5 1 2 Miles

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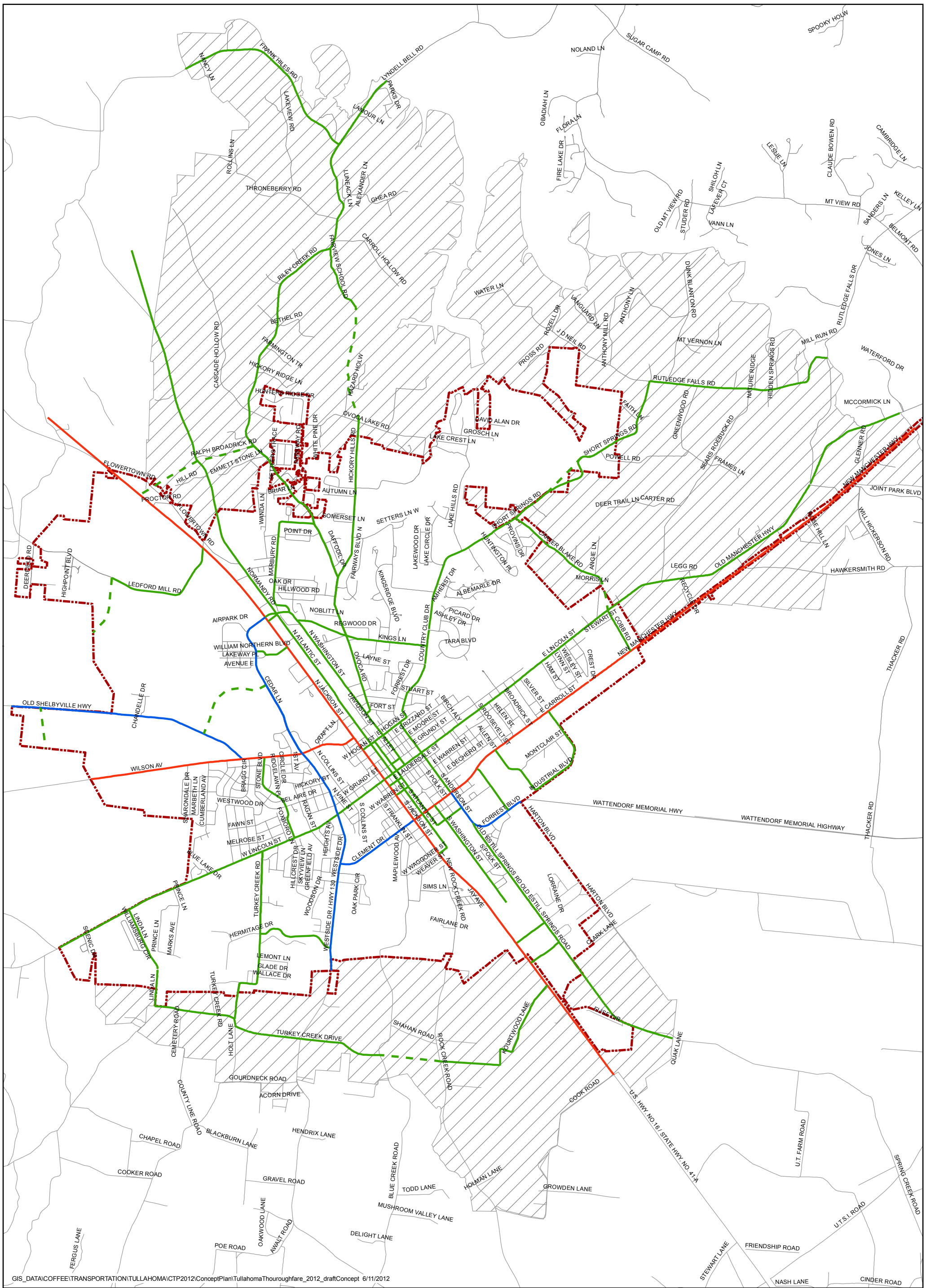

Tullahoma Thoroughfare Plan

- Urban Principle Arterial (84' - 150' ROW)
- Urban Minor Arterial (60' - 84' ROW)
- Urban Minor Arterial - Proposed (60' - 84' ROW)
- Urban Collector (60' ROW)
- Urban Collector - Proposed (60' ROW)

Major Thouroughfare Plan
Map VI-2

Tullahoma, Tennessee
December 2012

0 0.5 1 2 Miles

N W E S

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The proposed Major Thoroughfare Plan in Map VI-2 (page 46) represents the recommended final traffic plan as a result of the evaluation of all factors in this plan. The Major Thoroughfare Plan shows the intended classification of proposed roadways on new alignments as well as existing roadways. This plan lists the needed right-of-way widths for each classification of roadway. The thoroughfare plan is intended to be utilized by the Planning Commission and staff in requiring future dedication of right-of-way by residential subdivisions, commercial developers, and industrial developers. Preserving the needed right-of-way for the construction of planned roadways is critical to meeting this long-range transportation plan.

As a result of the plan, some portions of the proposed roadways may be constructed by private developers over time. Other portions will be constructed by the City. TDOT funding will play a critical role in years to come in the ability to construct the longer segments of the plan. The City of Tullahoma is currently utilizing TDOT STP (Surface Transportation Program) funds for the upcoming widening of Cedar Lane, Phase I, from N. Jackson Street to William Northern Blvd.

20-Year Plan by 5-Year Increments

A proposed 20-year project list is presented in Table VI-1 (page 48). The project list is broken down into five-year increments with the intended completion of projects in that period listed. This list contains numerous projects that were identified in the 1996 Comprehensive Transportation Plan but were not completed. Therefore, it is noted that this project list is an aggressive plan that relies heavily on favorable economic conditions at the federal, state, and local levels to generate the needed funding. This 20-year project list is to be reviewed by the Planning Commission every five years and revised as necessary.

Map VI-1 (page 45), Concept Plan, depicts the projects identified on the 20-year project list. This plan mirrors the Major Thoroughfare Plan in layout of arterial and collector streets planned for the City over the upcoming year 20-year period and beyond.

Recommended interim improvements to the transportation system are listed in Table VI-2 (page 50). These items are considered projects of a size that they can be completed with City forces or they can be budgeted into a single fiscal year without issuance of bonds or other financing. These projects are considered an immediate need and should be enacted within the first five-year period.

The Planning Commission, during the development of the Comprehensive Transportation Plan, has evaluated the need for, and the alignment options of, an urban minor arterial connector roadway that extends around the perimeter of the City providing connectivity to existing arterial and collector roadways. Much consideration has been given to the need for the connector roadway and to the phasing plan of the route. While the long-term need was identified, it was concluded that the timing would be beyond the current 20-year planning period.

The alignment of the connector roadway considered would generally extend around the City outside of the current corporate limits but within the boundaries of the Urban Growth Boundary (UGB). The route would fall within Moore County in the westerly quadrant and within Arnold Engineering Development Complex property in the easterly quadrant. The City of Tullahoma does not have planning jurisdiction within these areas, making the consideration of the potential route at the discretion of those entities.

Because the current need for the minor arterial connector roadway within the UGB is projected to be beyond the current 20-year planning period, a projected route is not included in the Concept Plan presented in this document. A need may arise in the upcoming years that may warrant

additional consideration of the route and accelerated planning for the alignment. Considerations such as a new major industry in a quadrant of the City or even within a neighboring city might point to the need for the roadway or a phase of the roadway. Other considerations such as accelerated residential growth in a specific quadrant or the construction of a school in an area may yield the same planning effort for the roadway. As will be discussed in later sections, the Comprehensive Transportation Plan will be evaluated periodically for the need to update the plan. The connector roadway within the UGB will be one element to be considered in evaluating the need to update the plan.

Table VI-1
Concept Plan – 20-Year Project List

REF NO	PROJECT	FROM	TO	2010 TRAFFIC IMPROVEMENT	(MILES)	EST COST
First Five Years(2012-2017)						
1	Wilson Avenue (SR 55) (TDOT Project)	N Jackson	First Ave	5 Lanes @ 12' W/C&G W/Sidewalks and Bike Lanes	0.64	$3.0M
2	Wilson Avenue (SR 55) (TDOT Project)	First Av	Corporate Boundary	4 Lanes @ 12' W/Shoulders W/sidewalks and Bike Lanes	1.94	$7.0M
3	Westside Dr.(SR 130) (TDOT Project)	Clement Dr.	Corporate Boundary	3 Lanes @ 12' W/8' Shoulders W/Bike Lanes	1.03	$2.5M
4	Cedar Lane	N Jackson	William Northern	3 Lanes @ 12' W/C&G W/Sidewalks and Bike Lanes	0.43	$1.1M
5	Cedar Lane	William Northern	Connector (Cedar/SR 130)	3 Lanes @ 12' W/C&G W/Sidewalks and Bike Lanes	.33	$0.9 M
6	Cedar Lane	Connector (Cedar/SR 130	Wilson Ave	3 Lanes @ 12' W/C&G W/Sidewalks and Bike Lanes	.75	$2.2 M
7	Ledford Mill RD	N Jackson	North Airport	2 Lanes @ 12' W/Shoulder	1.11	$1.0M
8	Connector Road	Cedar Lane	SR 130	3 Lanes @ 12' W/Shoulder W/Sidewalks and Bike Lanes	0.87	$2.5M
				Total First Five Years	$20.2M	
Second Five Years (2017 – 2022)						
9	Cedar Lane/Westside Dr.	Wilson Ave	Clement Dr.	3 Lanes @ 12' W/C&G W/Sidewalks and Bike Lanes	1.18	$3.5M
10	Atlantic St	Kings LN	S Jackson St	2 Lanes @ 12' W/C&G or Shoulders W/Sidewalks	3.03	$1.9M
				Total Second Five Years	$5.4M	
Third Five Years (2022 - 2022)						
11	Kings Lane	Ovoca Rd	Marbury Dr.	2 Lanes @ 12' W/C&G or Shoulders W/Sidewalks and Bike Lanes	0.74	$1.6M
12	Kings Lane	Country Club Dr.	Ovoca Rd.	2 Lanes @ 12' W/C&G or Shoulders W/Sidewalks and Bike Lanes	0.78	$1.7M
				Total Third Five Years	$3.3M	
Last Five Years (2027 - 2032)						
13	Carter Blake Rd.	Short Springs Rd./Cobb Rd.	New Manchester HWY	2 Lanes @ 12' W/2' Shoulders	1.32	$2.0M
14	Hickory Hills Rd.	Hickory Hills	Riley Creek Rd.	2 Lanes @ 12' W/2' Shoulders	1.78	$4.7M
15	Ralph Broadrick Rd.	Riley Creek Rd.	N. Jackson St.	2 Lanes @ 12' W/2' Shoulders	1.07	$2.3M
16	Turkey Creek Dr.	Turkey Creek Dr.	Kourtwood	2 Lanes @ 12' W/2' Shoulders	0.58	$0.8 M
17	Connector Road	Ledford Mill Rd.	Wilson Ave.	2 Lanes @ 12' W/2' Shoulders W/Sidewalks and Bike Lanes	.97	$2.1 M
18	Short Springs Rd.			2 Lanes @ 12' W/2' Shoulders W/ Bike Lanes or Paths	.56	$4.0M
				Total Fourth Five Years	$15.9M	

Interim Improvements (5-Year Plan)

In order to address some of the existing and projected capacity and access needs, the City should consider several interim roadway or intersection improvements. Table VI-2 (page 50) presents the interim projects which are recommended. Descriptions of each of these projects are as follows:

- **Existing Arterial and Collector Streets – Conduct speed limit study**

  Several existing arterial and collector streets have either been improved or have seen changes in traffic patterns. These roadway sections should be re-evaluated for potential changes to the posted speed limits based on the guidelines set forth below.

- **US41-A/State Route 16/North Jackson Street at Washington Street and Cedar Lane – Intersection improvement**

  When the Tennessee DOT widened US41-A from just south of Washington Street/Cedar Lane to the northern city limits, several intersections were modified. These modifications in many cases included signalization and geometrics. However, when TDOT reconstructed the above referenced intersection, the new intersection created alignment issues for the east-west traffic on Cedar Lane and Washington Street. It is recommended that the intersection be improved to address this issue. This project should be corrected at TDOT expense.

- **US41-A/State Route 16/South Jackson Street at East Lauderdale Street – Traffic signal improvement**

  The present traffic signal installation should be modified to add a protected left-turn phase for north and south-bound traffic turning onto Lauderdale Street.

- **Atlantic Street at Brown Street near CSX Railroad Crossing – Intersection improvement**

  While the railroad is typically responsible for railroad crossing improvements within 25-feet of the track, other improvements may be required beyond that point. The intersection east of the railroad should be improved as the radius for truck turning movements is inadequate.

- **Cedar Lane to State Route 130 Connection (Phase 1) – Urban Collector Street**

  In an effort to improve access from Cedar Lane to SR 130 and SR 55, an alignment through undeveloped property in the northwest quadrant has been proposed by the City and the private sector. The City should begin by acquiring right-of-way for this project followed by the construction of the Phase 1 segment.

- **Carter Blake Road at East Lincoln/Old Manchester Highway – Intersection realignment**

  The intersection should be re-aligned to provide for a 90-degree connection of Carter Blake Road with the Old Manchester Highway to improve sight visibility.

- **Riley Creek Road at Ovoca Road – Intersection Alignment**

  The intersection should be re-aligned to provide for a 90-degree connection of Ovoca road to Riley Creek Road to improve sight visibility.

TABLE VI-2
RECOMMENDED INTERIM IMPROVEMENTS

ITEM #	LOCATION	TYPE OF IMPROVEMENT	SUGGESTED IMPROVEMENT	ESTIMATED COST
1	Existing Arterial & Collectors	Speed limit study	Provide analysis & speed limit changes based on existing conditions	$1,000
2	US41-A/SR 16 at Washington St./Cedar Lane	Intersection Improvement	Lane alignment	TDOT Project
3	S. Jackson / E. Lauderdale	Signal Upgrade	Provide protected left turn signal for side street	$10,000
4	Atlantic St. @ Brown St./near CSX Railroad	Intersection Improvement	Improve geometrics	$40,000
5	Cedar Lane to SR 130 Connection	Urban Collector Street	Right-of-Way Construction – 1st phase	$140,500
6	Carter Blake Road/Old Manchester Hwy.	Intersection Alignment	Align side street to a 90° intersection with through-street	$25,000
7	Riley Creek Rd/Ovoca Rd.	Intersection Alignment	Align side street to a 90° intersection with through-street	$5,000

Speed Limits

The *Manual on Uniform Traffic Control Devices* (MUTCD) suggests that the speed limit of a roadway be "established by law, or by regulation, after an engineering and traffic investigation has been made in accordance with traffic engineering practices." According to the MUTCD, the following factors are to be considered in setting speed limits:

1. Road characteristics, shoulder condition, grade, alignment, and sight distance.
2. The 85th percentile speed and pace speed.
3. Roadside development and culture, and roadside friction.
4. Safe speed for curves or hazardous locations within the zone.
5. Parking practices and pedestrian activity.
6. Reported accident experience for a recent 12-month period.

The MUTCD does not include guidelines for conducting the required engineering and traffic investigation, nor is any guidance given on the relative importance of each of the six factors. Therefore, it is left up to the government agency having jurisdiction to determine the procedures to follow in setting speed limits.

Research indicates that the 85th percentile speed is used far more than any other single factor in setting speed limits. The 85th percentile speed is the speed at or below which 85% of traffic is moving. The 85th percentile speed is typically within about two miles per hour of the upper limit of the pace speed, which is the 10 mph range of speeds containing the largest number of observations. It is a widely recognized concept that the great majority of motorists drive at a safe and reasonable speed. Thus, the 85th percentile speed is typically considered a safe and reasonable speed for a given roadway.

The 85th percentile speed and the pace speed on a roadway are determined by conducting speed surveys in the field. Procedures for conducting and analyzing spot speed data are outlined in the *Manual of Transportation Engineering Studies*, which is published by the Institute of Transportation Engineers.

Recommended Speed Limit Policy

The recommended speed limit policy for the City of Tullahoma is:

> Speed limits for all roadways shall be set in multiples of 5 mph. The speed limits should not differ from the 85th percentile speed or upper limit of the 10 mph pace by more than 3 mph or less than 8 mph unless justified by supplemental investigations. The supplemental investigations may include any or all of the conditions listed below:

1. If the accident rate is 50% higher than the statewide rate for the same highway classification, the speed limit may be reduced by 5 percent.

2. The speed limit can be reduced if the roadway has a high driveway density. Based on the average number of driveways per mile, the speed for a roadway may be reduced by the percentages shown below.

Driveways Per Mile	Speed Reduction Percent
0 - 40	0%
40 – 60	5%
61 or more	10%

3. Where parking is permitted adjacent to the travel lane, the speed limit for the roadway may be reduced by 5 percent.

VII. SUMMARY

The City of Tullahoma has experienced moderate growth over recent decades and is expected to continue to grow in the future at a moderate rate. With residential growth distributed throughout the city and commercial growth in the northern area of N. Jackson Street, deteriorating levels of service have been experienced and higher accident rates have occurred on many roadway segments, but primarily on the state highway routes. This CTP updates the City of Tullahoma Major Thoroughfare Plan and establishes a 20-year capital projects plan for improvements to existing roadways and the development of roadways on new alignments to plan for projected traffic conditions. This plan also updates the pedestrian facilities master plan documents for sidewalks, greenways, and bicycle routes.

The Major Thoroughfare Plan, Master Sidewalk Plan, Master Greenway Plan, and Master Bicycle Route Plan should be formally approved for adoption by the Planning Commission. The 20-year Capital Projects List should be approved and adopted by the Board of Mayor and Aldermen. Finally, the Major Thoroughfare Plan will be recorded with the register of deeds in Coffee County and Franklin County.

The Comprehensive Transportation Plan and supporting documentation will be provided to the Tennessee Department of Transportation (TDOT) for acceptance. This plan will be a first step in documenting the needs and establishing preliminary budgets for state funded transportation improvements in the Tullahoma planning region. The plan will also serve as an initial needs assessment for presenting to the TDOT Regional Planning Organization (RPO) of which Tullahoma is a member of the South Central East RPO.

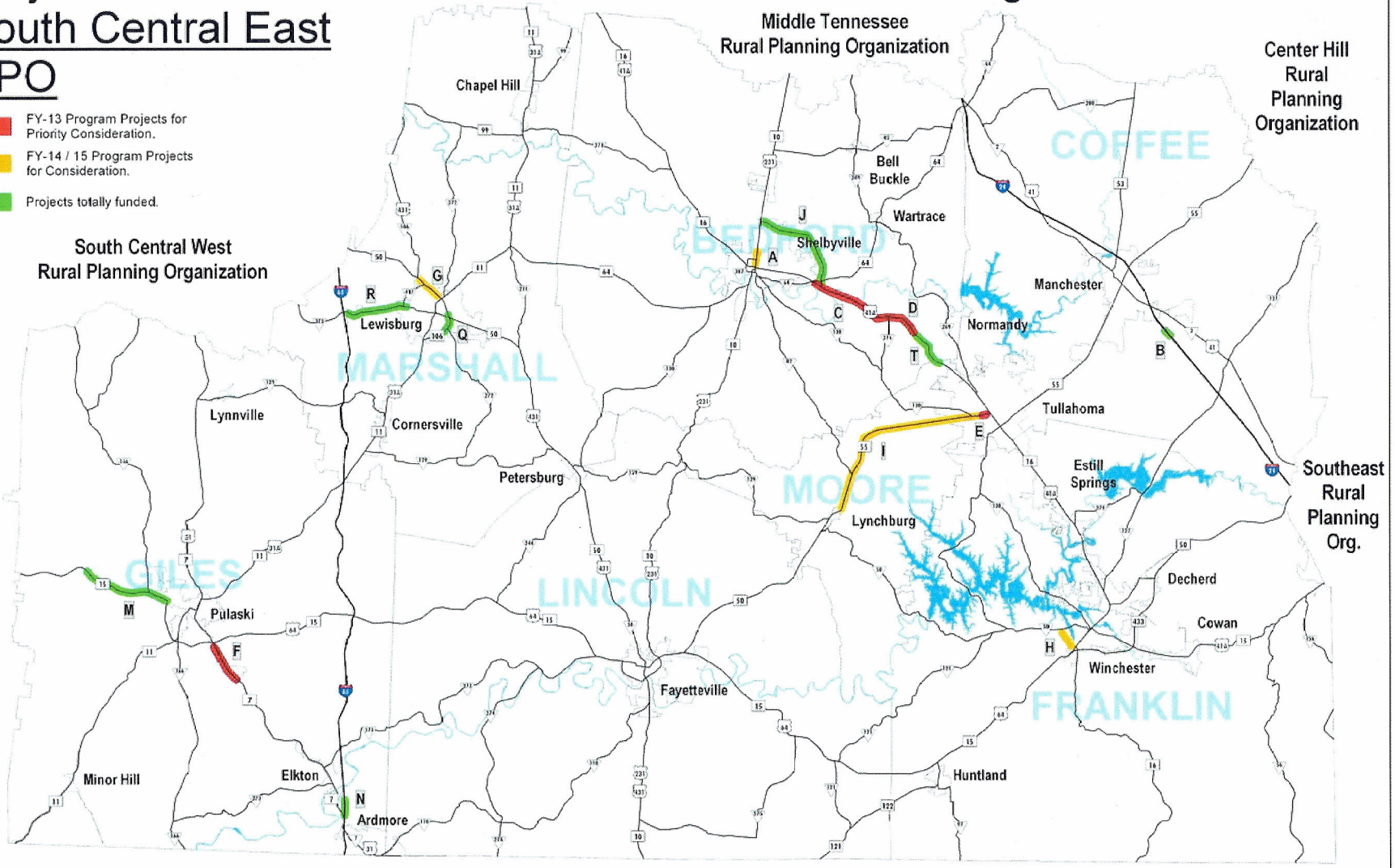
In conclusion, the Comprehensive Transportation Plan shall be reviewed periodically by the Planning Commission as projects are implemented. The plan will be reviewed every five years to assess existing traffic conditions and growth factors that could result in modification to the recommendations outlined in the plan.

IX. APPENDICES

Appendix A: South East Tennessee Rural Transportation Organization Plan

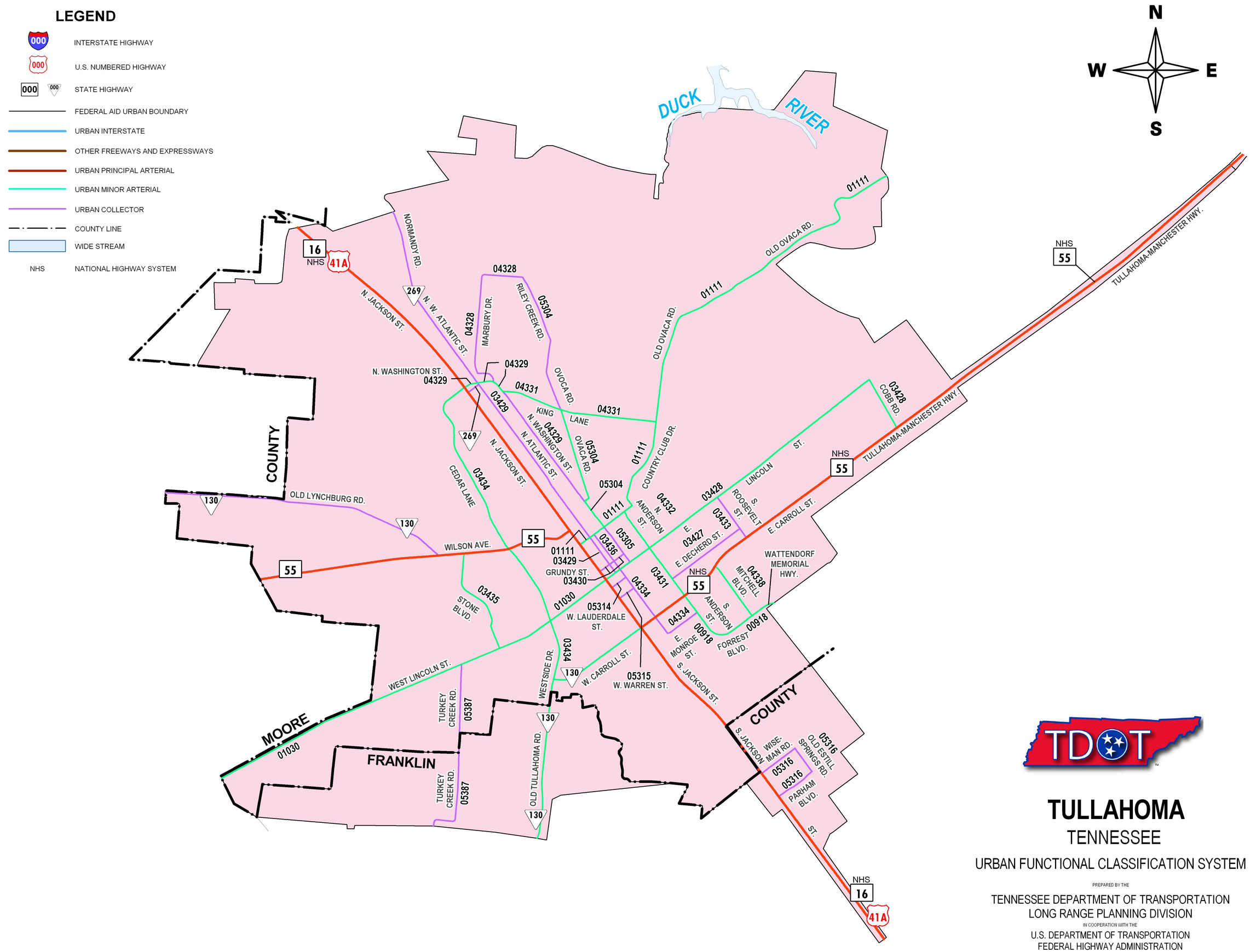
Projects for Recommendation to the 3 Year Work Program 2013-2015

South Central East RPO



Prepared October 2011

Appendix B: TDOT Urban Functional Classification System



TULLAHOMA

TENNESSEE

URBAN FUNCTIONAL CLASSIFICATION SYSTEM

PREPARED BY THE

TENNESSEE DEPARTMENT OF TRANSPORTATION
LONG RANGE PLANNING DIVISION

IN COOPERATION WITH THE

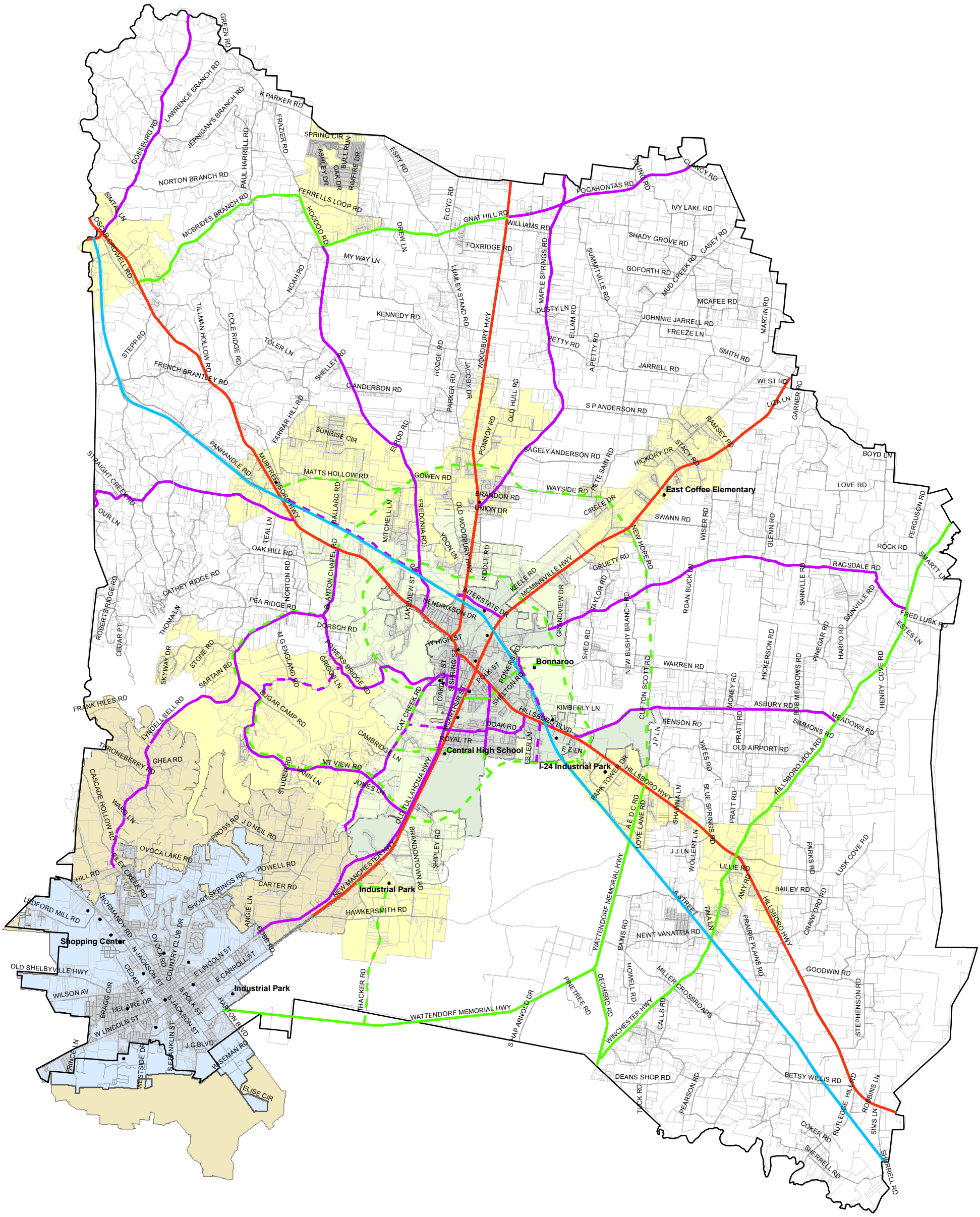
U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL HIGHWAY ADMINISTRATION

0.4 0.0 0.4 0.8 1.2 1.6
Miles

2013

16B

Appendix C: Coffee County Major Thoroughfare Plan – April 2008



COFFEE COUNTY, TENNESSEE

MAJOR THOROUGHFARE PLAN

APRIL 17, 2008

Approval herein certifies that this map represents the official transportation plan for Coffee County as adopted by the Planning Commision on this date.

Planning Commission Chairman

Date

LENGTH

- **Urban Interstate, Existing (150' R.O.W.)**
- **Urban Principal Arterial, Existing (84'-150' R.O.W.)**
- **Urban Minor Arterial, Existing (60'-84' R.O.W.)**
- **Urban Minor Arterial, Proposed (60'-84' R.O.W.)**
- **Urban Collector, Existing (60' R.O.W.)**
- **Urban Collector, Proposed (60' R.O.W.)**
- **Minor Street (50' R.O.W.)**

0 0.45 0.9 1.8 2.7 3.6 Miles

N W E S

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MANCHESTER, TN 37355
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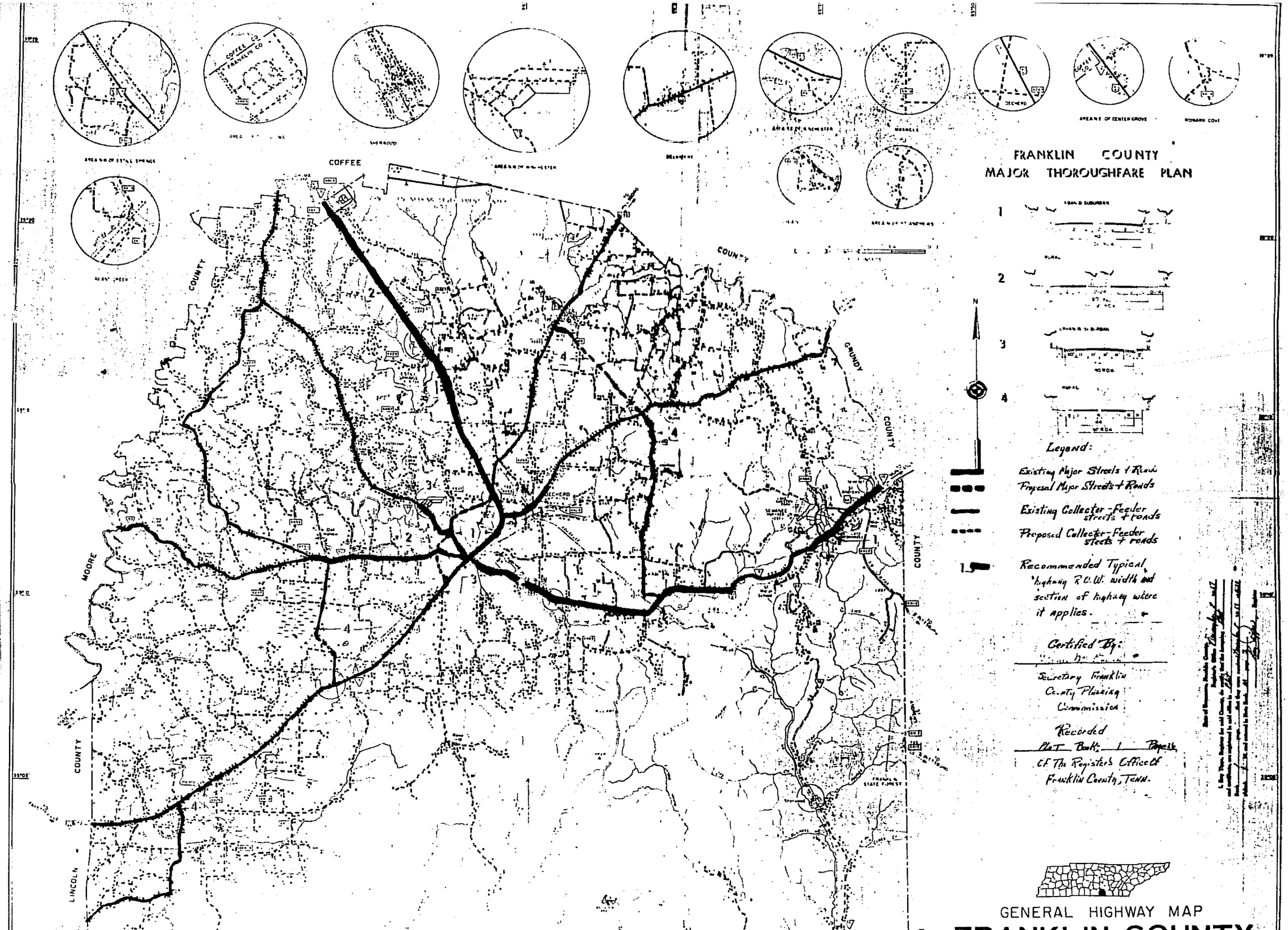
WWW.ST.JOHNENGINEERING.COM

GIS_DATA\COFFEE\TRANSPORTATION\TULLAHOMA\CTP2012\CoffeeThouroughfare_2008 2/13/2012

Appendix D: Franklin County Major Thoroughfare Plan – 1967


FRANKLIN COUNTY
MAJOR THOROUGHFARE PLAN
COFFEE
COUNTY
MOORE
COUNTY
LINCOLN
COUNTY
GRUNDY
COUNTY
COFFEE CO
FRANKLIN CO
DECHERD
AREA N OF CENTER GROVE
ROBANK COVE
N
1
2
3
4
Legend:
Existing Major Streets & Roads
Proposed Major Streets & Roads
Existing Collector-Feeder streets & roads
Proposed Collector-Feeder streets & roads
Recommended Typical highway R.O.W. width and section of highway where it applies.
Certified By:
Secretary Franklin County Planning Commission
Recorded
Plat Book 1 Page 4
Of The Registers Office Of Franklin County, Tenn.
GENERAL HIGHWAY MAP
FRANKLIN COUNTY