The following table summarizes the approximate minimum time required to travel between the junction of U.S. Route 17 and S.C. Route 22 to I-95, as illustrated in Figures 82 through 90.

	No-Build	ALT 1	ALT 2	ALT 3	ALT 4	ALT 5	ALT 6	ALT 7	ALT 8
Minimum Travel Time (minutes)	95	70	70	65	70	65	65	65	70

Local Network Congestion

As was done with the other 2030 Traffic Assignments, the effect of the Peak Day Traffic on local network congestion was examined.

The projected 2030 Peak Day roadway levels of service for the No-build and eight I-73 Alternatives were determined using the same SCDOT level of service (LOS) criteria as used previously.

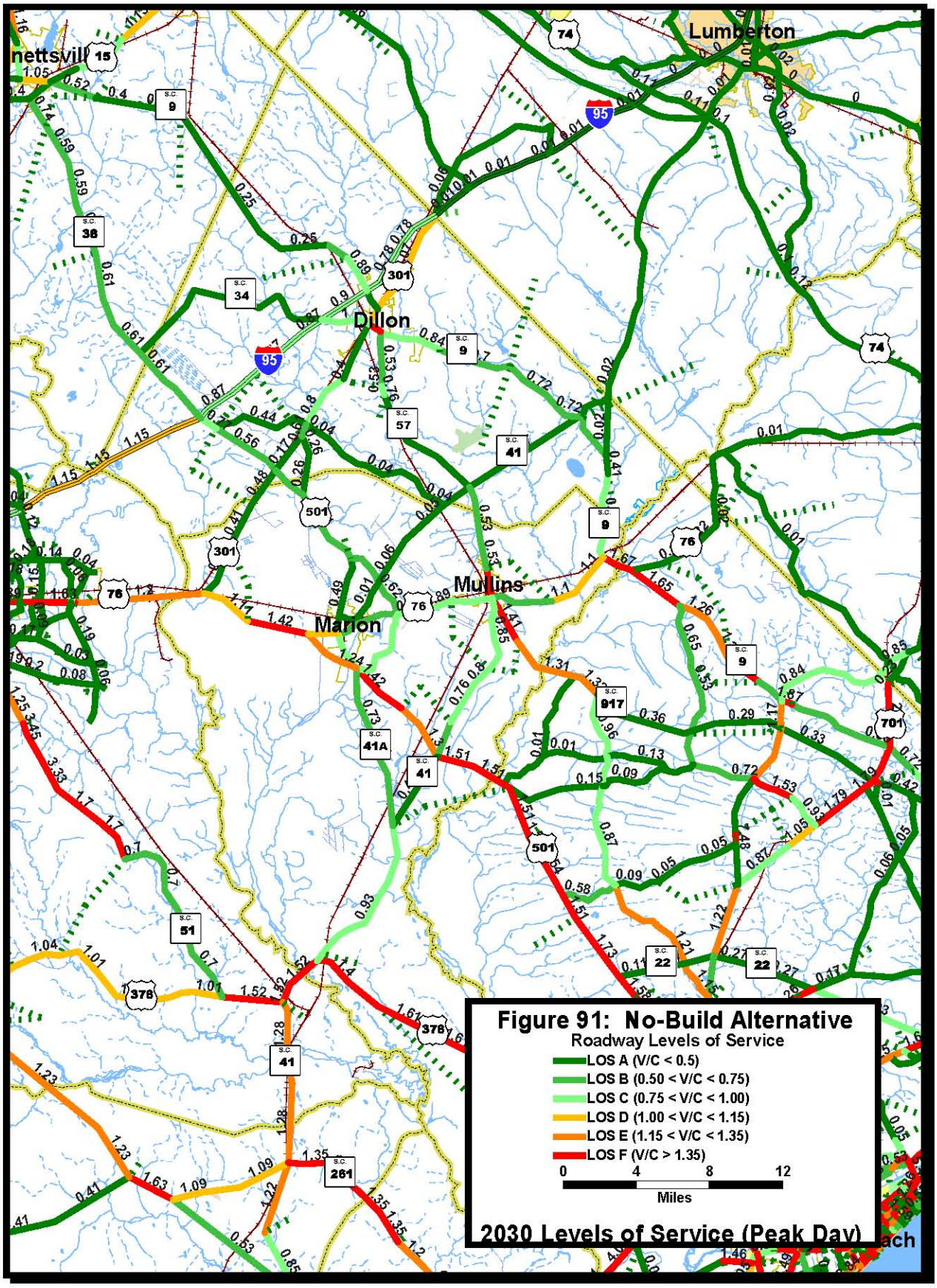
The 2030 No-build Alternative Roadway Levels of Service are shown in Figure 91.

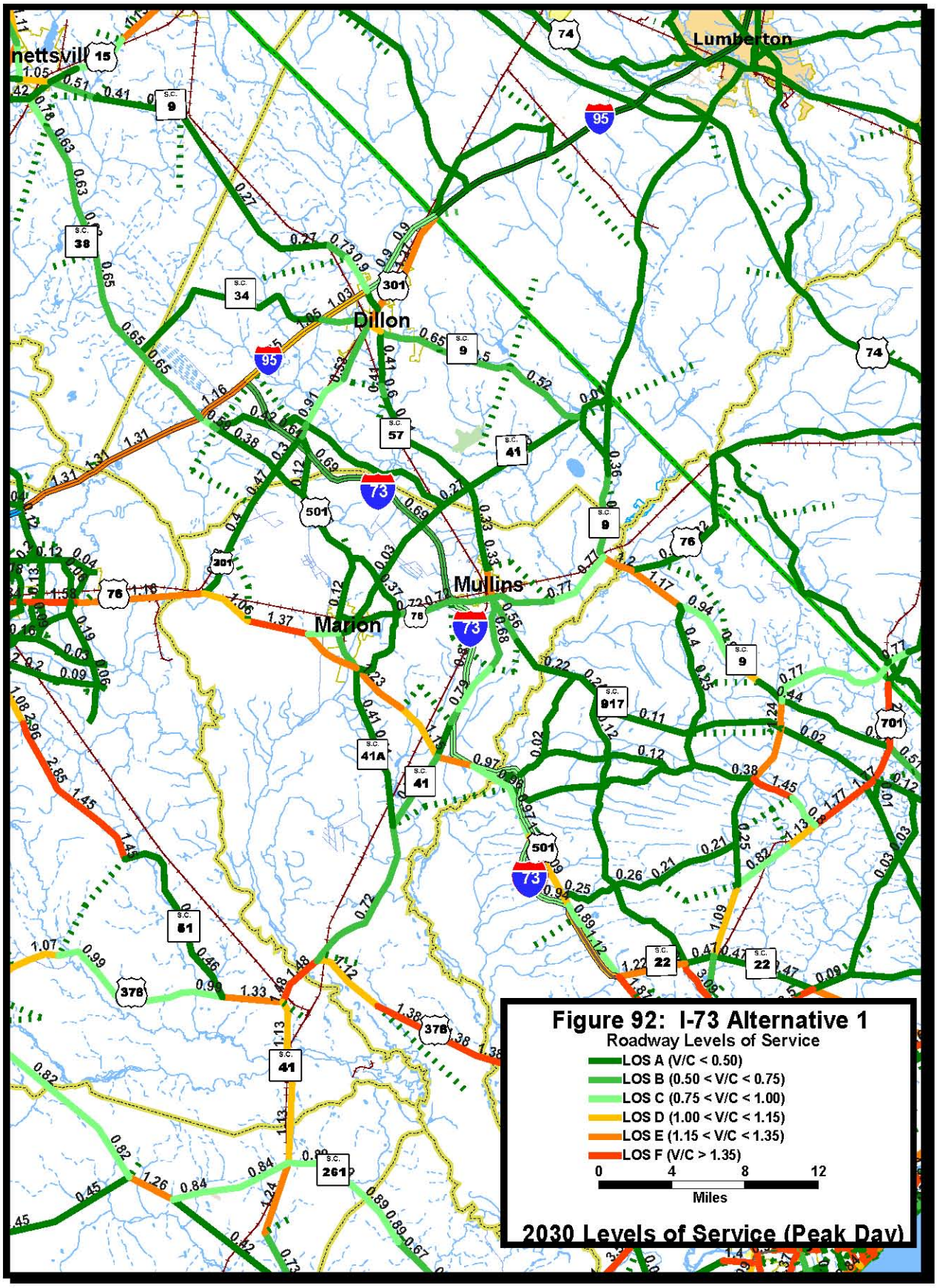
As shown in Figure 91, most of the U.S. Route 501 roadway segments between U.S. Route 76 west of Marion and S.C. Route 22 north of Conway are projected to operate at LOS F during the 2030 Peak Day No-build Alternative. U.S. Route 378 between SC 41 and Conway is also projected to operate at LOS F.

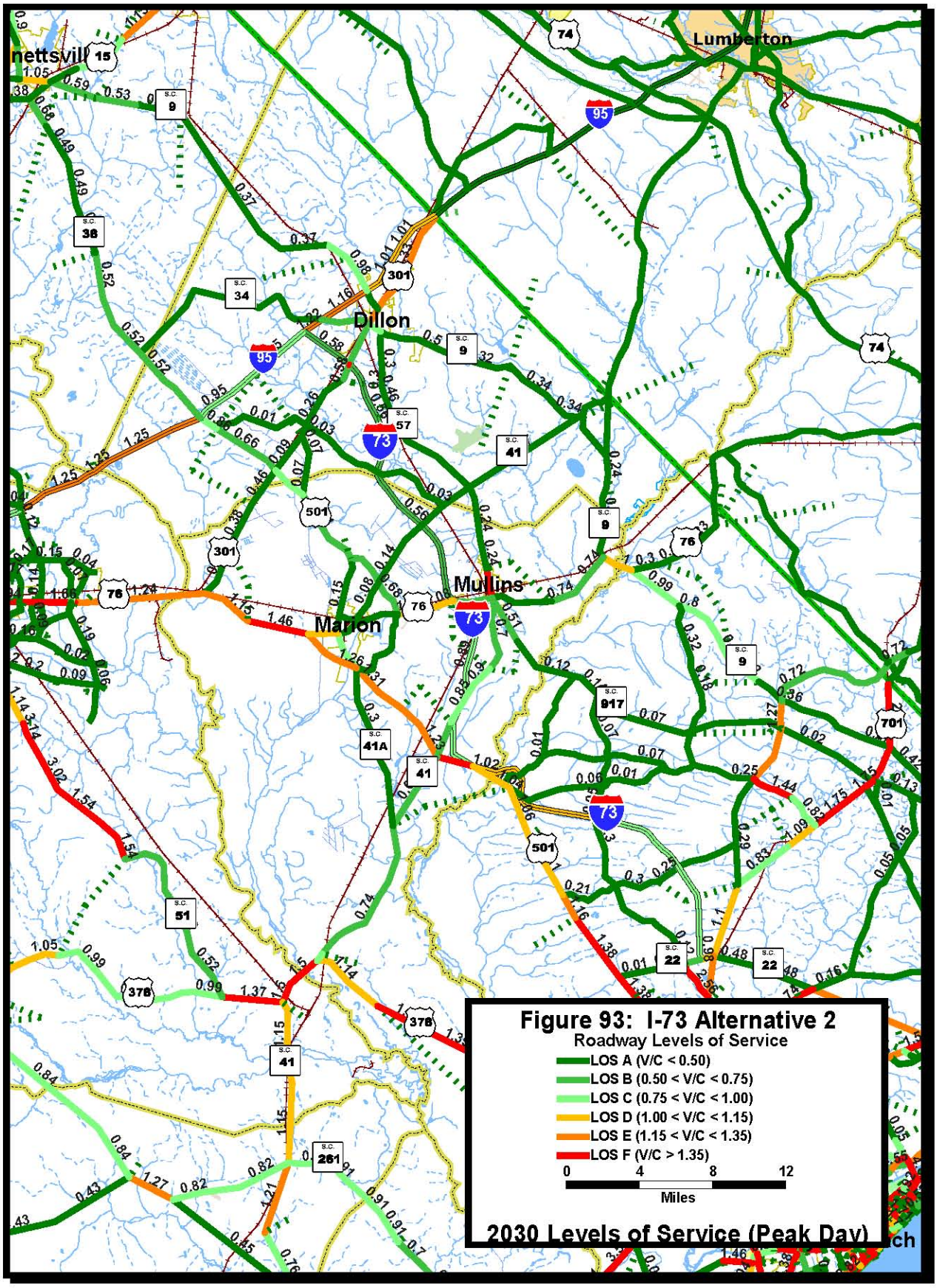
Figures 92 through 99 illustrate the projected 2030 Peak Day roadway LOS for I-73 Alternatives 1 through 8 respectively. As these figures show, the I-73 Build Alternatives are generally projected to operate at LOS C. I-73 Alternatives 5 and 8 would operate at LOS C across their entire length, while the remaining alternatives would generally operate at LOS C with some segments operating at LOS D. In many of the alternatives, the portion of U.S. Route 501 between SC 41 and S.C. Route 22 would operate at LOS D or E, with the better LOS attained in the Alternatives 1 and 4. In those alternatives, I-73 would run closer to U.S. Route 501 and thereby divert more traffic from that route. In the remaining alternatives, U.S. Route 501 is projected to operate at LOS F as it gets approaches its junction with S.C. Route 22.

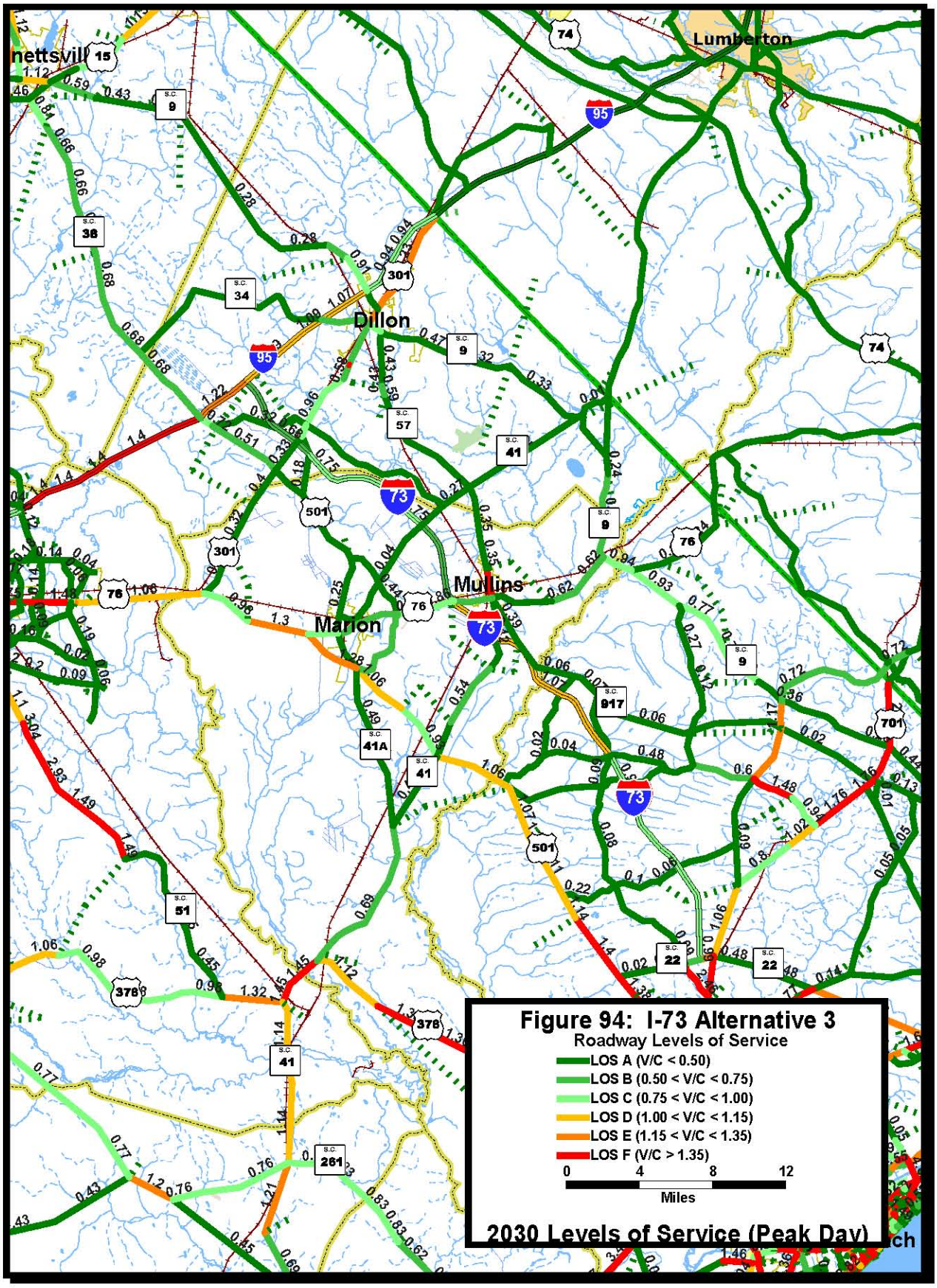
Other Measures of Effectiveness

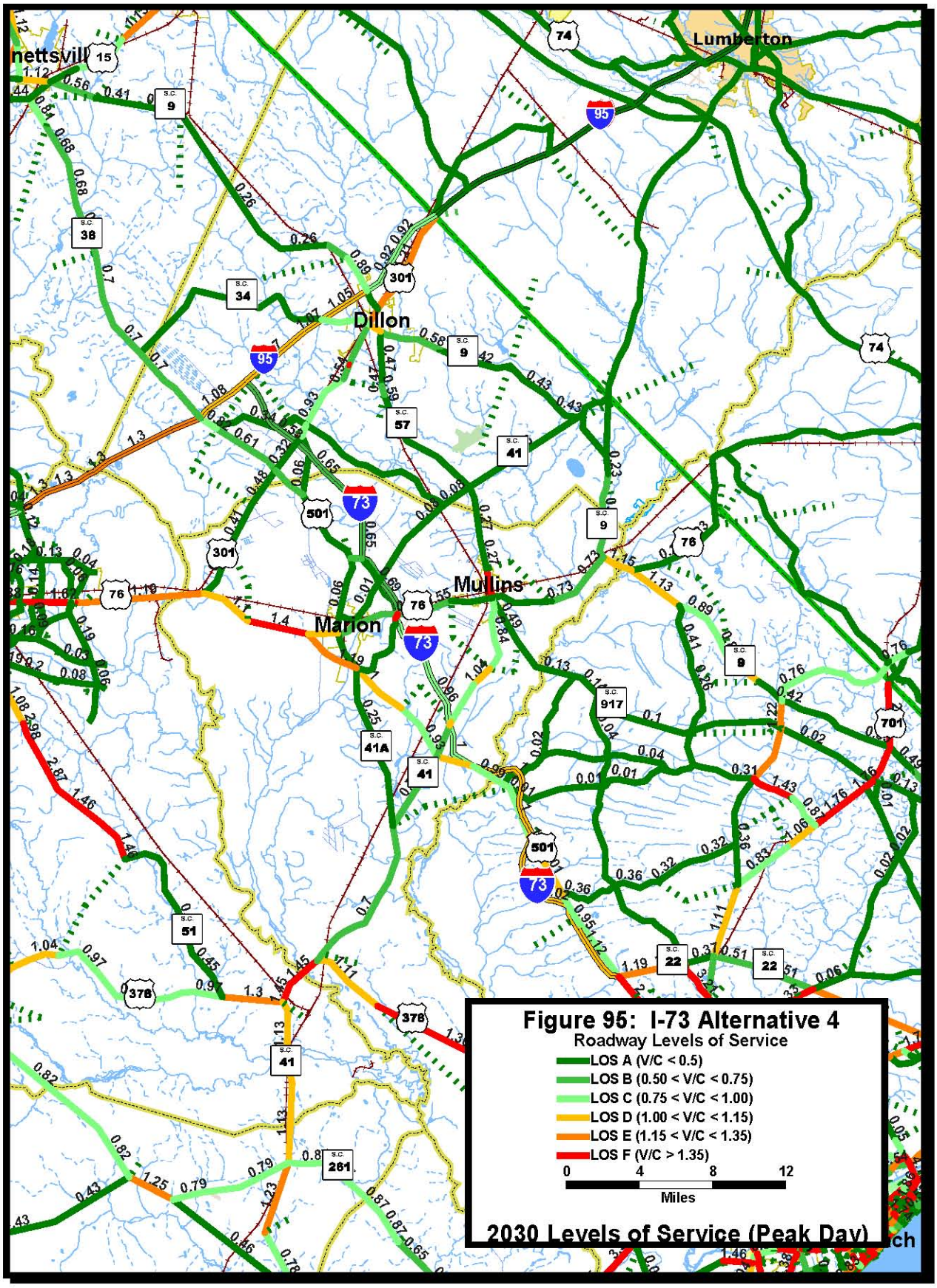
The Peak Day Vehicle Miles Traveled (VMT) and Vehicle Hours Traveled (VHT) were calculated as MOE used to evaluate the various alternatives against the no-build condition. The 2030 Peak Day No-Build condition VMT and VHT for the three county study area (with and without the GSATS network contribution) is summarized in the following table.

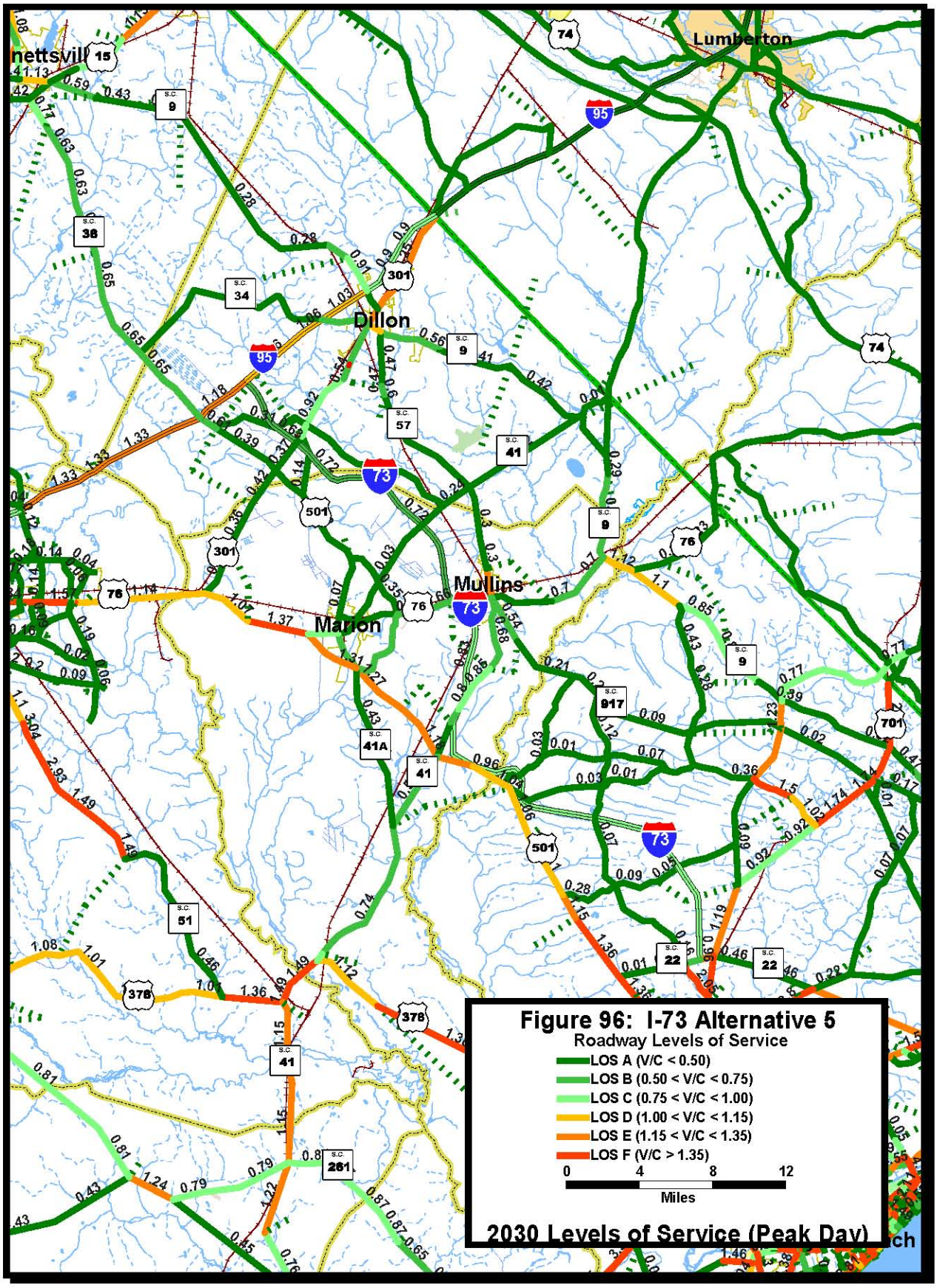

Lumberton
Dillon
Mullins
Marion
Figure 91: No-Build Alternative
Roadway Levels of Service
LOS A (V/C < 0.5)
LOS B (0.50 < V/C < 0.75)
LOS C (0.75 < V/C < 1.00)
LOS D (1.00 < V/C < 1.15)
LOS E (1.15 < V/C < 1.35)
LOS F (V/C > 1.35)
0 4 8 12
Miles
2030 Levels of Service (Peak Day)

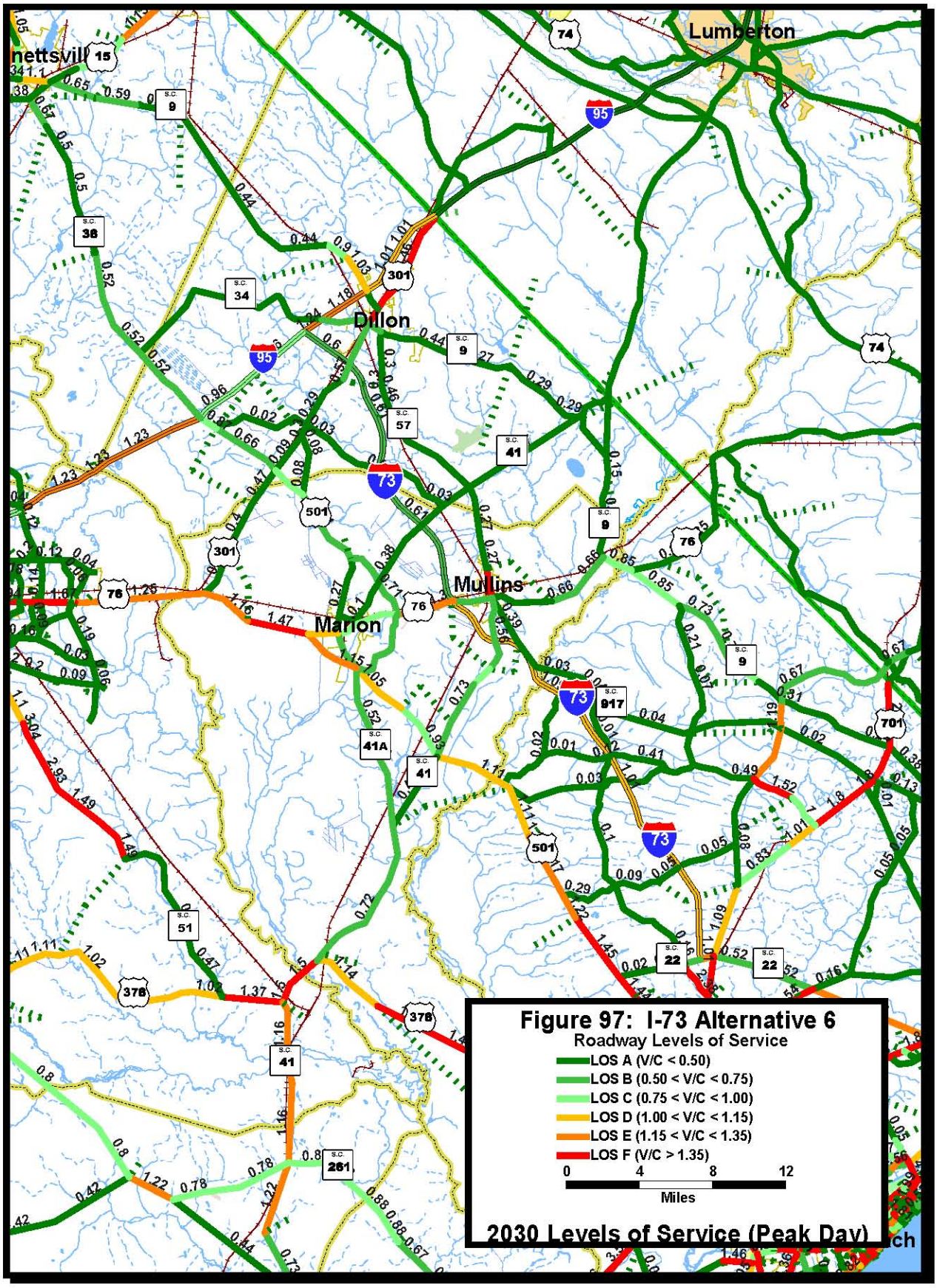

Lumberton
Dillon
Mullins
Marion
Figure 92: I-73 Alternative 1
Roadway Levels of Service
LOS A (V/C < 0.50)
LOS B (0.50 < V/C < 0.75)
LOS C (0.75 < V/C < 1.00)
LOS D (1.00 < V/C < 1.15)
LOS E (1.15 < V/C < 1.35)
LOS F (V/C > 1.35)
0 4 8 12
Miles
2030 Levels of Service (Peak Day)

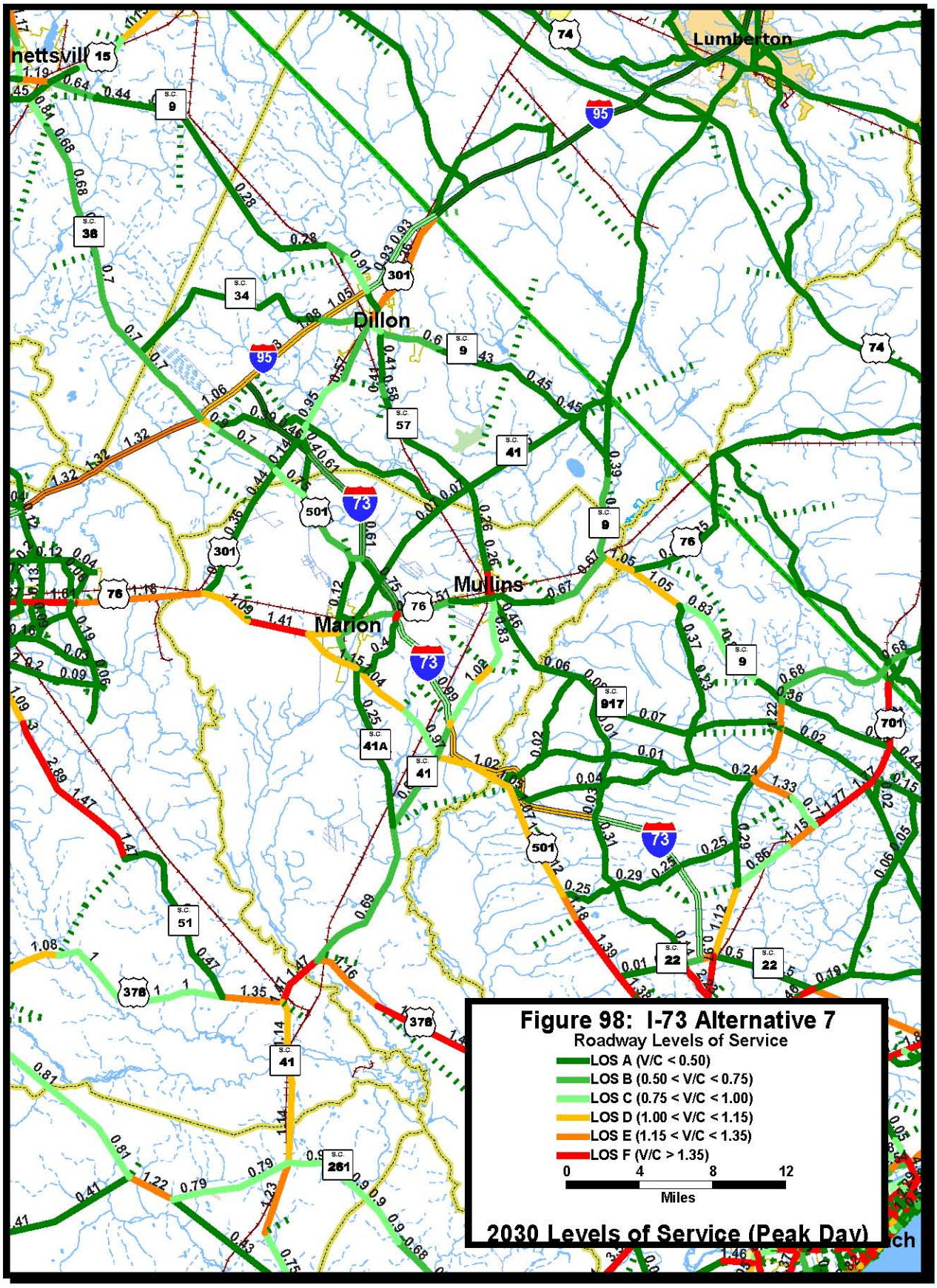

Lumberton
Dillon
Mullins
Marion
Figure 93: I-73 Alternative 2
Roadway Levels of Service
LOS A (V/C < 0.50)
LOS B (0.50 < V/C < 0.75)
LOS C (0.75 < V/C < 1.00)
LOS D (1.00 < V/C < 1.15)
LOS E (1.15 < V/C < 1.35)
LOS F (V/C > 1.35)
0 4 8 12
Miles
2030 Levels of Service (Peak Day)

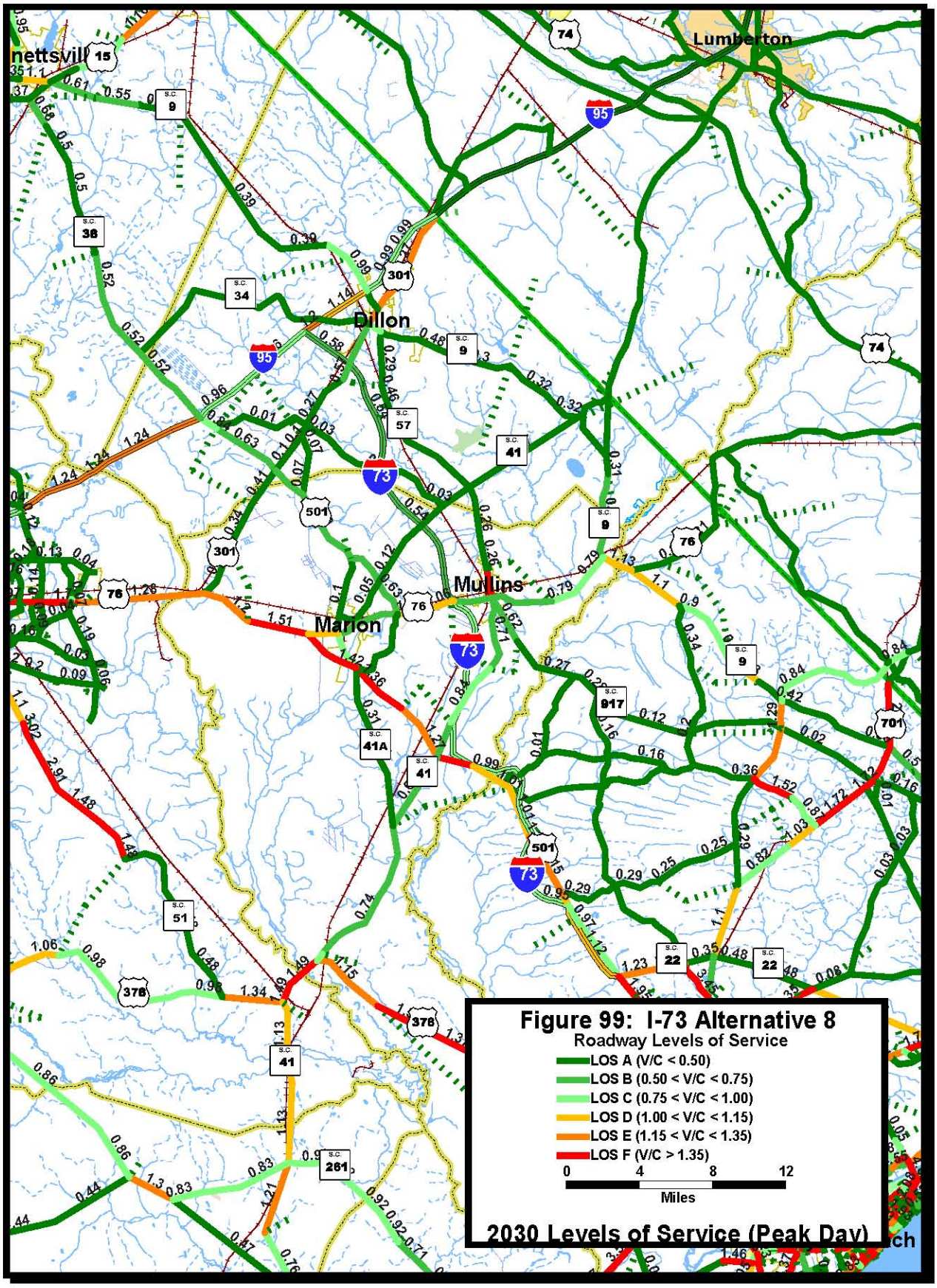

Lumberton
Dillon
Marion
Mullins
Figure 94: I-73 Alternative 3
Roadway Levels of Service
LOS A (V/C < 0.50)
LOS B (0.50 < V/C < 0.75)
LOS C (0.75 < V/C < 1.00)
LOS D (1.00 < V/C < 1.15)
LOS E (1.15 < V/C < 1.35)
LOS F (V/C > 1.35)
0 4 8 12
Miles
2030 Levels of Service (Peak Day)


Lumberton
Dillon
Mullins
Marion
Figure 95: I-73 Alternative 4
Roadway Levels of Service
LOS A (V/C < 0.5)
LOS B (0.50 < V/C < 0.75)
LOS C (0.75 < V/C < 1.00)
LOS D (1.00 < V/C < 1.15)
LOS E (1.15 < V/C < 1.35)
LOS F (V/C > 1.35)
0 4 8 12
Miles
2030 Levels of Service (Peak Day)


Lumberton
Dillon
Mullins
Marion
Figure 96: I-73 Alternative 5
Roadway Levels of Service
LOS A (V/C < 0.50)
LOS B (0.50 < V/C < 0.75)
LOS C (0.75 < V/C < 1.00)
LOS D (1.00 < V/C < 1.15)
LOS E (1.15 < V/C < 1.35)
LOS F (V/C > 1.35)
0 4 8 12
Miles
2030 Levels of Service (Peak Day)


Lumberton
Dillon
Mullins
Marion
Figure 97: I-73 Alternative 6
Roadway Levels of Service
LOS A (V/C < 0.50)
LOS B (0.50 < V/C < 0.75)
LOS C (0.75 < V/C < 1.00)
LOS D (1.00 < V/C < 1.15)
LOS E (1.15 < V/C < 1.35)
LOS F (V/C > 1.35)
0 4 8 12
Miles
2030 Levels of Service (Peak Day)


Lumberton
Dillon
Mullins
Marion
Figure 98: I-73 Alternative 7
Roadway Levels of Service
LOS A (V/C < 0.50)
LOS B (0.50 < V/C < 0.75)
LOS C (0.75 < V/C < 1.00)
LOS D (1.00 < V/C < 1.15)
LOS E (1.15 < V/C < 1.35)
LOS F (V/C > 1.35)
0 4 8 12
Miles
2030 Levels of Service (Peak Day)


Lumberton
Dillon
Mullins
Marion
Figure 99: I-73 Alternative 8
Roadway Levels of Service
LOS A (V/C < 0.50)
LOS B (0.50 < V/C < 0.75)
LOS C (0.75 < V/C < 1.00)
LOS D (1.00 < V/C < 1.15)
LOS E (1.15 < V/C < 1.35)
LOS F (V/C > 1.35)
0 4 8 12
Miles
2030 Levels of Service (Peak Day)

	NO BUILD STUDY AREA		***NO BUILD STUDY AREA W/O GSATS***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,068,096	68,222	536,156	11,965
Rural Interstate	1,085,814	16,590	1,085,814	16,590
Rural Minor Arterial	4,078,693	102,907	2,617,461	76,337
Rural Minor Collector	239,528	8,367	239,528	8,367
Rural Principal Arterial	6,413,018	131,025	2,515,880	59,640
Urban Freeway or Expressway	2,975,031	49,647	0	0
Urban Principal Arterial	2,620,691	56,890	14,248	272
Other (Unclassified)	4,227,415	91,080	12,051	416
TOTAL:	**24,708,285**	**524,727**	**7,021,138**	**173,587**

The GSATS area network contributes about 17.7 million VMT and 351,000 VHT within the study area on an average day during the Peak Day. This is approximately 72 percent of the total study area network VMT and about 67 percent of the total Study Area VHT. These MOE are increases over the approximately 16.4 million VMT and 327,000 VHT the GSATS area was estimated to contribute in the 2030 AADT assignments, and the approximately 16.7 million VMT, and 332,000 VHT the GSATS area was estimated to contribute in the 2030 Three Month Peak Season assignments.

The MOE for Alternative 1 are summarized in the following table.

	ALTERNATIVE 1 STUDY AREA		***ALTERNATIVE 1 STUDY AREA W/O GSATS***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,070,692	68,279	537,483	11,996
Rural Interstate	3,477,957	55,311	3,477,957	55,311
Rural Minor Arterial	3,316,159	76,160	1,919,935	50,775
Rural Minor Collector	166,921	5,372	166,921	5,372
Rural Principal Arterial	6,438,702	123,652	2,271,176	47,333
Urban Freeway or Expressway	2,920,095	48,730	0	0
Urban Principal Arterial	2,781,198	59,122	9,584	176
Other (Unclassified)	3,940,672	85,286	8,484	292
TOTAL:	**26,112,397**	**521,911**	**8,391,541**	**171,255**
DIFFERENCE FROM NO-BUILD	**1,404,112**	**-2,817**	**1,370,403**	**-2,332**

The Alternative 1 VMT is higher and the VHT is lower than the No-build Alternative within the entire study area and in the study area with the GSATS area network removed.

The MOE for Alternative 2 are summarized in the following table.

	ALTERNATIVE 2 STUDY AREA		***ALTERNATIVE 2 STUDY AREA W/O GSATS***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,066,420	68,185	536,221	11,969
Rural Interstate	3,522,011	57,288	3,522,011	57,288
Rural Minor Arterial	3,487,643	80,245	2,093,913	54,904
Rural Minor Collector	155,301	5,040	155,301	5,040
Rural Principal Arterial	6,259,013	121,121	2,027,992	43,648
Urban Freeway or Expressway	2,918,301	48,700	0	0
Urban Principal Arterial	2,767,461	58,849	8,684	159
Other (Unclassified)	3,914,232	85,021	10,896	370
TOTAL:	**26,090,380**	**524,449**	**8,355,019**	**173,378**
DIFFERENCE FROM NO-BUILD	**1,382,095**	**-278**	**1,333,881**	**-209**

The Alternative 2 VMT is higher than the No-build Alternative. The Alternative 2 VHT is only slightly lower than the No-build Alternative.

The MOE for Alternative 3 are summarized in the following table.

	ALTERNATIVE 3 STUDY AREA		***ALTERNATIVE 3 STUDY AREA W/O GSATS***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,063,730	68,123	531,806	11,868
Rural Interstate	3,646,087	59,439	3,646,087	59,439
Rural Minor Arterial	3,336,630	75,580	1,938,697	50,162
Rural Minor Collector	166,008	5,468	166,008	5,468
Rural Principal Arterial	6,300,337	119,294	2,063,909	41,730
Urban Freeway or Expressway	2,905,050	48,479	0	0
Urban Principal Arterial	2,781,952	59,175	7,694	140
Other (Unclassified)	3,914,237	85,027	10,112	344
TOTAL:	**26,114,031**	**520,584**	**8,364,312**	**169,152**
DIFFERENCE FROM NO-BUILD	**1,405,746**	**-4,143**	**1,343,174**	**-4,435**

The Alternative 3 VMT is higher and the VHT is lower than the No-build Alternative within the entire study area and in the study area with the GSATS area network removed.

The MOE for Alternative 4 are summarized in the following table.

	ALTERNATIVE 4 STUDY AREA		***ALTERNATIVE 4 STUDY AREA W/O GSATS***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,067,566	68,206	537,281	11,988
Rural Interstate	3,458,461	55,832	3,458,461	55,832
Rural Minor Arterial	3,316,559	76,377	1,896,681	50,563
Rural Minor Collector	175,906	5,619	175,906	5,619
Rural Principal Arterial	6,415,785	123,112	2,246,125	46,735
Urban Freeway or Expressway	2,918,766	48,707	0	0
Urban Principal Arterial	2,765,232	58,767	8,818	161
Other (Unclassified)	3,941,450	85,306	7,416	256
TOTAL:	**26,059,724**	**521,927**	**8,330,689**	**171,154**
DIFFERENCE FROM NO-BUILD	**1,351,439**	**-2,801**	**1,309,550**	**-2,433**

The Alternative 4 VMT is higher and the VHT is lower than the No-build Alternative within the entire study area and in the study area with the GSATS area network removed.

The MOE for Alternative 5 are summarized in the following table.

	ALTERNATIVE 5 STUDY AREA		***ALTERNATIVE 5 STUDY AREA W/O GSATS***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,065,745	68,167	534,570	11,929
Rural Interstate	3,624,733	57,286	3,624,733	57,286
Rural Minor Arterial	3,375,483	77,129	1,992,433	51,982
Rural Minor Collector	153,485	5,157	153,485	5,157
Rural Principal Arterial	6,287,451	119,977	2,080,700	42,970
Urban Freeway or Expressway	2,904,503	48,470	0	0
Urban Principal Arterial	2,771,782	58,978	8,103	148
Other (Unclassified)	3,957,435	85,763	13,109	447
TOTAL:	**26,140,617**	**520,927**	**8,407,133**	**169,919**
DIFFERENCE FROM NO-BUILD	**1,432,332**	**-3,801**	**1,385,995**	**-3,668**

The Alternative 5 VMT is higher and the VHT is lower than the No-build Alternative within the entire study area and in the study area with the GSATS area network removed.

The MOE for Alternative 6 are summarized in the following table.

	ALTERNATIVE 6 STUDY AREA		***ALTERNATIVE 6 STUDY AREA W/O GSATS***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,059,984	68,040	530,043	11,830
Rural Interstate	3,451,487	57,708	3,451,487	57,708
Rural Minor Arterial	3,501,650	80,553	2,049,137	54,143
Rural Minor Collector	160,880	5,414	160,880	5,414
Rural Principal Arterial	6,301,691	122,707	2,055,561	44,905
Urban Freeway or Expressway	2,904,064	48,462	0	0
Urban Principal Arterial	2,788,854	59,263	8,147	149
Other (Unclassified)	3,857,778	84,177	10,307	348
TOTAL:	**26,026,389**	**526,325**	**8,265,563**	**174,497**
DIFFERENCE FROM NO-BUILD	**1,318,104**	**1,598**	**1,244,425**	**910**

The Alternative 6 VMT and VHT are higher than the No-build Alternative within the entire study area and in the study area with the GSATS area network removed.

The MOE for Alternative 7 are summarized in the following table.

	ALTERNATIVE 7 STUDY AREA		***ALTERNATIVE 7 STUDY AREA W/O GSATS***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,072,270	68,313	537,833	12,003
Rural Interstate	3,555,887	57,035	3,555,887	57,035
Rural Minor Arterial	3,468,914	78,606	2,026,057	52,372
Rural Minor Collector	148,065	4,630	148,065	4,630
Rural Principal Arterial	6,258,410	120,103	2,063,594	43,245
Urban Freeway or Expressway	2,879,735	48,056	0	0
Urban Principal Arterial	2,743,366	58,373	7,403	135
Other (Unclassified)	3,992,681	86,439	11,498	388
TOTAL:	**26,119,329**	**521,554**	**8,350,337**	**169,807**
DIFFERENCE FROM NO-BUILD	**1,411,043**	**-3,173**	**1,329,199**	**-3,780**

The Alternative 7 VMT is higher and the VHT is lower than the No-build Alternative within the entire study area and in the study area with the GSATS area network removed.

The MOE for Alternative 8 are summarized in the following table.

	ALTERNATIVE 8 STUDY AREA		***ALTERNATIVE 8 STUDY AREA W/O GSATS***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,067,096	68,195	535,562	11,950
Rural Interstate	3,317,635	52,723	3,317,635	52,723
Rural Minor Arterial	3,463,741	80,658	2,034,908	54,680
Rural Minor Collector	177,589	5,868	177,589	5,868
Rural Principal Arterial	6,417,993	124,698	2,239,617	48,114
Urban Freeway or Expressway	2,899,583	48,387	0	0
Urban Principal Arterial	2,769,360	58,856	9,861	181
Other (Unclassified)	3,921,260	85,077	8,680	303
TOTAL:	**26,034,257**	**524,462**	**8,323,852**	**173,819**
DIFFERENCE FROM NO-BUILD	**1,325,972**	**-265**	**1,302,714**	**232**

The Alternative 8 VMT is higher while the VHT is slightly lower than the No-build Alternative within the entire study area. Both the VMT and the VHT are higher when the influence of the GSATS area network is removed, though the VHT is only slightly higher.

The total difference in VMT and VHT from the 2030 No-build Alternative compared to each of the 2030 I-73 Alternatives during the Peak Day Condition is summarized in the following table.

	DIFFERENCE FROM NO-BUILD (STUDY AREA)				***DIFFERENCE FROM NO-BUILD (STUDY AREA W/O GSATS)***			
ALTERNATIVE	VMT	Rating	VHT	Rating	VMT	Rating	VHT	Rating
Alternative 1	1,404,112	1.98	-2,817	1.85	1,370,403	0.88	-2,332	3.15
Alternative 2	1,382,095	3.52	-278	5.39	1,333,881	2.94	-209	6.33
Alternative 3	1,405,746	1.86	-4,143	0.00	1,343,174	2.42	-4,435	0.00
Alternative 4	1,351,439	5.67	-2,801	1.87	1,309,550	4.32	-2,433	3.00
Alternative 5	1,432,332	0.00	-3,801	0.48	1,385,995	0.00	-3,668	1.15
Alternative 6	1,318,104	8.00	1,598	8.00	1,244,425	8.00	910	8.00
Alternative 7	1,411,043	1.49	-3,173	1.35	1,329,199	3.21	-3,780	0.98
Alternative 8	1,325,972	7.45	-265	5.40	1,302,714	4.71	232	6.99

A statistical analysis was performed using the VMT and VHT shown in the previous table. For the entire study area, the VMT for all the alternatives except Alternatives 5, 6 and 8 are within one standard deviation of the mean VMT, while the VHT all the alternatives except Alternatives 3 and 6 are within one standard deviation of the mean VHT. For the study area with the GSATS area network removed, the VMT for Alternatives 1, 5, and 6 are within one standard deviation of

the mean VMT, while the VHT for all the alternatives except Alternatives 3, 6 and 8 are within one standard deviation of the mean VHT.

As was done with the 2030 AADT and the 2030 Three Month Peak Period Average Daily Traffic MOE, the alternatives were rated according to the relative differences between their VMT and VHT using the same proportional rating system.

In comparing the analysis results for the entire study area (including the GSATS area network), Alternative 6 would provide the smallest increase in VMT (1,318,104 vehicle miles), while Alternative 3 would provide the largest reduction in VHT (4,143 vehicle hours). Alternative 5 would provide the largest increase in VMT (1,411,043 vehicle miles). Alternatives 2 and 8 would provide the smallest decreases in VHT (278 and 265 vehicle-hours respectively), while Alternative 6 would result in an increase in VHT (1,598 vehicle-hours).

After adjusting for the influence of the congested GSATS area network in the VMT and VHT calculations, Alternative 6 would provide the smallest increase in VMT (1,244,425 vehicle-miles) and Alternative 5 would provide the largest increase in VMT (1,385,995 vehicle-miles). Alternative 3 would provide the greatest reduction in VHT (4,435 vehicle-hours), while Alternative 2 would provide the smallest reduction in VHT (209 vehicle-hours). Alternatives 6 and 8 would show slight increases in VHT (910 and 232 vehicle-hours respectively).

The change in the No-build network VMT and VHT caused by each alternative was examined by removing the VMT and VHT for each I-73 Alternative from the data, and examining the changes in MOE in the existing surrounding roadway network.

The MOE for each I-73 alternative during the Peak Day assignment are summarized in the following table.

I-73 ALTERNATIVE	***VMT***	***Rating***	***VHT***	***Rating***
ALTERNATIVE 1	2,185,241	4.22	34,503	3.17
ALTERNATIVE 2	2,258,068	1.93	37,004	7.48
ALTERNATIVE 3	2,287,320	1.02	37,110	7.66
ALTERNATIVE 4	2,169,528	4.72	35,172	4.32
ALTERNATIVE 5	2,319,646	0.00	36,176	6.05
ALTERNATIVE 6	2,186,151	4.19	37,306	8.00
ALTERNATIVE 7	2,258,556	1.92	36,235	6.15
ALTERNATIVE 8	2,064,970	8.00	32,665	0.00

As shown in the previous table, Alternative 8 would have the lowest VMT of the eight I-73 alternatives (2,064,970 vehicle-miles), while Alternative 5 has the highest VMT (2,319,646 vehicle-miles). Alternative 8 would have the lowest VHT (32,665 vehicle-hours), while Alternative 6 would have the highest VHT (37,306 vehicle-hours).

The MOE for the eight I-73 Build Alternatives were analyzed again to identify the impact on each alternative has on the remainder of the roadway network.

The MOE for Alternative 1 are summarized in the following table.

	ALTERNATIVE 1 STUDY AREA W/O I-73		***ALTERNATIVE 1 STUDY AREA W/O GSATS W/O I-73***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,070,692	68,279	537,483	11,996
Rural Interstate	1,292,716	20,808	1,292,716	20,808
Rural Minor Arterial	3,316,159	76,160	1,919,935	50,775
Rural Minor Collector	166,921	5,372	166,921	5,372
Rural Principal Arterial	6,438,702	123,652	2,271,176	47,333
Urban Freeway or Expressway	2,920,095	48,730	0	0
Urban Principal Arterial	2,781,198	59,122	9,584	176
Other (Unclassified)	3,940,672	85,286	8,484	292
TOTAL:	**23,927,156**	**487,408**	**6,206,300**	**136,752**
DIFFERENCE FROM NO-BUILD	**-781,129**	**-37,319**	**-814,838**	**-36,835**

The MOE for Alternative 2 are summarized in the following table.

	ALTERNATIVE 2 STUDY AREA W/O I-73		***ALTERNATIVE 2 STUDY AREA W/O GSATS W/O I-73***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,066,420	68,185	536,221	11,969
Rural Interstate	1,263,943	20,285	1,263,943	20,285
Rural Minor Arterial	3,487,643	80,245	2,093,913	54,904
Rural Minor Collector	155,301	5,040	155,301	5,040
Rural Principal Arterial	6,259,013	121,121	2,027,992	43,648
Urban Freeway or Expressway	2,918,301	48,700	0	0
Urban Principal Arterial	2,767,461	58,849	8,684	159
Other (Unclassified)	3,914,232	85,021	8,484	292
TOTAL:	**23,832,312**	**487,446**	**6,094,538**	**136,296**
DIFFERENCE FROM NO-BUILD	**-875,973**	**-37,282**	**-926,600**	**-37,291**

The MOE for Alternative 3 are summarized in the following table.

	ALTERNATIVE 3 STUDY AREA W/O I-73		***ALTERNATIVE 3 STUDY AREA W/O GSATS W/O I-73***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,063,730	68,123	531,806	11,868
Rural Interstate	1,358,767	22,329	1,358,767	22,329
Rural Minor Arterial	3,336,630	75,580	1,938,697	50,162
Rural Minor Collector	166,008	5,468	166,008	5,468
Rural Principal Arterial	6,300,337	119,294	2,063,909	41,730
Urban Freeway or Expressway	2,905,050	48,479	0	0
Urban Principal Arterial	2,781,952	59,175	7,694	140
Other (Unclassified)	3,914,237	85,027	8,484	292
TOTAL:	**23,826,711**	**483,474**	**6,075,364**	**131,990**
DIFFERENCE FROM NO-BUILD	**-881,574**	**-41,253**	**-945,774**	**-41,597**

The MOE for Alternative 4 are summarized in the following table.

	ALTERNATIVE 4 STUDY AREA W/O I-73		***ALTERNATIVE 4 STUDY AREA W/O GSATS W/O I-73***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,067,566	68,206	537,281	11,988
Rural Interstate	1,288,934	20,660	1,288,934	20,660
Rural Minor Arterial	3,316,559	76,377	1,896,681	50,563
Rural Minor Collector	175,906	5,619	175,906	5,619
Rural Principal Arterial	6,415,785	123,112	2,246,125	46,735
Urban Freeway or Expressway	2,918,766	48,707	0	0
Urban Principal Arterial	2,765,232	58,767	8,818	161
Other (Unclassified)	3,941,450	85,306	8,484	292
TOTAL:	**23,890,197**	**486,755**	**6,162,228**	**136,018**
DIFFERENCE FROM NO-BUILD	**-818,089**	**-37,973**	**-858,910**	**-37,569**

The MOE for Alternative 5 are summarized in the following table.

	ALTERNATIVE 5 STUDY AREA W/O I-73		***ALTERNATIVE 5 STUDY AREA W/O GSATS W/O I-73***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,065,745	68,167	534,570	11,929
Rural Interstate	1,305,087	21,110	1,305,087	21,110
Rural Minor Arterial	3,375,483	77,129	1,992,433	51,982
Rural Minor Collector	153,485	5,157	153,485	5,157
Rural Principal Arterial	6,287,451	119,977	2,080,700	42,970
Urban Freeway or Expressway	2,904,503	48,470	0	0
Urban Principal Arterial	2,771,782	58,978	8,103	148
Other (Unclassified)	3,957,435	85,763	8,484	292
TOTAL:	**23,820,971**	**484,751**	**6,082,861**	**133,588**
DIFFERENCE FROM NO-BUILD	**-887,315**	**-39,976**	**-938,277**	**-39,999**

The MOE for Alternative 6 are summarized in the following table.

	ALTERNATIVE 6 STUDY AREA W/O I-73		***ALTERNATIVE 6 STUDY AREA W/O GSATS W/O I-73***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,059,984	68,040	530,043	11,830
Rural Interstate	1,265,336	20,402	1,265,336	20,402
Rural Minor Arterial	3,501,650	80,553	2,049,137	54,143
Rural Minor Collector	160,880	5,414	160,880	5,414
Rural Principal Arterial	6,301,691	122,707	2,055,561	44,905
Urban Freeway or Expressway	2,904,064	48,462	0	0
Urban Principal Arterial	2,788,854	59,263	8,147	149
Other (Unclassified)	3,857,778	84,177	8,484	292
TOTAL:	**23,840,238**	**489,019**	**6,077,589**	**137,135**
DIFFERENCE FROM NO-BUILD	**-868,047**	**-35,709**	**-943,549**	**-36,452**

The MOE for Alternative 7 are summarized in the following table.

	ALTERNATIVE 7 STUDY AREA W/O I-73		***ALTERNATIVE 7 STUDY AREA W/O GSATS W/O I-73***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,072,270	68,313	537,833	12,003
Rural Interstate	1,297,331	20,800	1,297,331	20,800
Rural Minor Arterial	3,468,914	78,606	2,026,057	52,372
Rural Minor Collector	148,065	4,630	148,065	4,630
Rural Principal Arterial	6,258,410	120,103	2,063,594	43,245
Urban Freeway or Expressway	2,879,735	48,056	0	0
Urban Principal Arterial	2,743,366	58,373	7,403	135
Other (Unclassified)	3,992,681	86,439	8,484	292
TOTAL:	**23,860,773**	**485,320**	**6,088,766**	**133,476**
DIFFERENCE FROM NO-BUILD	**-847,513**	**-39,408**	**-932,372**	**-40,111**

The MOE for Alternative 8 are summarized in the following table.

	ALTERNATIVE 8 STUDY AREA W/O I-73		***ALTERNATIVE 8 STUDY AREA W/O GSATS W/O I-73***	
FUNCTIONAL CLASSIFICATION	VMT	VHT	VMT	VHT
Centroid Connector	3,067,096	68,195	535,562	11,950
Rural Interstate	1,252,664	20,058	1,252,664	20,058
Rural Minor Arterial	3,463,741	80,658	2,034,908	54,680
Rural Minor Collector	177,589	5,868	177,589	5,868
Rural Principal Arterial	6,417,993	124,698	2,239,617	48,114
Urban Freeway or Expressway	2,899,583	48,387	0	0
Urban Principal Arterial	2,769,360	58,856	9,861	181
Other (Unclassified)	3,921,260	85,077	8,484	292
TOTAL:	**23,969,287**	**491,797**	**6,258,685**	**141,144**
DIFFERENCE FROM NO-BUILD	**-738,999**	**-32,930**	**-762,453**	**-32,444**

The VMT and VHT within the remainder of the study area network would continue to be substantially reduced by all of the I-73 Build Alternatives during the Peak Day assignment, providing a congestion reducing effect on the remaining existing roadway network when compared to the No-build Alternative.

To identify which I-73 Alternative provides the largest reductions in MOE on the remainder of the roadway network, the difference from the No-build Alternative can be compared. This comparison is shown in the following table.

	DIFFERENCE FROM NO-BUILD (STUDY AREA)				***DIFFERENCE FROM NO-BUILD (STUDY AREA W/O GSATS)***			
ALTERNATIVE	VMT	Rating	VHT	Rating	VMT	Rating	VHT	Rating
Alternative 1	-781,129	5.73	-37,319	3.78	-814,838	5.71	-36,835	4.16
Alternative 2	-875,973	0.61	-37,282	3.82	-926,600	0.84	-37,291	3.76
Alternative 3	-881,574	0.31	-41,253	0.00	-945,774	0.00	-41,597	0.00
Alternative 4	-818,089	3.73	-37,973	3.15	-858,910	3.79	-37,569	3.52
Alternative 5	-887,315	0.00	-39,976	1.23	-938,277	0.33	-39,999	1.40
Alternative 6	-868,047	1.04	-35,709	5.33	-943,549	0.10	-36,452	4.50
Alternative 7	-847,513	2.15	-39,408	1.77	-932,372	0.58	-40,111	1.30
Alternative 8	-738,999	8.00	-32,930	8.00	-762,453	8.00	-32,444	8.00

The analysis and comparison of alternatives indicates that Alternatives 3 and 5 would provide the largest reduction in network VMT (881,574 and 887,315 vehicle-miles respectively), while Alternative 3 would provide the largest reduction in VHT (41,253 vehicle-hours) throughout the existing roadway network in the three county study area. Alternative 8 would provide the least reduction in VMT (738,999 vehicle-miles) and VHT (32,930 vehicle-hours).

When considering the study area network without the GSATS area network, Alternatives 3 and 6 would provide the largest reduction in network VMT (945,774 and 943,549 vehicle-miles respectively), while Alternatives 3 and 7 would provide the largest reduction in VHT (41,597 and 40,111 vehicle-hours respectively). Alternative 8 would provide the least reduction in VMT (762,453 vehicle-miles) and VHT (32,444 vehicle-hours).

Evaluation of 2030 Peak Day Alternatives

The analyses indicate that all of the proposed I-73 improvements would carry a large number of vehicle-miles of travel throughout the study area. The analyses also indicate that all of the proposed Build Alternatives would reduce vehicle-miles and vehicle-hours of travel of the rest of the existing 'No-build' network. A summary of the ratings for each of the Build Alternatives is contained in the following table.

ALTERNATIVE	Sum of Ratings	Average Ratings	Rank
Alternative 1	57.01	3.80	5
Alternative 2	62.61	4.17	6
Alternative 3	24.56	1.64	1
Alternative 4	49.34	3.29	4
Alternative 5	31.42	2.09	2
Alternative 6	71.11	4.74	7
Alternative 7	39.77	2.65	3
Alternative 8	100.24	6.68	8

Based on this evaluation, Alternatives 1 and 5 would be better overall in addressing travel demands arising from 2030 Peak Day traffic conditions. Alternatives 7 and 4 would be the two next 'best' alternatives for these conditions, followed by Alternatives 1 and 2, which provide about the same overall benefit. Alternative 8 would be the least beneficial alternative under the 2030 Peak Day traffic conditions.

Evaluation of All 2030 Alternatives

A combined summary of the ratings for each of the alternatives (2030 Average Daily Traffic, 2030 Three Month Peak Period Average Daily Traffic, and 2030 Peak Day Traffic) is contained in the following table.

ALTERNATIVE	Sum of Ratings	Average Ratings	Rank
Alternative 1	185.65	4.13	5
Alternative 2	216.87	4.82	7
Alternative 3	129.52	2.88	2
Alternative 4	116.04	2.58	1
Alternative 5	224.50	4.99	8
Alternative 6	138.36	3.07	3
Alternative 7	160.68	3.57	4
Alternative 8	216.26	4.81	6

Based on this evaluation, Alternatives 3, 4 and 6 would be better overall in addressing travel demands during the 2030 Average Daily, 2030 Three Month Peak Period Average Daily, and 2030 Peak Day traffic conditions. Alternative 7 would be the next 'best' alternative for these conditions, followed by Alternatives 1. These would be followed by Alternatives 2, 5 and 8, which provide about the same overall benefit.

Conclusions

The results of the analyses of the various I-73 alternatives under projected 2030 Average Daily, Three Month Peak Period Daily, and Peak Day traffic conditions do not point to a single I-73 Build Alternative that is best suited to address all projected traffic conditions. Each alternative has advantages and disadvantages depending on their alignment and the projected traffic condition.

The analyses show that all of the proposed I-73 Build Alternatives would provide better traffic conditions than the No-build Alternative. Each of the eight I-73 alternatives would carry a large number of vehicle-miles of travel throughout the study area, and would permit traffic to travel more quickly to and from I-95 than conditions would permit under the projected 2030 No-build traffic conditions. The analyses also indicate that all of the proposed I-73 alternatives would reduce vehicle-miles and vehicle-hours of travel for the rest of the existing network by diverting longer distance trips, especially those related to recreational and vacation travel, onto I-73. This will help to preserve the capacity of the existing roadway network for local trips made within the study area.

Appendix A

I-73 Origin/Destination Survey
Horry County, SC

Station: _____ **Day: Thursday / Saturday / Sunday** **Time:** _____ **AM / PM**

1. Vehicle Type (by inspection)

☐ Private Vehicle ☐ Bus ☐ Truck/Comm.Vehicle

If a Truck or Commercial Vehicle, how many axles? ..... _____

2. Participated in Survey?

If the driver refuses to participate, tick here ☐

3. Number of people in vehicle (by inspection)

For private vehicles only: Enter number of people here ..... _____

4. Where did your trip start today?

☐ Conway
☐ Grand Strand area

Other SC City ..... _____
Outside SC (State) ..... _____

If trip started in Grand Strand area, identify which area:

☐ Georgetown	☐ Surfside Beach	☐ Crescent Beach
☐ Pawleys Island	☐ Myrtle Beach	☐ North Myrtle Beach
☐ Litchfield Beach	☐ Briarcliffe Acres	☐ Ocean Drive Beach
☐ Murrells Inlet	☐ Windy Hill Beach	☐ Cherry Grove Beach
☐ Garden City	☐ Atlantic Beach	☐ Other

5. Where are you going to to-day?

☐ Florence, SC
☐ Columbia, SC

Other SC City ..... _____
Outside SC (State) ..... _____

6. What is the ZIP code of your Home Address? ..... _____

If ZIP code not known, please provide:

City name, if in South Carolina ..... _____
Name of State, if not in South Carolina ..... _____

7. What is the Purpose of your Trip to-day?

☐ Holiday / Vacation ☐ Work business
☐ Work commute ☐ Other

8. On average, how many times per week do you make this trip, in this direction, for the above purpose? (Circle one)

Less than 1 1 2 3 4 5 More than 5

9. Will you be traveling on I-95 during this trip to-day?

☐ Yes ☐ No

Station 1: US 378 Station 3: SC 9 Station 4: US 701

I-73 TRAVEL SURVEY

STA. | DAY | DIR. (WB) | HOUR

DEAR MOTORIST:

Interstate 73 is the most important new construction project in the state of South Carolina. Interstate 73 would link I-95 with one of the nation's fastest growing tourist destinations. Approximately 13 million tourists visit the Grand Strand each year.

This survey is being undertaken to obtain important information about present travel patterns. You are asked to complete and mail this postage-paid survey promptly. Your participation will help SCDOT plan this important highway to benefit both South Carolina residents and visitors. By completing this survey you may also win $500. Thank you for your cooperation.

DO NOT WRITE IN THIS AREA

A. Please identify the type of vehicle you were driving (circle one)
1. Private vehicle 2. Bus 3. Truck/Commercial vehicle
If driving a truck, please indicate number of wheels _____

B. How many people, including yourself, were in your vehicle? (circle one)
1 2 3 4 5 6 or more

C. Where did you begin this trip (in this direction) today? (Circle one)

1. Conway
2. Grand Strand area
3. Other SC City (Please specify) _____
4. Outside SC (Please specify State) _____

If your trip started in the Grand Strand area, identify which area? (Circle one)

1. Georgetown
2. Pawleys Island
3. Litchfield Beach
4. Murrells Inlet
5. Garden City
6. Surfside Beach
7. Myrtle Beach
8. Briarcliffe Acres
9. Windy Hill Beach
10. Atlantic Beach
11. Crescent Beach
12. North Myrtle Beach
13. Ocean Drive Beach
14. Cherry Grove Beach
15. Other

D. Where will this trip (in this direction) end today? (Circle one)

1. Florence, SC
2. Columbia, SC
3. Other SC City (Please specify) _____
4. Outside SC (Please specify State) _____

E. What is the zip code of you Home Address? ..... _____
If Zip code not known, please provide:
City name, if in South Carolina..... _____
Name of State, if not in South Carolina..... _____

F. What was the purpose of this trip when given this card? (Circle one)

1. Holiday / Vacation
2. Work commute
3. Work business
4. Other

G. On the average, how many times per week do you make this trip (in this direction) for the above purpose? (Circle one)
Less than 1 1 2 3 4 5 more than 5

H. Will you or did you travel on I-95 during this trip today? (Circle one)
1. Yes 2. No

Thank you for participating in this important survey.

Completed surveys received on or before March 25, 2005 will be entered into a random drawing with a $500 prize to the winner. If you want to be part of the lucky drawing, please provide your name and phone number below:

Name_____ Phone _____

To learn more about this important project please visit the I-73 website at www.i73insc.com or call the toll free Hotline at 1-866-473-4672.