



CHAPTER 11: EVALUATION AND RECOMMENDATION OF IMPROVEMENT STRATEGIES

The various **TDM, modal, operational, and capacity strategies** have been described in Chapters 7 through 10. The purpose of this chapter is to bring a relative measure of effectiveness to these various strategies and to organize the strategies in such a way that effective and cost efficient improvements can be easily identified. The strategies are organized into tables that compare and present the various strategies in a manner that allows for selection of projects based on effectiveness and cost. The tables present measures of effectiveness, suitability and benefit, and project costs. The resulting “cafeteria” list of potential projects provides the tools needed for transportation agencies and transportation providers to make decisions on how to best improve I-85 between Greenville and Spartanburg while making the best use of limited funds. An explanation of each of the various tables follows with the tables presented in the following pages.

Measures of Effectiveness (MOE)

A wide array of measures is included in the Exhibits 89-92 in order to evaluate the wide variety of strategies. Many of the measures are based on data generated through the VISSIM model. A number of other measures are more value oriented and less rigorous, but meaningful in the comparison of strategies within the four categories of TDM, modal, operational, and capacity.

The VISSIM output values were derived from the data resulting from the various evaluation models. In each table, results from the evaluation models are compared to the results of the 2035 No Build model with only the change for each measure given. The resulting values are distributed to the various strategies on the basis of each strategy’s contribution to the overall model results. Each strategy (or group of like strategies) is also evaluated based on value measures which consider support for other modes of transportation, contribution to safety, potential environmental impacts, livability, and feasibility of implementation.

Suitability and Benefit

Each strategy is evaluated on its suitability for the I-85 corridor and its potential benefits to traffic if implemented (see Exhibits 93-96). Suitability is a consideration of the cost, time, environmental impacts, and potential obstacles to implementation along with compatibility within the transportation corridor. Suitability is assigned from A to D with A being the most suitable. Benefits include the considerations of traffic (or traffic growth) reduction, safety, support for other modes of transportation, and environmental friendliness. Benefits are assigned from 1 to 3 with 1 being the most beneficial.

Based on these two attributes, each strategy is placed in the table. The table is divided into zones of priority based on the combination of suitability and benefits. The “green” zone indicates projects with a higher priority for implementation based on suitability and benefit. The “blue” and “white”



zones indicate strategies of medium and low priority, respectively. Strategies in the “red” zone have a high potential for difficulty in implementing. These difficulties may be cost, right-of-way impacts, or compatibility within the corridor.

[Cost to Benefit](#)

The Estimated Cost to Benefit Table (Exhibit 97) groups the strategies into ranges of cost and potential to improve traffic conditions on I-85. This table allows an easy way to compare potential projects based on the anticipated availability of funds and the potential to improve traffic. For example, if the anticipated budget is less than ten million dollars, project selection would begin in the first column of projects having a cost range of zero to \$10 million.

[Strategy Implementation](#)

Implementation of the various strategies for operational and capacity improvements will require construction on I-85. As demonstrated in Chapter 10, the implementation of **TDM and modal strategies can delay or eliminate the need for adding capacity (lanes)**. Exhibit 98 shows the implementation of all TDM, modal, operational, and capacity strategies by year. In this table, a number of the capacity strategies for adding lanes have been eliminated or delayed based on the implementation of TDM and modal strategies.

Exhibit 99 includes only operational and capacity strategies without the benefit of implementing TDM and modal strategies. This table is included for comparison purposes only and **demonstrates the need to implement TDM and modal strategies** when compared to Exhibit 98. The positive impact of TDM and modal strategies can be seen in the reduced cost associated with the elimination of a number of expensive capacity strategies. Conversely, the financial impact of failing to implement TDM and modal strategies is demonstrated in the additional capacity strategies and higher costs shown in Exhibit 99. The groupings within the charts link strategies that are dependent and/or similar in location along the highway or in time of implementation.

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Exhibit 89: Measures of Effectiveness: Travel Demand Management

PROJECT EVALUATION FACTOR	PERFORMANCE MEASURE		2035 No BUILD	2035 No BUILD WITH TDM CHANGE	TRAVEL DEMAND MANAGEMENT STRATEGIES							GENERAL TOLL	
					TRAVEL INFORMATION ADVISORY SERVICE - OH VMS	TRAVEL INFORMATION ADVISORY SERVICE - SCDOT WEBSITE	511 SERVICE	PUBLIC OUTREACH AND EDUCATION	FREIGHT TRIP PLANNING/ SCHEDULING	TRANSIT ORIENTED DEVELOPMENT	INTEGRATED CORRIDOR MANAGEMENT		
VISSIM OUTPUT	Freeway: Total Travel Time (mins)	AM	105.5	1.7	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	
		PM	122.3	-5.9	0.0	0.0	0.0	-0.1	0.0	-0.1	0.0	-1.4	
	Freeway: Average Travel Speed (mph)	AM	29.35	-0.47	0.00	0.00	0.00	-0.01	0.00	0.00	0.00	0.00	-0.11
		PM	25.32	1.28	0.01	0.00	0.00	0.03	0.01	0.01	0.00	0.00	0.29
	Freeway: Average Density (vpmpl)	AM	43.81	-1.56	-0.01	0.00	0.00	-0.03	-0.01	-0.02	0.00	0.00	-0.36
		PM	43.69	-6.38	-0.03	-0.01	-0.01	-0.13	-0.03	-0.07	-0.01	-0.01	-1.46
	Intersection: Total Average Delay(s)	AM	3390	-257	-1	-1	-1	-5	-1	-3	-1	-1	-59
		PM	3783	-37	0	0	0	-1	0	0	0	0	-9
	Network: Average Travel Speed (mph)	AM	22.87	0.28	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.06
		PM	16.85	1.09	0.00	0.00	0.00	0.02	0.00	0.01	0.00	0.00	0.25
	Network: Average Delay/Vehicle(s)	AM	408.79	-11.92	-0.05	-0.02	-0.02	-0.25	-0.05	-0.12	-0.02	-0.02	-2.73
		PM	580.54	-45.38	-0.19	-0.09	-0.09	-0.95	-0.19	-0.47	-0.09	-0.09	-10.40
Network: Average Emissions (g/hr)	AM	2,608,429	-115161	-480	-240	-240	-2399	-480	-1200	-240	-240	-26391	
	PM	2,819,339	-175726	-732	-366	-366	-3661	-732	-1830	-366	-366	-40271	
Network: Total Fuel Consumption (gal/hour)	AM	26,163	-1155	-5	-2	-2	-24	-5	-12	-2	-2	-265	
	PM	28,278	-1762	-7	-4	-4	-37	-7	-18	-4	-4	-404	
CONGESTION REDUCTION	Peak Hour Vehicle Reduction (Mode Shift/ Peak Spread) %	AM		3.6	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.8	
		PM		14.6	0.1	0.0	0.0	0.3	0.1	0.2	0.0	3.3	
	Extension of Existing Infrastructure Lifespan (years)				No	No	No	Yes	Yes	Yes	Yes	Yes	
SAFETY	Reduced Crash Rates/Reduced Incident Times				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
ENVIRONMENTAL	Impact to Natural Features/ Wetlands				Low	Low	Low	Low	Low	Low	Low	Low	
LIVABILITY	Promotes Connectivity/Transport Choices				Low	Low	Medium	High	Low	High	Low	Medium	
CONSTRUCTABILITY & FEASIBILITY	Impacts on ROW				Low	Low	Low	Low	Low	Low	Low	Low	

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Exhibit 90: Measures of Effectiveness: Modal Strategies

PROJECT EVALUATION FACTOR	PERFORMANCE MEASURE	2035 No BUILD	2035 No BUILD WITH MODAL CHANGE	TRAVEL DEMAND MANAGEMENT STRATEGIES											
				COMMUTER RAIL	HIGH SPEED RAIL	EXPRESS BUS	BUS RAPID TRANSIT	RIDE SHARING PROGRAMS	PARK & RIDE FACILITIES	TAXI & LIMOUSINE TO GSP	BICYCLE & PEDESTRIAN OPPORTUNITIES	TRUCK TO TRAIN FREIGHT OPPORTUNITIES	TRUCK PARKING AREAS	TRANSIT SERVICE	
VISSIM OUTPUT	Freeway: Total Travel Time (mins)	AM	105.5	1.7	0.3	0.3	0.2	0.0	0.2	0.6	-	-	0.1	0.2	0.0
		PM	122.3	-5.9	-1.1	-1.1	-0.7	-0.01	-0.8	-1.9	-	-	-0.4	-0.6	-0.1
	Freeway: Average Travel Speed (mph)	AM	29.35	-0.47	-0.09	-0.09	-0.06	-0.01	-0.06	-0.15	-	-	-0.03	-0.05	-0.01
		PM	25.32	1.28	0.24	0.23	0.16	0.02	0.17	0.42	-	-	0.09	0.13	0.02
	Freeway: Average Density (vpmpI)	AM	43.81	-1.56	-0.29	-0.29	-0.19	-0.02	-0.20	-0.51	-	-	-0.11	-0.15	-0.02
		PM	43.69	-6.38	-1.20	-1.17	-0.79	-0.08	-0.83	-2.08	-	-	-0.46	-0.63	-0.08
	Intersection: Total Average Delay(s)	AM	3390	-257	-48	-47	-32	-3	-34	-84	-	-	-18	-25	-3
		PM	3783	-37	-7	-7	-5	0	-5	-12	-	-	-3	-4	0
	Network: Average Travel Speed (mph)	AM	22.87	0.28	0.05	0.05	0.03	0.00	0.04	0.09	-	-	0.02	0.03	0.00
		PM	16.85	1.09	0.20	0.20	0.14	0.01	0.14	0.36	-	-	0.08	0.11	0.01
Network: Average Delay/Vehicle(s)	AM	408.79	-11.92	-2.24	-2.18	-1.48	-0.16	-1.56	-3.90	-	-	-0.86	-1.17	-0.16	
	PM	580.54	-45.38	-8.52	-8.30	-5.64	-0.59	-5.93	-14.83	-	-	-3.26	-4.45	-0.59	
Network: Average Emissions (g/hr)	AM	2,608,429	-115161	-21632	-21075	-14301.04	-1505	-15054	-37634	-	-	-8280	-11290	-1505	
	PM	2,819,339	-175726	-33009	-32159	-21822	-2297	-22971	-57427	-	-	-12634	-17228	-2297	
Network: Total Fuel Consumption (gal/hour)	AM	26,163	-1155	-217	-211	-143	-15	-151	-377	-	-	-83	-113	-15	
	PM	28,278	-1762	-331	-322	-219	-23	-230	-576	-	-	-127	-173	-23	
CONGESTION REDUCTION	Peak Hour Vehicle Reduction (Mode Shift/Peak Spread)		3.6	3.6	0.7	0.4	0.0	0.5	1.2	-	-	1.0	1.4	0.2	
	Extension of Existing Infrastructure Lifespan (years)				Yes	Yes	Yes	Yes	Yes	Yes	No	No	Yes	No	Yes
SAFETY	Reduced Crash Rates/ Reduced Incident Times				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ENVIRONMENTAL	Impact to Natural Features/ Wetlands				High	Medium	Low	Low	Low	Medium	Low	Low	Low	Low	Low
LIVABILITY	Promotes Connectivity/ Transport Choices				High	Medium	High	High	High	High	High	High	Low	Low	High
CONSTRUCTABILITY & FEASIBILITY	Impacts on ROW				High	High	Low	Low	Low	Medium	Low	Low	Low	Medium	Low

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Exhibit 91: Measures of Effectiveness: Operational Strategies

PROJECT EVALUATION FACTOR	PERFORMANCE MEASURE		2035 No BUILD	2035 3 LANE OPERATIONAL IMPROVEMENT	OPERATIONAL STRATEGIES								
					INTERSTATE RAMPS	SIGNING		PARALLEL ROUTES	ITS - TRAFFIC CAMERAS & ENHANCED MANAGEMENT SYSTEM	SAFETY			
						MAINLINE	CROSSING ROUTES			ENHANCED INCIDENT RESPONDERS	ACCIDENT INVESTIGATION AREAS	VISUAL BARRIERS	MEDIAN & SHOULDER TREATMENT
VISSIM OUTPUT	Freeway: Total Travel Time (mins)	AM	105.5	-12.1	-7.9	-0.4	-0.1	-0.6	-1.2	-0.2	-0.5	-0.7	-0.5
		PM	122.3	-9.4	-6.1	-0.3	-0.1	-0.5	-0.9	-0.2	-0.4	-0.6	-0.4
	Freeway: Average Travel Speed (mph)	AM	29.35	3.80	2.5	0.1	0.0	0.2	0.4	0.1	0.2	0.2	0.2
		PM	25.32	2.10	1.4	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.1
	Freeway: Average Density (vpmpl)	AM	43.72	-3.15	-2.0	-0.1	0.0	-0.2	-0.3	-0.1	-0.1	-0.2	-0.1
		PM	43.69	-6.94	-4.5	-0.2	-0.1	-0.3	-0.7	-0.1	-0.3	-0.4	-0.3
	Intersection: Total Average Delay(s)	AM	3,390.0	203.6	152.7	6.1	2.0	6.1	20.4	4.1	8.1	4.1	8.1
		PM	3,783.4	-199.9	-149.9	-6.0	-2.0	-6.0	-20.0	-4.0	-8.0	-4.0	-8.0
	Network: Average Travel Speed (mph)	AM	22.87	2.19	1.5	0.0		0.1	0.2	0.0	0.1	0.1	0.1
		PM	16.85	1.42	1.0	0.0		0.0	0.1	0.0	0.1	0.1	0.1
Network: Average Delay/Vehicle(s)	AM	408.79	-46.65	-32.7	-0.5		-1.4	-4.7	-0.9	-1.9	-1.9	-1.9	
	PM	580.54	-42.53	-29.8	-0.4		-1.3	-4.3	-0.9	-1.7	-1.7	-1.7	
Network: Average Emissions (g/hr)	AM	2,608,429	5,152	3761.0	51.5		154.6	412.2	103.0	206.1	206.1	206.1	
	PM	2,819,339	-101,144	-73835.1	-1011.4		-3034.3	-8091.5	-2022.9	-4045.8	-4045.8	-4045.8	
Network: Total Fuel Consumption (gal/hour)	AM	26,163	51	37.2	0.5		1.5	4.1	1.0	2.0	2.0	2.0	
	PM	28,278	1,014	740.2	10.1		30.4	81.1	20.3	40.6	40.6	40.6	
CONGESTION REDUCTION	Peak Hour Vehicle Reduction (Mode Shift/Peak Spread)				No	No	No	Yes	Yes	No	No	No	No
	Extension of Existing Infrastructure Lifespan (years)				No	No	No	Yes	No	No	No	No	No
SAFETY	Reduced Crash Rates/ Reduced Incident Times				Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
ENVIRONMENTAL	Impact to Natural Features/ Wetlands				Medium	Low	Low	Medium	Low	Low	Low	Low	Low
LIVABILITY	Promotes Connectivity/ Transport Choices				Low	Low	Low	High	Medium	Low	Low	Low	Low
CONSTRUCTABILITY & FEASIBILITY	Impacts on ROW				Medium	Low	Low	Medium	Low	Low	Low	Low	Low

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Exhibit 92: Measures of Effectiveness: Capacity Strategies

PROJECT EVALUATION FACTOR	PERFORMANCE MEASURE		2035 No BUILD	CAPACITY IMPROVEMENT STRATEGIES	2035 HOV CHANGE	2035 HOT CHANGE
				2035 4-LANE CHANGE		
VISSIM OUTPUT	Freeway: Total Travel Time (mins)	AM	105.5	-22.7	-7.7	-8.4
		PM	122.3	-30.3	-4.7	-9.6
	Freeway: Average Travel Speed (mph)	AM	29.35	8.04	2.31	2.54
		PM	25.32	8.33	1.01	2.15
	Freeway: Average Density (vpmp)	AM	43.81	-10.66	-8.28	-1.12
		PM	43.69	-13.78	-13.38	-4.27
	Intersection: Total Average Delay(s)	AM	3,390.0	146.9	294.7	690.9
		PM	3,783.4	382.1	-41.9	68.9
	Network: Average Travel Speed (mph)	AM	22.87	2.81	1.02	0.8
		PM	16.85	5.64	2.79	2.2
Network: Average Delay/Vehicle(s)	AM	408.79	-56.19	-30.65	-22.18	
	PM	580.54	-149.78	-93.52	-73.58	
Network: Average Emissions (g/hr)	AM	2,608,429	-444,921	-61,750	57,703	
	PM	2,819,339	-174,164	-171,432	-71,452	
Network: Total Fuel Consumption (gal/hour)	AM	26,163	-451	-620	579	
	PM	28,278	-1,747	-1,719	716	
CONGESTION REDUCTION	Peak Hour Vehicle Reduction (Mode Shift/Peak Spread)			No	No	No
	Extension of Existing Infrastructure Lifespan (years)			No	No	No
SAFETY	Reduced Crash Rates/ Reduced Incident Times			High	Low	Low
ENVIRONMENTAL	Impact to Natural Features/ Wetlands			High	Low	Low
LIVABILITY	Promotes Connectivity/ Transport Choices			Low	Low	Low
CONSTRUCTABILITY & FEASIBILITY	Impacts on ROW			High	High	High

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Exhibit 93: Travel Demand Management

BENEFIT	SUITABILITY			
	A	B	C	D
1	PUBLIC OUTREACH & EDUCATION <ul style="list-style-type: none"> (TDM4) Partner with major industries to make opportunities known to employees and identify new opportunities to meet employers' and employees' needs 	511 SERVICE <ul style="list-style-type: none"> (TDM3) Add referral to SCDOT website & continue to improve customer friendliness INTEGRATED CORRIDOR MANAGEMENT (ICM) <ul style="list-style-type: none"> (TDM7) Initiate ICM Focus Group 		
2	TRAVEL INFORMATION & ADVISORY SERVICE <ul style="list-style-type: none"> (TDM1) Place additional overhead variable message signs over: <ul style="list-style-type: none"> □ NBL between I-385 & Pelham Road □ SBL between Woodruff Road & Laurens Road □ NBL between SC 101 & SC 290 □ SBL between SC 290 & SC 101 □ NBL south of US 25 (TDM2) Add to SCDOT website <ul style="list-style-type: none"> □ Information on Park & Ride □ Information on transit opportunities □ Information on Ride Share Programs 	FREIGHT TRIP PLANNING/SCHEDULING <ul style="list-style-type: none"> (TDM5) Partner with major freight generators & providers to identify & develop opportunities to shift freight traffic to off-peak 		
3	TRANSIT ORIENTED DEVELOPMENT (TOD) <ul style="list-style-type: none"> (TDM6) Encourage local planning agencies to consider regulations that favor TOD 			

High Priority to Implement

Medium Priority to Implement

Low Priority to Implement

Very Difficult to Implement

Suitability: A (High) - D (Low)

Benefits: 1 (High) - 3 (Low)

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Exhibit 94: Modal

BENEFIT	SUITABILITY			
	A	B	C	D
1	<p>(M3) EXPRESS BUS SERVICE</p> <ul style="list-style-type: none"> Provide Service from Greenville to GSP Airport Provide Service from Spartanburg to GSP Airport Use I-85 Shoulders for Bus Lane, Improve as Needed <p>(M5) RIDE SHARING PROGRAM</p> <ul style="list-style-type: none"> (M5) Partner with major employers to develop programs & educate employees on modal opportunities <p>(M6) PARK & RIDE FACILITIES</p> <p>Develop Park & Ride facilities at the following locations:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Augusta Road (existing transit service) <input type="checkbox"/> GSP Airport (transit service planned) <input type="checkbox"/> SC 101 (1.5 miles to transit service) <input type="checkbox"/> US 29 at I-85 (5.0 miles to transit service) <input type="checkbox"/> US 29 to Greer (transit service planned) <input type="checkbox"/> US 178 near Anderson <p>Develop Park & Ride website to include trip planner, transit information, & bicycle & pedestrian accommodations</p>		<p>(M9) TRUCK TO TRAIN FREIGHT OPPORTUNITIES</p> <p>Encourage Norfolk Southern in development of Crescent Line (intermodal centers in Charlotte & Atlanta)</p>	<p>(M1) COMMUTER RAIL</p> <p>Prepare Feasibility Study</p>
2	<p>(M10) TRUCK PARKING AREAS</p> <p>Develop truck parking areas at White Horse Road & SBL south of US 29</p> <p>(M11) TRANSIT SERVICE</p> <p>Provide bus service to Park & Ride facilities at SC 101 and at US 29</p>	<p>(M4) BUS RAPID TRANSIT</p> <p>Provide Service on US 29 (a parallel route), improve signal operations to support bus transit</p> <ul style="list-style-type: none"> Phase 1 – Service from Greenville to Greer Phase 2 – Services from Greer to Spartanburg <p>(M8) BICYCLE & PEDESTRIAN OPPORTUNITIES</p> <ul style="list-style-type: none"> Provide bicycle racks at all Park & Ride lots Provide bicycle carriers on all transit buses 	<p>(M2) HIGH SPEED PASSENGER RAIL</p> <p>Plan for supporting infrastructure and intermodal transportation</p>	
3			<p>(M7) TAXI & LIMOUSINE SERVICE</p> <p>No recommendation</p>	

High Priority to Implement

Medium Priority to Implement

Low Priority to Implement

Very Difficult to Implement

Suitability: A (High) - D (Low)

Benefits: 1 (High) - 3 (Low)

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Exhibit 95: Traffic Operational Improvements

BENEFIT	SUITABILITY			
	A	B	C	D
1	<p>LENGTHEN ACCELERATION/DECELERATION LANES</p> <ul style="list-style-type: none"> (OP2) NB & SB-Increase length of acceleration lane from loops by striping (OP4) SB-Lengthen deceleration lane to I-385/Woodruff Road exit (OP11) Lengthen NB deceleration lane & SB acceleration lane at US 29 (OP12) Lengthen NB deceleration lane & SB acceleration lane at SC 129 <p>CONSTRUCT 2 LANE EXITS/ENTRANCE</p> <ul style="list-style-type: none"> (OP1) SB-Revise exit to I-385/Woodruff Road to 2 lanes by re-striping (OP5) NB-Construct 2 lane exit ramp at Pelham Road, lengthen deceleration lane (OP6) SB-Construct 2 lane exit ramp at Pelham Road, lengthen deceleration lane (OP7) NB-Construct 2 lane exit ramp at SC 290 (OP8) SB-Construct 2 lane exit ramp at SC 290 (OP3) NB-Construct 2 lane exit ramp at Woodruff/I-385 CD Exit, lengthen deceleration lane <p>MAINLINE SIGNING</p> <ul style="list-style-type: none"> (OP13) SB-Overhead sign at I-385/Woodruff Road exit (OP14) Overhead sign I-85 SB & NB exits at Pelham Road <p>ITS - ACTIVE TRAFFIC MANAGEMENT</p> <ul style="list-style-type: none"> (OP32A) Develop implementation plan for active traffic management <p>CROSSING ROUTE SIGNING</p> <ul style="list-style-type: none"> (OP20) Signing for SC 290 DDI Interchange 	<p>ENHANCED INCIDENT RESPONDER SERVICES</p> <ul style="list-style-type: none"> (OP33) Relocate to near Brochman-McClimon Interchange <p>OFF-ROAD CRASH INVESTIGATION</p> <ul style="list-style-type: none"> (OP34) Construct I-85 SB & NB crash investigation area 		
2	<p>CONSTRUCT 2 LANE EXITS/ENTRANCE</p> <ul style="list-style-type: none"> (OP9) NB-Construct 2 lane exit ramp at SC 14 (OP10) SB-Construct 2 lane acceleration lanes and ramps at SC 14 <p>MAINLINE SIGNING</p> <ul style="list-style-type: none"> (OP15) Overhead sign on I-85 NB at Brockman-McClimon Road (OP16) Overhead sign south of Brockman-McClimon Road for SC 14 and Airport interchanges <p>ITS - EXISTING TRAFFIC MANAGEMENT</p> <ul style="list-style-type: none"> (OP32) Expand traffic camera coverage on I-85 and expand the incident management system to non-interstate routes <p>SAFETY</p> <ul style="list-style-type: none"> Move the Incident Responders Operation Off Road Crash Investigation - One Site in each Direction <p>MEDIAN AND SHOULDER TREATMENTS</p> <ul style="list-style-type: none"> Double Yellow Raised Pavement Markers (OP35) Install delineators on median barrier 	<p>CROSSING ROUTE SIGNING</p> <ul style="list-style-type: none"> (OP17) Six overhead signs on Pelham Road (OP18) Six overhead signs on US 29 (OP19) Six overhead signs on US 276 (Laurens Road) <p>PARALLEL ROUTES OPPORTUNITIES</p> <ul style="list-style-type: none"> (OP26) Extend frontage road from SC 14 to SC 101 (OP23) Widen Garlington Road to 4 lanes from Garlington to Farrington (OP24) Widen Roper Mountain Road to 4 lanes from Garlington to Farrington (OP25) Widen Blacks Drive to 4 lanes from Pelham to Roper Mountain Road 		
3	<p>ADDING VISUAL BARRIERS</p> <ul style="list-style-type: none"> (OP36) Raise median barrier height 	<p>PARALLEL ROUTES OPPORTUNITIES</p> <ul style="list-style-type: none"> (OP21) Connect Kings Road to Duvall Drive (OP22) Connect Dairy Drive to Wrenwood Drive 	<p>PARALLEL ROUTES OPPORTUNITIES</p> <ul style="list-style-type: none"> (OP27) Improve signals & install traffic camera along US 29 (OP28) Improve signals & install traffic camera along SC 146/SC 296 (OP29) Improve signals & install traffic camera along Woodruff Road, Verdae Boulevard, & Laurens Road 	<p>MANAGED LANES</p> <ul style="list-style-type: none"> (OP30) Convert one existing lane to HOV lane in each direction (OP31) Convert one existing lane to HOT lane in each direction

High Priority to Implement

Medium Priority to Implement

Low Priority to Implement

Very Difficult to Implement

Suitability: A (High) - D (Low)

Benefits: 1 (High) - 3 (Low)

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 96: Capacity Improvements

BENEFIT	SUITABILITY			
	A	B	C	D
1	<p>CONSTRUCT LANES ON I-85</p> <ul style="list-style-type: none"> (C6) Add 4th NB lane from end of 4th lane to Pelham Road exit (C7) Add 4th SB lane from Pelham Road to I-385/Woodruff CD exit (C4) Add 4th SB lane Woodruff Road to Laurens Road (C8) Add 4th NB lane from Pelham Road entrance ramp to SC 14 exit (C9) Add 4th SB lane from SC 14 entrance ramp to Pelham Road exit (C1) Add 4th SB lane from Pleasantburg Drive to White Horse Road (C5) Add 4th NB lane from CD entrance to Laurens Road exit <p>RECONSTRUCT INTERCHANGE</p> <ul style="list-style-type: none"> (C11) Reconstruct I-385 Interchange 	<p>CONSTRUCT LANES ON I-85</p> <ul style="list-style-type: none"> (C28) Add 5th SB lane from SC 14 entrance to I-385 exit (C29) Add 5th NB lane from Pelham Road entrance ramp to SC 14 exit ramp (C25) Add 5th NB lane from CD entrance ramp to Laurens Road exit (C26) Add 5th SB lane from Laurens Road entrance ramp to CD exit ramp (C27) Add 5th SB Lane from Laurens Road exit ramp to Woodruff Road entrance ramp (C33) Temporary shoulder use 		
2	<p>CONSTRUCT LANES ON I-85</p> <ul style="list-style-type: none"> (C2) Add 4th SB lane from Laurens Road to CD exit ramp (C12) Add 4th SB lane from CD exit near Mauldin Road to Pleasantburg (C13) Add 4th SB lane within Pelham Road interchange (C14) Add 4th NB lane within Pelham Road interchange (C16) Add 4th SB lane from SC 101 entrance ramp to SC 14 (C17) SB-2 lane exit ramp at SC 14/Aviation Drive - lengthen deceleration lane (C15) Add 4th NB lane from SC 14 entrance ramp to SC 129 (C22) Add 5th NB lane from SC 129 to I-85 Bus (C18) Add 4th NB lane SC 14 to SC 14/Aviation Drive entrance ramp (C19) Add 4th SB lane from I-85 Business to SC 101 (C20) Add 4th NB lane from Laurens Road exit to Woodruff Road/I-385 CD <p>RECONSTRUCT INTERCHANGE</p> <ul style="list-style-type: none"> (C10) Convert SC 290 interchange to DDI 	<p>CONSTRUCT LANES ON I-85</p> <ul style="list-style-type: none"> (C23) Add 4th NB lane from I-85 Business to I-26 exit ramp (C24) Add 5th SB lane from Augusta Road entrance ramp to White Horse Road exit ramp <p>INTERCHANGE IMPROVEMENTS</p> <ul style="list-style-type: none"> (C3) Convert Laurens Road interchange to Parclo A <p>MANAGED LANES</p> <ul style="list-style-type: none"> (C31) Construct HOV lane only (C32) Construct HOT lane only 		
3	<p>CONSTRUCT LANES ON I-85</p> <ul style="list-style-type: none"> (C21) NB-2 lane exit ramp at Brochman-McClimon Road (C30) Add 5th NB Lane from SC 101 entrance ramp to SC 290 exit ramp 			

High Priority to Implement

Medium Priority to Implement

Low Priority to Implement

Very Difficult to Implement

Suitability: A (High) - D (Low)
Benefits: 1 (High) - 3 (Low)

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 97: Estimated Cost to Benefit Table

BENEFIT	ESTIMATES COST			
	YEAR	\$0 - 10 MILLION	\$10 - 100 MILLION	ABOVE \$100 MILLION
SIGNIFICANT IMPACT ON REDUCING CONGESTION	2012	(M5) Ride Sharing Programs (M6) Park & Ride Facilities at the following locations: □ Augusta Road (existing transit service) □ GSP Airport (transit service planned) □ SC 101 (1.5 miles to transit service) □ US 29 at I-85 (5.0 miles to transit service) □ US 29 to Greer (transit service planned) □ US 178 near Anderson □ Cleveland Street at Spartanburg • Develop Park & Ride website to include trip planner, transit information, & bicycle & pedestrian accommodations (TDM3) 511 Service - Add referral to SCDOT website & continue to improve customer friendliness (TDM4) Public Outreach & Education-Partner with major industries to make opportunities known to employees and identify new opportunities to meet employers' and employees' needs (TDM7) Initiate ICM Focus Group (2013) (OP1) SB-Revise exit to I-385/Woodruff Road to 2 lanes by re-striping (OP2) NB & SB-Increase length of acceleration lane from loops by striping (OP13) SB-Overhead sign at I-385/Woodruff Road exit (C33) Temporary Shoulder Use (OP32A) Develop implementation plan for Active Traffic Management		
	2015	(OP3) NB-2 lane exit ramp at Woodruff/I-385 CD exit - lengthen deceleration lane (OP4) SB-Lengthen deceleration lane to I-385/Woodruff Road exit (OP5) Construct 2-lane exit and ramp NB at Pelham Road, lengthen deceleration lane (OP6) Construct 2-lane exit ramp SB at Pelham Road, lengthen deceleration lane (OP8) Construct 2-lane exit ramp SB at SC 290, lengthen deceleration lane (OP7) Construct 2-lane exit ramp NB at SC 290, lengthen deceleration lane (OP11) Lengthen NB deceleration lane & SB acceleration lane at US 29 (OP12) Lengthen NB deceleration lane & SB acceleration lane at SC 129 (C6) NB-4th lane from end 4th lane to Pelham Road exit (M3) Express Bus Service □ Provide Service from Greenville to GSP Airport □ Provide Service from Spartanburg to GSP Airport □ Use I-85 Shoulders for Bus Lane, Improve as Needed (OP14) Overhead sign I-85 SB & NB exits at Pelham Road (OP20) Signing for SC 290 DDI Interchange (OP34) Construct I-85 SB & NB crash investigation area (C6) Add 4th NB lane from end of 4th lane to Pelham Road exit	(C7) SB-4th lane from Pelham Road to CD exit to I-385/Woodruff (C4) SB-4th lane Woodruff Road to Laurens Road - 2 lane exit ramp (C8) NB-4th lane from Pelham Road entrance ramp to SC 14 exit (C9) SB-4th lane from SC 14 entrance ramp to Pelham Road exit (C1) SB-4th lane from Pleasantburg Drive to White Horse Road (C2) SB-4th lane from Laurens Road to CD exit (C5) NB-4th lane from CD entrance to Laurens Road exit - 2 lane entrance ramp (M1) Commuter Rail (C1) Add 4th SB lane from Pleasantburg Drive to White Horse Road (C4) Add 4th SB lane Woodruff Road to Laurens Road (C5) Add 4th NB lane from CD entrance to Laurens Road exit (C7) Add 4th SB lane from Pelham Road to I-385/Woodruff CD exit (C8) Add 4th NB lane from Pelham Road entrance ramp to SC 14 exit (C9) Add 4th SB lane from SC 14 entrance ramp to Pelham Road exit	
	2020			(C11) Reconstruct I-385 Interchange
	2025	(C14) NB-4th lane within Pelham Road interchange (C13) SB-4th lane within Pelham Road interchange		
	2030		(C28) Add 5th SB lane from SC 14 entrance to I-385 exit (C29) Add 5th NB lane from Pelham Road entrance ramp to SC 14 exit ramp	
	2035	(C25) Add 5th NB lane from CD entrance ramp to Laurens Road exit (C26) Add 5th SB lane from Laurens Road entrance ramp to CD exit ramp	(C27) Add 5th SB Lane from Laurens Road exit ramp to Woodruff Road entrance ramp	

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 97: Estimated Cost to Benefit Table Continued

BENEFIT	ESTIMATES COST			
	YEAR	\$0 - 10 MILLION	\$10 - 100 MILLION	ABOVE \$100 MILLION
MODERATE IMPACT ON REDUCING CONGESTION	2012	(M11) Transit Service (TDM2) Travel Information Advisory Service Add to SCDOT website <ul style="list-style-type: none"> □ Information on Park & Ride □ Information on transit opportunities □ Information on Ride Share Programs (TDM5) Freight Trip Planning/Scheduling Opportunities - Partner with major freight generators & providers to identify & develop opportunities to shift freight traffic to off-peak (M9) Truck to Train Freight Opportunities (OP17) Six overhead signs on Pelham Road (OP18) Six overhead signs on US 29 (2013) (OP19) Six overhead signs on US 76 (Laurens Road) (2014) (OP35) Install delineators on median barrier		
	2015	(C10) Convert SC 290 interchange to DDI (C3) Convert Laurens Road interchange to Parclo A (M4) Bus Rapid Transit - Provide Service on US 29 (a parallel route) - Phase 1 - Service from Greenville to Greer (M10) Develop truck parking areas at White Horse Road and SBL south of US 29 (TDM1) Place additional overhead variable message signs over: <ul style="list-style-type: none"> □ NBL between I-385 & Pelham Road □ SBL between Woodruff Road & Laurens Road □ NBL between SC 101 & SC 290 □ SBL between SC 290 & SC 101 □ NBL south of US 25 (OP3) NB-Construct 2 lane exit ramp at Woodruff/I-385 CD Exit, lengthen deceleration lane (OP15) Overhead sign on I-85 NB at for Brochman-McClimon Road (OP16) Overhead sign for Brochman-McClimon Road for SC 14 and Airport interchanges (OP26) Extend frontage road from SC 14 to SC 101 (OP32) Expand traffic camera coverage on I-85 and expand the incident management system to non-interstate routes (OP33) Relocate to near Brochman-McClimon Interchange	(C2) Add 4th SB lane from Laurens Road to CD exit ramp (OP23) Widen Garlington Road to 4 lanes from Garlington to Farrington (OP24) Widen Roper Mountain Road to 4 lanes from Garlington to Farrington (OP25) Widen Blacks Drive to 4 lanes from Pelham to Roper Mountain Road	(M2) High Speed Rail
	2020			
	2025	(OP9) Construct 2-lane exit ramp NB & SB at SC 14, lengthen deceleration lane (OP10) Construct 2-lane acceleration lanes & ramps NB & SB at SC 14/Aviation Drive (C12) SB-4th lane from CD exit Mauldin Road to Pleasantburg (C17) SB-2 lane exit ramp at SC 14/Aviation Drive - lengthen deceleration lane (C22) NB-5th lane from SC 129 to I-85 Bus (M4) Bus Rapid Transit -Provide Service on US 29 (a parallel route) -Phase 2 - Services from Greer to Spartanburg (C13) Add 4th SB lane within Pelham Road interchange (C14) Add 4th NB lane within Pelham Road interchange (C16) Add 4th SB lane from SC 101 entrance ramp to SC 14 (C17) SB-2 lane exit ramp at SC 14/Aviation Drive - lengthen deceleration lane (C22) Add 5th NB lane from SC 129 to I-85 Bus	(C16) SB 4th lane from SC 101 entrance ramp to SC 14 (C15) NB-4th lane from SC 14 entrance ramp to SC 129 (C15) Add 4th NB lane from SC 14 entrance ramp to SC 129 (C22) Add 5th NB lane from SC 129 to I-85 Bus (C17) SB-2 lane exit ramp at SC 14/Aviation Drive - lengthen deceleration lane	
	2030	(C18) Add 4th NB lane SC 14 to SC 14/Aviation Drive entrance ramp	(C19) Add 4th SB lane from I-85 Business to SC 101	
	2035	(C23) NB-4th lane from I-85 to I-26 exit (C24) SB 5th Lane from Augusta Road Entrance to White Horse Road Exit (C21) NB-2 lane exit ramp at Brochman-McClimon Road/I-385 CD	(C20) Add 4th NB lane from Laurens Road exit to Woodruff Road/I-385 CD (C23) Add 4th NB lane from I-85 Business to I-26 exit ramp (C24) Add 5th SB lane from Augusta Road entrance ramp to White Horse Road exit ramp	(C32) Construct HOT lane only ²

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 97: Estimated Cost to Benefit Table Continued

BENEFIT	ESTIMATES COST			
	YEAR	\$0 - 10 MILLION	\$10 - 100 MILLION	ABOVE \$100 MILLION
LITTLE IMPACT ON REDUCING CONGESTION	2015	(TDM6) Transit Oriented Development - Encourage local planning agencies to consider regulations that favor TOD (OP21) Connect Kings Road to Duvall Drive (OP22) Connect Dairy Drive to Wrenwood Drive (OP27) Improve signals & install traffic camera along US 29 (OP28) Improve signals & install traffic camera along SC 146/SC 296 (OP29) Improve signals & install traffic camera along Woodruff Road, Verdae Boulevard, & Laurens Road (OP36) Raise median barrier height		
	2020			
	2025			
	2030			
	2035		(C30) Add 5th NB Lane from SC 101 entrance ramp to SC 290 exit ramp (OP30) Convert one existing lane to HOV lane in each direction ¹ (OP31) Convert one existing lane to HOT lane in each direction ¹ (C21) NB-2 lane exit ramp at Brochman-McClimon Road	(C31) Construct HOV lane only ²

Note 1: OP30 and OP31 require the conversion of existing lanes without constructing additional lanes.
 Note 2: C31 and C32 include the construction of an additional lane in each direction for the full length of the corridor. The cost of C31 and C32 could be included in the \$10 to \$100 million range based on the assumption that the additional lanes are added in smaller segments consistent with other capacity strategies and converted from general use to HOV or HOT use once all segments are completed.

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 98: Project Grouping for All Strategies (including TDM & Modal)

		DESCRIPTION	TDM	MODAL	OPERATIONAL	CAPACITY	TOTAL COST
YEAR 2012							
	OP1	I-85/Woodruff Road CD Exit at I-85 SB (provide 2-lane exit)			\$50,000		
	OP2	SC 101 Acceleration Lanes at I-85 NB and SB (lengthen acceleration lanes)			\$25,000		
	OP32A	ITS - Active Traffic Management			\$400,00		
		Total			\$475,000		\$475,000
	M2	High Speed Passenger Rail Plan for supporting infrastructure and intermodal transportation		N/A			
	M5	Ride Sharing Program Partner with major employers to develop programs and educate employees on modal opportunities		\$15,000			
	M8	Bicycle & Pedestrian Opportunities <ul style="list-style-type: none"> Provide Bicycle Racks at all Park and Ride Lots Provide Bicycle carriers on all transit buses 		Included in M6			
	M9	Truck to Train Freight Opportunities Encourage Norfolk Southern in development of Crescent Line (intermodal centers in Charlotte and Atlanta)		None			
		Total		\$15,000			\$15,000
	TDM2	Travel Information and Advisory Service Add to SCDOT Website: <ul style="list-style-type: none"> Information on Park and Ride Information on Transit Opportunities Information on Ride Share Programs 	\$3,000				
	TDM3	511 Service <ul style="list-style-type: none"> Add referral to SCDOT website Continue to improve customer friendliness 	\$1,000				
	TDM4	Public Outreach and Education Partner with major industries to make opportunities known to employees and identify new opportunities to meet employers' and employees' commuting needs	\$20,000				
	TDM5	Freight Trip Planning/Scheduling Partner with major freight generators and providers to identify and develop opportunities to shift freight traffic to off-peak hours	\$10,000				
	TDM6	Transit Oriented Development (TOD) Encourage local planning agencies to consider regulations that favor TOD	\$5,000				
		Total	\$39,000				\$39,000
		TOTAL - YEAR 2012	\$39,000	\$75,000	\$475,000		\$589,000
YEAR 2015							
	TDM1	Travel Information and Advisory Service Place additional overhead variable message signs at: <ul style="list-style-type: none"> NBL between I-385 and Pelham SBL between Woodruff and Laurens NBL between SC 101 and SC 290 SBL between SC 290 and SC 101 NBL south of US 25 	\$175,000				
			\$175,000				
			\$175,000				
			\$175,000				
			\$175,000				
	TDM7	Integrated Corridor Management (ICM) - initiate ICM Focus Group	\$15,000				
		Total	\$890,000				\$890,000

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 98: Project Grouping for All Strategies (including TDM & Modal) Continued

	DESCRIPTION	TDM	MODAL	OPERATIONAL	CAPACITY	TOTAL COST
M1	Commuter Rail Prepare Feasibility Study		\$200,000			
M3	Express Bus Service <ul style="list-style-type: none"> Provide Service from Greenville to GSP Airport Provide Service from Spartanburg to GSP Airport Use I-85 shoulders for bus lane, improve as needed 		\$230,000 per year \$350,000 per year			
M4	Bus Rapid Transit Provide Service on US 29 (a parallel route), improve signal operations to support bus transit <ul style="list-style-type: none"> Phase 1 - Service from Greenville to Greer Phase 2 - Services from Greer to Spartanburg 		\$190,000 per year (plus upgrades of \$2,700,000) \$250,000 per year (plus upgrades of \$2,300,000)			
M6	Park and Ride Facilities Develop Park and Ride Facilities at: <ul style="list-style-type: none"> Augusta Road (existing transit services) GSP Airport (transit service planned) SC 101 (1.5 miles to transit service) US 29 at I-85 (5.0 miles to transit service) US 29 at Greer (transit service planned) US 178 near Anderson Cleveland Street at Spartanburg Develop P&R Website to include trip planner, transit information, and bike/pedestrian accommodations		\$1,150,000 \$580,000 \$435,000 \$725,000 \$150,000 \$580,000 \$300,000 \$10,000			
M10	Truck Parking Areas Develop truck parking areas at: <ul style="list-style-type: none"> White Horse Road SBL south of US 29 		\$870,000 \$220,000			
M11	Transit Service Provide bus service to park and ride facilities at SC 101 and at US 29		\$15,000 per year (SC101) \$45,000 per year (US 29)			
Total			\$11,360,000			\$11,360,000
OP4	I-385/Woodruff CD Exit at I-85 SB (lengthen deceleration lane)			\$960,286		
OP5	Pelham Road Exit at I-85 NB (construct 2-lane exit)			\$2,880,858		
	Lengthen deceleration lane			\$960,286		
OP6	Pelham Road Exit at I-85 SB (construct 2-lane exit and ramp)			\$2,880,858		
	Lengthen deceleration lane			\$960,286		
C6	Add 4th NB lane from end 4th lane to Pelham Road exit				\$2,400,715	
C7	Add 4th SB 4th lane from Pelham Road to CD exit to I-385/Woodruff (2020)				\$12,963,861	
C33	Temporary Shoulder Use				\$57,000	
Total				\$8,642,574	\$15,421,576	\$24,064,150
C5	Add 4th NB lane from CD entrance to Laurens Road exit (2035)				\$9,602,860	
	2-lane CD entrance ramp and 2-lane exit ramp (2015)				\$1,920,572	
	CD Bridge Reedy River				\$676,200	
OP3	I-385/Woodruff CD Exit at I-85 NB (construct 2-lane exit ramp)			\$2,880,858		
	Lengthen deceleration lane			\$960,286		
Total				\$3,841,144	\$12,199,632	\$16,039,576

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 98: Project Grouping for All Strategies (including TDM & Modal) Continued

	DESCRIPTION	TDM	MODAL	OPERATIONAL	CAPACITY	TOTAL COST
OP8	SC 290 Exit at I-85 SB (construct 2-lane exit and ramp)			\$2,880,858		
	Lengthen deceleration lane			\$960,286		
OP7	SC 290 Exit at I-85 NB (construct 2-lane exit and ramp)			\$2,880,858		
	Lengthen deceleration lane			\$960,286		
C10	Convert SC 290 Interchange to a DDI				\$1,300,000	
OP11	US 29 at I-85 (Lengthen NB deceleration lane and SB acceleration lane)			\$1,920,572		
OP12	SC 129 at I-85 (Lengthen NB deceleration lane and SB acceleration lane)			\$1,920,572		
	Total			\$11,523,432	\$1,300,000	\$12,823,432
TOTAL - YEAR 2015		\$890,000	\$11,300,000	\$24,007,150	\$28,921,208	\$63,968,358
YEAR 2020						
C11	Reconstruct I-385 Alternate 4				\$240,000,000 ¹	
TOTAL - YEAR 2020						
YEAR 2025						
OP9	SC 14 Exit at I-85 SB (construct 2-lane exit and ramp)			\$2,880,858		
	Lengthen deceleration lane			\$960,286		
C2	Add 4th SB lane from Laurens Road to CD exit ramp				\$9,602,860	
	Bridge - Ridge Road				\$3,398,850	
C4	Add 4th SB lane Woodruff Road to Laurens Road (2020)				\$10,563,146	
	2-lane exit ramp				\$1,920,572	
	Bridge - Laurens Road				\$3,586,800	
	Bridge - CSX RR				\$2,940,000	
	Bridge - Salters Road				\$3,704,750	
C3	Convert Laurens Road interchange to Parclo A				\$9,000,000	
C8	Add 4th NB lane from Pelham Road entrance ramp to SC 14 exit				\$9,602,860	
	Bridge - Batesville Road				\$2,856,000	
	Bridge - Enoree River				\$766,850.00	
C14	Add 4th NB lane within Pelham Road interchange (2025)				\$4,801,430	
C1	Add 4th SB lane from Pleasantburg Drive to White Horse Road				\$11,043,289	
	Bridge - Brushy Creek				\$239,750	
TOTAL - YEAR 2025				\$3,841,144	\$74,027,157	\$77,868,301

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 98: Project Grouping for All Strategies (including TDM & Modal) Continued

		DESCRIPTION	TDM	MODAL	OPERATIONAL	CAPACITY	TOTAL COST
		YEAR 2030					
	C9	Add 4th SB lane from SC 14 entrance ramp to Pelham Road exit				\$9,602,860	
		Enoree River				\$766,850	
	C13	Add 4th SB lane within Pelham Road interchange (2025)				\$4,801,430	
	C16A	Add 4th SB lane from Brockman-McClimon Road to SC 14				\$10,083,003	
	OP10	SC 14 Acceleration Lane at I-85 SB (construct 2-lane acceleration lanes and ramps)			\$4,801,430		
	C22	Add 5th NB lane from SC 129 to I-85 Bus				\$5,281,573	
		TOTAL - YEAR 2030			\$4,801,430	\$30,535,716	\$35,337,146
		YEAR 2035					
	C15	Add 4th NB lane from SC 14 entrance ramp to SC 129				\$56,656,875	
	C18	Add 4th NB lane from SC 14 to SC 14/Aviation Drive entrance ramp				\$6,241,859	
		TOTAL - YEAR 2035				\$62,898,734	\$62,898,734
		GRAND TOTAL ALL YEARS	\$929,000	\$11,375,000	\$33,124,724	\$196,382,815¹	\$241,811,539¹

¹Construction cost for I-385 Interchange is not included in the total as funding is established under a current project.

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 99: Project Grouping for Operational & Capacity Strategies

			DESCRIPTION	ROAD LENGTH (MILES)	LANES (EACH)	BRIDGE LENGTH	BRIDGE WIDTH	ROAD COST	BRIDGE COST	TOTAL COST	GROUP COST
YEAR 2012											
	1	OP1	I-85/Woodruff Road CD Exit at I-85 SB (provide 2-lane exit)	LS				\$50,000		\$50,000	
	1	OP2	SC 101 Acceleration Lanes at I-85 NB and SB (lengthen acceleration lanes)	LS				\$25,000		\$25,000	
	1	OP32A	ITS - Active Traffic Management							\$400,000	
TOTAL - YEAR 2012								\$75,000		\$475,000	\$475,000
YEAR 2015											
Group	1A	OP5	Pelham road Exit at I-85 NB (construct 2-lane exit)	0.3	2			\$2,880,858			
	1A		Lengthen deceleration lane	0.2	1			\$960,286		\$3,841,144	
	1A	C6	Add 4th NB lane from end 4th lane to Pelham Road exit	0.5	1			\$2,400,715		\$2,400,715	
	1B	C7	Add 4th SB 4th lane from Pelham Road to CD exit to I-385/Woodruff (2020)	2.7	1			\$12,963,861		\$12,963,861	
	1B	OP4	I-385/Woodruff CD Exit at I-85 SB (lengthen deceleration lane)	0.2	1			\$960,286		\$960,286	
	1C	C33	Temporary Shoulder Use					\$57,000		\$57,000	
	Total Group 1										
Group	2A	C2	Add 4th SB lane from Laurens Road to CD exit ramp	2	1			\$9,602,860			
	2A		Ridge Road			312	62.25		\$3,398,850	\$13,001,710	
	2B	C4	Add 4th SB lane Woodruff Road to Laurens Road (2020)	2.2	1			\$10,563,146		\$10,563,146	
	2B		2-lane exit ramp	0.2	2			\$1,920,572			
	2B		Laurens Road			244	84		\$3,586,800		
	2B		CSX RR			200	84		\$2,940,000		
	2B		Salters Road			290	73		\$3,704,750	\$12,152,122	
	2C	C3	Convert Laurens Road interchange to Parclo A	LS				\$9,000,000		\$9,000,000	
Total Group 2											\$44,716,978
Group	3A	C8	Add 4th NB lane from Pelham Road entrance ramp to SC 14 exit	2	1			\$9,602,860			
	3A		Batesville Road			340	48		\$2,856,000		
	3A		Enoree River			313	14		\$766,850	\$13,225,710	
	3A	C14	Add 4th NB lane within Pelham Road interchange (2025)	1	1			\$4,801,430		\$4,801,430	
	3B	C9	Add 4th SB lane from SC 14 entrance ramp to Pelham Road exit	2	1			\$9,602,860			
	3B		Enoree River			313	14		\$766,850.00	\$10,369,710	
	3B	C13	Add 4th SB lane within Pelham Road interchange (2025)	1	1			\$4,801,430		\$4,801,430	
	3C	OP6	Pelham Road Exit at I-85 SB (construct 2-lane exit and ramp)	0.3	2			\$2,880,858			
	3C		Lengthen deceleration lane	0.2	1			\$960,286		\$3,841,144	
Total Group 3											\$37,039,424
Group	4A	C1	Add 4th SB lane from Pleasantburg Drive to White Horse Road	2.3	1			\$11,043,289			
	4A		Brushy Creek			137	10		\$239,750.00	\$11,283,039	
	4B	C12	Add 4th SB lane from CD exit near Mauldin Road to Pleasantburg Drive (2025)	0.5	1			\$2,400,715		\$2,400,715	
	Total Group 4										

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 99: Project Grouping for Operational & Capacity Strategies Continued

			DESCRIPTION	ROAD LENGTH (MILES)	LANES (EACH)	BRIDGE LENGTH	BRIDGE WIDTH	ROAD COST	BRIDGE COST	TOTAL COST	GROUP COST
Group	5A	C5	Add 4th NB lane from CD entrance to Laurens Road exit (2035)	2	1			\$9,602,860			
	5A		2-lane CD entrance ramp and 2-lane exit ramp (2015)	0.2	2			\$1,920,572			
			CD Bridge Reedy River			322	12		\$676,200.00	\$12,199,632	
	5B	OP3	I-385/Woodruff CD Exit at I-85 NB (construct 2-lane exit ramp)	0.3	2			\$2,880,858			
	5B		Lengthen deceleration lane	0.2	1			\$960,286		\$3,841,144	
				Total Group 5							
Group	6A	OP8	SC 290 Exit at I-85 SB (construct 2-lane exit and ramp)	0.3	2			\$2,880,858			
	6A		Lengthen deceleration lane	0.2	1			\$960,286		\$3,841,144	
	6B	OP7	SC 290 Exit at I-85 NB (construct 2-lane exit and ramp)	0.3	2			\$2,880,858			
	6B		Lengthen deceleration lane	0.2	1			\$960,286		\$3,841,144	
	6C	C10	Convert SC 290 Interchange to a DDI	LS				\$2,000,000		\$2,000,000	
	6D	OP11	US 29 at I-85 (Lengthen NB deceleration lane and SB acceleration lane)	0.4	1			\$1,920,572		\$1,920,572	
	6E	OP12	SC 129 at I-85 (Lengthen NB deceleration lane and SB acceleration lane)	0.4	1			\$1,920,572		\$1,920,572	
			Total Group 6								\$13,523,432
TOTAL - YEAR 2015								\$126,291,321	\$18,936,050	\$145,170,371	\$145,227,371
YEAR 2020											
	C11		Reconstruct I-385 Interchange	LS							\$240,000,000
TOTAL - YEAR 2020											\$240,000,000
YEAR 2025											
Group	1A	C16	Add 4th SB lane from SC 101 entrance ramp to SC 14	4.1	1			\$19,685,863		\$19,685,863	
	1B	OP9	SC 14 Exit at I-85 SB (construct 2-lane exit and ramp)	0.3	2			\$2,880,858			
	1B		Lengthen deceleration lane	0.2	1			\$960,286		\$3,841,144	
	1C	OP10	SC 14 Acceleration Lane at I-85 SB (construct 2-lane acceleration lanes and ramps)	0.5	2			\$4,801,430		\$4,801,430	
	1D	C17	Construct SB-2 lane exit ramp at SC 14/Aviation Drive	0.8	2			\$7,682,288			
	1D		Lengthen deceleration lane	0.2	1			\$960,286		\$8,642,574	
			Total Group 1								\$36,971,011

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 99: Project Grouping for Operational & Capacity Strategies Continued

			DESCRIPTION	ROAD LENGTH (MILES)	LANES (EACH)	BRIDGE LENGTH	BRIDGE WIDTH	ROAD COST	BRIDGE COST	TOTAL COST	GROUP COST
Group	2	C15	Add 4th NB lane from SC 14 entrance ramp to SC 129	11.8	1			\$56,656,875			
	2		New Jetport entrance flyover			560	37.25		\$3,650,500		
	2		Duncan-Reidville Road			270	62.25		\$2,941,313		
	2		Danzler Road			300	62.25		\$3,268,125		
	2		South Tyger River			318	16.3		\$907,095		
	2		Middle Tyger River			246	16.3		\$701,715		
	2		Nazareth Road			294	62.25		\$3,202,763		
	2		US 29 & CSX RR			543	16.2		\$1,539,405		
	2		Southern RR			138	28		\$676,200		
	2		North Tyger River			246	16.3		\$701,715	\$74,245,705	
	2	C22	Add 5th NB lane from SC 129 to I-85 Bus	1.1	1				\$5,281,573		\$5,281,573
			Total Group 2								\$79,527,278
TOTAL - YEAR 2025								\$98,909,459	\$17,588,830	\$116,498,289	\$116,498,289
YEAR 2030											
Group	1A	C18	Add 4th NB lane from SC 14 to SC 14/Aviation Drive entrance ramp	1.3	1			\$6,300.00		\$6,300.00	
	1B	C28	Add 5th SB lane from SC 14 entrance ramp to I-385 exit	3.1	1			\$14,884,433			
			Pelham Road			354	106		\$6,566,700		
	1B		Enoree River			313	12		\$657,300	\$22,108,433	
	1C	C29	Add 5th NB lane Pelham Road exit ramp to SC 14 exit ramp	2.9	1			\$13,924,147			
	1C		Enoree River			313	12		\$657,300	\$14,581,447	
			Total Group 1								\$42,931,739
Group	2	C19	Add 4th SB lane from I-85 Bus to SC 101	9	1			\$43,212,871			
	2		South Tyger River			318	12		\$667,800		
	2		Middle Tyger River			246	12		\$516,600		
	2		US 29 & CSX RR			543	22		\$2,090,550		
	2		Southern RR		1	138	28		\$676,200		
	2		North Tyger River			246	12		\$516,600	\$47,680,621	
			Total Group 2								\$47,680,621
TOTAL - YEAR 2030								\$78,263,310	\$12,349,050	\$90,612,359	\$90,612,359
YEAR 2035											
Group	1	C23	Add 4th NB lane from I-85 Bus to I-26 exit	1.2	1			\$5,761,716			
	1		I-85 Bus			380	22		\$1,463,000		
	1		Road S-41			144	22		\$554,400	\$7,779,116	
				Total Group 1							

CORRIDOR ANALYSIS OF INTERSTATE 85: GREENVILLE AND SPARTANBURG COUNTIES



Exhibit 99: Project Grouping for Operational & Capacity Strategies Continued

		DESCRIPTION	ROAD LENGTH (MILES)	LANES (EACH)	BRIDGE LENGTH	BRIDGE WIDTH	ROAD COST	BRIDGE COST	TOTAL COST	GROUP COST
Group	2	C20	Add 4th NB lane from Laurens Road exit to Woodruff Road/I-385 CD	2	1		\$9,602,860			
	2		Laurens Road			244	84	\$3,586,800		
	2		CSX RR			100	84	\$1,470,000	\$14,659,660	
			Total Group 2							\$14,659,660
Group	3	C21	Construct NB 2-lane exit ramp at Brockman-McClimon Road	1	1	244	40	\$4,801,430	\$1,708,000	\$6,509,430
			Total Group 3							\$6,509,430
Group	4A	C24	Add 5th SB lane from Augusta Road entrance to White Horse Road exit ramp	1.3	1			\$6,241,859		\$6,241,859
	4B	C25	Add 5 NB lane from CD entrance ramp to Laurens Road exit ramp	2	1			\$9,602,860		
			Brushy Creek			137	12	\$287,700	\$9,890,560	
	4C	C26	Add 5th SB lane from Laurens entrance ramp to CD exit ramp	2	1			\$9,602,860	\$9,602,860	
	4D	C27	Add 5th SB lane from Woodruff Road exit to Laurens Road entrance ramp	2.2	1			\$10,563,146		
			CSX RR			100	12	\$210,000	\$10,773,146	
		Total Contract 4								\$36,508,425
Group	5	C30	Add 5th NB lane from SC 101 entrance ramp to SC 290 exit ramp	2.2	1			\$10,563,146		
			South Tyger River			318	12	\$667,800	\$11,230,946	
			Total Group 5							\$11,230,946
TOTAL - YEAR 2035							\$66,739,878	\$9,947,700	\$76,687,578	\$76,687,578
GRAND TOTAL ALL YEARS							\$370,278,968	\$58,821,630.00	\$429,500,598	\$429,500,598^A

¹Items C4, C7, C12, C13, C14 were moved to 2015 contracts.

²The dates given for the contract groupings do not consider the benefits of implementing TDM and modal strategies. Adjusted dates for implementation of the various capacity strategies are shown in the Capacity Improvement Summary table in Chapter 10.

^AConstruction cost of I-385 interchange is not included in the total as funding is established under a current project.