



# US 52

## BCDCOG US 52 Corridor Study

### Preferred Scenario Report Supplement

*Berkeley and Charleston Counties, South Carolina*

BCDCOG  
BERKELEY-CHARLESTON-DORCHESTER  
COUNCIL OF GOVERNMENTS  
PLANNING, PARTNERSHIP & PROSPERITY

This supplement to the Preferred Scenario Report compares the capacity analysis results of the at-grade Superstreet configuration at US 52 and US 176/Red Bank Road with a grade separation Echelon interchange configuration. The analysis also includes additional lanes on the Liberty Hall Road approaches to US 52 as part of both of these options to reduce delay.

In the Superstreet configuration, illustrated in **Figure 1**, through traffic on US 176 / Red Bank Road traveling across US 52 is required to turn right to a left turn at new northern and southern crossovers, which then connect back to US 176 to the north or Red Bank Road to the south. This configuration eliminates the current seven-phase signal at the main intersection and replaces it with dual two-phase signals in each direction on US 52, allowing for improved operations.



**Figure 1: US 52 and US 176/Red Bank Road (Superstreet)**

In the Interchange configuration, illustrated in **Figure 2**, the through traffic on US 52 is separated from the major turning movements to and from US 176 and Red Bank Road, eliminating the traffic signal at US 176/Red Bank Road and elevate Red Bank Road over the railroad. Through movements along US 176 and Red Bank Road would be redirected to a new northern crossover intersection. The northbound right and westbound left movements, however, would be prohibited. It may be possible to accommodate the northbound right turn, though this would include an at-grade rail crossing.



**Figure 2: US 52 and US 176/Red Bank Road (Interchange)**



The results of the at-grade Superstreet analysis are provided in **Table 1**, while the results of the grade separation Echelon analysis are provided in **Table 2**.

**Table 1: Results of the At-Grade Intersection at US 52 and US 176/Red Bank Road**

Intersection Name	2040 At-Grade Superstreet			
	AM		PM	
	LOS	Delay	LOS	Delay
Anglers Drive and US 52	A	8.8	B	13.8
US 52 & Reid Hill Rd/Rembert Dennis Blvd	B	17.4	C	27.9
US 52 & N Live Oak Dr	B	13.9	B	11.4
E Main St/Main St Ext & US 52	D	51.5	F	89.9
US 52 & Heatley/Altman St and AutoZone Driveway	E	72.9	E	67.4
US 52/Rembert Dennis Blvd & US 52/Old US 52	B	17.4	C	22.8
Rembert Dennis Blvd & Stoney Landing Rd	B	20.0	A	9.6
Rembert Dennis Blvd & Main St Ext/Sterling Oaks Dr	B	11.0	A	8.7
US 52 & Gaillard Rd	D	35.6	C	32.4
Old US 52 & Gaillard Rd	B	10.5	B	13.5
US 52 & Cypress Gardens Rd	E	55.7	E	70.6
Old US 52 & Cypress Gardens Rd	C	20.0	B	14.6
US 52 & Mt Holly Commerce Park	E	38.5	F	75.3
US 52 & Google	A	9.0	C	20.2
US 52 & Old US 52	C	23.4	B	17.8
US 52 & Old Mount Holly Rd/Montague Plantation Rd	D	43.7	D	44.5
US 52 & Stephanie Dr/Windsor Mill Rd	F	94.3	B	15.9
US 52 & Hollywood Dr	F	125.3	A	9.7
US 52 & Central Ave	F	118.5	D	39.3
US 52 & Button Hall Ave	F	111.5	D	46.2
US 52 & Liberty Hall Rd/Thomason Blvd	F	119.9	F	118.5
US 52 SB & US 176	F	173.0	C	27.5
US 52 NB & Red Bank Road	B	16.9	D	41.0
US 52 SB & Northern Connector	F	90.6	C	25.6
US 176 WB & Northern Connector	C	33.3	B	17.7
US 52 NB & Southern Connector	C	23.1	E	63.5
Red Bank Road WB & Southern Connector	B	10.3	A	9.1
US 52 & Otranto Rd	D	48.3	E	63.0

**Table 2: Results of the Grade Separated Interchange at US 52 and US 176/Red Bank**

Intersection Name	2040 Grade Separation (Echelon)			
	AM		PM	
	LOS	Delay	LOS	Delay
Anglers Drive and US 52	A	9.4	B	13.5
US 52 & Reid Hill Rd/Rembert Dennis Blvd	B	17.6	C	27.2
US 52 & N Live Oak Dr	B	13.9	B	11.5
E Main St/Main St Ext & US 52	E	57.5	F	90.3
US 52 & Heatley/Altman St and AutoZone Driveway	E	74.0	E	64.8
US 52/Rembert Dennis Blvd & US 52/Old US 52	B	17.3	C	22.6
Rembert Dennis Blvd & Stoney Landing Rd	B	19.9	A	9.5
Rembert Dennis Blvd & Main St Ext/Sterling Oaks Dr	B	10.9	A	8.9
US 52 & Gaillard Rd	D	35.7	C	33.7
Old US 52 & Gaillard Rd	B	10.6	B	14.0
US 52 & Cypress Gardens Rd	E	55.3	E	71.5
Old US 52 & Cypress Gardens Rd	B	19.5	B	14.4
US 52 & Mt Holly Commerce Park	E	40.9	F	67.3
US 52 & Google	A	9.3	B	19.6
US 52 & Old US 52	C	23.6	B	18.9
US 52 & Old Mount Holly Rd/Montague Plantation Rd	C	34.2	D	41.9
US 52 & Stephanie Dr/Windsor Mill Rd	C	34.5	B	15.8
US 52 & Hollywood Dr	E	59.6	A	9.9
US 52 & Central Ave	D	51.9	D	41.9
US 52 & Button Hall Ave	D	54.7	D	51.6
US 52 & Liberty Hall Rd/Thomason Blvd	E	58.7	F	120.9
US 52 SB & Northern Connector	C	32.6	C	29.1
US 176 WB & Northern Connector	B	19.0	C	20.7
US 52 & Otranto Rd	D	54.1	E	62.8

As shown, since the grade separated interchange results in much-improved levels of service over the Superstreet, and eliminates the existing at-grade rail crossing of Red Bank Road.