Chapter 19: Mitigation

A. INTRODUCTION

The analyses presented in this environmental impact statement (EIS) examine the potential for significant adverse impacts to result from the proposed Brooklyn Bridge Park Project. This chapter discusses the mitigation measures proposed to minimize or avoid the significant adverse impacts that have been identified in the areas of historic resources, traffic and parking, and noise. Significant adverse impacts that cannot be fully mitigated through reasonably practicable measures are identified and discussed in Chapter 22, "Unavoidable Adverse Impacts."

B. HISTORIC RESOURCES

As described in Chapter 7, "Historic Resources," the proposed project area may be sensitive for archaeological resources. Measures by which the presence of such resources would be evaluated, and any subsequent mitigation measures implemented, would be developed in consultation with the New York State Office of Parks, Recreation and Historic Preservation (OPRHP) and specified in a Letter of Resolution to be executed by the Empire State Development Corporation (ESDC), Brooklyn Bridge Park Development Corporation (BBPDC), OPRHP, and the developer of Empire Stores. The proposed project would demolish the former National Cold Storage buildings to allow for the development of a new mixed-use residential and hotel development. The demolition of this historic structure would result in a significant adverse impact to that historic resource.

The New York State Historic Preservation Officer (SHPO) has determined that the overall proposed park design would, with the exception of the demolition of the former National Cold Storage buildings, positively affect historic resources and would substantially mitigate the significant adverse impact from the demolition of the former National Cold Storage buildings. The park design incorporates a number of existing waterfront elements that reflect the development history of the Brooklyn waterfront. These include the planned rehabilitation and adaptive reuse of the historic Empire Stores; retention and reuse of several existing buildings in the project area built by the New York Dock Company; retention of Piers 1, 2, 3, 5, and 6 and the reuse of portions of the piershed structures on Piers 2 and 3 as shade canopies; retention of a float transfer bridge on Pier 4, and design elements such as walkways that allow for views of the pier infrastructure. Further mitigation measures may be developed in consultation with OPRHP as stipulated in the Letter of Resolution to be executed by ESDC, BBPDC, and OPRHP.

For the reasons detailed in Chapter 7, "Historic Resources," it has been determined that the removal of the Purchase Building would not constitute a significant adverse impact to historic resources. Nevertheless, due to concerns raised regarding the potential architectural significance of this building, and absent a determination by the New York City Landmarks Preservation Commission (LPC) that it is not a contributing structure to the New York City Historic District, the demolition would be treated in the same manner as is if it were to have a significant adverse

impact. Therefore, mitigation in the form of Historic American Buildings Survey (HABS) documentation will be undertaken and submitted to an appropriate public repository.

To avoid any inadvertent construction-related damage to historic resources, historic structures located within 90 feet of project construction would be included in a construction protection plan to be developed in consultation with OPRHP.

C. TRAFFIC AND PARKING

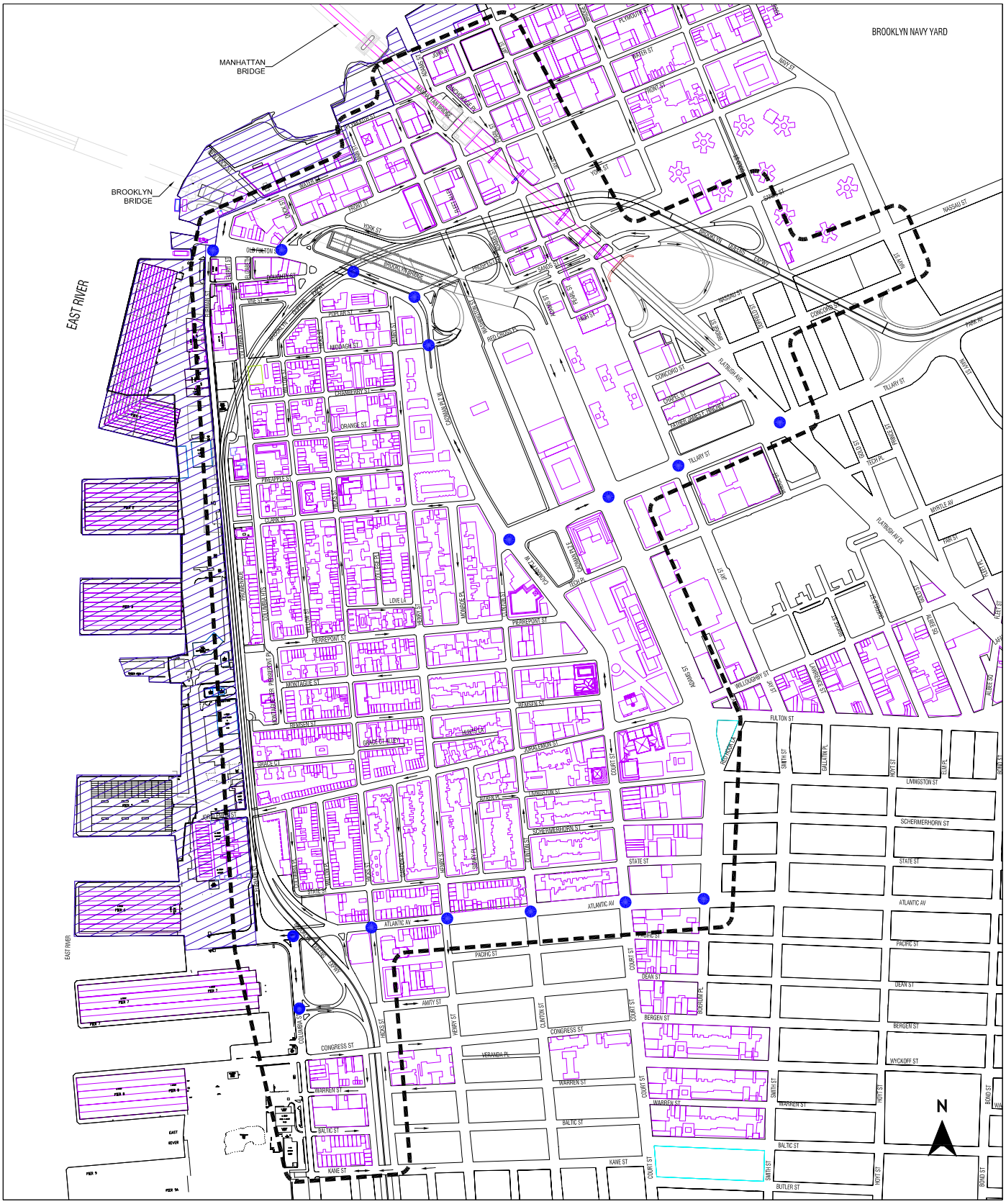
As discussed in Chapter 14, "Traffic and Parking," the proposed project would result in a number of significant adverse traffic impacts; however, significant adverse impacts to parking are not anticipated. Therefore the possible mitigation measures discussed below only focus on the significant adverse traffic impacts. Mitigation measures are proposed in order to improve traffic conditions and reduce Build condition delays back to the level of No Build conditions.

TRAFFIC

As presented in Chapter 14, "Traffic and Parking," the proposed project would result in significant adverse impacts at 16 different intersections in one or more peak hours (see Figure 19-1). Five of the impacted intersections are located on the Old Fulton/Cadman Plaza West corridor, four are on Tillary Street, six on Atlantic Avenue, and one at Columbia Street at the Brooklyn-Queens Expressway Ramps. As described in Chapter 14, "Traffic and Parking," the traffic analysis was conducted assuming that the New York City Department of Transportation (NYCDOT) initiative of converting Furman Street from one-way southbound to two-way operation would be implemented by 2012 under No Build conditions, and several new developments would occur from 2005 to 2012 in the area besides the proposed project. These changes are accounted for in the future without the proposed project. To address the level of new project-generated traffic demand, mitigation measures would be required, consisting of a combination of signal timing or signal phasing changes to the study area, re-striping of intersection approaches, and parking regulation changes. Nonetheless, two locations would have unmitigated impacts (Tillary Street at Adams Street and Cadman Plaza West at the Brooklyn Bridge off-ramp) in all peak periods. Table 19-1 shows the proposed mitigation measures and Table 19-2 shows the effectiveness of these measures to mitigate the potential significant adverse impacts due to the proposed project. This chapter also provides a mitigation analysis for project impacts in the event that Furman Street were to remain with one-way operation. For that condition, as with two-way Furman Street, 16 intersections require mitigation.

CADMAN PLAZA WEST/OLD FULTON CORRIDOR

Along this corridor, minor changes in signal timing ranging from 1 to 3 seconds would address most project-induced significant adverse impacts (see Table 19-1). At Prospect Street, Table 19-2 shows that signal timing modifications would mitigate the significant adverse impact on the northbound approach reducing Build delays from 80.4 seconds (LOS F) to 61.8 seconds (LOS E) in the PM peak period. At Hicks Street, signal timing adjustments would also reduce the Build delays on the southbound through movement from 235.8 seconds (LOS F) to 102.1 seconds (LOS F) in the PM peak hour, and from 134.7 seconds (LOS F) to 60.7 seconds (LOS E) in the Sunday midday peak hour. At Front Street, signal timing adjustments would mitigate the significant impact on the southbound approach, reducing Build delay from 119.6 seconds (LOS F) to 76.7 seconds (LOS E) in the PM peak hour. At Water Street, re-striping of the northbound approach to provide



Impacted Intersections
Figure 19-1

BROOKLYN BRIDGE PARK

TABLE 19-1
Proposed Traffic Mitigation Measures - Proposed Project (Two-way Furman Street)
This table has been revised for the FEIS

Intersection	Approach	Period	Current/No-Build Signal Timing (Seconds) (1)	Brooklyn Bridge Park Proposed Mitigation Measures: Mitigation Signal Timing (Seconds) (1)	Brooklyn Bridge Park Proposed Mitigation Measures: Description of Mitigation
Old Fulton Street (N-S) @ Prospect Street (EB)	NB/SB SBL	PM	54/54/54 36/36/36	54/56/54 36/34/36	Transfer 2 sec. of green time from SB-L phase to NB/SB approach in the PM peak hour.
Old Fulton Street (N-S) @ Hicks Street / BQE (WB)	NB/SBRT SBT WB	PM/SUN	41/73/73 17/14/14 32/33/33	41/73/73 17/17/18 32/30/29	Reallocate green time to the Old Fulton St., SB thru phase in PM and SUN peak hours.
Old Fulton Street (E-W) @ Front Street (N-S)	EB/WB NB/SB	PM	59/59/59 31/31/31	59/56/59 31/34/31	Transfer 3 sec. of green time from Old Fulton St (E-W) to Front Street (NB/SB).
Old Fulton Street (E-W) @ Water St / Furman St(N-S)	WB EB/WB NB/SB	ALL	14/14/14 49/49/49 27/27/27	14/16/14 49/47/49 27/27/27	Re-stripe NB approach to one thru lane and one right turn lane. Transfer 2 sec. from the EB/WB phase to WB phase in the PM peak hour.
Tillary Street (E-W) @ Flatbush Avenue (N-S)	EB/WB EBL/WBL NB/SB NB/(NB/EBRT)	ALL	38/38/38 24/24/24 41/41/41 17/17/17	38/39/38 24/24/24 39/41/39 19/16/19	Extend the EBRT phase to the NB only phase. Transfer 2 sec from NB/SB phase to NB only in the MD and SUN peak hours. Transfer 1 sec form NB only to EB/WB in the PM peak hour.
Tillary Street (E-W) @ Jay Street (N-S)	EB/WB EBL/WBL/NBRT NB/SB	ALL	56/56/56 18/18/18 46/46/46	56/58/56 21/18/18 43/44/46	Transfer 3 sec. of green time from NB/SB phase to EBL/WBL/NBRT phase in the MD peak hour. Transfer 2 sec. of green time from NB/SB phase to EB/WB phase in the PM peak hour.
Tillary Street (E-W) @ Adams Street (N-S)	EB NB/SB	ALL			No mitigation improvements proposed.
Tillary St / Clinton St. (E-W) @ Cadman Plaza West (N-S)	EB WB NB/SB	MD/PM	36/36/36 36/36/36 48/48/48	34/34/36 37/38/36 49/48/48	Re-stripe NB approach to 2 thru and 1 right turn lane. Reduce 2 sec. from EB in MD/PM. Transfer 1 sec. of green time to NB/SB and 1 sec to WB in the MD. 2 sec to the WB in the PM. Re-stripe WB approach to one L lane, one LR lane and one R lane.
Atlantic Avenue (E-W) @ Columbia Street (N-S)	EB/WB WB NB	ALL	60/70/78 30/50/42	49/34/67 11/36/11 30/50/42	Introduce WB advance green phase to facilitate WB left turn.
Atlantic Avenue (E-W) @ Hicks Street (NB)	EB/WB NB	ALL	45/78/78 45/42/42	48/78/78 42/42/42	Transfer 3 sec. from NB to EB/WB in the MD peak hour. Change parking regulation to No Standing from 7AM-7PM on the WB approach to facilitate right turn movement.
Atlantic Avenue (E-W) @ Henry Street (SB)	EB/WB SB	ALL	50/74/78 40/46/42	36/52/67 14/25/11 40/43/42	Introduce WB advance green phase to facilitate WB left turn. Transfer 3 sec. of green time from SB phase to new WB phase in the PM.
Atlantic Avenue (E-W) @ Clinton Street (N-S)	EB/WB NB PED	MD/PM	46/57/70 36/55/42 8/8/8	48/60/70 34/52/42 8/8/8	Implement no standing 7AM-4PM for 100' on the NB approach to facilitate right turn movement. Implement no standing 4PM-7PM for 100' on the WB approach. Transfer 2 and 3 sec. from NB to EB/WB approaches in the MD and PM peak hours, respectively.
Atlantic Avenue (E-W) @ Court Street (N-S)	EB/WB WB SB	ALL	48/65/78 10/13/10 32/42/32	48/64/78 10/14/10 32/42/32	Re-stripe WB approach to one LT lane and one T lane. Implement no standing 7AM-7PM for 100' on the EB approach to facilitate right-turn movement. Transfer 1 sec from EB/WB phase to WB only phase in th PM peak hour
Atlantic Avenue (E-W) @ Boerum Place (N-S)	EB/WB EB SB	ALL	34/47/42 13/19/18 43/54/60	37/50/46 13/20/18 40/50/56	Transfer 3 sec. of green time from SB phase to EB/WB phase in MD, 4 sec from SB and 3 sec to EB/WB, 1 sec. to EB in the PM and 4 sec to EB/WB in Sunday peak hour.
Columbia Street (N-S) BQE Ramp (E-W)	NB/SB SB WB	MD/PM	36/36/36 24/24/24	20/22/25 16/14/11 24/24/24	Introduce SB advance green phase to facilitate SB left turn.
Cadman Plaza West (N-S) @ Brooklyn Br. Off-Ramp Rt (WB)	NB/SB EB	ALL			No mitigation improvements proposed.

Notes:

(1) Signal timings shown indicate green plus yellow (including all-red) for each phase.
(2) xx/xx/xx denotes signal timing for MD/PM/SUN MD peak hours
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right.
Ped. - all pedestrian phase.

Table 19-2
Build Traffic Mitigation
Two-way Furman Street

THISTABLE HAS BEEN REVISED FOR THE FEIS

SIGNALIZED INTERSECTIONS	LANE GROUP	NO-BUILD MD Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD MD Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD w/ Mitigation MD Peak Hour V/C Ratio	Delay (sec.)	LOS		NO-BUILD PM Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD PM Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD w/ Mitigation PM Peak Hour V/C Ratio	Delay (sec.)	LOS		NO-BUILD SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD w/ Mitigation SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS	
Old Fulton Street (N-S)	NB-T	0.83	21.9	C		0.87	23.5	C		0.87	23.5	C		1.09	69.4	E		1.11	80.4	F	**	1.07	61.8	E		0.98	35.5	D		1.01	42.4	D		1.01	42.4	D	
Prospect Street (EB)	SB-L	0.45	24.4	C		0.51	25.4	C		0.51	25.4	C		0.43	24.1	C		0.50	25.2	C		0.54	27.2	C		0.34	23.0	C		0.41	23.9	C		0.41	23.9	C	
	SB-T	0.25	11.7	B		0.29	12.1	B		0.29	12.1	B		0.32	12.3	B		0.34	12.6	B		0.33	11.4	B		0.27	11.8	B		0.30	12.1	B		0.3	12.1	B	
	WB-L	0.27	25.4	C		0.27	25.4	C		0.27	25.4	C		0.28	39.4	D		0.28	39.4	D		0.32	42.2	D		0.30	39.6	D		0.30	39.6	D		0.35	43.6	D	
Old Fulton Street (N-S) @	NB-L	1.09	88.2	F		1.09	88.2	F		1.09	88.2	F		1.00	55.2	E		1.00	55.2	E		1.00	55.2	E		0.96	45.5	D		0.96	45.5	D		0.96	45.5	D	
Hicks Street/BQE (WB)	NB-LT	0.72	24.9	C		0.77	26.4	C		0.77	26.4	C		0.66	14.3	B		0.69	14.9	B		0.69	14.9	B		0.54	12.3	B		0.57	12.7	B		0.57	12.7	B	
	SB-TR	0.20	1.3	A		0.26	1.5	A		0.26	1.5	A		0.16	1.2	A		0.21	1.3	A		0.20	1.2	A		0.13	1.2	A		0.18	1.3	A		0.17	1.1	A	
	SB-T	0.33	33.6	C		0.53	37.1	D		0.53	37.1	D		1.03	115.7	F		1.36	235.8	F	**	1.02	102.1	F		0.70	64.5	E		1.09	134.7	F	**	0.76	60.7	E	
Front Street (N-S) @	EB-LT	0.46	12.1	B		0.81	23.2	C		0.81	23.2	C		0.45	11.9	B		0.82	24.6	C		0.89	33.5	C		0.38	10.9	B		0.67	16.6	B		0.67	16.6	B	
Old Fulton Street (E-W)	WB-T	0.11	8.2	A		0.14	8.4	A		0.14	8.4	A		0.24	9.1	A		0.28	9.4	A		0.29	10.9	B		0.08	8.0	A		0.12	8.2	A		0.12	8.2	A	
	SB-LR	0.54	32.3	C		0.69	38.2	D		0.69	38.2	D		1.06	88.7	F		1.15	119.6	F	**	1.03	76.7	E		0.49	30.8	C		0.60	34.1	C		0.60	34.1	C	
Water Street/Furman Street (N-S) @	EB-T	0.04	12.5	B		0.04	12.5	B		0.04	12.5	B		0.03	12.4	B		0.03	12.4	B		0.04	13.5	B		0.02	12.3	B		0.02	12.3	B		0.02	12.3	B	
Old Fulton Street (E-W)	WB-LT	0.32	8.2	A		0.46	10.0	A		0.46	10.0	A		0.89	27.1	C		1.00	47.4	D	**	0.99	44.6	D		0.26	7.7	A		0.38	8.9	A		0.38	8.9	A	
	WB-R	0.04	6.0	A		0.04	6.0	A		0.04	6.0	A		0.05	6.1	A		0.05	6.1	A		0.05	6.1	A		0.01	5.9	A		0.01	5.9	A		0.01	5.9	A	
	NB-T	0.16	27.9	C		0.69	41.5	D		0.02	26.2	C		0.28	29.6	C		0.68	40.9	D		0.02	26.2	C		0.13	27.5	C		0.57	36.3	D		0.04	26.4	C	
	NB-R									0.74	45.3	D										0.73	44.5	D										0.58	37.3	D	
	SB-L	0.54	37.2	D		1.30	211.3	F	**	0.67	42.6	D		0.39	33.0	C		0.96	97.3	F	**	0.05	35.5	D		0.50	35.7	D		1.09	129.1	F	**	0.66	41.6	D	
	SB-TR	0.11	27.3	C		0.23	29.0	C		0.23	29.0	C		0.31	30.4	C		0.45	33.4	C		0.45	33.4	C		0.04	26.4	C		0.15	27.9	C		0.15	27.9	C	
Flatbush Avenue (N-S) @	EB-L	0.49	50.7	D		0.50	51.0	D		0.50	51.0	D		0.56	53.5	D		0.58	53.9	D		0.58	53.9	D		0.19	43.7	D		0.21	44.1	D		0.21	44.1	D	
Tillary Street (E-W)	EB-TR	0.80	43.8	D		0.82	45.0	D		0.71	40.6	D		1.01	68.9	E		1.03	73.4	E	**	0.90	49.3	D		0.55	36.8	D		0.57	37.2	D		0.51	36.1	D	
	EB-R	0.99	90.0	F		1.05	108.2	F	**	0.81	51.9	D		0.93	77.0	E		0.98	89.3	F	**	0.87	49.9	D		0.51	42.3	D		0.59	45.0	D		0.50	27.9	C	
	WB-L	0.84	62.9	E		0.84	62.9	E		0.71	62.9	E		1.22	165.6	F		1.22	165.6	F		1.22	165.6	F		1.03	97.5	F		1.03	97.5	F		1.03	97.5	F	
	WB-T	0.63	39.6	D		0.67	40.7	D		0.64	40.7	D		1.10	103.3	F		1.12	111.6	F	**	1.09	99.1	F		0.54	37.4	D		0.56	37.9	D		0.56	37.9	D	
	WB-R	0.81	58.9	E		0.81	58.9	E		0.81	58.9	E		0.58	44.4	D		0.58	44.4	D		0.56	42.8	D		0.34	37.4	D		0.34	37.4	D		0.34	37.4	D	
	NB-L	1.03	87.7	F		1.10	112.1	F	**	1.03	85.9	F		0.71	47.5	D		0.75	48.6	D		0.77	50.2	D		1.06	94.9	F		1.12	118.0	F	**	1.04	89.3	F	
	NB-T	0.44	22.2	C		0.44	22.2	C		0.43	22.2	C		0.48	22.9	C		0.48	22.9	C		0.49	23.6	C		0.44	22.2	C		0.44	22.2	C		0.44	22.2	C	
	SB-T	0.56	35.1	D		0.56	35.1	D		0.58	37.1	D		1.11	98.8	F		1.11	98.8	F		1.11	98.8	F		0.48	33.6	C		0.48	33.6	C		0.51	35.4	D	
	SB-R	0.53	40.4	D		0.54	41.0	D		0.57	44.0	D		0.56	40.8	D		0.59	41.7	D		0.59	41.7	D		0.23	32.8	C		0.24	33.1	C		0.26	34.9	C	
Jay Street (N-S) @	EB-L	0.13	19.9	B		0.13	21.3	C		0.12	20.0	B		0.23	34.5	C		0.24	35.7	D		0.24	34.4	C		0.05	19.8	B		0.06	20.9	C		0.06	20.9	C	
Tillary Street (E-W)	EB-TR	0.72	29.8	C		0.74	30.4	C		0.74	30.4	C		0.78	31.5	C		0.79	32.1	C		0.76	29.8	C		0.47	24.2	C		0.49	24.5	C		0.49	24.5	C	
	WB-L	0.94	81.5	F		0.96	85.8	F	**	0.89	69.7	E		1.26	190.1	F		1.27	194.4	F	**	1.25	184.0	F		0.53	32.2	C		0.54	34.0	C		0.54	34.0	C	
	WB-TR	0.61	26.9	C		0.65	27.9	C		0.65	27.9	C		0.94	44.2	D		0.98	50.6	D	**	0.94	42.9	D		0.59	26.4	C		0.63	27.2	C		0.63	27.2	C	
	NB-L	0.34	31.4	C		0.34	31.4	C		0.36	33.3	C		0.43	33.4	C		0.43	33.4	C		0.46	35.7	D		0.26	27.5	C		0.26	27.5	C		0.26	27.5	C	
	NB-T	0.21	28.3	C		0.21	28.3	C		0.22	29.8	C		0.45	32.5	C		0.45	32.5	C		0.48	34.5	C		0.10	24.8	C		0.10	24.8	C		0.10	24.8	C	
	NB-R	0.63	28.5	C		0.63	28.5	C		0.63	28.6	C		0.68	29.4	C		0.68	29.4	C		0.70	31.7	C		0.24	19.3	B		0.24	19.3	B		0.24	19.3	B	
	SB-L	0.22	28.9	C		0.28	30.1	C		0.29	31.9	C		0.28	30.0	C		0.33	31.0	C		0.35	33.0	C		0.06	24.3	C		0.10	24.9	C		0.10	24.9	C	
	SB-TR	0.15	27.2	C		0.15	27.2	C		0.16	28.6	C		0.26	27.9	C		0.26	27.9	C		0.27	29.4	C		0.10	24.6	C		0.10	24.6	C		0.10	24.6	C	
Adams Street (N-S) @	EB-L	0.86	77.6	E		0.89	80.9	F		0.89	80.9	F		1.09	130.2	F		1.15	149.1	F	**	1.15	149.1	F	**	0.94	91.0	F		0.98	98.6	F	**	0.98	98.6	F	**
Tillary Street (E-W)	EB-TR	0.59	34.5	C		0.62	35.4	D		0.62	35.4	D		0.64	36.0	D		0.67	36.7	D		0.67	36.7	D		0.21	27.4	C		0.24	27.8	C		0.24	27.8	C	**
	WB-L	1.23	201.7	F		1.40	268.6	F	**	1.4	268.6	F	**	1.09	142.4	F		1.15	162.6	F	**	1.15	162.6	F	**	0.81	75.6	E		0.93	96.4	F	**	0.93	96.4	F	**
	WB-T	0.69	52.5	D		0.81	59.1	E	**	0.81	59.1	E	**	0.78	55.9	E		0.86	62.0	E	**	0.86	62.0	E	**	0.37	44.5	D		0.46	46.0	D		0.46	46.0	D	
	WB-R	1.01	94.6	F		1.01	94.6	F		1.01	94.6	F		1.19	150.3	F		1.19	150.3	F		1.19	150.3	F		1.03	92.9	F		1.03	92.9	F		1.03	92.9	F	
	NB-L (Main)	0.47	59.7	E		0.49	60.7	E		0.49	60.7	E		0.41	56.1	E		0.42	56.5	E		0.42	56.5	E		0.35	54.5	D		0.37	55.1	E		0.37	55.1	E	
	NB-T(Main)	0.58	30.5	C		0.58	30.6	C		0.58	30.6	C		0.72	34.0	C		0.72	34.1	C		0.72	34.1	C		0.58	30.4	C		0.59	30.6	C		0.59	30.6	C	
	SB-L(Main)	1.21	161.2	F		1.21	161.2	F		1.21	161.2	F		1.12	125.2	F		1.12	125.2	F		1.12	125.2	F		0.76	56.1	E		0.76	56.1	E		0.76	56.1	E	
	SB-T(Main)	1.09	93.6	F		1.11	100.6	F	**	1.11	100.6	F	**	1.35	198.1	F		1.36	204.1	F	**	1.36	204.1	F	**	0.98	60.8	E		1.00	65.6	E	**	1.00	65.6	E	**
	NB-TR(Svc)	0.57	30.9	C		0.58	31.1	C		0.58	31.1	C		0.51	29.6	C		0.52	29.7	C		0.52	29.7	C		0.32	26.1	C		0.33	26.2	C		0.33	26.2	C	
	SB-TR(Svc)	0.30	22.1	C		0.31	22.4	C		0.31	22.4	C		1.10	99.6	F		1.13	109.5	F	**	1.13	109.5	F	**	0.13	19.4	B		0.15	19.6	B		0.15	19.6	B	
Cadman Plaza West (N-S) @	EB-LTR	0.58	42.7	D		0.60	43.2	D		EB-LTR	0.64	45.9	D		0.53	41.5	D		0.55	41.9	D		EB-LTR	0.59	44.4	D		0.38	38.7	D		0.41	39.2	D		EB-LTR	0.41	39.2	D	
Clinton Street/Tillary Street	WB-L	0.50	41.6	D		0.53	42.2	D		WB-L	0.51	44.8	D		0.51	41.7	D		0.55	42.8	D		WB-L	0.54	43.9	D		0.24	36.9	D		0.29	37.6	D		WB-L	0.30	39.2	D	
										WB-LT	0.53	44.6	D										WB-LT	0.59	46.1	D										WB-LT	0.33	39.9	D	
	WB-R	0.48	42.9	D		0.65	49.1	D	**	WB-R	0.56	44.8	D		1.01	96.0	F		1.11	126.6	F	**	WB-R	0.94	76.4	E		0.47	42.5	D		0.57	45.7	D		WB-R	0.51	43.9	D	
	NB-TR	0.29	29.2	C		0.29	29.2	C		NB-T	0.09	25.7	C		0.34	30.0	C		0.34	30.0	C		NB-T	0.10	26.4	C		0.22	28.1	C		0.22	28.1	C		NB-T	0.03	25.7	C	
										NB-R	0.37	31.1	C										NB-R	0.47	34.5	C										NB-R	0.32	30.7	C	
	SB-DefL	0.75	49.5	D		0.86	62.3	E	**	SB-DefL	0.76	48.1	D		0.87	64.9	E		0.97	84.4	F	**	SB-DefL	0.84	57.1	E		0.31	30.9	C		0.41	33.5	C		SB-DefL	0.38	32.2	C	
	SB-T	0.40	32.1	C		0.40	32.1	C		SB-T	0.39	31.2	C		0.55	35.9	D		0.55	35.9	D		SB-T	0.55	35.9	D		0.29	29.7	C		0.29	29.7	C		SB-T	0.29	29.7	C	

Table 19-2
Build Traffic Mitigation
Two-way Furman Street

SIGNALIZED INTERSECTIONS	LANE GROUP	NO-BUILD MD Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD MD Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD w/ Mitigation MD Peak Hour V/C Ratio	Delay (sec.)	LOS		NO BUILD PM Peak Hour V/C Ratio	Delay (sec.)	LOS	BUILD Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD w/ Mitigation PM Peak Hour V/C Ratio	Delay (sec.)	LOS		NO-BUILD SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS	BUILD SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD w/ Mitigation Sunday Peak Hour V/C Ratio	Delay (sec.)	LOS
Atlantic Avenue (E-W) @ Columbia Street (N-S)	EB-T	0.04	7.0	A		0.12	7.5	A		0.15	12.9	A		0.14	13.8	B	0.22	14.6	B		0.50	42.1	D		0.03	9.4	A	0.13	10.1	B		0.15	15.4	B	
	WB-L	0.52	12.8	B		0.63	16.1	B		0.57	14.7	B		1.03	73.5	E	1.25	158.2	F	**	0.93	56.4	E		0.36	13.2	B	0.45	15.0	B		0.41	14.5	B	
	WB-LT	0.47	12.0	B		0.79	22.2	C		0.74	18.8	C		0.79	31.9	C	1.16	118.3	F	**	0.92	45.0	D		0.33	12.8	B	0.63	18.7	B		0.60	17.7	B	
	NB-LR	0.42	29.6	C		0.64	35.3	D		0.64	35.3	D		0.23	26.6	C	0.35	28.7	C		0.35	28.7	C		0.18	31.2	C	0.36	34.2	C		0.36	34.2	C	
	NB-R	0.42	29.6	C		0.42	29.6	C		0.42	29.6	C		0.23	26.7	C	0.23	26.7	C		0.23	26.7	C		0.19	31.3	C	0.19	31.3	C		0.19	31.3	C	
Atlantic Avenue (E-W) @ Hicks Street (N-S)	EB-LT	0.92	40.6	D		1.12	95.6	F	**	EB-LT 0.95	43.0	D		0.58	16.2	B	0.68	18.8	B		0.66	18.0	B		0.29	11.7	B	0.37	12.6	B		0.36	12.4	B	
	WB-TR	0.67	22.4	C		0.79	26.0	C		WB-T 0.67	20.4	C		0.63	16.6	B	0.72	18.8	B		0.69	18.1	B		0.34	12.0	B	0.41	12.9	B		0.35	12.2	B	
										WB-R 0.17	13.9	B									0.10	10.0	A									0.16	10.6	B	
	NB-L	0.45	20.2	C		0.52	21.7	C		NB-LTR 0.57	25.5	C		0.71	49.2	D	0.76	52.6	D		0.76	52.6	D		0.71	48.8	D	0.77	53.4	D		0.77	53.4	D	
	NB-LT	0.25	16.5	B		0.25	16.5	B		WB-LT 0.27	18.6	B		0.56	39.6	D	0.57	40.0	D		0.57	40.0	D		0.58	40.5	D	0.60	41.1	D		0.60	41.1	D	
	NB-R	0.32	17.6	B		0.32	17.6	B		WB-R 0.35	19.9	B		0.42	36.0	D	0.42	36.0	D		0.42	36.0	D		0.38	35.0	C	0.38	35.0	C		0.38	35.0	C	
Atlantic Avenue (E-W) @ Henry Street (N-S)	EB-TR	0.55	17.0	B		0.62	18.2	B		0.58	15.2	B		0.51	16.4	B	0.56	17.4	B		0.83	39.9	D		0.29	11.5	B	0.35	12.2	B		0.42	18.7	B	
	WB-LT	0.91	33.8	C		1.07	72.8	E	**	0.99	44.8	D		1.01	53.0	D	1.14	98.0	F	**	0.98	44.9	D		0.38	12.6	B	0.46	13.8	B		0.45	13.6	B	
	SB-L	0.32	18.3	B		0.36	18.7	B		0.41	22.8	C		0.51	33.4	C	0.56	34.6	C		0.61	37.9	D		0.67	43.7	D	0.72	46.4	D		0.72	46.4	D	
Atlantic Ave (E-W) @ Clinton Street (N-S)	EB-LT	0.83	29.6	C		0.98	48.4	D	**	0.91	35.6	D		1.45	244.5	F	1.64	329.3	F	**	EB-LT 1.43	233.9	F		0.46	18.1	B	0.57	20.1	C		0.57	20.1	C	
	WB-TR	0.74	24.2	C		0.83	27.9	C		0.79	24.6	C		1.03	68.8	E	1.12	98.9	F	**	WB-TR 0.87	36.9	D		0.48	18.1	B	0.55	19.4	B		0.55	19.4	B	
	NB-LTR	0.85	42.2	D		0.89	0.0	D		NB-LTR 0.76	38.0	D		0.69	34.2	C	0.71	35.1	D		WB-R 0.21	20.2	C		0.78	48.9	D	0.81	51.7	D		0.81	51.7	D	
										NB-R 0.29	24.3	C									NB-LTR 0.75	39.5	D												
										EB-TR 0.68	21.7	C									EB-TR 0.69	27.0	C												
Atlantic Ave (E-W) @ Court Street (SB)	EB-TR	0.81	26.8	C		0.88	31.5	C		EB-R 0.32	17.0	B		0.60	30.4	C	0.85	33.8	C		EB-R 0.24	19.4	B		0.41	13.5	B	0.47	14.4	B		EB-TR 0.47	14.4	B	
	WB-L	0.76	42.2	D		0.80	49.2	D	**					1.13	95.9	F	0.64	45.2	D						0.23	10.8	B	0.25	11.9	B					
	WB-T	0.84	24.7	C		0.95	38.3	D		WB-LT 0.99	42.9	D		1.13	95.9	F	1.22	132.8	F	**	WB-LT 1.13	95.2	F		0.59	10.8	B	0.74	16.8	B		WB-LT 0.56	10.9	B	
	SB-LT	0.62	31.0	C		0.62	31.0	C		SB-LT 0.62	31.0	C		1.00	73.6	E	1.00	73.6	E		1.00	73.6	E		0.66	48.1	D	0.66	48.1	D		SB-LT 0.66	48.1	D	
	SB-R	0.72	44.4	D		0.74	46.7	D		SB-R 0.62	36.6	D		0.72	52.7	D	0.80	60.3	E	**	0.67	47.4	D		0.93	100.6	F	1.01	119.5	F	**	SB-R 0.77	66.6	E	
Atlantic Ave (E-W) @ Boerum Place (N-S)	EB-DefL	1.17	133.1	F		1.18	137.3	F	**	1.13	116.8	F		1.19	163.9	F	1.22	174.9	F	**	1.17	154.3	F		----------	----------	---------		----------	----------	---------					
	EB-TR	0.45	16.8	B		0.49	17.4	B		0.46	15.2	B		0.55	21.2	C	0.59	21.9	C		0.55	18.9	B		0.44	22.4	C	0.52	23.8	C		0.48	20.8	C	
	WB-LT	1.04	73.1	E		1.12	102.3	F	**	1.02	63.8	E		1.21	142.4	F	1.28	172.4	F	**	1.19	134.1	F		0.87	51.5	D	0.96	65.1	E	**	0.87	48.4	D	
	WB-R	0.95	52.2	D		0.95	52.2	D		0.87	37.1	D		0.44	5.4	A	0.44	5.4	A		0.44	5.7	A		0.25	3.5	A	0.25	3.5	A		0.25	3.4	A	
	SB-L	0.33	18.1	B		0.33	18.1	B		0.35	20.4	C		0.72	33.6	C	0.72	33.6	C		0.79	39.0	D		0.37	22.0	C	0.37	22.0	C		0.40	24.9	C	
	SB-TR	0.40	19.2	B		0.44	19.8	B		0.48	22.4	C		0.70	33.4	C	0.73	34.4	C		0.80	40.4	D		0.20	19.7	B	0.23	20.1	C		0.25	22.7	C	
Columbia Street (N-S) @ BQE Ramp (E-W)	WB-L	0.33	16.6	B		0.33	16.6	B		0.33	16.6	B		0.17	14.9	B	0.17	14.9	B		0.17	14.9	B		0.21	15.3	B	0.21	15.3	B		0.21	15.3	B	
	NB-T	0.25	8.3	A		0.32	8.8	A		0.65	26.3	C		0.14	7.5	A	0.18	7.7	A		0.32	17.5	B		0.14	7.5	A	0.19	7.8	A		0.30	15.7	B	
	SB-L	0.99	48.9	D		1.16	107.3	F	**	0.96	47.2	D		1.07	69.3	E	1.19	115.8	F	**	1.06	67.7	E		0.63	14.5	B	0.77	20.4	C		0.69	19.7	B	
	SB-T	0.16	7.4	A		0.18	7.6	A		0.18	7.6	A		0.46	9.6	A	0.48	9.7	A		0.48	9.7	A		0.13	7.3	A	0.15	7.4	A		0.15	7.4	A	
Cadman Plaza W (N-S) @ Brooklyn Bridge Off Ramp RT (E-W)	WB-T	1.18	372.5	F		1.39	738.7	F	**	1.39	738.7	F	**	1.11	247.2	F	1.17	341.6	F	**	1.17	341.6	F	**	1.02	120.4	F	1.09	218.9	F	**	1.09	218.9	F	**
	WB-R	0.99	82.1	F		1.12	261.5	F	**	1.12	261.5	F	**	1.19	365.0	F	1.23	437.3	F	**	1.23	437.3	F	**	1.11	238.0	F	1.16	324.5	F	**	1.16	324.5	F	**

NOTES:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach .
V/C Ratio - Volume to Capacity Ratio, SEC/VEH - Seconds per vehicle
LOS - Level of service
** - Denotes Impacted Intersections
Analysis is based on the 2000 Highway Capacity Manual Methodology (HCS 2000).

one through lane and one right turn lane and changing signal timing would reduce the southbound Build delay from 211.3 seconds (LOS F) to 42.6 seconds (LOS D) in the Midday (midday) peak hour, from 97.3 seconds (LOS F) to 35.5 seconds (LOS D) in the PM peak hour, and from 129.1 seconds (LOS F) to 41.6 seconds (LOS D) in the Sunday midday peak hour. Along this corridor, the impact on the Brooklyn Bridge Exit to Cadman Plaza West would remain unmitigated. This reflects the exacerbation of the already congested location on the ramp exiting the Brooklyn Bridge; there are no practicable options to address the increased delay.

ATLANTIC AVENUE CORRIDOR

Mitigation measures including parking regulation and signal timing changes would eliminate most significant impacts along Atlantic Avenue in the study area. At Columbia Street, with a new westbound advanced green signal phase, the Build delay on the westbound left turn movement would be reduced in the PM peak hour from 158.2 seconds (LOS F) to 56.4 seconds (LOS E), and on the westbound left and through movement from 118.3 seconds (LOS F) to 45.0 seconds (LOS D). At Hicks Street, signal timing changes and parking regulation changes would mitigate significant impacts on the eastbound left and through movements from 95.6 seconds (LOS F) to 43.0 seconds (LOS D) in the midday. At Henry Street, the introduction of a westbound-only phase would reduce the Build delay from 72.8 seconds (LOS E) to 44.8 seconds (LOS D) in the midday peak hour and from 98.0 seconds (LOS F) to 44.9 seconds (LOS D) in the PM peak hour. At Clinton Street, modifying signal timing and changing parking regulations on the westbound approach of Atlantic Avenue would reduce the Build delay on the eastbound and northbound approaches from 48.4 seconds (LOS D) to 35.6 seconds (LOS D) in the midday peak hour and from 329.3 seconds (LOS F) to 233.9 (LOS F) in the PM peak hour, and on the westbound approach from 98.9 seconds (LOS E) to 36.9 (LOS D) in the PM peak hour. At Court Street, allowing one through lane and one through and left shared lane on the westbound approach in all periods and modifying signal timing in the PM peak hour would fully mitigate the significant impacts there, reducing Build delays on the westbound left-turn movement from 49.2 seconds (LOS D) to 21.7 (LOS C) on the eastbound through and right movement and 17.0 seconds (LOS B) on the eastbound right-turn movement in the midday; reducing Build delay on the westbound through movement from 132.8 seconds (LOS F) to 95.2 seconds (LOS F) in the PM peak; and reducing Build delay on the southbound left-turn movement from 60.3 seconds (LOS E) to 47.4 seconds (LOS D) in the PM peak hour.

At Boerum Place, minor signal adjustments of 3 and 4 seconds would reduce the Build delay on the westbound approach from 102.3 seconds (LOS F) to 63.8 seconds (LOS E) in the midday peak hour, from 172.4 seconds (LOS F) to 134.1 (LOS F) in the PM peak hour, and from 65.1 seconds (LOS E) to 48.4 seconds (LOS D) in the Sunday midday peak hour. In addition, those mitigation measures would also mitigate the impacts on the eastbound left-turn movement, reducing the Build delay from 137.3 (LOS F) to 116.8 seconds (LOS F) in the midday peak hour, and from 174.9 seconds (LOS F) to 154.3 (LOS F) in the PM peak hour.

TILLARY STREET CORRIDOR

Along this corridor, the mitigation measures would address significant adverse impacts on three of the four impacted intersections. At Flatbush Avenue, signal timing mitigation would reduce the Build delay on the eastbound right-turn movement from 108.2 seconds (LOS F) to 51.9 seconds (LOS D) in the midday peak hour and from 89.3 seconds (LOS F) to 49.9 seconds (LOS D) in the PM peak hour, while on the eastbound approach delay would be reduced from 73.4 seconds (LOS E) to 49.3 seconds (LOS D) in the PM peak hour. In addition, the Build delay on

the northbound left movement would be reduced from 112.1 (LOS F) to 85.9 seconds (LOS F) in the midday peak hour, and on the westbound approach from 111.6 seconds (LOS F) to 99.1 seconds (LOS F) in the PM peak hour. The Build delay on the northbound left-turn movement would be reduced from 118.0 seconds (LOS F) to 89.3 seconds (LOS F) in the Sunday peak hour.

At Jay Street, a minor signal timing adjustment would mitigate the significant adverse impact, reducing the Build delay on the westbound left-turn movement from 85.8 seconds (LOS F) to 69.7 seconds (LOS E) in the midday peak hour, from 194.4 seconds (LOS F) to 184.0 seconds (LOS F) in the PM peak hour, and on the westbound through and right movements from 50.6 seconds (LOS D) to 42.9 seconds (LOS D), in the PM peak hour.

At Cadman Plaza West/Clinton Street, re-striping on the northbound approach and signal timing changes would mitigate the midday and PM significant impacts. The mitigation would also reduce the Build delay on the westbound right-turn movement from 49.1 seconds (LOS D) to 44.8 seconds (LOS D) in the midday peak hour, and from 126.6 seconds (LOS F) to 76.4 seconds (LOS E) in the PM peak hour. In addition, the Build delay on the southbound left movement would be reduced from 62.3 seconds (LOS E) to 48.1 seconds (LOS D) in the midday peak hour, and from 84.4 seconds (LOS F) to 57.4 seconds (LOS E) in the PM peak hour. As there is no practicable mitigation, the impacts on this corridor at Adams Street would be unmitigable.

Introducing a new southbound advance signal phase would mitigate the significant impacts at the Columbia Street/Brooklyn-Queens Expressway Ramp intersection. Those mitigation measures would reduce the Build delay on the southbound left-turn from 107.3 seconds (LOS F) to 47.2 seconds (LOS D) in the midday peak hour, from 115.8 seconds (LOS F) to 67.7 (LOS E) seconds in the PM peak hour.

These mitigation measures described above are standard traffic management measures, which would be implemented by the New York City Department of Transportation (NYCDOT) over time, as field conditions warrant. With these measures in place by 2012, significant traffic impacts at thirteen of the fifteen impacted intersections would be eliminated. Two intersections, as noted above, would continue to have impacts.

As discussed in Chapter 14, with its emphasis on recreational uses, the proposed project is expected to generate its heaviest travel demand during the weekday 12-1 PM (midday), 5-6 PM and Sunday 2-3 PM (midday) peak hours. Some demand would also be generated during the weekday 8-9 AM commuter peak hour, primarily from the project's commercial and residential components. However, the new demand in the AM peak hour would be expected to total less than half the new demand generated in any of the peak hours selected for analysis. Therefore, it is unlikely that there would be significant adverse traffic impacts and the need for additional mitigation in the AM peak hour not already disclosed for the other peak hours when project-generated demand would be substantially greater.

One-Way Furman Street Scenario

Under the scenario where Furman Street remains one-way southbound in the future, Table 14-12 shows that the same 16 intersections impacted under two-way Furman Street would continue to be impacted. Table 19-3 shows the measures that would be necessary to mitigate these significant adverse impacts, while Table 19-4 shows the effectiveness of these measures. As shown in Table 19-4, three intersections (as opposed to two with two-way Furman Street)

TABLE 19-3
Proposed Traffic Mitigation Measures - Proposed Project (One-way Furman Street)
This table has been revised for FEIS

Intersection	Approach	Period	Current/No-Build Signal Timing (Seconds) (1)	Brooklyn Bridge Park Proposed Mitigation Measures: Mitigation Signal Timing (Seconds) (1)	Brooklyn Bridge Park Proposed Mitigation Measures: Description of Mitigation
Old Fulton Street (N-S) @ Prospect Street (EB)	NB/SB SBL	PM/SUN	54/54/54 36/36/36	54/58/57 36/32/33	Transfer 4 sec. of green time from SB-L phase to NB/SB approach in the PM peak hour. Transfer 4 sec. of green time from SB-L phase to NB/SB approach in the SUN peak hour.
Old Fulton Street (N-S) @ Hicks Street / BQE (WB)	NB/SBRT SBT WB	PM/SUN	41/73/73 17/14/14 32/33/33	41/73/73 17/17/18 32/30/29	Reallocate green time to the Old Fulton St., SB thru phase in PM and SUN peak hours.
Old Fulton Street (E-W) @ Front Street (N-S)	EB/WB NB/SB	PM	59/59/59 31/31/31	59/56/59 31/34/31	Transfer 3 sec. of green time from Old Fulton St (E-W) to Front Street (NB/SB) in the PM peak hour.
Old Fulton Street (E-W) @ Water St / Furman St(N-S)	WB EB/WB NB/SB	PM	14/14/14 49/49/49 27/27/27	14/49/14 49/16/49 27/25/27	Reallocate green time to the Old Fulton St., WB only phase in PM peak hours.
Tillary Street (E-W) @ Flatbush Avenue (N-S)	EB/WB EBL/WBL NB/SB NB/(NB/EBRT)	ALL	38/38/38 24/24/24 41/41/41 17/17/17	38/39/38 24/24/24 39/41/39 19/16/19	Extend the EBRT phase to the NB only phase. Transfer 2 sec from NB/SB phase to NB only in the MD and SUN peak hours. Transfer 1 sec form NB only to EB/WB in the PM peak hour.
Tillary Street (E-W) @ Jay Street (N-S)	EB/WB EBL/WBL/NBRT NB/SB	MD/PM	56/56/56 18/18/18 46/46/46	56/58/56 21/18/18 43/44/46	Transfer 3 sec. of green time from NB/SB phase to EBL/WBL/NBRT phase in the MD peak hour. Transfer 2 sec. of green time from NB/SB phase to EB/WB phase in the PM peak hour.
Tillary Street (E-W) @ Adams Street (N-S)	EB NB/SB	ALL			No mitigation improvements proposed.
Tillary St / Clinton St. (E-W) @ Cadman Plaza West (N-S)	EB WB NB/SB	ALL	36/36/36 36/36/36 48/48/48	36/34/35 39/41/40 45/45/45	Re-stripe NB approach to 2 thru and 1 right turn lane. Re-stripe WB approach to one L lane, one LR lane, and one R lane. Transfer 3 sec. of green time from NB/SB phase to WB approach in the MD peak hour. Transfer 3 sec. of green time from NB/SB phase to WB approach in the PM peak hour. Transfer 3 sec.and 1 sec. of green time from NB/SB and EB phase to WB approach in in the SUN peak hour.
Atlantic Avenue (E-W) @ Columbia Street (N-S)	EB/WB WB NB	ALL	60/70/78 30/50/42	49/34/67 11/36/11 30/50/42	Introduce WB advance green phase to facilitate WB left turn.
Atlantic Avenue (E-W) @ Hicks Street (NB)	EB/WB EB NB	ALL	45/78/78 45/42/42	42/42/42 15/15/15 33/63/63	Introduce EB advance green phase to facilitate EB left turn. Transfer 3 sec. from NB to EB/WB in the MD peak hour. Change parking regulation to No Standing from 7AM-7PM on the WB approach to facilitate right turn movement.
Atlantic Avenue (E-W) @ Henry Street (SB)	EB/WB SB WB	ALL	50/74/78 40/46/42	38/52/67 15/25/11 37/43/42	Introduce WB advance green phase to facilitate WB left turn. Transfer 3 sec. of green time from SB phase to WB (1 sec) and EB/WB (2 sec) phase in the MD peak hour. Transfer 3 sec. of green time from SB phase to new WB phase in the PM.
Atlantic Avenue (E-W) @ Clinton Street (N-S)	EB/WB NB PED	MD/PM	46/57/70 36/55/42 8/8/8	50/60/70 32/52/42 8/8/8	Implement no standing 7AM-4PM for 100' on the NB and EB approach. Implement no standing 4PM-7PM for 100' on the WB approach. Transfer 4 and 3 sec. from NB to EB/WB approaches in the MD and PM peak hours.
Atlantic Avenue (E-W) @ Court Street (N-S)	EB/WB WB SB	ALL	48/65/78 10/13/10 32/42/32	48/62/78 10/16/10 32/42/32	Re-stripe WB approach to one LT lane and one T lane. Implement no standing 7AM-7PM for 100' on the EB approach to facilitate right-turn movement. Transfer 3 sec from EB/WB phase to WB only phase in th PM peak hour
Atlantic Avenue (E-W) @ Boerum Place (N-S)	EB/WB EB SB	ALL	34/47/42 13/19/18 43/54/60	37/49/46 14/19/18 39/52/56	Transfer 4 sec. of green time from SB phase to EB/WB (3 sec) and EB (1 sec) phase in MD, 2 sec from SB to EB/WB in the PM and 4 sec from SB to EB/WB in Sunday peak hour.
Columbia Street (N-S) BQE Ramp (E-W)	NB/SB SB WB	ALL	36/36/36 24/24/24	20/22/25 17/15/11 23/23/24	Introduce SB advance green phase to facilitate SB left turn. Transfer 1 sec. of green time from WB phase to the SB Phase in the MD and PM peak hour.
Cadman Plaza West (N-S) @ Brooklyn Br. Off-Ramp Rt (WB)	NB/SB EB	ALL			No mitigation improvements proposed.

Notes:

(1) Signal timings shown indicate green plus yellow (including all-red) for each phase.
(2) xx/xx/xx denotes signal timing for MD/PM/SUN MD peak hours
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right.
Ped. - all pedestrian phase.

Table 19-4
Build Traffic Conditions w/ Mitigation
One-Way Furman Street

THIS TABLE HAS BEEN CREATED FOR THE FEIS

SIGNALIZED INTERSECTIONS	LANE GROUP	NO-BUILD MD Peak Hour V/C Ratio	Delay (sec.)	LOS	BUILD MD Peak Hour V/C Ratio	Delay (sec.)	LOS	Mitigation MD Peak Hour V/C Ratio	Delay (sec.)	LOS	NO-BUILD PM Peak Hour V/C Ratio	Delay (sec.)	LOS	BUILD PM Peak Hour V/C Ratio	Delay (sec.)	LOS	Mitigation PM Peak Hour V/C Ratio	Delay (sec.)	LOS	NO-BUILD SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS	Build SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS	Mitigation SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS
Old Fulton Street (N-S)	NB-T	0.84	22.3	C	0.94	30.4	C	0.94	30.4	C	1.10	72.7	E	1.18	106.8	F **	1.09	67.2	E	0.99	37.7	D	1.07	61.8	E **	1.00	40.2	D
Prospect Street (EB)	SB-L	0.46	24.6	C	0.57	26.3	C	0.57	26.3	C	0.47	24.6	C	0.56	26.1	C	0.63	30.5	C	0.36	23.2	C	0.49	24.9	C	0.54	27.9	C
	SB-T	0.25	11.7	B	0.26	11.7	B	0.26	11.7	B	0.32	12.3	B	0.32	12.3	B	0.29	10.0	A	0.27	11.8	B	0.27	11.8	B	0.26	10.2	B
Old Fulton Street (N-S) @	WB-L	0.27	25.4	C	0.27	25.4	C	0.27	25.4	C	0.28	39.4	D	0.28	39.4	D	0.32	42.2	D	0.30	39.6	D	0.30	39.6	D	0.35	43.6	D
Hicks Street/BQE (WB)	NB-L	1.09	88.2	F	1.09	88.2	F	1.09	88.2	F	1.00	55.2	E	1.00	55.2	E	1.00	55.2	E	0.96	45.5	D	0.96	45.5	D	0.96	45.5	D
	NB-LT	0.73	25.2	C	0.89	33.4	C	0.89	33.4	C	0.67	14.5	B	0.76	16.8	B	0.76	16.8	B	0.55	12.5	B	0.64	13.9	B	0.64	13.9	B
	SB-TR	0.19	1.3	A	0.21	1.3	A	0.21	1.3	A	0.14	1.2	A	0.16	1.2	A	0.15	1.1	A	0.13	1.2	A	0.15	1.2	A	0.71	1.1	A
	SB-T	0.27	32.9	C	0.33	33.6	C	0.33	33.6	C	0.84	78.2	E	0.97	100.4	F **	0.73	60.8	E	0.67	63.3	E	0.85	78.6	E **	0.75	60.1	E
Front Street (N-S) @	EB-LT	0.39	11.2	B	0.48	12.7	B	0.48	12.7	B	0.30	9.9	A	0.35	10.5	B	0.37	12.2	B	0.34	10.4	B	0.40	11.2	B	0.40	11.2	B
Old Fulton Street (E-W)	WB-T	0.11	8.2	A	0.20	8.8	A	0.20	8.8	A	0.25	9.1	A	0.33	9.8	A	0.35	11.5	B	0.09	8.1	A	0.18	8.6	A	0.18	8.6	A
	SB-LR	0.54	32.3	C	0.68	37.9	D	0.68	37.9	D	1.06	88.7	F	1.15	119.6	F **	1.03	76.7	E	0.49	30.8	C	0.60	34.1	C	0.60	34.1	C
Water Street/Furman Street (N-S) @	EB-T	0.04	12.5	B	0.04	12.5	B	0.04	12.5	B	0.03	12.4	B	0.03	12.4	B	0.15	37.3	D	0.02	12.3	B	0.02	12.3	B	0.02	12.3	B
Old Fulton Street (E-W)	WB-LT	0.32	8.2	A	0.59	12.3	B	0.59	12.3	B	0.89	27.1	C	1.13	88.6	F **	1.00	44.3	D	0.26	7.7	A	0.49	10.4	B	0.49	10.4	B
	WB-R	0.04	6.1	A	0.04	6.1	A	0.04	6.1	A	0.06	6.2	A	0.06	6.2	A	0.06	5.5	A	0.02	6.0	A	0.02	6.0	A	0.02	6.0	A
	NB-TR																											
	SB-L	0.39	31.6	C	0.50	34.2	C	0.50	34.2	C	0.26	29.3	C	0.37	31.3	C	0.41	33.8	C	0.37	31.1	C	0.49	33.7	C	0.49	33.7	C
	SB-TR	0.11	27.3	C	0.23	29.0	C	0.23	29.0	C	0.31	30.5	C	0.44	33.2	C	0.49	36.2	D	0.04	26.4	C	0.15	27.8	C	0.15	27.8	C
Flatbush Avenue (N-S) @	EB-L	0.49	50.7	D	0.50	51.0	D	0.50	51.0	D	0.56	53.5	D	0.58	53.9	D	0.58	53.9	D	0.19	43.7	D	0.21	44.1	D	0.21	44.1	D
Tillary Street (E-W)	EB-TR	0.80	43.8	D	0.82	45.0	D	0.71	40.6	D	1.01	68.9	E	1.03	73.4	E **	0.90	49.3	D	0.55	36.8	D	0.57	37.2	D	0.51	36.1	D
	EB-R	0.99	90.0	F	1.05	108.2	F **	0.89	51.9	D	0.93	77.0	E	0.98	89.3	F **	0.87	49.9	D	0.51	42.3	D	0.59	45.0	D	0.50	27.9	C
	WB-L	0.84	62.9	E	0.84	62.9	E	0.84	62.9	E	1.22	165.6	F	1.22	165.6	F	1.22	165.6	F	1.03	97.5	F	1.03	97.5	F	1.03	97.5	F
	WB-T	0.63	39.6	D	0.67	40.7	D	0.67	40.7	D	1.10	103.3	F	1.12	111.6	F **	1.09	99.1	F	0.54	37.4	D	0.56	37.9	D	0.56	37.9	D
	WB-R	0.81	58.9	E	0.81	58.9	E	0.81	58.9	E	0.58	44.4	D	0.58	44.4	D	0.56	42.8	D	0.34	37.4	D	0.34	37.4	D	0.34	37.4	D
	NB-L	1.03	87.7	F	1.10	112.1	F **	1.03	85.9	F	0.71	47.5	D	0.75	48.6	D	0.77	50.2	D	1.06	94.9	F	1.12	118.0	F **	1.04	89.3	F
	NB-T	0.44	22.2	C	0.44	22.2	C	0.44	22.2	C	0.48	22.9	C	0.48	22.9	C	0.49	23.6	C	0.44	22.2	C	0.44	22.2	C	0.44	22.2	C
	SB-T	0.56	35.1	D	0.56	35.1	D	0.59	37.1	D	1.11	98.8	F	1.11	98.8	F	1.11	98.8	F	0.48	33.6	C	0.48	33.6	C	0.51	35.4	D
	SB-R	0.53	40.4	D	0.54	41.0	D	0.58	44.0	D	0.56	40.8	D	0.59	41.7	D	0.59	41.7	D	0.23	32.8	C	0.24	33.1	C	0.26	34.9	C
Jay Street (N-S) @	EB-L	0.13	19.9	B	0.13	21.3	C	0.12	20.0	B	0.23	34.5	C	0.24	35.7	D	0.24	34.4	C	0.05	19.8	B	0.06	20.9	C	0.06	20.9	C
Tillary Street (E-W)	EB-TR	0.72	29.8	C	0.74	30.4	C	0.74	30.4	C	0.78	31.5	C	0.79	32.1	C	0.76	29.8	C	0.47	24.2	C	0.49	24.5	C	0.49	24.5	C
	WB-L	0.94	81.5	F	0.96	85.8	F **	0.89	69.7	E	1.26	190.1	F	1.27	194.4	F **	1.25	184.0	F	0.53	32.2	C	0.54	34.0	C	0.54	34.0	C
	WB-TR	0.61	26.9	C	0.65	27.9	C	0.65	27.9	C	0.94	44.2	D	0.98	50.6	D **	0.94	42.9	D	0.59	26.4	C	0.63	27.2	C	0.63	27.2	C
	NB-L	0.34	31.4	C	0.34	31.4	C	0.36	33.3	C	0.43	33.4	C	0.43	33.4	C	0.46	35.7	D	0.26	27.5	C	0.26	27.5	C	0.26	27.5	C
	NB-T	0.21	28.3	C	0.21	28.3	C	0.22	29.8	C	0.45	32.5	C	0.45	32.5	C	0.48	34.5	C	0.10	24.8	C	0.10	24.8	C	0.10	24.8	C
	NB-R	0.63	28.5	C	0.63	28.5	C	0.63	28.6	C	0.68	29.4	C	0.68	29.4	C	0.70	31.7	C	0.24	19.3	B	0.24	19.3	B	0.24	19.3	B
	SB-L	0.22	28.9	C	0.28	30.1	C	0.29	31.9	C	0.99	30.0	C	0.33	31.0	C	0.35	33.0	C	0.06	24.3	C	0.10	24.9	C	0.10	24.9	C
	SB-TR	0.15	27.2	C	0.15	27.2	C	0.16	28.6	C	0.26	27.9	C	0.26	27.9	C	0.27	29.4	C	0.10	24.6	C	0.10	24.6	C	0.10	24.6	C
Adams Street (N-S) @	EB-L	0.86	77.6	E	0.86	77.6	E	0.86	77.6	E	1.01	105.0	F	1.02	99.1	F	1.02	99.1	F	0.94	91.0	F	0.94	91.0	F	0.94	91.0	F
Tillary Street (E-W)	EB-TR	0.59	34.5	C	0.62	35.4	D	0.62	35.4	D	0.64	35.7	D	0.67	36.7	D	0.67	36.7	D	0.21	27.4	C	0.24	27.8	C	0.24	27.8	C
	WB-L	1.23	201.7	F	1.28	220.0	F **	1.28	220.0	F **	1.09	142.4	F	1.10	144.2	F	1.10	144.2	F	0.81	75.6	E	0.84	80.5	F **	0.84	80.5	F **
	WB-T	0.69	52.5	D	0.84	61.5	E **	0.84	61.5	E **	0.78	55.9	E	0.88	63.8	E **	0.88	63.8	E **	0.37	44.5	D	0.49	46.6	D	0.49	46.6	D
	WB-R	1.01	94.6	F	1.01	94.6	F	1.01	94.6	F	1.06	102.8	F	1.06	102.8	F	1.06	102.8	F	1.03	92.9	F	1.03	92.9	F	1.03	92.9	F
	NB-L (Main)	0.47	59.7	E	0.70	74.4	E **	0.70	74.4	E **	0.41	56.1	E	0.57	63.0	E **	0.57	63.0	E **	0.35	54.5	D	0.52	60.8	E **	0.52	60.8	E **
	NB-T(Main)	0.58	30.5	C	0.60	31.1	C	0.60	31.1	C	0.72	34.0	C	0.74	34.7	C	0.74	34.7	C	0.58	30.4	C	0.61	31.1	C	0.61	31.1	C
	SB-L(Main)	1.21	161.2	F	1.21	161.2	F	1.21	161.2	F	1.12	125.2	F	1.12	125.2	F	1.12	125.2	F	0.76	56.1	E	0.76	56.1	E	0.76	56.1	E
	SB-T(Main)	1.09	93.6	F	1.10	96.0	F	1.10	96.0	F	1.35	198.1	F	1.35	200.3	F	1.35	200.3	F	0.98	60.8	E	0.99	62.7	E	0.99	62.7	E
	NB-TR(Svc)	0.57	30.9	C	0.58	31.1	C	0.58	31.1	C	0.51	29.6	C	0.54	30.0	C	0.54	30.0	C	0.32	26.1	C	0.33	26.2	C	0.33	26.2	C
	SB-TR(Svc)	0.30	22.1	C	0.30	22.1	C	0.30	22.1	C	1.10	99.6	F	1.10	99.6	F	1.10	99.6	F	0.13	19.4	B	0.13	19.4	B	0.13	19.4	B
Cadman Plaza West (N-S) @	EB-LTR	0.60	43.1	D	0.72	47.0	D	EB-LTR 0.72	47.0	D	0.55	42.0	D	0.64	44.1	D	EB-LTR 0.64	44.1	D	0.41	39.2	D	0.50	40.8	D	EB-LTR 0.52	41.9	D
Clinton Street/Tillary Street	WB-L	0.69	45.7	D	0.50	41.5	D	WB-L 0.47	40.2	D	0.50	41.6	D	0.68	46.5	D	WB-L 0.48	40.9	D	0.23	36.8	D	0.26	37.1	D	WB-L 0.23	34.5	C
								WB-LR 0.53	42.2	D							WB-LR 0.55	43.4	D							WB-LR 0.28	35.5	D
	WB-R	0.48	42.9	D	0.79	58.4	E **	WB-R 0.60	44.2	D	1.01	96.0	F	1.24	175.1	F **	WB-R 1.02	94.1	F	0.47	42.5	D	0.70	51.6	D **	WB-R 0.55	41.9	D
	NB-TR	0.29	29.2	C	0.29	29.2	C	NB-T 0.10	28.8	C	0.34	30.0	C	0.34	30.0	C	NB-T 0.10	28.5	C	0.22	28.1	C	0.22	28.1	C	NB-T 0.04	27.7	C
								NB-R 0.42	35.8	D							NB-R 0.51	38.2	D							NB-R 0.35	33.5	C
	SB-DefL	0.75	49.5	D	0.76	50.9	D	SB-DefL 0.76	53.0	D	0.87	64.9	E	0.89	67.0	E	SB-DefL 0.84	60.1	E	0.31	30.9	C	0.32	31.2	C	SB-LT 0.33	31.9	C
	SB-T	0.40	32.1	C	0.40	32.1	C	SB-T 0.44	35.5	D	0.55	35.9	D	0.55	35.9	D	SB-T 0.59	39.6	D	0.29	29.7	C	0.29	29.7	C			
Atlantic Avenue (E-W) @	EB-T	0.06	7.1	A	0.19	7.9	A	0.23	13.6	B	0.18	14.3	B	0.31	15.7	B	0.65	43.3	D	0.04	9.5	A	0.18	10.5	B	0.21	16.0	B
Columbia Street (N-S)	WB-L	0.53	13.1	B	0.70	19.4	B	0.62	16.8	B	1.11	101.5	F	1.52	275.9	F **	1.03	84.7	F	0.37	13.3	B	0.49	16.3	B	0.45	16.5	B
	WB-LT	0.47	12.1	B	0.71	19.7	B	0.63	15.8	B	0.81	37.3	D	1.22	147.1	F **	0.82	35.8	D	0.32	12.7	B	0.54	17.1	B	0.51	16.0	B
	NB-LR	0.40	29.3	C	0.53	32.0	C	0.53	32.0	C	0.22	26.4	C	0.28	27.4	C	0.28	27.4	C	0.17	31.1	C	0.28	32.8	C	0.28	32.8	C
	NB-R	0.45	30.1	C	0.51	31.6	C	0.51	31.6	C	0.25	26.9	C	0.28	27.4	C	0.28	27.4	C	0.20	31.5	C	0.24	32.2	C	0.24	32.2	C
Atlantic Avenue (E-W) @	EB-LT	1.10	59.1	E	1.35	191.1	F **	0.98	46.3	D	EB-DefL 0.80	46.1	D	EB-DefL 1.09	118.8	F **	0.61	46.1	D									
Hicks Street (N-S)	WB-TR	0.66	22.1	C	0.71	23.5	C	WB-T 0.91	44.7	D	0.71	20.6	C	0.86	28.9	C	0.86	28.9	C	0.34	12.2	B	0.54	15.3	B	0.66	26.8	C
								WB-R 0.27	24.7	C	0.63	16.4	B	0.67	17.4	B	0.80	31.0	C	0.33	11.9	B	0.36	12.3	B	WB-T 0.37	20.2	C
																	0.12	17.4	B							WB-R 0.19	18.3	B
	NB-L	0.45	20.2	C	0.46	20.5	C	0.51	23.8	C	0.71	49.2	D	0.72	49.8	D	0.72	49.8	D	0.71	48.8	D	0.72	49.8	D	0.72	49.8	D
	NB-LT	0.25	16.5	B	0.28	16.9	B	0.30	19.1	B	0.56	39.6	D	0.58	40.4	D	0.58	40.4	D	0.58	40.5	D	0.62	41.6	D	0.62	41.6	D
	NB-R	0.32	17.6	B	0.33	17.8	B	0.36	20.2	C	0.42	36.0	D	0.43	36.2	D	0.43	36.2	D	0.38	35.0	C	0.39	35.3	D	0.39	35.3	D

Table 19-4
Build Traffic Conditions w/ Mitigation
One-Way Furman Street
THIS TABLE HAS BEEN CREATED FOR THE FEIS

SIGNALIZED INTERSECTIONS	LANE GROUP	NO-BUILD MD Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD MD Peak Hour V/C Ratio	Delay (sec.)	LOS		Mitigation MD Peak Hour V/C Ratio	Delay (sec.)	LOS		NO-BUILD PM Peak Hour V/C Ratio	Delay (sec.)	LOS		BUILD PM Peak Hour V/C Ratio	Delay (sec.)	LOS		Mitigation PM Peak Hour V/C Ratio	Delay (sec.)	LOS		NO-BUILD SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS		Build SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS		Mitigation SUNDAY Peak Hour V/C Ratio	Delay (sec.)	LOS	
Atlantic Avenue (E-W) @ Henry Street (N-S)	EB-TR	0.55	17.0	B		0.68	19.5	B			0.93	42.4	D		0.51	16.4	B		0.60	18.0	B		0.88	43.6	D		0.29	11.5	B		0.38	12.6	B			0.45	19.2	B	
	WB-LT	0.90	32.5	C		1.02	57.6	E	**		0.93	36.3	D		0.99	50.0	D		1.10	82.7	F	**	0.93	35.0	C		0.37	12.5	B		0.41	13.1	B			0.41	13.0	B	
	SB-LTR	0.32	18.3	B		0.36	18.7	B			0.36	18.7	B		0.51	33.4	C		0.56	34.6	C		0.61	37.9	D		0.84	59.1	E		0.91	68.9	E	**		0.72	46.4	D	
Atlantic Ave (E-W) @ Clinton Street (N-S)	EB-LT	0.83	29.6	C		1.32	176.0	F	**		0.97	44.3	D		1.45	244.5	F	EB-DefL	2.33	682.6	F	**													0.68	23.5	C		0.68	23.5	C	
	WB-TR	0.74	24.3	C		0.77	25.5	C			0.71	20.5	C		1.03	69.0	E	EB-T	1.60	309.9	F	**	1.44	238.6	F		0.46	18.1	B		0.68	23.5	C			0.68	23.5	C	
	NB-LTR	0.85	42.2	D		0.89	46.9	D		NB-LT	0.81	44.0	D		0.69	34.2	C	WB-TR	1.06	78.5	E	**	0.81	33.0	C		0.48	18.1	B		0.51	18.7	B			0.51	18.7	B	
										NB-R	0.31	26.1	C					NB-LTR	0.71	35.2	D		NB-LT	0.22	20.3	C		0.78	48.9	D		0.81	51.7	D		0.81	51.7	D	
																							NB-R	0.75	39.5	D													
Atlantic Ave (E-W) @ Court Street (N-S)	EB-TR	0.75	34.2	C		0.84	27.8	C		EB-TR	0.70	22.3	C		0.73	27.7	C		0.80	30.5	C		0.73	29.7	C		0.41	13.5	B		0.49	14.6	B		EB-TR	0.49	14.6	B	
										EB-R	0.32	17.0	B										0.25	20.8	C													
	WB-L	0.76	53.5	D		0.82	52.4	D		WB-Defl	0.74	39.8	D		0.60	40.2	D		0.65	46.8	D	**	1.09	78.7	E		0.23	10.5	B		0.25	12.3	B		WB-LT	0.53	10.4	B	
	WB-T	0.84	42.3	D		0.88	28.5	C		WB-T	0.88	28.5	C		1.13	95.9	F		1.17	111.1	F	**					0.53	10.8	B		0.58	11.7	B						
	SB-LT	0.62	24.4	C		0.62	31.0	C		SB-LT	0.62	31.0	C		1.00	73.6	E		1.06	73.6	E		1.00	73.6	E		0.66	48.1	D		0.66	48.1	D		SB-LT	0.66	48.1	D	
	SB-R	0.72	26.5	C		0.72	44.4	D		SB-R	0.60	35.5	D		0.72	52.7	D		0.72	52.7	D		0.61	43.8	D		0.93	100.6	F		0.93	100.6	F		SB-R	0.71	61.2	E	
Atlantic Ave (E-W) @ Boerum Place (N-S)	EB-DefL	1.17	133.1	F		1.25	165.5	F	**		1.15	123.8	F		1.19	163.8	F		1.29	204.1	F	**	1.25	203.9	F	**	----------	----------			0.35	38.5	D						
	EB-TR	0.43	16.6	B		0.49	17.4	B			0.45	14.5	B		0.55	21.2	C		0.59	21.9	C		0.57	20.4	C		0.44	22.4	C		0.53	24.3	C		EB-LTR	0.51	21.4	C	
	WB-LT	1.02	68.4	E		1.08	88.0	F	**		0.98	55.3	E		1.21	142.4	F		1.25	159.7	F	**	1.19	133.9	F		0.87	51.5	D		0.92	58.1	E	**		0.84	46.2	D	
	WB-R	0.95	52.2	D		1.01	67.8	E	**		0.91	41.6	D		0.44	5.4	A		0.47	5.8	A		0.47	5.7	A		0.25	3.5	A		0.28	3.6	A			0.27	3.6	A	
	SB-L	0.38	18.8	B		0.38	18.8	B			0.42	21.9	C		0.84	39.0	D		0.84	39.0	D		0.87	43.0	D		0.43	23.0	C		0.43	23.0	C			0.47	26.0	C	
	SB-TR	0.40	19.2	B		0.40	19.3	B			0.46	22.6	C		0.70	33.4	C		0.71	33.5	C		0.74	36.0	D		0.20	19.7	B		0.20	19.8	B			0.22	22.3	C	
Columbia Street (N-S) @ BQE Ramp (E-W)	WB-L	0.33	16.6	B		0.33	16.6	B			0.35	17.5	B		0.17	14.9	B		0.17	14.9	B		0.18	15.6	B		0.21	15.3	B		0.21	15.3	B		WB-L	0.21	15.3	B	
	NB-T	0.25	8.2	A		0.32	8.8	A			0.65	26.3	C		0.18	7.7	A		0.18	7.7	A		0.32	17.5	B		0.14	7.5	A		0.19	7.8	A		NB-L	0.30	15.7	B	
	SB-L	0.98	48.0	D		1.18	115.8	F	**		0.93	40.8	D		1.21	121.8	F		1.21	121.8	F	**	1.03	57.9	E		0.63	14.5	B		0.78	21.0	C		SB-L	0.71	20.1	C	
	SB-T	0.16	7.4	A		0.18	7.6	A			0.18	7.0	A		0.48	9.7	A		0.48	9.7	A		0.46	9.0	A		0.13	7.3	A		0.15	7.4	A		SB-T	0.15	7.4	A	
Cadman Plaza W (N-S) @	WB-T	1.20	409.3	F		1.67	1230.0	F	**		1.67	1230.0	F	**	1.29	556.4	F		1.29	556.4	F	**	1.29	556.4	F	**	1.05	153.4	F		1.26	507.8	F	**		1.26	507.8	F	**
Brooklyn Bridge Off Ramp RT (E-W)	WB-R	1.00	90.0	F		1.23	448.9	F	**		1.23	448.9	F	**	1.30	569.0	F		1.30	569.0	F	**	1.30	569.0	F	**	1.12	260.9	F		1.25	482.9	F	**		1.25	482.9	F	**

NOTES:
EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach .
V/C Ratio - Volume to Capacity Ratio, SEC/VEH - Seconds per vehicle
LOS - Level of service
** - Denotes Impacted Intersections
Analysis is based on the 2000 Highway Capacity Manual Methodology (HCS 2000).
(1) - Not impacted, the proposed action would generate less than 5 vph through that lane group in the PM peak hour

remain unmitigable (Old Fulton Street at Cadman Plaza West, Tillary Street at Adams Street, and Atlantic Avenue at Boerum Place); all of the remaining significantly impacted intersections would be mitigated. These measures would be required whether Joralemon Street is closed or remains open to traffic.

While no significant air quality impacts were identified, traffic mitigation was reviewed for its effect on the conclusions relating to air quality. Chapter 16, "Air Quality," showed that under the 2012 Build condition, with the proposed project, impacts on carbon monoxide (CO) and inhalable particulate matter (PM_{10} and $PM_{2.5}$) would be well below ambient air quality standards and New York City's *de minimis* and interim guidance criteria. The proposed traffic mitigation measures, which consist of adjustments to signal timings, parking regulations, and re-striping lanes, were evaluated to determine the potential effects on air quality in the study area. Because the proposed mitigation measures seek to avoid or reduce the levels of congestion and delays at an intersection, an overall improvement in traffic conditions would occur for the study area as compared to the Build condition. Based on the traffic mitigation analysis presented above, the proposed changes in levels of service and delays through the network would result in similar, if not lower, predicted CO vehicular pollutant concentrations under the Build with mitigation condition. Similarly, the Build with mitigation scenario would not alter the conclusions of no significant impact on inhalable particulate levels.

The proposed traffic mitigation measures would not affect the stationary or industrial source analyses provided in Chapter 16, which determined that there would be no significant air quality impacts resulting from the proposed project.

D. BUS SERVICE

According to current NYCT guidelines, increases in bus load levels to above their capacities at any load point is defined as a significant adverse impact, necessitating the addition of more bus service along the route. In the 2012 future with the proposed project, all three analyzed bus routes would experience PM peak direction load levels at their maximum load points exceeding their capacities. Eastbound B25 buses would experience a deficit of 102 spaces, followed by B61 buses with a deficit of 43 spaces and B63 buses with a deficit of 41 spaces. These capacity shortfalls would require the addition of two eastbound B25 buses, one northbound B61 bus and one southbound B63 bus in the PM peak hour.

Based on the project's travel demand forecast, the project would generate 719 bus trips in the weekday midday (12-1 PM) peak hour, and 906 bus trips in the Sunday midday (2-3 PM) peak hour. NYCT operates the three analyzed three bus routes in the off-peak periods to maintain minimum service frequency, as bus utilization in this area is light. Given that bus demand in these off-peak periods is typically balanced inbound versus outbound, no significant adverse impacts to off-peak bus operations are expected in the weekday midday or Sunday midday peak hours.

As standard practice, NYCT monitors bus ridership and increases service where operationally warranted and fiscally feasible. As such, the capacity shortfalls on the B25, B61, and B63 routes would be addressed by NYCT over the build-out period for the project, and no project-initiated mitigation would be required.

E. NOISE

Because of noise generated independent of the proposed project (principally due to traffic on the Brooklyn-Queens Expressway and traffic and trains on the Manhattan Bridge) ambient noise levels in the proposed Brooklyn Bridge Park would exceed the 55 dBA $L_{10(1)}$ CEQR criterion for public open spaces and would thus constitute a significant adverse noise impact.

The park design contains hills on the project site, along Furman Street between Pier 2 and Pier 5. Acoustically, these earth hills were designed and located to shield park areas from Furman Street and Brooklyn-Queens Expressway noise. As a result, within this section of the park the Build condition is notably quieter (2 to 10 dBA) than the No Build condition. These hills would not cause increases in noise levels along the Brooklyn Heights Promenade and nearby residences due to reflected sound.

However, even with this noise reduction measure incorporated into the project design, noise levels at many locations in the park would still be above the 55 dBA $L_{10(1)}$ CEQR criterion. No other feasible and practicable mitigation measures have been identified that could be implemented to reduce and eliminate these impacts. There are also no practicable mitigation measures to reduce the noise contribution from the Manhattan Bridge on the eastern portion of the park. Since there are no practicable measures to fully mitigate the noise conditions, the high noise levels in the park would be considered an unmitigated significant adverse impact. ✷