Chapter 14: Transportation

A. INTRODUCTION

This chapter examines the potential effects of the proposed projects on the study area's transportation systems. Specifically, it compares conditions in the future with the proposed projects (the With Action condition) against conditions in the future without the proposed projects (the No Action condition) in order to determine the potential for significant adverse impacts to transportation systems. The analyses consider the 2021 analysis year to identify potential impacts, and if warranted, identify mitigation measures that would be appropriate to address those impacts. The travel demand projections, trip assignments, and capacity analysis presented in this chapter were conducted pursuant to the methodologies outlined in the 2014 *City Environmental Quality Review (CEQR) Technical Manual*.

PRINCIPAL CONCLUSIONS

TRAFFIC

Based on a detailed assignment of project-generated vehicle trips, 31 intersections were identified as warranting detailed analysis for the weekday AM, midday, and PM peak hours. The detailed analysis concluded that in the future with the proposed projects, there would be the potential for significant adverse impacts at six intersections during the weekday AM peak hour, five intersections during the midday peak hour, and 10 intersections during the PM peak hour.

Table 14-1a provides a summary of the impacted locations by lane group and analysis time period. Potential measures to mitigate the projected traffic impacts are described in Chapter 21, "Mitigation."

Table 14-1a
Summary of Significant Adverse Traffic Impacts

Intersection		Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour
EB/WB Street	**NB/SB Street**			
South Street	Pike Slip			SB-L
South Street	Clinton Street			EB-LT
South Street (North)	Montgomery Street	SB-TR		WB-LTR NB-LT
South Street (South)		SB-LT		SB-LT
Madison Street	Pike Street (East)	EB-LT		EB-LT
Madison Street	Montgomery Street			NB-LTR
East Broadway	Pike Street (East)	NB-L	NB-L	EB-L NB-L
	Pike Street (West)	EB-TR	EB-TR	EB-TR
Division Street	Market Street		NB-L	
Canal Street	Allen Street			EB-LTR
Delancey Street	Allen Street		WB-L	WB-L
Division Street	The Bowery	WB-L		
East Broadway	Chatham Square		SB-L	NB-R SB-L
Worth Street/Oliver Street	Chatham Square	EB-L (Worth Street) EB-LTR (Worth Street) SB-TR	EB-L (Worth Street) EB-LTR (Worth Street) SB-TR	EB-L (Worth Street) EB-LTR (Worth Street) WB-R SB-TR
Worth Street	Centre Street	WB-T		
Total Impacted Intersections/Lane Groups		6/10	5/8	10/18

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, EB = Eastbound, WB = Westbound, NB = Northbound, SB = Southbound

TRANSIT

The preliminary screening assessment summarized below concluded that a detailed analysis of station circulation elements and control areas is warranted for the East Broadway-Rutgers Street Station (F line) for the weekday AM and PM peak hours. A subway line-haul (F line) analysis was also conducted for the weekday AM and PM peak hours.

The line-haul analyses showed that the proposed projects would not result in the potential for a significant adverse subway line-haul impact. The subway station analysis identified significant adverse stairway impacts for the S1 stairway during the weekday AM and PM peak hours, and the P3 stairway for the weekday AM peak hour. Discussions with New York City Transit (NYCT) to identify feasible mitigation measures to alleviate these significant adverse impacts are presented in Chapter 21, "Mitigation."

PEDESTRIANS

Weekday peak period pedestrian conditions were evaluated at key area sidewalk, corner reservoir, and crosswalk locations. Based on the detailed assignment of pedestrian trips, 18 sidewalks, 16 corner reservoirs, and 12 crosswalks were selected for detailed analysis for the weekday AM, midday, and PM peak hours. As summarized in **Table 14-1b**, significant adverse impacts were identified for one sidewalk during the weekday AM and PM peak hours, two crosswalks during the weekday AM peak hour, one crosswalk during the weekday midday peak hour, and two crosswalks during the weekday PM peak hour. Potential measures (i.e., crosswalk

widenings, signal timing adjustments, etc.) were identified to mitigate the pedestrian impacts, as described in Chapter 21, "Mitigation."

Table 14-1b
Summary of Significant Adverse Pedestrian Impacts

Pedestrian Element	Weekday AM Peak Hour	Weekday Midday Peak Hour	Weekday PM Peak Hour
North Sidewalk of Madison Street between Rutgers Street and Pike Street	Impacted		Impacted
Rutgers Street and Madison Street North Crosswalk	Impacted		
Rutgers Street and Madison Street West Crosswalk	Impacted		Impacted
Rutgers Street and Cherry Street South Crosswalk		Impacted	Impacted

VEHICULAR AND PEDESTRIAN SAFETY

Crash data for the study area intersections were obtained from the New York State Department of Transportation (NYSDOT) for the time period between November 1, 2013 and October 31, 2016. During this period, a total of 278 injuries, and 96 pedestrian/bicyclist-related accidents occurred at study area intersections. A rolling total of accident data identified three high crash locations in the 2013 to 2016 period, Allen Street and Canal Street, the Bowery and Canal Street at the Manhattan Bridge, and Chatham Square/Park Row at Worth Street/Mott Street. A summary of the identified high crash locations, prevailing trends, project-specific effects, and recommended safety measures is provided in **Table 14-2**.

Table 14-2
Summary of High Crash Locations

High Crash Intersections	Prevailing Trends	Peak Hour Project-Specific Effects	Recommended Safety Measures
Allen Street and Canal Street	None	Incremental trips: 54 vehicles	Install pedestrian countdown timers on all crosswalks
The Bowery and Canal Street	None	Incremental trips: 62 vehicles	Install pedestrian countdown timers on the east crosswalk
Chatham Square/Park Row and Worth Street/Mott Street	None	Incremental trips: 61 vehicles	No recommendations
Source: NYSDOT crash data; November 1, 2013 to October 31, 2016			

PARKING

The With Action public parking utilization is expected to increase to 113, 132, 116, and 112 percent of the ½-mile off-street parking capacity during the weekday morning, midday, evening, and overnight time periods, respectively. These utilization levels represent parking shortfalls of 293, 755, 373, and 274 spaces during the corresponding weekday peak periods. It is expected that excess parking demands resulting from the proposed projects during the weekday peak periods would need to be accommodated by on-street parking or off-street parking beyond ½-mile walk from the project sites. Alternatively, motorists could choose alternate modes of transportation. As stated in the *CEQR Technical Manual* and discussed in the parking analysis methodology section below, a parking shortfall resulting from a project located in Manhattan does not constitute a significant adverse parking impact, due to the magnitude of available alternative modes of transportation.

B. PRELIMINARY ANALYSIS METHODOLOGY AND SCREENING ASSESSMENT

The *CEQR Technical Manual* recommends a two-tier screening procedure for the preparation of a "preliminary analysis" to determine if quantified analyses of transportation conditions are warranted. As discussed below, the preliminary analysis begins with a trip generation analysis (Level 1) to estimate the volume of person and vehicle trips attributable to a proposed project. If a proposed project is expected to result in fewer than 50 peak hour vehicle trips and fewer than 200 peak hour transit or pedestrian trips, further quantified analyses are not warranted. When these thresholds are exceeded, detailed trip assignments (Level 2) are performed to estimate the incremental trips at specific transportation elements and to identify potential locations for further analyses. If the trip assignments show that a proposed project would result in 50 or more peak hour vehicle trips at an intersection, 200 or more peak hour subway trips at a station, 200 or more peak hour subway trips in one direction on a subway line, 50 or more peak hour bus trips in one direction along a bus route, or 200 or more peak hour pedestrian trips traversing a pedestrian element, then further quantified analyses may be warranted to assess the potential for significant adverse impacts on traffic, transit, pedestrians, parking, and vehicular and pedestrian safety.

As detailed in Chapter 1, "Project Description," the proposed actions would facilitate the development of three new mixed-use buildings within the Two Bridges Large Scale Residential District (LSRD). The three project sites—Site 4 (4A/4B), Site 5, and Site 6A within the Two Bridges LSRD—are generally bounded by Cherry Street to the north, Pike Street to the west, Clinton Street to the east, and South Street to the south (see **Figure 14-1**). In the future with the proposed projects, the project sites would be developed with a total of approximately 2,775 new dwelling units (DUs), 10,858 gross square feet (gsf) of new local retail, and 17,028 gsf of new community facility use, not including the existing uses on the three sites that would remain in the With Action condition. The proposed community facility space on Site 5 is as yet unprogrammed; however, for the purposes of a conservative analysis, it is assumed that this space could be utilized as an accessory early childhood educational facility. **Table 14-3** provides program assumptions under the Reasonable Worst Case Development Scenario (RWCDS) With Action condition.

Table 14-3
Future with the Proposed Projects (RWCDS)

Site	Components	Future with the Proposed Projects (With Action)
4 (4A/4B)	Residential (DU)	660
	Local Retail (gsf)	3,124
5	Residential (DU)	1,350
	Local Retail (gsf)	5,319
	Community Facility (gsf)	17,028
6A	Residential (DU)	765
	Local Retail (gsf)	2,415

Note: The programs noted above do not include existing uses on the three sites that would remain in the With Action condition.

LEVEL 1 SCREENING ASSESSMENT

A Level 1 trip generation screening assessment was conducted to estimate the numbers of person and vehicle trips by mode expected to be generated by the proposed projects during the weekday AM, midday, and PM peak hours. These estimates were then compared to the *CEQR Technical*

Project Location

TWO BRIDGES LSRD

Figure 14-1

Manual thresholds to determine if a Level 2 screening and/or quantified operational analyses would be warranted.

TRANSPORTATION PLANNING ASSUMPTIONS

Trip generation factors for the proposed projects were developed based on information from the *CEQR Technical Manual*, U.S. Census Data, and other established sources and approved studies, as summarized in **Table 14-4**.

Table 14-4
Travel Demand Assumptions

Use	Residential			Local Retail			Community Facility Students			Community Facility Parents			Community Facility Staff		
Total Daily Person Trip	(1) Weekday 8.075 Trips/DU			(1) Weekday 205 Trips/1000 SF			(1) Weekday 2.0 trips/person			(1) Weekday 4.0 trip/person			(1) Weekday 2.0 trips/person		
Trip Linkage	0%			25%			0%			0%			0%		
Net Daily Person trip	Weekday 8.075 Trips/DU			Weekday 153.75 Trips/1000 SF			Weekday 2.0 Trips/Student			Weekday 4.0 Trips/Student			Weekday 2.0 Trips/Staff		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Temporal	(1)			(1)			(1)			(1)			(1)		
	10%	5%	11%	3%	19%	10%	49.5%	0%	49.5%	49.5%	0%	49.5%	40%	0%	40%
Direction	(2)			(2)			(4)			(4)			(4)		
In	15%	50%	70%	50%	50%	50%	100%	0%	0%	50%	0%	50%	100%	0%	0%
Out	85%	50%	30%	50%	50%	50%	0%	0%	100%	50%	0%	50%	0%	0%	100%
Total	100%	100%	100%	100%	100%	100%	100%	0%	100%	100%	0%	100%	100%	0%	100%
Modal Split	(3)			(2)			(4)			(5)(8)			(6)		
	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM	AM	MD	PM
Auto	14.0%	14.0%	14.0%	2.0%	2.0%	2.0%	10.0%	10.0%	10.0%	0.0%	0.0%	0.0%	18.0%	18.0%	18.0%
Taxi	5.0%	5.0%	5.0%	3.0%	3.0%	3.0%	2.0%	2.0%	2.0%	0.0%	0.0%	0.0%	1.0%	1.0%	1.0%
Subway	44.0%	44.0%	44.0%	6.0%	6.0%	6.0%	8.0%	8.0%	8.0%	23.0%	23.0%	23.0%	58.0%	58.0%	58.0%
Bus	4.0%	4.0%	4.0%	6.0%	6.0%	6.0%	7.0%	7.0%	7.0%	20.0%	20.0%	20.0%	10.0%	10.0%	10.0%
School Bus	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	53.0%	53.0%	53.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Walk	33.0%	33.0%	33.0%	83.0%	83.0%	83.0%	20.0%	20.0%	20.0%	57.0%	57.0%	57.0%	13.0%	13.0%	13.0%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Vehicle Occupancy	(2)(3) Weekday			(2) Weekday			(8) Weekday						(6)(7) Weekday		
Auto	1.30			1.65			1.30						1.27		
Taxi	1.40			1.40			1.30						1.27		
School Bus	N/A			N/A			35.0						N/A		
Daily Delivery Trip Generation Rate	(1) Weekday 0.06 Delivery Trips/DU			(1) Weekday 0.35 Delivery Trips/KSF			(8) Weekday 0.03 Delivery Trips/students								
	AM	MD	PM	AM	MD	PM	AM	MD	PM						
Delivery Temporal	(1)			(1)			(8)								
	12%	9%	2%	8%	11%	2%	9.6%	11.0%	1.0%						
Delivery Direction	(1)			(1)			(8)								
In	50%	50%	50%	50%	50%	50%	50%	50%	50%						
Out	50%	50%	50%	50%	50%	50%	50%	50%	50%						
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%						

Sources:
(1) 2014 *CEQR Technical Manual*
(2) *Seward Park Mixed-Use Development Project FGEIS* (2012)
(3) U.S. Census Bureau, ACS 2011–2015 Five-Year Estimates—Journey-to-Work (JTW) Data for Census Tract 2.01, 6, 8, 14.01, and 16
(4) Seward Park Mixed-Use Development Tech Memo (2012)
(5) Assumes 1 parent for every 1.30 students taking subway, bus, and walk modes to the school and the same temporal distribution as students
(6) U.S. Census Bureau Reverse-Journey to Work ACS 2006–2010 five-year estimates
(7) The staff taxi occupancy is assumed to be the same as the staff vehicle occupancy
(8) East New York Rezoning FEIS (2016)

Residential

The daily person trip rate and temporal distribution for the residential component were obtained from the *CEQR Technical Manual*. Peak period Journey-to-Work (JTW) data from the 2011–2015 U.S. Census Bureau American Community Survey (ACS) for Manhattan census tracts 2.01, 6, 8, 14.01, and 16 were used for residential modal splits. The directional distribution for all peak periods is from the *Seward Park Mixed-Use Development Project FGEIS*. The vehicle occupancies are from the 2011–2015 U.S. Census ACS for autos and from the *Seward Park Mixed-Use Development Project FGEIS* for taxis. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

Local Retail

The daily person trip generation and temporal distribution for the local neighborhood retail component were obtained from the *CEQR Technical Manual*. In line with accepted City practice, a 25 percent linked trip credit was applied to the local retail trip generation estimates. The directional distribution, modal splits, vehicle occupancies for all peak periods were obtained from the *Seward Park Mixed-Use Development Project FGEIS*. The daily delivery trip rate and temporal and directional distributions are from the *CEQR Technical Manual*.

Community Facility—Students

The daily person trip generation rate and temporal distribution for students of the potential early childhood educational facility assumed for the proposed community facility space on Site 5 were obtained from the *CEQR Technical Manual*. The directional distribution and modal splits were obtained from the *Seward Park Mixed-Use Development Tech Memo*. The vehicle occupancies, daily delivery trip rate, and temporal and directional distributions are from the *East New York Rezoning FEIS.*

Community Facility—Parents

The daily person trip generation rate and temporal distribution for parents of the potential early childhood educational facility assumed for the proposed community facility space on Site 5 were obtained from the *CEQR Technical Manual*. In line with typical SCA elementary school assumptions, it is anticipated that one parent would accompany every 1.28 students travelling by transit or walking to the school. The directional distribution is from the *Seward Park Mixed-Use Development Tech Memo*.

Community Facility—Staff

The daily person trip generation rate and temporal distribution for staff of the potential early childhood educational facility assumed for the proposed community facility space on Site 5 were obtained from the *CEQR Technical Manual*. Vehicle occupancies and modal splits are based on Reverse Journey-to-Work (RJTW) data from the 2006–2010 ACS.

TRAVEL DEMAND PROJECTION SUMMARY

As summarized in **Table 14-5**, in the future with the proposed projects, a total of 2,475, 1,442, and 2,815 person trips would be generated during the weekday AM, midday, and PM peak hours, respectively. Correspondingly, 435, 214, and 424 vehicle trips would be generated during the same respective peak hours.

Table 14-5
Trip Generation Summary: With Action Condition

	Program	Peak Hour	In/Out	Person Trip							Vehicle Trip				
				Auto	Taxi	Subway	Bus	School Bus	Walk	Total	Auto	Taxi	School Bus	Delivery	Total
Site 4	Residential 660 DUs	AM	In	11	4	35	3	0	26	79	8	17	0	2	27
			Out	63	23	199	18	0	149	452	48	17	0	2	67
			Total	74	27	234	21	0	175	531	56	34	0	4	94
		Midday	In	19	7	59	5	0	44	134	15	8	0	2	25
			Out	19	7	59	5	0	44	134	15	8	0	2	25
			Total	38	14	118	10	0	88	268	30	16	0	4	50
		PM	In	57	21	181	16	0	135	410	44	15	0	0	59
			Out	25	9	77	7	0	58	176	19	15	0	0	34
			Total	82	30	258	23	0	193	586	63	30	0	0	93
	Local Retail 3,124 gsf	AM	In	0	0	0	0	0	6	6	0	0	0	0	0
			Out	0	0	0	0	0	6	6	0	0	0	0	0
			Total	0	0	0	0	0	12	12	0	0	0	0	0
		Midday	In	1	1	3	3	0	38	46	1	1	0	0	2
			Out	1	1	3	3	0	38	46	1	1	0	0	2
			Total	2	2	6	6	0	76	92	2	2	0	0	4
		PM	In	0	1	1	1	0	20	23	0	1	0	0	1
			Out	0	1	1	1	0	20	23	0	1	0	0	1
			Total	0	2	2	2	0	40	46	0	2	0	0	2
Site 5	Residential 1,350 DUs	AM	In	23	8	72	7	0	54	164	18	35	0	5	58
			Out	130	46	408	37	0	306	927	100	35	0	5	140
			Total	153	54	480	44	0	360	1,091	118	70	0	10	198
		Midday	In	38	14	120	11	0	90	273	29	15	0	4	48
			Out	38	14	120	11	0	90	273	29	15	0	4	48
			Total	76	28	240	22	0	180	546	58	30	0	8	96
		PM	In	118	42	369	34	0	277	840	91	29	0	1	121
			Out	50	18	158	14	0	119	359	38	29	0	1	68
			Total	168	60	527	48	0	396	1,199	129	58	0	2	189
	Local Retail 5,319 gsf	AM	In	0	0	1	1	0	10	12	0	0	0	0	0
			Out	0	0	1	1	0	10	12	0	0	0	0	0
			Total	0	0	2	2	0	20	24	0	0	0	0	0
		Midday	In	2	2	5	5	0	64	78	1	1	0	0	2
			Out	2	2	5	5	0	64	78	1	1	0	0	2
			Total	4	4	10	10	0	128	156	2	2	0	0	4
		PM	In	1	1	2	2	0	34	40	1	1	0	0	2
			Out	1	1	2	2	0	34	40	1	1	0	0	2
			Total	2	2	4	4	0	68	80	2	2	0	0	4
	Community Facility 118 Students	AM	In	12	2	9	8	62	23	116	9	2	2	0	13
			Out	0	0	0	0	0	0	0	9	2	2	0	13
			Total	12	2	9	8	62	23	116	18	4	4	0	26
		Midday	In	0	0	0	0	0	0	0	0	0	0	0	0
			Out	0	0	0	0	0	0	0	0	0	0	0	0
			Total	0	0	0	0	0	0	0	0	0	0	0	0
		PM	In	0	0	0	0	0	0	0	9	1	2	0	12
			Out	12	2	9	8	62	23	116	9	1	2	0	12
			Total	12	2	9	8	62	23	116	18	2	4	0	24
	Community Facility 32 Parents	AM	In	0	0	7	6	0	18	31	0	0	0	0	0
			Out	0	0	7	6	0	18	31	0	0	0	0	0
			Total	0	0	14	12	0	36	62	0	0	0	0	0
		Midday	In	0	0	0	0	0	0	0	0	0	0	0	0
			Out	0	0	0	0	0	0	0	0	0	0	0	0
			Total	0	0	0	0	0	0	0	0	0	0	0	0
		PM	In	0	0	7	6	0	18	31	0	0	0	0	0
			Out	0	0	7	6	0	18	31	0	0	0	0	0
			Total	0	0	14	12	0	36	62	0	0	0	0	0
	Community Facility 12 Staff	AM	In	2	0	6	1	0	1	10	2	0	0	0	2
			Out	0	0	0	0	0	0	0	0	0	0	0	0
			Total	2	0	6	1	0	1	10	2	0	0	0	2
		Midday	In	0	0	0	0	0	0	0	0	0	0	0	0
			Out	0	0	0	0	0	0	0	0	0	0	0	0
			Total	0	0	0	0	0	0	0	0	0	0	0	0
		PM	In	0	0	0	0	0	0	0	0	0	0	0	0
			Out	2	0	6	1	0	1	10	2	0	0	0	2
			Total	2	0	6	1	0	1	10	2	0	0	0	2

Table 14-5 (cont'd)
Trip Generation Summary: With Action Condition

	Program	Peak Hour	In/Out	Person Trip							Vehicle Trip				
				Auto	Taxi	Subway	Bus	School Bus	Walk	Total	Auto	Taxi	School Bus	Delivery	Total
Site 6A	Residential 765 DUs	AM	In	13	5	41	4	0	31	94	10	21	0	3	34
			Out	74	26	231	21	0	173	525	57	21	0	3	81
			Total	87	31	272	25	0	204	619	67	42	0	6	115
		Midday	In	22	8	68	6	0	51	155	17	9	0	2	28
			Out	22	8	68	6	0	51	155	17	9	0	2	28
			Total	44	16	136	12	0	102	310	34	18	0	4	56
		PM	In	67	24	209	19	0	157	476	52	17	0	0	69
			Out	29	10	90	8	0	67	204	22	17	0	0	39
			Total	96	34	299	27	0	224	680	74	34	0	0	108
	Local Retail 2,415 gsf	AM	In	0	0	0	0	0	5	5	0	0	0	0	0
			Out	0	0	0	0	0	5	5	0	0	0	0	0
			Total	0	0	0	0	0	10	10	0	0	0	0	0
		Midday	In	1	1	2	2	0	29	35	1	1	0	0	2
			Out	1	1	2	2	0	29	35	1	1	0	0	2
			Total	2	2	4	4	0	60	72	2	2	0	0	4
		PM	In	0	1	1	1	0	15	18	0	1	0	0	1
			Out	0	1	1	1	0	15	18	0	1	0	0	1
			Total	0	2	2	2	0	32	36	0	2	0	0	2
Grand Total		AM	In	61	19	171	30	62	174	517	47	75	2	10	134
			Out	267	95	846	83	0	667	1,958	214	75	2	10	301
			Total	328	114	1,017	113	62	841	2,475	261	150	4	20	435
		Midday	In	83	33	257	32	0	316	721	64	35	0	8	107
			Out	83	33	257	32	0	316	721	64	35	0	8	107
			Total	166	66	514	64	0	632	1,442	128	70	0	16	214
		PM	In	243	90	770	79	0	656	1,838	197	65	2	1	265
			Out	119	42	351	48	62	355	977	91	65	2	1	159
			Total	362	132	1,121	127	62	1,011	2,815	288	130	4	2	424

TRAFFIC

As shown in **Table 14-5**, the incremental trips generated by the proposed projects would be 435, 214, and 424 vehicle trips during the weekday AM, midday, and PM peak hours, respectively. Since the incremental vehicle trips would be greater than 50 vehicles during the weekday AM, midday, and PM peak hours, a Level 2 screening assessment (presented in the section below) was conducted to determine if a quantified traffic analysis is warranted.

TRANSIT

As shown in **Table 14-5**, the incremental subway trips generated by the proposed projects would be 1,017, 514, and 1,121 person trips during the weekday AM, midday, and PM peak hours, respectively. Since the incremental subway trips would be greater than 200 during the weekday AM and PM peak hours and the majority of these trips would be expected to use the East Broadway Station (F line), a detailed analysis of subway facilities at this station and line-haul conditions on the F line is warranted.

As detailed in **Table 14-5**, the incremental bus trips generated by the proposed projects would be 113, 64, and 127 person trips during the weekday AM, midday, and PM peak hours, respectively. Considering that these trips would be further dispersed among the multiple local bus routes serving the study area, including the M9, M15, M15 Select Bus Service (SBS), and M22, no single bus route would incur incremental trips exceeding the *CEQR Technical Manual* analysis threshold of 50 or more peak hour bus riders in a single direction. Therefore, a detailed bus line-haul analysis would not be warranted, and the proposed projects are not expected to result in any significant adverse bus line-haul impacts.

PEDESTRIANS

All incremental person trips generated by the proposed projects would traverse the pedestrian elements (i.e., sidewalks, corners, and crosswalks) surrounding the project sites. As shown in **Table 14-5**, the net incremental pedestrian trips would be greater than 200 during the weekday AM, midday, and PM peak hours. A Level 2 screening assessment (presented in the section below) was conducted to determine if there is a need for additional quantified pedestrian analyses.

LEVEL 2 SCREENING ASSESSMENT

As part of the Level 2 screening assessment, project-generated trips were assigned to specific intersections and pedestrian elements near the project sites. As previously stated, further quantified analyses to assess the potential impacts of the proposed projects on the transportation system would be warranted if the trip assignments were to identify key intersections incurring 50 or more peak hour vehicle-trips or pedestrian elements incurring 200 or more peak hour pedestrian-trips. Similarly, for transit elements, the projected trips were considered in determining the likely transit facilities requiring a detailed analysis of potential impacts.

SITE ACCESS AND EGRESS

For Site 4 (4A/4B), the proposed building entrance would be located on the south side of Cherry Street between Pike Street and Rutgers Slip, and on the west side of Rutgers Slip between Cherry Street and South Street. For Site 5, the proposed building entrances would be located on the south side of Cherry Street between Rutgers Slip and Clinton Street, and the north side of South Street between Rutgers Slip and Clinton Street. For Site 6A, the proposed building entrances would be located on the west side of Clinton Street between Cherry Street and South Street, and on the north side of South Street between Rutgers Slip and Clinton Street.

TRAFFIC

As shown in **Table 14-5**, incremental vehicle trips resulting from the proposed projects would exceed the CEQR Level-1 screening threshold during the weekday AM, midday, and PM peak hours. These vehicle trips were assigned to study area intersections based on the most likely travel routes to and from the project sites, prevailing travel patterns, commuter origin-destination (O-D) summaries from the census data, and configuration of the roadway network. Since available parking spaces at off-site parking facilities within a ¼-mile are expected to be insufficient to accommodate the proposed projects' anticipated parking demand, project-generated trips were also assigned to parking resources between ¼-mile and ½-mile distance from the project sites. Non-pick-up and drop-off auto trips were assigned to the parking facilities summarized in Section H, "Parking Assessment," (excluding No. 1 and No. 2, as these facilities are planned for redevelopment). Taxi trips were assigned to the various project sites' frontages along South Street, Rutgers Street, and Clinton Street. All delivery trips were assigned to the project sites via the New York City Department of Transportation (DOT) designated truck routes. Traffic assignments for autos, taxis, and deliveries for the various development uses are discussed below.

Residential

Auto trips generated by the proposed residential uses were assigned to the surrounding roadway network based on the 2006–2010 U.S. Census ACS JTW origin-destination estimates. Many of the residential trips would be traveling to work destinations within the local region of Manhattan

(31 percent), with the remaining trips traveling to Brooklyn (17 percent), New Jersey (17 percent), Queens (11 percent), Upstate New York, and others (10 percent), Staten Island (8 percent), the Bronx (4 percent), and Long Island (2 percent). Residential trips would originate from off-site parking facilities to which project-generated trips were assigned and use the most direct routes for travel to their destinations. Overall, vehicle trips generated by the proposed residential uses were distributed to the study area roadway network in the following manner: approximately 34 percent assigned to points north of the project sites, 30 percent to points west, 24 percent to points southeast, and 12 percent to points east. The majority of trips traveling to Brooklyn and Staten Island south were assigned to the FDR Drive, with the remaining trips utilizing West Street, the Manhattan Bridge, the Queensboro Bridge, the Queens-Midtown Tunnel, the Williamsburg Bridge, and the Brooklyn Bridge, as well as Allen Street and Canal Street. Vehicles heading to New Jersey, Pennsylvania, and Manhattan west of the project sites were assigned primarily to South Street and Worth Street. Eastbound trips to Queens and Long Island were assigned to the Queensboro Bridge, Queen-Midtown Tunnel, and the Williamsburg Bridge. Vehicles traveling to Manhattan north of the project site, the Bronx, and Upstate were assigned to the FDR Drive and West Street.

Community Facility

The proposed community facility use is expected to serve patrons primarily from the immediate area. Therefore, auto trips were generally assigned from local origins within the neighborhood and adjacent residential areas. Overall, the vehicle trips generated by the proposed community facility use were distributed to the study area roadway network in the following manner: approximately 35 percent assigned to points north of the project site, 35 percent to points east, and 30 percent to points southeast.

Local Retail

The proposed local retail uses are expected to also serve patrons primarily from the immediate area, following the same general distribution described above for the community facility. Travel to the various off-site parking options would occur via the major roadways surrounding the project sites, including the Bowery, Allen Street, and Grand Street.

Taxis

Taxi pick-ups and drop-offs for the proposed residential components were split among the project sites' frontages along South Street, Rutgers Street, and Clinton Street. Taxi trips for the proposed local retail components were assigned to the Cherry Street and Rutgers Street curbsides facing the sites. All taxi trips for the proposed community facility were assigned to the South Street curbside in front of Site 5.

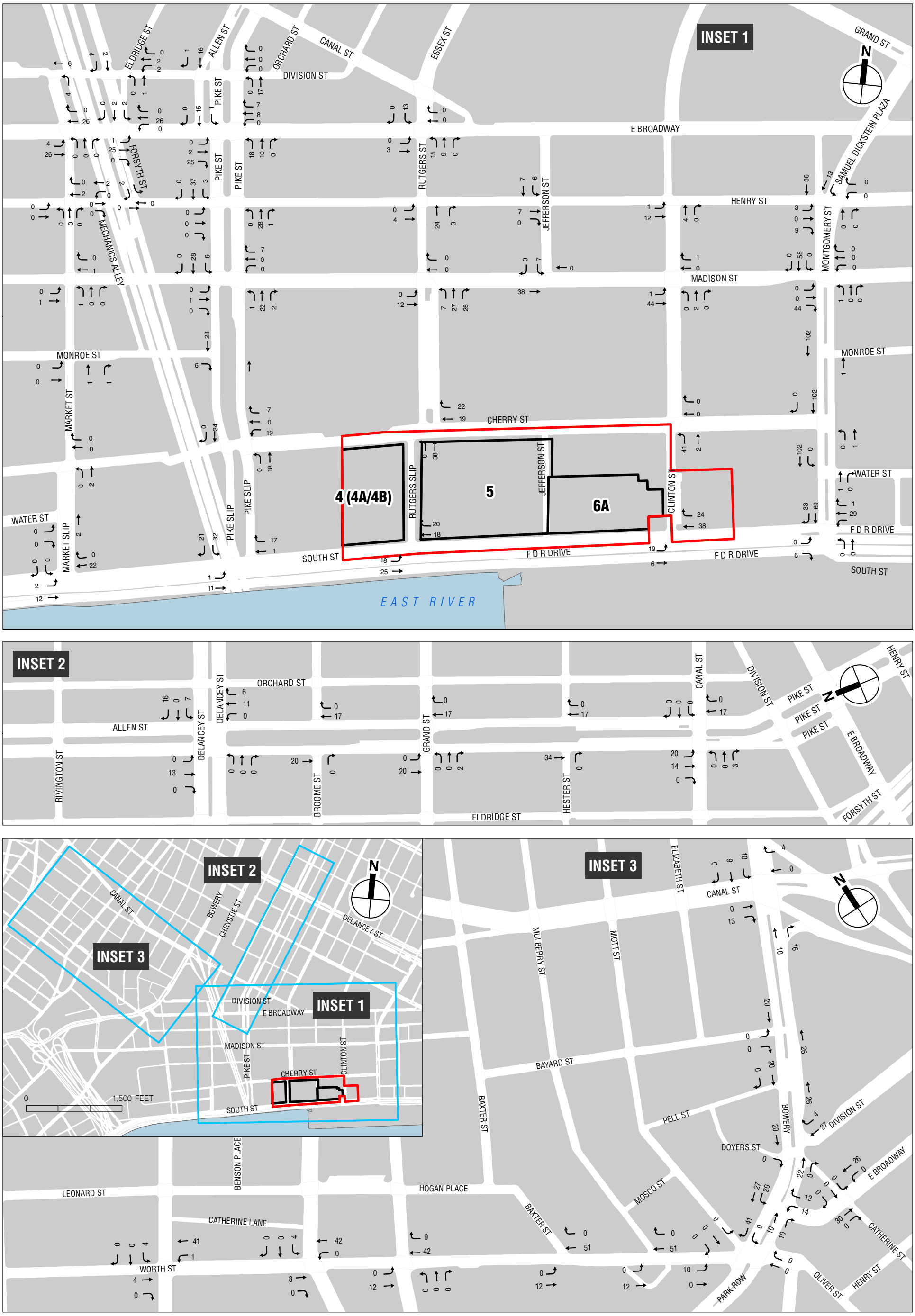
Deliveries

Truck delivery trips for all land uses were assigned to DOT-designated truck routes as long as possible until reaching the area surrounding the project sites. These trips were then distributed primarily along South Street and Cherry Street.

Summary

As shown in **Figures 14-2 through 14-4** and summarized in **Table 14-6**, 31 intersections comprising the traffic study area have been selected for analysis, in consultation with DOT, based on the volume of trips projected and turning movements anticipated to occur at those locations. The selected traffic analysis locations are shown in **Figure 14-5**.

11.19.18



Project Sites

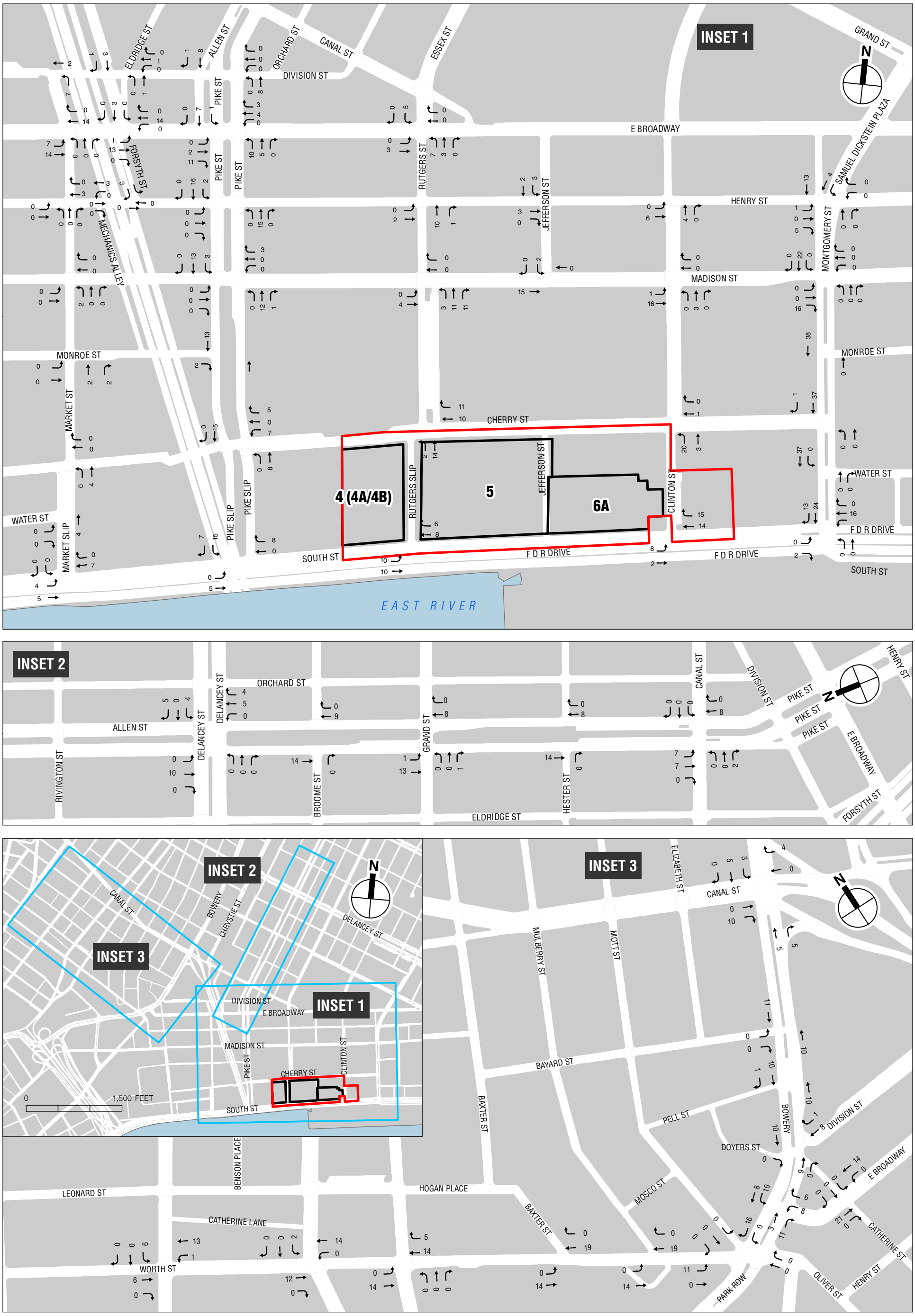
Boundary of Two Bridges LSRD

Proposed Projects Incremental Vehicle Trips
Weekday AM Peak Hour

TWO BRIDGES LSRD

Figure 14-2

11.19.18



Project Sites

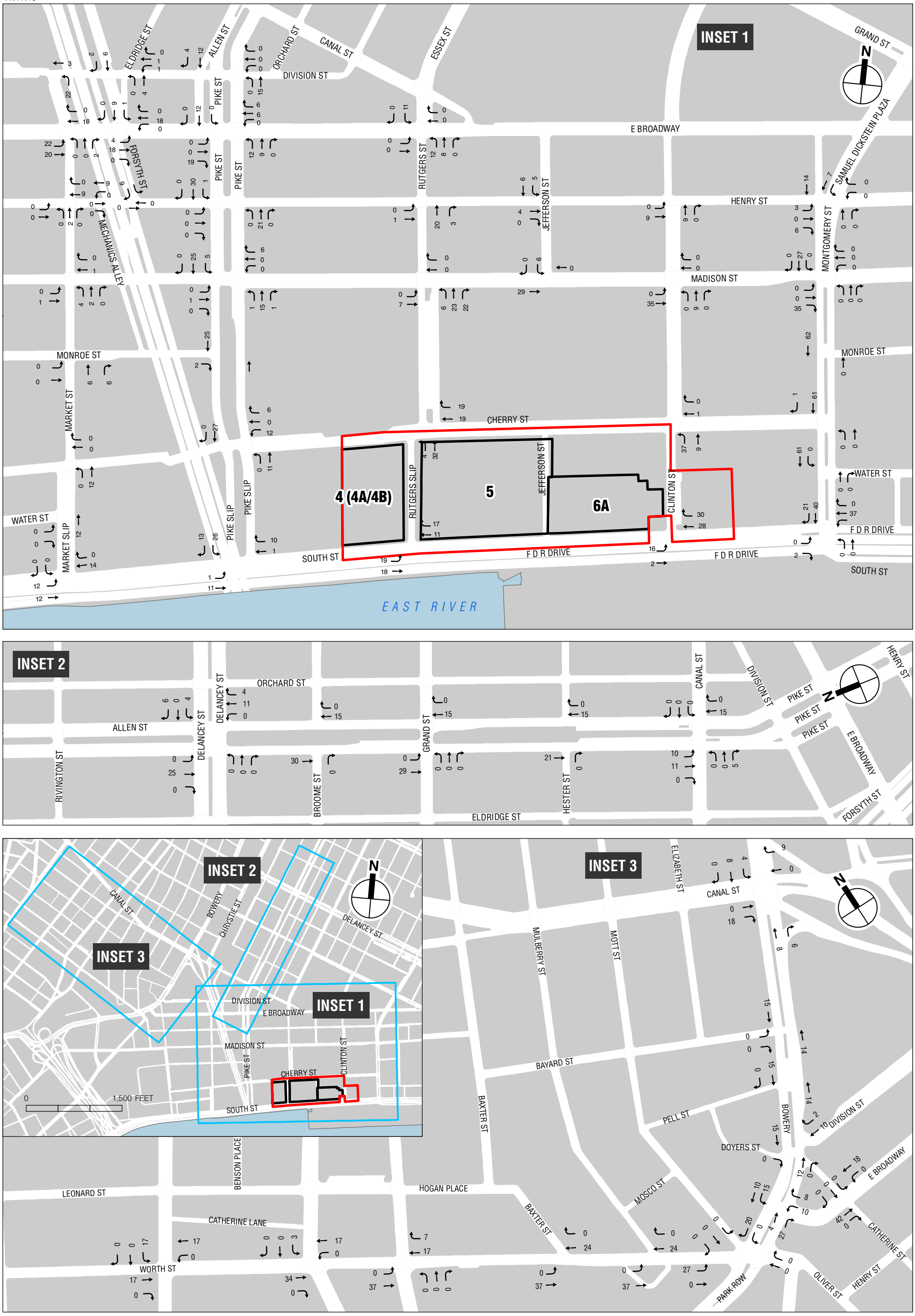
Boundary of Two Bridges LSRD

Proposed Projects Incremental Vehicle Trips
Weekday Midday Peak Hour

TWO BRIDGES LSRD

Figure 14-3

11.19.18



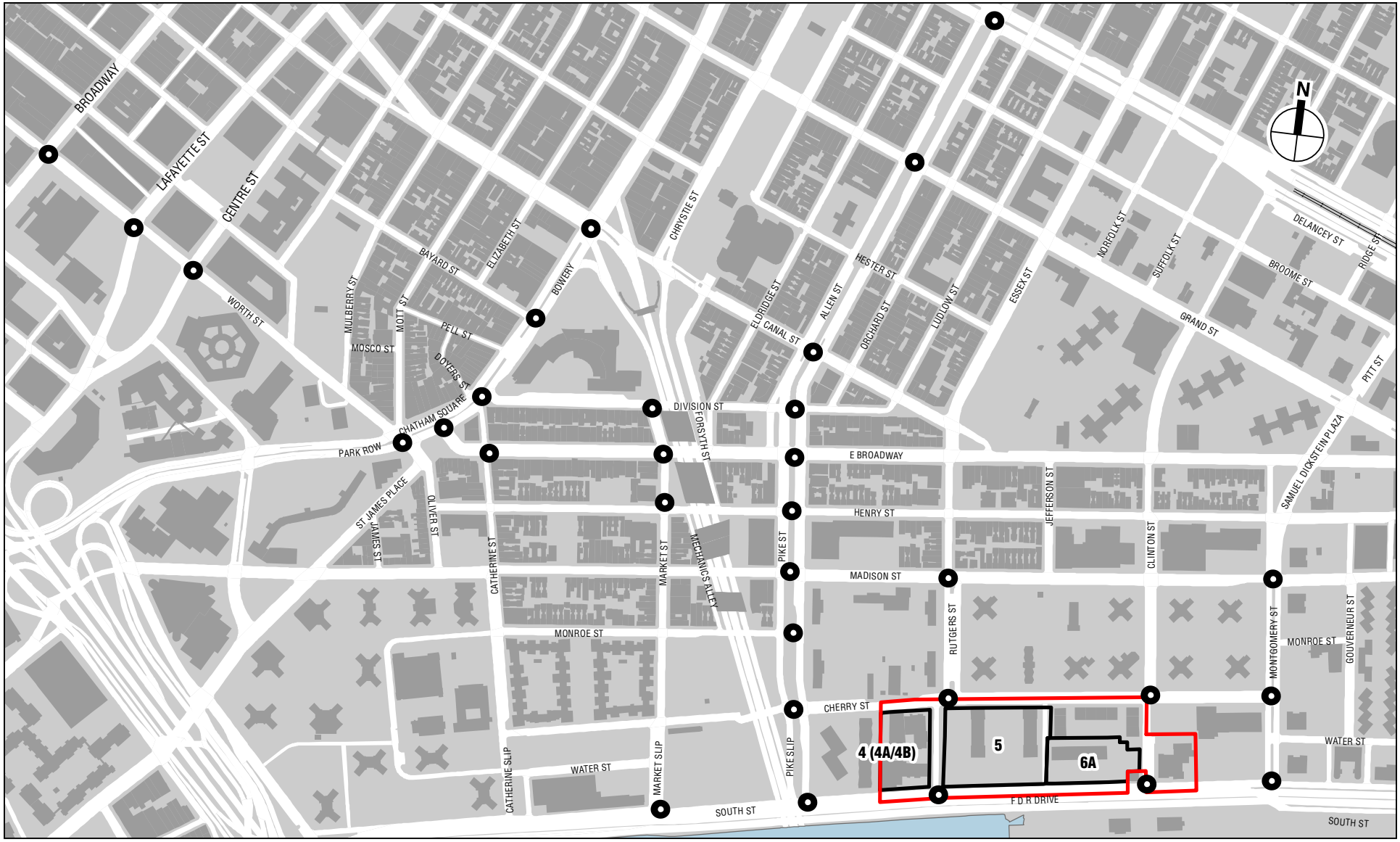
Project Sites

Boundary of Two Bridges LSRD

Proposed Projects Incremental Vehicle Trips
Weekday PM Peak Hour

TWO BRIDGES LSRD

Figure 14-4



Project Sites

Boundary of Two Bridges LSRD

Traffic Analysis Location

0 1,000 FEET

Traffic Analysis Locations

TWO BRIDGES LSRD

Figure 14-5

Table 14-6
Traffic Level 2 Screening Analysis Results – Selected Analysis Locations

Traffic Intersections	AM	MD	PM	Analysis Location
Grand Street and the Bowery	34	18	33	
Grand Street and Allen Street	39	23	44	✓
Hester Street and the Bowery	33	17	29	
Hester Street and Pike Street	51	22	36	
Canal Street/Manhattan Bridge Entrance (BK) and the Bowery	62	32	53	✓
Canal Street and Manhattan Bridge Lower Level	4	4	9	
Canal Street and Manhattan Bridge Upper Level/ Chrystie Street	5	5	14	
Canal Street and Forsyth Street	5	5	14	
Canal Street and Eldridge Street	3	2	5	
Canal Street and Allen Street	54	24	41	✓
The Bowery and Bayard Street	46	21	29	✓
Pell Street and the Bowery	46	21	29	
Division Street and the Bowery	73	28	39	✓
Division Street and Market Street	10	9	25	✓
Division Street and Forsyth Street/Eldridge Street	11	6	17	
Division Street and Allen Street	34	17	31	✓
Worth Street/Oliver Street and Chatham Square	61	30	51	✓
Chatham Square and East Broadway	93	46	74	✓
East Broadway and Catherine Street	56	35	60	✓
East Broadway and Market Street	56	35	62	✓
East Broadway and Forsyth Street	56	31	50	
East Broadway and Allen Street	86	43	64	✓
East Broadway and EssExcept Street	40	18	31	
Henry Street and Market Street	2	3	11	✓
Henry Street and Mechanics Alley	2	3	9	
Henry Street and Forsyth Street	2	3	9	
Henry Street and Pike Street	69	33	52	✓
Henry Street and Rutgers Street	31	13	24	
Henry Street and Jefferson Street	20	8	15	
Henry Street and Clinton Street	17	10	18	
Henry Street and Montgomery Street	48	19	23	
Madison Street and Market Street	3	2	8	
Madison Street and Mechanics Alley	2	0	2	
Madison Street and Pike Street	70	32	54	✓
Madison Street and Rutgers Street	72	29	58	✓
Madison Street and Jefferson Street	45	17	35	
Madison Street and Clinton Street	48	20	44	
Madison Street and Montgomery Street	103	38	62	✓
Monroe Street and Market Street	2	4	12	
Monroe Street and Mechanics Alley	1	2	6	
Monroe Street and Pike Street	59	28	44	✓
Monroe Street/ Catherine Street and Montgomery Street	103	38	62	
Cherry Street and Market Street	2	4	12	
Cherry Street and Pike Street	78	35	56	✓
Cherry Street and Rutgers Street	79	37	74	✓
Cherry Street and Clinton Street	43	24	47	✓
Cherry Street and Montgomery Street	103	38	62	✓
Water Street and Market Street	2	4	12	
Water Street and Montgomery Street	103	37	61	
South Street and Market Street	36	16	38	✓
South Street and Pike Street	83	35	62	✓
South Street and Rutgers Street	81	34	65	✓
South Street and Clinton Street	87	39	76	✓
South Street/ FDR North Ramp and Montgomery Street	138	55	100	✓
Worth Street and Church Street	45	19	34	
Worth Street and Broadway	50	26	51	✓
Worth Street and Lafayette Street	54	28	54	✓
Worth Street and Centre Street	63	33	61	✓
Worth Street and Baxter Street	63	33	61	
Worth Street and Mulberry Street	63	33	61	
Delancey Street and Allen Street	53	28	50	✓
Broome Street and Allen Street	37	23	45	

Note: ✓ denotes intersections recommended for detailed traffic analysis

TRANSIT

As stated above, the Level 1 trip generation estimates showed that detailed station and line-haul analyses would be warranted for the East Broadway Station and for the F line, respectively. The residential use accounts for the majority of trips generated by the proposed projects, of which, 95 percent of subway riders were assigned to the East Broadway station (F train). The remaining 5 percent were assigned to the Grand Street Station (B and D trains), which provides service to sections of Brooklyn and the Bronx that are not captured by the F train. The same assignment patterns were applied to the community facility staff trips. For subway trips made to/from the retail uses and by community facility parents and students, 100 percent were assigned to the East Broadway Station.

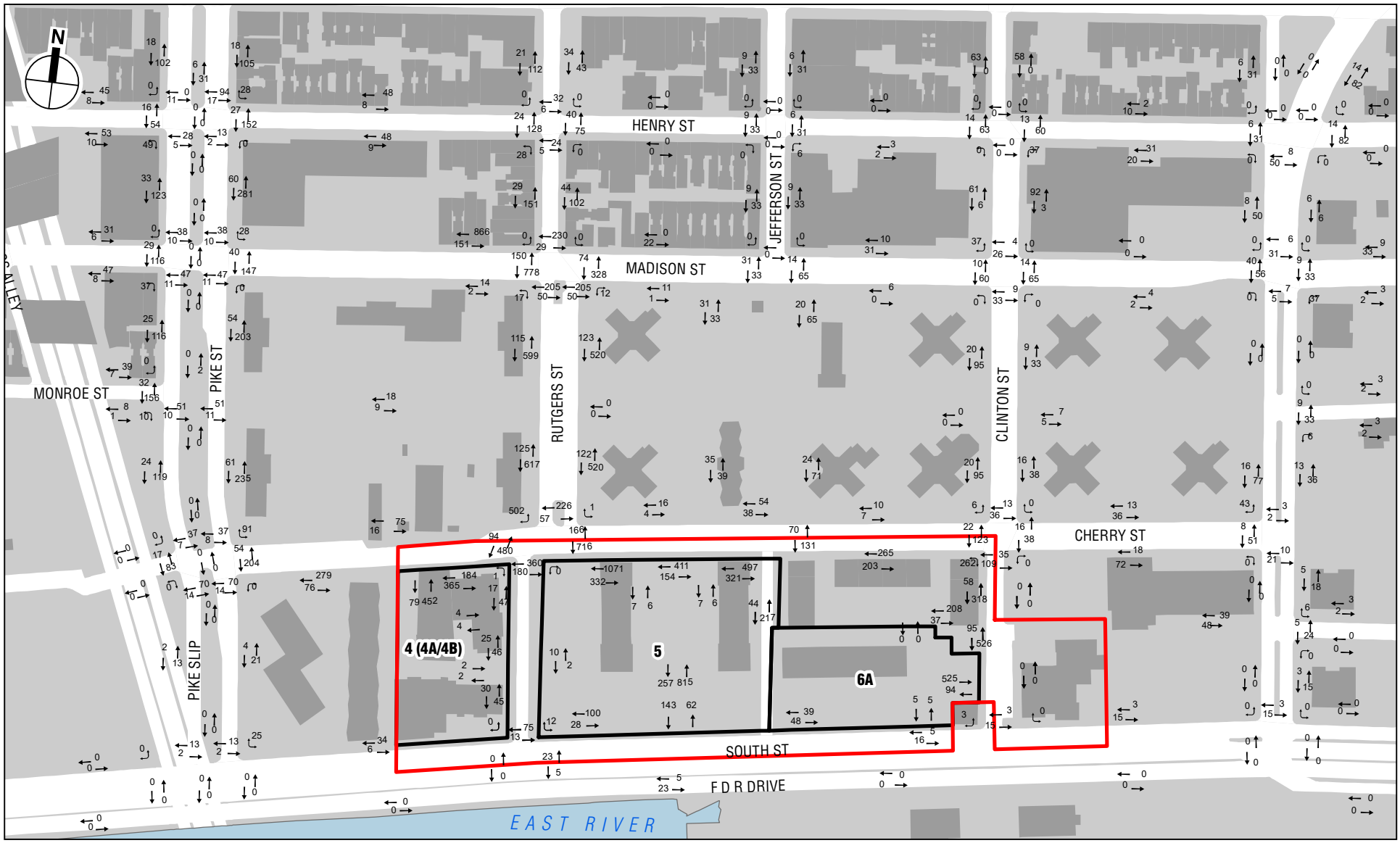
The same subway assignment patterns were applied to the AM and PM peak periods. However, slight variations in inbound and outbound patterns were assumed with respect to the use of specific station entrances. For the inbound F train subway trips, 80 percent were assumed to use the entrance at the northwest corner of Rutgers Street and Madison Street, with the remainder exiting at the Rutgers Street and East Broadway entrances for local shopping before continuing to the project sites. For outbound F train subway trips, 100 percent were assumed to use the nearest entrance to the project sites, which is located at the northwest corner of Rutgers Street and Madison Street.

PEDESTRIANS

All person trips generated by the proposed projects would traverse the pedestrian elements (i.e., sidewalks, corners, and crosswalks) surrounding the project sites. As shown in **Table 14-5**, the net incremental pedestrian trips would be greater than 200 during the weekday AM, midday, and PM peak hours. A Level 2 screening assessment was conducted to identify specific pedestrian elements that are expected to incur 200 or more peak hour pedestrian-trips and which would be subject to a detailed analysis of potential pedestrian impacts.

- Auto Trips—Motorists would park at the nearby off-site parking facilities and travel along the area intersections to enter the project sites via adjacent sidewalks.
- Taxi Trips—Taxi users would get dropped off and picked up near the entrances of the project sites.
- Bus Trips—Bus riders would use numerous area bus routes (M9, M15 local, M15 SBS, and M22) and would get on and off at the bus stops located in the vicinity of the project sites.
- Subway Trips—The majority of the project-generated subway riders were assigned to the East Broadway (F line) station. A small portion was assigned to Grand Street (B and D) station.
- Walk-Only Trips—Pedestrian walk-only trip assignments were developed by reviewing the proposed projects' various land uses and population distribution within walking distance from the project sites and distributing the walk-only person trips to surrounding pedestrian facilities, including sidewalks, corner reservoirs, and crosswalks.

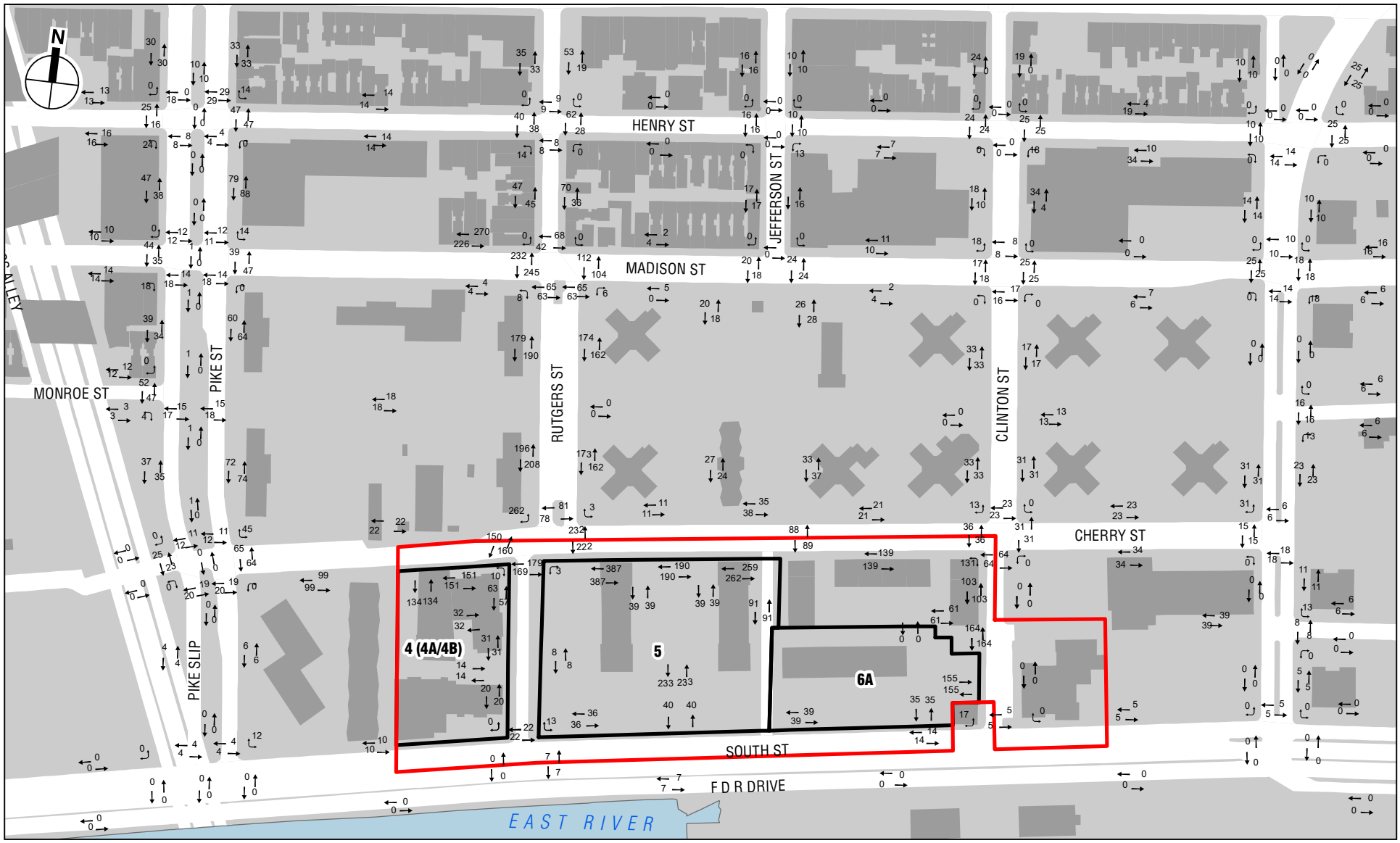
Based on the detailed assignment of pedestrian trips, shown in **Figures 14-6 through 14-8**, 18 sidewalks, 16 corner reservoirs, and 12 crosswalks were selected, in consultation with DOT, for a detailed analysis of weekday peak hour conditions. These locations and associated trip increments are summarized in **Table 14-7** and depicted in **Figure 14-9**.



Project Sites

Boundary of Two Bridges LSRD

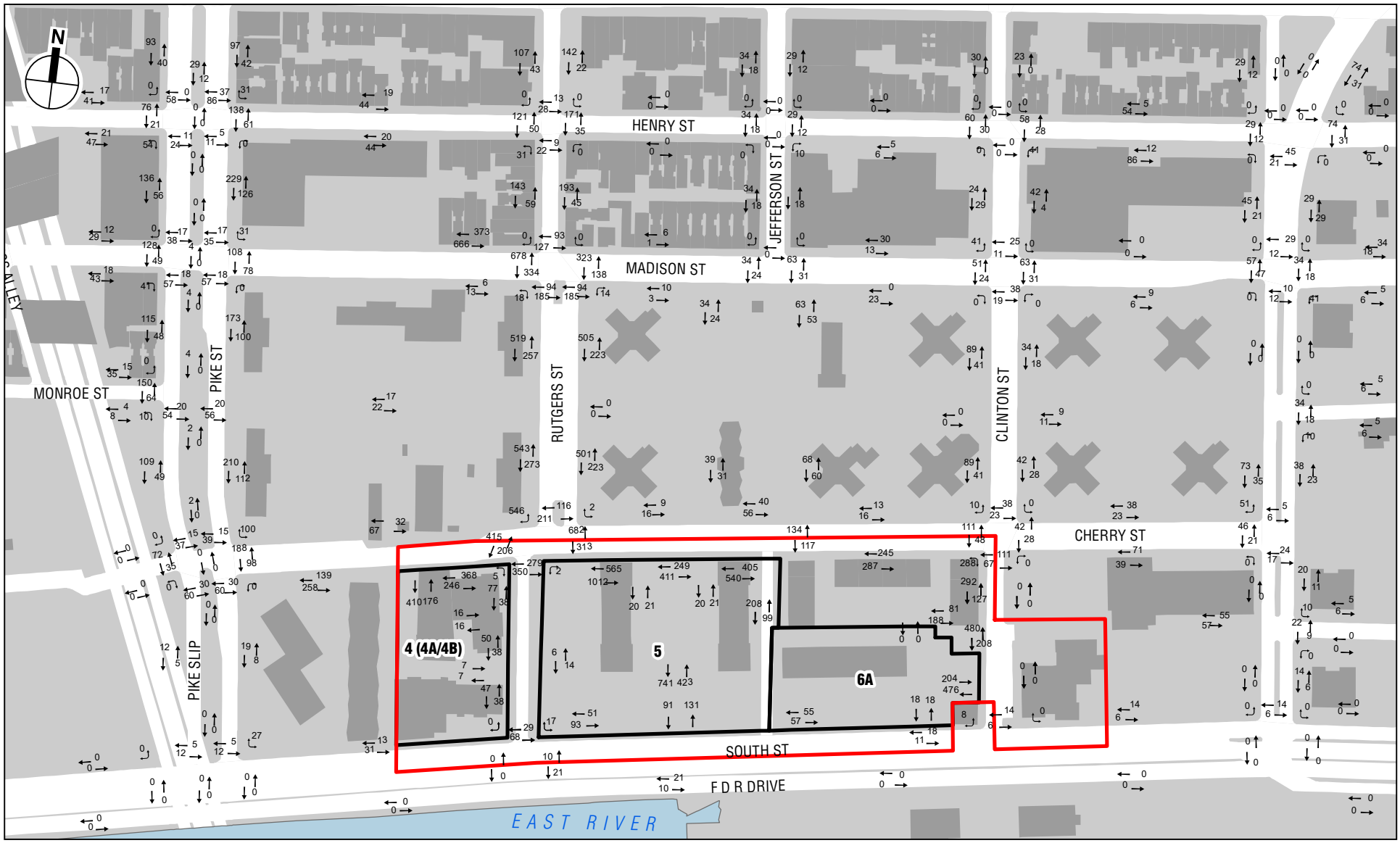
Proposed Projects Incremental Pedestrian Trips
Weekday AM Peak Hour



Proposed Projects Incremental Pedestrian Trips
Weekday Midday Peak Hour

TWO BRIDGES LSRD

Figure 14-7



Project Sites

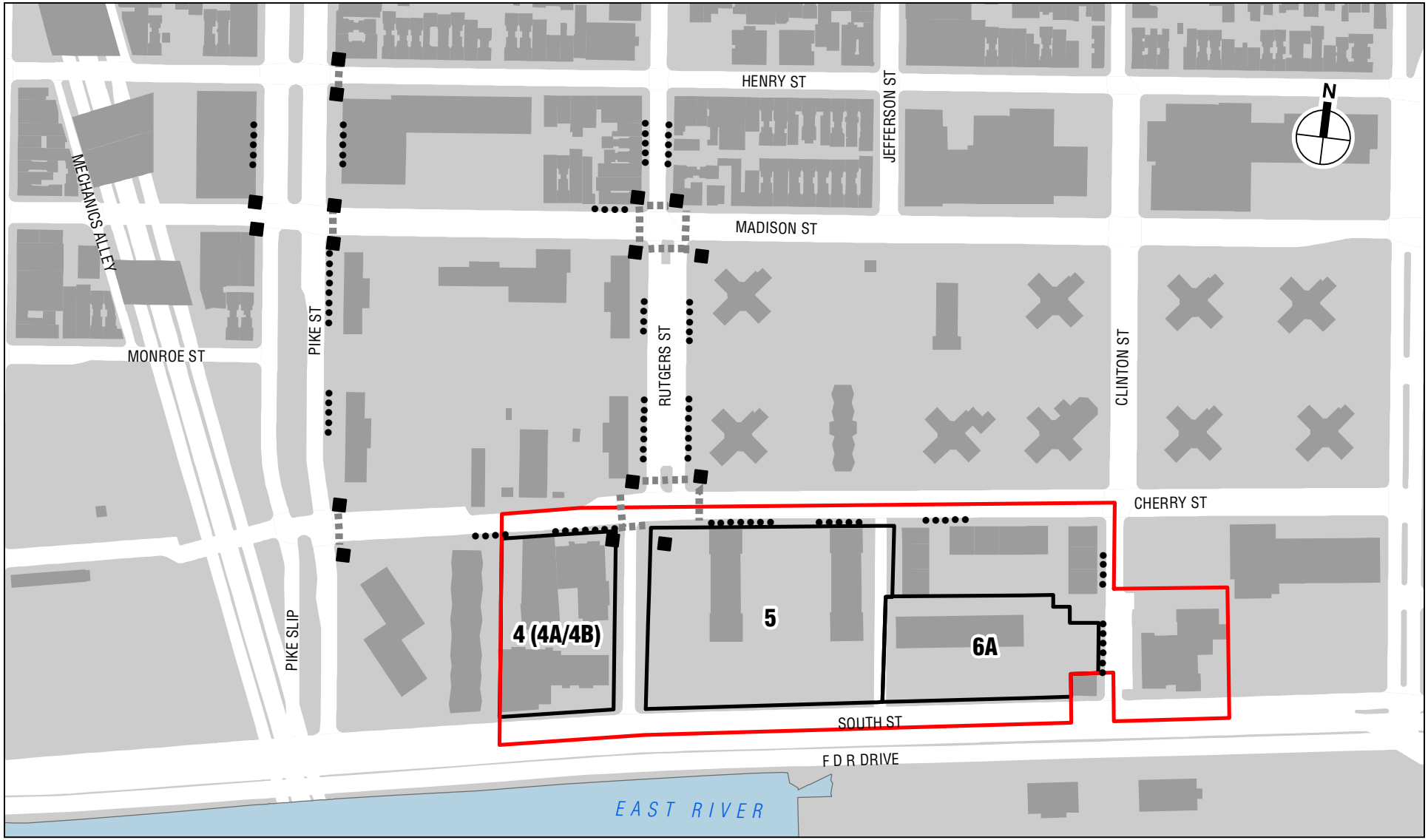
Boundary of Two Bridges LSRD

0 400 FEET

Proposed Projects Incremental Pedestrian Trips
Weekday PM Peak Hour

TWO BRIDGES LSRD

Figure 14-8



Pedestrian Analysis Locations

TWO BRIDGES LSRD

Figure 14-9

Table 14-7
Pedestrian Level 2 Screening Analysis Results – Selected Analysis Locations

Pedestrian Elements	AM	MD	PM
Pike Street and Henry Street			
East Crosswalk	179	94	199
NE Corner	**318**	166	**353**
SE Corner	194	102	**215**
West Sidewalk between Madison Street and Henry Street	156	85	192
East Sidewalk between Madison Street and Henry Street	**341**	167	**355**
Rutgers Street and Henry Street			
East Sidewalk between Madison Street and Henry Street	146	106	**238**
West Sidewalk between Madison Street and Henry Street	180	92	**202**
Pike Street and Madison Street (West)			
SW Corner	**240**	129	**293**
NW Corner	193	103	**232**
Pike Street and Madison Street (East)			
East Sidewalk between Madison Street and Monroe Street	**257**	124	**273**
NE Corner	**263**	123	**269**
SE Corner	**245**	118	**261**
Rutgers Street and Madison Street			
North Crosswalk	**259**	110	**220**
East Crosswalk	**402**	**216**	**461**
South Crosswalk	**255**	128	**279**
West Crosswalk	**928**	**477**	**1012**
NE Corner	**661**	**326**	**681**
SE Corner	**669**	**350**	**754**
SW Corner	**1200**	**613**	**1309**
NW Corner	**1187**	**587**	**1232**
North Sidewalk between Rutgers Street and Pike Street	**1017**	**496**	**1039**
East Sidewalk between Madison Street and Monroe Street	**643**	**336**	**728**
West Sidewalk between Madison Street and Monroe Street	**714**	**369**	**776**
Pike Street and Monroe Street			
East Sidewalk between Monroe Street and Cherry Street	**296**	146	**322**
Pike Street and Cherry Street			
East Crosswalk	**258**	129	**286**
NE Corner	**394**	197	**440**
SE Corner	**342**	168	**376**
South Sidewalk between Pike Street and Site 4 (4A/4B) Residential Entrance	**355**	198	**397**
Rutgers Street/Frank T. Modica Way and Cherry Street			
North Crosswalk	**283**	159	**327**
East Crosswalk	**882**	**454**	**995**
South Crosswalk	**540**	**348**	**629**
West Crosswalk	**574**	**310**	**621**
NE Corner	**1166**	**616**	**1324**
SE Corner	**540**	**351**	**631**
SW Corner	**1115**	**668**	**1255**
NW Corner	**785**	**421**	**873**
East Sidewalk between Monroe Street and Cherry Street	**642**	**335**	**724**
South Sidewalk between Frank T. Modica Way and Site 5 Entrance	**1403**	**774**	**1577**
South Sidewalk (east) between Frank T. Modica Way and Site 4 (4A/4B) Residential Entrance	**549**	**302**	**614**
West Sidewalk between Cherry St and Monroe Street	**742**	**404**	**816**
Cherry Street and Jefferson Street			
South Sidewalk Between Site 5 Entrance and Clinton Street	**818**	**521**	**945**
Cherry Street and Clinton Street			
West Sidewalk (north) between Cherry Street and Plaza Entrance	**376**	**206**	**419**
South Sidewalk between Plaza entrance and Clinton St	**468**	**278**	**532**
South Street and Clinton Street			
West Sidewalk between Cherry Street and South Street	**621**	**328**	**688**

Note: Bold numbers indicate pedestrian incremental volumes are above analysis threshold of 200

C. TRANSPORTATION ANALYSIS METHODOLOGIES

TRAFFIC OPERATIONS

The operations of all of the signalized and unsignalized intersections in the study area were assessed using methodologies presented in the *2000 Highway Capacity Manual (HCM)* using the *Highway Capacity Software (HCS+ 5.5)*. The HCM procedure evaluates the levels of service (LOS) for signalized and unsignalized intersections using average stop control delay, in seconds per vehicle, as described below.

SIGNALIZED INTERSECTIONS

The average control delay per vehicle is the basis for LOS determination for individual lane groups (grouping of movements in one or more travel lanes), the approaches, and the overall intersection. The levels of service are defined in **Table 14-8**.

Table 14-8
Level of Service Criteria for Signalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	>10.0 and ≤ 20.0 seconds
C	>20.0 and ≤ 35.0 seconds
D	>35.0 and ≤ 55.0 seconds
E	>55.0 and ≤ 80.0 seconds
F	>80.0 seconds
Source: Transportation Research Board. *Highway Capacity Manual*, 2000	

Although the HCM methodology calculates a volume-to-capacity (v/c) ratio, there is no strict relationship between v/c ratios and LOS as defined in the HCM. A high v/c ratio indicates substantial traffic passing through an intersection, but a high v/c ratio combined with low average delay actually represents the most efficient condition in terms of traffic engineering standards, where an approach or the whole intersection processes traffic close to its theoretical maximum capacity with minimal delay. However, very high v/c ratios—especially those approaching or greater than 1.0—are often correlated with a deteriorated LOS. Other important variables affecting delay include cycle length, progression, and green time. LOS A and B indicate good operating conditions with minimal delay. At LOS C, the number of vehicles stopping is higher, but congestion is still fairly light. LOS D describes a condition where congestion levels are more noticeable and individual cycle failures (a condition where motorists may have to wait for more than one green phase to clear the intersection) can occur. Conditions at LOS E and F reflect poor service levels, and cycle breakdowns are frequent. The HCM methodology also provides for a summary of the total intersection operating conditions. The analysis chooses the two critical movements (the worst case from each roadway) and calculates a summary critical v/c ratio. The overall intersection delay, which determines the intersection's LOS, is based on a weighted average of control delays of the individual lane groups. Within New York City, the midpoint of LOS D (45 seconds of delay) is generally considered as the threshold between acceptable and unacceptable operations.

Significant Impact Criteria

According to the criteria presented in the *CEQR Technical Manual*, impacts are considered significant and require examination of mitigation if they result in an increase in the With Action condition of 5 or more seconds of delay in a lane group over No Action levels beyond mid-LOS D. For No Action LOS E, a 4-second increase in delay is considered significant. For No Action LOS F, a 3-second increase in delay is considered significant. In addition, impacts are considered significant if levels of service deteriorate from acceptable A, B, or C in the No Action condition to marginally unacceptable LOS D (a delay in excess of 45 seconds, the midpoint of LOS D), or unacceptable LOS E or F in the With Action condition.

UNSIGNALIZED INTERSECTIONS

For unsignalized intersections, the average control delay is defined as the total elapsed time from which a vehicle stops at the end of the queue until the vehicle departs from the stop line. This includes the time required for the vehicle to travel from the last-in-queue to the first-in-queue position. The average control delay for any particular minor movement is a function of the service rate or capacity of the approach and the degree of saturation. The LOS criteria for unsignalized intersections are summarized in **Table 14-9**.

Table 14-9
Level of Service Criteria for Unsignalized Intersections

LOS	Average Control Delay
A	≤ 10.0 seconds
B	> 10.0 and ≤ 15.0 seconds
C	> 15.0 and ≤ 25.0 seconds
D	> 25.0 and ≤ 35.0 seconds
E	> 35.0 and ≤ 50.0 seconds
F	> 50.0 seconds

Source: Transportation Research Board. *Highway Capacity Manual*, 2000

The LOS thresholds for unsignalized intersections are different from those for signalized intersections. The primary reason is that drivers expect different levels of performance from different types of transportation facilities. The expectation is that a signalized intersection is designed to carry higher traffic volumes than an unsignalized intersection; hence, the corresponding control delays are higher at a signalized intersection than at an unsignalized intersection for the same LOS. In addition, certain driver behavioral considerations combine to make delays at signalized intersections less onerous than at unsignalized intersections. For example, drivers at signalized intersections are able to relax during the red interval, whereas drivers on minor approaches to unsignalized intersections must remain attentive to the task of identifying acceptable gaps and vehicle conflicts. Also, there is often much more variability in the amount of delay experienced by individual drivers at unsignalized intersections. For these reasons, the corresponding delay thresholds for unsignalized intersections are lower than those of signalized intersections. As with signalized intersections, within New York City, the midpoint of LOS D (30 seconds of delay) is generally perceived as the threshold between acceptable and unacceptable operations.

Significant Impact Criteria

The same sliding scale of significant delays described for signalized intersections applies for unsignalized intersections. For the minor street to trigger significant impacts, at least 90 passenger car equivalents (PCE) must be identified in the With Action condition in any peak hour.

TRANSIT OPERATIONS

SUBWAY STATION ELEMENTS

The methodology for assessing station circulation (stairs, escalators, and passageways) and fare control (regular turnstiles, high entry/exit turnstiles, and high exit turnstiles) elements compares the user volume with the analyzed element's design capacity, resulting in a v/c ratio. For stairs, the design capacity considers the effective width of a tread, which accounts for railings or other obstructions, the friction or counter-flow between upward and downward pedestrians (up to 10 percent capacity reduction is applied to account for counter-flow friction), surging of entering and exiting pedestrians (up to 25 percent capacity reduction is applied to account for surged flows off of platforms and onto platforms), and the average area required for circulation. For passageways, similar considerations are made. For escalators and turnstiles, capacities are measured by the number and width of an element and the NYCT optimum capacity per element, also account for the potential for surging of entering and exiting pedestrians. In the analysis for each of these elements, volumes and capacities are presented for 15-minute intervals. The estimated v/c ratio is compared with NYCT criteria to determine a LOS for the operation of an element, as summarized in **Table 14-10**.

Table 14-10
Level of Service Criteria for Subway Station Elements

LOS	V/C Ratio
A	0.00 to 0.45
B	0.45 to 0.70
C	0.70 to 1.00
D	1.00 to 1.33
E	1.33 to 1.67
F	Above 1.67

Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*

At LOS A ("free flow") and B ("fluid flow"), there is sufficient area to allow pedestrians to freely select their walking speed and bypass slower pedestrians. When cross and reverse flow movement exists, only minor conflicts may occur. At LOS C ("fluid, somewhat restricted"), movement is fluid although somewhat restricted. While there is sufficient room for standing without personal contact, circulation through queuing areas may require adjustments to walking speed. At LOS D ("crowded, walking speed restricted"), walking speed is restricted and reduced. Reverse and cross flow movement is severely restricted because of congestion and the difficult passage of slower moving pedestrians. At LOS E ("congested, some shuffling and queuing") and F ("severely congested, queued"), walking speed is restricted. There is also insufficient area to bypass others, and opposing movement is difficult. Often, forward progress is achievable only through shuffling, with queues forming.

Significant Impact Criteria

The determination of significant impacts for station elements varies based on their type and use. For stairs and passageways, significant impacts are defined in term of width increment threshold (WIT) based on the minimum amount of additional capacity that would be required either to mitigate the LOS under the No Action levels, or to bring it to a v/c ratio of 1.00 (LOS C/D), whichever is greater. Significant impacts are typically considered to occur once the WITs in **Table 14-11** are reached or exceeded.

Table 14-11
Significant Impact Guidance for Stairs and Passageways

With Action V/C Ratio	WIT for Significant Impact (inches)	
	Stairway	Passageway
1.00 to 1.09	8.0	13.0
1.10 to 1.19	7.0	11.5
1.20 to 1.29	6.0	10.0
1.30 to 1.39	5.0	8.5
1.40 to 1.49	4.0	6.0
1.50 to 1.59	3.0	4.5
1.60 and up	2.0	3.0

Note: WIT = Width Increment Threshold
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*

For escalators and control area elements, impacts are significant if the proposed project causes a v/c ratio to increase from below 1.00 to 1.00 or greater. Where a facility is already at or above its capacity (a v/c of 1.00 or greater) in the No Action condition, a 0.01 increase in v/c ratio is also significant.

SUBWAY LINE-HAUL CAPACITIES

As per the *CEQR Technical Manual*, line-haul capacities are evaluated when a proposed project is anticipated to generate a perceptible number of passengers on particular subway and bus routes. For subways, if a subway line is expected to incur 200 or more passengers in one direction of travel during the commuter peak hours, a detailed review of ridership level at its maximum load point and/or other project-specific load points would be required to determine if the route's guideline (or practical) capacity would be exceeded. NYCT operates six different types of subway cars with different seating and guideline capacities. The peak period guideline capacity of a subway car, which ranges from 110 to 175 passengers, is compared with ridership levels to determine the acceptability of conditions.

Significant Impact Criteria

For subways, projected increases from the No Action condition within guideline capacity to a With Action condition that exceeds guideline capacity may be considered a significant adverse impact, if a subway car for a particular route is expected to incur five or more riders from a proposed project. Since there are constraints on what service improvements are available to NYCT, significant line-haul capacity impacts on subway routes are generally disclosed but would usually remain unmitigated.

PEDESTRIAN OPERATIONS

The adequacy of the study area's sidewalk, crosswalk, and corner reservoir capacities in relation to the demand imposed on them is evaluated based on the methodologies presented in the 2010 *HCM*, pursuant to procedures detailed in the *CEQR Technical Manual*.

The primary performance measure for sidewalks and walkways is pedestrian space, expressed as square feet per pedestrian (SFP), which is an indicator of the quality of pedestrian movement and comfort. The calculation of the sidewalk SFP is based on the pedestrian volumes by direction, the effective sidewalk or walkway width, and average walking speed. The SFP forms the basis for a sidewalk LOS analysis. The determination of sidewalk LOS is also dependent on whether the pedestrian flow being analyzed is best described as "non-platoon" or "platoon." Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform, whereas, platoon flow occurs when pedestrian volumes vary significantly with the peak 15-minute period. Such variation typically occurs near bus stops, subway stations, and/or where adjacent crosswalks account for much of the walkway's pedestrian volume.

Street corners and crosswalks are not easily measured in terms of free pedestrian flow, as they are influenced by the effects of traffic signals. Street corners must be able to provide sufficient space for a mix of standing pedestrians (queued to cross a street) and circulating pedestrians (crossing the street or moving around the corner). The HCM methodologies apply a measure of time and space availability based on the area of the corner, the timing of the intersection signal, and the estimated space used by circulating pedestrians.

The total "time-space" available for these activities, expressed in square feet-second, is calculated by multiplying the net area of the corner (in square feet) by the signal's cycle length. The analysis then determines the total circulation time for all pedestrian movements at the corner per signal cycle (expressed as pedestrians per second). The ratio of net time-space divided by the total pedestrian circulation volume per signal cycle provides the LOS measurement of available SFP.

Crosswalk LOS is also a function of time and space. Similar to the street corner analysis, crosswalk conditions are first expressed as a measurement of the available area (the crosswalk width multiplied by the width of the street) and the permitted crossing time. This measure is expressed in square feet-second. The average time required for a pedestrian to cross the street is calculated based on the width of the street and an assumed walking speed. The ratio of time-space available in the crosswalk to the total crosswalk pedestrian occupancy time is the LOS measurement of available square feet per pedestrian. The LOS analysis also accounts for vehicular turning movements that traverse the crosswalk.

The LOS standards for sidewalks, corner reservoirs, and crosswalks are summarized in **Table 14-12**. The *CEQR Technical Manual* specifies acceptable LOS C or better (minimum of 31.5 SFP platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks) in Central Business District (CBD) settings, which include the project study area.

SIGNIFICANT IMPACT CRITERIA

The determination of significant pedestrian impacts considers the level of predicted decrease in pedestrian space between the No Action and With Action conditions. For different pedestrian elements, flow conditions, and area types, the CEQR procedure for impact determination corresponds with various sliding-scale formulas, as further detailed below.

Table 14-12
Level of Service Criteria for Pedestrian Elements

LOS	Sidewalks		Corner Reservoirs and Crosswalks
	Non-Platoon Flow	Platoon Flow	
A	> 60 SFP	> 530 SFP	> 60 SFP
B	> 40 and ≤ 60 SFP	> 90 and ≤ 530 SFP	> 40 and ≤ 60 SFP
C	> 24 and ≤ 40 SFP	> 40 and ≤ 90 SFP	> 24 and ≤ 40 SFP
D	> 15 and ≤ 24 SFP	> 23 and ≤ 40 SFP	> 15 and ≤ 24 SFP
E	> 8 and ≤ 15 SFP	> 11 and ≤ 23 SFP	> 8 and ≤ 15 SFP
F	≤ 8 SFP	≤ 11 SFP	≤ 8 SFP

Note: SFP = square feet per pedestrian
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*

Sidewalks

There are two sliding-scale formulas for determining significant sidewalk impacts. For non-platoon flow, the determination of significant sidewalk impacts is based on the sliding scale using the following formula: $Y \geq X/9.0–0.31$, where Y is the decrease in pedestrian space in SFP and X is the No Action pedestrian space in SFP. For platoon flow, the sliding-scale formula is $Y \geq X/(9.5–0.321)$. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, these formulas would apply only if the With Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 14-13** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant sidewalk impacts.

Table 14-13
Significant Impact Guidance for Sidewalks

Non-Platoon Flow				Platoon Flow			
Sliding Scale Formula: *Y ≥ X/9.0—0.31*				Sliding Scale Formula: *Y ≥ X/(9.5—0.321)*			
Non-CBD Areas		CBD Areas		Non-CBD Areas		CBD Areas	
No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)	No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)	No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)	No Action Ped. Space (X, SFP)	With Action Ped. Space Reduc. (Y, SFP)
–	–	–	–	43.5 to 44.3	≥ 4.3	–	–
–	–	–	–	42.5 to 43.4	≥ 4.2	–	–
–	–	–	–	41.6 to 42.4	≥ 4.1	–	–
–	–	–	–	40.6 to 41.5	≥ 4.0	–	–
–	–	–	–	39.7 to 40.5	≥ 3.9	–	–
–	–	–	–	38.7 to 39.6	≥ 3.8	38.7 to 39.2	≥ 3.8
–	–	–	–	37.8 to 38.6	≥ 3.7	37.8 to 38.6	≥ 3.7
–	–	–	–	36.8 to 37.7	≥ 3.6	36.8 to 37.7	≥ 3.6
–	–	–	–	35.9 to 36.7	≥ 3.5	35.9 to 36.7	≥ 3.5
–	–	–	–	34.9 to 35.8	≥ 3.4	34.9 to 35.8	≥ 3.4
–	–	–	–	34.0 to 34.8	≥ 3.3	34.0 to 34.8	≥ 3.3
–	–	–	–	33.0 to 33.9	≥ 3.2	33.0 to 33.9	≥ 3.2
–	–	–	–	32.1 to 32.9	≥ 3.1	32.1 to 32.9	≥ 3.1
–	–	–	–	31.1 to 32.0	≥ 3.0	31.1 to 32.0	≥ 3.0
–	–	–	–	30.2 to 31.0	≥ 2.9	30.2 to 31.0	≥ 2.9
–	–	–	–	29.2 to 30.1	≥ 2.8	29.2 to 30.1	≥ 2.8
25.8 to 26.6	≥ 2.6	–	–	28.3 to 29.1	≥ 2.7	28.3 to 29.1	≥ 2.7
24.9 to 25.7	≥ 2.5	–	–	27.3 to 28.2	≥ 2.6	27.3 to 28.2	≥ 2.6
24.0 to 24.8	≥ 2.4	–	–	26.4 to 27.2	≥ 2.5	26.4 to 27.2	≥ 2.5
23.1 to 23.9	≥ 2.3	–	–	25.4 to 26.3	≥ 2.4	25.4 to 26.3	≥ 2.4
22.2 to 23.0	≥ 2.2	–	–	24.5 to 25.3	≥ 2.3	24.5 to 25.3	≥ 2.3
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1	23.5 to 24.4	≥ 2.2	23.5 to 24.4	≥ 2.2
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0	22.6 to 23.4	≥ 2.1	22.6 to 23.4	≥ 2.1
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9	21.6 to 22.5	≥ 2.0	21.6 to 22.5	≥ 2.0
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8	20.7 to 21.5	≥ 1.9	20.7 to 21.5	≥ 1.9
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7	19.7 to 20.6	≥ 1.8	19.7 to 20.6	≥ 1.8
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6	18.8 to 19.6	≥ 1.7	18.8 to 19.6	≥ 1.7
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5	17.8 to 18.7	≥ 1.6	17.8 to 18.7	≥ 1.6
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4	16.9 to 17.7	≥ 1.5	16.9 to 17.7	≥ 1.5
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3	15.9 to 16.8	≥ 1.4	15.9 to 16.8	≥ 1.4
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2	15.0 to 15.8	≥ 1.3	15.0 to 15.8	≥ 1.3
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1	14.0 to 14.9	≥ 1.2	14.0 to 14.9	≥ 1.2
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0	13.1 to 13.9	≥ 1.1	13.1 to 13.9	≥ 1.1
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9	12.1 to 13.0	≥ 1.0	12.1 to 13.0	≥ 1.0
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8	11.2 to 12.0	≥ 0.9	11.2 to 12.0	≥ 0.9
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7	10.2 to 11.1	≥ 0.8	10.2 to 11.1	≥ 0.8
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6	9.3 to 10.1	≥ 0.7	9.3 to 10.1	≥ 0.7
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5	8.3 to 9.2	≥ 0.6	8.3 to 9.2	≥ 0.6
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4	7.4 to 8.2	≥ 0.5	7.4 to 8.2	≥ 0.5
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3	6.4 to 7.3	≥ 0.4	6.4 to 7.3	≥ 0.4
< 5.1	≥ 0.2	< 5.1	≥ 0.2	< 6.4	≥ 0.3	< 6.4	≥ 0.3

Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*

Corner Reservoirs and Crosswalks

The determination of significant corner and crosswalk impacts is also based on a sliding scale using the following formula: Y ≥ X/9.0–0.31, where Y is the decrease in pedestrian space in SFP and X is the No Action pedestrian space in SFP. Since a decrease in pedestrian space within acceptable levels would not constitute a significant impact, this formula would apply only if the With Action pedestrian space falls short of LOS C in non-CBD areas or mid-LOS D in CBD areas. **Table 14-14** summarizes the sliding scale guidance provided by the *CEQR Technical Manual* for determining potential significant corner reservoir impacts.

Table 14-14
Significant Impact Guidance for Corners and Crosswalks

Sliding Scale Formula: *Y ≥ X/9.0–0.31*			
Non-CBD Areas		CBD Areas	
No Action Pedestrian Space (X, SFP)	With Action Pedestrian Space Reduction (Y, SFP)	No Action Pedestrian Space (X, SFP)	With Action Pedestrian Space Reduction (Y, SFP)
25.8 to 26.6	≥ 2.6	–	–
24.9 to 25.7	≥ 2.5	–	–
24.0 to 24.8	≥ 2.4	–	–
23.1 to 23.9	≥ 2.3	–	–
22.2 to 23.0	≥ 2.2	–	–
21.3 to 22.1	≥ 2.1	21.3 to 21.5	≥ 2.1
20.4 to 21.2	≥ 2.0	20.4 to 21.2	≥ 2.0
19.5 to 20.3	≥ 1.9	19.5 to 20.3	≥ 1.9
18.6 to 19.4	≥ 1.8	18.6 to 19.4	≥ 1.8
17.7 to 18.5	≥ 1.7	17.7 to 18.5	≥ 1.7
16.8 to 17.6	≥ 1.6	16.8 to 17.6	≥ 1.6
15.9 to 16.7	≥ 1.5	15.9 to 16.7	≥ 1.5
15.0 to 15.8	≥ 1.4	15.0 to 15.8	≥ 1.4
14.1 to 14.9	≥ 1.3	14.1 to 14.9	≥ 1.3
13.2 to 14.0	≥ 1.2	13.2 to 14.0	≥ 1.2
12.3 to 13.1	≥ 1.1	12.3 to 13.1	≥ 1.1
11.4 to 12.2	≥ 1.0	11.4 to 12.2	≥ 1.0
10.5 to 11.3	≥ 0.9	10.5 to 11.3	≥ 0.9
9.6 to 10.4	≥ 0.8	9.6 to 10.4	≥ 0.8
8.7 to 9.5	≥ 0.7	8.7 to 9.5	≥ 0.7
7.8 to 8.6	≥ 0.6	7.8 to 8.6	≥ 0.6
6.9 to 7.7	≥ 0.5	6.9 to 7.7	≥ 0.5
6.0 to 6.8	≥ 0.4	6.0 to 6.8	≥ 0.4
5.1 to 5.9	≥ 0.3	5.1 to 5.9	≥ 0.3
< 5.1	≥ 0.2	< 5.1	≥ 0.2

Notes: SFP = square feet per pedestrian; Y = decrease in pedestrian space in SFP; X = No Action pedestrian space in SFP
Sources: New York City Mayor's Office of Environmental Coordination, *CEQR Technical Manual*

VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

An evaluation of vehicular and pedestrian safety is necessary for locations within the traffic and pedestrian study areas that have been identified as high accident locations, where 48 or more total reportable and non-reportable crashes or five or more pedestrian/bicyclist injury crashes occurred in any consecutive 12 months of the most recent 3-year period for which data are available. For these locations, accident trends are identified to determine whether projected vehicular and pedestrian traffic would further impact safety at these locations. The determination of potential significant safety impacts depends on the type of area where the project site is located, traffic volumes, accident types and severity, and other contributing factors. Where appropriate, measures to improve traffic and pedestrian safety are identified and coordinated with DOT for their approval.

PARKING CONDITIONS ASSESSMENT

The parking analysis identifies the extent to which off-street parking is available and utilized under existing and future conditions. It takes into consideration anticipated changes in area parking supply and provides a comparison of parking needs versus availability to determine if a parking shortfall is likely to result from parking displacement attributable to or additional demand generated by a proposed project. Typically, this analysis encompasses a study area within a ¼-mile of the project site. If the analysis concludes a shortfall in parking within the ¼-mile study area, the study area could sometimes be extended to a ½-mile to identify additional parking supply.

Under the *CEQR Technical Manual's* guidance, for proposed projects located in Manhattan or other CBD areas, the inability of the proposed project or the surrounding area to accommodate the projects' future parking demand is considered a parking shortfall, but is generally not considered significant due to the magnitude of available alternative modes of transportation. For other areas in New York City, a parking shortfall that exceeds more than half the available on-street and off-street parking spaces within a ¼-mile of the project site may be considered significant. Additional factors, such as the availability and extent of transit in the area, proximity of the project to such transit, and patterns of automobile usage by area residents, could be considered to determine the significance of the identified parking shortfall. In some cases, if there is adequate parking supply within ½-mile of the project site, the projected parking shortfall may also not necessarily be considered significant.

D. DETAILED TRAFFIC ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology and Screening Assessment," 29 signalized intersections and two unsignalized intersections have been selected for analysis in the weekday AM, midday, and PM peak hours.

EXISTING CONDITIONS

ROADWAY NETWORK AND TRAFFIC STUDY AREA

The key roadways in the study area include South Street, Cherry Street, Madison Street, Henry Street, East Broadway, Division Street, Allen/Pike Street, Rutgers Street, Clinton Street, Montgomery Street, the Bowery, and Worth Street. The physical and operational characteristics of the study area roadways are described below.

- South Street is a local two-way northbound-southbound roadway located immediately adjacent to the East River and operates from Whitehall Street to Jackson Street near Corlears Hook Park. South Street is approximately 34 feet wide curb-to-curb and is a DOT-designated truck route south of Pike Street. South Street provides vehicular, pedestrian, and bicycle access/egress to the East River Park at Montgomery Street.
- Cherry Street is a local one-way westbound roadway located immediately adjacent to the project sites and operates with one moving lane from Montgomery Street to Catherine Street. Cherry Street is approximately 50 feet wide curb-to-curb with on-street parking available on both sides of the street.
- Madison Street is a local two-way eastbound-westbound roadway that operates with one moving lane and bike lane in each direction, and curb-to-curb width of approximately 50 feet. Curbside parking is available on both sides of the street.
- East Broadway is a local two-way eastbound-westbound roadway that operates with one moving lane and bike lane in each direction, and curb-to-curb width of approximately 50 feet. Curbside parking is available on both sides of the street.
- Division Street is a local one-way westbound roadway from Canal Street to The Bowery. It is approximately 25–35 feet wide curb-to-curb, and operates with one to two moving lanes with curbside parking available on both sides of the street. In addition, it is classified as a local truck route from Delancey Street to South Street, and a through truck route from West Houston Street to Delancey Street.

- Allen/Pike Street is major two-way northbound-southbound roadway with pedestrian refuge islands within the roadway's median to separate the two-directional traffic and provides storage for pedestrians. Allen/Pike Street generally consists of two moving lanes in each direction with curbside parking available on both sides of the street, and a curb-to-curb width of approximately 115 feet. In addition, it is classified as a local truck route from Delancey Street to South Street, and a through truck route from West Houston Street to Delancey Street.
- Rutgers Street is a local roadway which operates two-way northbound and southbound between Madison Street and Cherry Street, and one-way northbound or the remaining portions. It generally operates with one moving lane with curbside parking available on both sides of the street.
- Clinton Street is a local one-way northbound roadway. It operates with one moving lane and a curb-to-curb width of varying from approximately 30–50 feet. Curbside parking is available on both sides of the street.
- Montgomery Street is a local two-way northbound-southbound roadway with one moving lane and bike lane in each direction. It is approximately 60 feet wide curb-to-curb and provides curbside parking on both sides of the street.
- Worth Street is a local two-way eastbound-westbound roadway, which runs from Chatham Square to Hudson Street. It is approximately 45 feet wide curb-to-curb and operates with one to two moving lanes in each direction with limited curbside parking available.

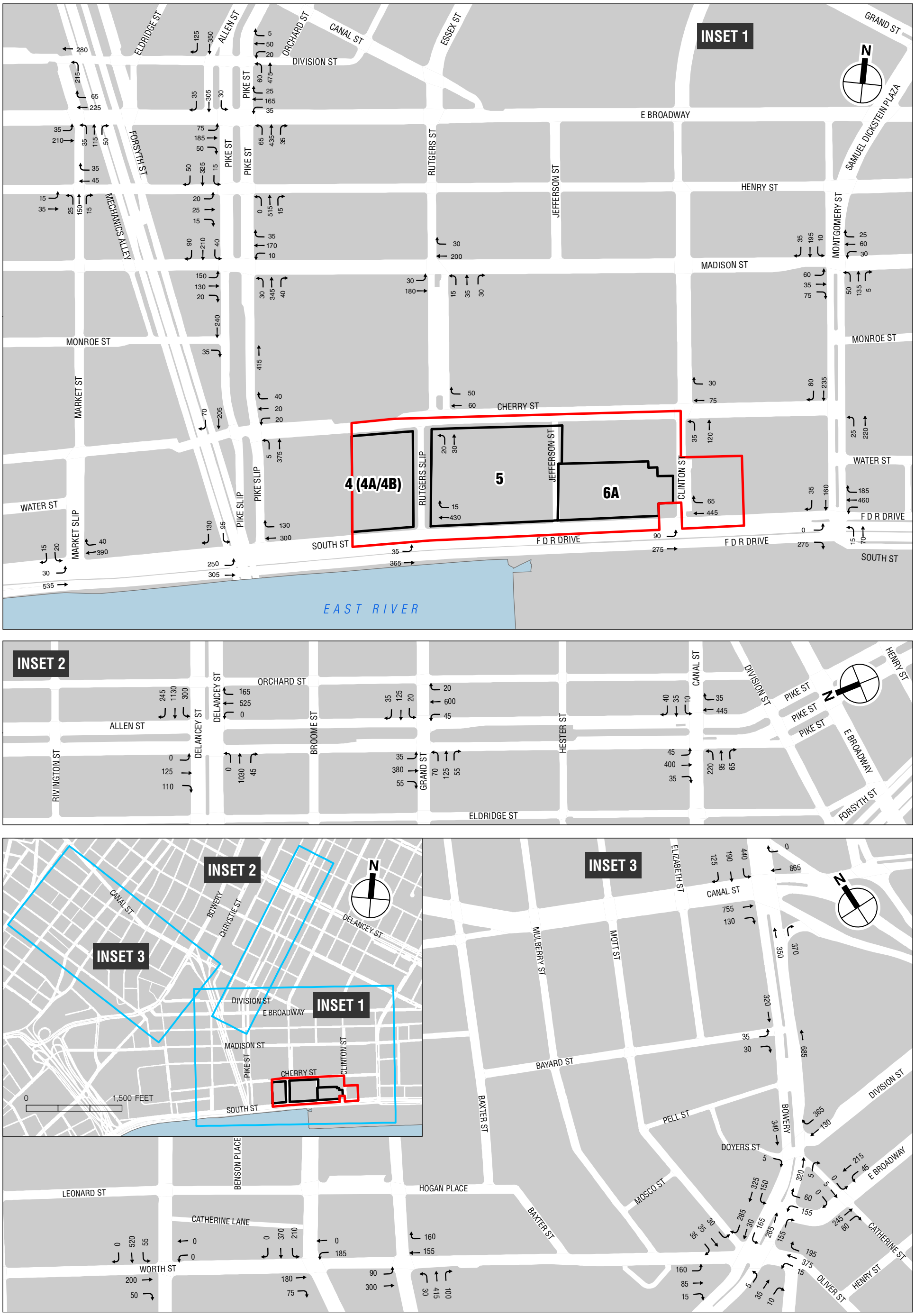
TRAFFIC CONDITIONS

Traffic data were collected in May 2016 and March 2017 for the weekday AM, midday, and PM peak periods via a combination of intersection turning movement counts and 24-hour Automatic Traffic Recorder (ATR) counts. Existing peak period traffic volumes were developed based on these counts. The standard peak hours in Manhattan south of 110th Street generally occur from 8:00 AM to 9:00 AM, 12:00 PM to 1:00 PM, and 5:00 PM to 6:00 PM on weekdays. For analysis, the highest peak hour traffic volumes (from 9:00 AM to 10:00 AM, 12:45 PM to 1:45 PM, and 5:30 PM to 6:30 PM) during the respective peak periods based on the collected data were used.

Inventories of roadway geometry, traffic controls, bus stops, and parking regulations/activities were recorded to provide appropriate inputs for the operational analyses. Official signal timings were also obtained from DOT for use in the analysis of the study area signalized intersections. **Figures 14-10 through 14-12** show the existing traffic volumes for the weekday AM, midday, and PM peak hours, respectively. During the data collection, the traffic operations/roadway configuration at two intersections in the study area was modified due to an ongoing roadway reconstruction project that is expected to be completed by 2019. These intersections are Worth Street at Broadway and Worth Street at Lafayette Street. Worth Street operated with one lane eastbound only from West Broadway to Lafayette Street. Westbound vehicles travelling along Worth Street terminated with a left-turn onto Lafayette Street. The two-way operation of Worth Street was restored in the analysis of the No Action and With Action conditions.

As described in Chapter 1, "Project Description," Site 4 (4A/4B) has three existing curb cuts, one each on Cherry Street, Rutgers Slip, and South Street. Site 5 has four existing curb cuts on Cherry Street and five existing curb cuts on South Street. Site 6A has two existing curb cuts on South Street.

11.19.18

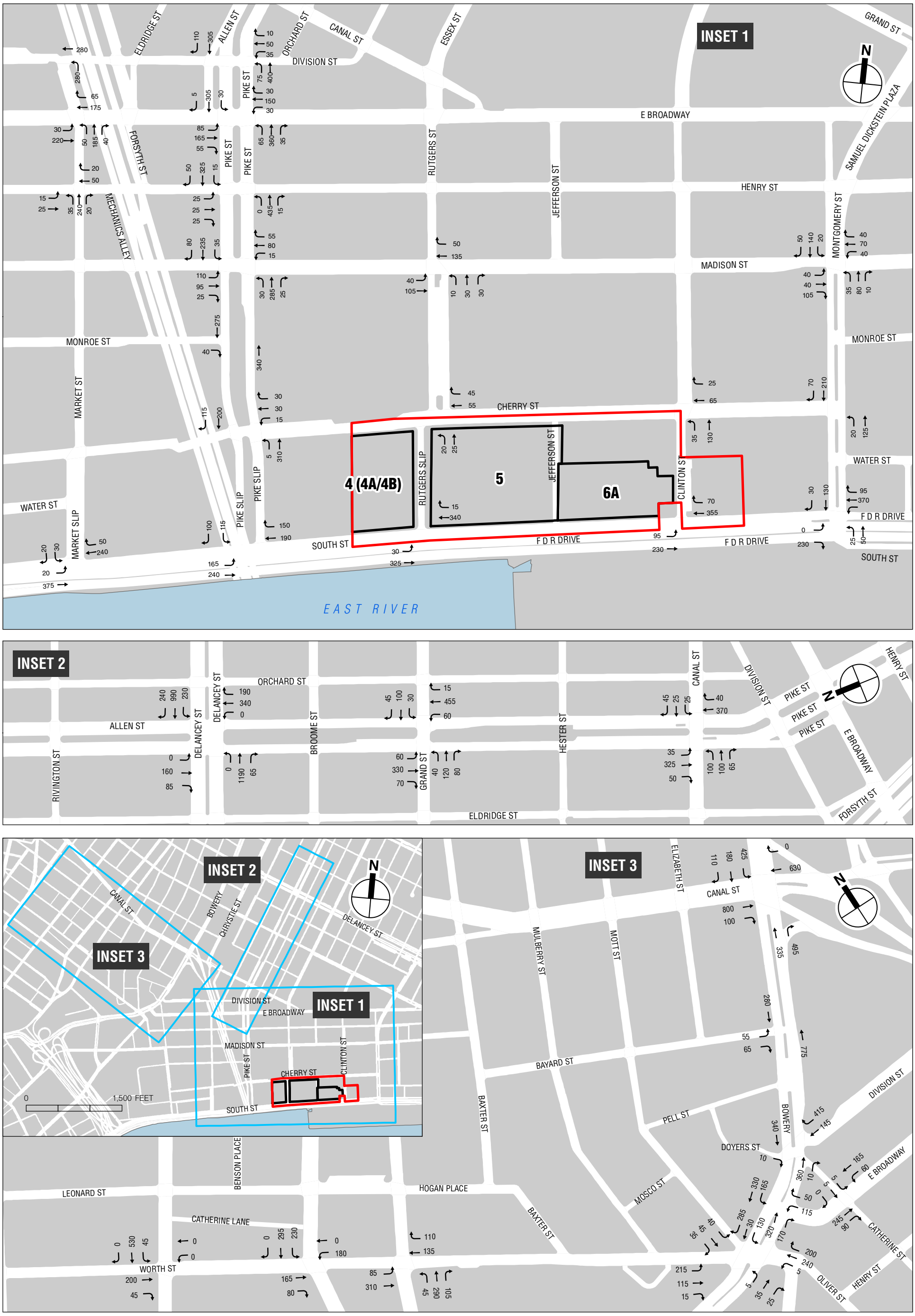


Existing Traffic Volumes
Weekday AM Peak Hour

TWO BRIDGES LSRD

Figure 14-10

11.19.18

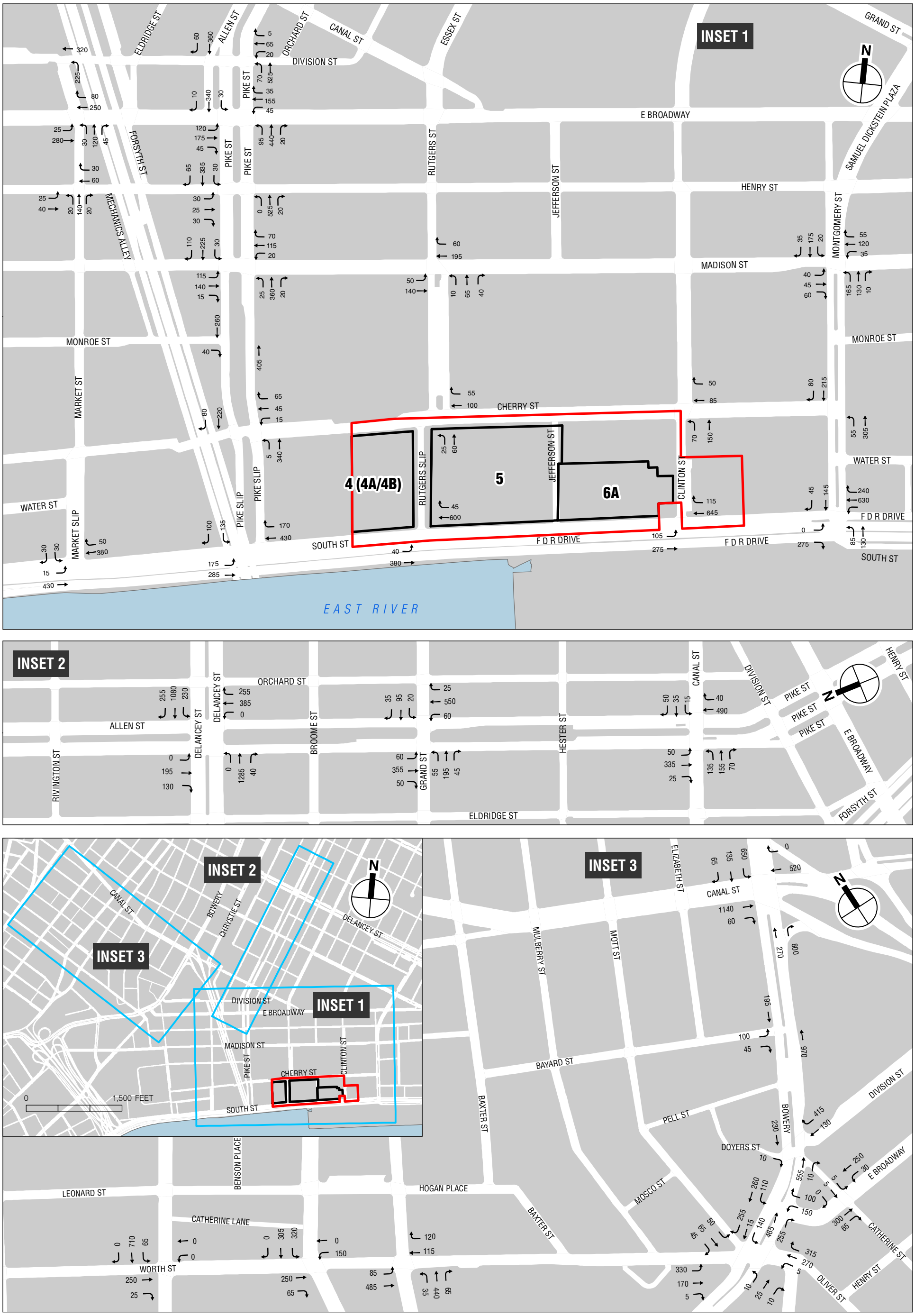


Existing Traffic Volumes
Weekday Midday Peak Hour

TWO BRIDGES LSRD

Figure 14-11

11.19.18



Project Sites

Boundary of Two Bridges LSRD

Existing Traffic Volumes
Weekday PM Peak Hour

TWO BRIDGES LSRD

Figure 14-12

LEVELS OF SERVICE

A summary of the existing conditions traffic analysis results are presented in **Table 14-15**. Details on level-of-service, v/c ratios, and average delays are presented in **Tables 14-16 and 14-17**. The capacity analysis indicates that most of the study area's intersection approaches/lane groups operate acceptably—at mid-LOS D or better (delays of 45 seconds or less per vehicle for the study area's signalized intersections) during peak hours. Approaches/lane groups operating beyond mid-LOS D and those with v/c ratios of 0.90 or greater are listed below.

Table 14-15
Summary of Existing Traffic Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Signalized Intersections			
Lane Groups at LOS A/B/C	106	107	102
Lane Groups at LOS D	23	22	19
Lane Groups at LOS E	3	4	10
Lane Groups at LOS F	4	3	5
Total	136	136	136
Lane Groups with v/c ≥ 0.90	7	4	12
Unsignalized Intersections			
Lane Groups at LOS A/B/C	3	3	3
Lane Groups at LOS D	0	0	0
Lane Groups at LOS E	0	0	0
Lane Groups at LOS F	0	0	0
Total	3	3	3
Lane Groups with v/c ≥ 0.90	0	0	0

Notes: LOS = Level-of-Service; v/c = volume-to-capacity ratio

Table 14-16
Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
South Street and Market Slip												
Eastbound	LT	0.75	21.9	C	LT	0.52	15.4	B	LT	0.56	16.2	B
Westbound	TR	0.59	16.5	B	TR	0.36	12.7	B	TR	0.51	15.0	B
Southbound	LR	0.09	20.3	C	LR	0.12	20.6	C	LR	0.14	20.9	C
South Street and Pike Slip												
Eastbound	L	0.69	19.3	B	L	0.36	10.6	B	L	0.53	16.6	B
	T	0.59	25.7	C	T	0.44	22.6	C	T	0.48	23.2	C
Westbound	T	0.53	24.1	C	T	0.30	20.2	C	T	0.69	28.6	C
	R	0.35	21.5	C	R	0.40	22.4	C	R	0.40	22.4	C
Southbound	L	0.41	35.0	D	L	0.50	37.4	D	L	0.55	38.5	D
	R	0.52	38.5	D	R	0.47	36.8	D	R	0.43	35.6	D
South Street and Rutgers Slip												
Eastbound	LT	0.54	15.7	B	LT	0.50	15.0	B	LT	0.63	17.9	B
Westbound	TR	0.55	15.5	B	TR	0.39	13.0	B	TR	0.67	18.3	B
South Street and Clinton Street												
Eastbound	LT	0.63	19.1	B	LT	0.70	21.9	C	LT	0.96	52.7	D
Westbound	T	0.57	16.2	B	T	0.51	15.1	B	T	0.79	23.7	C
	R	0.12	10.4	B	R	0.12	10.4	B	R	0.20	11.2	B
South Street (North) and Montgomery Street												
Westbound	LTR	0.85	26.6	C	LTR	0.53	15.2	B	LTR	1.05	63.9	E
Northbound	LT	0.19	21.4	C	LT	0.19	21.5	C	LT	0.67	33.5	C
Southbound	TR	0.53	28.1	C	TR	0.40	25.2	C	TR	0.50	27.4	C
South Street (South) and Montgomery Street												
Eastbound	LTR	0.35	12.5	B	LTR	0.27	11.7	B	LTR	0.36	12.7	B
Northbound	TR	0.11	20.5	C	TR	0.15	21.1	C	TR	0.46	25.6	C
Southbound	LT	0.58	29.9	C	LT	0.47	27.3	C	LT	1.05	96.3	F

Table 14-16 (cont'd)
Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Cherry Street and Pike Street												
Westbound	LTR	0.24	24.4	C	LTR	0.21	23.9	C	LTR	0.35	26.2	C
Northbound	L	0.04	36.2	D	L	0.04	36.2	D	L	0.04	36.1	D
	T	0.29	10.1	B	T	0.22	9.5	A	T	0.26	9.8	A
Southbound	TR	0.28	18.3	B	TR	0.31	18.6	B	TR	0.29	18.3	B
Cherry Street and Rutgers Street												
Westbound	TR	0.21	16.1	B	TR	0.19	15.9	B	TR	0.29	17.1	B
Northbound	LT	0.09	17.1	B	LT	0.09	17.0	B	LT	0.19	18.3	B
Cherry Street and Montgomery Street												
Northbound	LT	0.47	17.0	B	LT	0.28	14.2	B	LT	0.68	23.0	C
Southbound	TR	0.60	20.2	C	TR	0.49	17.5	B	TR	0.57	19.4	B
Madison Street and Pike Street (East)												
Eastbound	L	1.05	110.1	F	L	0.72	49.6	D	L	0.86	73.4	E
	T	0.31	24.1	C	T	0.26	25.4	C	T	0.36	27.0	C
Westbound	TR	0.65	33.2	C	TR	0.54	32.3	C	TR	0.72	40.0	D
Northbound	L	0.24	40.1	D	L	0.24	40.2	D	L	0.19	39.0	D
	TR	0.46	22.0	C	TR	0.33	20.2	C	TR	0.41	21.2	C
Madison Street and Pike Street (West)												
Eastbound	TR	0.83	45.5	D	TR	0.73	40.2	D	TR	0.80	45.2	D
Westbound	L	0.08	21.5	C	L	0.12	24.5	C	L	0.19	26.4	C
	T	0.42	25.7	C	T	0.22	24.8	C	T	0.30	25.9	C
Southbound	L	0.35	43.9	D	L	0.24	37.2	D	L	0.19	36.0	D
	TR	0.36	20.7	C	TR	0.37	18.8	B	TR	0.38	18.9	B
Madison Street and Rutgers Street												
Eastbound	LT	0.37	12.8	B	LT	0.29	12.0	B	LT	0.40	13.5	B
Westbound	TR	0.43	13.6	B	TR	0.38	13.0	B	TR	0.49	14.8	B
Northbound	LT	0.14	21.7	C	LT	0.11	21.3	C	LT	0.19	22.2	C
	R	0.08	20.9	C	R	0.08	21.0	C	R	0.11	21.2	C
Madison Street and Montgomery Street												
Eastbound	LTR	0.46	21.0	C	LTR	0.43	20.2	C	LTR	0.39	19.3	B
Westbound	LTR	0.29	17.4	B	LTR	0.36	18.7	B	LTR	0.50	21.2	C
Northbound	LTR	0.45	20.1	C	LTR	0.30	17.5	B	LTR	0.97	64.1	E
Southbound	LTR	0.48	20.4	C	LTR	0.45	20.0	C	LTR	0.47	20.5	C
Henry Street and Market Street												
Eastbound	LT	0.14	15.4	B	LT	0.12	15.3	B	LT	0.19	16.1	B
Westbound	TR	0.24	17.0	B	TR	0.18	16.0	B	TR	0.22	16.5	B
Northbound	LTR	0.39	18.8	B	LTR	0.62	24.1	C	LTR	0.36	18.3	B
Henry Street and Pike Street												
Eastbound	LTR	0.17	23.4	C	LTR	0.21	23.8	C	LTR	0.23	24.3	C
Northbound	TR	0.59	23.2	C	TR	0.52	21.8	C	TR	0.53	21.8	C
Southbound	L	0.14	38.1	D	L	0.14	38.1	D	L	0.20	39.4	D
	TR	0.30	10.3	B	TR	0.30	10.3	B	TR	0.32	10.5	B
East Broadway and Catherine Street												
Eastbound	TR	0.49	12.0	B	TR	0.53	12.9	B	TR	0.50	11.9	B
Westbound	LT	0.49	12.5	B	LT	0.49	12.7	B	LT	0.44	11.3	B
Southbound	LTR	0.02	23.7	C	LTR	0.05	24.2	C	LTR	0.05	24.1	C
East Broadway and Market Street												
Eastbound	LT	0.52	16.4	B	LT	0.46	14.9	B	LT	0.52	16.0	B
Westbound	TR	0.56	17.5	B	TR	0.49	15.9	B	TR	0.62	18.8	B
Northbound	LTR	0.68	35.1	D	LTR	0.80	42.0	D	LTR	0.58	30.2	C
East Broadway and Pike Street (East)												
Eastbound	L	0.53	34.2	C	L	0.47	31.3	C	L	0.80	56.0	E
	T	0.43	25.3	C	T	0.39	24.6	C	T	0.40	24.7	C
Westbound	TR	0.63	31.9	C	TR	0.59	30.4	C	TR	0.61	30.7	C
Northbound	L	0.59	55.0	E	L	0.52	50.9	D	L	0.78	71.1	E
	TR	0.65	25.4	C	TR	0.51	22.5	C	TR	0.53	22.6	C

Table 14-16 (cont'd)
Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East Broadway and Pike Street (West)												
Eastbound	TR	0.92	57.2	E	TR	0.95	63.1	E	TR	0.99	70.1	E
Westbound	L	0.32	27.7	C	L	0.27	26.3	C	L	0.42	32.3	C
	T	0.38	24.5	C	T	0.35	23.8	C	T	0.32	23.3	C
Southbound	L	0.33	46.4	D	L	0.33	46.0	D	L	0.31	45.1	D
	T	0.35	21.1	C	T	0.35	21.0	C	T	0.40	21.7	C
Division Street and Market Street												
Westbound	T	0.26	18.0	B	T	0.26	18.0	B	T	0.26	18.0	B
Northbound	L	0.62	30.0	C	L	0.86	47.2	D	L	0.57	27.7	C
Division Street and Allen Street/Pike Street												
Westbound	LTR	0.31	27.7	C	LTR	0.39	29.5	C	LTR	0.35	28.2	C
Northbound	L	0.46	47.4	D	L	0.64	58.1	E	L	0.51	49.2	D
	T	0.35	10.7	B	T	0.29	10.1	B	T	0.33	10.4	B
Southbound	T	0.31	18.5	B	T	0.28	18.2	B	T	0.30	18.4	B
	R	0.48	24.3	C	R	0.42	23.0	C	R	0.20	18.2	B
Allen Street and Canal Street												
Eastbound	LTR	1.05	87.4	F	LTR	0.74	35.4	D	LTR	1.04	83.0	F
Westbound	LTR	0.27	21.1	C	LTR	0.32	22.2	C	LTR	0.30	21.5	C
Northbound	TR	0.61	27.7	C	TR	0.52	25.8	C	TR	0.64	28.3	C
Southbound	LTR	0.37	14.0	B	LTR	0.33	13.5	B	LTR	0.29	13.1	B
Allen Street and Grand Street (East)												
Eastbound	L	0.47	31.6	C	L	0.30	28.3	C	L	0.36	28.6	C
	T	0.29	23.0	C	T	0.34	26.0	C	T	0.49	27.9	C
Westbound	TR	0.52	28.2	C	TR	0.56	32.0	C	TR	0.46	28.0	C
Northbound	L	0.39	44.8	D	L	0.53	51.4	D	L	0.49	48.6	D
	TR	0.65	26.2	C	TR	0.51	22.7	C	TR	0.56	24.2	C
Allen Street and Grand Street (West)												
Eastbound	TR	0.71	35.9	D	TR	0.88	56.4	E	TR	0.88	50.6	D
Westbound	L	0.14	22.1	C	L	0.27	28.3	C	L	0.20	25.6	C
	T	0.31	23.2	C	T	0.25	24.5	C	T	0.24	23.5	C
Southbound	L	0.31	42.6	D	L	0.42	43.3	D	L	0.39	41.9	D
	TR	0.53	24.1	C	TR	0.47	21.0	C	TR	0.44	21.1	C
Allen Street and Delancey Street												
Eastbound	T	0.94	48.0	D	T	0.84	30.4	C	T	0.85	31.1	C
	R	0.16	25.6	C	R	0.20	19.3	B	R	0.12	18.2	B
Westbound	L	0.86	51.6	D	L	0.97	87.4	F	L	1.00	93.0	F
	TR	0.63	12.4	B	TR	0.54	11.0	B	TR	0.54	11.0	B
Northbound	T	0.76	37.6	D	T	0.53	30.9	C	T	0.52	30.6	C
	R	0.35	10.8	B	R	0.50	19.4	B	R	0.60	22.5	C
Southbound	TR	0.40	28.7	C	TR	0.38	28.3	C	TR	0.49	30.1	C
Bowery and Canal Street												
Eastbound	T	0.79	29.4	C	T	0.79	29.3	C	T	1.03	61.0	E
	R	0.32	20.3	C	R	0.24	19.1	B	R	0.16	18.0	B
Westbound	T	0.80	29.5	C	T	0.63	24.4	C	T	0.43	20.6	C
Northbound	T	0.56	33.2	C	T	0.51	32.1	C	T	0.43	30.6	C
Southbound	DefL	0.87	47.0	D	DefL	0.85	44.5	D	DefL	1.05	78.6	E
	TR	0.64	25.9	C	TR	0.61	25.0	C	TR	0.36	19.3	B
Bowery and Bayard Street												
Eastbound	LR	0.29	22.8	C	LR	0.57	31.3	C	LR	0.65	35.1	D
Northbound	T	0.41	17.6	B	T	0.47	18.5	B	T	0.56	19.7	B
Southbound	T	0.22	15.7	B	T	0.19	15.4	B	T	0.13	14.9	B
Bowery and Division Street/Doyers Street												
Eastbound	R	0.04	26.4	C	R	0.07	26.8	C	R	0.07	26.8	C
Westbound	L	0.66	46.2	D	L	0.72	49.5	D	L	0.57	41.1	D
	R	0.57	18.8	B	R	0.64	20.6	C	R	0.56	18.5	B
Northbound	TR	0.34	20.2	C	TR	0.38	20.7	C	TR	0.58	23.7	C
Southbound	T	0.34	20.3	C	T	0.35	20.3	C	T	0.22	18.8	B

Table 14-16 (cont'd)
Existing Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Chatham Square and East Broadway												
Westbound	L	0.30	17.3	B	L	0.23	16.3	B	L	0.29	17.1	B
	R	0.15	15.5	B	R	0.13	15.3	B	R	0.21	16.2	B
Northbound	T	0.22	15.8	B	T	0.29	16.5	B	T	0.44	18.3	B
	R	0.48	22.0	C	R	0.67	30.7	C	R	0.79	37.9	D
Southbound	L	0.62	28.5	C	L	0.74	37.7	D	L	0.61	30.9	C
	T	0.28	16.3	B	T	0.25	16.0	B	T	0.18	15.4	B
Chatham Square and Worth Street/Oliver Street												
Eastbound (Worth Street)	L	1.05	140.6	F	L	0.98	101.1	F	L	1.05	106.5	F
	LTR	0.96	86.2	F	LTR	0.89	66.0	E	LTR	1.04	94.5	F
Eastbound (Mott Street)	LTR	0.56	42.2	D	LTR	0.61	44.3	D	LTR	0.79	56.7	E
Westbound	LT	0.82	41.4	D	LT	0.53	29.3	C	LT	0.49	28.1	C
	R	0.69	39.0	D	R	0.80	48.4	D	R	0.99	78.6	E
Northbound	LTR	0.08	21.4	C	LTR	0.11	21.7	C	LTR	0.08	21.4	C
Southbound	L	0.93	73.7	E	L	0.65	39.3	D	L	0.67	40.7	D
	TR	0.88	50.6	D	TR	1.01	80.2	F	TR	0.86	50.0	D
Worth Street and Centre Street												
Eastbound	L	0.30	17.5	B	L	0.23	11.7	B	L	0.20	11.0	B
	T	0.50	18.0	B	T	0.40	12.9	B	T	0.65	17.9	B
Westbound	T	0.44	26.6	C	T	0.28	19.6	B	T	0.24	19.0	B
	R	0.79	48.6	D	R	0.47	25.3	C	R	0.39	22.2	C
Northbound	L	0.11	17.7	B	L	0.22	23.7	C	L	0.13	21.6	C
	TR	0.59	23.8	C	TR	0.60	28.3	C	TR	0.62	28.1	C
Worth Street and Lafayette Street												
Eastbound	TR	0.53	25.8	C	TR	0.52	25.7	C	TR	0.59	27.0	C
Westbound	L	0.65	34.0	C	L	0.71	37.9	D	L	0.52	30.1	C
Southbound	LT	0.72	27.3	C	LT	0.64	25.2	C	LT	0.70	26.1	C
Worth Street and Broadway												
Eastbound	TR	0.56	25.5	C	TR	0.48	23.6	C	TR	0.53	24.6	C
Southbound	LT	0.47	15.9	B	LT	0.46	15.8	B	LT	0.66	19.4	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service

Table 14-17
Existing Conditions Level of Service Analysis
Unsignalized Intersections

Intersection	Weekday AM				Weekday Midday				Weekday PM			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Cherry Street and Clinton Street												
Westbound	TR	0.14	7.9	A	TR	0.13	7.9	A	TR	0.20	8.4	A
Northbound	LT	0.21	8.4	A	LT	0.23	8.6	A	LT	0.30	9.3	A
Pike Street and Monroe Street												
Eastbound	R	0.70	11.2	B	R	0.08	11.4	B	R	0.08	11.2	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service

- Eastbound approach at the South Street and Clinton Street intersection (LOS D with a v/c ratio of 0.96 and a delay of 52.7 seconds per vehicle [spv] during the weekday PM peak hour);
- Westbound approach at the South Street and Montgomery Street (north) intersection (LOS E with a v/c ratio of 1.05 and a delay of 63.9 spv during the weekday PM peak hour);
- Southbound approach at the South Street and Montgomery Street (south) intersection (LOS F with a v/c ratio of 1.05 and a delay of 96.3 spv during the weekday PM peak hour);

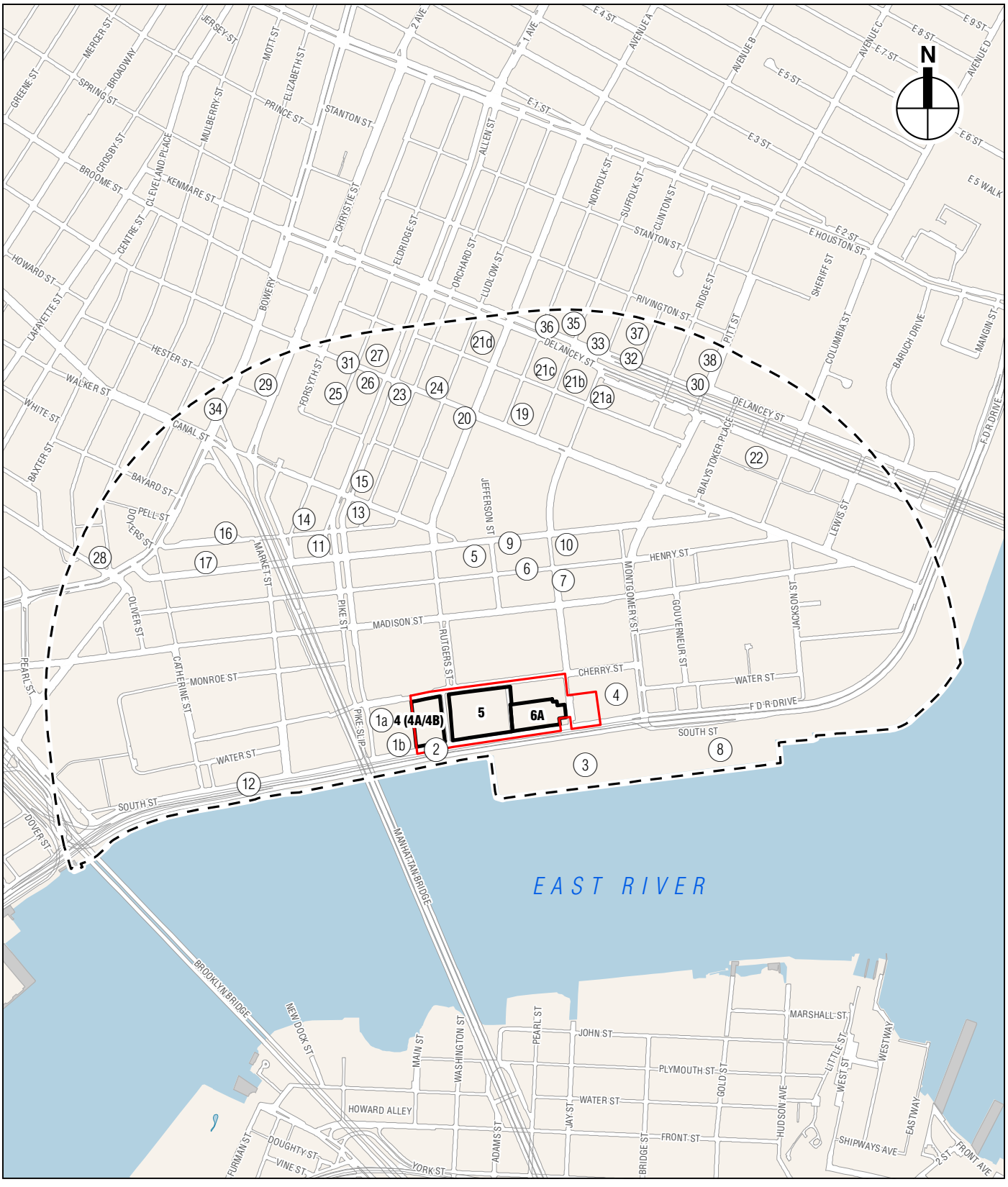
- Eastbound left-turn at the Madison Street and Pike Street (east) intersection (LOS F with a v/c ratio of 1.05 and a delay of 110.1 spv during the weekday AM peak hour, LOS D with a v/c ratio of 0.72 and a delay of 49.6 spv during the weekday midday peak hour, and LOS E with a v/c ratio of 0.86 and a delay of 73.4 spv during the weekday PM peak hour);
- Eastbound approach at the Madison Street and Pike Street (west) intersection (LOS D with a v/c ratio of 0.83 and a delay of 45.5 spv during the weekday AM peak hour, and LOS D with a v/c ratio of 0.80 and a delay of 45.2 spv during the weekday PM peak hour);
- Northbound approach at the Madison Street and Montgomery Street intersection (LOS E with a v/c ratio of 0.97 and a delay of 64.1 spv during the weekday PM peak hour);
- Eastbound left-turn at the East Broadway and Pike Street (east) intersection (LOS E with a v/c ratio of 0.80 and a delay of 56.0 spv during the weekday PM peak hour);
- Northbound left-turn at the East Broadway and Pike Street (east) intersection (LOS E with a v/c ratio of 0.59 and a delay of 55.0 spv during the weekday AM peak hour, LOS D with a v/c ratio of 0.52 and a delay of 50.9 spv during the weekday midday peak hour, LOS E with a v/c ratio of 0.78 and a delay of 71.1 spv during the weekday PM peak hour);
- Eastbound approach at the East Broadway and Pike Street (west) intersection (LOS E with a v/c ratio of 0.92 and a delay of 57.2 spv during the weekday AM peak hour, LOS E with a v/c ratio of 0.95 and a delay of 63.1 spv during the weekday midday peak hour, LOS E with a v/c ratio of 0.99 and a delay of 70.1 spv during the weekday PM peak hour);
- Southbound left-turn at the East Broadway and Pike Street (west) intersection (LOS D with a v/c ratio of 0.33 and a delay of 46.4 spv during the weekday AM peak hour, LOS D with a v/c ratio of 0.33 and a delay of 46.0 spv during the weekday midday peak hour, LOS D with a v/c ratio of 0.31 and a delay of 45.1 spv during the weekday PM peak hour);
- Northbound left-turn at the Division Street and Market Street intersection (LOS D with a v/c ratio of 0.86 and a delay of 47.2 spv during the weekday midday peak hour);
- Northbound left-turn at the Division Street and Allen Street/Pike Street intersection (LOS D with a v/c ratio of 0.46 and a delay of 47.4 spv during the weekday AM peak hour, LOS E with a v/c ratio of 0.64 and a delay of 58.1 spv during the weekday midday peak hour, and LOS D with a v/c ratio of 0.51 and a delay of 49.2 spv during the weekday PM peak hour);
- Eastbound approach at Allen Street and Canal Street intersection (LOS F with a v/c ratio of 1.05 and a delay of 87.4 spv during the weekday AM peak hour, and LOS F with a v/c ratio 1.04 and a delay of 83.0 spv during the weekday PM peak hour);
- Northbound left-turn at Allen Street and Grand Street (east) intersection (LOS D with a v/c ratio of 0.53 and a delay of 51.4 spv during the weekday midday peak hour, and LOS D with a v/c ratio of 0.49 and a delay of 48.6 spv during the weekday PM peak hour);
- Eastbound approach at the Allen Street and Grand Street (west) intersection (LOS E with a v/c ratio of 0.88 and 56.4 spv during the weekday midday peak hour, and LOS D with a v/c ratio of 0.88 and a delay of 50.6 spv during the weekday PM peak hour);
- Eastbound through at the Allen Street and Delancey Street intersection (LOS D with a v/c ratio of 0.94 and a delay of 48.0 spv during the weekday AM peak hour);
- Westbound left-turn at the Allen Street and Delancey Street intersection (LOS D with a v/c ratio of 0.86 and a delay of 51.6 spv during the weekday AM peak hour, LOS F with a v/c ratio of 0.97 and a delay of 87.4 spv during the weekday midday peak hour, and LOS F with a v/c ratio of 1.00 and a delay of 93.0 spv during the weekday PM peak hour);

- Eastbound through at The Bowery and Canal Street intersection (LOS E with a v/c ratio of 1.03 and a delay of 61.0 spv during the weekday PM peak hour);
- Southbound defacto left-turn at The Bowery and Canal Street intersection (LOS D with a v/c ratio of 0.87 and a delay of 47.0 spv during the weekday AM peak hour, and LOS E with a v/c ratio of 1.05 and a delay of 78.6 spv during the weekday PM peak hour);
- Westbound left-turn at The Bowery and Division Street/Doyers Street intersection (LOS D with a v/c ratio of 0.66 and a delay of 46.2 spv during the weekday AM peak hour, and LOS D with a v/c ratio of 0.72 and a delay of 49.5 spv during the weekday midday peak hour);
- Eastbound (Worth Street) left-turn at the Chatham Square and Worth Street/Oliver Street intersection (LOS F with a v/c ratio of 1.05 and a delay of 140.6 spv during the weekday AM peak hour, LOS F with a v/c ratio of 0.98 and a delay of 101.1 spv during the weekday midday peak hour, LOS F with a v/c ratio of 1.05 and a delay of 106.5 spv during the weekday PM peak hour);
- Eastbound (Worth Street) shared lane at the Chatham Square and Worth Street/Oliver Street intersection (LOS F with a v/c ratio of 0.96 and a delay of 86.2 spv during the weekday AM peak hour, LOS E with a v/c ratio of 0.89 and a delay of 66.0 spv during the weekday midday peak hour, LOS F with a v/c ratio of 1.04 and a delay of 94.5 spv during the weekday PM peak hour);
- Eastbound (Mott Street) approach at the Chatham Square and Worth Street/Oliver Street intersection (LOS E with a v/c of 0.79 and a delay of 56.7 spv during the weekday PM peak hour);
- Westbound left-turn at the Chatham Square and Worth Street/Oliver Street intersection (LOS D with a v/c ratio of 0.80 and a delay of 48.4 spv during the weekday midday peak hour, and LOS E with a v/c ratio of 0.99 and a delay of 78.6 spv during the weekday PM peak hour);
- Southbound left-turn at the Chatham Square and Worth Street/Oliver Street intersection (LOS E with a v/c ratio of 0.93 and a delay of 73.7 spv during the weekday AM peak hour); and
- Southbound shared lane at the Chatham Square and Worth Street/Oliver Street intersection (LOS D with a v/c ratio of 0.88 and a delay of 50.6 spv during the weekday AM peak hour, LOS F with a v/c ratio of 1.01 and a delay of 80.2 spv during the weekday midday peak hour, LOS D with a v/c ratio of 0.86 and a delay of 50.0 spv during the weekday PM peak hour).

THE FUTURE WITHOUT THE PROPOSED PROJECTS

The No Action condition was developed by increasing the existing traffic levels by the expected growth in overall travel through and within the study area. As per *CEQR Technical Manual* guidelines, an annual background growth rate of 0.25 percent was applied to grow traffic to the proposed projects' anticipated build year of 2021, A total of ~~37~~ 38 development projects expected to occur in the No Action condition (No Build projects) were identified as being planned for the ½-mile study area (see **Figure 14-13**). After reviewing the development programs for each of the planned projects, it was determined that an additional three percent of background growth will address the increase in traffic and pedestrian levels for the ~~34~~36 small- to moderate-sized projects in the study area. **Table 14-18 and Figure 14-13** summarize the projects that were accounted for in this future 2021 baseline.

11.19.18



Project Sites

Boundary of Two Bridges LSRD

Study Area (1/2-mile boundary)

① *No Build Projects*

No Build Projects

TWO BRIDGES LSRD

Figure 14-13

As discussed above in the "Level 1 Screening Assessment" section of Section B, "Preliminary Analysis Methodology and Screening Assessment," absent the proposed projects, existing uses on the project sites are expected to remain unchanged.

Table 14-18
No ~~Action~~ Build Projects Anticipated to be Complete by 2021

Map No.	Address/Name (Block/Lot)	Program	Transportation Assumptions	Build Year
400-Foot Study Area[1]				
1a	One Manhattan Square— 250 South Street-Extell (248/7501)	815 DU, 23,167 sf retail	Transportation assumptions from *CEQR Technical Manual*, *Seward Park Mixed Use Development Project FGEIS (2012), U.S. Census Bureau American Community Survey 2011–2015 Journey to Work estimates, and U.S. Census Bureau American Community Survey 2006–2010 Reverse Journey to Work estimates*	2021
1b	One Manhattan Square— 229 Cherry Street-Extell (248/7501~~1~~)	205 DU, 25,516 sf retail	Transportation assumptions from *CEQR Technical Manual*, *Seward Park Mixed Use Development Project FGEIS (2012), U.S. Census Bureau American Community Survey 2011–2015 Journey to Work estimates, and U.S. Census Bureau American Community Survey 2006–2010 Reverse Journey to Work estimates*	2021
2	Lower Manhattan Coastal Resiliency Project (LMCR)[3~~1~~]	Integrated flood protection system	Included in background growth	2023 [MOVED]
~~2~~	~~P.S. 184 Playground (245/7)~~	~~Soccer field (1.15 acres)~~	~~Included in background growth~~	~~2021~~
3	Pier 35	0.02 acres open space	Included in background growth	~~2018~~2019
4	P.S. 184 Playground (245/7)	Soccer field (1.15 acres)	Included in background growth	2021 [MOVED]
¼-Mile Study Area				
5	183 East Broadway (284/19)	20 DU, 2,035 sf retail, 1,279 sf CF	Included in background growth	2021 [MOVED]
4	~~Pier 42~~	~~5.05 acres open space~~	~~Included in background growth~~	~~2020~~
~~5~~	~~205 Henry Street (285/14)~~	~~10 DU, 1,319 sf retail~~	~~Included in background growth~~	~~2021~~
6	193 Henry Street (285/8)	5 DU, 1,355 sf retail, 384 sf CF	Included in background growth	2021
7	205 Henry Street (285/14)	10 DU, 1,319 sf retail	Included in background growth	2021 [MOVED]
8	Pier 42	5.05 acres open space	Included in background growth	2020 [MOVED]
~~7~~	~~183 East Broadway (284/19)~~	~~20 DU, 2,035 sf retail, 1,279 sf CF~~	~~Included in background growth~~	~~2021~~
~~8~~	~~225 East Broadway (286/35)~~	~~22 DU~~	~~Included in background growth~~	~~2021~~
9	201 East Broadway (285/25)	10 DU, 3,617 sf retail, 1,968 sf CF	Included in background growth	2021
10	225 East Broadway (286/35)	22 DU	Included in background growth	2021 [MOVED]
~~12~~11	2 Pike Street/100 East Broadway (282/58)	58,830 sf office, 4,900 sf CF	Included in background growth	2021 [MOVED]
~~13~~12	East River Waterfront Esplanade-Phase IV (240/6), btwn Catherine Slip and Pike Slip	Resurfacing, new seating, play equipment	Included in background growth	2021 [MOVED]

Table 14-18 (cont'd)
No Action Projects Anticipated to be Complete by 2021

Map No.	Address/Name (Block/Lot)	Program	Transportation Assumptions	Build Year
½-Mile / Census Tract Study Area				
~~14~~13	9 Orchard Street (294/8)	60,000 sf office	Included in background growth	2021 [MOVED]
~~15~~14	10 Eldridge Street (293/2)	7,765 sf retail	Included in background growth	2021 [MOVED]
~~16~~15	61 Canal Street (299/35)	2,268 sf retail, 6,510 sf CF	Included in background growth	2021 [MOVED]
16	35 Division Street (281/46)	14,203 sf CF	Included in background growth	2021 [MOVED]
17	42 East Broadway (281/19)	11,485 sf retail	Included in background growth	2022 [MOVED]
18	East Side Coastal Resiliency Project (ESCR)[3‡]	Integrated flood protection system	Included in background growth	2023 [MOVED]
~~17~~19	50 Norfolk Street (346/1)	~~300~~ 488 DU, ~~34,600~~ 22,000 sf retail, ~~43,100~~ 46,000 sf CF	Included in background growth	2021 [MOVED]
20	355 Grand Street (310/20)	2 DU, 1,958 sf retail	Included in background growth	2021 [MOVED]
21a	Seward Park Mixed-Use Development – Essex Crossing Program (Site 6: 178 Broome Street)	100 DU, 7,000 sf retail, 62,547 sf CF	Transportation assumptions from *Seward Park Mixed Use Development Technical Memorandum 003 (2015)*	2021 [MOVED]
~~18a~~	~~Seward Park Mixed-Use Development – EssExcept Crossing Program (Site 1: 236 Broome St)~~	~~55 DU, 6,933 sf retail, 43,100 sf~~	~~Transportation assumptions from *Seward Park Mixed Use Development Technical Memorandum 003 (2015)*~~	~~2021~~
21b	Seward Park Mixed-Use Development – Essex Crossing Program (Site 4: 155 Delancey Street)	263 DU, ~~148,067~~68 68,478 sf retail, 138,210 sf office	Transportation assumptions from *Seward Park Mixed Use Development Technical Memorandum 003 (2015)*	2021 [MOVED]
~~18b~~21c	Seward Park Mixed-Use Development – Essex Crossing Program (Site 3: 135 Delancey Street)	~~97~~ 83 DU, ~~72,758~~53,634 sf retail, ~~107,902~~127,132 sf office	Transportation assumptions from *Seward Park Mixed Use Development Technical Memorandum 003 (2015)*	2021 [MOVED]
21d	Seward Park Mixed-Use Development – Essex Crossing Program (Site 1: 236 Broome Street)	55 DU, 6,933 sf retail, 43,100 sf	Transportation assumptions from *Seward Park Mixed Use Development Technical Memorandum 003 (2015)*	2021 [MOVED]
~~18c~~	~~Seward Park Mixed-Use Development – EssExcept Crossing Program (Site 4)~~	~~263 DU, 148,067 sf retail~~	~~Transportation assumptions from *Seward Park Mixed Use Development Technical Memorandum 003 (2015)*~~	~~2021~~
~~18d~~	~~Seward Park Mixed-Use Development – EssExcept Crossing Program (Site 5: 400 Grand Street)~~	~~211 DU, 72,743 sf retail, 75,000 sf CF, 0.34 acres open space~~	~~Transportation assumptions from *Seward Park Mixed Use Development Technical Memorandum 003 (2015)*~~	~~2021~~
~~18e~~	~~Seward Park Mixed-Use Development – EssExcept Crossing Program (Site 6: 178 Broome St)~~	~~100 DU, 7,000 sf retail, 62,547 sf CF~~	~~Transportation assumptions from *Seward Park Mixed Use Development Technical Memorandum 003 (2015)*~~	~~2021~~
~~18f~~21e	Seward Park Mixed-Use Development – Essex Crossing Program (Site 8: 140 Essex Street)	~~24~~ 92 DU, ~~9,216~~9,700 sf retail	Transportation assumptions from *Seward Park Mixed Use Development Technical Memorandum 003 (2015)*	2021 [MOVED]
~~22~~	~~42 East Broadway (281/19)~~	~~11,485 sf retail~~	~~Included in background growth~~	~~2022~~
~~23~~	~~Citywide Ferry Landing (Grand Street) (262/25)~~	~~Landing to connect to shoreline~~	~~Included in background growth~~	~~2021~~
~~24~~	~~40 Allen Street (308/30)~~	~~8 DU, 2,200 sf retail, 2,200 sf CF~~	~~Included in background growth~~	~~2021~~
~~25~~	~~355 Grand Street (310/20)~~	~~2 DU, 1,958 sf retail~~	~~Included in background growth~~	~~2021~~

Table 14-18 (cont'd)
No Action Projects Anticipated to be Complete by 2021

Map No.	Address/Name (Block/Lot)	Program	Transportation Assumptions	Build Year
~~26~~22	257 Delancey Street (331/95)	758 sf CF	Included in background growth	2021 [MOVED]
23	66 Allen Street (308/14)	8 DU	Included in background growth	2021 [MOVED]
24	330 Grand Street	12 DU	Included in background growth	2021 [NEW PROGRAM]
~~27~~	~~91 Attorney Street (348/64)~~	~~44 DU~~	~~Included in background growth~~	~~2021~~
~~28~~	~~175 Delancey Street (347/46)~~	~~100 DU~~	~~Included in background growth~~	~~2018*~~
~~29~~25	79 Eldridge Street (306/29)	48 hotel rooms, 1,243 sf CF	Included in background growth	2021 [MOVED]
26	EV/LES Rezoning—PDS #11 (413/25)	7 DU, 1,945 sf retail	Included in background growth	2021 [MOVED]
27	EV/LES Rezoning—PDS #12 (413/26)	14 DU, 3,749 sf retail	Included in background growth	2021 [MOVED]
28	5 Mott Street (164/53)	2 DU, 4,574 sf retail, 2,121 sf CF	Included in background growth	2021 [MOVED]
29	77 Chrystie Street (304/34)	7 DU, 10,520 sf retail	Included in background growth	2021 [MOVED]
30	~~206~~ 208 Delancey Street (343/68)	69 DU, 8,352 sf CF	Included in background growth	2021
31	EV/LES Rezoning—PDS #24 (418/51,52, 53)	14 DU, 3,726 sf retail	Included in background growth	2021 [MOVED]
~~31~~32	EV/LES Rezoning—PDS #160 (348/70)	18 DU	Included in background growth	2021 [MOVED]
33	EV/LES Rezoning—PDS #159 (348/33)	17 DU, 2,316 sf retail	Included in background growth	2021
34	76 Bowery (203/24)	14,488 sf retail	Included in background growth	2021 [NEW]
35	EV/LES Rezoning—PDS #32 (353/75,79,80,82,83)	120 DU, 16,090 sf retail	Included in background growth	2021 [MOVED]
~~32~~	~~EV/LES Rezoning—PDS #154 (343/63)~~	~~18 DU~~	~~Included in background growth~~	~~2021~~
~~33~~	~~EV/LES Rezoning—PDS #159 (348/33)~~	~~17 DU, 2,316 sf retail~~	~~Included in background growth~~	~~2021~~
~~34~~36	~~98~~ 100 Norfolk Street (353/47)	38 DU, 11,244 sf retail	Included in background growth	2021 [MOVED]
37	91 Attorney Street (348/64)	44 DU	Included in background growth	2021 [MOVED]
~~35~~	~~77 Chrystie Street (304/34)~~	~~7 DU, 10,520 sf retail~~	~~Included in background growth~~	~~2021~~
38	EV/LES Rezoning—PDS #154 (343/63)	18 DU	Included in background growth	2021 [MOVED]
~~36~~	~~EV/LES Rezoning—PDS #32 (353/75,79,80,82,83)~~	~~120 DU, 16,090 sf retail~~	~~Included in background growth~~	~~2021~~
~~37~~	~~8 Allen Street (294/7)~~	~~9,898 sf retail~~	~~Included in background growth~~	~~2021~~

Note:
* #28 175 Delancey Street (347/46) was completed in January 2018.

CHANGES TO THE STUDY AREA STREET NETWORK

In addition to the development projects noted above, as mentioned in the "Existing Conditions" section, ongoing street reconstruction along Worth Street is expected to be completed by 2019. Upon completion, it is anticipated that roadway operations/conditions along Worth Street would return to those prior to construction. Specifically, at the intersection of Worth Street and Lafayette Street, the eastbound approach will consist of one through lane and one dedicated right-turn lane, and the westbound approach one dedicated left-turn lane and one through lane.

At the intersection of Worth Street and Broadway, westbound approach will consist of one dedicated left-turn lane and one though lane. All changes described above have been incorporated into the No Action analysis for the intersections along Worth Street.

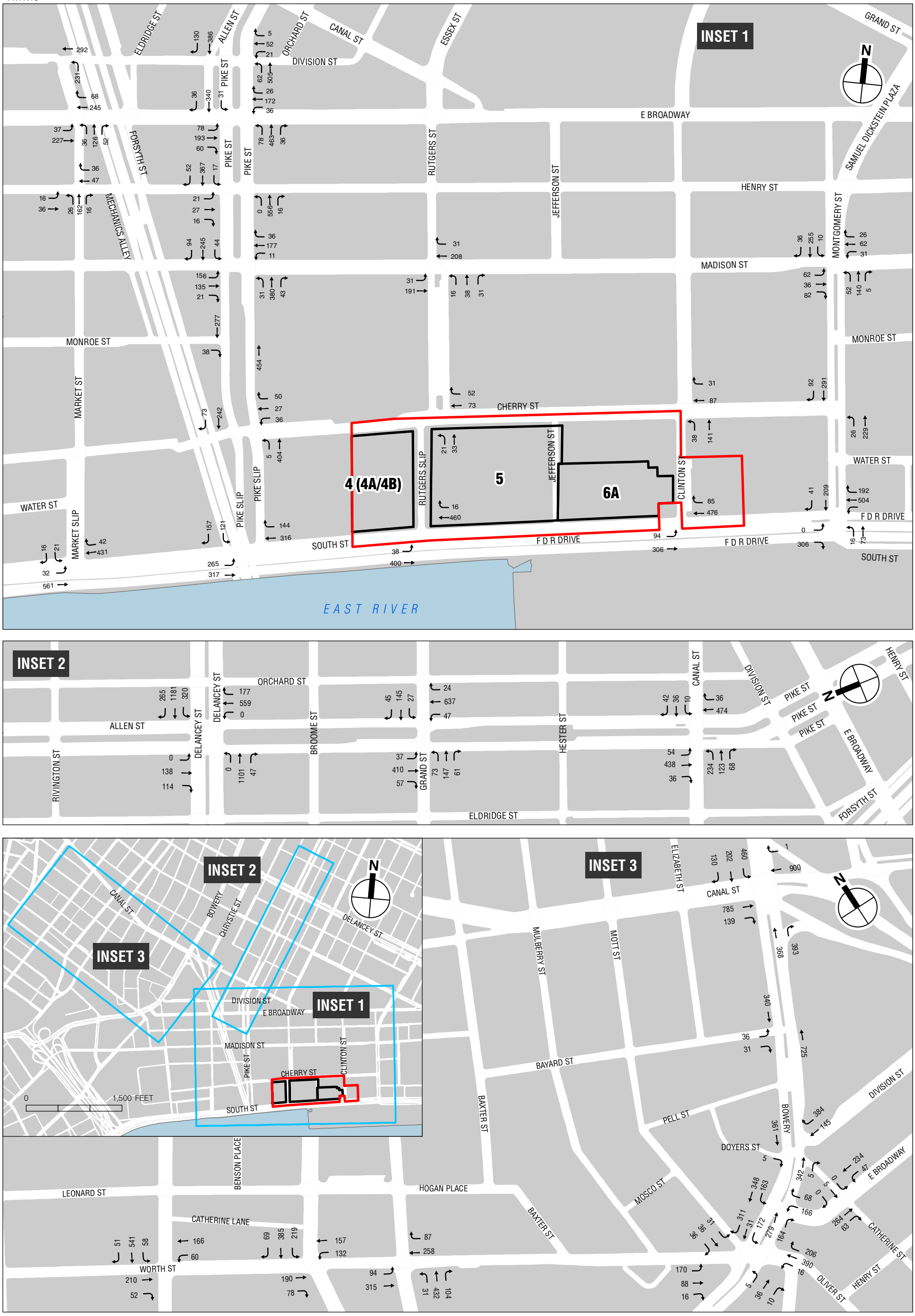
TRAFFIC OPERATIONS

The No Action condition traffic volumes are shown in **Figures 14-14 through 14-16** for the weekday AM, midday, and PM peak hours, respectively. The No Action condition traffic volumes were projected by layering on top of the existing traffic volumes the following: background growth, additional three percent of traffic volume growth to account for small- to moderate-sized No Build projects within a ½-mile of the project sites, trips generated by two discrete No Build projects in the area, and traffic diversions due to current roadway reconstruction of Worth Street. A summary of the 2021 No Action condition traffic analysis results is presented in **Table 14-19**. Details on level-of-service, v/c ratios, and average delays are presented in **Tables 14-20 and 14-21.**

Table 14-19
Summary of 2021 No Action Traffic Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Signalized Intersections			
Lane Groups at LOS A/B/C	108	110	104
Lane Groups at LOS D	23	21	19
Lane Groups at LOS E	5	5	5
Lane Groups at LOS F	5	5	13
Total	141	141	141
Lane Groups with v/c ≥ 0.90	11	8	16
Unsignalized Intersections			
Lane Groups at LOS A/B/C	3	3	3
Lane Groups at LOS D	0	0	0
Lane Groups at LOS E	0	0	0
Lane Groups at LOS F	0	0	0
Total	3	3	3
Lane Groups with v/c ≥ 0.90	0	0	0
Notes: LOS = Level-of-Service; v/c = volume-to-capacity ratio			

11.19.18

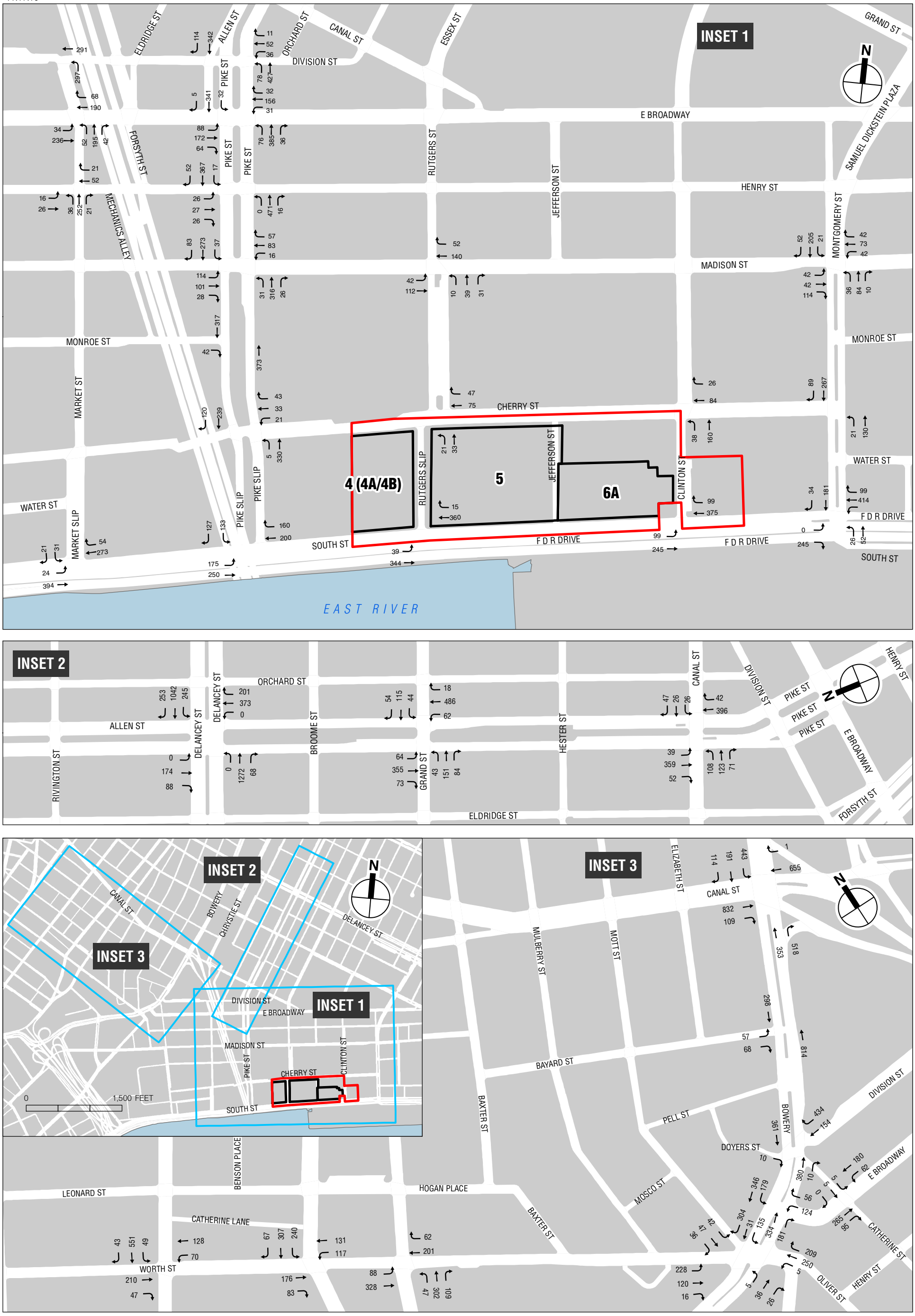


2021 No Action Traffic Volumes
Weekday AM Peak Hour

TWO BRIDGES LSRD

Figure 14-14

11.19.18



Project Sites

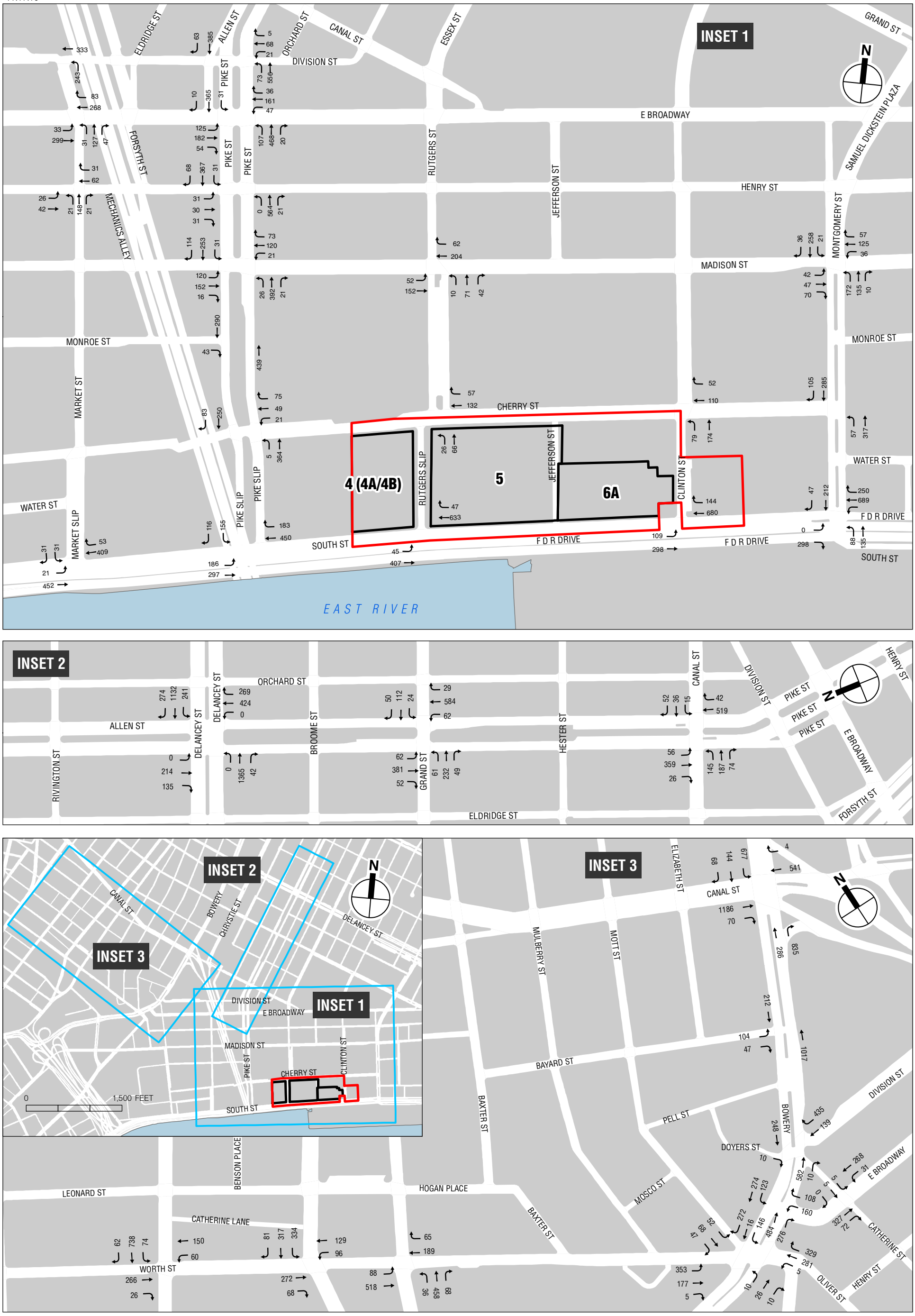
Boundary of Two Bridges LSRD

2021 No Action Traffic Volumes
Weekday Midday Peak Hour

TWO BRIDGES LSRD

Figure 14-15

11.19.18



2021 No Action Traffic Volumes
Weekday PM Peak Hour

TWO BRIDGES LSRD

Figure 14-16

Table 14-20
Existing and 2021 No Action Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM							
	Existing				No Action				Existing				No Action				Existing				No Action			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
South Street and Market Slip																								
Eastbound	LT	0.75	21.9	C	LT	0.79	24.2	C	LT	0.52	15.4	B	LT	0.55	16.2	B	LT	0.56	16.2	B	LT	0.61	17.3	B
Westbound	TR	0.59	16.5	B	TR	0.65	17.9	B	TR	0.36	12.7	B	TR	0.40	13.3	B	TR	0.51	15.0	B	TR	0.55	15.7	B
Southbound	LR	0.09	20.3	C	LR	0.09	20.3	C	LR	0.12	20.6	C	LR	0.12	20.7	C	LR	0.14	20.9	C	LR	0.15	20.9	C
South Street and Pike Slip																								
Eastbound	L	0.69	19.3	B	L	0.75	22.8	C	L	0.36	10.6	B	L	0.39	11.0	B	L	0.53	16.6	B	L	0.58	18.6	B
	T	0.59	25.7	C	T	0.61	26.4	C	T	0.44	22.6	C	T	0.46	23.0	C	T	0.48	23.2	C	T	0.50	23.6	C
Westbound	T	0.53	24.1	C	T	0.56	24.7	C	T	0.30	20.2	C	T	0.32	20.4	C	T	0.69	28.6	C	T	0.73	29.8	C
	R	0.35	21.5	C	R	0.39	22.2	C	R	0.40	22.4	C	R	0.42	22.9	C	R	0.40	22.4	C	R	0.43	23.0	C
Southbound	L	0.41	35.0	D	L	0.52	38.2	D	L	0.50	37.4	D	L	0.58	40.0	D	L	0.55	38.5	D	L	0.63	41.7	D
	R	0.52	38.5	D	R	0.63	42.9	D	R	0.47	36.8	D	R	0.60	41.5	D	R	0.43	35.6	D	R	0.51	37.7	D
South Street and Rutgers Slip																								
Eastbound	LT	0.54	15.7	B	LT	0.59	16.9	B	LT	0.50	15.0	B	LT	0.55	16.1	B	LT	0.63	17.9	B	LT	0.71	20.9	C
Westbound	TR	0.55	15.5	B	TR	0.59	16.3	B	TR	0.39	13.0	B	TR	0.41	13.3	B	TR	0.67	18.3	B	TR	0.71	19.4	C
South Street and Clinton Street																								
Eastbound	LT	0.63	19.1	B	LT	0.72	22.6	C	LT	0.70	21.9	C	LT	0.76	25.3	C	LT	0.96	52.7	D	LT	1.07	82.3	F
Westbound	T	0.57	16.2	B	T	0.61	17.2	B	T	0.51	15.1	B	T	0.53	15.6	B	T	0.79	23.7	C	T	0.83	26.4	C
	R	0.12	10.4	B	R	0.16	10.8	B	R	0.12	10.4	B	R	0.17	10.9	B	R	0.20	11.2	B	R	0.25	11.8	B
South Street (North) and Montgomery Street																								
Westbound	LTR	0.85	26.6	C	LTR	0.92	33.1	C	LTR	0.53	15.2	B	LTR	0.58	16.1	B	LTR	1.05	63.9	E	LTR	1.13	91.9	F
Northbound	LT	0.19	21.4	C	LT	0.20	21.5	C	LT	0.19	21.5	C	LT	0.20	21.7	C	LT	0.67	33.5	C	LT	0.83	47.4	D
Southbound	TR	0.53	28.1	C	TR	0.68	33.2	C	TR	0.40	25.2	C	TR	0.53	28.3	C	TR	0.50	27.4	C	TR	0.67	32.9	C
South Street (South) and Montgomery Street																								
Eastbound	LTR	0.35	12.5	B	LTR	0.39	13.0	B	LTR	0.27	11.7	B	LTR	0.29	11.8	B	LTR	0.36	12.7	B	LTR	0.39	13.0	B
Northbound	TR	0.11	20.5	C	TR	0.11	20.5	C	TR	0.15	21.1	C	TR	0.16	21.2	C	TR	0.46	25.6	C	TR	0.47	26.0	C
Southbound	LT	0.58	29.9	C	LT	0.74	37.2	D	LT	0.47	27.3	C	LT	0.64	32.9	C	LT	1.05	96.3	F	LT	1.43	243.3	F
Cherry Street and Pike Street																								
Westbound	LTR	0.24	24.4	C	LTR	0.34	26.2	C	LTR	0.21	23.9	C	LTR	0.28	25.0	C	LTR	0.35	26.2	C	LTR	0.42	27.5	C
Northbound	L	0.04	36.2	D	L	0.04	36.2	D	L	0.04	36.2	D	L	0.04	36.2	D	L	0.04	36.1	D	L	0.04	36.1	D
	T	0.29	10.1	B	T	0.31	10.3	B	T	0.22	9.5	A	T	0.24	9.7	A	T	0.26	9.8	A	T	0.27	9.9	A
Southbound	TR	0.28	18.3	B	TR	0.32	18.7	B	TR	0.31	18.6	B	TR	0.35	19.1	B	TR	0.29	18.3	B	TR	0.32	18.6	B
Cherry Street and Rutgers Street																								
Westbound	TR	0.21	16.1	B	TR	0.24	16.5	B	TR	0.19	15.9	B	TR	0.23	16.4	B	TR	0.29	17.1	B	TR	0.36	18.1	B
Northbound	LT	0.09	17.1	B	LT	0.11	17.3	B	LT	0.09	17.0	B	LT	0.11	17.4	B	LT	0.19	18.3	B	LT	0.22	18.8	B
Cherry Street and Montgomery Street																								
Northbound	LT	0.47	17.0	B	LT	0.49	17.5	B	LT	0.28	14.2	B	LT	0.30	14.4	B	LT	0.68	23.0	C	LT	0.74	25.5	C
Southbound	TR	0.60	20.2	C	TR	0.73	24.9	C	TR	0.49	17.5	B	TR	0.62	20.8	C	TR	0.57	19.4	B	TR	0.76	26.2	C
Madison Street and Pike Street (East)																								
Eastbound	L	1.05	110.1	F	L	1.14	140.0	F	L	0.72	49.6	D	L	0.78	56.3	E	L	0.86	73.4	E	L	0.93	89.3	F
	T	0.31	24.1	C	T	0.33	24.3	C	T	0.26	25.4	C	T	0.28	25.7	C	T	0.36	27.0	C	T	0.40	27.6	C
Westbound	TR	0.65	33.2	C	TR	0.68	34.5	C	TR	0.54	32.3	C	TR	0.57	33.2	C	TR	0.72	40.0	D	TR	0.75	42.4	D
Northbound	L	0.24	40.1	D	L	0.25	40.4	D	L	0.24	40.2	D	L	0.25	40.6	D	L	0.19	39.0	D	L	0.20	39.2	D
	TR	0.46	22.0	C	TR	0.51	22.9	C	TR	0.33	20.2	C	TR	0.37	20.8	C	TR	0.41	21.2	C	TR	0.45	21.7	C
Madison Street and Pike Street (West)																								
Eastbound	TR	0.83	45.5	D	TR	0.87	49.4	D	TR	0.73	40.2	D	TR	0.78	43.6	D	TR	0.80	45.2	D	TR	0.86	50.8	D
Westbound	L	0.08	21.5	C	L	0.10	22.0	C	L	0.12	24.5	C	L	0.14	25.0	C	L	0.19	26.4	C	L	0.21	27.2	C
	T	0.42	25.7	C	T	0.43	26.0	C	T	0.22	24.8	C	T	0.23	24.9	C	T	0.30	25.9	C	T	0.31	26.1	C
Southbound	L	0.35	43.9	D	L	0.39	45.1	D	L	0.24	37.2	D	L	0.25	37.4	D	L	0.19	36.0	D	L	0.20	36.2	D
	TR	0.36	20.7	C	TR	0.42	21.5	C	TR	0.37	18.8	B	TR	0.42	19.5	B	TR	0.38	18.9	B	TR	0.43	19.7	B
Madison Street and Rutgers Street																								
Eastbound	LT	0.37	12.8	B	LT	0.39	13.2	B	LT	0.29	12.0	B	LT	0.31	12.2	B	LT	0.40	13.5	B	LT	0.43	14.0	B
Westbound	TR	0.43	13.6	B	TR	0.45	14.0	B	TR	0.38	13.0	B	TR	0.39	13.3	B	TR	0.49	14.8	B	TR	0.51	15.2	B
Northbound	LT	0.14	21.7	C	LT	0.15	21.9	C	LT	0.11	21.3	C	LT	0.13	21.5	C	LT	0.19	22.2	C	LT	0.20	22.4	C
	R	0.08	20.9	C	R	0.08	20.9	C	R	0.08	21.0	C	R	0.09	21.0	C	R	0.11	21.2	C	R	0.11	21.3	C
Madison Street and Montgomery Street																								
Eastbound	LTR	0.46	21.0	C	LTR	0.49	21.7	C	LTR	0.43	20.2	C	LTR	0.47	21.0	C	LTR	0.39	19.3	B	LTR	0.43	20.1	C
Westbound	LTR	0.29	17.4	B	LTR	0.30	17.6	B	LTR	0.36	18.7	B	LTR	0.38	19.1	B	LTR	0.50	21.2	C	LTR	0.52	21.7	C
Northbound	LTR	0.45	20.1	C	LTR	0.47	20.7	C	LTR	0.30	17.5	B	LTR	0.31	17.8	B	LTR	0.97	64.1	E	LTR	1.14	117.4	F
Southbound	LTR	0.48	20.4	C	LTR	0.59	23.1	C	LTR	0.45	20.0	C	LTR	0.58	23.1	C	LTR	0.47	20.5	C	LTR	0.61	23.8	C
Henry Street and Market Street																								
Eastbound	LT	0.14	15.4	B	LT	0.14	15.5	B	LT	0.12	15.3	B	LT	0.13	15.3	B	LT	0.19	16.1	B	LT	0.19	16.2	B
Westbound	TR	0.24	17.0	B	TR	0.25	17.1	B	TR	0.18	16.0	B	TR	0.19	16.1	B	TR	0.22	16.5	B	TR	0.24	16.7	B
Northbound	LTR	0.39	18.8	B	LTR	0.41	19.3	B	LTR	0.62	24.1	C	LTR	0.65	25.1	C	LTR	0.36	18.3	B	LTR	0.38	18.6	B
Henry Street and Pike Street																								
Eastbound	LTR	0.17	23.4	C	LTR	0.18	23.5	C	LTR	0.21	23.8	C	LTR	0.22	24.0	C	LTR	0.23	24.3	C	LTR	0.26	24.6	C
Northbound	TR	0.59	23.2	C	TR	0.64	24.3	C	TR	0.52	21.8	C	TR	0.57	22.6	C	TR	0.53	21.8	C	TR	0.57	22.6	C
Southbound	L	0.14	38.1	D	L	0.15	38.4	D	L	0.14	38.1	D	L	0.15	38.4	D	L	0.20	39.4	D	L	0.21	39.5	D
	TR	0.30	10.3	B	TR	0.34	10.6	B	TR	0.30	10.3	B	TR	0.34	10.7	B	TR	0.32	10.5	B	TR	0.35	10.7	B
East Broadway and Catherine Street																								
Eastbound	TR	0.49	12.0	B	TR	0.53	12.6	B	TR	0.53	12.9	B	TR	0.57	13.8	B	TR	0.50	11.9	B	TR	0.55	12.8	B
Westbound	LT	0.49	12.5	B	LT	0.53	13.3	B	LT	0.49	12.7	B	LT	0.52	13.4	B	LT	0.44	11.3	B	LT	0.47	11.8	B
Southbound	LTR	0.02	23.7	C	LTR	0.02	23.7	C	LTR	0.05	24.2	C	LTR	0.05	24.3	C	LTR	0.05	24.1	C	LTR	0.05	24.1	C

Table 14-20 (cont'd)
Existing and 2021 No Action Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM							
	Existing				No Action				Existing				No Action				Existing				No Action			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East Broadway and Market Street																								
Eastbound	LT	0.52	16.4	B	LT	0.56	17.3	B	LT	0.46	14.9	B	LT	0.50	15.8	B	LT	0.52	16.0	B	LT	0.59	17.6	B
Westbound	TR	0.56	17.5	B	TR	0.61	18.7	B	TR	0.49	15.9	B	TR	0.53	16.7	B	TR	0.62	18.8	B	TR	0.65	20.0	C
Northbound	LTR	0.68	35.1	D	LTR	0.72	37.4	D	LTR	0.80	42.0	D	LTR	0.84	45.7	D	LTR	0.58	30.2	C	LTR	0.61	31.3	C
East Broadway and Pike Street (East)																								
Eastbound	L	0.53	34.2	C	L	0.56	36.2	D	L	0.47	31.3	C	L	0.49	32.6	C	L	0.80	56.0	E	L	0.84	62.3	E
	T	0.43	25.3	C	T	0.44	25.7	C	T	0.39	24.6	C	T	0.41	24.9	C	T	0.40	24.7	C	T	0.42	25.1	C
Westbound	TR	0.63	31.9	C	TR	0.66	33.1	C	TR	0.59	30.4	C	TR	0.62	31.2	C	TR	0.61	30.7	C	TR	0.63	31.5	C
Northbound	L	0.59	55.0	E	L	0.70	64.4	E	L	0.52	50.9	D	L	0.61	56.2	E	L	0.78	71.1	E	L	0.88	86.3	F
	TR	0.65	25.4	C	TR	0.69	26.5	C	TR	0.51	22.5	C	TR	0.55	23.1	C	TR	0.53	22.6	C	TR	0.57	23.2	C
East Broadway and Pike Street (West)																								
Eastbound	TR	0.92	57.2	E	TR	0.99	72.4	E	TR	0.95	63.1	E	TR	1.02	80.0	E	TR	0.99	70.1	E	TR	1.07	93.4	F
Westbound	L	0.32	27.7	C	L	0.35	29.1	C	L	0.27	26.3	C	L	0.31	27.8	C	L	0.42	32.3	C	L	0.48	36.3	D
	T	0.38	24.5	C	T	0.40	24.8	C	T	0.35	23.8	C	T	0.36	24.1	C	T	0.32	23.3	C	T	0.33	23.5	C
Southbound	L	0.33	46.4	D	L	0.35	47.1	D	L	0.33	46.0	D	L	0.35	47.1	D	L	0.31	45.1	D	L	0.33	45.7	D
	T	0.35	21.1	C	T	0.39	21.6	C	T	0.35	21.0	C	T	0.39	21.6	C	T	0.40	21.7	C	T	0.43	22.1	C
Division Street and Market Street																								
Westbound	T	0.26	18.0	B	T	0.27	18.2	B	T	0.26	18.0	B	T	0.27	18.1	B	T	0.26	18.0	B	T	0.27	18.1	B
Northbound	L	0.62	30.0	C	L	0.67	32.2	C	L	0.86	47.2	D	L	0.93	56.9	E	L	0.57	27.7	C	L	0.63	29.5	C
Division Street and Allen Street/Pike Street																								
Westbound	LTR	0.31	27.7	C	LTR	0.32	28.0	C	LTR	0.39	29.5	C	LTR	0.41	30.0	C	LTR	0.35	28.2	C	LTR	0.36	28.5	C
Northbound	L	0.46	47.4	D	L	0.47	48.0	D	L	0.64	58.1	E	L	0.66	59.8	E	L	0.51	49.2	D	L	0.53	50.2	D
	T	0.35	10.7	B	T	0.37	10.9	B	T	0.29	10.1	B	T	0.31	10.3	B	T	0.33	10.4	B	T	0.35	10.6	B
Southbound	T	0.31	18.5	B	T	0.34	18.9	B	T	0.28	18.2	B	T	0.31	18.5	B	T	0.30	18.4	B	T	0.32	18.6	B
	R	0.48	24.3	C	R	0.50	25.1	C	R	0.42	23.0	C	R	0.44	23.7	C	R	0.20	18.2	B	R	0.21	18.4	B
Allen Street and Canal Street																								
Eastbound	LTR	1.05	87.4	F	LTR	1.15	120.3	F	LTR	0.74	35.4	D	LTR	0.83	43.0	D	LTR	1.04	83.0	F	LTR	1.16	121.8	F
Westbound	LTR	0.27	21.1	C	LTR	0.28	21.3	C	LTR	0.32	22.2	C	LTR	0.34	22.6	C	LTR	0.30	21.5	C	LTR	0.31	21.7	C
Northbound	TR	0.61	27.7	C	TR	0.65	28.7	C	TR	0.52	25.8	C	TR	0.56	26.5	C	TR	0.64	28.3	C	TR	0.68	29.3	C
Southbound	LTR	0.37	14.0	B	LTR	0.41	14.5	B	LTR	0.33	13.5	B	LTR	0.36	13.9	B	LTR	0.29	13.1	B	LTR	0.32	13.4	B
Allen Street and Grand Street (East)																								
Eastbound	L	0.47	31.6	C	L	0.54	36.0	D	L	0.30	28.3	C	L	0.36	30.9	C	L	0.36	28.6	C	L	0.44	32.0	C
	T	0.29	23.0	C	T	0.34	23.8	C	T	0.34	26.0	C	T	0.43	27.7	C	T	0.49	27.9	C	T	0.58	30.3	C
Westbound	TR	0.52	28.2	C	TR	0.64	31.9	C	TR	0.56	32.0	C	TR	0.68	36.9	D	TR	0.46	28.0	C	TR	0.58	31.5	C
Northbound	L	0.39	44.8	D	L	0.41	45.5	D	L	0.53	51.4	D	L	0.55	52.2	D	L	0.49	48.6	D	L	0.51	49.2	D
	TR	0.65	26.2	C	TR	0.70	27.4	C	TR	0.51	22.7	C	TR	0.54	23.3	C	TR	0.56	24.2	C	TR	0.60	25.0	C
Allen Street and Grand Street (West)																								
Eastbound	TR	0.71	35.9	D	TR	0.79	41.4	D	TR	0.88	56.4	E	TR	1.01	81.7	F	TR	0.88	50.6	D	TR	1.01	76.9	E
Westbound	L	0.14	22.1	C	L	0.21	23.8	C	L	0.27	28.3	C	L	0.47	37.6	D	L	0.20	25.6	C	L	0.28	29.2	C
	T	0.31	23.2	C	T	0.36	24.0	C	T	0.25	24.5	C	T	0.29	25.2	C	T	0.24	23.5	C	T	0.28	24.1	C
Southbound	L	0.31	42.6	D	L	0.33	43.1	D	L	0.42	43.3	D	L	0.45	44.3	D	L	0.39	41.9	D	L	0.40	42.3	D
	TR	0.53	24.1	C	TR	0.57	24.8	C	TR	0.47	21.0	C	TR	0.51	21.6	C	TR	0.44	21.1	C	TR	0.47	21.6	C
Allen Street and Delancey Street																								
Eastbound	T	0.94	48.0	D	T	1.01	61.4	E	T	0.84	30.4	C	T	0.90	34.1	C	T	0.85	31.1	C	T	0.91	34.8	C
	R	0.16	25.6	C	R	0.17	25.8	C	R	0.20	19.3	B	R	0.21	19.5	B	R	0.12	18.2	B	R	0.13	18.3	B
Westbound	L	0.86	51.6	D	L	0.92	60.0	E	L	0.97	87.4	F	L	1.03	103.4	F	L	1.00	93.0	F	L	1.04	105.7	F
	TR	0.63	12.4	B	TR	0.67	12.9	B	TR	0.54	11.0	B	TR	0.57	11.4	B	TR	0.54	11.0	B	TR	0.57	11.4	B
Northbound	T	0.76	37.6	D	T	0.81	40.2	D	T	0.53	30.9	C	T	0.58	32.0	C	T	0.52	30.6	C	T	0.58	31.6	C
	R	0.35	10.8	B	R	0.37	11.2	B	R	0.50	19.4	B	R	0.53	20.4	C	R	0.60	22.5	C	R	0.64	24.0	C
Southbound	TR	0.40	28.7	C	TR	0.43	29.1	C	TR	0.38	28.3	C	TR	0.40	28.7	C	TR	0.49	30.1	C	TR	0.53	30.8	C
Bowery and Canal Street																								
Eastbound	T	0.79	29.4	C	T	0.82	31.0	C	T	0.79	29.3	C	T	0.82	30.9	C	T	1.03	61.0	E	T	1.07	74.1	E
	R	0.32	20.3	C	R	0.35	20.7	C	R	0.24	19.1	B	R	0.26	19.4	B	R	0.16	18.0	B	R	0.18	18.2	B
Westbound	T	0.80	29.5	C	T	0.83	31.1	C	T	0.63	24.4	C	T	0.66	25.0	C	T	0.43	20.6	C	T	0.44	20.8	C
Northbound	T	0.56	33.2	C	T	0.59	33.8	C	T	0.51	32.1	C	T	0.54	32.7	C	T	0.43	30.6	C	T	0.46	31.0	C
Southbound	DefL	0.87	47.0	D	DefL	0.90	50.7	D	DefL	0.85	44.5	D	DefL	0.87	47.2	D	DefL	1.05	78.6	E	DefL	1.10	96.2	F
	TR	0.64	25.9	C	TR	0.67	27.1	C	TR	0.61	25.0	C	TR	0.64	26.0	C	TR	0.36	19.3	B	TR	0.38	19.6	B
Bowery and Bayard Street																								
Eastbound	LR	0.29	22.8	C	LR	0.30	23.1	C	LR	0.57	31.3	C	LR	0.59	32.4	C	LR	0.65	35.1	D	LR	0.68	36.8	D
Northbound	T	0.41	17.6	B	T	0.43	17.9	B	T	0.47	18.5	B	T	0.49	18.8	B	T	0.56	19.7	B	T	0.58	20.1	C
Southbound	T	0.22	15.7	B	T	0.24	15.9	B	T	0.19	15.4	B	T	0.20	15.5	B	T	0.13	14.9	B	T	0.14	15.0	B
Bowery and Division Street/Doyers Street																								
Eastbound	R	0.04	26.4	C	R	0.04	26.4	C	R	0.07	26.8	C	R	0.07	26.8	C	R	0.07	26.8	C	R	0.07	26.8	C
Westbound	L	0.66	46.2	D	L	0.74	51.5	D	L	0.72	49.5	D	L	0.76	53.0	D	L	0.57	41.1	D	L	0.61	42.9	D
	R	0.57	18.8	B	R	0.59	19.5	B	R	0.64	20.6	C	R	0.67	21.6	C	R	0.56	18.5	B	R	0.59	19.2	B
Northbound	TR	0.34	20.2	C	TR	0.36	20.5	C	TR	0.38	20.7	C	TR	0.40	21.0	C	TR	0.58	23.7	C	TR	0.60	24.3	C
Southbound	T	0.34	20.3	C	T	0.37	20.6	C	T	0.35	20.3	C	T	0.37	20.6	C	T	0.22	18.8	B	T	0.24	19.0	B

Table 14-20 (cont'd)
Existing and 2021 No Action Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM								Weekday Midday								Weekday PM							
	Existing				No Action				Existing				No Action				Existing				No Action			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Chatham Square and East Broadway																								
Westbound	L	0.30	17.3	B	L	0.32	17.7	B	L	0.23	16.3	B	L	0.25	16.6	B	L	0.29	17.1	B	L	0.31	17.3	B
	R	0.15	15.5	B	R	0.18	15.9	B	R	0.13	15.3	B	R	0.15	15.6	B	R	0.21	16.2	B	R	0.23	16.4	B
Northbound	T	0.22	15.8	B	T	0.23	15.9	B	T	0.29	16.5	B	T	0.30	16.7	B	T	0.44	18.3	B	T	0.45	18.5	B
	R	0.48	22.0	C	R	0.52	23.2	C	R	0.67	30.7	C	R	0.73	35.1	D	R	0.79	37.9	D	R	0.88	49.8	D
Southbound	L	0.62	28.5	C	L	0.69	32.6	C	L	0.74	37.7	D	L	0.82	46.9	D	L	0.61	30.9	C	L	0.71	38.5	D
	T	0.28	16.3	B	T	0.29	16.5	B	T	0.25	16.0	B	T	0.26	16.1	B	T	0.18	15.4	B	T	0.19	15.5	B
Chatham Square and Worth Street/Oliver Street																								
Eastbound (Worth Street)	L	1.05	140.6	F	L	1.24	209.1	F	L	0.98	101.1	F	L	1.08	131.5	F	L	1.05	106.5	F	L	1.16	145.2	F
	LTR	0.96	86.2	F	LTR	1.12	136.6	F	LTR	0.89	66.0	E	LTR	1.00	91.1	F	LTR	1.04	94.5	F	LTR	1.16	134.1	F
Eastbound (Mott Street)	LTR	0.56	42.2	D	LTR	0.58	43.1	D	LTR	0.61	44.3	D	LTR	0.64	45.7	D	LTR	0.79	56.7	E	LTR	0.83	61.0	E
Westbound	LT	0.82	41.4	D	LT	0.85	44.5	D	LT	0.53	29.3	C	LT	0.56	29.8	C	LT	0.49	28.1	C	LT	0.51	28.5	C
	R	0.69	39.0	D	R	0.74	41.8	D	R	0.80	48.4	D	R	0.84	53.4	D	R	0.99	78.6	E	R	1.04	92.9	F
Northbound	LTR	0.08	21.4	C	LTR	0.08	21.5	C	LTR	0.11	21.7	C	LTR	0.11	21.8	C	LTR	0.08	21.4	C	LTR	0.08	21.5	C
Southbound	L	0.93	73.7	E	L	0.99	87.8	F	L	0.65	39.3	D	L	0.69	42.3	D	L	0.67	40.7	D	L	0.72	44.3	D
	TR	0.88	50.6	D	TR	0.96	65.5	E	TR	1.01	80.2	F	TR	1.09	106.9	F	TR	0.86	50.0	D	TR	0.92	60.6	E
Worth Street and Centre Street																								
Eastbound	L	0.30	17.5	B	L	0.35	22.7	C	L	0.23	11.7	B	L	0.25	13.5	B	L	0.20	11.0	B	L	0.22	12.4	B
	T	0.50	18.0	B	T	0.52	18.5	B	T	0.40	12.9	B	T	0.43	13.2	B	T	0.65	17.9	B	T	0.69	19.3	B
Westbound	T	0.44	26.6	C	T	0.73	36.6	D	T	0.28	19.6	B	T	0.42	22.0	C	T	0.24	19.0	B	T	0.39	21.4	C
	R	0.79	48.6	D	R	0.43	28.6	C	R	0.47	25.3	C	R	0.27	20.4	C	R	0.39	22.2	C	R	0.21	19.0	B
Northbound	L	0.11	17.7	B	L	0.12	17.8	B	L	0.22	23.7	C	L	0.24	24.0	C	L	0.13	21.6	C	L	0.13	21.7	C
	TR	0.59	23.8	C	TR	0.62	24.4	C	TR	0.60	28.3	C	TR	0.63	29.0	C	TR	0.62	28.1	C	TR	0.64	28.8	C
Worth Street and Lafayette Street																								
Eastbound	-	-	-	-	T	0.42	23.7	C	-	-	-	-	T	0.38	23.0	C	-	-	-	-	T	0.56	26.6	C
	TR	0.53	25.8	C	-	-	-	-	TR	0.52	25.7	C	-	-	-	-	TR	0.59	27.0	C	-	-	-	-
	-	-	-	-	R	0.25	21.5	C	-	-	-	-	R	0.29	22.4	C	-	-	-	-	R	0.19	20.3	C
Westbound	L	0.65	34.0	C	L	0.41	20.7	C	L	0.71	37.9	D	L	0.41	20.2	C	L	0.52	30.1	C	L	0.30	20.6	C
	-	-	-	-	T	0.24	14.2	B	-	-	-	-	T	0.20	13.7	B	-	-	-	-	T	0.20	13.7	B
Southbound	LT	0.72	27.3	C	LTR	0.83	32.2	C	LT	0.64	25.2	C	LTR	0.75	28.6	C	LT	0.70	26.1	C	LTR	0.81	30.5	C
Worth Street and Broadway																								
Eastbound	TR	0.56	25.5	C	TR	0.58	26.2	C	TR	0.48	23.6	C	TR	0.51	24.2	C	TR	0.53	24.6	C	TR	0.56	25.4	C
Westbound	-	-	-	-	L	0.32	23.2	C	-	-	-	-	L	0.36	24.1	C	-	-	-	-	L	0.29	22.3	C
	-	-	-	-	T	0.30	20.3	C	-	-	-	-	T	0.23	19.4	B	-	-	-	-	T	0.27	20.0	B
Southbound	-	-	-	-	L	0.20	13.8	B	-	-	-	-	L	0.19	13.8	B	-	-	-	-	L	0.27	14.9	B
	LT	0.47	15.9	B	-	-	-	-	LT	0.46	15.8	B					LT	0.66	19.4	B				
	-	-	-	-	TR	0.50	16.4	B	-	-	-	-	TR	0.50	16.3	B	-	-	-	-	TR	0.71	20.6	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service

Table 14-21
Existing and 2021 No Build Conditions Level of Service Analysis
Unsignalized Intersections

Intersection	Weekday AM								Weekday Midday								Weekday PM							
	Existing				No Action				Existing				No Action				Existing				No Action			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Cherry Street and Clinton Street																								
Westbound	TR	0.14	7.9	A	TR	0.17	8.2	A	TR	0.13	7.9	A	TR	0.17	8.3	A	TR	0.20	8.4	A	TR	0.25	8.9	A
Northbound	LT	0.21	8.4	A	LT	0.25	8.8	A	LT	0.23	8.6	A	LT	0.28	9.1	A	LT	0.30	9.3	A	LT	0.36	10.0	A
Pike Street and Monroe Street																								
Eastbound	R	0.70	11.2	B	R	0.08	11.6	B	R	0.08	11.4	B	R	0.10	11.8	B	R	0.08	11.2	B	R	0.09	11.5	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service

Based on the analysis results presented in **Tables 14-20 and 14-21**, the majority of the approaches/lane-groups in the No Action condition will operate at the same LOS as in the existing conditions or within acceptable mid-LOS D or better (delays of 45 seconds or less per vehicle for signalized intersections) for all peak hours. The following approaches/lane-groups in the No Action condition are expected to operate at deteriorated LOS when compared to the existing conditions:

- Eastbound approach at the South Street and Clinton Street intersection will deteriorate to LOS F with a v/c ratio of 1.07 and a delay of 82.3 spv during the weekday PM peak hour;

- Westbound approach at the South Street and Montgomery Street (north) intersection will deteriorate to LOS F with a v/c ratio of 1.13 and a delay of 91.9 spv during the weekday PM peak hour;
- Northbound approach at the South Street and Montgomery Street (north) intersection will deteriorate to LOS D with a v/c ratio of 0.83 and a delay of 47.4 spv during the weekday PM peak hour;
- Southbound approach at the South Street and Montgomery Street (south) intersection will deteriorate to LOS D with a v/c ratio of 0.74 and a delay of 37.2 spv during the weekday AM peak hour;
- Eastbound left-turn at the Madison Street and Pike Street (east) intersection will deteriorate to LOS E with a v/c ratio of 0.78 and a delay of 56.3 spv during the weekday midday peak hour, and to LOS F with a v/c ratio of 0.93 and a delay of 89.3 spv during the weekday PM peak hour;
- Northbound approach at the Madison Street and Montgomery Street intersection will deteriorate to LOS F with a v/c ratio of 1.14 and a delay of 117.4 spv during the weekday PM peak hour;
- Eastbound left-turn at the East Broadway and Pike Street (east) intersection will deteriorate to LOS D with a v/c ratio of 0.56 and a delay of 36.2 spv during the weekday AM peak hour;
- Northbound left-turn at the East Broadway and Pike Street (east) intersection will deteriorate to LOS E with a v/c ratio of 0.61 and delay of 56.2 spv during the weekday midday peak hour, and to LOS F with a v/c ratio of 0.88 and a delay of 86.3 spv during the weekday PM peak hour;
- Eastbound approach at the East Broadway and Pike Street (west) intersection will deteriorate to LOS F with a v/c ratio of 1.02 and a delay of 80.0 spv during the weekday midday peak hour, and to LOS F with a v/c ratio of 1.07 and a delay of 93.4 spv during the weekday PM peak hour;
- Westbound left-turn at the East Broadway and Pike Street (west) intersection will deteriorate to LOS D with a v/c ratio of 0.48 and a delay of 36.3 spv during the weekday PM peak hour;
- Northbound left-turn at the Division Street and Market Street intersection will deteriorate to LOS E with a v/c ratio of 0.93 and a delay of 56.9 spv during the weekday midday peak hour;
- Eastbound left-turn at the Allen Street and Grand Street (east) intersection will deteriorate to LOS D with a v/c ratio of 0.54 and a delay of 36.0 spv during the weekday AM peak hour;
- Westbound approach at the Allen Street and Grand Street (east) intersection will deteriorate to LOS D with a v/c ratio of 0.68 and a delay of 36.9 spv during the weekday midday peak hour;
- Eastbound approach at the Allen Street and Grand Street (west) intersection will deteriorate to LOS F with a v/c ratio of 1.01 and a delay of 81.7 spv during the weekday midday peak hour, and to LOS E with a v/c ratio of 1.01 and a delay of 76.9 spv during the weekday PM peak hour;
- Westbound left-turn at the Allen Street and Grand Street (west) intersection will deteriorate to LOS D with a v/c ratio of 0.47 and a delay of 37.6 spv during the weekday midday peak hour;

- Eastbound through at the Allen Street and Delancey Street intersection will deteriorate to LOS E with a v/c ratio of 1.01 and a delay of 61.4 spv during the weekday AM peak hour;
- Westbound left-turn at the Allen Street and Delancey Street intersection will deteriorate to LOS E with a v/c ratio of 0.92 and a delay of 60.0 spv during the weekday AM peak hour;
- Defacto left-turn at The Bowery and Canal Street intersection will deteriorate to LOS F with a v/c ratio of 1.10 and a delay of 96.2 spv during the weekday PM peak hour;
- Northbound right-turn at the Chatham Square and East Broadway intersection will deteriorate to LOS D with a v/c ratio of 0.73 and a delay of 35.1 spv during the weekday midday peak hour;
- Southbound left-turn at the Chatham Square and East Broadway intersection will deteriorate to LOS D with a v/c ratio of 0.71 and a delay of 38.5 spv during the weekday PM peak hour;
- Eastbound (Worth Street) shared lane at the Chatham Square and Worth Street/Oliver Street intersection will deteriorate to LOS F with a v/c ratio of 1.00 and a delay of 91.1 spv during the weekday midday peak hour;
- Westbound right-turn at the Chatham Square and Worth Street/Oliver Street intersection will deteriorate to LOS F with a v/c ratio of 1.04 and a delay of 92.9 spv during the weekday PM peak hour;
- Southbound left-turn at the Chatham Square and Worth Street/Oliver Street intersection will deteriorate to LOS F with a v/c ratio of 0.99 and a delay of 87.8 spv during the weekday AM peak hour;
- Southbound shared lane at the Chatham Square and Worth Street/Oliver Street intersection will deteriorate to LOS E with a v/c ratio of 0.96 and a delay of 65.5 spv during the weekday AM peak hour, and to LOS E with a v/c ratio of 0.92 and a delay of 60.6 spv during the weekday PM peak hour; and
- Westbound through at the Worth Street and Centre Street intersection will deteriorate to LOS D with a v/c ratio of 0.73 and a delay of 36.6 spv during the weekday AM peak hour.

THE FUTURE WITH THE PROPOSED PROJECTS

As noted above, in the future with the proposed projects, the project sites would be developed with a total of approximately 2,775 new dwelling units, 10,858 gsf of new local retail, and approximately 17,028 gsf of new community facility use. The proposed community facility space on Site 5 is as yet unprogrammed; however, for the purposes of a conservative analysis, it is assumed that this space could be utilized as an accessory early childhood educational facility. The proposed projects would result in approximately 435, 214, and 424 incremental vehicle trips during the weekday AM, midday, and PM peak hours, respectively. The incremental auto trips were assigned to off-street parking facilities. Taxi trips were distributed to the various project site entrances. All delivery trips were assigned to the development site via DOT-designated truck routes.

As described in Chapter 1, "Project Description," the Site 4 (4A/4B) existing curb cuts on Rutgers Slip and Cherry Street would be removed and the existing curb cut on South Street would remain; no new curb cuts would be required. Additionally, the Cherry Street sidewalk adjacent to Site 4 (4A/4B) would be modestly widened to accommodate the installation of Con Edison vaults. This widening would better align the roadway curbs on this side of Cherry Street, while not affecting the adjacent parking and moving lanes; therefore, it would not affect traffic

operations or have the potential for significant adverse impacts. Its approval would be subject to separate review by the Permit Management Office of DOT. On Site 5, two existing curb cuts north of 265 and 275 Cherry Street would be closed and replaced with a single central curb cut in this area on Cherry Street. On South Street, two existing curb cuts would be used to access the resident and visitor drop-off and the lower level parking garage in the new building. Two other existing curb cuts on South Street may be modified. The Jefferson Street walkway curb cuts would be maintained on Cherry and South Streets. No new curb cuts would be required. The Site 6A existing curb cuts on South Street would remain; no new curb cuts would be required.

In addition, as contemplated by the original Two Bridges Urban Renewal Plan, a 10-foot wide easement, abutting the northerly street line of South Street from Market Slip to a point 161 feet easterly of the east street line of Clinton Street, was added to the City Map in 1972. The easement would remain with the proposed actions permitting use by pedestrians on, over, and across those portions of the landscape/public areas that are subject to this permanent and perpetual non-exclusive surface easement.

TRAFFIC OPERATIONS

The 2021 With Action condition traffic volumes are shown in **Figures 14-17 through 14-19** for the weekday AM, midday, and PM peak hours. The 2021 With Action traffic volumes were constructed by layering on top of the No Action condition traffic volumes the incremental vehicle trips shown in **Figures 14-2 through 14-4**. A summary of the 2021 With Action condition traffic analysis results is presented in **Table 14-22**.

Table 14-22
Summary of 2021 With Action Traffic Analysis Results

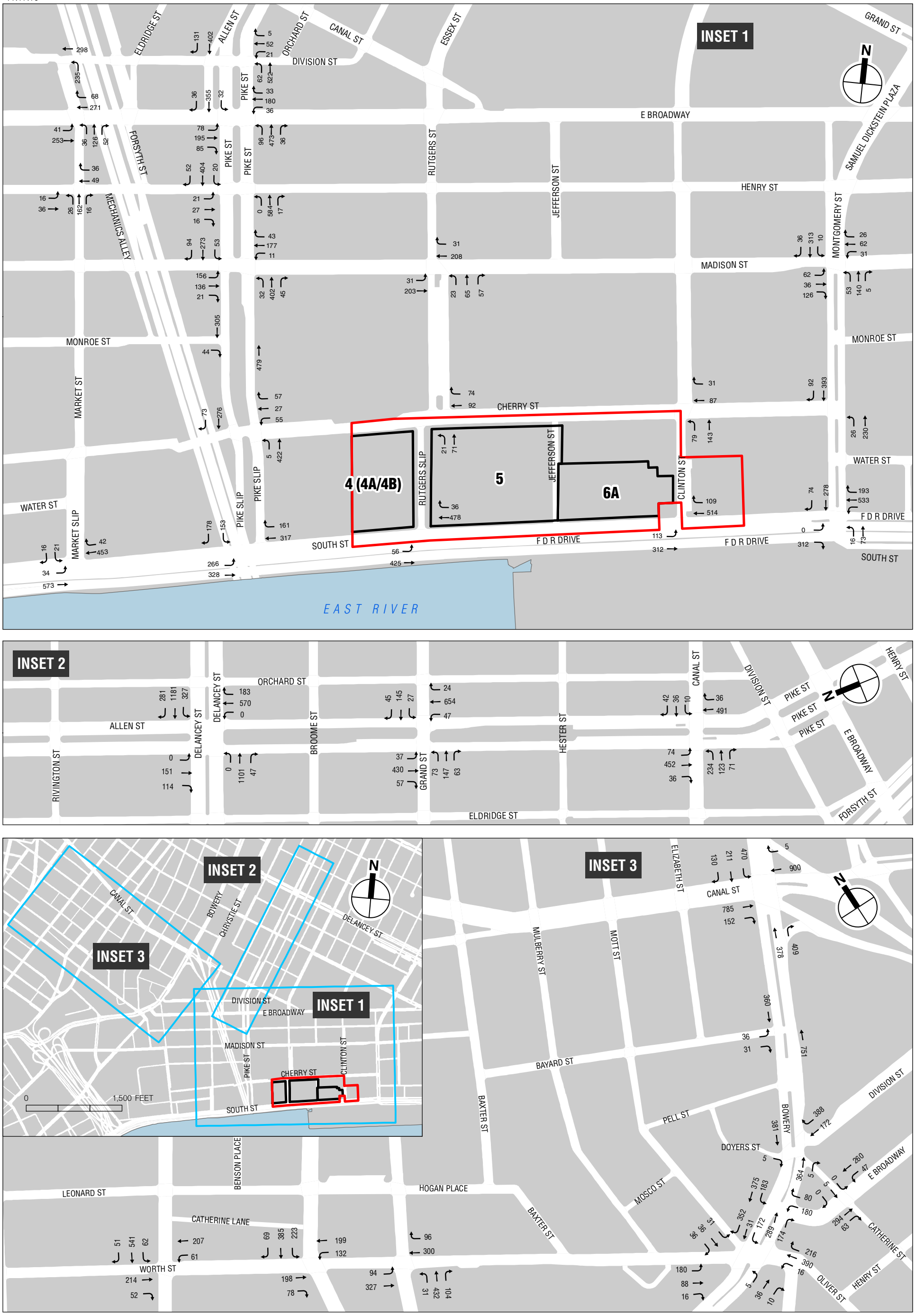
Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Signalized Intersections			
Lane Groups at LOS A/B/C	102	109	101
Lane Groups at LOS D	26	21	20
Lane Groups at LOS E	5	5	7
Lane Groups at LOS F	8	6	13
Total	141	141	141
Lane Groups with v/c ≥ 0.90	14	8	20
Unsignalized Intersections			
Lane Groups at LOS A/B/C	3	3	3
Lane Groups at LOS D	0	0	0
Lane Groups at LOS E	0	0	0
Lane Groups at LOS F	0	0	0
Total	3	3	3
Lane Groups with v/c ≥ 0.90	0	0	0

Notes: LOS = Level-of-Service; v/c = volume-to-capacity ratio

Significant Adverse Impacts

Details on LOS, v/c ratios, and average delays are presented in **Tables 14-23 and 14-24**. As discussed below, significant adverse traffic impacts were identified at 22 approaches/lane groups (of 13 different intersections). Potential measures that can be implemented to mitigate these significant adverse traffic impacts are discussed in Chapter 21, "Mitigation."

11.19.18



Project Sites

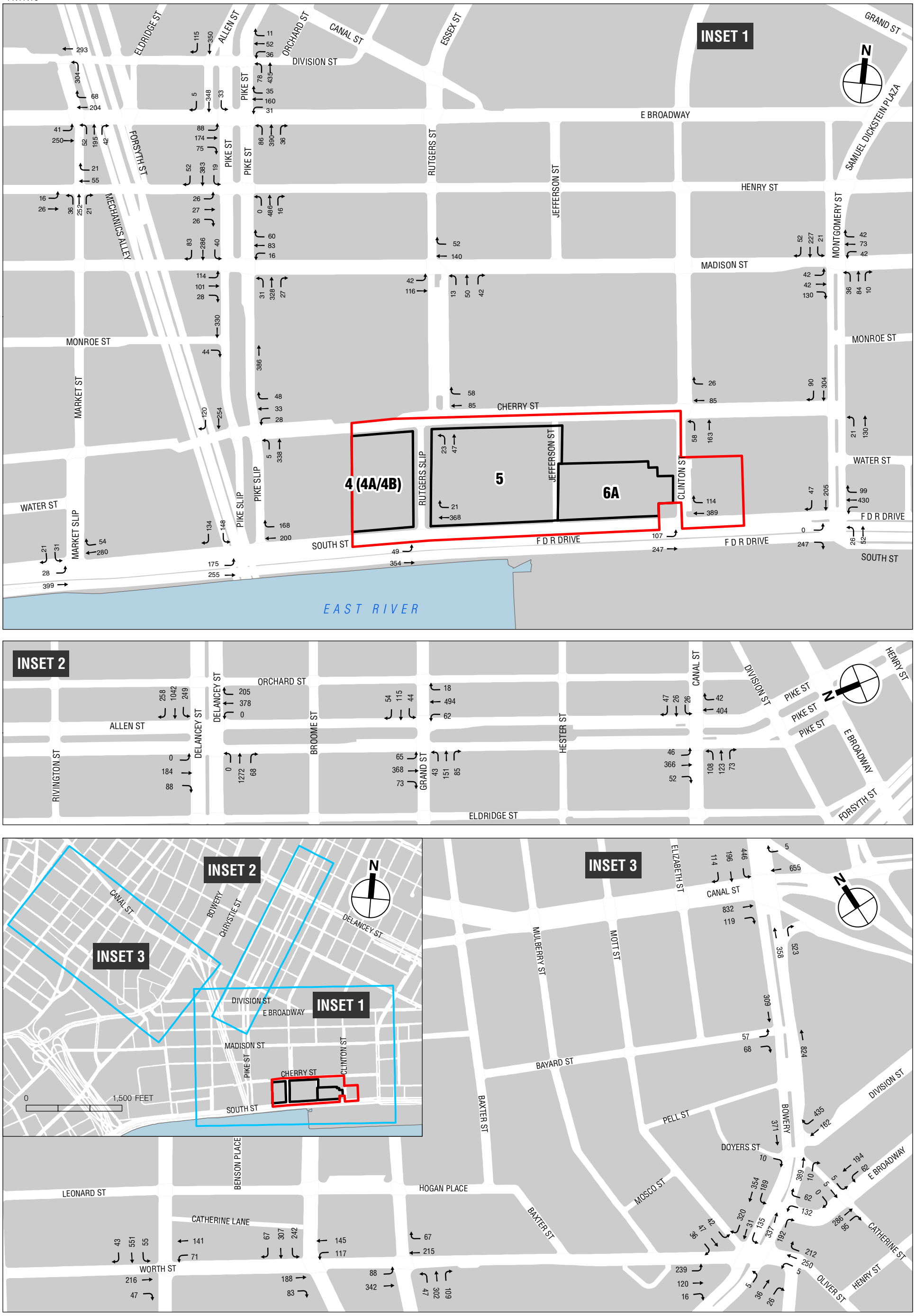
Boundary of Two Bridges LSRD

2021 With Action Traffic Volumes
Weekday AM Peak Hour

TWO BRIDGES LSRD

Figure 14-17

11.19.18

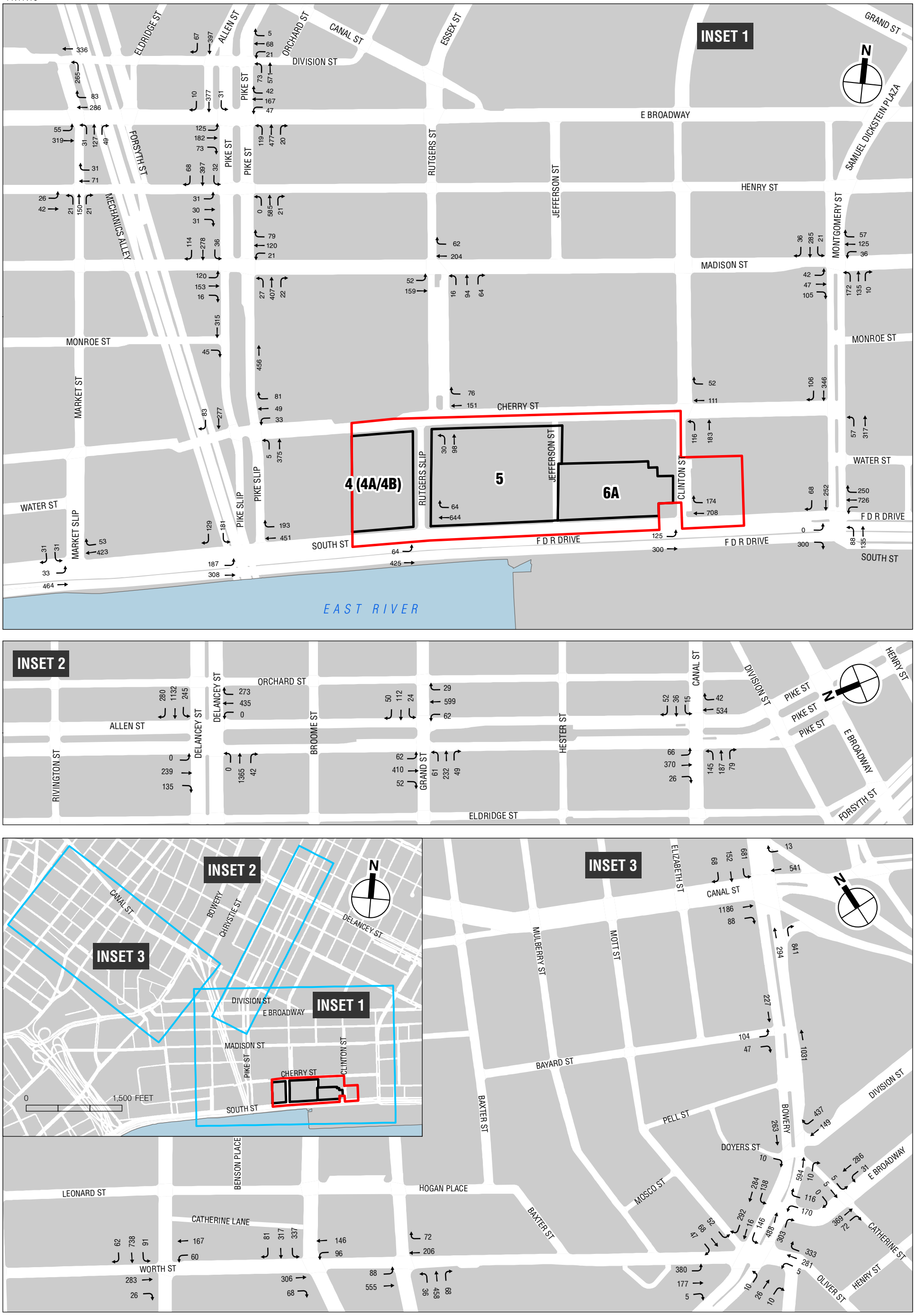


2021 With Action Traffic Volumes
Weekday Midday Peak Hour

TWO BRIDGES LSRD

Figure 14-18

11.19.18



Project Sites

Boundary of Two Bridges LSRD

2021 With Action Traffic Volumes
Weekday PM Peak Hour

TWO BRIDGES LSRD

Figure 14-19

Table 14-23
2021 No Action and With Action Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM							
	No Action				With Action				No Action				With Action				No Action				With Action			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
South Street and Market Slip																								
Eastbound	LT	0.79	24.2	C	LT	0.81	25.6	C	LT	0.55	16.2	B	LT	0.57	16.6	B	LT	0.61	17.3	B	LT	0.66	18.8	B
Westbound	TR	0.65	17.9	B	TR	0.67	18.7	B	TR	0.40	13.3	B	TR	0.41	13.5	B	TR	0.55	15.7	B	TR	0.57	16.0	B
Southbound	LR	0.09	20.3	C	LR	0.09	20.3	C	LR	0.12	20.7	C	LR	0.12	20.7	C	LR	0.15	20.9	C	LR	0.15	20.9	C
South Street and Pike Slip																								
Eastbound	L	0.75	22.8	C	L	0.75	23.1	C	L	0.39	11.0	B	L	0.39	11.0	B	L	0.58	18.6	B	L	0.58	18.9	B
	T	0.61	26.4	C	T	0.63	27.0	C	T	0.46	23.0	C	T	0.47	23.2	C	T	0.50	23.6	C	T	0.52	24.0	C
Westbound	T	0.56	24.7	C	T	0.56	24.7	C	T	0.32	20.4	C	T	0.32	20.4	C	T	0.73	29.8	C	T	0.73	30.0	C
	R	0.39	22.2	C	R	0.43	23.2	C	R	0.42	22.9	C	R	0.44	23.3	C	R	0.43	23.0	C	R	0.45	23.6	C
Southbound	L	0.52	38.2	D	L	0.66	44.0	D	L	0.58	40.0	D	L	0.64	42.9	D	L	0.63	41.7	D	L	0.73	47.5	D +
	R	0.63	42.9	D	R	0.71	47.7	D	R	0.60	41.5	D	R	0.63	42.9	D	R	0.51	37.7	D	R	0.56	39.7	D
South Street and Rutgers Slip																								
Eastbound	LT	0.59	16.9	B	LT	0.74	22.4	C	LT	0.55	16.1	B	LT	0.60	17.2	B	LT	0.71	20.9	C	LT	0.91	37.7	D
Westbound	TR	16.3	16.3	B	TR	0.64	17.4	B	TR	0.41	13.3	B	TR	0.43	13.5	B	TR	0.71	19.4	B	TR	0.74	20.7	C
South Street and Clinton Street																								
Eastbound	LT	0.72	22.6	C	LT	0.87	35.0	C	LT	0.76	25.3	C	LT	0.83	30.7	C	LT	1.07	82.3	F	LT	1.25	151.0	F +
Westbound	T	0.61	17.2	B	T	0.66	18.5	B	T	0.53	15.6	B	T	0.55	16.0	B	T	0.83	26.4	C	T	0.86	29.1	C
	R	0.16	10.8	B	R	0.21	11.2	B	R	0.17	10.9	B	R	0.20	11.2	B	R	0.25	11.8	B	R	0.31	12.4	B
South Street (North) and Montgomery Street																								
Westbound	LTR	0.92	33.1	C	LTR	0.95	38.6	D	LTR	0.58	16.1	B	LTR	0.60	16.4	B	LTR	1.13	91.9	F	LTR	1.17	106.2	F +
Northbound	LT	0.20	21.5	C	LT	0.21	21.8	C	LT	0.20	21.7	C	LT	0.20	21.7	C	LT	0.83	47.4	D	LT	0.97	75.6	E +
Southbound	TR	0.68	33.2	C	TR	0.97	63.8	E +	TR	0.53	28.3	C	TR	0.64	31.8	C	TR	0.67	32.9	C	TR	0.84	44.5	D
South Street (South) and Montgomery Street																								
Eastbound	LTR	0.39	13.0	B	LTR	0.40	13.1	B	LTR	0.29	11.8	B	LTR	0.29	11.9	B	LTR	0.39	13.0	B	LTR	0.39	13.1	B
Northbound	TR	0.11	20.5	C	TR	0.11	20.5	C	TR	0.16	21.2	C	TR	0.16	21.2	C	TR	0.47	26.0	C	TR	0.47	26.0	C
Southbound	LT	0.74	37.2	D	LT	0.96	64.8	E +	LT	0.64	32.9	C	LT	0.71	36.7	D	LT	1.43	243.3	F	LT	1.63	330.2	F +
Cherry Street and Pike Street																								
Westbound	LTR	0.34	26.2	C	LTR	0.45	28.5	C	LTR	0.28	25.0	C	LTR	0.33	25.8	C	LTR	0.42	27.5	C	LTR	0.49	29.5	C
Northbound	L	0.04	36.2	D	L	0.04	36.2	D	L	0.04	36.2	D	L	0.04	36.2	D	L	0.04	36.1	D	L	0.04	36.1	D
	T	0.31	10.3	B	T	0.33	10.4	B	T	0.24	9.6	A	T	0.24	9.7	A	T	0.27	9.9	A	T	0.28	10.0	B
Southbound	TR	0.32	18.7	B	TR	0.35	19.1	B	TR	0.35	19.1	B	TR	0.37	19.3	B	TR	0.32	18.6	B	TR	0.34	18.9	B
Cherry Street and Rutgers Street																								
Westbound	TR	0.24	16.5	B	TR	0.36	18.2	B	TR	0.23	16.4	B	TR	0.29	17.2	B	TR	0.36	18.1	B	TR	0.47	20.1	C
Northbound	LT	0.11	17.3	B	LT	0.18	18.1	B	LT	0.11	17.4	B	LT	0.15	17.8	B	LT	0.22	18.8	B	LT	0.31	20.1	C
Cherry Street and Montgomery Street																								
Northbound	LT	0.49	17.5	B	LT	0.50	17.7	B	LT	0.30	14.4	B	LT	0.30	14.4	B	LT	0.74	25.5	C	LT	0.78	28.3	C
Southbound	TR	0.73	24.9	C	TR	0.92	40.9	D	TR	0.62	20.8	C	TR	0.68	22.9	C	TR	0.76	26.2	C	TR	0.87	34.5	C
Madison Street and Pike Street (East)																								
Eastbound	L	1.14	140.0	F	L	1.16	150.3	F +	L	0.78	56.3	E	L	0.80	59.0	E	L	0.93	89.3	F	L	0.96	98.7	F +
	T	0.33	24.3	C	T	0.33	24.3	C	T	0.28	25.7	C	T	0.28	25.7	C	T	0.40	27.6	C	T	0.40	27.7	C
Westbound	TR	0.68	34.5	C	TR	0.71	36.3	D	TR	0.57	33.2	C	TR	0.58	33.9	C	TR	0.75	42.4	D	TR	0.79	45.2	D
Northbound	L	0.25	40.4	D	L	0.26	40.5	D	L	0.25	40.6	D	L	0.25	40.6	D	L	0.20	39.2	D	L	0.21	39.4	D
	TR	0.51	22.9	C	TR	0.54	23.4	C	TR	0.37	20.8	C	TR	0.39	21.0	C	TR	0.45	21.7	C	TR	0.47	22.0	C
Madison Street and Pike Street (West)																								
Eastbound	TR	0.87	49.4	D	TR	0.87	50.1	D	TR	0.78	43.6	D	TR	0.78	44.1	D	TR	0.86	50.8	D	TR	0.86	51.1	D
Westbound	L	0.10	22.0	C	L	0.10	22.0	C	L	0.14	25.0	C	L	0.14	25.1	C	L	0.21	27.2	C	L	0.21	27.3	C
	T	0.43	26.0	C	T	0.43	26.0	C	T	0.23	24.9	C	T	0.23	24.9	C	T	0.31	26.1	C	T	0.31	26.1	C
Southbound	L	0.39	45.1	D	L	0.47	48.3	D	L	0.25	37.4	D	L	0.27	37.9	D	L	0.20	36.2	D	L	0.23	36.9	D
	TR	0.42	21.5	C	TR	0.48	22.5	C	TR	0.42	19.5	B	TR	0.45	19.9	C	TR	0.43	19.7	B	TR	0.48	20.5	C
Madison Street and Rutgers Street																								
Eastbound	LT	0.39	13.2	B	LT	0.41	13.5	B	LT	0.31	12.2	B	LT	0.32	12.3	B	LT	0.43	14.0	B	LT	0.45	14.3	B
Westbound	TR	0.45	14.0	B	TR	0.45	14.0	B	TR	0.39	13.3	B	TR	0.40	13.3	B	TR	0.51	15.2	B	TR	0.51	15.3	B
Northbound	LT	0.15	21.9	C	LT	0.26	23.6	C	LT	0.13	21.5	C	LT	0.18	22.1	C	LT	0.20	22.4	C	LT	0.30	23.8	C
	R	0.08	20.9	C	R	0.15	21.7	C	R	0.09	21.0	C	R	0.12	21.4	C	R	0.11	21.3	C	R	0.18	22.1	C
Madison Street and Montgomery Street																								
Eastbound	LTR	0.49	21.7	C	LTR	0.61	25.3	C	LTR	0.47	21.0	C	LTR	0.51	21.9	C	LTR	0.43	20.1	C	LTR	0.53	22.8	C
Westbound	LTR	0.30	17.6	B	LTR	0.31	17.7	B	LTR	0.38	19.1	B	LTR	0.38	19.1	B	LTR	0.52	21.7	C	LTR	0.52	21.8	C
Northbound	LTR	0.47	20.7	C	LTR	0.48	21.0	C	LTR	0.31	17.8	B	LTR	0.32	17.8	B	LTR	1.14	117.4	F	LTR	1.18	133.3	F +
Southbound	LTR	0.59	23.1	C	LTR	0.69	26.8	C	LTR	0.58	23.1	C	LTR	0.62	24.2	C	LTR	0.63	24.5	C	LTR	0.68	26.2	C
Henry Street and Market Street																								
Eastbound	LT	0.14	15.5	B	LT	0.14	15.5	B	LT	0.13	15.3	B	LT	0.13	15.3	B	LT	0.19	16.2	B	LT	0.19	16.2	B
Westbound	TR	0.25	17.1	B	TR	0.26	17.2	B	TR	0.19	16.1	B	TR	0.20	16.2	B	TR	0.24	16.7	B	TR	0.25	16.9	B
Northbound	LTR	0.41	19.3	B	LTR	0.41	19.3	B	LTR	0.65	25.1	C	LTR	0.65	25.1	C	LTR	0.38	18.6	B	LTR	0.38	18.7	B
Henry Street and Pike Street																								
Eastbound	LTR	0.18	23.5	C	LTR	0.18	23.5	C	LTR	0.22	24.0	C	LTR	0.22	24.0	C	LTR	0.26	24.6	C	LTR	0.26	24.6	C
Northbound	TR	0.64	24.3	C	TR	0.67	25.2	C	TR	0.57	22.6	C	TR	0.58	23.0	C	TR	0.57	22.6	C	TR	0.59	23.1	C
Southbound	L	0.15	38.4	D	L	0.18	39.0	D	L	0.15	38.4	D	L	0.17	38.9	D	L	0.21	39.5	D	L	0.21	39.7	D
	TR	0.34	10.6	B	TR	0.36	10.9	B	TR	0.34	10.7	B	TR	0.35	10.8	B	TR	0.35	10.7	B	TR	0.37	11.0	B
East Broadway and Catherine Street																								
Eastbound	TR	0.53	12.6	B	TR	0.57	13.5	B	TR	0.57	13.8	B	TR	0.60	14.3	B	TR	0.55	12.8	B	TR	0.60	13.8	B
Westbound	LT	0.53	13.3	B	LT	0.57	14.3	B	LT	0.52	13.4	B	LT	0.55	13.9	B	LT	0.47	11.8	B	LT	0.50	12.3	B
Southbound	LTR	0.02	23.7	C	LTR	0.02	23.7	C	LTR	0.05	24.3	C	LTR	0.05	24.3	C	LTR	0.05	24.1	C	LTR	0.05	24.1	C

Table 14-23 (cont'd)
2021 No Action and With Action Conditions Level of Service Analysis
Signalized Intersections

	Weekday AM								Weekday Midday								Weekday PM							
	No Action				With Action				No Action				With Action				No Action				With Action			
Intersection	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
East Broadway and Market Street																								
Eastbound	LT	0.56	17.3	B	LT	0.63	19.3	B	LT	0.50	15.8	B	LT	0.55	17.1	B	LT	0.59	17.6	B	LT	0.71	22.2	C
Westbound	TR	0.61	18.7	B	TR	0.65	20.0	B	TR	0.53	16.7	B	TR	0.55	17.2	B	TR	0.65	20.0	B	TR	0.68	20.9	C
Northbound	LTR	0.72	37.4	D	LTR	0.72	37.4	D	LTR	0.84	45.7	D	LTR	0.84	45.7	D	LTR	0.61	31.3	C	LTR	0.62	31.6	C
East Broadway and Pike Street (East)																								
Eastbound	L	0.56	36.2	D	L	0.58	37.8	D	L	0.49	32.6	C	L	0.51	33.3	C	L	0.84	62.3	E	L	0.87	69.1	E +
	T	0.44	25.7	C	T	0.45	25.8	C	T	0.41	24.9	C	T	0.41	25.0	C	T	0.42	25.1	C	T	0.38	24.3	C
Westbound	TR	0.66	33.1	C	TR	0.71	35.6	D	TR	0.62	31.2	C	TR	0.64	32.3	C	TR	0.63	31.5	C	TR	0.67	33.1	C
Northbound	L	0.70	64.4	E	L	0.87	87.2	F +	L	0.61	56.2	E	L	0.69	63.1	E +	L	0.88	86.3	F	L	0.98	107.9	F +
	TR	0.69	26.5	C	TR	0.70	26.9	C	TR	0.55	23.1	C	TR	0.55	23.2	C	TR	0.57	23.2	C	TR	0.57	23.4	C
East Broadway and Pike Street (West)																								
Eastbound	TR	0.99	72.4	E	TR	1.11	107.5	F +	TR	1.02	80.0	E	TR	1.08	98.4	F +	TR	1.07	93.4	F	TR	1.14	118.6	F +
Westbound	L	0.35	29.1	C	L	0.38	30.9	C	L	0.31	27.8	C	L	0.32	28.5	C	L	0.48	36.3	D	L	0.51	38.5	D
	T	0.40	24.8	C	T	0.42	25.2	C	T	0.36	24.1	C	T	0.37	24.2	C	T	0.33	23.5	C	T	0.34	23.7	C
Southbound	L	0.35	47.1	D	L	0.36	47.5	D	L	0.35	47.1	D	L	0.36	47.4	D	L	0.33	45.7	D	L	0.33	45.7	D
	T	0.39	21.6	C	T	0.41	21.9	C	T	0.39	21.6	C	T	0.40	21.7	C	T	0.43	22.1	C	T	0.45	22.3	C
Division Street and Market Street																								
Westbound	T	0.27	18.2	B	T	0.28	18.2	B	T	0.27	18.1	B	T	0.27	18.1	B	T	0.27	18.1	B	T	0.27	18.1	B
Northbound	L	0.67	32.2	C	L	0.68	32.8	C	L	0.93	56.9	E	L	0.95	61.2	E +	L	0.63	29.5	C	L	0.68	31.7	C
Division Street and Allen Street/Pike Street																								
Westbound	LTR	0.32	28.0	C	LTR	0.32	28.0	C	LTR	0.41	30.0	C	LTR	0.41	30.0	C	LTR	0.36	28.5	C	LTR	0.36	28.5	C
Northbound	L	0.47	48.0	D	L	0.47	48.0	D	L	0.66	59.8	E	L	0.66	59.8	E	L	0.53	50.2	D	L	0.53	50.2	D
	T	0.37	10.9	B	T	0.38	11.0	B	T	0.31	10.3	B	T	0.32	10.4	B	T	0.35	10.6	B	T	0.36	10.7	B
Southbound	T	0.34	18.9	B	T	0.35	19.1	B	T	0.31	18.5	B	T	0.32	18.6	B	T	0.32	18.6	B	T	0.33	18.7	B
	R	0.50	25.1	C	R	0.51	25.3	C	R	0.44	23.7	C	R	0.45	23.8	C	R	0.21	18.4	B	R	0.22	18.6	B
Allen Street and Canal Street																								
Eastbound	LTR	1.15	120.3	F	LTR	1.16	123.0	F	LTR	0.83	43.0	D	LTR	0.84	43.8	D	LTR	1.16	121.8	F	LTR	1.17	127.2	F +
Westbound	LTR	0.28	21.3	C	LTR	0.28	21.3	C	LTR	0.34	22.6	C	LTR	0.34	22.6	C	LTR	0.31	21.7	C	LTR	0.31	21.7	C
Northbound	TR	0.65	28.7	C	TR	0.67	29.2	C	TR	0.56	26.5	C	TR	0.57	26.7	C	TR	0.68	29.3	C	TR	0.70	29.8	C
Southbound	LTR	0.41	14.5	B	LTR	0.44	14.8	B	LTR	0.36	13.9	B	LTR	0.37	14.0	B	LTR	0.32	13.4	B	LTR	0.33	13.5	B
Allen Street and Grand Street (East)																								
Eastbound	L	0.54	36.0	D	L	0.54	36.0	D	L	0.36	30.9	C	L	0.36	30.9	C	L	0.44	32.0	C	L	0.44	32.0	C
	T	0.34	23.8	C	T	0.34	23.8	C	T	0.43	27.7	C	T	0.43	27.7	C	T	0.58	30.3	C	T	0.68	35.1	D
Westbound	TR	0.64	31.9	C	TR	0.64	31.9	C	TR	0.68	36.9	D	TR	0.68	36.9	D	TR	0.58	31.5	C	TR	0.58	31.5	C
Northbound	L	0.41	45.5	D	L	0.41	45.5	D	L	0.55	52.2	D	L	0.55	52.2	D	L	0.51	49.2	D	L	0.51	49.2	D
	TR	0.70	27.4	C	TR	0.71	27.9	C	TR	0.54	23.3	C	TR	0.55	23.5	C	TR	0.60	25.0	C	TR	0.62	25.3	C
Allen Street and Grand Street (West)																								
Eastbound	TR	0.79	41.4	D	TR	0.80	42.2	D	TR	1.01	81.7	F	TR	1.01	83.3	F	TR	1.01	76.9	E	TR	1.01	76.9	E
Westbound	L	0.21	23.8	C	L	0.21	23.8	C	L	0.47	37.6	D	L	0.47	37.6	D	L	0.28	29.2	C	L	0.28	29.2	C
	T	0.36	24.0	C	T	0.36	24.0	C	T	0.29	25.2	C	T	0.29	25.2	C	T	0.28	24.1	C	T	0.33	25.2	C
Southbound	L	0.33	43.1	D	L	0.33	43.1	D	L	0.45	44.3	D	L	0.46	44.5	D	L	0.40	42.3	D	L	0.40	42.3	D
	TR	0.57	24.8	C	TR	0.59	25.3	C	TR	0.51	21.6	C	TR	0.52	21.9	C	TR	0.47	21.6	C	TR	0.50	22.1	C
Allen Street and Delancey Street																								
Eastbound	T	1.01	61.4	E	T	1.01	61.4	E	T	0.90	34.1	C	T	0.90	34.1	C	T	0.91	34.8	C	T	0.91	34.8	C
	R	0.17	25.8	C	R	0.17	25.8	C	R	0.21	19.5	B	R	0.21	19.5	B	R	0.13	18.3	B	R	0.13	18.3	B
Westbound	L	0.92	60.0	E	L	0.93	63.2	E	L	1.03	103.4	F	L	1.05	109.3	F +	L	1.04	105.7	F	L	1.06	110.4	F +
	TR	0.67	12.9	B	TR	0.67	13.1	B	TR	0.57	11.4	B	TR	0.57	11.4	B	TR	0.57	11.4	B	TR	0.58	11.4	B
Northbound	T	0.81	40.2	D	T	0.83	41.3	D	T	0.58	32.0	C	T	0.59	32.2	C	T	0.58	31.6	C	T	0.59	32.0	C
	R	0.37	11.2	B	R	0.39	11.4	B	R	0.53	20.4	C	R	0.54	20.6	C	R	0.64	24.0	C	R	0.65	24.4	C
Southbound	TR	0.43	29.1	C	TR	0.44	29.4	C	TR	0.40	28.7	C	TR	0.42	28.9	C	TR	0.53	30.8	C	TR	0.56	31.4	C
Bowery and Canal Street																								
Eastbound	T	0.82	31.0	C	T	0.82	31.0	C	T	0.82	30.9	C	T	0.82	30.9	C	T	1.07	74.1	E	T	1.07	74.1	E
	R	0.35	20.7	C	R	0.38	21.3	C	R	0.26	19.4	B	R	0.29	19.8	B	R	0.18	18.2	B	R	0.22	18.9	B
Westbound	T	0.83	31.1	C	T	0.83	31.1	C	T	0.66	25.0	C	T	0.66	25.0	C	T	0.44	20.8	C	T	0.44	20.8	C
Northbound	T	0.59	33.8	C	T	0.61	34.2	C	T	0.54	32.7	C	T	0.55	32.8	C	T	0.46	31.0	C	T	0.47	31.2	C
Southbound	DefL	0.90	50.7	D	DefL	0.92	52.5	D	DefL	0.87	47.2	D	DefL	0.88	47.5	D	DefL	1.10	96.2	F	DefL	1.10	96.5	F
	TR	0.67	27.1	C	TR	0.69	27.6	C	TR	0.64	26.0	C	TR	0.65	26.3	C	TR	0.38	19.6	B	TR	0.39	19.8	B
Bowery and Bayard Street																								
Eastbound	LR	0.30	23.1	C	LR	0.30	23.1	C	LR	0.59	32.4	C	LR	0.59	32.4	C	LR	0.68	36.8	D	LR	0.68	36.8	D
Northbound	T	0.43	17.9	B	T	0.44	18.1	B	T	0.49	18.8	B	T	0.50	18.9	B	T	0.58	20.1	C	T	0.59	20.2	C
Southbound	T	0.24	15.9	B	T	0.25	16.0	B	T	0.20	15.5	B	T	0.21	15.6	B	T	0.14	15.0	B	T	0.15	15.1	B
Bowery and Division Street/Doyers Street																								
Eastbound	R	0.04	26.4	C	R	0.04	26.4	C	R	0.07	26.8	C	R	0.07	26.8	C	R	0.07	26.8	C	R	0.07	26.8	C
Westbound	L	0.74	51.5	D	L	0.87	67.2	E +	L	0.76	53.0	D	L	0.80	56.8	E	L	0.61	42.9	D	L	0.65	45.0	D
	R	0.59	19.5	B	R	0.60	19.7	B	R	0.67	21.6	C	R	0.67	21.6	C	R	0.59	19.2	B	R	0.59	19.2	B
Northbound	TR	0.36	20.5	C	TR	0.39	20.8	C	TR	0.40	21.0	C	TR	0.41	21.1	C	TR	0.60	24.3	C	TR	0.62	24.5	C
Southbound	T	0.37	20.6	C	T	0.39	20.8	C	T	0.37	20.6	C	T	0.38	20.7	C	T	0.24	19.0	B	T	0.25	19.1	B

Table 14-23 (cont'd)
2021 No Action and With Action Conditions Level of Service Analysis
Signalized Intersections

Intersection	Weekday AM								Weekday Midday								Weekday PM							
	No Action				With Action				No Action				With Action				No Action				With Action			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Chatham Square and East Broadway																								
Westbound	L	0.32	17.7	B	L	0.35	18.1	B	L	0.25	16.6	B	L	0.26	16.8	B	L	0.31	17.3	B	L	0.33	17.6	B
	R	0.18	15.9	B	R	0.21	16.3	B	R	0.15	15.6	B	R	0.16	15.8	B	R	0.23	16.4	B	R	0.24	16.6	B
Northbound	T	0.23	15.9	B	T	0.24	16.0	B	T	0.30	16.7	B	T	0.30	16.7	B	T	0.45	18.5	B	T	0.46	18.6	B
	R	0.52	23.2	C	R	0.55	24.2	C	R	0.73	35.1	D	R	0.78	39.0	D	R	0.88	49.8	D	R	0.97	66.0	E +
Southbound	L	0.69	32.6	C	L	0.78	39.5	D	L	0.82	46.9	D	L	0.87	53.7	D +	L	0.71	38.5	D	L	0.80	48.1	D +
	T	0.29	16.5	B	T	0.32	16.8	B	T	0.26	16.1	B	T	0.26	16.2	B	T	0.19	15.5	B	T	0.20	15.5	B
Chatham Square and Worth Street/Oliver Street																								
Eastbound (Worth Street)	L	1.24	209.1	F	L	1.32	236.4	F +	L	1.08	131.5	F	L	1.13	148.1	F +	L	1.16	145.2	F	L	1.25	177.7	F +
	LTR	1.12	136.6	F	LTR	1.22	173.5	F +	LTR	1.00	91.1	F	LTR	1.05	104.5	F +	LTR	1.16	134.1	F	LTR	1.25	167.5	F +
Eastbound (Mott Street)	LTR	0.58	43.1	D	LTR	0.58	43.1	D	LTR	0.64	45.7	D	LTR	0.64	45.7	D	LTR	0.83	61.0	E	LTR	0.83	61.0	E
Westbound	LT	0.85	44.5	D	LT	0.85	44.5	D	LT	0.56	29.8	C	LT	0.56	29.8	C	LT	0.51	28.5	C	LT	0.51	28.5	C
	R	0.74	41.8	D	R	0.77	44.5	D	R	0.84	53.4	D	R	0.85	54.8	D	R	1.04	92.9	F	R	1.06	96.6	F +
Northbound	LTR	0.08	21.5	C	LTR	0.08	21.5	C	LTR	0.11	21.8	C	LTR	0.11	21.8	C	LTR	0.08	21.5	C	LTR	0.08	21.5	C
Southbound	L	0.99	87.8	F	L	0.99	87.8	F	L	0.69	42.3	D	L	0.69	42.3	D	L	0.72	44.3	D	L	0.72	44.3	D
	TR	0.96	65.5	E	TR	1.09	101.8	F +	TR	1.09	106.9	F	TR	1.16	129.4	F +	TR	0.92	60.6	E	TR	0.99	76.1	E +
Worth Street and Centre Street																								
Eastbound	L	0.35	22.7	C	L	0.37	25.3	C	L	0.25	13.5	B	L	0.25	14.0	B	L	0.22	12.4	B	L	0.22	12.9	B
	T	0.52	18.5	B	T	0.54	19.0	B	T	0.43	13.2	B	T	0.44	13.5	B	T	0.69	19.3	B	T	0.74	21.2	C
Westbound	T	0.73	36.6	D	T	0.85	46.2	D +	T	0.42	22.0	C	T	0.45	22.5	C	T	0.39	21.4	C	T	0.43	22.1	C
	R	0.43	28.6	C	R	0.47	30.0	C	R	0.27	20.4	C	R	0.29	20.8	C	R	0.21	19.0	B	R	0.24	19.3	B
Northbound	L	0.12	17.8	B	L	0.12	17.8	B	L	0.24	24.0	C	L	0.24	24.0	C	L	0.13	21.7	C	L	0.13	21.7	C
	TR	0.62	24.4	C	TR	0.62	24.4	C	TR	0.63	29.0	C	TR	0.63	29.0	C	TR	0.64	28.8	C	TR	0.64	28.8	C
Worth Street and Lafayette Street																								
Eastbound	T	0.42	23.7	C	T	0.44	24.0	C	T	0.38	23.0	C	T	0.41	23.4	C	T	0.56	26.6	C	T	0.63	28.7	C
	R	0.25	21.5	C	R	0.25	21.5	C	R	0.29	22.4	C	R	0.29	22.4	C	R	0.19	20.3	C	R	0.19	20.3	C
Westbound	L	0.41	20.7	C	L	0.41	21.1	C	L	0.41	20.2	C	L	0.41	20.8	C	L	0.30	20.6	C	L	0.31	22.4	C
	T	0.24	14.2	B	T	0.31	15.0	B	T	0.20	13.7	B	T	0.22	13.9	B	T	0.20	13.7	B	T	0.23	14.0	B
Southbound	LTR	0.83	32.2	C	LTR	0.83	32.6	C	LTR	0.75	28.6	C	LTR	0.75	28.7	C	LTR	0.81	30.5	C	LTR	0.81	30.7	C
Worth Street and Broadway																								
Eastbound	TR	0.58	26.2	C	TR	0.59	26.4	C	TR	0.51	24.2	C	TR	0.52	24.4	C	TR	0.56	25.4	C	TR	0.59	26.2	C
Westbound	L	0.32	23.2	C	L	0.33	23.5	C	L	0.36	24.1	C	L	0.37	24.5	C	L	0.29	22.3	C	L	0.30	22.7	C
	T	0.30	20.3	C	T	0.37	21.5	C	T	0.23	19.4	B	T	0.25	19.7	B	T	0.27	20.0	B	T	0.31	20.4	C
Southbound	L	0.20	13.8	B	L	0.21	14.0	B	L	0.19	13.8	B	L	0.22	14.3	B	L	0.27	14.9	B	L	0.33	16.1	B
	TR	0.50	16.4	B	TR	0.50	16.4	B	TR	0.50	16.3	B	TR	0.50	16.3	B	TR	0.71	20.6	C	TR	0.71	20.6	C

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service
+ Denotes a significant adverse traffic impact

Table 14-24
2021 No Action and With Action Conditions Level of Service Analysis
Unsignalized Intersections

Intersection	Weekday AM								Weekday Midday								Weekday PM							
	No Action				With Action				No Action				With Action				No Action				With Action			
	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS	Lane Group	v/c Ratio	Delay (sec)	LOS
Cherry Street and Clinton Street																								
Westbound	TR	0.17	8.2	A	TR	0.17	8.3	A	TR	0.17	8.3	A	TR	0.17	8.4	A	TR	0.25	8.9	A	TR	0.26	9.2	A
Northbound	LT	0.25	8.8	A	LT	0.30	9.3	A	LT	0.28	9.1	A	LT	0.31	9.4	A	LT	0.36	10.0	A	LT	0.43	10.8	B
Pike Street and Monroe Street																								
Eastbound	R	0.08	11.6	B	R	0.09	11.8	B	R	0.10	11.8	B	R	0.09	11.8	B	R	0.09	11.5	B	R	0.09	11.6	B

Notes: L = Left Turn, T = Through, R = Right Turn, DefL = Defacto Left Turn, LOS = Level of Service
+ Denotes a significant adverse traffic impact

- Southbound left-turn at the South Street and Pike Slip intersection would deteriorate within LOS D (from a v/c ratio of 0.63 and 41.7 spv of delay to a v/c ratio of 0.73 and 47.5 spv of delay), an increase in delay of more than 3 seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Eastbound approach at the South Street and Clinton Street intersection would deteriorate within LOS F (from a v/c ratio of 1.07 and 82.3 spv of delay to a v/c ratio of 1.25 and 151.0 spv of delay), an increase in delay of more than 3 seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Westbound approach at the South Street and Montgomery Street (north) intersection would deteriorate within LOS F (from a v/c ratio of 1.13 and 91.9 spv of delay to a v/c ratio of 1.17 and 106.2 spv of delay), and increase of more than 3 seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;

- Northbound approach at the South Street and Montgomery Street (north) intersection would deteriorate from LOS D (v/c ratio of 0.83 and 47.4 spv of delay) to LOS E (v/c ratio of 0.97 and 75.6 spv of delay), an increase in delay of more than 5 seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Southbound approach at the South Street and Montgomery Street (north) intersection would deteriorate from LOS C (v/c ratio of 0.68 and 33.2 spv of delay) to LOS E (v/c ratio of 0.97 abd 63.8 spv of delay), an increase of more than 5 seconds during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Southbound approach at the South Street and Montgomery Street (south) intersection would deteriorate from LOS D (v/c ratio of 0.74 and 37.2 spv of delay) to LOS E (v/c ratio of 0.96 and 64.8 spv of delay), and within LOS F (from a v/c ratio of 1.43 and 243.3 spv of delay to a v/c ratio of 1.63 and 330.2 spv of delay), an increase in delay of more than 5 seconds and 3 seconds during the weekday AM and PM peak hour, respectively. These projected increases in delay constitute a significant adverse impacts;
- Eastbound left-turn at the Madison Street and Pike Street (east) intersection would deteriorate within LOS F (from a v/c ratio of 1.14 and 140.0 spv of delay to a v/c ratio of 1.16 and 150.3 spv of delay), and within LOS F (from a v/c ratio of 0.93 and 89.3 spv of delay to a v/c ratio of 0.96 and 98.7 spv of delay), increases in delay of more than 3 seconds, during the weekday AM and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts;
- Northbound approach at the Madison Street and Montgomery Street Intersection would deteriorate within LOS F (from a v/c ratio of 1.14 and 117.4 spv of delay to a v/c ratio of 1.18 and 133.3 spv of delay), an increase in delay of more than 3 seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Eastbound left-turn at the East Broadway and Pike Street (east) intersection would deteriorate within LOS E (from a v/c ratio of 0.84 and 62.3 spv of delay to a v/c ratio of 0.87 and 69.1 spv of delay), an increase in delay of more than 5 seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Northbound left-turn at the East Broadway and Pike Street (east) intersection would deteriorate from LOS E (v/c ratio of 0.70 and 64.4 spv of delay) to LOS F (v/c ratio of 0.87 and 87.2 spv of delay), within LOS E (from a v/c ratio of 0.61 and 56.2 spv of delay to a v/c ratio of 0.69 and 63.1 spv of delay), and within LOS F (from a v/c ratio of 0.88 and 86.3 spv of delay to a v/c ratio of 0.98 and 107.9 spv of delay), increases in delay of more than 4 seconds, 4 seconds, and 3 seconds, during the weekday AM, midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts;
- Eastbound approach at the East Broadway and Pike Street (west) intersection would deteriorate from LOS E (v/c ratio of 0.99 and 72.4 spv of delay) to LOS F (v/c ratio of 1.11 and 107.5 spv of delay), within LOS F (from a v/c ratio of 1.02 and 80.0 spv of delay to a v/c ratio of 1.08 and 98.4 spv of delay), and within LOS F (from a v/c ratio of 1.07 and 93.4 spv of delay to a v/c ratio of 1.14 and 118.6 spv of delay), increases in delay of more than 4 seconds, 3 seconds, and 3 seconds, during the weekday AM, midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts;
- Northbound left-turn at the Division Street and Market Street intersection would deteriorate within LOS E (from a v/c ratio of 0.93 and 56.9 spv of delay to a v/c ratio of 0.95 and 61.2

spv of delay), an increase in delay of more than 4 seconds during the weekday midday peak hour. This projected increase in delay constitutes a significant adverse impact;

- Eastbound approach at the Canal Street and Allen Street intersection would deteriorate within LOS F (from a v/c ratio of 1.16 and 121.8 spv of delay to a v/c ratio of 1.17 and 127.2 spv of delay), an increase in delay of more than 3 seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Westbound left-turn at the Allen Street and Delancey Street intersection would deteriorate within LOS F (from a v/c ratio of 1.03 and 103.4 spv of delay to a v/c ratio of 1.05 and 109.3 spv of delay), and within LOS F (from a v/c ratio of 1.04 and 105.7 spv of delay to a v/c ratio of 1.06 and 110.4 spv of delay), increases in delay of more than 3 seconds during the weekday midday and PM peak hours. These projected increases in delay constitute significant adverse impacts;
- Westbound left-turn at The Bowery and Division Street/Doyers Street intersection would deteriorate from LOS D (v/c ratio of 0.74 and 51.5 spv of delay) to LOS E (v/c ratio of 0.87 and 67.2 spv of delay), an increase in delay of more than 5 seconds, during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Northbound right-turn at the Chatham Square and East Broadway intersection would deteriorate from LOS D (v/c ratio of 0.88 and 49.8 spv of delay) to LOS E (v/c ratio of 0.97 and 66.0 spv of delay), an increase in delay of more than 5 seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;
- Southbound left-turn at the Chatham Square and East Broadway intersection would deteriorate within LOS D (from a v/c ratio of 0.82 and 46.9 spv of delay to a v/c ratio of 0.87 and 53.7 spv of delay), and within LOS D (from a v/c ratio of 0.71 and 38.5 spv of delay to a v/c ratio of 0.80 and 48.1 spv of delay), increases in delay of more than 5 seconds during the weekday midday and PM peak hours. These projected increases in delay constitute significant adverse impacts;
- Eastbound (Worth Street) left-turn at the Chatham Square and Worth Street/Oliver Street intersection would deteriorate within LOS F (from a v/c ratio of 1.24 and 209.1 spv of delay to a v/c ratio of 1.32 and 236.4 spv of delay), within LOS F (from a v/c ratio of 1.08 and 131.5 spv of delay to a v/c ratio of 1.13 and 148.1 spv of delay), and within LOS F (from a v/c ratio of 1.16 and 145.2 spv of delay to a v/c ratio of 1.25 and 177.7 spv of delay), increases in delay of more than 3 seconds during the weekday AM, midday and PM peak hours. These projected increases in delay constitute significant adverse impacts;
- Eastbound (Worth Street) shared lane at the Chatham Square and Worth Street/Oliver Street intersection would deteriorate within LOS F (from a v/c ratio of 1.12 and 136.6 spv of delay to a v/c ratio of 1.22 and 173.5 spv of delay), within LOS F (from a v/c ratio of 1.00 and 91.1 spv of delay to a v/c ratio of 1.05 and 104.5 spv of delay), and within LOS F (from a v/c ratio of 1.16 and 134.1 spv of delay to a v/c ratio of 1.25 and 167.5 spv of delay), increases in delay of more than 3 seconds during the weekday AM, midday and PM peak hours. These projected increases in delay constitute significant adverse impacts;
- Westbound right-turn at the Chatham Square and Worth Street/Oliver Street intersection would deteriorate within LOS F (from a v/c ratio of 1.04 and 92.9 spv of delay to a v/c ratio of 1.06 and 96.6 spv of delay), an increase of more than 3 seconds during the weekday PM peak hour. This projected increase in delay constitutes a significant adverse impact;

- Southbound shared lane at the Chatham Square and Worth Street/Oliver Street intersection would deteriorate from LOS E (v/c ratio of 0.96 and 65.5 spv of delay) to LOS F (v/c ratio of 1.09 and 101.8 spv of delay), within LOS F (from a v/c ratio of 1.09 and 106.9 spv of delay to a v/c ratio of 1.16 and 129.4 spv of delay), and within LOS E (from a v/c ratio of 0.92 and 60.6 spv of delay to a v/c ratio of 0.99 and 76.1 spv of delay), increases in delay of more than 4 seconds, 3 seconds, and 4 seconds during the weekday AM, midday and PM peak hours, respectively. These projected increases in delay constitute significant adverse impacts; and
- Westbound through at the Worth Street and Centre Street intersection would deteriorate within LOS D (from a v/c ratio of 0.73 and 36.6 spv of delay to a v/c ratio of 0.85 and 46.2 spv of delay), an increase of more than 5 seconds during the weekday AM peak hour. This projected increase in delay constitutes a significant adverse impact.

E. DETAILED TRANSIT ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology and Screening Assessment," the East Broadway Station (F line) has been selected for station analysis for the weekday AM and PM peak hours. Subway line-haul analysis for F line was also conducted for weekday AM and PM peak hours.

EXISTING CONDITIONS

SUBWAY SERVICE

Subway station data collection was conducted in March 2017 during the hours of 7:00 to 10:00 AM and 4:00 to 7:00 PM to establish the baseline volumes for the subway station analysis. As shown in **Tables 14-25 and 14-26**, all analyzed vertical circulation elements and control areas currently operate at acceptable levels during the weekday AM and PM peak periods, exception for the S1 stairway at the East Broadway-Rutgers Street Station during the AM peak period (v/c ratio of 1.15).

With regard to subway line-haul conditions, ridership, and train throughput data from NYCT were reviewed to identify ridership levels for the F line's peak load points in the peak direction of travel. As summarized in **Table 14-27**, the F line is currently operating at approximately 87-percent capacity in the peak northbound direction during the weekday AM peak hour and at approximately 85-percent capacity in the peak southbound direction during the weekday PM peak hour.

THE FUTURE WITHOUT THE PROPOSED PROJECTS

SUBWAY SERVICE

Estimates of peak hour transit volumes in the 2021 No Action condition were developed by applying the *CEQR Technical Manual* recommended annual background growth rates. An additional three percent of transit volume growth to account for small- to moderate-sized No Build projects within a ½-mile of the project sites, and trips generated by two discrete No Build projects in the area were also incorporated into the future No Action transit volumes.

Table 14-25
Existing Conditions Subway Vertical Circulation Element Analysis
East Broadway-Rutgers Street Station

Stair	Location	Effective Width (ft.)	Peak Hour Volumes		Peak 15-Minute Volumes		Surge Factor		Friction Factor	V/C Ratio	LOS
			Entry	Exit	Entry	Exit	Up	Down			
AM Peak Hour											
P3	Platform	4.00	907	346	283	108	0.75	1.00	0.90	0.79	C
P4	Platform	4.00	69	298	22	93	0.75	1.00	0.90	0.27	A
S1	Street Level	3.50	978	685	306	214	0.90	1.00	0.90	1.15	D
PM Peak Hour											
P3	Platform	4.00	340	352	106	110	0.75	1.00	0.90	0.47	B
P4	Platform	4.00	49	331	15	103	0.75	1.00	0.90	0.28	A
S1	Street Level	3.50	351	753	110	235	0.90	1.00	0.90	0.79	C

Table 14-26
Existing Conditions Fare Array Analysis
East Broadway-Rutgers Street Station

Control Element	Quantity	Peak Hour Volumes		Peak 15-Minute Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		Entry	Exit	Entry	Exit				
Weekday AM									
Two-Way Turnstiles	3	993	630	310	197	0.80	0.90	0.41	A
Weekday PM									
Two-Way Turnstiles	3	374	681	117	213	0.80	0.90	0.26	A

Table 14-27
Existing Conditions Subway Line-haul Analysis
F Line

Subway Line/Direction	Max. Load Point	Average Trains/hr	Cars/Train	Average Number of Cars/hr	Average Passenger/hr	Peak Hour Capacity	V/C Ratio
Weekday AM Peak Hour							
F/NB	Second Avenue	13.9	10	139	16,244	18,765	0.87
Weekday PM Peak Hour							
F/SB	Broadway – Lafayette Street	14.1	10	141	16,184	19,035	0.85

Source: MTA 2014 cordon counts, grown to 2017 existing conditions volumes

As shown in **Tables 14-28 to 14-30**, the levels of service at the analyzed subway station vertical circulation elements and control area at the East Broadway-Rutgers Street subway station would operate at acceptable levels, with the exception of the S1 and P3 stairways during the AM and PM peak periods. The line-haul capacity for the F line will operate at deteriorated levels when compared to the existing condition.

Table 14-28
No Action Condition Subway Vertical Circulation Element Analysis
East Broadway-Rutgers Street Station

Stair	Location	Effective Width (ft.)	Peak Hour Volumes		Peak 15-Minute Volumes		Surge Factor		Friction Factor	V/C Ratio	LOS
			Entry	Exit	Entry	Exit	Up	Down			
AM Peak Hour											
P3	Platform	4.00	1,225	389	383	122	0.75	1.00	0.90	1.01	D
P4	Platform	4.00	93	335	29	105	0.75	1.00	0.90	0.31	A
S1	Street Level	3.50	1320	767	413	240	0.9	1.00	0.90	1.44	E
PM Peak Hour											
P3	Platform	4.00	471	519	147	162	0.75	1.00	0.90	0.67	B
P4	Platform	4.00	68	487	21	152	0.75	1.00	0.90	0.41	A
S1	Street Level	3.50	501	1,078	157	337	0.90	1.00	0.90	1.12	D

Table 14-29
2021 No Action Condition Fare Array Analysis
East Broadway-Rutgers Street Station

Control Element	Quantity	Peak Hour Volumes		Peak 15-Minute Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		Entry	Exit	Entry	Exit				
Weekday AM									
Two-Way Turnstiles	3	1,336	710	418	222	0.80	0.90	0.53	B
Weekday PM									
Two-Way Turnstiles	3	524	1,003	164	313	0.80	0.90	0.37	A

Table 14-30
2021 No Action Condition Subway Line-haul Analysis
F Line

Subway Line/Direction	Max. Load Point	Average Trains/hr	Cars/Train	Average Number of Cars/hr	Average Passenger/hr	Peak Hour Capacity	V/C Ratio
Weekday AM Peak Hour							
F/NB	Second Avenue	13.9	10	139	17,021	18,765	0.92
Weekday PM Peak Hour							
F/SB	Broadway – Lafayette Street	14.1	10	141	16,958	19,035	0.91

THE FUTURE WITH THE PROPOSED PROJECTS

SUBWAY SERVICE

The P3 and P4 platform stairways are approximately 80 feet apart and connect to the intermediate mezzanine level, which has a ramp leading to a single control area at the upper mezzanine level. As usage of the P3 stairway (which is closer to the adjacent control area) is operating over capacity, a shift in subway rider preference to the P4 stairway is anticipated to occur under With Action condition. Approximately 80 percent of the project-generated outbound subway trips were assigned to the P3 stairway with the remaining trips to the P4 stairway. This behavior pattern was accounted for in the analyses presented below in consultant with NYCT.

As shown in **Table 14-31 through 14-32**, the subway station vertical elements and control area level of service would operate at acceptable levels of service with the exception of the S1

stairway during the AM and PM peak periods and the P3 stairway during the AM peak period. For the S1 stairway, corresponding WITs for the AM and PM peak periods have been calculated at 19.1 and 6.6, respectively. Since these values are greater than the CEQR impact thresholds depicted in **Table 14-11**, it is determined that the proposed projects would result in a significant adverse impact on the S1 stairway at the East Broadway-Rutgers Street Station. The corresponding WIT for the P3 stairway during the AM peak period has been calculated at 6.4. Since this value is above the CEQR impact thresholds depicted in **Table 14-11**, the projected condition for the P3 stairway constitutes significant adverse impact. Potential measures to mitigate these projected impacts are described in Chapter 21, "Mitigation."

Table 14-31
With Action Condition Subway Vertical Circulation Element Analysis
East Broadway-Rutgers Street Station

Stair	Location	Effective Width (ft.)	Peak Hour Volumes		Peak 15-Minute Volumes		Surge Factor		Friction Factor	V/C Ratio	LOS
			Entry	Exit	Entry	Exit	Up	Down			
AM Peak Hour											
P3	Platform	4.00	1,868	463	584	145	0.75	1.00	0.90	1.44	E
P4	Platform	4.00	254	399	79	125	0.75	1.00	0.90	0.45	B
S1	Street Level	3.50	2,124	905	664	283	0.90	1.00	0.90	2.07	F
PM Peak Hour											
P3	Platform	4.00	764	837	239	262	0.75	1.00	0.90	1.09	D
P4	Platform	4.00	110	786	34	246	0.75	1.00	0.90	0.67	B
S1	Street Level	3.50	836	1,695	261	530	0.90	1.00	0.90	1.80	F

Table 14-32
2021 With Action Condition Fare Array Analysis
East Broadway-Rutgers Street Station

Control Element	Quantity	Peak Hour Volumes		Peak 15-Minute Volumes		Surging Factor	Friction Factor	V/C Ratio	LOS
		Entry	Exit	Entry	Exit				
Weekday AM									
Two-Way Turnstiles	3	2,140	848	669	265	0.80	0.90	0.78	C
Weekday PM									
Two-Way Turnstiles	3	859	1,620	268	506	0.80	0.90	0.60	B

With regard to subway line-haul conditions, trip increments associated with the proposed project would be expected to result in increases in ridership levels for the F line. However, as shown in **Table 14-33**, no significant adverse line-haul impacts would be expected from these increases in ridership levels.

Table 14-33
2021 With Action Condition Subway Line-haul Analysis
F Line

Subway Line/Direction	Max. Load Point	Average Trains/hr	Cars/Train	Average Number of Cars/hr	Average Passenger/ hr	Peak Hour Capacity	V/C Ratio
Weekday AM Peak Hour							
F/NB	Second Avenue	13.9	10	139	18,233	18,765	0.97
Weekday PM Peak Hour							
F/SB	Broadway – Lafayette Street	14.1	10	141	18,315	19,035	0.96

F. DETAILED PEDESTRIANS ANALYSIS

As described above in Section B, "Preliminary Analysis Methodology, and Screening Assessment," Level 1 and Level 2 screening analyses were prepared to identify the pedestrian elements that warranted a detailed analysis. Based on the assignment of pedestrian trips, 18 sidewalks, 16 corner reservoirs, and 12 crosswalks were selected for analysis for the weekday AM, midday, and PM peak hours.

EXISTING CONDITIONS

Pedestrian data were collected in May 2016 and March 2017 in accordance with procedures outlined in the *CEQR Technical Manual* during the weekday hours of 7:00 AM–10:00 AM, 11:00 AM–2:00 PM, and 4:00 PM–7:00 PM.

STREET-LEVEL PEDESTRIAN OPERATIONS

Peak hours were determined by comparing rolling hourly averages and the highest 15-minute volumes within the selected peak hours were selected for analysis. The existing peak hour pedestrian volumes are shown in **Figures 14-20 through 14-22**. A summary of the existing conditions pedestrian analysis results is presented in **Table 14-34**.

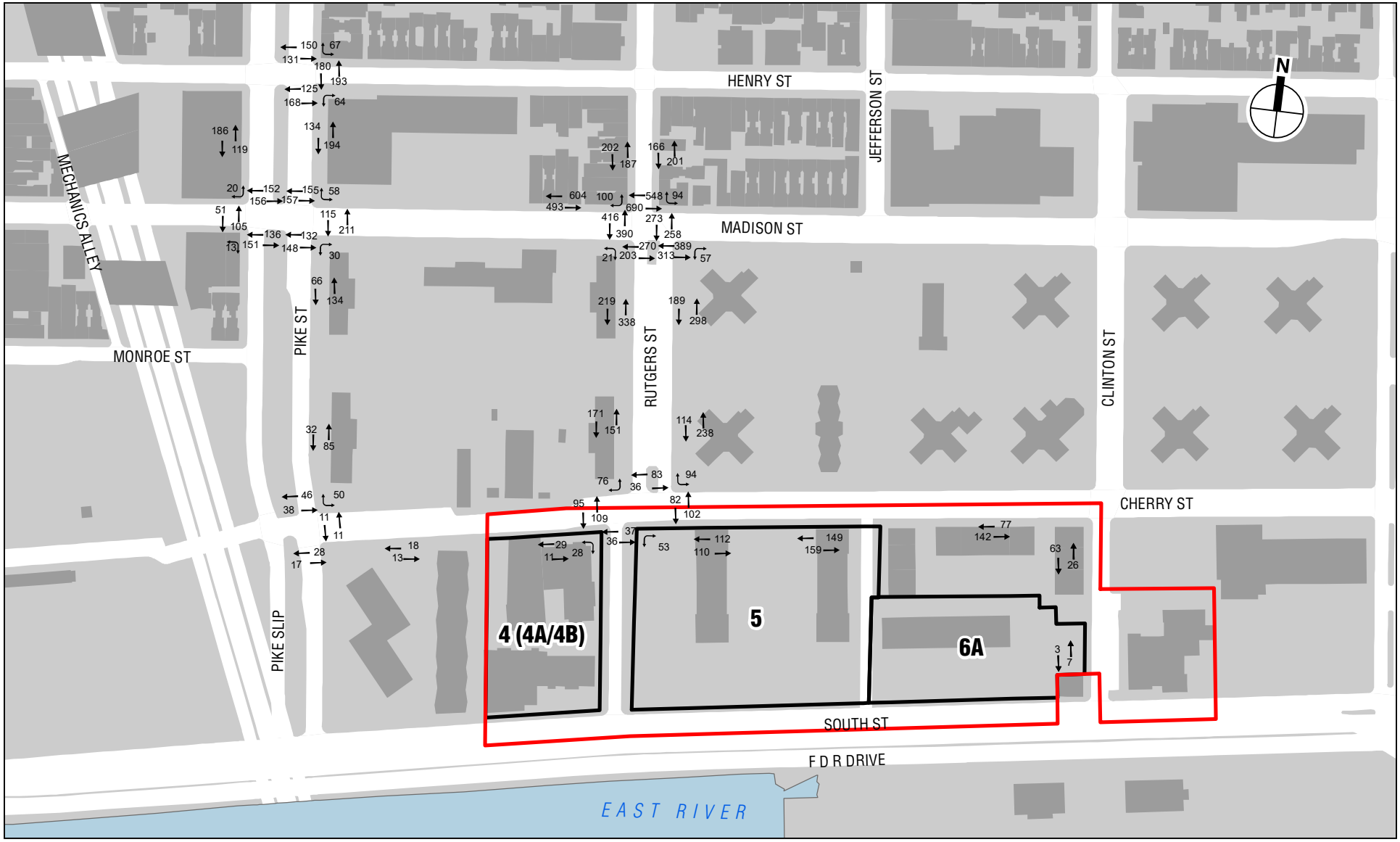
Table 14-34
Summary of Existing Pedestrian Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Sidewalks			
Sidewalks at LOS A/B/C	18	18	18
Sidewalks at LOS D	0	0	0
Sidewalks at LOS E	0	0	0
Sidewalks at LOS F	0	0	0
Total	18	18	18
Corners*			
Crosswalks at LOS A/B/C	15	15	15
Crosswalks at LOS D	0	0	0
Crosswalks at LOS E	0	0	0
Crosswalks at LOS F	0	0	0
Total	15	15	15
Crosswalks			
Corners at LOS A/B/C	11	12	12
Corners at LOS D	1	0	0
Corners at LOS E	0	0	0
Corners at LOS F	0	0	0
Total	12	12	12

Notes: LOS = Level-of-Service.
* While there are 16 corners included in analysis, one of the corners were closed under existing conditions due to construction activities.

As shown in **Tables 14-35 through 14-37**, all sidewalk, corner reservoir, and crosswalk analysis locations currently operate at favorable LOS C or better, except for the North Crosswalk at Rutgers Street and Madison Street in AM peak hour (minimum of 31.5 SFP platoon flow for sidewalks; minimum of 19.5 SFP for corners and crosswalk).

11.19.18

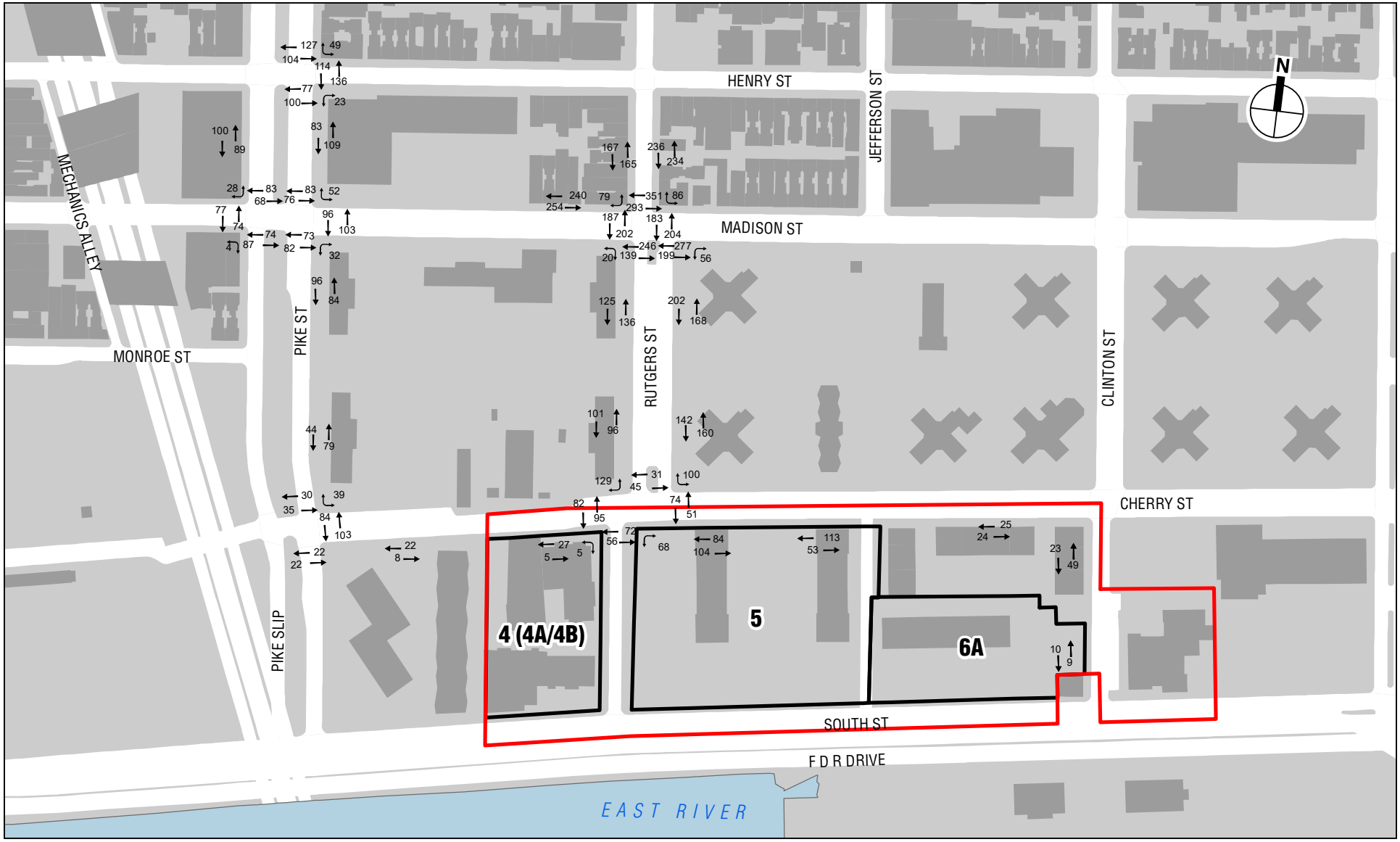


Existing Pedestrian Volumes
Weekday AM Peak Hour

TWO BRIDGES LSRD

Figure 14-20

11.19.18



Project Sites

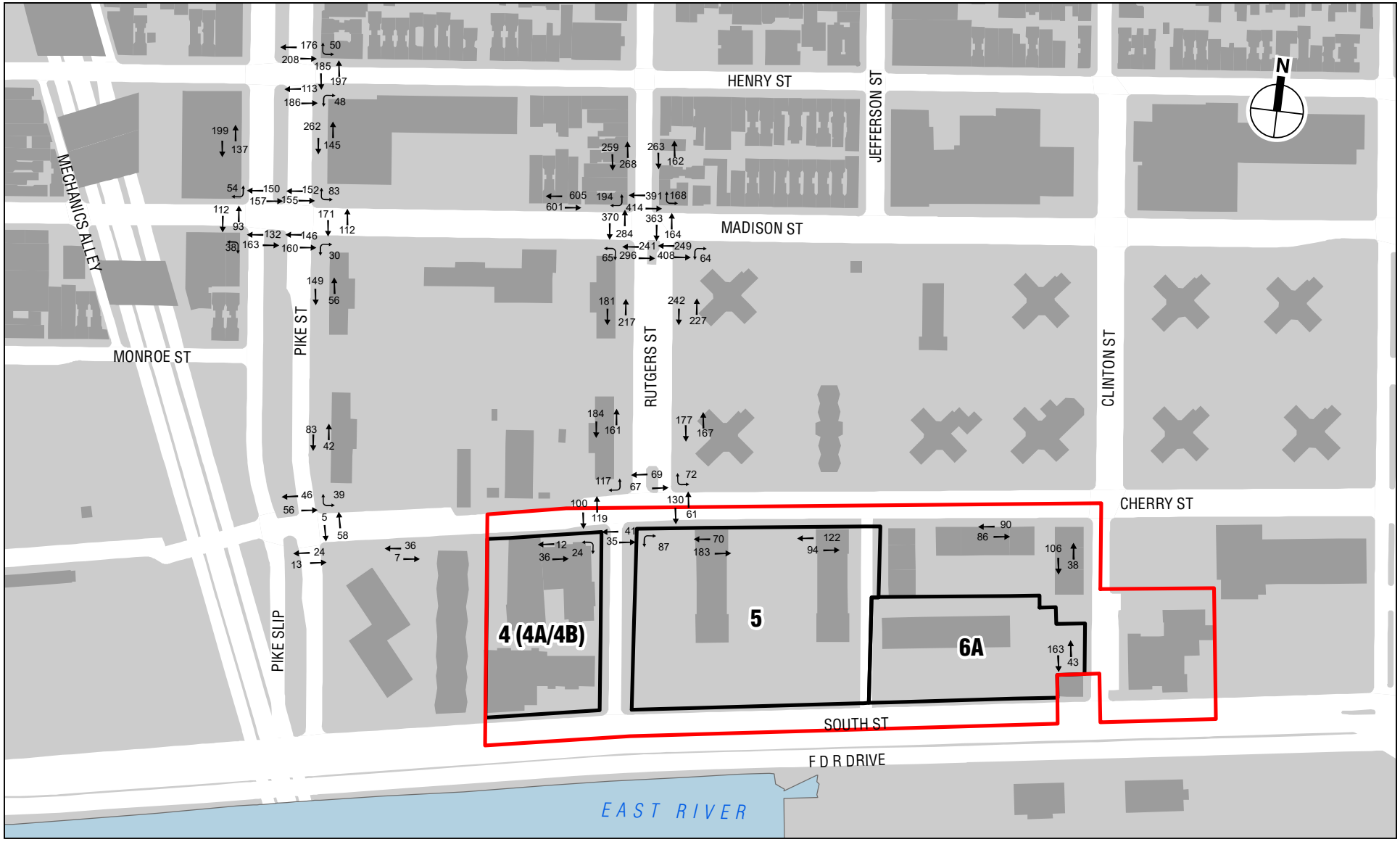
Boundary of Two Bridges LSRD

Existing Pedestrian Volumes
Weekday Midday Peak Hour

TWO BRIDGES LSRD

Figure 14-21

11.19.18



Project Sites

Boundary of Two Bridges LSRD

Existing Pedestrian Volumes
Weekday PM Peak Hour

TWO BRIDGES LSRD

Figure 14-22

Table 14-35
Existing Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Pike Street between Henry Street and Madison Street	East	5.5	328	~~0.80~~0.65	~~212.2~~172.3	B
Pike Street between Henry Street and Madison Street	West	4.5	305	0.86	200.7	B
Rutgers Street between Madison Street and Henry Street	East	3.5	367	~~0.80~~0.75	~~120.4~~112.8	B
Rutgers Street between Madison Street and Henry Street	West	2.5	389	~~0.80~~0.77	~~80.8~~77.7	C
Pike Street between Madison Street and Monroe Street	East	6.5	200	0.81	416.9	B
Rutgers Street between Madison Street and Monroe Street	West	6.5	557	~~0.80~~0.78	~~147.5~~143.8	B
Madison Street between Rutgers Street and Pike Street	North	5.0	1097	~~0.80~~0.69	~~56.8~~48.7	C
Rutgers Street between Madison Street and Monroe Street	East	9.0	487	0.91	266.2	B
Pike Street between Monroe Street and Cherry Street	East	6.5	117	0.81	712.7	A
Cherry Street between Pike Street and Site 4 (4A/4B) Residential Entrance	South	2.5	31	~~0.80~~0.65	~~1021.9~~ 830.3	A
Rutgers Street between Monroe Street and Cherry Street	East	8.5	352	0.85	325.0	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 5 Entrance	South	8.5	222	~~0.80~~0.62	~~485.1~~ 375.9	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 4 (4A/4B) Residential Entrance	South	6.5	40	0.83	2136.4	A
Rutgers Street between Cherry Street and Monroe Street	West	6.5	322	0.85	271.6	B
Cherry Street Between Site 5 Entrance and Jefferson Street	South	10.0	308	~~0.80~~0.74	~~411.3~~ 380.4	B
Clinton Street between Cherry Street and Plaza Entrance	West	6.5	89	~~0.80~~0.72	~~925.4~~832.9	A
Cherry Street between Jefferson Street and Clinton Street	South	5.5	219	~~0.80~~0.62	~~318.1~~246.4	B
Clinton Street between Plaza Entrance and South Street	West	5.5	10	~~0.80~~0.63	~~6969.6~~5488.6	A
Weekday Midday Peak Hour						
Pike Street between Henry Street and Madison Street	East	5.5	192	0.81	367.4	B
Pike Street between Henry Street and Madison Street	West	4.5	189	0.89	335.5	B
Rutgers Street between Madison Street and Henry Street	East	3.5	470	0.90	105.6	B
Rutgers Street between Madison Street and Henry Street	West	2.5	332	0.84	99.7	B
Pike Street between Madison Street and Monroe Street	East	6.5	180	0.87	497.5	B
Rutgers Street between Madison Street and Monroe Street	West	6.5	261	0.86	339.1	B
Madison Street between Rutgers Street and Pike Street	North	5.0	494	0.89	142.3	B
Rutgers Street between Madison Street and Monroe Street	East	9.0	370	0.88	338.9	B
Pike Street between Monroe Street and Cherry Street	East	6.5	123	~~0.80~~0.73	~~669.6~~611.0	A
Cherry Street between Pike Street and Site 4 (4A/4B) Residential Entrance	South	2.5	30	~~0.80~~0.68	~~1055.9~~ 897.5	A
Rutgers Street between Monroe Street and Cherry Street	East	8.5	302	~~0.80~~0.77	~~356.5~~343.1	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 5 Entrance	South	8.5	188	~~0.80~~0.67	~~572.8~~ 479.7	~~A~~B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 4 (4A/4B) Residential Entrance	South	6.5	32	0.80	2574.0	A
Rutgers Street between Cherry Street and Monroe Street	West	6.5	197	0.93	485.9	B
Cherry Street Between Site 5 Entrance and Jefferson Street	South	10.0	166	0.94	896.9	A
Clinton Street between Cherry Street and Plaza Entrance	West	6.5	72	~~0.80~~0.67	~~1144.0~~958.0	A
Cherry Street between Jefferson Street and Clinton Street	South	5.5	49	~~0.80~~0.64	~~1422.3~~1137.8	A
Clinton Street between Plaza Entrance and South Street	West	5.5	19	~~0.80~~0.59	~~3668.2~~2705.3	A
Weekday PM Peak Hour						
Pike Street between Henry Street and Madison Street	East	5.5	407	~~0.80~~0.76	~~170.9~~162.3	B
Pike Street between Henry Street and Madison Street	West	4.5	336	~~0.80~~0.71	~~169.4~~150.3	B
Rutgers Street between Madison Street and Henry Street	East	3.5	425	0.93	120.9	B
Rutgers Street between Madison Street and Henry Street	West	2.5	527	0.83	61.5	C
Pike Street between Madison Street and Monroe Street	East	6.5	205	0.87	436.8	B
Rutgers Street between Madison Street and Monroe Street	West	6.5	398	0.93	240.3	B
Madison Street between Rutgers Street and Pike Street	North	5.0	1206	0.83	53.5	C
Rutgers Street between Madison Street and Monroe Street	East	9.0	469	0.88	267.3	B
Pike Street between Monroe Street and Cherry Street	East	6.5	125	0.92	757.7	A
Cherry Street between Pike Street and Site 4 (4A/4B) Residential Entrance	South	2.5	43	~~0.80~~0.51	~~736.7~~469.6	~~A~~B
Rutgers Street between Monroe Street and Cherry Street	East	8.5	344	0.83	324.7	B

Table 14-35 (cont'd)
Existing Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday PM Peak Hour (cont'd)						
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 5 Entrance	South	8.5	253	0.80	425.9	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 4 (4A/4B) Residential Entrance	South	6.5	48	~~0.80~~0.63	~~1716.0~~1351.3	A
Rutgers Street between Cherry Street and Monroe Street	West	6.5	345	0.94	280.3	B
Cherry Street Between Site 5 Entrance and Jefferson Street	South	10.0	216	0.83	608.6	A
Clinton Street between Cherry Street and Plaza Entrance	West	6.5	144	~~0.80~~0.61	~~571.9~~436.0	~~A~~B
Cherry Street between Jefferson Street and Clinton Street	South	5.5	176	~~0.80~~0.70	~~395.9~~346.3	B
Clinton Street between Plaza Entrance and South Street	West	5.5	206	~~0.80~~0.55	~~338.2~~232.4	B

Note: SFP = square feet per pedestrian.

Table 14-36
Existing Conditions: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS
Pike Street and Henry Street	Northeast	~~177.6~~171.3	A	~~262.1~~261.1	A	~~150.8~~149.8	A
	Southeast	~~175.8~~156.2	A	344.8	A	~~175.4~~167.5	A
Pike Street and Madison Street (West)	Northwest	~~206.8~~195.6	A	~~317.1~~352.9	A	190.9	A
	Southwest	~~227.2~~214.9	A	~~333.3~~352.6	A	~~189.9~~185.0	A
Pike Street and Madison Street (East)	Northeast	~~174.5~~163.7	A	317.5	A	186.3	A
	Southeast	~~225.0~~218.2	A	388.5	A	229.8	A
Rutgers Street and Madison Street	Northwest	~~49.9~~49.6	B	119.8	A	78.1	A
	Northeast	~~51.8~~50.1	B	102.6	A	75.9	A
	Southwest	~~97.6~~97.3	A	~~181.8~~180.5	A	~~115.1~~114.8	A
	Southeast	~~169.5~~163.7	A	~~263.5~~262.7	A	214.7	A
Pike Street and Cherry Street*	Northeast	~~1079.0~~983.6	A	~~538.5~~381.5	A	~~770.7~~442.7	A
	Southeast	N/A	N/A	N/A	N/A	N/A	N/A
Cherry Street and Rutgers Street	Northeast	~~359.9~~278.8	A	~~466.9~~437.8	A	~~355.4~~341.4	A
	Southwest	307.2	A	~~300.4~~289.3	A	~~295.9~~288.0	A
	Northwest	952.8	A	~~869.5~~818.0	A	~~672.3~~568.2	A
	Southeast	941.7	A	584.4	A	~~695.9~~686.3	A

Note: SFP = square foot per pedestrian
* The southeast corner at this intersection was closed under existing conditions due to construction activities.

Table 14-37
Existing Conditions: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	Two-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
Pike Street and Henry Street	East	30.5	14.5	373	87.6	A
Pike Street and Madison Street (East)	East	50.0	15.0	326	88.4	A
Rutgers Street and Madison Street	North	29.5	14.0	1238	23.3	D
	East	50.5	14.0	531	~~42.9~~42.4	B
	South (West of the Median)	23.0	15.0	473	69.8	A
	West	50.0	15.0	806	31.6	C
	South (East of the Median)	23.0	15.0	702	45.5	B
Pike Street and Cherry Street	East	52.0	14.0	22	~~2265.4~~ 1953.4	A
Rutgers Street and Cherry Street	North	71.0	16.0	119	278.8	A
	East	50.5	13.5	184	183.3	A
	South	21.5	14.5	73	323.6	A
	West	50.5	13.0	204	158.5	A
Weekday Midday Peak Hour						
Pike Street and Henry Street	East	30.5	14.5	250	153.1	A
Pike Street and Madison Street (East)	East	50.0	15.0	199	151.2	A
Rutgers Street and Madison Street	North	29.5	14.0	644	51.7	B
	East	50.5	14.0	387	65.3	A
	South (West of the Median)	23.0	15.0	385	95.9	A
	West	50.0	15.0	389	72.6	A
	South (East of the Median)	23.0	15.0	476	74.9	A
Pike Street and Cherry Street	East	52.0	14.0	187	~~263.2~~ 166.5	A
Rutgers Street and Cherry Street	North	71.0	16.0	76	465.7	A
	East	50.5	13.5	125	~~249.2~~236.6	A
	South	21.5	14.5	128	175.7	A
	West	50.5	13.0	177	191.6	A
Weekday PM Peak Hour						
Pike Street and Henry Street	East	30.5	14.5	382	82.6	A
Pike Street and Madison Street (East)	East	50.0	15.0	283	98.9	A
Rutgers Street and Madison Street	North	29.5	14.0	805	41.7	B
	East	50.5	14.0	527	49.3	B
	South (West of the Median)	23.0	15.0	537	71.7	A
	West	50.0	15.0	654	43.6	B
	South (East of the Median)	23..0	15.0	657	58.1	B
Pike Street and Cherry Street	East	52.0	14.0	63	~~786.0~~350.3	A
Rutgers Street and Cherry Street	North	71.0	16.0	136	~~228.8~~217.3	A
	East	50.5	13.5	191	182.3	A
	South	21.5	14.5	76	310.6	A
	West	50.5	13.0	219	150.6	A

Note: SFP = square feet per pedestrian

THE FUTURE WITHOUT THE PROPOSED PROJECTS

Future 2021 No Action condition pedestrian volumes were estimated by increasing existing pedestrian levels to reflect expected growth in overall travel through and within the study area. As per CEQR guidelines, an annual background growth rate of 0.25 percent was assumed for the proposed projects' anticipated build year of 2021. An additional three percent of pedestrian volume growth to account for small- to moderate-sized No Build projects within a ½ mile of the project sites, and trips generated by two discrete No Build projects in the area were also incorporated into the future No Action pedestrian volumes. The 2021 No Action pedestrian volumes for the weekday AM, midday, and PM peak hours are presented in **Figures 14-23 through 14-25**.

STREET-LEVEL PEDESTRIAN OPERATIONS

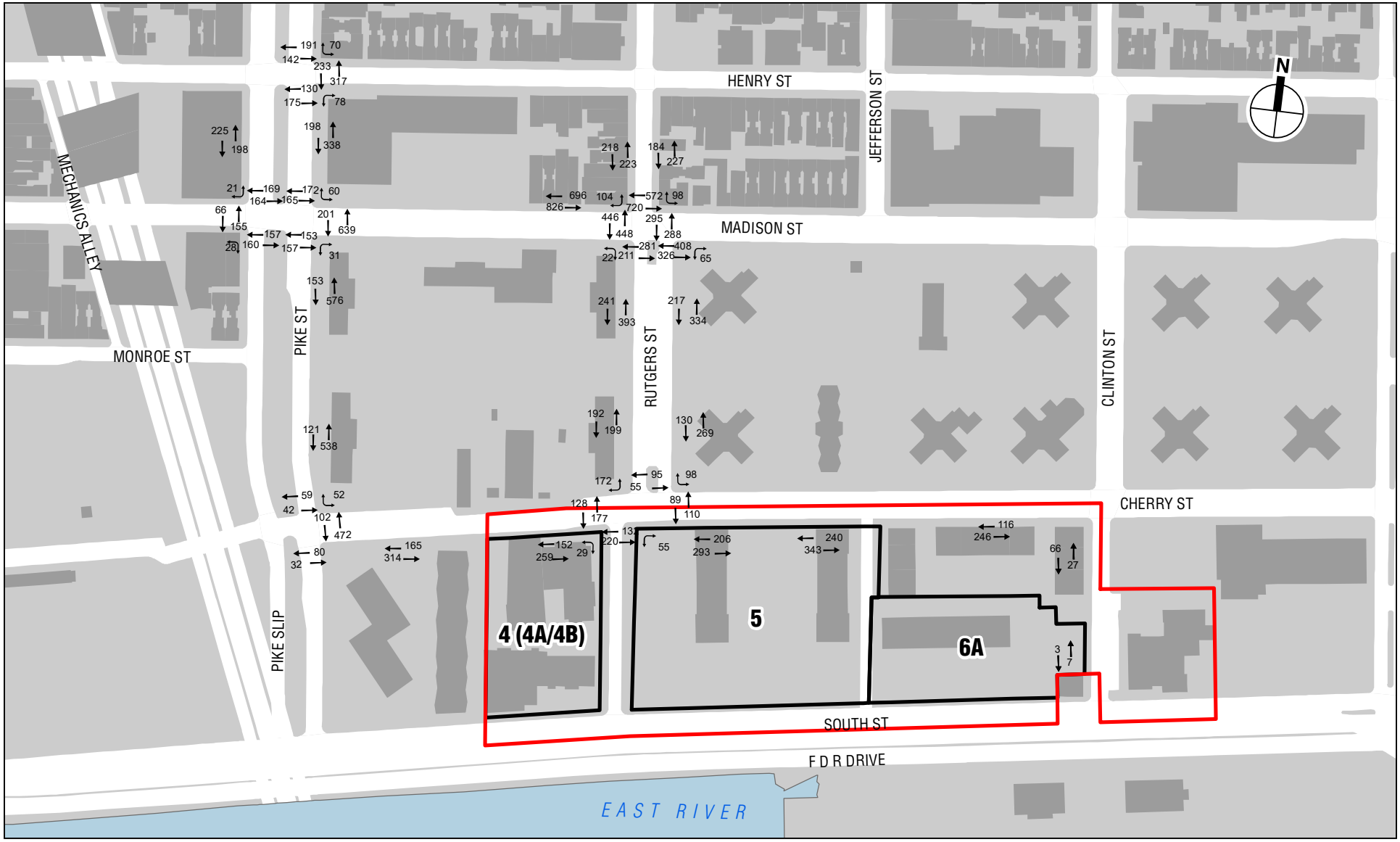
A summary of the 2021 No Action condition pedestrian analysis results is presented in **Table 14-38**.

Table 14-38
Summary of 2021 No Action Pedestrian Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Sidewalks			
Sidewalks at LOS A/B/C	~~18~~17	18	17
Sidewalks at LOS D	~~0~~1	0	1
Sidewalks at LOS E	0	0	0
Sidewalks at LOS F	0	0	0
Total	18	18	18
Corners			
Crosswalks at LOS A/B/C	16	16	16
Crosswalks at LOS D	0	0	0
Crosswalks at LOS E	0	0	0
Crosswalks at LOS F	0	0	0
Total	16	16	16
Crosswalks			
Corners at LOS A/B/C	11	11	12
Corners at LOS D	1	1	0
Corners at LOS E	0	0	0
Corners at LOS F	0	0	0
Total	12	12	12
Note: LOS = Level-of-Service			

As shown in **Tables 14-39 through 14-41**, all sidewalk, corner reservoir, and crosswalk analysis locations will operate at acceptable mid-LOS D or better service levels (31.5 SFP platoon flows for sidewalks; minimum of 19.5 SFP for corners and crosswalks) or will operate at the same LOS as under existing conditions, except for the south crosswalk at Cherry Street and Rutgers Street during the weekday midday peak hour.

11.19.18



Project Sites

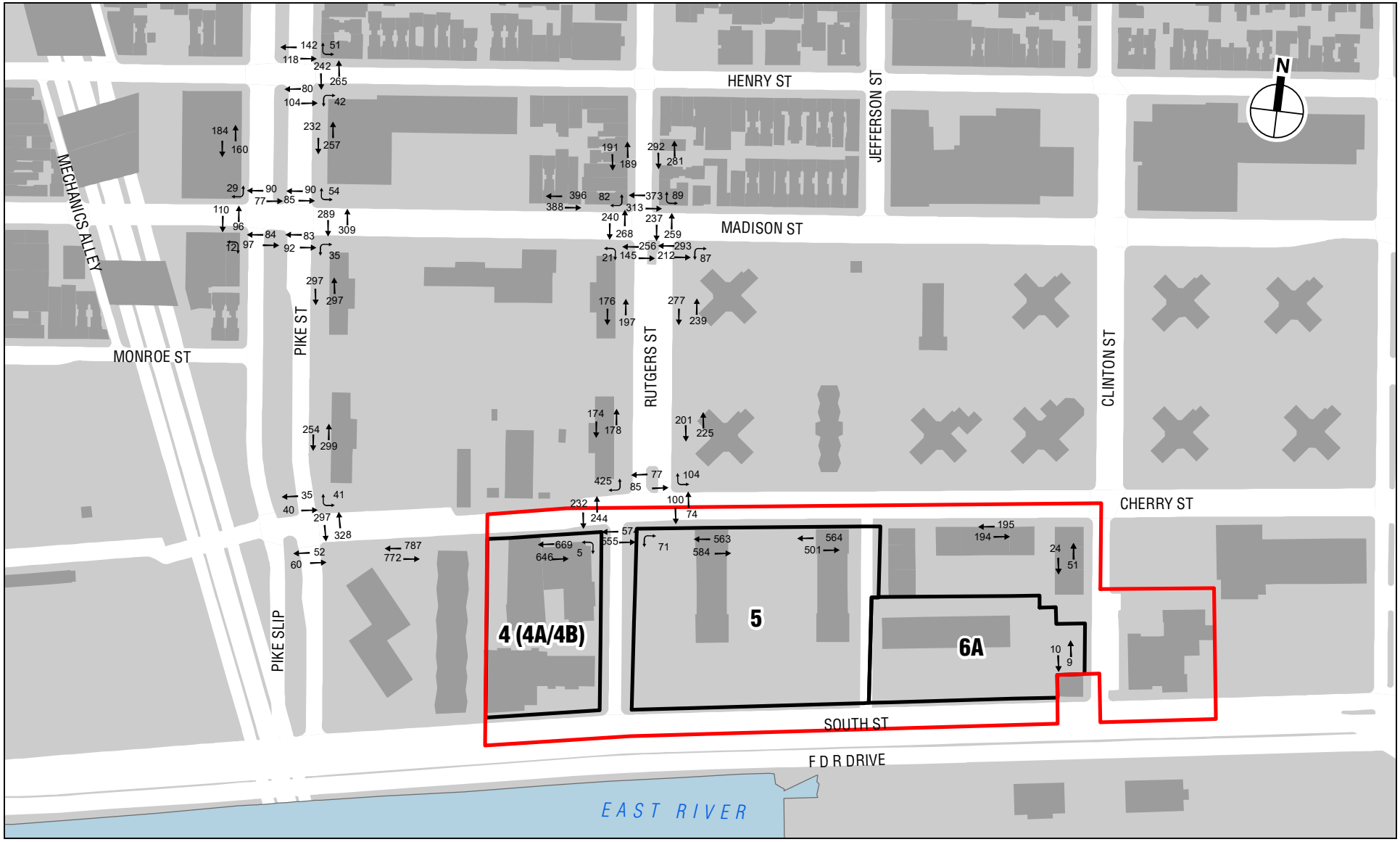
Boundary of Two Bridges LSRD

2021 No Action Pedestrian Volumes
Weekday AM Peak Hour

TWO BRIDGES LSRD

Figure 14-23

11.19.18

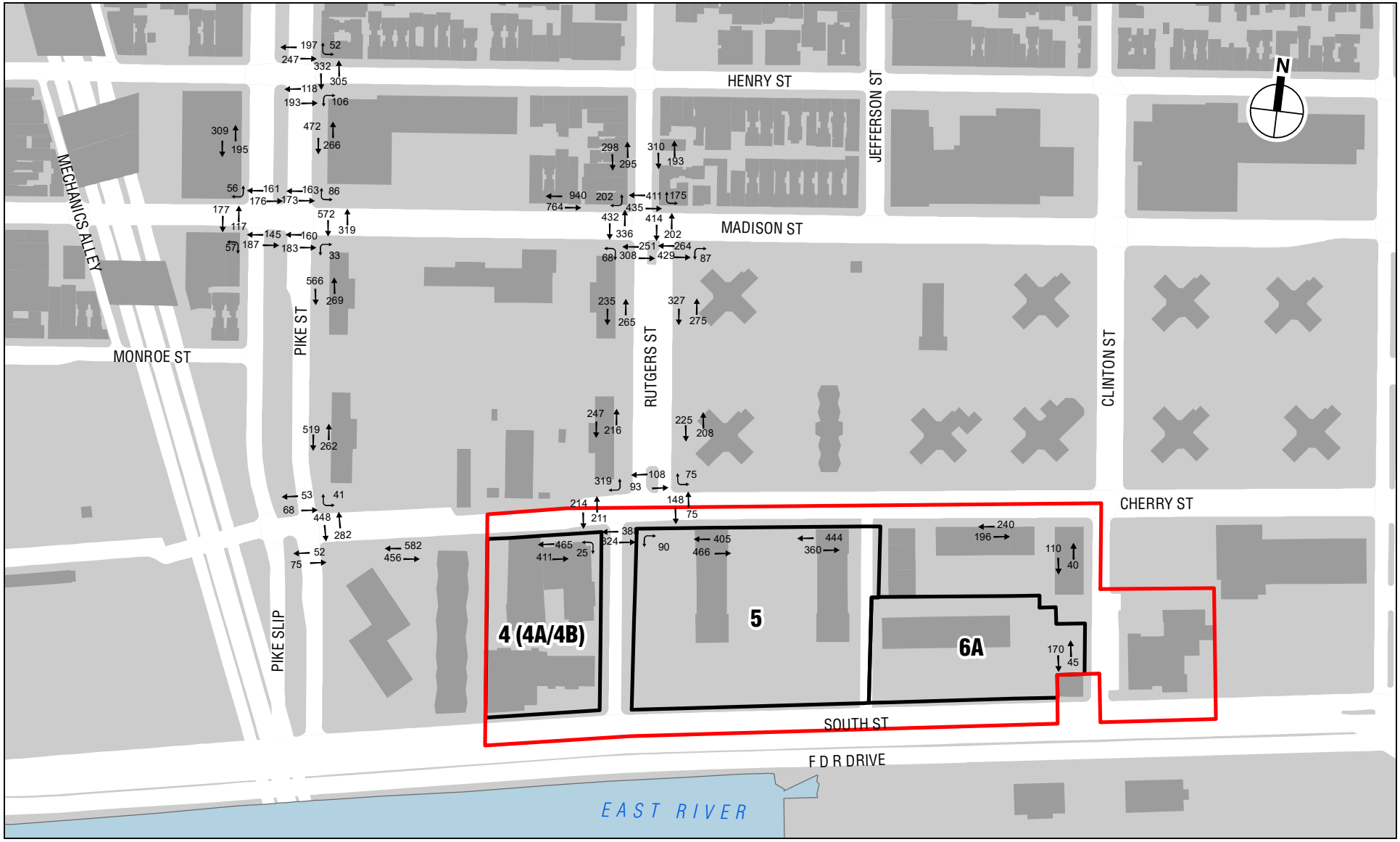


2021 No Action Pedestrian Volumes
Weekday Midday Peak Hour

TWO BRIDGES LSRD

Figure 14-24

11.19.18



2021 No Action Pedestrian Volumes
Weekday PM Peak Hour

TWO BRIDGES LSRD

Figure 14-25

Table 14-39
2021 No Action Condition: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Pike Street between Henry Street and Madison Street	East	5.5	536	~~0.80~~ 0.70	~~129.6~~ 113.3	B
Pike Street between Henry Street and Madison Street	West	4.5	423	0.86	144.5	B
Rutgers Street between Madison Street and Henry Street	East	3.5	411	~~0.80~~ 0.75	~~107.4~~ 100.6	B
Rutgers Street between Madison Street and Henry Street	West	2.5	441	~~0.80~~ 0.77	~~71.1~~ 68.4	C
Pike Street between Madison Street and Monroe Street	East	6.5	729	0.81	113.9	B
Rutgers Street between Madison Street and Monroe Street	West	6.5	634	~~0.80~~ 0.78	~~129.5~~ 126.2	B
Madison Street between Rutgers Street and Pike Street	North	5.0	1522	~~0.80~~ 0.71	~~40.3~~ 35.5	~~C~~D
Rutgers Street between Madison Street and Monroe Street	East	9.0	551	0.91	235.2	B
Pike Street between Monroe Street and Cherry Street	East	6.5	659	0.81	126.1	B
Cherry Street between Pike Street and Site 4 (4A/4B) Residential Entrance	South	6.5	479	~~0.80~~ 0.79	~~171.6~~ 169.5	B
Rutgers Street between Monroe Street and Cherry Street	East	8.5	399	0.85	286.6	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 5 Entrance	South	8.5	499	~~0.80~~ 0.71	~~215.6~~ 191.3	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 4 (4A/4B) Residential Entrance	South	6.5	411	0.83	207.7	B
Rutgers Street between Cherry Street and Monroe Street	West	6.5	391	0.85	223.6	B
Cherry Street Between Site 5 Entrance and Jefferson Street	South	10.0	583	~~0.80~~ 0.77	~~217.12~~ 08.9	B
Clinton Street between Cherry Street and Plaza Entrance	West	6.5	93	~~0.80~~ 0.72	~~885.6~~ 797.0	A
Cherry Street between Jefferson Street and Clinton Street	South	5.5	362	~~0.80~~ 0.68	~~192.2~~ 163.3	B
Clinton Street between Plaza Entrance and South Street	West	5.5	10	~~0.80~~ 0.63	~~6969.6~~ 5488.6	A
Weekday Midday Peak Hour						
Pike Street between Henry Street and Madison Street	East	5.5	489	0.81	143.9	B
Pike Street between Henry Street and Madison Street	West	4.5	344	0.89	184.1	B
Rutgers Street between Madison Street and Henry Street	East	3.5	573	0.90	86.5	C
Rutgers Street between Madison Street and Henry Street	West	2.5	380	0.84	86.9	C
Pike Street between Madison Street and Monroe Street	East	6.5	594	0.87	150.4	B
Rutgers Street between Madison Street and Monroe Street	West	6.5	373	0.86	237.2	B
Madison Street between Rutgers Street and Pike Street	North	5.0	784	0.89	89.3	C
Rutgers Street between Madison Street and Monroe Street	East	9.0	516	0.88	242.9	B
Pike Street between Monroe Street and Cherry Street	East	6.5	553	~~0.80~~ 0.78	~~148.6~~ 144.8	B
Cherry Street between Pike Street and Site 4 ~~(4A/4B)~~ Residential Entrance	South	6.5	1559	0.80	51.8	C
Rutgers Street between Monroe Street and Cherry Street	East	8.5	426	~~0.80~~ 0.78	~~252.6~~ 246.3	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 5 Entrance	South	8.5	1147	~~0.80~~ 0.77	~~93.3~~ 89.8	~~B~~C
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 4 (4A/4B) Residential Entrance	South	6.5	1315	0.80	61.8	C
Rutgers Street between Cherry Street and Monroe Street	West	6.5	352	0.93	271.8	B
Cherry Street Between Site 5 Entrance and Jefferson Street	South	10.0	1065	0.94	139.4	B
Clinton Street between Cherry Street and Plaza Entrance	West	6.5	75	~~0.80~~ 0.67	~~1098.2~~ 919.7	A

Table 14-39 (cont'd)
2021 No Action Condition: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday PM Peak Hour						
Cherry Street between Jefferson Street and Clinton Street	South	5.5	389	~~0.80~~ 0.77	~~178.9~~ 172.1	B
Clinton Street between Plaza Entrance and South Street	West	5.5	19	~~0.80~~ 0.59	~~3668.2~~ 2705.3	A
Pike Street between Henry Street and Madison Street	East	5.5	738	~~0.80~~ 0.78	~~93.9~~ 91.5	B
Pike Street between Henry Street and Madison Street	West	4.5	504	~~0.80~~ 0.75	~~112.7~~ 105.6	B
Rutgers Street between Madison Street and Henry Street	East	3.5	503	0.93	102.0	B
Rutgers Street between Madison Street and Henry Street	West	2.5	593	0.83	54.4	C
Pike Street between Madison Street and Monroe Street	East	6.5	835	0.87	106.8	B
Rutgers Street between Madison Street and Monroe Street	West	6.5	500	0.93	191.2	B
Madison Street between Rutgers Street and Pike Street	North	5.0	1704	0.83	37.2	D
Rutgers Street between Madison Street and Monroe Street	East	9.0	602	0.88	208.1	B
Pike Street between Monroe Street and Cherry Street	East	6.5	781	0.92	120.8	B
Cherry Street between Pike Street and Site 4 (4A/4B) Residential Entrance	South	6.5	1038	~~0.80~~ 0.78	~~78.7~~ 76.7	C
Rutgers Street between Monroe Street and Cherry Street	East	8.5	433	0.83	257.9	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 5 Entrance	South	8.5	871	0.80	123.3	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 4 (4A/4B) Residential Entrance	South	6.5	876	~~0.80~~ 0.79	~~93.4~~ 92.3	B
Rutgers Street between Cherry Street and Monroe Street	West	6.5	463	0.94	208.8	B
Cherry Street Between Site 5 Entrance and Jefferson Street	South	10.0	804	0.83	163.2	B
Clinton Street between Cherry Street and Plaza Entrance	West	6.5	150	~~0.80~~ 0.61	~~549.0~~ 418.6	~~A~~B
Cherry Street between Jefferson Street and Clinton Street	South	5.5	436	~~0.80~~ 0.75	~~159.5~~ 149.5	B
Clinton Street between Plaza Entrance and South Street	West	5.5	215	~~0.80~~ 0.55	~~324.0~~ 222.6	B

Note: SFP = square feet per pedestrian

Table 14-40
2021 No Action Condition: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS
Pike Street and Henry Street	Northeast	~~131.2~~127.5	A	~~168.5~~168.1	A	~~104.8~~104.2	A
	Southeast	~~134.5~~121.7	A	206.6	A	~~118.8~~114.8	A
Pike Street and Madison Street (West)	Northwest	~~172.7~~164.0	A	~~252.6~~282.0	A	~~152.3~~152.3	A
	Southwest	~~178.4~~169.6	A	~~259.8~~277.4	A	~~146.4~~143.2	A
Pike Street and Madison Street (East)	Northeast	~~97.6~~93.8	A	151.6	A	83.6	A
	Southeast	~~109.3~~107.4	A	177.1	A	104.5	A
Rutgers Street and Madison Street	Northwest	~~46.1~~45.8	B	102.8	A	69.8	A
	Northeast	~~48.3~~46.8	B	88.3	A	68.3	A
	Southwest	~~88.8~~88.5	A	~~153.0~~152.0	A	~~102.2~~102.0	A
	Southeast	~~160.5~~158.5	A	~~235.5~~235.0	A	197.8	A
Pike Street and Cherry Street	Northeast	~~217.6~~214.3	A	~~207.0~~176.6	A	~~168.7~~142.3	A
	Southeast	~~165.8~~124.8	A	~~154.3~~116.2	A	~~133.5~~95.6	A
Cherry Street and Rutgers Street	Northeast	~~318.7~~251.0	A	~~319.2~~304.5	A	~~279.8~~272.9	A
	Southwest	123.6	A	~~43.8~~43.5	B	~~69.6~~69.1	A
	Northwest	579.9	A	~~298.5~~292.9	A	~~325.6~~302.1	A
	Southeast	279.6	A	79.9	A	~~130.6~~130.2	A

Note: SFP = square foot per pedestrian

Table 14-41
2021 No Action Condition: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	Two-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
Pike Street and Henry Street	East	30.5	14.5	550	57.8	B
Pike Street and Madison Street (East)	East	50.0	15.0	840	32.0	C
Rutgers Street and Madison Street	North	29.5	14.0	1292	22.1	D
	East	50.5	14.0	583	~~38.9~~38.3	C
	South (West of the Median)	23.0	15.0	492	67.0	A
	West	50.0	15.0	894	28.2	C
	South (East of the Median)	23.0	15.0	734	43.3	B
Pike Street and Cherry Street	East	52.0	14.0	574	82.0	A
Rutgers Street and Cherry Street	North	71.0	16.0	150	220.6	A
	East	50.5	13.5	199	169.3	A
	South	21.5	14.5	352	63.4	A
	West	50.5	13.0	305	104.8	A
Weekday Midday Peak Hour						
Pike Street and Henry Street	East	30.5	14.5	507	73.1	A
Pike Street and Madison Street (East)	East	50.0	15.0	598	48.4	B
Rutgers Street and Madison Street	North	29.5	14.0	686	48.1	B
	East	50.5	14.0	496	50.3	B
	South (West of the Median)	23.0	15.0	401	91.8	A
	West	50.0	15.0	508	55.0	B
	South (East of the Median)	23.0	15.0	505	70.3	A
Pike Street and Cherry Street	East	52.0	14.0	625	~~76.3~~64.3	A
Rutgers Street and Cherry Street	North	71.0	16.0	162	217.0	A
	East	50.5	13.5	174	~~178.1~~171.3	A
	South	21.5	14.5	1129	16.6	D
	West	50.5	13.0	476	69.3	A
Weekday PM Peak Hour						
Pike Street and Henry Street	East	30.5	14.5	637	47.8	B
Pike Street and Madison Street (East)	East	50.0	15.0	891	29.5	C
Rutgers Street and Madison Street	North	29.5	14.0	846	39.3	C
	East	50.5	14.0	616	41.8	B
	South (West of the Median)	23.0	15.0	559	68.7	A
	West	50.0	15.0	768	36.8	C
	South (East of the Median)	23.0	15.0	693	54.9	B
Pike Street and Cherry Street	East	52.0	14.0	730	~~64.7~~57.8	~~A~~B
Rutgers Street and Cherry Street	North	71.0	16.0	201	~~153.9~~151.2	A
	East	50.5	13.5	223	155.7	A
	South	21.5	14.5	712	29.5	C
	West	50.5	13.0	425	76.1	A

Note: SFP = square feet per pedestrian

THE FUTURE WITH THE PROPOSED PROJECTS

Project-generated pedestrian volumes were assigned to the pedestrian network considering current land uses in the area, population distribution, nearby parking locations, available transit services, and surrounding pedestrian facilities. The hourly incremental pedestrian volumes presented above in **Figures 14-26 through 14-28**, were added to the projected 2021 No Action volumes to generate the 2021 With Action pedestrian volumes for analysis (see **Figures 14-26 through 14-28**).

STREET-LEVEL PEDESTRIAN OPERATIONS AND SIGNIFICANT ADVERSE IMPACTS

A summary of the 2021 With Action condition pedestrian analysis results is presented in **Table 14-42**. Details on SFP and level-of-service are presented in **Tables 14-43 to 14-45**. Based on the *CEQR Technical Manual* sliding scale impact thresholds, significant adverse pedestrian impacts, as detailed below, were identified for one sidewalk during the weekday PM peak hour, one crosswalk during the weekday AM and midday peak hours, and three crosswalks during the weekday PM peak hour. Potential measures that can be implemented to mitigate these significant adverse pedestrian impacts are discussed in Chapter 21, "Mitigation."

Sidewalks

- The north sidewalk of Madison Street between Rutgers Street and Pike Street would deteriorate from LOS ~~C~~ D with ~~40.3~~35.5 SFP and ~~LOS D with~~ 37.2 SFP to LOS E with ~~22.8~~22.1 SFP and 21.7 SFP during the weekday AM and PM peak hour, respectively. These degradations in pedestrian operations constitute significant adverse impacts.

Crosswalks

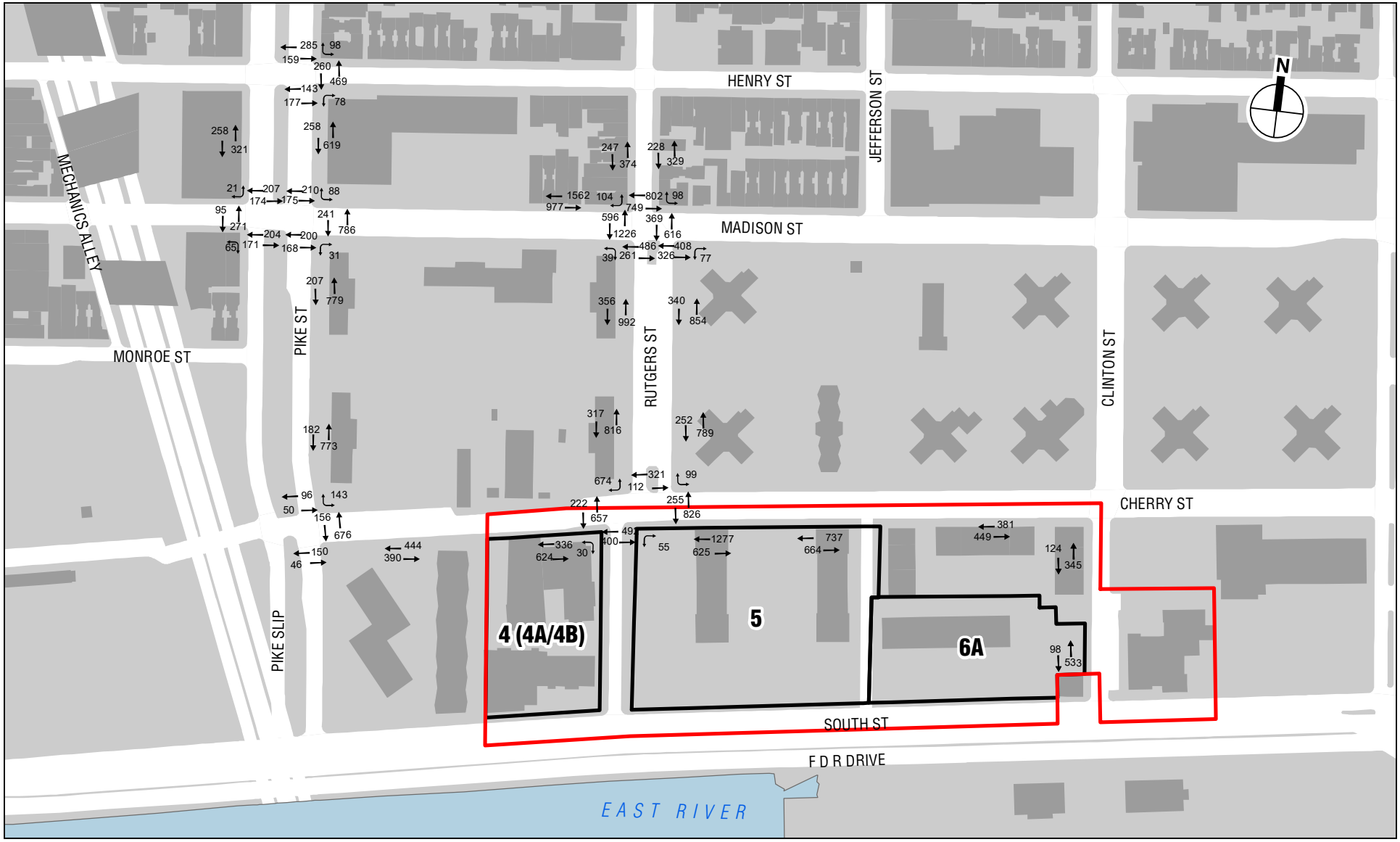
- The north crosswalk of Madison Street and Rutgers Street would deteriorate within LOS D from 22.1 SFP to 17.9 SFP during the weekday AM peak hour. This degradation in pedestrian operations constitutes a significant adverse impact.

Table 14-42
Summary of 2021 With Action Pedestrian Analysis Results

Level of Service	Analysis Peak Hours		
	Weekday AM	Weekday Midday	Weekday PM
Sidewalks			
Sidewalks at LOS A/B/C	17	18	17
Sidewalks at LOS D	0	0	0
Sidewalks at LOS E	1	0	1
Sidewalks at LOS F	0	0	0
Total	18	18	18
Corners			
Crosswalks at LOS A/B/C	16	16	16
Crosswalks at LOS D	0	0	0
Crosswalks at LOS E	0	0	0
Crosswalks at LOS F	0	0	0
Total	16	16	16
Crosswalks			
Corners at LOS A/B/C	8	11	8
Corners at LOS D	3	0	2
Corners at LOS E	1	1	2
Corners at LOS F	0	0	0
Total	12	12	12

Note: LOS = Level-of-Service

11.19.18



Project Sites

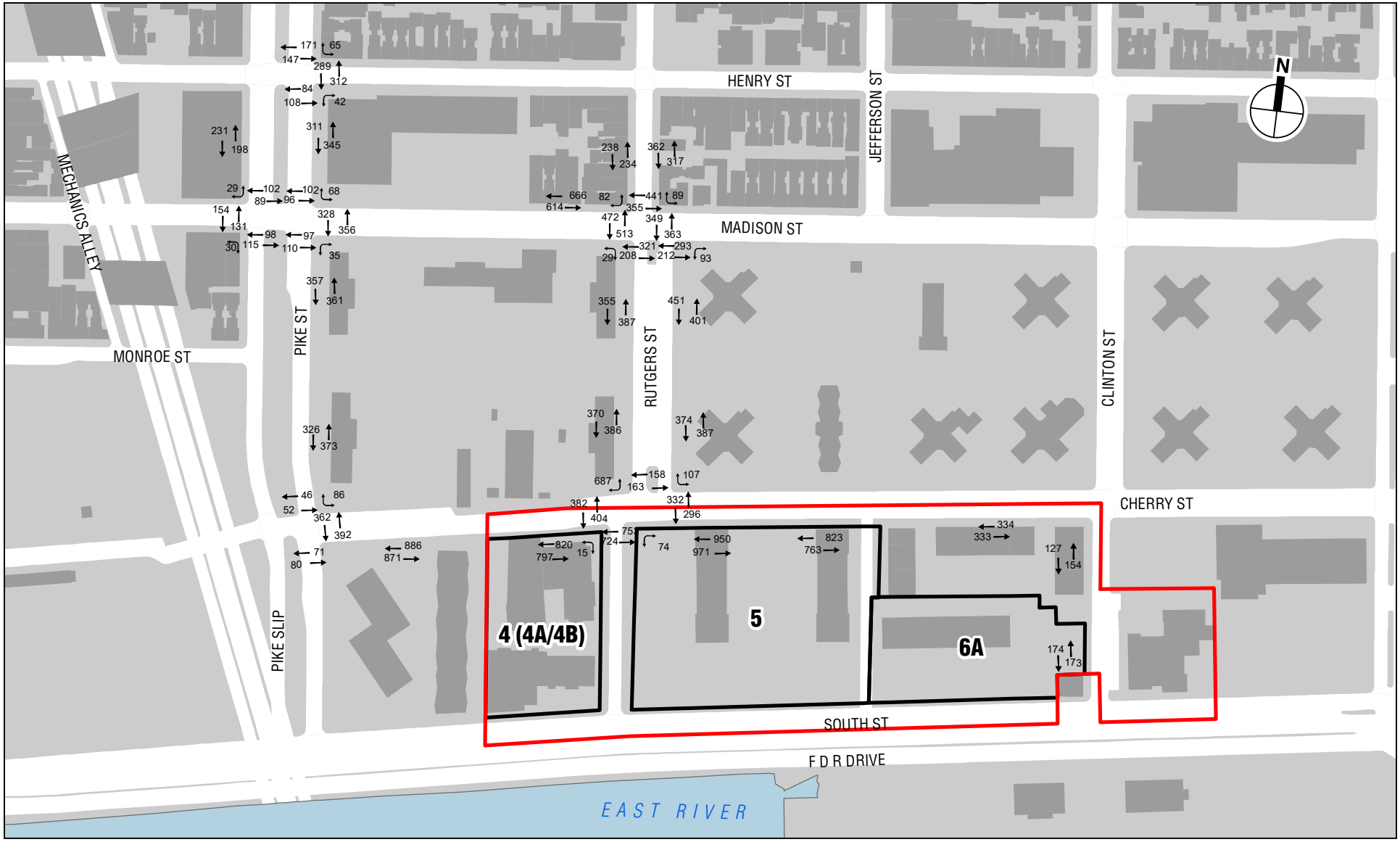
Boundary of Two Bridges LSRD

2021 With Action Pedestrian Volumes
Weekday AM Peak Hour

TWO BRIDGES LSRD

Figure 14-26

11.19.18



Project Sites

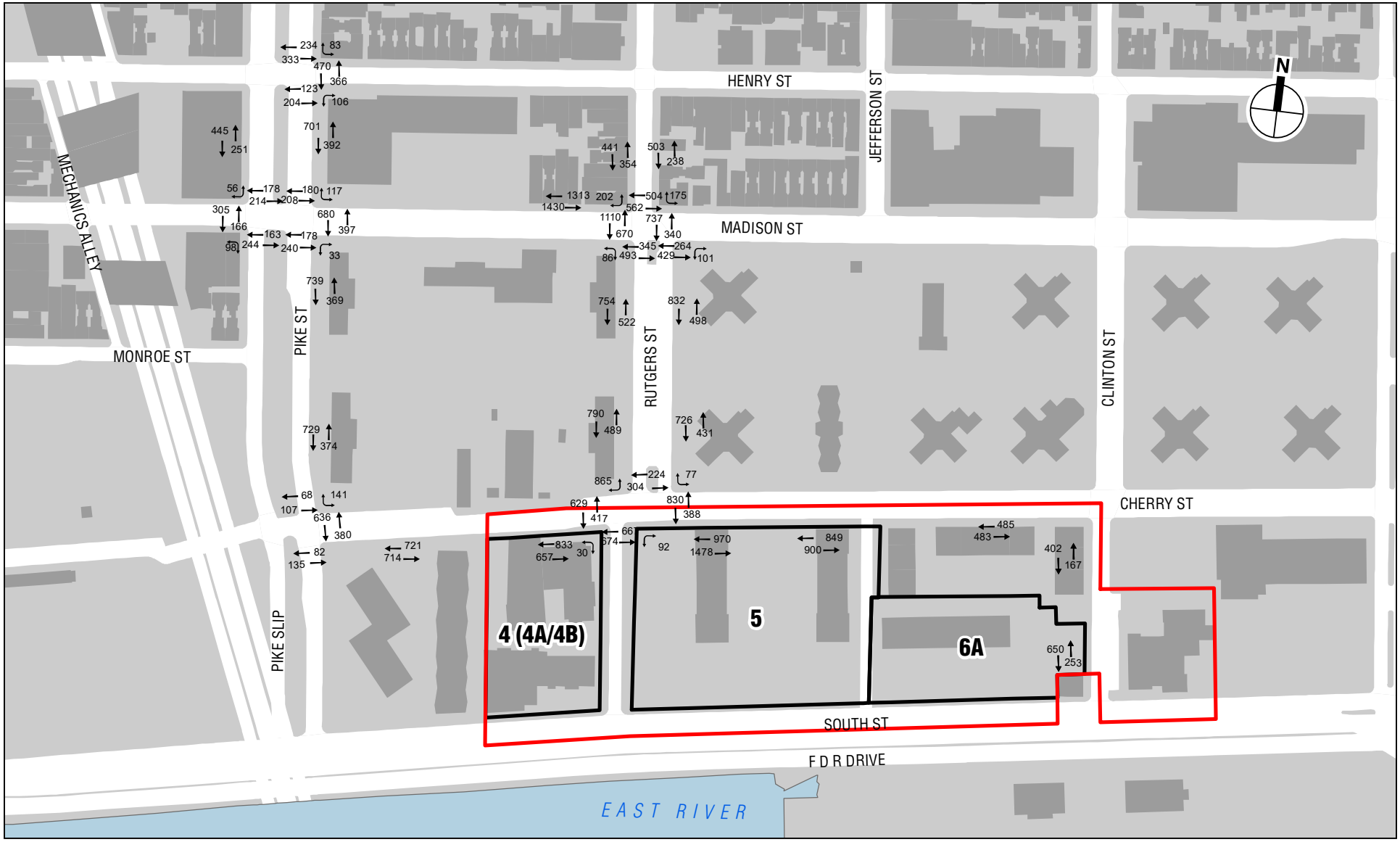
Boundary of Two Bridges LSRD

2021 With Action Pedestrian Volumes
Weekday Midday Peak Hour

TWO BRIDGES LSRD

Figure 14-27

11.19.18



2021 With Action Pedestrian Volumes
Weekday PM Peak Hour

TWO BRIDGES LSRD

Figure 14-28

Table 14-43
2021 With Action Condition: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
Pike Street between Henry Street and Madison Street	East	5.5	877	~~0.80~~0.73	~~78.8~~71.8	C
Pike Street between Henry Street and Madison Street	West	4.5	579	0.86	105.4	B
Rutgers Street between Madison Street and Henry Street	East	3.5	557	~~0.80~~0.77	~~78.9~~75.9	C
Rutgers Street between Madison Street and Henry Street	West	2.5	621	~~0.80~~0.78	~~49.9~~48.6	C
Pike Street between Madison Street and Monroe Street	East	6.5	986	0.81	83.9	C
Rutgers Street between Madison Street and Monroe Street	West	6.5	1194	~~0.80~~0.79	~~68.2~~59.4	C
Madison Street between Rutgers Street and Pike Street	North	5.0	2539	~~0.80~~0.75	~~22.8~~21.1	E+
Rutgers Street between Madison Street and Monroe Street	East	9.0	1348	0.91	95.7	B
Pike Street between Monroe Street and Cherry Street	East	6.5	955	0.81	86.7	C
Cherry Street between Pike Street and Site 4 (4A/4B) Residential Entrance	South	6.5	834	~~0.80~~0.79	~~98.2~~97.0	B
Rutgers Street between Monroe Street and Cherry Street	East	8.5	1041	0.85	109.4	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 5 Entrance	South	8.5	1902	~~0.80~~0.77	~~55.7~~53.5	C
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 4 (4A/4B) Residential Entrance	South	6.5	960	0.83	88.4	C
Rutgers Street between Cherry Street and Monroe Street	West	6.5	1133	0.85	76.5	C
Cherry Street Between Site 5 Entrance and Jefferson Street	South	10.0	1401	~~0.80~~0.79	~~89.8~~88.7	C
Clinton Street between Cherry Street and Plaza Entrance	West	6.5	469	~~0.80~~0.78	~~175.3~~170.9	B
Cherry Street between Jefferson Street and Clinton Street	South	5.5	830	~~0.80~~0.74	~~83.3~~77.0	C
Clinton Street between Plaza Entrance and South Street	West	5.5	631	0.80	110.0	B
Weekday Midday Peak Hour						
Pike Street between Henry Street and Madison Street	East	5.5	656	0.81	107.1	B
Pike Street between Henry Street and Madison Street	West	4.5	429	0.89	147.5	B
Rutgers Street between Madison Street and Henry Street	East	3.5	679	0.90	72.7	C
Rutgers Street between Madison Street and Henry Street	West	2.5	472	0.84	69.7	C
Pike Street between Madison Street and Monroe Street	East	6.5	718	0.87	124.3	B
Rutgers Street between Madison Street and Monroe Street	West	6.5	742	0.86	118.9	B
Madison Street between Rutgers Street and Pike Street	North	5.0	1280	0.89	54.1	C
Rutgers Street between Madison Street and Monroe Street	East	9.0	852	0.88	146.9	B
Pike Street between Monroe Street and Cherry Street	East	6.5	699	~~0.80~~0.79	~~117.4~~115.9	B
Cherry Street between Pike Street and Site 4 (4A/4B) Residential Entrance	South	6.5	1757	0.80	45.7	C
Rutgers Street between Monroe Street and Cherry Street	East	8.5	761	~~0.80~~0.79	~~141.2~~139.4	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 5 Entrance	South	8.5	1921	~~0.80~~0.78	~~55.1~~53.7	C
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 4 (4A/4B) Residential Entrance	South	6.5	1617	0.80	49.9	C
Rutgers Street between Cherry Street and Monroe Street	West	6.5	756	0.93	126.2	B
Cherry Street Between Site 5 Entrance and Jefferson Street	South	10.0	1586	0.94	93.3	B
Clinton Street between Cherry Street and Plaza Entrance	West	6.5	281	~~0.80~~0.76	~~292.9~~278.3	B
Cherry Street between Jefferson Street and Clinton Street	South	5.5	667	~~0.80~~0.78	~~104.0~~101.3	B
Clinton Street between Plaza Entrance and South Street	West	5.5	347	~~0.80~~0.78	~~200.6~~195.6	B

Table 14-43 (cont'd)
2021 With Action Condition: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday PM Peak Hour						
Pike Street between Henry Street and Madison Street	East	5.5	1093	~~0.80~~ 0.78	~~62.9~~ 61.3	C
Pike Street between Henry Street and Madison Street	West	4.5	696	~~0.80~~ 0.75	~~81.3~~ 76.1	C
Rutgers Street between Madison Street and Henry Street	East	3.5	741	0.93	68.8	C
Rutgers Street between Madison Street and Henry Street	West	2.5	795	0.83	40.0	C
Pike Street between Madison Street and Monroe Street	East	6.5	1108	0.87	80.2	C
Rutgers Street between Madison Street and Monroe Street	West	6.5	1276	0.93	74.3	C
Madison Street between Rutgers Street and Pike Street	North	5.0	2743	0.83	21.7	E+
Rutgers Street between Madison Street and Monroe Street	East	9.0	1330	0.88	93.7	B
Pike Street between Monroe Street and Cherry Street	East	6.5	1103	0.92	85.2	C
Cherry Street between Pike Street and Site 4 (4A/4B) Residential Entrance	South	6.5	1435	~~0.80~~ 0.79	~~56.5~~ 55.7	C
Rutgers Street between Monroe Street and Cherry Street	East	8.5	1157	0.83	96.0	B
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 5 Entrance	South	8.5	2448	0.80	42.8	C
Cherry Street between Frank T. Modica Way (Rutgers Street) and Site 4 (4A/4B) Residential Entrance	South	6.5	1490	~~0.80~~ 0.79	~~54.3~~ 53.6	C
Rutgers Street between Cherry Street and Monroe Street	West	6.5	1279	0.94	75.0	C
Cherry Street Between Site 5 Entrance and Jefferson Street	South	10.0	1749	0.83	74.4	C
Clinton Street between Cherry Street and Plaza Entrance	West	6.5	569	~~0.80~~ 0.74	~~144.4~~ 133.5	B
Cherry Street between Jefferson Street and Clinton Street	South	5.5	968	~~0.80~~ 0.78	~~71.2~~ 69.4	C
Clinton Street between Plaza Entrance and South Street	West	5.5	903	~~0.80~~ 0.72	~~76.5~~ 68.7	C

Note: SFP = square feet per pedestrian
+ Denotes a significant adverse pedestrian impact

Table 14-44
2021 With Action Condition: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS
Pike Street and Henry Street	Northeast	~~95.0~~93.0	A	~~137.7~~137.4	A	~~76.9~~76.4	A
	Southeast	~~107.9~~99.3	A	179.7	A	~~97.4~~94.5	A
Pike Street and Madison Street (West)	Northwest	~~127.7~~122.7	A	~~197.8~~221.6	A	107.2	A
	Southwest	~~119.1~~114.8	A	~~192.2~~207.0	A	~~98.1~~96.7	A
Pike Street and Madison Street (East)	Northeast	~~78.7~~76.1	A	130.2	A	66.8	A
	Southeast	~~86.2~~85.0	A	152.5	A	84.7	A
Rutgers Street and Madison Street	Northwest	~~29.0~~28.9	C	66.1	A	33.9	C
	Northeast	~~33.4~~32.5	C	67.0	A	42.9	B
	Southwest	~~38.2~~38.1	C	~~86.4~~86.1	A	~~47.5~~47.4	B
	Southeast	~~158.1~~156.0	A	~~233.0~~232.5	A	194.1	A
Pike Street and Cherry Street	Northeast	~~139.1~~137.6	A	~~162.0~~142.9	A	~~110.4~~97.9	A
	Southeast	~~105.7~~86.6	A	~~123.8~~97.8	A	~~90.6~~70.9	A
Cherry Street and Rutgers Street	Northeast	~~82.7~~76.8	A	~~124.0~~121.3	A	~~67.3~~66.6	A
	Southwest	37.3	C	~~27.1~~27.0	C	~~27.0~~26.9	C
	Northwest	167.8	A	~~172.5~~171.0	A	~~117.0~~112.6	A
	Southeast	108.1	A	58.3	B	~~67.4~~67.2	A

Note: SFP = square foot per pedestrian

Table 14-45
2021 With Action Condition: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	Two-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
Pike Street and Henry Street	East	30.5	14.5	729	42.2	B
Pike Street and Madison Street (East)	East	50.0	15.0	1027	25.4	C
Rutgers Street and Madison Street	North	29.5	14.0	1551	17.9	D+
	East	50.5	14.0	985	~~21.4~~21.1	D
	South (West of the Median)	23.0	15.0	747	42.2	B
	West	50.0	15.0	1822	12.4	E+
	South (East of the Median)	23.0	15.0	734	43.3	B
Pike Street and Cherry Street	East	52.0	14.0	832	~~53.2~~55.2	B
Rutgers Street and Cherry Street	North	71.0	16.0	433	73.6	A
	East	50.5	13.5	1081	28.0	C
	South	21.5	14.5	892	22.8	D
	West	50.5	13.0	879	33.8	C
Weekday Midday Peak Hour						
Pike Street and Henry Street	East	30.5	14.5	601	60.9	A
Pike Street and Madison Street (East)	East	50.0	15.0	684	41.8	B
Rutgers Street and Madison Street	North	29.5	14.0	796	40.9	B
	East	50.5	14.0	712	34.0	C
	South (West of the Median)	23.0	15.0	529	68.5	A
	West	50.0	15.0	985	27.1	C
	South (East of the Median)	23.0	15.0	505	70.3	A
Pike Street and Cherry Street	East	52.0	14.0	754	~~62.7~~54.4	~~A~~B
Rutgers Street and Cherry Street	North	71.0	16.0	321	107.7	A
	East	50.5	13.5	628	~~47.1~~46.5	B
	South	21.5	14.5	1477	12.0	E+
	West	50.5	13.0	786	40.7	B
Weekday PM Peak Hour						
Pike Street and Henry Street	East	30.5	14.5	836	35.4	C
Pike Street and Madison Street (East)	East	50.0	15.0	1077	23.8	D
Rutgers Street and Madison Street	North	29.5	14.0	1066	30.5	C
	East	50.5	14.0	1077	22.3	D
	South (West of the Median)	23.0	15.0	838	44.1	B
	West	50.0	15.0	1780	14.4	E+
	South (East of the Median)	23.0	15.0	693	54.9	B
Pike Street and Cherry Street	East	52.0	14.0	1016	~~45.5~~41.8	B
Rutgers Street and Cherry Street	North	71.0	16.0	528	~~56.6~~55.8	B
	East	50.5	13.5	1218	25.8	C
	South	21.5	14.5	1341	14.1	E+
	West	50.5	13.0	1046	29.0	C

Note: SFP = square feet per pedestrian
+ Denotes a significant adverse pedestrian impact

- The west crosswalk of Madison Street and Rutgers Street would deteriorate from LOS C with 28.2 SFP and LOS C with 36.8 SFP to LOS E with ~~12.3~~12.4 and 14.4 SFP during the weekday AM and PM peak hours, respectively. These degradations in pedestrian operations constitute significant adverse impacts.
- The south crosswalk of Cherry Street and Rutgers Street would deteriorate from LOS D with 16.6 SFP and LOS C with 29.5 SFP to LOS E with 12.0 and 14.1 SFP during the weekday midday and PM peak hours, respectively. These degradations in pedestrian operations constitute significant adverse impacts.

G. VEHICULAR AND PEDESTRIAN SAFETY EVALUATION

Crash data for the study area intersections were obtained from the NYSDOT for the time period between November 1, 2013 and October 31, 2016. The data obtained quantify the total number of reportable crashes (involving fatality, injury, or more than $1,000 in property damage), fatalities, and injuries during the study period, as well as a yearly breakdown of vehicular crashes with pedestrians and bicycles at each location. During the November 1, 2013 and October 31, 2016 three-year period, a total of 278 injuries, and 96 pedestrian/bicyclist-related crashes occurred at the study area intersections. A rolling total of crash data identified three high crash locations in the 2013 to 2016 period, Allen Street and Canal Street, the Bowery and Canal Street at the Manhattan Bridge, and Chatham Square/Park Row at Worth Street/Mott Street. **Table 14-46** depicts total crash characteristics by intersection during the study period, as well as a breakdown of pedestrian and bicycle crashes by year and location.

Table 14-46
Accident Summary

Intersection		Study Period						Accidents by Year							
North-South Roadway	East-West Roadway	All Accidents by Year				Total Fatalities	Total Injuries	Pedestrian				Bicycle			
		2013	2014	2015	2016			2013	2014	2015	2016	2013	2014	2015	2016
Allen Street	**Canal Street**	3	8	2	7	0	16	1	1	0	2	1	0	0	3
Allen Street	Delancey Street	4	9	12	6	0	37	0	0	2	2	1	0	1	1
Allen Street	Division Street	0	5	3	3	1	10	0	1	2	2	0	0	0	0
Allen Street	Grand Street	0	7	2	3	0	5	0	1	1	0	0	0	1	0
The Bowery	**Bayard Street**	0	7	3	4	0	6	0	1	2	0	0	0	0	1
The Bowery	Canal Street/Manhattan Bridge	5	31	21	14	0	81	0	1	4	2	0	0	1	1
The Bowery	Division/Doyers/Catherine Street	0	3	6	3	0	7	0	1	0	0	0	0	0	1
Broadway	Worth Street	1	3	3	2	0	7	1	1	0	1	0	0	3	0
Catherine Street	East Broadway	1	1	2	0	0	5	0	0	0	0	0	0	0	0
Centre Street	Worth Street	0	1	1	1	0	4	0	1	0	0	0	0	0	0
Chatham Square	East Broadway	0	3	1	1	0	2	0	0	0	0	0	1	0	0
Chatham Square/Park Row	**Worth Street/Mott Street**	0	1	8	5	0	10	0	0	2	1	0	1	3	0
Clinton Street	Cherry Street	0	1	1	1	0	3	0	1	0	1	0	0	0	0
Clinton Street	South Street	0	0	1	3	0	2	0	0	0	0	0	0	0	2
Lafayette Street	Worth Street	0	3	2	2	0	7	0	1	2	1	0	0	0	1
Market Slip	South Street	0	1	1	0	0	2	0	0	0	0	0	0	0	0
Market Street	Division Street	2	5	0	1	0	6	1	2	0	1	0	0	0	0
Market Street	East Broadway	0	2	1	2	0	6	0	0	0	1	0	0	0	0
Market Street	Henry Street	0	2	1	0	0	1	0	1	0	0	0	0	0	0
Montgomery Street	Cherry Street	0	1	0	0	0	1	0	1	0	0	0	0	0	0
Montgomery Street	South Street	0	1	1	3	0	2	0	0	0	1	0	0	0	0
Montgomery Street	Madison Street	0	2	2	2	0	4	0	1	1	1	0	0	0	0
Pike Slip	South Street	0	1	3	2	0	4	0	1	1	0	0	0	1	0
Pike Street	Cherry Street	0	1	0	1	0	3	0	0	0	0	0	1	0	0
Pike Street	East Broadway	0	2	4	7	0	13	0	0	2	3	0	1	0	1
Pike Street	Henry Street	0	1	2	0	0	5	0	1	0	0	0	0	0	0
Pike Street	Madison Street	0	4	3	6	0	12	0	1	2	2	0	0	0	1
Rutgers Street	Cherry Street	0	0	1	2	0	3	0	0	0	1	0	0	0	0
Rutgers Slip	South Street	2	2	5	0	1	11	0	1	1	0	0	0	1	0
Rutgers Street	Madison Street	0	2	1	1	0	3	0	1	0	0	0	0	0	0
Pike Slip	Monroe Street	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Source: NYSDOT November 1, 2013 through October 31, 2016 accident data
Note: Bold intersections are high accident locations.

Table 14-47 shows a detailed description of each pedestrian/bicyclist-related crash at the high crash locations listed above during the three-year period.

Table 14-47
Vehicle and Pedestrian Crash Details

Intersection	Year	Date	Time	Crash Class		Action of Vehicle	Action of Pedestrian	Cause of Crash			
				Injured	Killed			Left/Right Turns	Pedestrian Error/ Confusion	Driver Inattention	Other
Allen Street and Canal Street	2013	11/21	2:00PM	X		Making right turn – East	Going straight – East	X			
		11/26	6:00PM	X		Going straight – West	Crossing with signal				Unknown
	2014	11/20	1:56PM	X		Making left turn – Northeast	Crossing with signal	X		X	
	2016	4/15	5:56AM	X		Unknown – North	Unknown				Unknown
		5/31	8:25AM	X		Unknown	Unknown				Unknown
		8/11	6:30PM	X		Making right turn – Southwest	Unknown – South	X			
		10/5	4:58PM	X		Merging – East	Going straight – East			X	
		10/17	11:45AM	X		Making right turn – East	Crossing/No signal or Xwalk	X		X	
The Bowery and Canal Street/Manhattan Bridge	2014	7/31	10:00PM	X		Making left turn – Southeast	Crossing with signal	X		X	
	2015	5/4	12:30PM	X		Slowed or stopping – East	Crossing/No signal or Xwalk		X		
		10/31	9:47AM	X		Going straight – West	Crossing/No signal or Xwalk		X		
		11/1	10:30AM	X		Making right turn – Southwest	Crossing with signal	X		X	
		12/9	8:55PM	X		Going straight – Southwest	Not in roadway				Alcohol involvement
		12/19	9:09PM	X		Changing lanes – West	Changing lanes – West				Unknown
	2016	3/30	11:25PM	X		Making left turn – East	Crossing with signal	X			
		8/20	12:11PM	X		Making left turn – East	Going straight – East	X	X	X	
		10/10	5:20AM	X		Making left turn – East	Crossing with signal	X		X	
Chatham Square/Park Row and Worth Street/Mott Street	2014	12/31	12:15PM	X		Going straight – East	Going straight – East		X	X	
	2015	3/04	10:30AM	X		Other – South	Going straight – South		X		
		4/15	12:15PM	X		Making right turn –North	Crossing against signal	X	X		
		5/5	9:15PM	X		Going straight – South	Going straight – West				Failure to yield R.o.W.
		7/14	7:54PM	X		Going straight – North	Making left turn – Southeast	X			Passing or lane usage improperly
		11/10	5:00PM	X		Going straight – East	Crossing against signal			X	
	2016	5/16	4:15PM	X		Going straight – East	Crossing/No signal or Xwalk		X		

ALLEN STREET AND CANAL STREET

Based on the review of the crash history at the intersection of Allen Street and Canal Street, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded crashes. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of Allen Street and Canal Street is signalized and provides five high visibility crosswalks, one of which allows pedestrians to cross Canal Street via the interior median. Standard pedestrian signals are present on all crosswalks. In terms of project-generated activity, this intersection would experience incremental peak hour volume increases of approximately 78 or fewer vehicle trips and negligible pedestrian trips at any crosswalk during

each of the three analysis peak hours. As described in Chapter 21, "Mitigation," the predicted impact at this intersection could be fully mitigated with standard traffic engineering measures. Therefore, the proposed projects are not anticipated to exacerbate any of the current causes of pedestrian-related crashes. Additional safety measures, such as installing countdown timers on all crosswalks, can be implemented to further improve pedestrian and bicycle safety at this intersection.

THE BOWERY AND CANAL STREET/MANHATTAN BRIDGE

Based on the review of the crash history at the intersection of the Bowery and Canal Street/Manhattan Bridge, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded crashes. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of the Bowery and Canal Street/Manhattan Bridge is signalized and provides four high visibility crosswalks. In addition, countdown timers are present on the all crosswalks; there is no signal at the stop controlled, northbound right turn from the Bowery to Manhattan Bridge eastbound upper level. In terms of project-generated activity, this intersection would experience incremental peak hour volume increases of approximately 82 or fewer vehicle trips and negligible pedestrian trips at any crosswalk during each of the three analysis peak hours. Additional safety measures, such as installing a countdown timer on the crosswalk serving the northbound, bridge access lane of the Bowery, can be implemented to further improve pedestrian and bicycle safety at this intersection.

CHATHAM SQUARE/PARK ROW AND WORTH STREET/MOTT STREET

Based on the review of the crash history at the intersection of Chatham Square/Park Row and Worth Street/Mott Street, no prevailing trends with regard to geometric deficiencies were identified as the primary causes of recorded crashes. With respect to geometric deficiencies that could potentially cause safety hazards, the intersection of Chatham Square/Park Row and Worth Street/Mott Street is signalized and provides five high visibility crosswalks. In addition, countdown timers are present on all crosswalks. In terms of project-generated activity, this intersection would experience incremental peak hour volume increases of approximately 78 or fewer vehicle trips and negligible pedestrian trips at any crosswalk during each of the three analysis peak hours. As this intersection shows no failings in safety features, and only just trips the upper limits of allowable crashes, no additional safety measures are recommended to further improve pedestrian and bicycle safety at this intersection. However, NYPD traffic enforcement agents are present at this intersection during peak periods to enhance traffic flow and facilitate pedestrian safety.

H. PARKING ASSESSMENT

EXISTING CONDITIONS

Inventories of on-street parking within a ¼-mile and off-street parking within a ½-mile of the project sites were conducted in May 2016 and March 2017. The on-street survey involved recording curbside regulations and performing general observations of daytime utilization. The off-street survey provided an inventory of the area's public parking facilities and their legal capacities and daytime utilization.

ON-STREET PARKING

Curbside parking regulations within a ¼-mile of the project sites are illustrated in **Figure 14-29** and summarized in **Table 14-48**. The curbside regulations in the area generally include limited one-hour metered parking, no standing or no parking anytime except authorized vehicles, and alternate-side parking to accommodate street-cleaning. Based on field observations, on-street parking in the area is generally at or near full utilization during weekday daytime hours.

Table 14-48
On-Street Parking Regulations

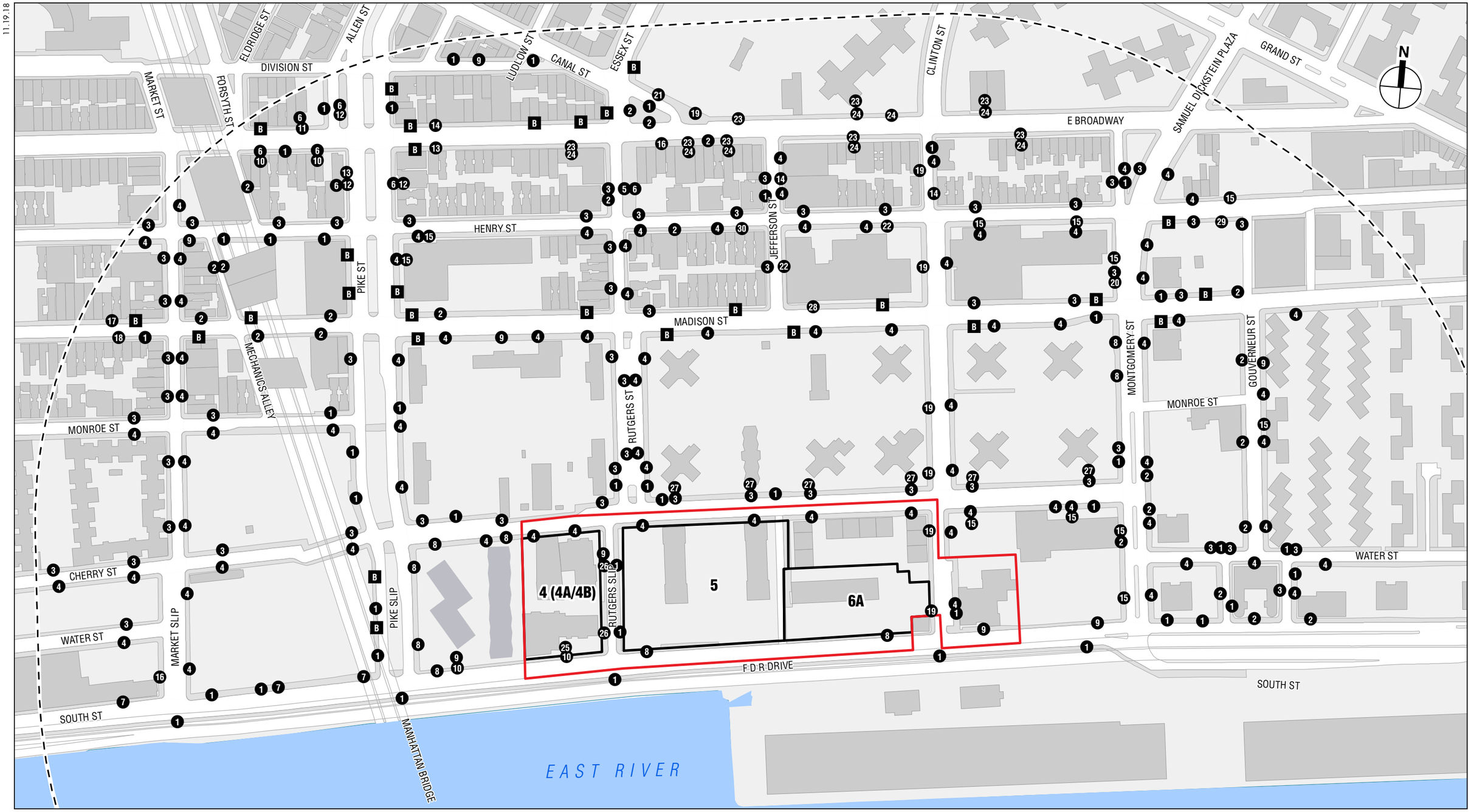
No.	Regulation	No.	Regulation
1	NS Anytime	**17**	NS 7AM–10AM Except Sun.
2	NP Anytime	**18**	NS 4PM–7PM Except Sun.
3	NP 11:00–12:30AM Mon. and Thu.	**19**	No Stopping Anytime
4	NP 11:00–12:30AM Tue. and Fri.	**20**	NP 8AM–4PM School Days
5	NP 7:30–8:00AM Except Sun.	**21**	NS Except Authorized Vehicles (Taxi)
6	2-Hr Metered Parking 8AM–7PM Except Sun.	**22**	Doctor License Plates Only
7	3-Hr Metered Parking, Buses Only 8AM–6PM Except Sun.	**23**	1-Hr Metered Parking 8:30AM–7PM Except Sun.
8	NS Anytime (Temporary Construction Regulation)	**24**	NP 8:00–8:30AM Except Sun.
9	NP 8AM–6PM Mon.–Fri.	**25**	Ambulette Only Mon.–Fri.8AM–6PM
10	NP 3:00–6:00AM Tue., Thu., Sat.	**26**	NS 8AM-6PM Mon.–Fri.
11	NP 3:00–6:00AM Mon., Wed., Fri.	**27**	Back-in 60-degree Parking Only
12	NP 7:30AM–8AM Except Sun.	**28**	Ambulette Only
13	NS Except Trucks Loading and Unloading 7AM–7PM Except Sun.	**29**	Truck Loading Only 9AM–4PM Except Sun.
14	NS Except Trucks Loading and Unloading 8AM–6PM Except Sun.	**30**	Truck Loading Only 7AM–4PM Except Sun.
15	NP 7AM–4PM School Days	**B**	Bus Stop
16	NS Except Trucks Loading and Unloading		

Notes:
NP = No Parking; NS = No Standing; Sun. = Sunday; Mon. = Monday; Tue. = Tuesday; Wed. = Wednesday; Thu. = Thursday; Fri. = Friday; Sat. = Saturday
Source: Surveys conducted by AKRF, Inc.; June 2017

OFF-STREET PARKING

Off-street publicly accessible parking lots and garages (see **Figure 14-30**) within ½-mile of the project sites were surveyed in February and September 2016. Each facility's operating license and legal capacity were noted. Based on responses given by parking attendants and visual inspections, where possible, estimates were made on the parking occupancy or utilization at each facility for the weekday morning, midday, evening, and overnight time periods. A summary of the recorded information and the area's overall off-street public parking supply and utilization is presented in **Table 14-49**.

11.19.18



Project Site

Boundary of Two Bridges LSRD

1/4-mile Radius of Project Sites

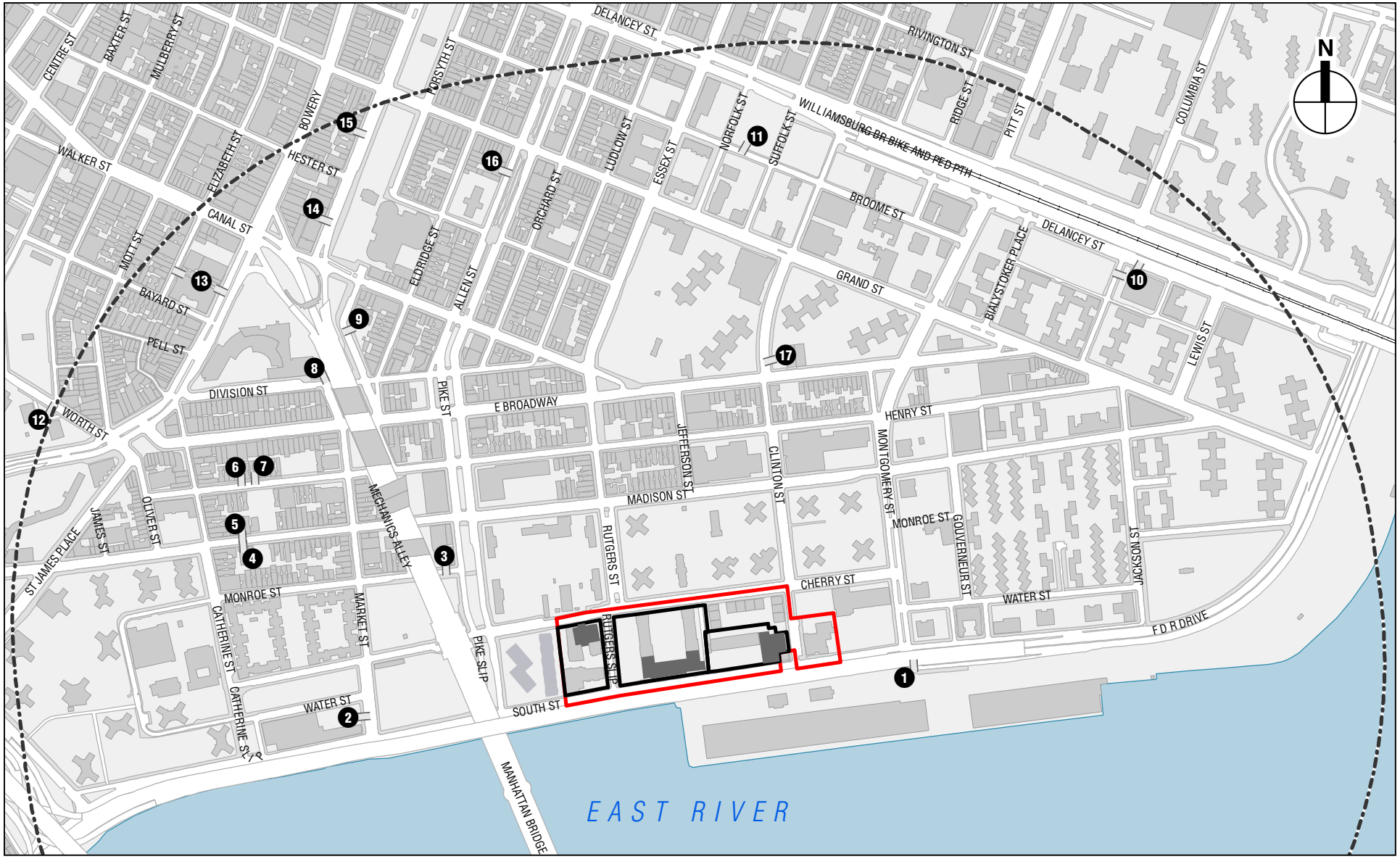
Parking Regulations

On-Street Parking Regulations

Figure 14-29

TWO BRIDGES LSRD

11.19.18



Project Sites
Boundary of Two Bridges LSRD
Study Area (1/2-mile boundary)
Proposed Buildings
Off-Street Parking

0 800 FEET

Off-Street Parking Facilities

TWO BRIDGES LSRD

Figure 14-30

Table 14-49
Existing Weekday Off-Street Parking Supply and Utilization
Approximately ½-Mile Study Area

Map No.	Name/Operator and Address/Location	License Number	Licensed Capacity	Utilization Rate				Utilized Spaces				Available Spaces			
				AM	MD	PM	ON	AM	MD	PM	ON	AM	MD	PM	ON
1	Imperial Parking LLC: Pier 42, South FDR	1446819	400	85%	85%	85%	85%	340	340	340	340	60	60	60	60
2	Edison NY Parking LLC: 220 South Street	1134501	63	80%	85%	50%	50%	50	54	32	32	13	9	31	31
3	Kaylee Operating LLC: 148 Madison Street	1155046	66	80%	85%	50%	50%	53	56	33	33	13	10	33	33
4	Madison Street Operating Corp: 88 Madison Street	908352	50	80%	80%	50%	CLD	40	40	25	CLD	10	10	25	CLD
5	10 Street Parking Corp: 38 Henry Street	925245	150	75%	75%	80%	80%	113	113	120	120	37	37	30	30
6	Henry Operating Corp: 47 Henry Street	1057433	8	100%	100%	100%	CLD	8	8	8	CLD	0	0	0	CLD
7	Henry Operating Corp: 49-59 Henry Street	1039024	114	40%	70%	40%	40%	46	80	46	46	68	34	68	68
8	Champion Confucius: 2-68 Division Street	1146910	300	70%	85%	85%	50%	210	255	255	150	90	45	45	150
9	Bridge View Auto Service Center: 26 Forsyth Street	954225	42	90%	90%	90%	90%	38	38	38	38	4	4	4	4
¼-Mile Area Only Totals			**1,193**	**75%**	**82%**	**75%**	**64%**	**898**	**984**	**897**	**759**	**295**	**209**	**296**	**376**
10	Area Garage LLC: (unlisted)	429851	457	40%	88%	60%	25%	183	402	274	114	274	55	183	343
11	Lower East Side District Mgmt. Assoc. – 135-163 Delancey Street	2008327	294	70%	90%	75%	55%	206	265	221	162	88	29	73	132
12	Chatham Parking Systems Inc. – 180 Park Row	368910	130	65%	85%	85%	65%	85	111	111	85	45	19	19	45
13	Quik Park Garage Inc. – 2-8 Elizabeth Street	1461597	140	60%	85%	60%	30%	84	119	84	42	56	21	56	98
14	T&K Park Inc. – 61 Christie Street	1344945	50	20%	90%	55%	25%	10	45	28	13	40	5	22	37
15	MTP Operating Corp. – 89-93 Christie Street	977117	116	80%	80%	60%	60%	93	93	70	70	23	23	46	46
16	59 Allen Street Garage Corp. – 59-63 Allen Street	1192853	200	65%	85%	75%	55%	130	170	150	110	70	30	50	90
17	Clinton Grand Parking LLC – 240 E. Broadway	2034514	505	60%	90%	60%	55%	303	455	303	278	202	50	202	227
Total ½-Mile Area			**3,085**	**65%**	**86%**	**69%**	**53%**	**1,992**	**2,644**	**2,138**	**1,633**	**1,093**	**441**	**947**	**1,394**

Notes: MD = Midday; ON = Overnight; CLD = Closed
Source: Survey conducted by AKRF Inc. in February and September 2016

Within the ½-mile parking study area, a total of 17 public parking facilities were inventoried. The combined capacity of these facilities totals 3,085 parking spaces. Overall, they were 65, 86, 69, and 53-percent utilized, with 1,093, 441, 947, and 1,394 parking spaces available during the weekday morning, midday, evening, and overnight time periods, respectively.

THE FUTURE WITHOUT THE PROPOSED PROJECTS

Overall public parking utilization is expected to experience the same growth as projected for traffic. In the No Action condition, No Build projects are expected to displace two public parking facilities and one facility was closed subsequent to data collection, for a total displacement of approximately -757 spaces. As presented in **Table 14-50**, accounting for the parking demand generated from background growth, an additional three percent of background growth to address increases in parking demand from small- to moderate-sized projects in the study area, and parking demand from discrete No Build projects that would advance independent

of the proposed projects, the No Action condition public parking utilization is expected to increase to 100, 128, 105, and 89-percent during the weekday morning, midday, evening, and overnight time periods, respectively, in the ½-mile off-street parking study area. This represents a parking shortfall of up to 646 during the weekday midday peak period.

Table 14-50
Existing and 2021 No Action Parking Supply and Utilization (½-Mile)

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
Existing Public Parking Supply	3,085	3,085	3,085	3,027
Existing Public Parking Demand	1,992	2,644	2,138	1,633
Existing Public Parking Utilization	65%	86%	69%	54%
Displaced Public Parking Supply Total	-757	-757	-757	-757
2021 No Action Public Parking Supply Total	2,328	2,328	2,327	2,270
2021 No Action Background Incremental Demand	25	33	27	20
Additional Three Percent Background Growth Incremental Demand	60	79	64	49
Discrete No Build Projects Total Parking Demand	281	258	229	315
Discrete No Build Projects Accessory Parking Spaces	60	60	60	60
Discrete No Build Projects Demand Accommodated by Public Parking	258	218	220	315
No Action Incremental Public Parking Demand	343	330	311	384
2021 No Action Public Parking Demand Total	2,335	2,974	2,449	2,017
2021 No Action Public Parking Utilization	100%	128%	105%	89%
2021 No Action Available Spaces (Shortfall)	(7)	(646)	(121)	253

Samples Calculations:
No Action Incremental Public Parking Demand = 2021 No Action Background Incremental Demand + Additional Three Percent Background Growth Incremental Demand + Discrete No Build Projects Demand Accommodated by Public Parking
No Action Incremental Public Parking Demand for Weekday AM = 25 + 60 + 258 = 343
2021 No Action Public Parking Demand Total = Existing Public Parking Demand + No Action Incremental Public Parking Demand
2021 No Action Public Parking Demand Total for Weekday AM = 1,992 + 343 = 2,335

THE FUTURE WITH THE PROPOSED PROJECTS

The weekday parking demand generated by the proposed projects is presented in **Table 14-51**. As presented in **Table 14-52**, accounting for the No Action parking supply and demand utilization, and the parking demand generated by the proposed projects, the With Action public parking utilization is expected to increase to 113, 132, 116, and 112 percent of the ½-mile off-street parking capacity during the weekday morning, midday, evening, and overnight time periods, respectively. These utilization levels represent parking shortfalls of 293, 755, 373, and 274 spaces during the corresponding weekday peak periods.

Table 14-51
Parking Demand from Proposed Projects—Weekday

Hour	Residential	Local Retail	School Staff	Total
12 AM–01 AM	527	0	0	527
01 AM–02 AM	527	0	0	527
02 AM–03 AM	527	0	0	527
03 AM–04 AM	527	0	0	527
04 AM–05 AM	527	0	0	527
05 AM–06 AM	527	0	0	527
06 AM–07 AM	527	0	0	527
07 AM–08 AM	453	0	0	453
08 AM–09 AM	284	0	2	286
09 AM–10 AM	189	0	2	191
10 AM–11 AM	128	0	2	130
11 AM–12 PM	107	0	2	109
12 PM–01 PM	107	0	2	109
01 PM–02 PM	107	0	2	109
02 PM–03 PM	107	0	2	109
03 PM–04 PM	109	0	2	111
04 PM–05 PM	144	0	2	146
05 PM–06 PM	252	0	0	252
06 PM–07 PM	343	0	0	343
07 PM–08 PM	424	0	0	424
08 PM–09 PM	459	0	0	459
09 PM–10 PM	487	0	0	487
10 PM–11 PM	510	0	0	510
11 PM–12 AM	527	0	0	527

Table 14-52
2021 No Action and With Action Parking Supply and Utilization (½-Mile)

	Weekday AM	Weekday Midday	Weekday PM	Weekday Overnight
2021 No Action Public Parking Supply	2,328	2,328	2,328	2,270
2021 No Action Public Parking Demand	2,335	2,974	2,449	2,017
2021 No Action Public Parking Utilization	100%	132%	116%	112%
Proposed Projects Parking Demand	286	109	252	527
Proposed Projects Accessory Parking Spaces	0	0	0	0
Proposed Projects Parking Demand Accommodated by Accessory Parking	0	0	0	0
Proposed Projects Parking Demand Accommodated by Public Parking	286	109	252	527
2021 With Action Public Parking Demand Total	2,621	3,083	2,701	2,544
2021 With Action Public Parking Utilization	113%	132%	116%	112%
2021 With Action Available Spaces (Shortfall)	(293)	(755)	(373)	(274)

Sample Calculation:
2021 With Action Public Parking Demand Total = 2021 No Action Public Parking Demand + Proposed Projects Demand Accommodated by Public Parking
2021 With Action Public Parking Demand Total for Weekday Overnight = 2,270 + 527 = 2,544

It is expected that excess parking demands resulting from the proposed projects during the weekday peak periods would need to be accommodated by on-street parking or off-street parking beyond ½-mile walk from the project sites. Alternatively, motorists could choose alternate modes of transportation. As stated in the *CEQR Technical Manual* and discussed in the above parking analysis methodology, a parking shortfall resulting from a project located in Manhattan does not constitute a significant adverse parking impact, due to the magnitude of available alternative modes of transportation. ✷