TECHNICAL MEMORANDUM 002
550 WASHINGTON STREET
SPECIAL HUDSON RIVER PARK DISTRICT
CEQR No. 16DCP031M

ULURP Nos. N 160308 ZRM, C 160309 ZMM, C 160310 ZSM, C 160311 ZSM, C 160312 ZSM, C 160313 ZSM, N 160314 ZAM, N 160315 ZAM, N 160316 ZAM, N 160317 ZCM

December 9, 2016

A. INTRODUCTION

The 550 Washington Street/Special Hudson River Park District is the subject of a Uniform Land Use Review Procedure (ULURP) application currently under consideration by the New York City Council. On October 6, 2016, a Final Environmental Impact Statement (FEIS) was completed for 550 Washington Street/Special Hudson River Park District, and a Notice of Completion was issued. The City Planning Commission (CPC) approved the proposal on October 17, 2016. The FEIS analyzed development of the entire zoning lot, including the North, Center and South Sites, pursuant to a proposed special permit, for an assumed 2024 build year. The development program included residential units (including affordable units and affordable senior units), retail uses, an office or hotel use, event space, publicly-accessible open space, and below-grade parking.

Shortly before the completion of the FEIS, the private applicant agreed, in a letter submitted to CPC on September 30, 2016, to revise the project to include certain commitments, which were considered in the alternatives chapter of the FEIS under the Revised Proposed Project Alternative. On October 14, 2016, the private applicant filed a revised ULURP application incorporating these project revisions. A Technical Memorandum (Technical Memorandum 001) considered these project revisions. Technical Memorandum 001 also analyzed a Hybrid Scenario with as-of-right commercial development on the South and Center Sites prior to construction of the North Site pursuant to the special permit ("Hybrid Scenario 001"). That Technical Memorandum concluded that there would not be any new or different significant adverse environmental impacts not already identified in the FEIS.

Certain modifications are now under consideration at the City Council. As described below, this includes a reduction in accessory parking from 772 spaces to 425 spaces. In addition, the City Council is also considering an increase in the size of the multi-purpose indoor recreation space provided with the Revised Proposed Project Alternative from 10,000 square feet to 15,000 square feet, and a reduction in the maximum size of retail spaces (excluding certain uses), which may result in additional office use replacing some of the second floor retail previously analyzed. This Technical Memorandum (Technical Memorandum 002) considers the potential for these changes to result in environmental impacts not previously identified.

This Technical Memorandum also considers another Hybrid Scenario that assumes as-of-right commercial development on the South and Center Sites prior to construction of the North Site pursuant to the special permit ("Hybrid Scenario 002"). With 877,615 gross square feet (gsf) of office space, 116,200 gsf of retail, and 346 parking spaces, Hybrid Scenario 002 contains more office space, less retail space, and fewer parking spaces than Hybrid Scenario 001, which was assumed in Technical Memorandum 001 to contain 740,000 gsf of office space, 155,382 gsf of retail, and 386 parking spaces. This memorandum concludes that there would not be any new or different types of significant adverse environmental impacts not already identified in the FEIS.

B. CHANGES UNDER CONSIDERATION BY THE CITY COUNCIL

Certain changes are now under consideration at the City Council, including a reduction in accessory parking, an increase in the size of the multipurpose indoor recreation space, and a reduction in the maximum size of retail spaces (excluding the grocery store) that may result in additional office use replacing some of the second floor retail previously analyzed. These changes, described in greater detail below, are collectively referred to as the proposed modifications.

Other City Council changes are also under consideration, including changes in Area Median Income (AMI) levels for the affordable housing units, and unit size distribution. These changes would not affect the analyses presented in the EIS and are not considered in this Technical Memorandum.

None of the other program elements would change, including the number of residential units and the overall amount of commercial space. The design of this alternative—including building heights, massing, site plan, vehicular access, and primary building entrances—would be substantially the same as the revised proposed project alternative. Therefore, there would be no changes to the conclusions presented in this EIS with regard to most of the technical areas analyzed. These include: land use, zoning, and public policy; socioeconomic conditions; community facilities; shadows; historic and cultural resources; natural resources; hazardous materials; water and sewer infrastructure; energy; air quality; greenhouse gas emissions and climate change; noise; public health; neighborhood character; and construction. Other technical areas with the potential to be affected—open space and transportation—are considered below.

REDUCTION IN PARKING

At the request of the City Council, the private applicant has agreed to reduce the amount of accessory parking on the development site. The total number of parking spaces would be reduced from 772 (which was considered in the FEIS and Technical Memorandum 001) to 425. The parking on the North Site would remain the same at 236 spaces. The rest of the parking would be divided between the Center and South Sites or may be all in the Center Site.

ENLARGED INDOOR ACTIVE RECREATION SPACE

As described in the FEIS, the Revised Proposed Project Alternative would include a multi-purpose indoor active recreation space at the cellar level of the Center Site to partially mitigate the significant adverse impact on active open space anticipated with the proposed project. The City Council is considering a modification under which the size of the space would increase from 10,000 square feet to 15,000 square feet and the space would be available for use by the public during all of its operating hours, not only 50 percent of such hours. All other aspects of

the space would remain the same as presented in the FEIS. The space would be fitted out for recreation uses and would be suitable for activities such as various ball sports, martial arts, or fitness classes. In addition to the main space, support space would include toilets and storage areas. The provision of this publicly accessible space is considered partial mitigation for the significant adverse open space impact. The private applicant would either operate the facility in-house or engage a third-party partner to handle its management, scheduling, and programming. The private applicant would have the ability to charge fees for use of the space to cover overhead and maintenance and would apply standard contractual arrangements for users related to security, insurance, liability, and responsibility for cleaning.

POTENTIAL REALLOCATION OF COMMERCIAL SPACE

The City Council is also considering a modification that would limit the size of retail establishments to no more than 10,000 square feet at grade and 25,000 square feet total, with exceptions for grocery, food hall and fitness/gym uses. In this case, it may not be feasible to use some or all of the second floor retail space as such. Instead, this space (approximately 103,000 square feet) may be used for commercial office space. The program under this scenario is shown in **Table 1**.

Table 1
Comparison of FEIS Program and Reallocated Commercial Space Scenario (gsf)

Uses	FEIS Program	Reallocation Scenario	Difference
Retail[1]	160,000	57,000	-103,000
Local Retail	*37,000*	*37,000*	—
Destination Retail	*123,000*	*20,000*	*-103,000*
Residential	1,334,100 (1,586 units)	1,334,100 (1,586 units)	—
Hotel[2]	229,700 (353 rooms)	229,700 (353 rooms)	—
Office	—	103,000	+103,000
Event Space	41,400	41,400	—
Parking	772 spaces	425 spaces	-347 spaces

Notes: 1. The breakdown between local and destination retail uses is assumed for analysis purposes only.
2. The South Site may include either hotel or office space.

POTENTIAL ENVIRONMENTAL EFFECTS OF THE PROPOSED MODIFICATIONS

The proposed modifications would result in 155 additional workers compared to the program analyzed in the FEIS and Technical Memorandum 001. Based on standard assumptions of one worker per 400 feet for retail uses and one worker per 250 square feet for office uses, this scenario would have 857 workers compared to 702 under the FEIS scenario.

OPEN SPACE

The proposed modifications would result in a greater increment of workers than the Revised Proposed Project Alternative, which could place additional demands on open space resources in the non-residential study area. An assessment of a non-residential (1/4-mile) study area was not included in the FEIS, since there would be a negative worker increment compared to the No Action scenario. With the proposed modifications, there would still be fewer workers than in the no action scenario. Therefore, as with the Revised Proposed Project Alternative, a non-residential open space assessment is not warranted, and the proposed modifications would not result in any significant adverse open space impacts due to open space demands from workers.

The significant adverse impacts to total and active open space related to residential uses identified in the FEIS would not change. With this scenario, a larger indoor public recreation space would be provided by the private applicant, which would also be considered partial mitigation for this impact. Overall, this scenario would provide more mitigation because of the additional 5,000 square feet of indoor recreation space.

TRANSPORTATION

Revised Proposed Project Alternative with 425 Parking Spaces

As analyzed in the FEIS and Technical Memorandum 001, the 772 parking spaces proposed for the Revised Proposed Project Alternative would result in transient trips in addition to trips generated by the proposed residential, hotel, retail, and other commercial uses. With on-site parking reduced to 425 parking spaces, there would not be available spaces for transient trips made to and from the project site, resulting in an overall reduction of incremental vehicle and pedestrian trips. Therefore, the potential impacts associated with the Revised Proposed Project Alternative with 425 on-site parking spaces would be less than or similar to those identified in the FEIS and Technical Memorandum 001. Similarly, the measures identified to mitigate the significant adverse impacts associated with the Revised Proposed Project Alternative with 772 parking spaces would be adequate in addressing the impacts resulting from this same project alternative with 425 parking spaces.

As illustrated in FEIS Chapter 14, "Transportation," on Table 14-56 and Section G, "Parking Assessment," the With Action off-street parking utilization within ¼-mile of the project site was projected at up to 86 percent with 563 available spaces, during the weekday midday peak period. Since this excess parking supply can more than adequately accommodate any overflow in on-site demand from the above 347-space reduction in parking supply, there would not be a potential for any parking shortfalls or significant adverse parking impacts.

Revised Proposed Project Alternative with 425 Parking Spaces and Potential Reallocation of Commercial Space

For this Reallocated Commercial Space scenario, approximately 103,000 square feet of retail space would be developed instead with commercial office space, along with the 347-space reduction in on-site parking supply. Using the travel demand factors detailed in the FEIS and eliminating the transient trips described above, incremental trips were estimated and compared to the Revised Proposed Project Alternative (with 772 parking spaces) analyzed in the FEIS. As shown in **Table 2**, the Reallocated Commercial Space scenario would result in fewer incremental vehicle trips by direction and by analysis peak period than the Revised Proposed Project Alternative. It would also result in fewer total incremental person-trips traversing the sidewalks, corners, and crosswalks surrounding the project site. Therefore, the potential traffic and pedestrian impacts associated with the Reallocated Commercial Space scenario would be less than or similar to those identified in the FEIS and Technical Memorandum 001. Similarly, the measures identified to mitigate the significant adverse impacts associated with the Revised Proposed Project Alternative with 772 parking spaces would be adequate in addressing the impacts resulting from the Reallocated Commercial Space scenario. With regard to transit, the Reallocated Commercial Space scenario would result in slightly higher incremental subway trips during the weekday AM peak hour than the Revised Proposed Project Alternative. However, since this increment is below the CEQR analysis threshold of 200 subway trips, the Reallocated Commercial Space scenario would similarly not have the potential to result in any significant adverse transit impacts.

Table 2
Incremental Trip Estimates Comparison

Program	Peak Hour	In/Out	Person Trip						Vehicle Trip			
			Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
Revised Proposed Project Alternative with 772 Parking Spaces	AM	In	-67	-14	-552	-104	-147	-884	-59	49	-4	-14
		Out	110	72	515	-10	156	843	108	49	-4	153
		Total	43	58	-37	-114	9	-41	49	98	-8	139
	Midday	In	-23	-32	7	-96	-1,017	-1,161	1	-23	-7	-29
		Out	-14	-28	25	-92	-994	-1,103	6	-23	-7	-24
		Total	-37	-60	32	-188	-2,011	-2,264	7	-46	-14	-53
	PM	In	29	31	315	-58	-224	93	68	4	-1	71
		Out	-112	-23	-640	-156	-413	-1,344	-86	4	-1	-83
		Total	-83	8	-325	-214	-637	-1,251	-18	8	-2	-12
	Saturday	In	8	1	156	-76	-593	-504	35	14	0	49
		Out	17	6	174	-69	-525	-397	35	14	0	49
		Total	25	7	330	-145	-1,118	-901	70	28	0	98
Reallocated Commercial Space Scenario with 425 Parking Spaces	AM	In	-102	-15	-441	-93	-193	-844	-81	48	-4	-37
		Out	53	67	487	-19	96	684	57	48	-4	101
		Total	-49	52	46	-112	-97	-160	-24	96	-8	64
	Midday	In	-78	-44	-65	-120	-1,141	-1,448	-34	-28	-7	-69
		Out	-62	-37	-31	-109	-1,067	-1,306	-26	-28	-7	-61
		Total	-140	-81	-96	-229	-2,208	-2,754	-60	-56	-14	-130
	PM	In	-36	18	227	-85	-395	-271	11	-2	-1	8
		Out	-163	-33	-582	-162	-590	-1,530	-107	-2	-1	-110
		Total	-199	-15	-355	-247	-985	-1,801	-96	-4	-2	-102
	Saturday	In	-75	-20	49	-118	-883	-1,047	-22	0	0	-22
		Out	-65	-13	76	-107	-797	-906	-16	0	0	-16
		Total	-140	-33	125	-225	-1,680	-1,953	-38	0	0	-38
Net Difference	AM	In	-35	-1	111	11	-46	40	-22	-1	0	-23
		Out	-57	-5	-28	-9	-60	-159	-51	-1	0	-52
		Total	-92	-6	83	2	-106	-119	-73	-2	0	-75
	Midday	In	-55	-12	-72	-24	-124	-287	-35	-5	0	-40
		Out	-48	-9	-56	-17	-73	-203	-32	-5	0	-37
		Total	-103	-21	-128	-41	-197	-490	-67	-10	0	-77
	PM	In	-65	-13	-88	-27	-171	-364	-57	-6	0	-63
		Out	-51	-10	58	-6	-177	-186	-21	-6	0	-27
		Total	-116	-23	-30	-33	-348	-550	-78	-12	0	-90
	Saturday	In	-83	-21	-107	-42	-290	-543	-57	-14	0	-71
		Out	-82	-19	-98	-38	-272	-509	-51	-14	0	-65
		Total	-165	-40	-205	-80	-562	-1,052	-108	-28	0	-136

For parking, the Reallocated Commercial Space scenario would result in a weekday midday peak period parking demand of 430 parking spaces (see **Table 3**). Compared to the parking demand estimated for the Revised Proposed Project Alternative (FEIS Chapter 14, "Transportation," Table 14-56), the Reallocated Commercial Space scenario would yield a demand for up to 28 additional parking spaces during the weekday midday peak period. This small amount of additional parking demand could be absorbed by the above-described excess parking supply within ¼-mile of the project site. Therefore, the Reallocated Commercial Space scenario would not have the potential for any parking shortfalls or significant adverse parking impacts.

Table 3
Reallocated Commercial Space Scenario Parking Demand—Weekday

Hour	Residential	Office	Destination Retail	Local Retail	Hotel	Event Space	Total
12 AM - 01 AM	529	0	0	0	23	0	552
01 AM - 02 AM	529	0	0	0	24	0	553
02 AM - 03 AM	529	0	0	0	24	0	553
03 AM - 04 AM	529	0	0	0	24	0	553
04 AM - 05 AM	529	0	0	0	24	0	553
05 AM - 06 AM	529	0	0	0	24	0	553
06 AM - 07 AM	529	0	0	0	24	0	553
07 AM - 08 AM	500	2	0	0	24	0	526
08 AM - 09 AM	437	26	0	0	19	0	482
09 AM - 10 AM	400	43	1	0	16	0	460
10 AM - 11 AM	377	41	3	0	15	0	436
11 AM - 12 PM	369	41	3	1	13	0	427
12 PM - 01 PM	369	41	4	1	15	0	430
01 PM - 02 PM	369	42	4	1	13	0	429
02 PM - 03 PM	369	43	3	1	11	0	427
03 PM - 04 PM	369	43	3	1	8	0	424
04 PM - 05 PM	382	31	3	1	6	38	461
05 PM - 06 PM	421	5	2	1	14	80	523
06 PM - 07 PM	455	2	2	0	11	61	531
07 PM - 08 PM	486	0	2	0	16	45	549
08 PM - 09 PM	498	0	1	0	18	0	517
09 PM - 10 PM	508	0	0	0	19	0	527
10 PM - 11 PM	519	0	0	0	21	0	540
11 PM - 12 AM	529	0	0	0	22	0	551

Enlarged Indoor Active Recreation Space

As noted above, this scenario includes a larger (15,000 square feet) indoor public recreation space than the Revised Proposed Project Alternative (10,000 square feet). The additional 5,000 square feet of recreation space, which would be available to the public for all of its operating hours, would not yield perceptible increases in trip-making. The recreation space is intended to serve the local community, as well as building residents. Based on the size and active use, it is expected that only a minimal number of vehicle and pedestrian trips would be generated with this use. Most of these trips would either originate from the various uses on the development site or locally generated from other nearby uses and pass-by visits. Overall, this scenario would be expected to result in the same or comparable significant adverse transportation-related impacts and require the same mitigation measures to address those impacts as the Revised Proposed Project Alternative.

C. HYBRID SCENARIO

Since the issuance of the FEIS and Technical Memorandum 001, the private applicant has indicated that it is possible that it might proceed with a Hybrid Scenario (Hybrid Scenario 002) with a larger as-of-right component, as described below. This scenario analyzes a development wherein a portion of the zoning lot is developed under the zoning regulations in effect prior to adoption of the Zoning Map Amendment (the Former Zoning), while the remaining portion of

the zoning lot is developed in accordance with the special permit pursuant to the new zoning.[1] Development under the Former Zoning pursuant to this scenario could include a commercial building that could also be constructed without any discretionary approvals.

For analysis purposes, this Technical Memorandum assumes that under Hybrid Scenario 002, by the 2024 build year, the development site would be partially occupied with a building developed under the Former Zoning, with the remaining portions of the development site built out under the Special Permit.

Development under Hybrid Scenario 002 in accordance with the use and bulk regulations of existing zoning, prior to a special permit election, is permitted under the proposed Zoning Text Amendment. This Technical Memorandum has been prepared to consider whether the increase in office space under the Hybrid Scenario 002 may have the potential to result in new or different impacts than those disclosed in the FEIS or Technical Memorandum 001.

DESCRIPTION OF HYBRID SCENARIO 002

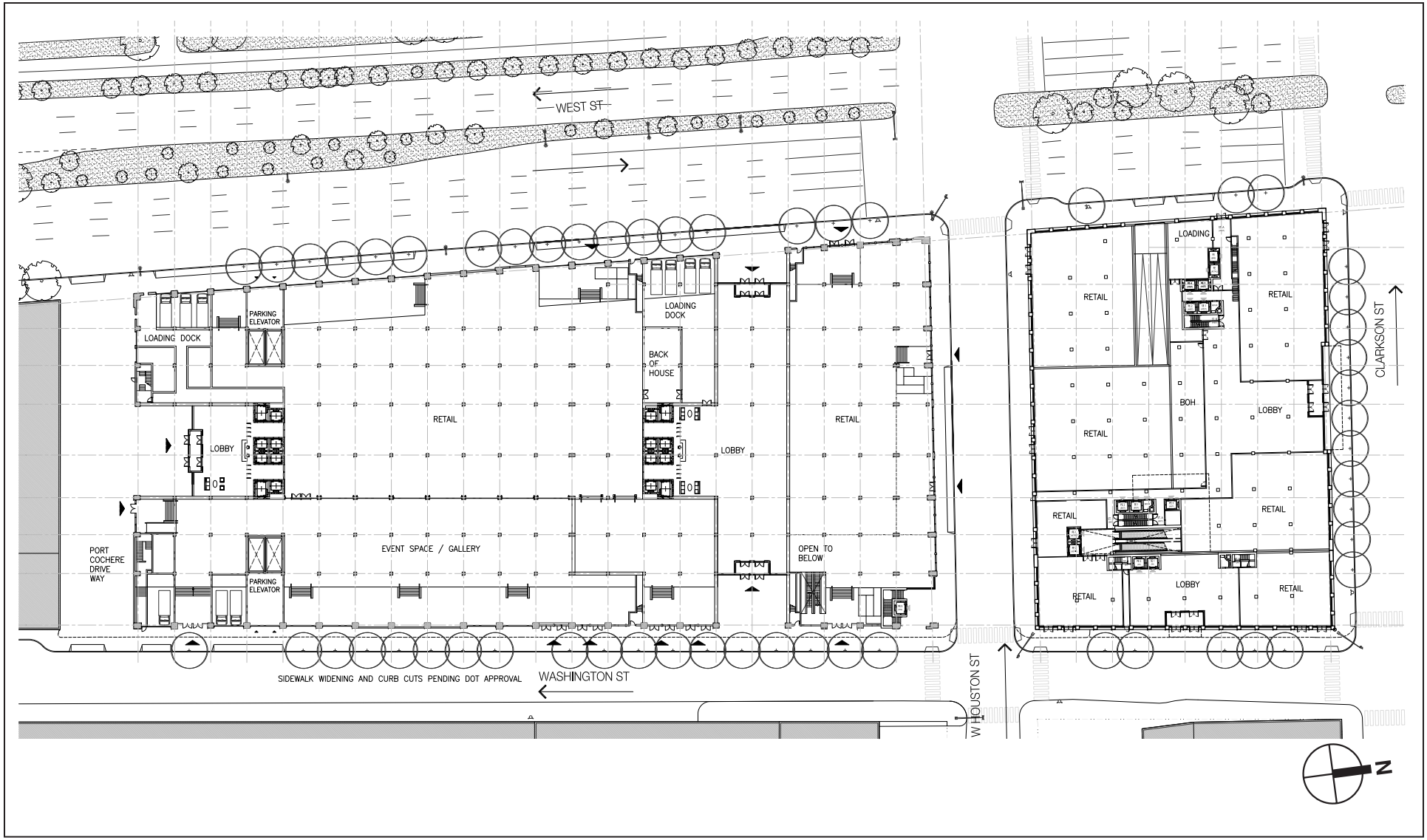
For purposes of analysis, Hybrid Scenario 002 is assumed to include a commercial building on the Center and South Sites (predominantly office, with some retail and event space, and as-of-right parking), and the proposed special permit building on the North Site, which contains the same number of residential units and the same amount of parking but 60,000 gsf less retail than was analyzed in the FEIS. The North Site would provide senior affordable housing. Hybrid Scenario 002 would retain all or a portion of the existing building on the Center/South Sites and construct a vertical enlargement. The through-block driveway and the on-site open space provided in the Revised Proposed Project Alternative, to be located on the Center and South Sites, would not be provided in Hybrid Scenario 002. As with the Revised Proposed Project Alternative, Hybrid Scenario 002 would include a transfer of development rights from Pier 40 to the development site.

Table 4 shows the illustrative development program assumed for Hybrid Scenario 002 in this memorandum, including the components on the North Site and the Center/South Sites. **Figure 1** is an illustrative site plan and **Figure 2** shows an illustrative massing. **Table 5** provides a comparison of the FEIS program, Hybrid Scenario 001, and Hybrid Scenario 002.

Hybrid Scenario 002 would be similar to Hybrid Scenario 001 except that there would be more office space, less retail space, and fewer parking spaces.

Compared to the program analyzed in the FEIS, Hybrid Scenario 002 is expected to result in less retail space, event space, and parking; fewer residential units; and no hotel use; however, there would be substantially more office use under Hybrid Scenario 002. As a result, the number of residents introduced would be less, but the number of workers introduced would be greater. **Table 6** provides a comparison of estimated population changes associated with Hybrid Scenario 002 in comparison to the No Action condition and the Revised Proposed Project Alternative analyzed in the FEIS.

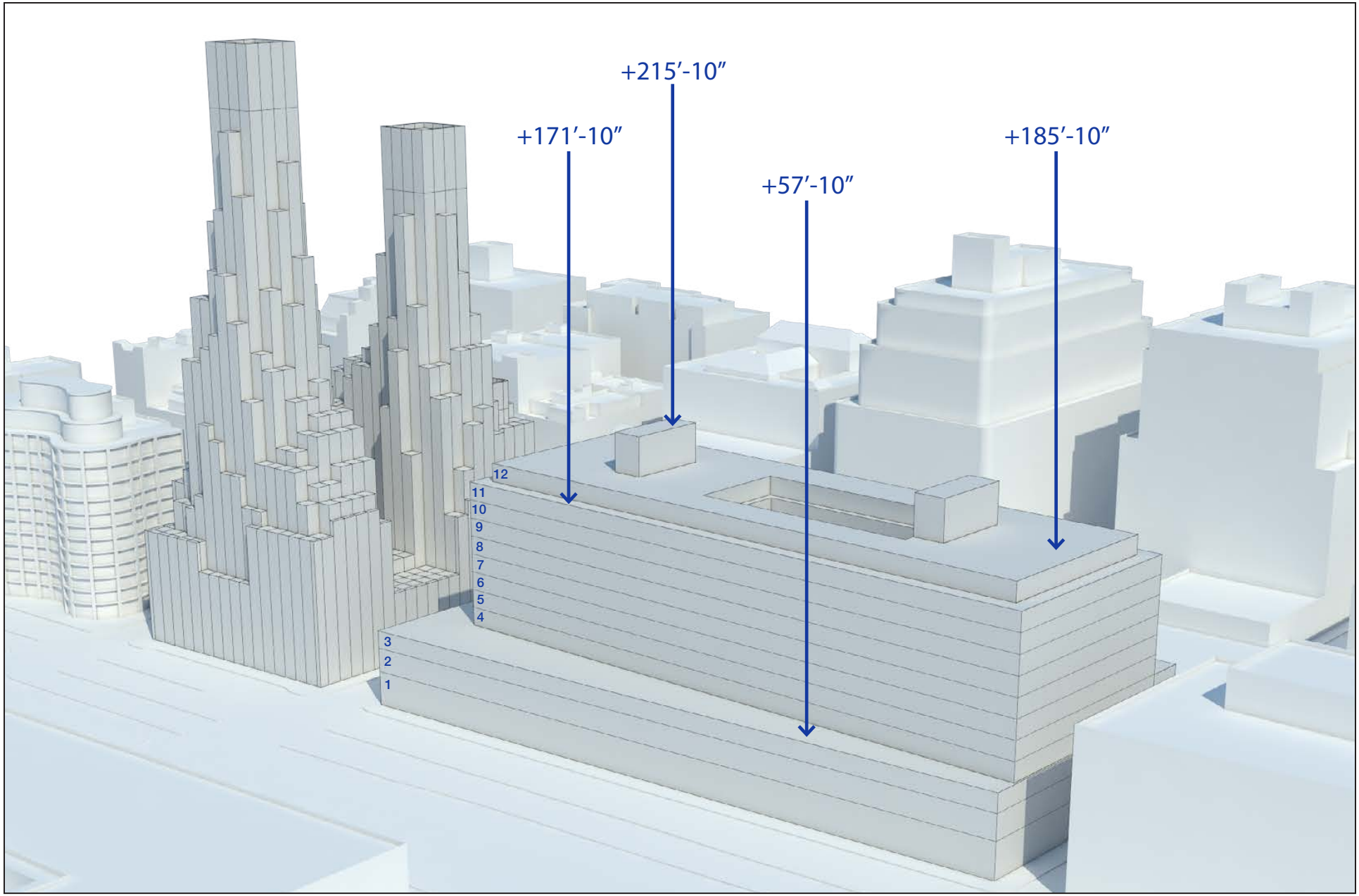
[1] Proposed Section 89-10 provides that the use and bulk regulations applicable to the zoning lot are modified such that the use and bulk regulations of the newly mapped C6-3, C6-4 and M1-5 zoning districts shall not apply, and the regulations of the existing M1-5 and M2-4 districts shall remain in effect, until exercise of the special permit granted pursuant to Section 89-21, and that the use and bulk regulations of the C6-3, C6-4 and M1-5 districts shall only apply to development, enlargement, or conversion under the special permit.



NOTE: CENTER/SOUTH SITES SHOWN FOR ILLUSTRATIVE PURPOSES ONLY.
NORTH SITE TO BE DEVELOPED PURSUANT TO SPECIAL PERMIT.

Site Plan
Figure 1

11.21.16



NOTE: CENTER/SOUTH SITES SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. NORTH SITE TO BE DEVELOPED PURSUANT TO SPECIAL PERMIT.

Illustrative Massing
Figure 2

Table 4
Hybrid Scenario 002 Development Program (Approximate gsf)

Use	North Site	Center/South Sites	Total
Total Retail[1]:	40,000	76,200	116,200
Local Retail	*29,000*	*10,160*	*39,160*
Destination Retail	*11,000*	*66,040*	*77,040*
Residential	579,600 (593 units)	—	579,600 (593 units)
Office[2]	—	877,615	877,615
Event Space	—	23,750	23,750
Parking	55,000 (236 parking spaces)	97,700 (110 parking spaces)	152,700 (346 parking spaces)

Notes:
1. The breakdown between local and destination uses is assumed for analysis purposes only. Retail space in the North Site would be reduced by 60,000 gsf under Hybrid Scenario 002, as compared to the Revised Proposed Project Alternative.
2. Does not include approximately 35,000 gsf of above grade mechanical space for resiliency.

Sources: CookFox Architects, SJC 33 Owner 2015 LLC.

Table 5
Comparison of FEIS Program and Hybrid Scenarios (gsf)

Uses	Hybrid Scenario 001	Hybrid Scenario 002	FEIS Program	Difference between Hybrid 002 and FEIS Program
Retail[1]	155,382	116,200	160,000	-43,800
Local Retail	*36,384*	*39,160*	*37,000*	*2,160*
Destination Retail	*118,998*	*77,040*	*123,000*	*-45,960*
Residential	579,600 (593 units)	579,600 (593 units)	1,334,100 (1,586 units)	-754,500 (-993 units)
Hotel	—	—	229,700[2] (353 rooms)	-229,700 (-353 rooms)
Office	740,000	877,615	—	+877,615
Event Space	22,750	23,750	41,400	-17,650
Parking	386 spaces	346 spaces	772 spaces	-426 spaces

Notes:
1. The breakdown between local and destination retail uses is assumed for analysis purposes only.
2. The South Site may include either hotel or office space.

Table 6
Population Comparison for the FEIS Scenarios and Hybrid Scenario 002

Scenario	Workers[1]	Residents[2]
No Action Scenario	2,788	0
Revised Proposed Project Alternative	702	2,649
Hybrid Scenario 002	3,891	990

Notes:
1. Assumes 1 worker per: 250 gsf office use, 400 gsf retail use, 400 gsf event space use, 3 hotel rooms, 25 residential units, 50 parking spaces.
2. Based on 1.67 residents per unit (average household size for Community District 2, 2010 US Census).

As shown in **Table 6**, Hybrid Scenario 002 would result in 990 residents, which is fewer than the Revised Proposed Project Alternative (but more than the No Action scenario, which would not result in any residents). Due to the substantial increase in office space under Hybrid Scenario 002, 3,891 workers would be generated, which—unlike the Revised Proposed Project Alternative—would exceed the number generated by the No Action scenario.

Hybrid Scenario 002 would also include the following transportation-related improvements:

- Constructing a new stairway at the Spring Street (C, E) Subway Station and providing a new Americans with Disabilities Act (ADA) -compliant elevator. Both of these station circulation elements would be located on the southwest corner of Spring Street and Avenue of the Americas to supplement the existing stairway on the northwest corner of the intersection. An alternative option would be substantially widening the existing stairway on the northwest corner of the intersection, coupled with an extension of the adjacent sidewalk, and constructing the ADA-compliant elevator at the location described above.
- Widening the Washington Street sidewalk from the development site to Spring Street along the DSNY facility property.
- Increasing the effective width of the north sidewalk along West Houston Street between Hudson Street and Varick Street.
- Widening the west crosswalk at West Houston Street and Washington Street.
- Widening the north crosswalk at West Houston Street and Greenwich Street.
- Widening the north crosswalk at West Houston Street and Hudson Street.
- Shifting an additional two seconds of green time (as compared to the Revised Proposed Project Alternative) from the northbound/southbound phase to the southbound left-turn phase during the weekday AM peak hour at the intersection of West Street and Clarkson Street.
- Shifting four seconds of green time from the westbound phase to the southbound phase during the weekday AM peak hour at the intersection of Washington Street and West Houston Street.
- Shifting one second less of green time (as compared to the Revised Proposed Project Alternative) from the northbound/southbound phase to the eastbound/westbound phase during the weekday PM peak hour at the intersection of West Houston Street and West Street.
- Shifting one second of green time from the eastbound/westbound right-turn phase to the northbound phase during the weekday AM peak hour at the intersection of Hudson Street and Canal Street.
- Shifting two seconds less of green time (as compared to the Revised Proposed Project Alternative) from the northbound phase to the eastbound phase during the weekday AM peak hour and shifting two seconds of green time from the northbound phase to the eastbound phase during the weekday PM peak hour at the intersection of Hudson Street and Clarkson Street.

D. POTENTIAL ENVIRONMENTAL EFFECTS OF THE HYBRID SCENARIO

This section includes a discussion of the probable impacts of Hybrid Scenario 002 (hereafter referred to as the "Hybrid Scenario"), compared to the Revised Proposed Project Alternative analyzed in the FEIS.

LAND USE, ZONING, AND PUBLIC POLICY

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not be expected to result in significant adverse impacts related to land use, zoning, and public policy. The FEIS determined that the mix of uses with the Revised Proposed Project Alternative would be consistent with the mixed-use character of the surrounding study area and would reflect the ongoing trend towards residential use. With residential, retail, office, and parking, the uses proposed for the Hybrid Scenario would be within the range of uses considered in the FEIS. Under this scenario residential land uses would not extend as far south and there would be more commercial use on the South/Center Site that would provide a buffer between residential uses and industrial uses to the south. This approach is consistent with what was analyzed in the FEIS, which assumed commercial uses on the South Site. As with the Revised Proposed Project Alternative, the Hybrid Scenario would be consistent with the study area's land use and would enliven the development site. Compared to the Revised Proposed Project Alternative, the amount of density on the development site would be less, but this change would not be considered adverse.

The Hybrid Scenario would provide new housing, including affordable housing, which would be supportive of the City's *Housing New York* plan. However, since the Hybrid Scenario would contain fewer affordable housing units, it would contribute less to the City's affordable housing goals than the Revised Proposed Project Alternative. As with the Revised Proposed Project Alternative, the Hybrid Scenario would be consistent with the city's sustainability goals, including those outlined in OneNYC. The Hybrid Scenario would support OneNYC's land use goals of creating substantial new housing opportunities at a range of incomes, including permanently affordable senior housing (although there would be fewer new units than with the Revised Proposed Project Alternative); redeveloping underutilized sites along the waterfront with active uses; focusing development in areas that are served by mass transit; and fostering walkable retail destinations. The Hybrid Scenario would also incorporate measures to increase the resiliency of the development site to future storm events, which would be consistent with the City's resiliency goals. As with the Revised Proposed Project Alternative, the Hybrid Scenario would not result in new development within or adjacent to any New York City Landmarks Preservation Commission (LPC)-designated historic district. Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would be consistent with applicable Waterfront Revitalization Program (WRP) policies. The Hybrid Scenario would be substantially the same as the Revised Proposed Project Alternative with regard to WRP policies, except that the Hybrid Scenario would retain and reuse all or a portion of the existing building on the Center and South Sites and would therefore have fewer opportunities to incorporate resiliency measures than new structures that would be constructed with the Revised Proposed Project Alternative. For example, the Center/South Building could not be dry flood-proofed, and while the Center/South Building's critical mechanical infrastructure would be raised above flood levels, there would not be an opportunity to raise the ground floor of the building. Overall, the Hybrid Scenario would meet all applicable regulations regarding resiliency, including the New York City Building Code. Overall, similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in any land use compatibility issues or zoning/public policy impacts.

SOCIOECONOMIC CONDITIONS

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in any significant adverse impacts due to changes in socioeconomic conditions. Under *City Environmental Quality Review (CEQR) Technical Manual* guidelines, there are six specific

elements that can result in significant adverse socioeconomic impacts: (1) direct displacement of residential population on a project site; (2) direct displacement of existing businesses or institutions on a project site; (3) indirect displacement of residential population in a study area; (4) indirect displacement of businesses or institutions in a study area; (5) indirect displacement of businesses due to retail market saturation; and (6) adverse effects on specific industries.

The development site does not contain any residents and existing commercial tenants are expected to relocate from the development site irrespective of the status of the Hybrid Scenario. Therefore, the Hybrid Scenario would not result in direct residential or commercial displacement. With fewer residential units, there would be less potential for the Hybrid Scenario to cause indirect residential displacement; however, the FEIS found that the Revised Proposed Project Alternative would not result in any such impacts. Since the Hybrid Scenario would not result in an addition of more than 200,000 square feet of commercial space compared to the No Action condition[2], an assessment of potential indirect business displacement is not warranted. Since the Hybrid Scenario would not result in development warranting an assessment of direct or indirect business displacement, an assessment of adverse effects on specific industries is not warranted. Therefore, similar to the Revised Proposed Project Scenario, the Hybrid Scenario would not result in any significant adverse socioeconomic impacts.

COMMUNITY FACILITIES AND SERVICES

The Hybrid Scenario would contain 993 fewer residential units than the Revised Proposed Project Alternative. Thus, the Hybrid Scenario would result in less incremental demand on publicly-funded schools, libraries, child care facilities, health care facilities, and fire/police protection services. The FEIS did not identify any significant adverse impacts on those facilities and services as a result of the Revised Proposed Project Alternative. Therefore, the Hybrid Scenario, which would place even less demand on community facilities and services, would also not result in any such impacts. The FEIS contained detailed assessments of elementary/intermediate schools, child care facilities, and libraries; each of these is considered further below.

ELEMENTARY AND INTERMEDIATE SCHOOLS

The FEIS estimated that the Revised Proposed Project Alternative would result in 169 new elementary students and 56 new intermediate students, which would increase elementary school utilization by 4.86 percent (resulting in 121.3 percent utilization), and would increase intermediate school utilization by 3.05 percent (resulting in 92.4 percent utilization). With the Hybrid Scenario, residential uses would only be developed on the North Site, totaling 593 residential units (this includes 178 permanently affordable senior units,[3] which, following *CEQR Technical Manual* guidelines, are not included in the schools analysis). Based on *CEQR Technical Manual* multipliers for projects in Manhattan, the 415 units would be expected to

[2] As described in the FEIS, the No Action condition would include approximately 1,084,000 gsf of commercial uses, including retail, office, hotel, and event space. As shown in Table 4, the Hybrid Scenario would include approximately 1,017,565 gsf of commercial uses, including retail, office, and event space.

[3] If more of the 593 units are designated for senior affordable housing, there would be fewer school children generated by development on the North Site. Therefore, this analysis conservatively assumes 178 affordable senior units.

result in 50 new elementary school students and 17 new intermediate school students. As shown in **Table 7**, the increase in elementary school utilization with the Hybrid Scenario is estimated to be 1.36 percentage points (resulting in 118.1 percent utilization) and the increase in intermediate school utilization is estimated to be 0.93 percentage points (resulting in 90.3 percent utilization).

Table 7
Estimated Public School Enrollment, Capacity, and Utilization: Hybrid Scenario

Study Area	No Action Enrollment	Students Introduced by the Hybrid Scenario	Total With Action Enrollment	Capacity	Available Seats	Utilization	Change in Utilization Compared with No Action
Elementary Schools							
Sub-district 2 of CSD 2	4,289	50	4,339	3,675	-664	118.1%	1.36%
Intermediate Schools							
Sub-district 2 of CSD 2	1,641	17	1,658	1,837	179	90.3%	0.93%

Sources: DOE *Enrollment Projections (Actual 2014, Projected 2015-2024) by the Grier Partnership*; DOE, *Utilization Profiles: Enrollment/Capacity/Utilization, 2014-2015*, DOE *2015-2019 Proposed Five-Year Capital Plan,* Amended March 2016; School Construction Authority.

As stated in the *CEQR Technical Manual*, a significant adverse impact may occur if a project would result in both of the following conditions: (1) a utilization rate of the elementary or intermediate schools in the sub-district study area that is equal to or greater than 100 percent in the future with the proposed actions; and (2) an increase of five percentage points or more in the collective utilization rate between the future without and the future with the proposed actions conditions.

While elementary school utilization would be above 100 percent, the increase in attributable to the Hybrid Scenario would be less than the 5 percentage point *CEQR Technical Manual* guideline indicating a significant adverse impact may occur. For intermediate schools, utilization would be less than 100 percent and the change in utilization attributable to the Hybrid Scenario would also be less than 5 percentage points. Therefore, consistent with the conclusions of the FEIS, the Hybrid Scenario would not result in any significant adverse impacts to elementary or intermediate schools in the study area.

CHILD CARE

The FEIS assumed that the Revised Proposed Project Alternative would result in 298 affordable units, requiring a detailed assessment of child care facilities. With the Hybrid Scenario, residential uses would only be developed on the North Site, including 415 market-rate residential units, and an additional 178 permanently affordable senior units. Following *CEQR Technical Manual* guidelines, market-rate units and senior housing are not included in a child care assessment, as it is not expected that these units would include children who are eligible for publicly funded child care services. Therefore, the Hybrid Scenario would not result in any incremental demand on public child care services and, consistent with the conclusions of the FEIS, would not result in a significant adverse impact.

LIBRARIES

As stated above, the Hybrid Scenario would contain 993 fewer residential units than the Revised Proposed Project Alternative, and would therefore result in less incremental demand on study area libraries, including the Hudson Park Library and Jefferson Market Library. Since the FEIS

determined that the Revised Proposed Project Alternative would not result in a noticeable change in the delivery of library services, the Hybrid Scenario would not affect this conclusion.

OPEN SPACE

RESIDENTIAL ANALYSIS

Since it contains fewer residential units than the Revised Proposed Project Alternative, the Hybrid Scenario would result in lower demand on open space resources in the residential study area. The FEIS found that the Revised Proposed Project Alternative would result in a decrease of the residential study area's total open space ratio of 5.66 percent, a decrease in the active open space ratio of 6.96 percent, and a decrease in the passive open space ratio of 4.91 percent. Since the decreases in the total and active open space ratios would exceed the 5 percentage point guideline prescribed by the *CEQR Technical Manual*, the FEIS determined that the Revised Proposed Project Alternative would result in a significant adverse open space impact.

The Hybrid Scenario would result in 990 new residents on the development site (based on the 2010 US Census average household size of 1.67 persons for Community District 2). As shown in **Table 8**, with Hybrid Scenario, the total open space ratio in the study area would be 0.94 acres per 1,000 residents (compared to 0.91 for the Revised Proposed Project Alternative in the FEIS). The active open space ratio would be 0.34 acres per 1,000 residents (compared to 0.33 for the Revised Proposed Project Alternative in the FEIS), and the passive open space ratio would be 0.60 acres per 1,000 residents (compared to 0.58 for the Revised Proposed Project Alternative in the FEIS).

Table 8
Adequacy of Open Space Resources with the Hybrid Scenario

		Open Space Acreage			Open Space Ratios			Open Space Goals		
Total Population		**Total**	**Active**	**Passive**	**Total**	**Active**	**Passive**	**Total**	**Active**	**Passive**
Residential (1/2-Mile) Study Area										
Residents	36,392	34.20	12.45	21.75	0.94	0.34	0.60	2.5	2.0	0.5

Note: Ratios in acres per 1,000 people.
Sources: 2010 U.S. Census; NYC Parks; Hudson Square Connection; *Hudson Square Rezoning FEIS*; AKRF field visits, August 2015; DOB; *Tribeca North FEIS*.

With the smaller number of residents introduced by the Hybrid Scenario, the residential study area's total open space ratio, passive open space ratio, and active open space ratio would all decrease by 2.72 percent, compared to the No Action condition. These decreases are below the 5 percent *CEQR Technical Manual* guideline indicating a potential significant adverse impact. Therefore, the Hybrid Scenario would avoid the significant adverse open space impact in the residential study area that would result from the Revised Proposed Project Alternative.

NON-RESIDENTIAL ANALYSIS

The Hybrid Scenario would result in a greater increment of workers than the Revised Proposed Project Alternative, which could place additional demands on open space resources in the non-residential study area. An assessment of a non-residential (1/4-mile) study area (see **Figure 3**) was not included in the FEIS, since there would be a negative worker increment with the Revised Proposed Project Alternative compared to the No Action scenario (see **Table 6**, above). With the Hybrid Scenario, the incremental increase in workers compared to the No Action

550 WASHINGTON STREET

Open Space
Figure 3

scenario would be 1,103, which is above the *CEQR Technical Manual* threshold of 500 workers requiring a non-residential analysis.

Existing Conditions

As shown in **Table 9**, the estimated population of the non-residential study area is 34,470 workers and, based on *CEQR Technical Manual* guidelines, there are approximately 4.71 acres of passive open space. The existing ratio of acres of passive open space per 1,000 workers is 0.14, which is below the optimal ratio of 0.15 acres per 1,000 non-residents provided in the *CEQR Technical Manual*.

Table 9
Existing Conditions:
Adequacy of Open Space Resources in Non-Residential Study Area

Total Population		Open Space Acreage	Open Space Ratio	Open Space Goal
		Passive	Passive	Passive
Residential (1/4-Mile) Study Area				
Workers	34,470	4.71	0.14	0.15

Note: Ratios in acres per 1,000 people.
Sources: ESRI; NYC Parks; Hudson Square Connection; *Hudson Square Rezoning FEIS*; AKRF field visits, August 2015; DOB; *Tribeca North FEIS*.

No Action Condition

In the No Action condition, it is expected that 3,831 new workers would be introduced to the study area, including 2,788 workers from the No Action project on the development site and 1,043 workers from background developments elsewhere in the non-residential study area. In addition, improvements are anticipated to be made to Duarte Square Park, which is expected to be expanded with the addition of space in the demapped segment of Sullivan Street between Grand and Canal Streets. This area was the subject of agreements between the City and Trinity Church. A conceptual plan for the redesign of the park and the adjacent easement areas includes increased seating, additional trees, a water feature, and a food and drink kiosk. The improvement and opening to the public of the easement areas adjacent to Duarte Square Park in the No Action condition would result in an additional 0.23 acres of passive open space in the study area.

A shown in **Table 10**, with these changes, the ratio of acres of open space per 1,000 workers in the non-residential study area would be 0.13 in the No Action condition (compared to 0.14 under existing conditions), and would continue to be below the optimal ratio of 0.15 acres per 1,000 non-residents provided in the *CEQR Technical Manual*.

Table 10
No Action Condition:
Adequacy of Open Space Resources in Non-Residential Study Area

Total Population		Open Space Acreage	Open Space Ratio	Open Space Goal
		Passive	Passive	Passive
Residential (1/4-Mile) Study Area				
Workers	38,301	4.94	0.13	0.15

Note: Ratios in acres per 1,000 people.
Sources: ESRI; NYC Parks; Hudson Square Connection; *Hudson Square Rezoning FEIS*; AKRF field visits, August 2015; DOB; *Tribeca North FEIS*.

With Action Condition

In the With Action condition, it is expected that 1,103 incremental workers would be introduced by the Hybrid Scenario in the non-residential study area, compared to the No Action scenario. The Hybrid Scenario would not result in any changes to study area open spaces.

As shown in **Table 11**, the 1,103 incremental workers would result in a 2.80 percentage point decrease in the ratio of 1,000 workers per acre of passive open space in the ¼-mile study area and the ratio would remain approximately the same, at 0.13 acres of passive open space per 1,000 non-residents. The ratio would continue to be slightly below the optimal ratio of 0.15 acres per 1,000 non-residents provided in the *CEQR Technical Manual.* The small decrease attributable to the Hybrid Scenario would be below the 5 percentage point *CEQR Technical Manual* guideline indicating that a significant adverse impact may occur. Therefore, the Hybrid Scenario would not result in a significant adverse open space impact in the non-residential study area.

Table 11
With Action Condition:
Adequacy of Open Space Resources in Non-Residential Study Area

Total Population		Open Space Acreage	Open Space Ratio	Open Space Goal	Change from No Action Ratio
		Passive	Passive	Passive	Passive
Residential (1/4-Mile) Study Area					
Workers	38,301	4.94	0.13	0.15	-2.80%

Note: Ratios in acres per 1,000 people.
Sources: ESRI; NYC Parks; Hudson Square Connection; *Hudson Square Rezoning FEIS*; AKRF field visits, August 2015; DOB; *Tribeca North FEIS*.

As described above, the Hybrid Scenario would avoid the significant adverse open space impact that would result from the Revised Proposed Project Alternative, and would not result in any new significant adverse impacts. Therefore, the potential open space mitigation measures discussed in the FEIS would not be warranted.

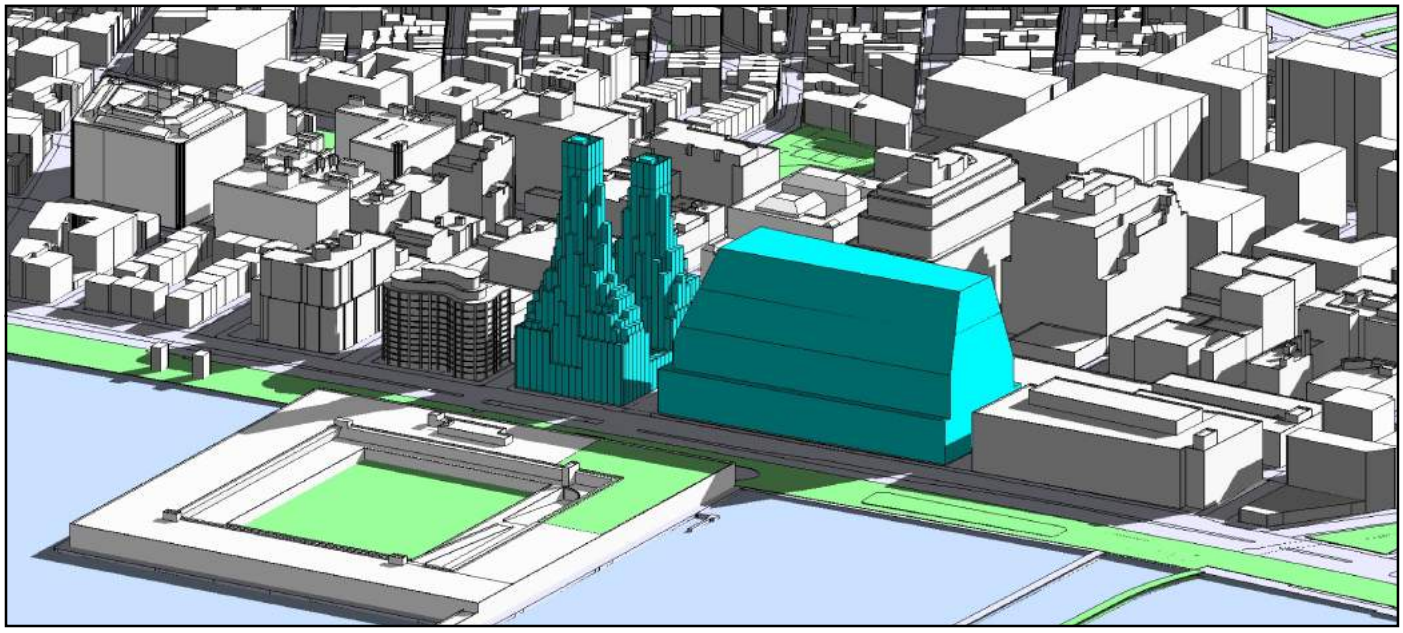
SHADOWS

The shadow analysis in the FEIS identified three sunlight-sensitive resources that would be affected by new shadow: the Hudson River, Hudson River Park, and the publically accessible athletic fields of Pier 40. With the Hybrid Scenario development, the extent and duration of shadows on the affected resources would change but would not result in a significant shadows impact on the three resources identified in the FEIS or any other sunlight-sensitive resources in the vicinity of the development site.

For the North Site the Hybrid Scenario development is massed identically to that evaluated in the FEIS. For the South and Center Sites, an alternate massing is considered to allow for flexibility in potential building design to conservatively analyze potential shadows. This approach uses a three-dimensional model based on the sky exposure plane to a height of 320 feet (see **Figure 4**). This height is used because it would accommodate the program space, and it would be shorter than the development on the North Site. Using the sky exposure plane is conservative in that it represents more bulk than could result from the proposed floor area. As shown in **Figure 2**, an illustrative massing of this hybrid scenario shows a building of 186 feet and demonstrates that the assumed bulk is well within this envelope.

10/28/2016

Model Analyzed in the FEIS



320' Sky Exposure Plane Model

320' Sky Exposure Plane Model
Figure 4

Table 12 shows the duration of new shadow on the affected sunlight-sensitive resources compared to the FEIS analysis.

Table 12
Incremental Shadow Durations Compared to FEIS

Analysis Day and Timeframe Window	March 21 / Sept. 21 7:36 AM - 4:29 PM	May 6 / August 6 6:27 AM - 5:18 PM	June 21 5:57 AM - 6:01 PM	December 21 8:51 AM - 2:53 PM
Incremental Shadow				
Hudson River	7:36 AM - 9:45 AM	6:27 AM - 9:00 AM	5:57 AM - 8:50 AM	8:51 AM - 10:40 AM
	Total: 2 hr 9 min	Total: 2 hr 37 min	Total: 2 hr 53 min	Total: 1 hr 49 min
	+45 min	+40 min	-10 min	+10 min
Hudson River Park	7:36 AM - 11:05 AM	6:27 AM - 10:10 AM	5:57 AM - 10:05 AM	8:51 AM - 11:26 AM
	Total: 3 hr 29 min	Total: 3 hr 43 min	Total: 4 hr 8 min	Total: 2 hr 35 min
	No Change	-25 min	-25 min	No Change
Pier 40	7:36 AM - 9:45 AM	6:27 AM - 8:45 AM	5:57 AM - 8:30 AM	8:51 AM - 10:10 AM
	Total: 2 hr 9 min	Total: 2 hr 18 min	Total: 2 hr 33 min	Total: 1 hr 19 min
	-15 min	-45 min	+15 min	+25 min

Notes:
Table indicates entry and exit times and total duration of incremental shadow for each sunlight-sensitive resource.
Incremental shadow durations are determined by comparing shadows cast by the Hybrid Scenario with those in the No Action condition; the shadow increments cast by the Hybrid Scenario are then compared to those cast by the Revised Proposed Project Alternative.
Red, Green and Orange cells report the change in total duration of incremental shadow compared to the Proposed Project on North, Center and South Sites.
Daylight saving time is not used—times are Eastern Standard Time, per *CEQR Technical Manual* guidelines. However, as Eastern Daylight Time is in effect for the March/September, May/August and June analysis periods, add one hour to the given times to determine the actual clock time.

The duration of new shadow on the affected resources would either increase or decrease depending on the analysis day. New shadow on the Hudson River would increase by up to 45 minutes on the March 21/September 21, May 6/August 6 and December 21 analysis days. On June 21, new shadow durations would decrease by ten minutes. The duration of new shadow on Hudson River Park would be unchanged on the March 21/September 21 and December 21 analysis days when compared to the model analyzed in the FEIS. On the May 6/August 6 and June 21 analysis days, new shadow on the Hudson River Park would decrease by 25 minutes. Finally, the duration of shadows on the publically accessible Pier 40 athletic fields would increase by up to 25 minutes on the June 21 and December 21 analysis days but would decrease by 15 minutes and 45 minutes on March 21/September 21 and May 6/August 6, respectively.

As shown on **Figures 5 through 8**, the 320-foot sky exposure plain model used to evaluate shadows in the Hybrid Scenario would both increase and decrease shadow extent on the affected sunlight-sensitive resources when compared to the model analyzed in the FEIS. On the figures, unchanged incremental shadow extent compared to the model analyzed in the FEIS is illustrated in red, reduced incremental shadow is illustrated in yellow and additional incremental shadow is illustrated in pink.

The areas of additional incremental shadow are largest in the early mornings of the four analysis days, when the majority of additional incremental shadow falls on the Hudson River and, to a lesser extent, the Pier 40 athletic fields. As the mornings progress, additional incremental shadow primarily falls on the Hudson River Park, affecting areas of the Park just east of Pier 40. Areas of reduced incremental shadow would be smaller than areas of additional incremental shadow when compared to the model analyzed in the FEIS.

10.28.16

320' Sky Exposure Plane Model

Publicly Accessible Open Space

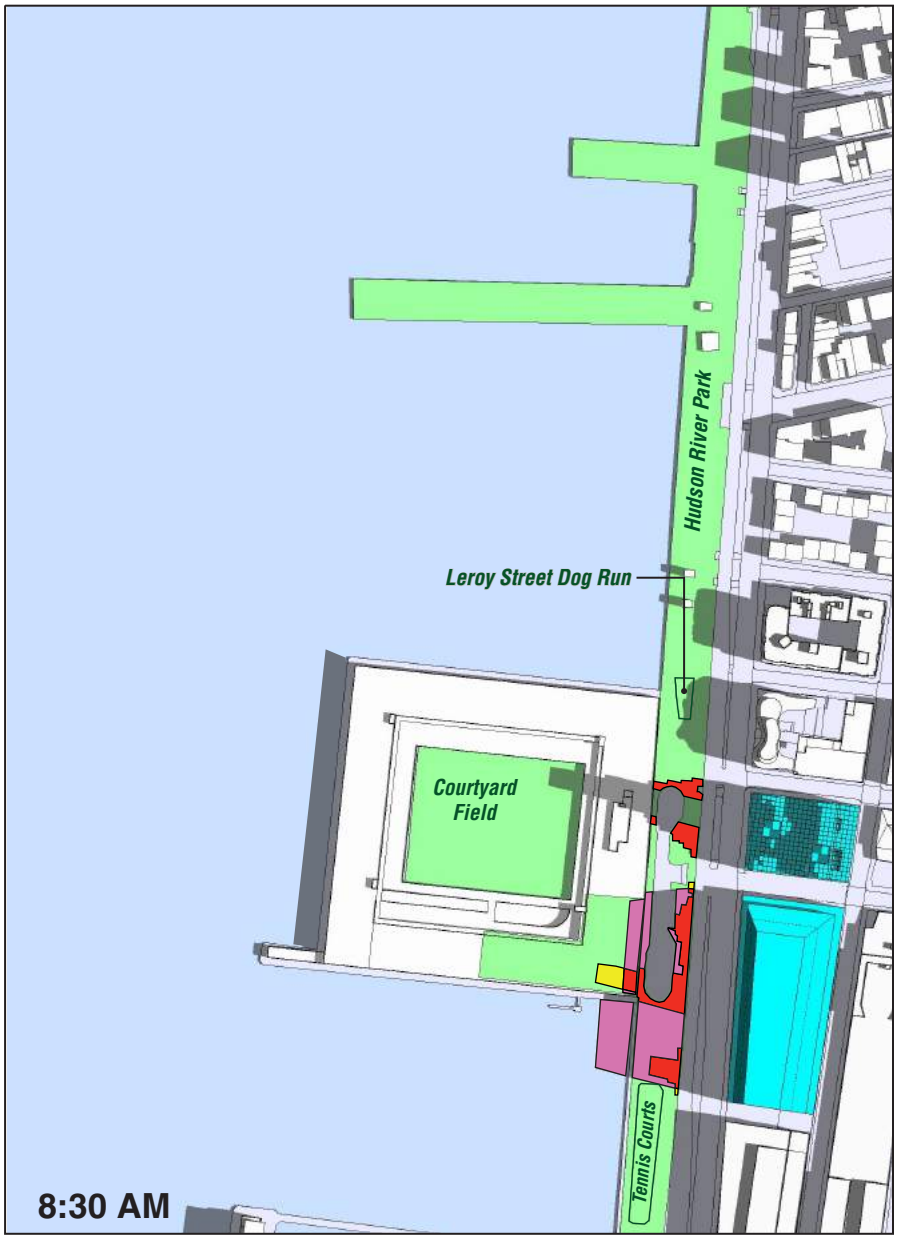
Unchanged Incremental Shadow on Sunlight-Sensitive Resource

Reduced Incremental Shadow on Sunlight-Sensitive Resource

Additional Incremental Shadow on Sunlight-Sensitive Resource

March/September 21
Shadow Extent Comparison
Figure 5

10.28.16



320' Sky Exposure Plane Model

Publicly Accessible Open Space

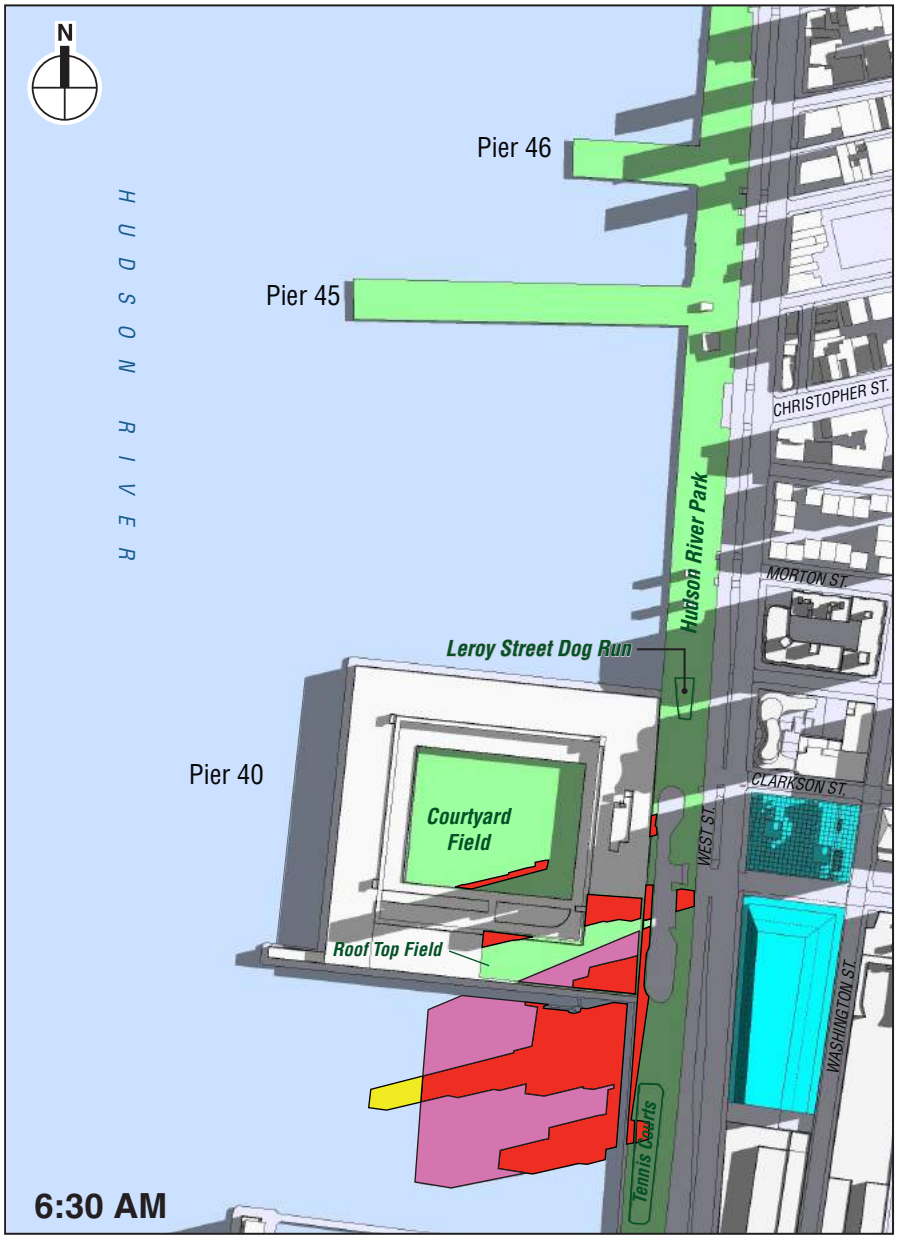
Unchanged Incremental Shadow on Sunlight-Sensitive Resource

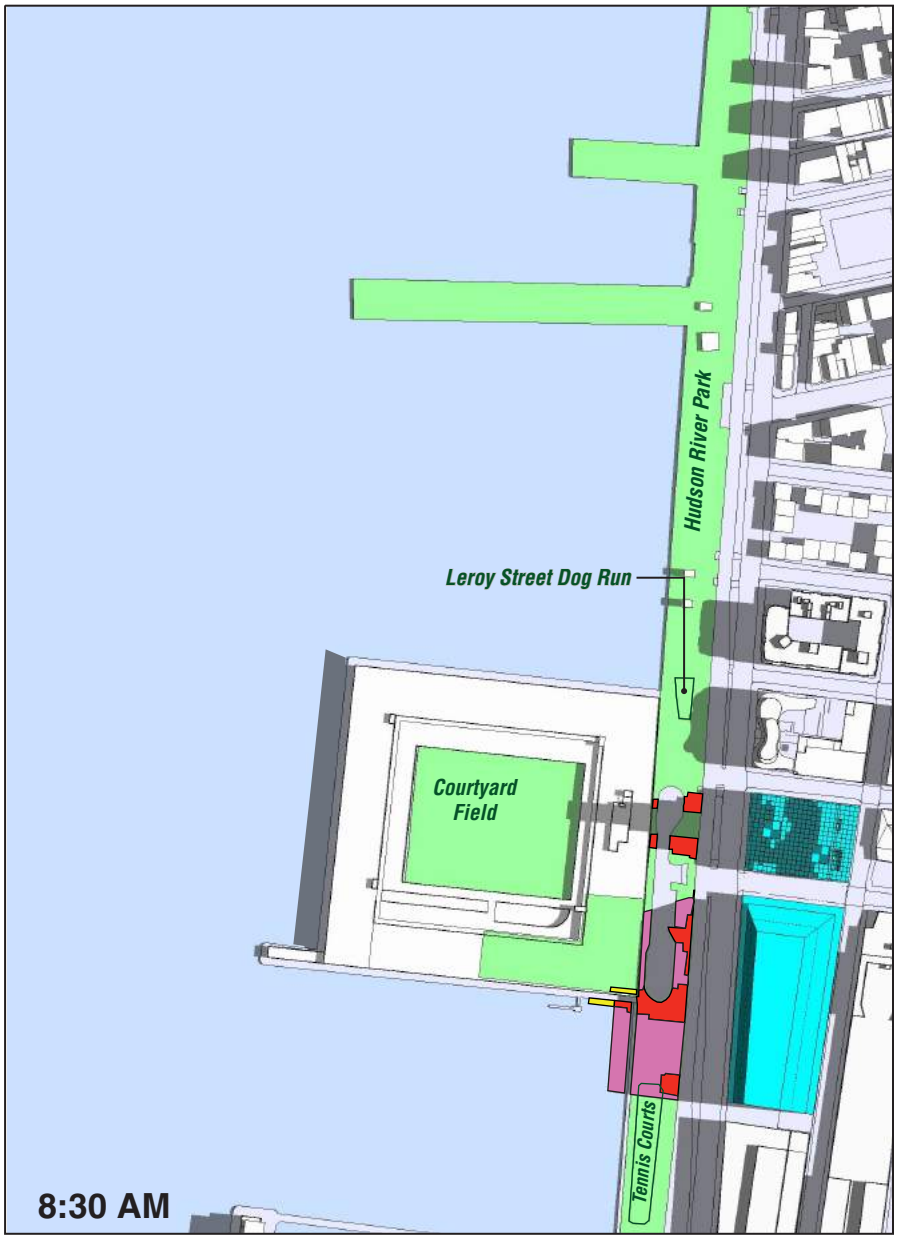
Reduced Incremental Shadow on Sunlight-Sensitive Resource

Additional Incremental Shadow on Sunlight-Sensitive Resource

May/August 6
Shadow Extent Comparison
Figure 6

10.28.16





320' Sky Exposure Plane Model

Publicly Accessible Open Space

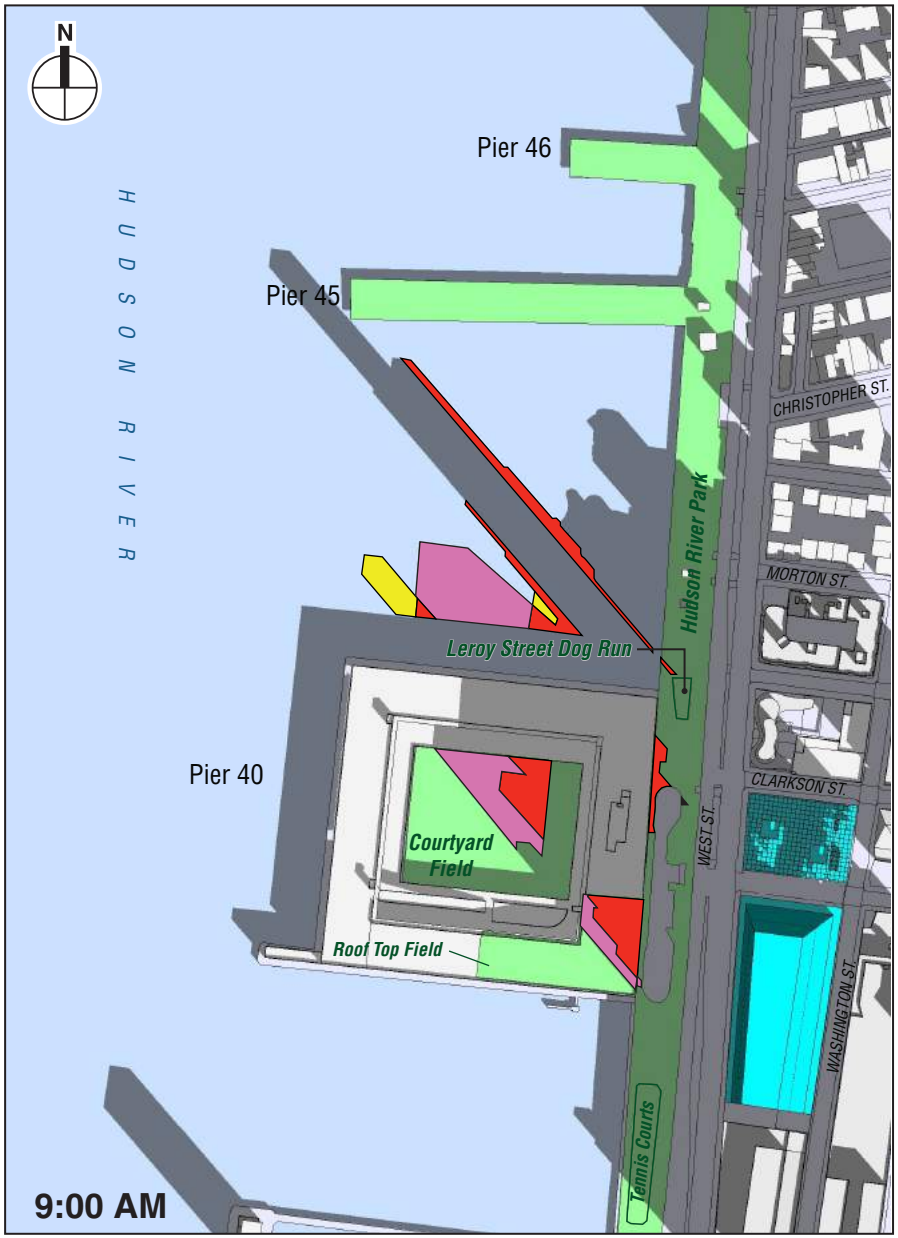
Unchanged Incremental Shadow on Sunlight-Sensitive Resource

Reduced Incremental Shadow on Sunlight-Sensitive Resource

Additional Incremental Shadow on Sunlight-Sensitive Resource

June 21
Shadow Extent Comparison
Figure 7

10.28.16



320' Sky Exposure Plane Model

Publicly Accessible Open Space

Unchanged Incremental Shadow on Sunlight-Sensitive Resource

Reduced Incremental Shadow on Sunlight-Sensitive Resource

Additional Incremental Shadow on Sunlight-Sensitive Resource

December 21
Shadow Extent Comparison
Figure 8

CONCLUSION

Similar to the model analyzed in the FEIS, incremental shadows from the 320-foot sky exposure plain model used to evaluate shadows in the Hybrid Scenario would not substantially alter the usability of any open space resources or their ability to sustain vegetation and would not significantly alter the condition of the affected natural resource. Therefore, the Hybrid Scenario would not result in significant adverse shadow impact on any sunlight-sensitive resource. Below is a description of the effect of new incremental shadow on each sunlight-sensitive resource.

Hudson River

Results of the 320-foot sky exposure plane model used to evaluate shadows in the Hybrid Scenario project an incremental increase in the area of the Hudson River in shadow, and duration of shadow. Although the duration of new incremental shadow would increase on three of the four analysis days and the extent would increase up to five acres in the beginning of the day, the condition of the Hudson River would not be significantly altered and the conclusion presented in the FEIS would not change. Phytoplankton, whose movements are largely governed by prevailing tides and currents, would continue to move quickly through newly shaded areas and into areas with sufficient sunlight to perform photosynthesis. The 320-foot sky exposure plane model, and therefore the Hybrid Scenario development as well, would not contribute to a loss of habitat or function that would diminish the Hudson River's ability to serve as a major natural resource that provides wildlife habitat and functions as a recreational and scenic resource.

Pier 40

New incremental shadows from the 320-foot sky exposure plane model used to evaluate shadows in the Hybrid Scenario would affect the courtyard field of Pier 40 on the March 21/September 21 and December 21 analysis days and the rooftop field of Pier 40 on all four analysis days. Incremental shadow would move off the fields 25 minutes later on December 21 at 10:10 AM and 15 minutes later on June 21 at 8:30 AM. But on March 21/September 21 and May 6/August 6, incremental shadow would move off the fields 15 minutes earlier at 9:45 AM and 45 minutes earlier at 8:45 AM, respectively. On March 21/September 21, additional incremental shadow would prevent any direct sunlight from reaching the Rooftop Field for 19 minutes from 7:36 AM to 7:55 AM.

The new incremental shadow on the Pier 40 athletic fields would not result in a significant adverse impact to the usability of the fields. On the March 21/September 21 analysis day, the athletic fields would be cast completely in sun from 9:30 AM to the end of the analysis day. On the May 6/August 6 analysis day, over three-quarters of both athletic fields would continue to receive direct sunlight from approximately 8:00 AM to the end of the analysis day at 5:18 PM. The same would be true on the June 21 analysis day from approximately 7:30 AM to the end of the analysis day at 6:01 PM. On the December 21 analysis day over three-quarters of both athletic fields would continue to receive direct sunlight from approximately 9:30 AM to the 2:00 PM.

Hudson River Park

New incremental shadows from the 320-foot sky exposure plane model used to evaluate shadows in the Hybrid Scenario would be cast on the Hudson River Park on all four analysis days but—as with the Revised Proposed Project Alternative—would not result in a significant adverse impact to the usability of Hudson River Park or its ability to support vegetation.

No single area of the park would receive more than approximately three hours of new shadow on any analysis day. At all times on analysis days when new shadow would fall on Hudson River Park, portions of the resource would remain in sunlight. The tennis courts within Hudson River Park affected by incremental shadow would receive approximately two hours and twenty minutes of new shadow on the June 21 analysis day (the longest day of the year) and one hour and twenty minutes of new shadow on March 21/September 21. The Leroy Street Dog Run would receive one hour and twenty minutes of new shadow on December 21. The users of the esplanade and Route 9A Bikeway would presumably be in motion and would only be affected by incremental shadows for short periods of time.

Within the growing season (all analysis days with the exception of December 21), the majority of affected park vegetation and landscaping would continue to receive, at a minimum, six hours of direct sunlight. According to the *CEQR Technical Manual* publically-accessible open spaces generally require at least four hours of direct sunlight to support a wide variety of vegetation. A portion of the paved walkway/jogging path immediately abutting Pier 40 that is less than 7,500 square feet would receive less than four hours of direct sunlight on March 21/September 21, May 6/August 6 and June 21. This section of Hudson River Park is a completely paved pedestrian path, dotted with several potted plants and is not considered highly sensitive to reduction in direct sunlight below four hours. Therefore, the 320-foot sky exposure plane model would not result in a significant adverse shadow impact to the vegetation growing within Hudson River Park and therefor neither would the Hybrid Scenario Development.

HISTORIC AND CULTURAL RESOURCES

Neither the Hybrid Scenario nor the Revised Proposed Project Alternative would affect archaeological resources. The New York City Landmarks Preservation Commission (LPC) has indicated that the 550 Washington Street site has no archaeological significance.

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in any significant adverse impacts to architectural resources, as no historic architectural resources are located on the development site, and no architectural resources in the study area would be directly affected. Both the Revised Proposed Project Alternative and Hybrid Scenario development would not result in any significant adverse indirect impacts to historic architectural resources in the study area because of distance, intervening buildings, and the lack of meaningful contextual relationships between the development site and study area architectural resources. In addition, because none of the historic architectural resources in the study area have sunlight-sensitive features, incremental shadow would not adversely affect any study area architectural resources.

URBAN DESIGN AND VISUAL RESOURCES

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in significant adverse impacts to urban design and visual resources. The North Site buildings would remain substantially the same as the Revised Proposed Project Alternative analyzed in the FEIS. South of West Houston Street, the Hybrid Scenario building would cover most of the Center/South Sites, except for the alley adjacent to the New York City Department of Sanitation (DSNY) facility. The office building would have a three-story, approximately 58-foot tall base (the existing building). Rising from this base, new construction would contain office floors set back from Washington, West Houston, and West Streets, and could reach up to 320 feet (the same as the Revised Proposed Project Alternative's Center and South Site buildings).

As with the Revised Proposed Project Alternative, the Hybrid Scenario buildings would be built to the sidewalk, maintaining a consistent streetwall. This is because the South and Center Sites would reuse the existing structure.

As with the Revised Proposed Project Alternative, the Hybrid Scenario would have beneficial streetscape effects, as it would open up the view corridor on West Houston Street and contribute active ground floor uses to the surrounding area. Street trees would be added to the sidewalks adjacent to the development site (consistent with zoning regulations), and the sidewalks on Washington Street adjacent to the development site would be widened. Unlike the Revised Proposed Project Alternative but similar to the No Action condition, the Hybrid Scenario development would not include public open space or a through-block driveway between the Center and South Sites.

As with the Revised Proposed Project Alternative, the Hybrid Scenario would not obstruct any existing view corridors in the study area, including the view corridors on Route 9A/West Street and Washington Street. The other view corridors and visual resources in the study area do not have a meaningful visual or contextual relationship with the development site and, therefore, would not be affected. Overall, as with the Revised Proposed Project Alternative, the Hybrid Scenario would result in substantial changes to the development site that would alter the context of nearby study area buildings, but these changes would not constitute a significant adverse urban design or visual resources impact.

NATURAL RESOURCES

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in significant adverse impacts to natural resources. As described above, incremental shadows from the Hybrid Scenario development would not be expected to result in a significant adverse shadows impact on the Hudson River.

HAZARDOUS MATERIALS

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in significant adverse impacts to hazardous materials. Any demolition and excavation for the Hybrid Scenario development on the Center/South site would require the measures described below to avoid significant adverse impacts due to the potential presence of hazardous materials:

- Dewatering with water discharged to sewers in accordance with DEP requirements,
- Removal and disposal of any asbestos in accordance with local, state and federal requirements,
- Demolition in accordance with applicable lead paint exposure rules,
- Any excavated soil would be disposed of in accordance with applicable requirements, and
- Disposal of any suspect PCB-containing electrical equipment and fluorescent lighting fixtures in accordance with applicable federal, state and local requirements.

For the building on the North Site, in addition to the measures described above, the New York City Department of Environmental Protection (DEP)-approved Remedial Action Plan (RAP) and Construction Health and Safety Plan (CHASP) would be implemented.

The as-of-right development on the Center/South Site would not include implementation of the RAP and CHASP.

WATER AND SEWER INFRASTRUCTURE

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in significant adverse impacts to water and sewer infrastructure. With the Hybrid Scenario, water demand and sewage generation would be lower than with the Revised Proposed Project Alternative. Water demand is estimated to be 491,869 gallons per day (gpd) (compared to 736,990 gpd with the Revised Proposed Project Alternative) and sewage generation is estimated to be 220,350 gpd (compared to 420,756 gpd with the Revised Proposed Project Alternative).

With the Hybrid Scenario, the incremental increase in sewage generation would be negligible compared to the existing average daily flow at the Newtown Creek Wastewater Treatment Plant and would not result in an exceedance of the plant's permitted capacity. In addition, in accordance with the New York City Plumbing Code (Local Law 33 of 2007), the Hybrid Scenario development would be required to utilize low-flow plumbing fixtures, which would reduce sanitary flows to the plant.

With the Hybrid Scenario, rainfall volume flow to Combined Sewer Outfall (CSO) NCM-076 would be expected to increase compared to existing conditions (because the site is underutilized) and compared to the Revised Proposed Project Alternative (since the Hybrid Scenario would likely include less planted area). However, as with the Revised Proposed Project Alternative, Best Management Practices (BMPs) to reduce sanitary flow and stormwater runoff volumes to the combined sewer system would be implemented, including low-flow plumbing fixtures and stormwater BMPs that would be required as part of the DEP site connection approval process.

For both the Revised Proposed Project Alternative and the Hybrid Scenario, the incorporation of appropriate sanitary flow and stormwater source control BMPs as part of the DEP site connection approval process would reduce the overall volume of sanitary sewer discharge and stormwater runoff as well as the peak stormwater runoff rate from the development site. Sewer conveyance near the development site and the treatment capacity at the Newtown Creek WWTP is sufficient to handle wastewater flow resulting from both the Revised Proposed Project Alternative and the Hybrid Scenario; therefore, there would be no significant adverse impacts on wastewater treatment or stormwater conveyance infrastructure.

ENERGY

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in a significant adverse energy impact. Using *CEQR Technical Manual* guidelines, the Hybrid Scenario would be expected to consume 293,534 million British Thermal Units (BTU) per year. This incremental demand would not create a significant impact on energy capacity and would be negligible when compared to the overall demand within Con Edison's New York City and Westchester County service area.

TRANSPORTATION

For traffic, the Hybrid Scenario would not result in the potential for any new significant adverse impacts during the weekday AM, midday, PM, and Saturday afternoon peak hours that were not previously disclosed in the FEIS.

For transit, the weekday AM peak subway increment associated with the Hybrid Scenario is projected at 797; based on the distribution patterns that were developed for the No Action scenario and the Revised Proposed Project Alternative (trips dispersed to the Houston Street (1), Spring Street (C, E), and West 4th Street (A, B, C, D) subway stations), detailed analyses of

station circulation elements and control areas were conducted for the Houston Street (1) Station and the Spring Street (C, E) Station for the weekday AM and PM peak hours. Constructing a new stairway at the Spring Street Station and providing a new ADA-compliant elevator would be implemented as project improvements under the Hybrid Scenario to avoid the potential for a significant adverse subway station impact during the weekday AM peak hour. Both of these station circulation elements would be located on the southwest corner of Spring Street and Avenue of the Americas to supplement the existing stairway on the northwest corner of the intersection to serve the C and E trains. An alternative option would be substantially widening the existing stairway on the northwest corner of the intersection, coupled with an extension of the adjacent sidewalk, and constructing the ADA-compliant elevator at the location described above. The private applicant has reviewed preliminary improvement concepts for the above options with the Metropolitan Transportation Authority (MTA) New York City Transit (NYCT), which has expressed acceptance of the proposed concepts If this Hybrid Scenario is advanced for development, the private applicant would provide the required funding and coordinate with NYCT and DOT where needed on the design and implementation of one of these improvement options. With such an improvement in place, the Hybrid Scenario would not result in any significant adverse transit impacts, the same conclusion reached for the Revised Proposed Project Alternative in the FEIS.

In terms of pedestrian conditions, the Hybrid Scenario would result in higher incremental pedestrian trips than the Revised Proposed Project Alternative. As outlined in the FEIS, as part of the Revised Proposed Project Alternative, the northern segment of the sidewalk along Washington Street between Spring Street and West Houston Street would be widened to 13.5 feet. Extending this widening to the sidewalk's southern segment to Spring Street along the DSNY facility property, as a project improvement under the Hybrid Scenario, would avoid a significant adverse pedestrian impact along this sidewalk. The private applicant would coordinate with DSNY and submit plans for review by the DOT Borough Commissioner's Office and any other DOT divisions as the Borough Commissioner's Office requires for approval. In addition, the private applicant would undertake several other improvements to pedestrian facilities in the area surrounding the development site if the Hybrid Scenario is advanced for development. These include:

- Increasing the effective width of the north sidewalk along West Houston Street between Hudson Street and Varick Street by relocating two street signs and two newly-planted trees on that sidewalk;
- Widening the west crosswalk at West Houston Street and Washington Street by ½ foot;
- Widening the north crosswalk at West Houston Street and Greenwich Street by 2 feet; and
- Widening the north crosswalk at West Houston Street and Hudson Street by 2.5 feet.

All of these project improvements were incorporated into this analysis. The private applicant has reviewed conceptual drawings developed for the above improvements with the New York City Department of Transportation (DOT), which has determined that they would be feasible for implementation. In addition, NYC Parks has reviewed the tree relocation recommendation described above and deemed it to be feasible. If the Hybrid Scenario is advanced for development, the private applicant would provide the required funding and coordinate with DOT and NYC Parks where needed on the design and implementation of these project improvements, which will be carried out pursuant to agency standards, such as restriping modified crosswalks with high visibility markings. With these project improvements in place, the Hybrid Scenario

would not result in any significant adverse pedestrian impacts, the same conclusions reached for the Revised Proposed Project Alternative in the FEIS.

Accounting for the parking supply and demand generated by the Hybrid Scenario, there would be the potential for a parking shortfall during the weekday midday period within the ¼-mile off-street parking study area. However, based on the number of available and total parking spaces within ½-mile of the development site (approximately 1,500 out of approximately 5,900 spaces), it is anticipated that the excess demand could be accommodated with a slightly longer walking distance beyond the ¼-mile radius. Furthermore, as stated in the *CEQR Technical Manual*, 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.

TRAVEL DEMAND ESTIMATES AND SCREENING ASSESSMENT

Following the procedures detailed in the FEIS, travel demand estimates were developed for the Hybrid Scenario to identify relative differences in trip-making as compared to the Revised Proposed Project Alternative and additional analyses that may be warranted to assess potential transportation-related impacts.

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 Hybrid Scenario development program[4] during the weekday AM, midday, PM, and Saturday peak hours. These estimates were then compared to the *CEQR Technical 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 Hybrid Scenario development program were developed based on information from the *CEQR Technical Manual*, 2013 *Hudson Square Rezoning FEIS*, U.S. Census Data, and other approved EASs and EISs. The travel demand assumptions and trip generation sources are summarized in Chapter 14, "Transportation," of the FEIS in Table 14-5.

Travel Demand Projection Summary

As summarized in **Table 13,** with the Hybrid Scenario, the development would generate 2,936, 4,789, 4,987, and 3,155 person trips during the weekday AM, midday, PM, and Saturday peak hours, respectively. Approximately 409, 326, 575, and 239 vehicle trips would be generated during the same respective peak hours.

[4] The Level 1 trip generation estimates were based on more office and retail space (905,000 gsf and 176,200 gsf, respectively) and provide a conservative assessment.

Table 13
Trip Generation Summary: Hybrid Scenario

Peak Hour	In/Out	Person Trip						Vehicle Trip			
		Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	In	266	53	1,367	207	307	2,200	229	48	19	296
	Out	59	44	328	30	275	736	46	48	19	113
	Total	325	97	1,695	237	582	2,936	275	96	38	409
Midday	In	92	83	276	147	1,795	2,393	60	82	22	164
	Out	85	82	263	146	1,820	2,396	58	82	22	162
	Total	177	165	539	293	3,615	4,789	118	164	44	326
PM	In	171	87	520	108	809	1,695	99	85	3	187
	Out	374	95	1,755	291	777	3,292	300	85	3	388
	Total	545	182	2,275	399	1,586	4,987	399	170	6	575
Saturday	In	97	68	312	102	1,069	1,648	59	62	1	122
	Out	90	64	295	92	966	1,507	54	62	1	117
	Total	187	132	607	194	2,035	3,155	113	124	2	239

The net incremental trips (subtracting out trips generated by the No Action development, as presented in Table 14-6 in the FEIS) generated in the future with the Hybrid Scenario are shown in **Table 14**.

Table 14
Trip Generation Summary: Hybrid Scenario Net Incremental Trips

Peak Hour	In/Out	Person Trip						Vehicle Trip			
		Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	In	108	-4	638	81	-86	737	102	1	5	108
	Out	5	-9	159	-13	-92	50	13	1	5	19
	Total	113	-13	797	68	-178	787	115	2	10	127
Midday	In	-53	-48	-53	-30	-195	-379	-25	-27	7	-45
	Out	-40	-36	-26	-18	-73	-193	-16	-27	7	-36
	Total	-93	-84	-79	-48	-268	-572	-41	-54	14	-81
PM	In	-122	-87	-67	-85	-643	-1,004	-49	-32	1	-80
	Out	72	-33	646	50	-418	317	96	-32	1	65
	Total	-50	-120	579	-35	-1,061	-687	47	-64	2	-15
Saturday	In	-60	-46	-57	-57	-432	-652	-27	-27	0	-54
	Out	-53	-37	-38	-55	-420	-603	-24	-27	0	-51
	Total	-113	-83	-95	-112	-852	-1,255	-51	-54	0	-105

Compared to the net incremental trips presented on Table 14-11 in the FEIS, the Hybrid Scenario would yield fewer vehicle trips but more transit trips overall, and more person trips in general on a weekday and fewer person trips on a weekend day. A comparison of the projected trip increments between these two development scenarios is presented in **Table 15**.

Table 15
Comparison of Net Incremental Trips: Hybrid Scenario vs. FEIS

Peak Hour	Development Scenario	Person Trip						Vehicle Trip			
		Auto	Taxi	Subway	Bus	Walk	Total	Auto	Taxi	Delivery	Total
AM	Hybrid	113	-13	797	68	-178	787	115	2	10	127
	FEIS	43	58	-37	-114	9	-41	49	98	-8	139
	Difference	70	-71	834	182	-187	828	66	-96	18	-12
Midday	Hybrid	-93	-84	-79	-48	-268	-572	-41	-54	14	-81
	FEIS	-37	-60	32	-188	-2,011	-2,264	7	-46	-14	-53
	Difference	-56	-24	-111	140	1,743	1,692	-48	-8	28	-28
PM	Hybrid	-50	-120	579	-35	-1,061	-687	47	-64	2	-15
	FEIS	-83	8	-325	-214	-637	-1,251	-18	8	-2	-12
	Difference	33	-128	904	179	-424	564	65	-72	4	-3
Saturday	Hybrid	-113	-83	-95	-112	-852	-1,255	-51	-54	0	-54
	FEIS	25	7	330	-145	-1,118	-901	70	28	0	98
	Difference	-138	-90	-425	33	266	-354	-121	-82	0	-152

Level 2 Screening Assessment

A Level 2 screening assessment involves the distribution and assignment of projected trips to the transportation network and the determination of whether specific locations are expected to experience incremental trips exceeding *CEQR Technical Manual* thresholds. Typically, if the results of this analysis show that a proposed project would result in 50 or more peak hour vehicle trips through an intersection, 50 or more peak hour bus riders on a bus route in a single direction, 200 or more peak hour subway passengers per station, or 200 or more peak hour pedestrian trips per pedestrian element, further quantified analyses may be warranted to evaluate the potential for significant adverse traffic, transit, pedestrian, and parking impacts. Based on consultation with DOT for the FEIS and in consideration of congested conditions currently experienced in the area, numerous locations that are expected to incur fewer trips than these thresholds were also included in the analyses.

Traffic

Because the Hybrid Scenario would generate substantially fewer vehicle trips than the No Action condition during the weekday midday and Saturday afternoon peak hours, it would not result in the potential for any significant adverse impacts during these analysis peak periods. During the weekday AM and PM peak hours, since the incremental trips associated with the Hybrid Scenario would be fewer than those generated by the Revised Proposed Project Alternative, any significant adverse impacts that may result from the development of the Hybrid Scenario are expected to be within the envelope of impacts disclosed in the FEIS. Nonetheless, due to the different uses and related travel patterns associated with the Center/South Sites between the Hybrid Scenario and the Revised Proposed Project Alternative, Hybrid Scenario-generated traffic volumes for the weekday AM and PM peak hours were assigned to the traffic network in the same manner as described in FEIS Chapter 14, "Transportation." **Table 16** provides a summary of the projected weekday AM and PM peak hour incremental vehicle trips at the study area intersections under the Hybrid Scenario.

Table 16
Traffic Level 2 Screening Analysis Results Hybrid Scenario

Intersection	Weekday AM Peak Hour Vehicle-Trip Increments	Weekday PM Peak Hour Vehicle-Trip Increments
West Street and Clarkson Street	51	28
West Street and West Houston Street	-39	78
West Street and Spring Street	31	-45
West Street and Canal Street (North)	24	-49
West Street and Canal Street (South)	5	-17
Washington Street and Clarkson Street	49	-11
Washington Street and West Houston Street	68	-58
Washington Street and Spring Street	-3	4
Greenwich Street and Clarkson Street	18	37
Greenwich Street and West Houston Street	37	-10
Greenwich Street and Canal Street	19	-32
Hudson Street and Clarkson Street	7	26
Hudson Street and West Houston Street	34	-13
Hudson Street and Canal Street	9	-40
Varick Street and Clarkson Street/Carmine Street	25	12
Varick Street and West Houston Street	45	-5
Sixth Avenue and West Houston Street	25	0
Tenth Avenue and West Street	50	22

The above intersections were analyzed for the weekday AM and PM peak hours to determine if there would be any differences in potential traffic impacts and required mitigation measures as compared to those disclosed for the Revised Proposed Project Alternative.

2015 Existing Conditions and 2024 No Action Condition

Results of the 2015 Existing Conditions and 2024 Future Without the Proposed Actions analyses can be found in FEIS Chapter 14, "Transportation."

Probable Impacts of the Hybrid Scenario

Traffic

With a similar amount of total incremental vehicle trips, conditions at the study area intersections during the weekday AM and PM peak hours were found to be generally comparable between the Hybrid Scenario and the Revised Proposed Project Alternative. Eight study area intersections during the weekday AM peak hour, and two intersections during the weekday PM peak hour, were projected to incur significant adverse traffic impacts under the Hybrid Scenario. Among these, most of the impacted lane groups are common among both development scenarios, except for those at the intersections of West Street and Canal Street (North), Hudson Street and Canal Street, Varick Street and Clarkson Street, and Varick Street and West Houston Street, as summarized in **Table 17**.

Table 17
Comparison of Potential Significant Adverse Traffic Impacts
Revised Proposed Project Alternative vs. Hybrid Scenario

Intersection		Weekday AM		Weekday PM	
EB/WB Street	**NB/SB Street**	**Revised Proposed Project Alternative**	**Hybrid Scenario**	**Revised Proposed Project Alternative**	**Hybrid Scenario**
Clarkson Street	Washington Street	SB-LT	SB-LT	SB-LT	
West Houston Street	Washington Street	SB-TR	SB-TR	SB-TR	
West Houston Street	Varick Street		SB-R		
Clarkson Street	West Street	SB-L	SB-L	SB-L	
West Houston Street	West Street	EB-L	EB-L	WB-R	WB-R
Canal Street (North)	West Street	WB-L	WB-LR, WB-R		
Canal Street	Hudson Street		NB-LT (West Lanes)		
Clarkson Street	Hudson Street	EB-LT	EB-LT		EB-LT
Clarkson Street	Varick Street	EB-TR			
Total Impacted Intersections/Lane Groups		**7/7**	**8/9**	**4/4**	**2/2**

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

As shown in **Table 17**, most of the impacted lane groups would be common to the Hybrid Scenario and the Revised Proposed Project Alternative. Mitigation measures for the Hybrid Scenario would therefore be generally the same as those identified for the Revised Project Alternative. The Hybrid Scenario would also result in an unmitigated significant adverse impact at the intersection of Varick Street and West Houston Street during the weekday AM peak hour. This unmitigated impact was identified in the FEIS for the proposed project with big box scenario and in Technical Memorandum 001.

The Hybrid Scenario would also include the following project improvements:

- West Street and Clarkson Street—Shifting an additional two seconds of green time from the northbound/southbound phase to the southbound left-turn phase, during the weekday AM peak hour.
- Washington Street and West Houston Street—Instead of restriping and daylighting the southbound Washington Street approach, shifting four seconds of green time from the westbound phase to the southbound phase, during the weekday AM peak hour.
- West Houston Street and West Street—Shifting one fewer second of green time from the northbound/southbound phase to the eastbound/westbound phase, during the weekday PM peak hour.
- Hudson Street and Canal Street—Shifting one second of green time from the eastbound/westbound right-turn phase to the northbound phase, during the weekday AM peak hour.
- Hudson Street and Clarkson Street—Shifting two fewer seconds of green time from the northbound phase to the eastbound phase, during the weekday AM peak hour. Shifting two seconds of green time from the northbound phase to the eastbound phase, during the weekday PM peak hour.

Transit

Incremental bus trips would be fewer than 50 peak hour bus riders in a single direction. Therefore, based on *CEQR Technical Manual* guidelines a detailed analysis of buses is not warranted and, as with the Revised Proposed Project Alternative, the Hybrid Scenario is not

expected to result in any significant adverse bus line-haul impacts. An assignment of the projected subway trips was undertaken to determine if the varying directionality of the projected subway trips and/or the varying distribution patterns associated with the No Action and Hybrid Scenario land uses would result in the need to prepare a detailed analysis of subway station elements and line-haul conditions. The development site is served by multiple subway stations/lines, including the Houston Street Station (No. 1 train), the Spring Street Station (C and E trains), and the West 4th Street Station (A, B, C, and D trains). In the Hybrid Scenario, with the incremental subway trips dispersed among these subway stations/lines (see **Table 18**) based on the distribution of subway trips to each of the three stations (see Table 14-15 in the FEIS), it was determined that detailed analyses of station circulation elements and control areas were warranted for the Houston Street (1) Station and the Spring Street (C, E) Station for the weekday AM and PM peak hours.

Table 18
Transit Level 2 Screening Analysis Results Hybrid Scenario

Transit Elements	In/Out (to/from site)	Incremental Trips – Weekday	
		AM	PM
Houston Street Subway Station (1)	In - Via North Side of West Houston Street	199	-21
	In - Via South Side of West Houston Street	56	-6
	Out - Via North Side of West Houston Street	50	202
	Out - Via South Side of West Houston Street	14	57
	Total - North Side of West Houston Street	249	181
	Total - South Side of West Houston Street	70	51
Spring Street Subway Station (C,E)	In - Via North Side of Spring Street	223	-23
	Out - Via North Side of Spring Street	56	226
	Total - North Side of Spring Street	279	203
West 4th Street Subway Station (A,B,C,D)	In - Via North Side of Clarkson Street	124	-13
	In - Via South Side of Clarkson Street	35	-4
	Out - Via North Side of Clarkson Street	31	126
	Out - Via South Side of Clarkson Street	9	36
	Total - North Side of Clarkson Street	155	113
	Total - South Side of Clarkson Street	44	32

Pedestrians

An assignment of the projected pedestrian trips in the Hybrid Scenario was undertaken to determine if the varying directionality of the projected pedestrian trips and/or the varying distribution patterns associated with the No Action and Hybrid Scenario land uses would result in the need to prepare a detailed analysis of area sidewalks, corner reservoirs, and crosswalks. Level 2 pedestrian trip assignments were individually developed for all the Hybrid Scenario components. As shown in **Table 19**, it was determined that, in addition to the pedestrian elements analyzed in the FEIS, 10 new elements (three sidewalks, three corners, and four crosswalks) exceeded the *CEQR* threshold for pedestrian analysis.

Table 19
Pedestrian Level 2 Screening Analysis Results—Selected Analysis Locations
Hybrid Scenario

Pedestrian Elements	Weekday			Saturday	Selected Analysis Location
	AM	Midday	PM		
Clarkson Street and West Street					
East Crosswalk	24	110	77	115	
West Houston Street and West Street					
East Sidewalk along West Street between Clarkson Street and West Houston Street	-5	55	17	73	
East Sidewalk along West Street between West Houston Street and Spring Street: Northern Segment	-216	-925	-1382	-978	
East Sidewalk along West Street between West Houston Street and Spring Street: Southern Segment	2	6	-269	8	
North Crosswalk	14	-41	13	1	✓
East Crosswalk	22	95	64	98	
Washington Street and Clarkson Street					
South Sidewalk along Clarkson Street between Washington Street and West Street: Eastern Segment	5	-372	-163	-66	
South Sidewalk along Clarkson Street between Washington Street and West Street: Western Segment	-50	-83	-83	-49	
South Crosswalk	37	-276	-228	-283	
West Crosswalk	-53	-367	-265	-301	
Washington Street and West Houston Street					
East Sidewalk along Washington Street between West Houston Street and Clarkson Street	0	0	0	0	
North Sidewalk along West Houston Street between Washington Street and Greenwich Street	26	319	-325	-92	✓
East Sidewalk along Washington Street between West Houston Street and Spring Street	0	0	0	0	
South Sidewalk along West Houston Street between Washington Street and Greenwich Street	160	-260	57	-183	
West Sidewalk along Washington Street between West Houston Street and Spring Street: Northern Segment	700	1499	1110	517	✓
West Sidewalk along Washington Street between West Houston Street and Spring Street: Southern Segment	504	-1	405	-353	✓
South Sidewalk along West Houston Street between Washington Street and West Street: Eastern Segment	-580	-1617	-1783	-1092	
South Sidewalk along West Houston Street between Washington Street and West Street: Western Segment	-175	-720	-1231	-733	
West Sidewalk along Washington Street between West Houston Street and Clarkson Street: Northern Segment	-389	-805	-372	-478	
West Sidewalk along Washington Street between West Houston Street and Clarkson Street: Southern Segment	-437	-678	-393	-281	
North Sidewalk along West Houston Street between Washington Street and West Street: Eastern Segment	20	156	60	90	
North Sidewalk along West Houston Street between Washington Street and West Street: Western Segment	-2	31	-9	5	
Northeast Corner	29	323	-321	-89	✓
Northwest Corner	206	510	-861	-484	✓
Southeast Corner	160	-260	59	-183	
Southwest Corner	281	-17	-482	-461	✓
North Crosswalk	29	323	-321	-89	✓
East Crosswalk	0	0	0	0	
South Crosswalk	160	-260	59	-183	
West Crosswalk	182	224	-528	-384	✓
Greenwich Street and West Houston Street					
North Crosswalk	26	336	-312	-77	✓
South Crosswalk	153	-266	53	-188	
Hudson Street and West Houston Street					
North Sidewalk along West Houston Street between Hudson Street and Varick Street	290	253	33	-93	✓
South Sidewalk along West Houston Street between Hudson Street and Varick Street	-127	-150	-256	-135	
South Sidewalk along West Houston Street between Hudson Street and Greenwich Street	142	-214	28	-177	
North Sidewalk along West Houston Street between Hudson Street and Greenwich Street	36	290	-290	-90	✓
North Crosswalk	53	295	-278	-94	✓
South Crosswalk	166	-189	79	-162	
Varick Street and West Houston Street					
North Crosswalk	98	190	147	-58	
East Crosswalk	0	0	0	0	
South Crosswalk	-26	-11	-230	-89	
West Crosswalk	-43	-10	-78	-57	

Note: ✓ denotes pedestrian elements selected for detailed analysis.

TRANSPORTATION ANALYSIS METHODOLOGIES

Transportation analysis methodologies for traffic and pedestrian operations are described in FEIS Chapter 14, "Transportation."

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 20**.

Table 20
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 location to its service conditions (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 21** are reached or exceeded.

Table 21
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

Notes: 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 a 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.

DETAILED TRANSIT ANALYSIS

As described above, the Houston Street Station (1) and the Spring Street (C, E) Stations have been selected for station analysis for the weekday AM and PM peak hours.

2016 Existing Conditions

Subway station data collection was conducted on October 5, 2016 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 22 through 25**, all analyzed stairways and control areas currently operate at acceptable levels during the weekday AM and PM peak periods.

Table 22
2016 Existing Conditions Subway Stairway Analysis
Houston Street Station

Stair	Location	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
			Entry (Down)	Exit (Up)	Entry (Down)	Exit (Up)		Up	Down		
AM Peak Hour											
Northwest Stairs (S7) - Downtown	Street Level	3.75	94	673	29	210	0.9	0.80	1.00	0.58	B
Southwest Stairs (S5) - Downtown	Street Level	4.00	99	242	31	76	0.9	0.80	1.00	0.23	A
Northeast Stairs (S8) - Uptown	Street Level	4.00	57	876	18	274	0.9	0.80	1.00	0.67	B
Southeast Stairs (S6) - Uptown	Street Level	5.00	136	181	43	57	0.9	0.80	1.00	0.17	A
PM Peak Hour											
Northwest Stairs (S7) - Downtown	Street Level	3.75	169	324	53	101	0.9	0.80	1.00	0.35	A
Southwest Stairs (S5) - Downtown	Street Level	4.00	571	67	178	21	0.9	0.80	1.00	0.38	A
Northeast Stairs (S8) - Uptown	Street Level	4.00	118	199	37	62	0.9	0.80	1.00	0.21	A
Southeast Stairs (S6) - Uptown	Street Level	5.00	499	133	156	42	0.9	0.80	1.00	0.31	A

Table 23
2016 Existing Conditions Fare Array Analysis
Houston Street Station

Control Element	Quantity	Peak Hour Pedestrian Volume		15 Minute		Surging Factor	Friction Factor	v/c Ratio	LOS
		Entry	Exit	Entry	Exit				
AM Peak hour									
Downtown									
Two-way Turnstiles	4	193	915	60	286	0.8	0.9	0.19	A
Uptown									
Two-way Turnstiles	3	193	1,057	60	330	0.8	0.9	0.24	A
PM Peak Hour									
Downtown									
Two-way Turnstiles	4	740	391	231	122	0.8	0.9	0.22	A
Uptown									
Two-way Turnstiles	3	617	332	193	104	0.8	0.9	0.07	A

Table 24
2016 Existing Conditions Subway Stairway Analysis
Spring Street (C,E) Station

Stair	Location	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
			Entry (Down)	Exit (Up)	Entry (Down)	Exit (Up)		Up	Down		
AM Peak Hour											
Northwest Stairs (S1) - Downtown	Street Level	4.00	63	1,410	20	441	1.00	0.80	1.00	0.95	C
Northeast Stairs (S3A) - Uptown	Street Level	6.75	408	950	128	297	0.90	0.80	1.00	0.55	B
PM Peak Hour											
Northwest Stairs (S1) - Downtown	Street Level	4.00	394	426	123	133	0.90	0.80	1.00	0.54	B
Northeast Stairs (S3A) - Uptown	Street Level	6.75	1,605	287	502	90	0.90	0.80	1.00	0.67	B

Table 25
2016 Existing Conditions Fare Array Analysis
Spring Street (C,E) Station

Control Element	Quantity	Peak Hour Pedestrian Volume		15 Minute		Surging Factor	Friction Factor	v/c Ratio	LOS
		Entry	Exit	Entry	Exit				
AM Peak hour									
Downtown									
High Entrance/ Exit Turnstile	2	63	931	20	291	0.80	0.90	0.42	A
High Exit Only Turnstile	1	0	479	0	150	0.80	1.00	0.34	A
Uptown									
Two-way Turnstiles	3	408	950	128	297	0.80	0.90	0.33	A
PM Peak Hour									
Downtown									
High Entrance/ Exit Turnstile	2	394	281	123	88	0.80	0.90	0.38	A
High Exit Only Turnstile	1	0	145	0	45	0.80	1.00	0.10	A
Uptown									
Two-way Turnstiles	3	1,605	287	502	90	0.80	0.90	0.51	B

No Action Condition

As shown in **Tables 26 through 29**, the Houston Street (1) subway station stairways and control areas will continue to operate at acceptable levels during the weekday AM and PM peak periods in the No Action condition. However, the northwest stairway of the Spring Street (C, E) Station is expected to deteriorate to LOS D, with a v/c ratio of 1.31 during the weekday AM peak hour.

Table 26
2024 No Action Condition Subway Stairway Analysis
Houston Street Station

Stair	Location	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
			Entry (Down)	Exit (Up)	Entry (Down)	Exit (Up)		Up	Down		
AM Peak Hour											
Northwest Stairs (S7) - Downtown	Street Level	3.75	123	857	38	268	0.9	0.80	1.00	0.74	C
Southwest Stairs (S5) - Downtown	Street Level	4.00	105	294	33	92	0.9	0.80	1.00	0.27	A
Northeast Stairs (S8) - Uptown	Street Level	4.00	112	949	35	297	0.9	0.80	1.00	0.75	C
Southeast Stairs (S6) - Uptown	Street Level	5.00	149	200	47	63	0.9	0.80	1.00	0.19	A
PM Peak Hour											
Northwest Stairs (S7) - Downtown	Street Level	3.75	264	479	83	150	0.9	0.80	1.00	0.53	B
Southwest Stairs (S5) - Downtown	Street Level	4.00	604	109	189	34	0.9	0.80	1.00	0.43	A
Northeast Stairs (S8) - Uptown	Street Level	4.00	386	261	121	82	0.9	0.80	1.00	0.41	A
Southeast Stairs (S6) - Uptown	Street Level	5.00	581	146	182	46	0.9	0.80	1.00	0.35	A

Table 27
2024 No Action Conditions Fare Array Analysis
Houston Street Station

Control Element	Quantity	Peak Hour Pedestrian Volume		15 Minute		Surging Factor	Friction Factor	v/c Ratio	LOS
		Entry	Exit	Entry	Exit				
AM Peak hour									
Downtown									
Two-way Turnstiles	4	227	1,151	71	360	0.8	0.9	0.24	A
Uptown									
Two-way Turnstiles	3	261	1,149	82	359	0.8	0.9	0.26	A
PM Peak Hour									
Downtown									
Two-way Turnstiles	4	868	588	271	184	0.8	0.9	0.28	A
Uptown									
Two-way Turnstiles	3	967	407	302	127	0.8	0.9	0.08	A

Table 28
2024 No Action Condition Subway Stairway Analysis
Spring Street (C,E) Station

Stair	Location	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
			Entry (Down)	Exit (Up)	Entry (Down)	Exit (Up)		Up	Down		
AM Peak Hour											
Northwest Stairs (S1) - Downtown	Street Level	4.00	151	1,686	47	527	0.90	0.80	1.00	1.31	D
Northeast Stairs (S3A) - Uptown	Street Level	6.75	903	1,099	282	343	0.90	0.80	1.00	0.78	C
PM Peak Hour											
Northwest Stairs (S1) - Downtown	Street Level	4.00	543	771	170	241	0.90	0.80	1.00	0.87	C
Northeast Stairs (S3A) - Uptown	Street Level	6.75	2,215	525	692	164	0.90	0.80	1.00	0.98	C

Table 29
2024 No Action Condition Fare Array Analysis
Spring Street (C,E) Station

Control Element	Quantity	Peak Hour Pedestrian Volume		15 Minute		Surging Factor	Friction Factor	v/c Ratio	LOS
		Entry	Exit	Entry	Exit				
AM Peak hour									
Downtown									
High Entrance/ Exit Turnstile	2	151	1,113	47	348	0.80	0.90	0.55	B
High Exit Only Turnstile	1	0	573	0	179	0.80	1.00	0.40	A
Uptown									
Two-way Turnstiles	3	903	1,099	282	343	0.80	0.90	0.49	B
PM Peak Hour									
Downtown									
High Entrance/ Exit Turnstile	2	543	509	170	159	0.80	0.90	0.57	B
High Exit Only Turnstile	1	0	262	0	82	0.80	1.00	0.18	A
Uptown									
Two-way Turnstiles	3	2,215	525	692	164	0.80	0.90	0.73	C

Probable Impacts of the Hybrid Scenario

As part of the Hybrid Scenario, a new stairway and an ADA-compliant elevator at the Spring Street (C, E) Station would be constructed. Both of these station circulation elements would be located on the southwest corner of Spring Street and Avenue of the Americas to supplement the

existing stairway on the northwest corner of the intersection to serve the downtown C and E trains. An alternative option would be substantially widening the existing stairway on the northwest corner of the intersection, coupled with an extension of the adjacent sidewalk, and constructing the ADA-compliant elevator at the location described above. The private applicant has reviewed these improvement concepts with NYCT, which has expressed its acceptance. If this Hybrid Scenario is advanced for development, the private applicant would provide the required funding and coordinate with NYCT and DOT where needed on the design and implementation of one of these project improvement options.

As shown in **Tables 30 through 33**, all subway station stairways and control areas would continue to operate at acceptable levels or at the same or better levels as compared to the No Action condition during the weekday AM and PM peak periods with the Hybrid Scenario, except the northeast stairway of the Spring Street (C, E) Station, which would deteriorate to LOS D, with a v/c ratio of 1.04 during the weekday PM peak hour. Compared with the No-Action service levels (LOS C with a v/c ratio of 0.98 during the PM peak hour), the WIT for the northeast stairway was calculated to be 3.5 inches, which is less than the *CEQR Technical Manual* WIT impact threshold of 8.0 inches; therefore, this reduction in service levels does not constitute a significant adverse impact under CEQR.

Table 30
2024 With Action Condition Subway Stairway Analysis – Hybrid Scenario
Houston Street Station

Stair	Location	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
			Entry (Down)	Exit (Up)	Entry (Down)	Exit (Up)		Up	Down		
AM Peak Hour											
Northwest Stairs (S7) - Downtown	Street Level	3.75	135	1,006	42	314	0.9	0.80	1.00	0.86	C
Southwest Stairs (S5) - Downtown	Street Level	4.00	108	336	34	105	0.9	0.80	1.00	0.31	A
Northeast Stairs (S8) - Uptown	Street Level	4.00	150	999	47	312	0.9	0.80	1.00	0.81	C
Southeast Stairs (S6) - Uptown	Street Level	5.00	160	214	50	67	0.9	0.80	1.00	0.20	A
PM Peak Hour											
Northwest Stairs (S7) - Downtown	Street Level	3.75	314	463	98	145	0.9	0.80	1.00	0.55	B
Southwest Stairs (S5) - Downtown	Street Level	4.00	618	104	193	33	0.9	0.80	1.00	0.43	A
Northeast Stairs (S8) - Uptown	Street Level	4.00	538	256	168	80	0.9	0.80	1.00	0.50	B
Southeast Stairs (S6) - Uptown	Street Level	5.00	624	145	195	45	0.9	0.80	1.00	0.37	A

Table 31
2024 With Action Conditions Fare Array Analysis – Hybrid Scenario
Houston Street Station

Control Element	Quantity	Peak Hour Pedestrian Volume		15 Minute		Surging Factor	Friction Factor	v/c Ratio	LOS
		Entry	Exit	Entry	Exit				
AM Peak hour									
Downtown									
Two-way Turnstiles	4	242	1,342	76	419	0.8	0.9	0.28	A
Uptown									
Two-way Turnstiles	3	310	1,213	97	379	0.8	0.9	0.27	A
PM Peak Hour									
Downtown									
Two-way Turnstiles	4	932	567	291	177	0.8	0.9	0.29	A
Uptown									
Two-way Turnstiles	3	1,162	401	363	125	0.8	0.9	0.08	A

Table 32
2024 With Action Condition – Hybrid Scenario Subway Stairway Analysis
Spring Street (C,E) Station

Stair	Location	Effective Width (ft)	Peak Hour Volumes		Peak 15-Minute Volumes		Friction Factor	Surge Factor		V/C Ratio	LOS
			Entry (Down)	Exit (Up)	Entry (Down)	Exit (Up)		Up	Down		
AM Peak Hour											
Northwest Stairs (S1) - Downtown	Street Level	5.00	165	1,853	52	579	0.90	0.80	1.00	1.15	D
Northeast Stairs (S3A) - Uptown	Street Level	6.75	945	1,155	295	361	0.90	0.80	1.00	0.82	C
PM Peak Hour											
Northwest Stairs (S1) - Downtown	Street Level	5.00	599	754	187	236	0.90	0.80	1.00	0.71	C
Northeast Stairs (S3A) - Uptown	Street Level	6.75	2,385	519	745	162	0.90	0.80	1.00	1.04	D

Note: As described, a new stairway would be constructed to supplement the S1 downtown stairway on the northwest corner of Spring Street and Avenue of the Americas. An alternative option would be substantially widening the existing stairway on the northwest corner of the intersection, coupled with an extension of the adjacent sidewalk, and constructing the ADA-compliant elevator at the location described above. For analysis purposes, the existing stairway is shown above as widened by 1 foot to demonstrate the minimum improvement needed to avoid the potential for a significant adverse impact at this location. It can be expected that providing a new stairway or substantially widening the existing stairway would be substantially more effective than the 1-foot widening assumed in this analysis.

Table 33
2024 With Action Condition – Hybrid Scenario Fare Array Analysis
Spring Street (C,E) Station

Control Element	Quantity	Peak Hour Pedestrian Volume		15 Minute		Surging Factor	Friction Factor	v/c Ratio	LOS
		Entry	Exit	Entry	Exit				
AM Peak hour									
Downtown									
High Entrance/ Exit Turnstile	2	165	1,238	52	387	0.80	0.90	0.61	B
High Exit Only Turnstile	1	0	615	0	192	0.80	1.00	0.43	A
Uptown									
Two-way Turnstiles	3	945	1,155	295	361	0.80	0.90	0.52	B
PM Peak Hour									
Downtown									
High Entrance/ Exit Turnstile	2	599	496	187	155	0.80	0.90	0.61	B
High Exit Only Turnstile	1	0	258	0	81	0.80	1.00	0.18	A
Uptown									
Two-way Turnstiles	3	2,385	519	745	162	0.80	0.90	0.77	C

DETAILED PEDESTRIAN ANALYSIS

As described above, Level 1 and Level 2 screening analyses were prepared to identify the pedestrian elements warranting a detailed analysis. Based on the assignment of pedestrian trips and in consultation with DOT, five sidewalks, three corners, and five crosswalks were selected for analysis for all peak hours.

2015 Existing Conditions and 2024 No Action Condition

As shown in **Tables 34 through 36**, all sidewalk, corner, and crosswalk analysis locations currently operate at favorable LOS A and B in the existing conditions.

Table 34
2015 Existing Conditions: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	129	0.80	785.5	A
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	12	0.80	2112.0	A
West Houston Street between Hudson Street and Varick Street	North	2.0	631	0.83	40.2	C
West Houston Street between Hudson Street and Greenwich Street	North	6.5	167	0.80	493.1	B
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	12	0.80	2640.0	A
Weekday Midday Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	144	0.82	719.9	A
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	12	1.00	2640.0	A
West Houston Street between Hudson Street and Varick Street	North	2.0	657	0.81	37.8	D
West Houston Street between Hudson Street and Greenwich Street	North	6.5	174	0.91	536.1	A
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	12	1.00	3300.0	A
Weekday PM Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	170	0.90	674.0	A
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	8	1.00	3960.0	A
West Houston Street between Hudson Street and Varick Street	North	2.0	564	0.81	44.3	B
West Houston Street between Hudson Street and Greenwich Street	North	6.5	219	0.80	376.0	A
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	8	1.00	4950.0	A
Saturday Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	200	0.93	586.6	A
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	3	0.80	8448.0	A
West Houston Street between Hudson Street and Varick Street	North	2.0	168	0.80	150.5	B
West Houston Street between Hudson Street and Greenwich Street	North	6.5	179	0.80	460.0	A
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	3	0.80	10560.0	A

Note: SFP = square feet per pedestrian.

Table 35
2015 Existing Conditions: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour		Saturday Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
West Houston Street and Washington Street	Northwest	111.6	A	133.6	A	150.0	A	137.1	A
	Northeast	422.8	A	437.7	A	585.7	A	541.7	A
	Southwest	109.6	A	122.4	A	189.1	A	150.2	A

Note: SFP = square feet per pedestrian.

Table 36
2015 Existing Conditions: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	339	54.1	B
West Houston Street and Washington Street	North	40.0	14.0	235	158.1	A
	West	38.0	14.0	34	942.2	A
West Houston Street and Greenwich Street	North	45.0	13.5	221	105.5	A
West Houston Street and Hudson Street	North	52.0	15.0	397	54.3	B
Weekday Midday Peak Hour						
West Street and West Houston Street	West	120.0	15.0	207	88.5	A
West Houston Street and Washington Street	North	40.0	14.0	193	197.8	A
	West	38.0	14.0	18	1784.1	A
West Houston Street and Greenwich Street	West	45.0	13.5	158	153.0	A
West Houston Street and Hudson Street	North	52.0	15.0	476	46.4	B
Weekday PM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	223	81.6	A
West Houston Street and Washington Street	North	40.0	14.0	206	205.3	A
	West	38.0	14.0	23	1433.2	A
West Houston Street and Greenwich Street	North	45.0	13.5	215	115.9	A
West Houston Street and Hudson Street	North	52.0	15.0	315	78.7	A
Saturday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	287	69.4	A
West Houston Street and Washington Street	North	40.0	14.0	191	200.6	A
	West	38.0	14.0	29	1106.0	A
West Houston Street and Greenwich Street	North	45.0	13.5	203	130.4	A
West Houston Street and Hudson Street	North	52.0	15.0	189	130.6	A

Note: SFP = square feet per pedestrian.

As shown in **Tables 37 through 39**, all sidewalk, corner, and crosswalk analysis locations will continue to operate at favorable LOS A and B in the No Action Condition, except:

- The west sidewalk along Washington Street between West Houston Street and Spring Street (North Section), which would deteriorate to LOS D with 30.7 SFP in the weekday AM peak hour, and LOS E with 12.2, 13.8, and 13.2 SFP in the weekday midday and PM, and Saturday peak hours, respectively;
- The north sidewalk along West Houston Street and Varick Street, which would deteriorate to LOS E with 21.4, 15.1, and 11.4 SFP in the weekday AM, midday, and PM peak hours, respectively, and LOS D with 29.7 SFP in the Saturday peak hour;
- The west sidewalk along Washington Street between West Houston Street and Spring Street (South Section), which would deteriorate to LOS E with 17.8, 22.9, and 19.3 SFP in the weekday midday and PM, and Saturday peak hours, respectively;
- The northwest corner of West Houston Street and Washington Street, which would deteriorate to LOS E with 10.4 SFP in the weekday AM peak hour, and to LOS F with -1.0, -2.2, and 1.0 SFP in the weekday midday and PM, and Saturday peak hours, respectively;
- The southwest corner of West Houston Street and Washington Street, which would deteriorate to LOS F with -4.8, -4.5, -4.7, and -3.0 SFP in the weekday AM, midday and PM, and Saturday peak hours, respectively;
- The west crosswalk of West Houston Street and Washington Street, which would deteriorate to LOS E with 10.5, 10.5, and 13.8 SFP in the weekday midday and PM, and Saturday peak hours, respectively;

- The north crosswalk of West Houston Street and Hudson Street, which would deteriorate to LOS D with 16.3 SFP in the weekday midday peak hour, and to LOS E with 15.0 SFP in the weekday PM peak hour; and
- The north crosswalk of West Houston Street and Greenwich Street, which would deteriorate to LOS D with 15.2 SFP in the weekday PM peak hour.

Table 37
2024 No Action Condition: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	629	0.80	160.8	B
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	783	0.80	30.7	D
West Houston Street between Hudson Street and Varick Street	North	2.0	1103	0.83	21.4	E
West Houston Street between Hudson Street and Greenwich Street	North	6.5	643	0.80	127.7	B
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	651	0.80	47.5	C
Weekday Midday Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	946	0.82	109.1	B
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	1820	0.90	12.2	E
West Houston Street between Hudson Street and Varick Street	North	2.0	1423	0.81	15.1	E
West Houston Street between Hudson Street and Greenwich Street	North	6.5	933	0.91	99.5	A
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1742	0.90	17.8	E
Weekday PM Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	1425	0.90	79.7	C
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	1675	0.90	13.8	E
West Houston Street between Hudson Street and Varick Street	North	2.0	1711	0.81	11.4	E
West Houston Street between Hudson Street and Greenwich Street	North	6.5	1415	0.80	57.3	C
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1420	0.90	22.9	E
Saturday Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	862	0.93	135.7	B
Washington Street between West Houston Street and Spring Street (North Section)	West	2.0	1539	0.80	13.2	E
West Houston Street between Hudson Street and Varick Street	North	2.0	806	0.80	29.7	D
West Houston Street between Hudson Street and Greenwich Street	North	6.5	810	0.80	101.2	B
Washington Street between West Houston Street and Spring Street (South Section)	West	2.5	1455	0.80	19.3	E

Note: SFP = square feet per pedestrian.

Table 38
2024 No Action Condition: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour		Saturday Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
West Houston Street and Washington Street	Northwest	10.4	E	-1.0	F	-2.2	F	1.0	F
	Northeast	146.6	A	106.9	A	85.3	A	134.7	A
	Southwest	4.8	F	-4.5	F	-4.7	F	-3.0	F

Note: SFP = square feet per pedestrian.

Table 39
2024 No Action Condition: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	356	49.1	B
West Houston Street and Washington Street	North	40.0	14.0	734	47.7	B
	West	38.0	14.0	860	34.0	C
West Houston Street and Greenwich Street	North	45.0	13.5	710	30.8	C
West Houston Street and Hudson Street	North	52.0	15.0	857	23.9	D
Weekday Midday Peak Hour						
West Street and West Houston Street	West	120.0	15.0	277	63.2	A
West Houston Street and Washington Street	North	40.0	14.0	992	35.5	C
	West	38.0	14.0	2407	10.5	E
West Houston Street and Greenwich Street	West	45.0	13.5	926	23.9	D
West Houston Street and Hudson Street	North	52.0	15.0	1257	16.3	D
Weekday PM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	243	71.2	A
West Houston Street and Washington Street	North	40.0	14.0	1458	25.9	C
	West	38.0	14.0	2458	10.5	E
West Houston Street and Greenwich Street	North	45.0	13.5	1442	15.2	D
West Houston Street and Hudson Street	North	52.0	15.0	1498	15.0	E
Saturday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	314	60.4	A
West Houston Street and Washington Street	North	40.0	14.0	849	42.4	B
	West	38.0	14.0	1904	13.8	E
West Houston Street and Greenwich Street	North	45.0	13.5	830	29.9	C
West Houston Street and Hudson Street	North	52.0	15.0	834	28.0	C

Note: SFP = square feet per pedestrian.

Probable Impacts of the Hybrid Scenario

Hybrid Scenario-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 "Level 2 Screening Assessment" were added to the projected 2024 No Action volumes to generate the 2024 With Action – Hybrid Scenario pedestrian volumes for analysis.

As part of the proposed actions, the northern segment of the sidewalk along Washington Street between Spring Street and West Houston Street would be widened to 13.5 feet (from an existing width of five feet). This sidewalk widening has been incorporated into this analysis as a project improvement. The narrowest effective sidewalk widths used for analysis account for obstructions that currently exist or are expected to be in place with the Revised Proposed Project Alternative or Hybrid Scenario.

In addition, the private applicant would undertake several other improvements to pedestrian facilities in the area surrounding the development site if the Hybrid Scenario is advanced. These include:

- Increasing the effective width of the north sidewalk along West Houston Street between Hudson Street and Varick Street by relocating two street signs and two newly-planted trees on that sidewalk;
- Widening the west crosswalk at West Houston Street and Washington Street by ½-foot;
- Widening the north crosswalk at West Houston Street and Greenwich Street by 2 feet; and
- Widening the north crosswalk at West Houston Street and Hudson Street by 2.5 feet.

All of these project improvements were incorporated into this analysis. The private applicant has reviewed conceptual drawings developed for the above improvements with DOT, which has determined that they would be feasible for implementation. In addition, NYC Parks has reviewed the tree relocation recommendation described above and deemed it to be feasible. If the Hybrid Scenario is advanced for development, the private applicant would provide the required funding and coordinate with DOT and NYC Parks where needed on the design and implementation of these project improvements, which will be carried out pursuant to agency standards, such as restriping modified crosswalks with high visibility markings. With these project improvements in place, the Hybrid Scenario would not result in any significant adverse pedestrian impacts.

As described above, the northern segment of the sidewalk along Washington Street between Spring Street and West Houston Street would be widened to 13.5 feet. Extending this sidewalk widening south to Spring Street would be undertaken as part of the Hybrid Scenario to accommodate the higher incremental pedestrian trips. The private applicant would coordinate with DSNY and submit plans for review by the DOT Borough Commissioner's Office and any other DOT divisions as the Borough Commissioner's Office requires for approval. With this and the other project improvements outlined above, the Hybrid Scenario would not result in any significant adverse pedestrian impacts, the same conclusion for the Revised Proposed Project Alternative in the FEIS, as demonstrated in **Tables 40 through 42.**

Table 40
2024 With Action Condition: Sidewalk Analysis

Location	Sidewalk	Effective Width (ft)	Two-way Peak Hour Volume	PHF	SFP	Platoon LOS
Weekday AM Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	655	0.80	154.4	B
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	2037	0.80	64.5	C
West Houston Street between Hudson Street and Varick Street	North	2.5	1393	0.83	21.2	E
West Houston Street between Hudson Street and Greenwich Street	North	6.5	679	0.80	120.9	B
Washington Street between West Houston Street and Spring Street (South Section)	West	8.5	1155	0.80	92.7	B
Weekday Midday Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	1265	0.82	81.3	C
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	3311	0.90	44.0	C
West Houston Street between Hudson Street and Varick Street	North	2.5	1676	0.81	16.4	E
West Houston Street between Hudson Street and Greenwich Street	North	6.5	1223	0.91	75.6	C
Washington Street between West Houston Street and Spring Street (South Section)	West	8.5	1741	1	68.8	C
Weekday PM Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	1100	0.90	103.6	B
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	3203	0.90	45.6	C
West Houston Street between Hudson Street and Varick Street	North	2.5	1744	0.81	11.0	E
West Houston Street between Hudson Street and Greenwich Street	North	6.5	1125	0.80	72.5	C
Washington Street between West Houston Street and Spring Street (South Section)	West	8.5	1825	1	65.6	C
Saturday Peak Hour						
West Houston Street between Washington Street and Greenwich Street	North	8.0	770	0.93	152.0	B
Washington Street between West Houston Street and Spring Street (North Section)	West	10.5	1496	0.80	88.3	C
West Houston Street between Hudson Street and Varick Street	North	2.5	713	0.80	34.0	D
West Houston Street between Hudson Street and Greenwich Street	North	6.5	720	0.80	113.9	B
Washington Street between West Houston Street and Spring Street (South Section)	West	8.5	1102	0.80	97.2	E

Note: SFP = square feet per pedestrian.

Table 41
2024 With Action Condition: Corner Analysis

Location	Corner	Weekday AM Peak Hour		Weekday Midday Peak Hour		Weekday PM Peak Hour		Saturday Peak Hour	
		SFP	LOS	SFP	LOS	SFP	LOS	SFP	LOS
West Houston Street and Washington Street	Northwest	51.8	B	19.1	D	31.0	C	40.6	B
	Northeast	140.7	A	81.0	A	113.1	A	150.5	A
	Southwest	49.5	B	17.2	D	19.8	D	32.3	C

Note: SFP = square feet per pedestrian.

Table 42
2024 With Action Condition: Crosswalk Analysis

Location	Crosswalk	Crosswalk Length (ft)	Crosswalk Width (ft)	2-way Peak Hour Volume	SFP	LOS
Weekday AM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	556	31.2	C
West Houston Street and Washington Street	North	40.0	14.0	763	45.7	B
	West	38.0	14.5	1042	26.0	C
West Houston Street and Greenwich Street	North	45.0	15.5	736	29.4	C
West Houston Street and Hudson Street	North	52.0	17.5	910	22.3	D
Weekday Midday Peak Hour						
West Street and West Houston Street	West	120.0	15.0	477	36.0	C
West Houston Street and Washington Street	North	40.0	14.0	1315	26.0	C
	West	38.0	14.5	2631	10.0	E
West Houston Street and Greenwich Street	West	45.0	15.5	1262	19.8	D
West Houston Street and Hudson Street	North	52.0	17.5	1552	15.1	D
Weekday PM Peak Hour						
West Street and West Houston Street	North	120.0	15.0	443	38.0	C
West Houston Street and Washington Street	North	40.0	14.0	1137	34.1	C
	West	38.0	14.5	1930	13.4	E
West Houston Street and Greenwich Street	North	45.0	15.5	1130	20.2	D
West Houston Street and Hudson Street	North	52.0	17.5	1220	18.8	D
Saturday Peak Hour						
West Street and West Houston Street	North	120.0	15.0	514	36.1	C
West Houston Street and Washington Street	North	40.0	14.0	760	47.8	B
	West	38.0	14.5	1520	18.4	D
West Houston Street and Greenwich Street	North	45.0	15.5	753	33.9	C
West Houston Street and Hudson Street	North	52.0	17.5	740	31.1	C

Note: SFP = square feet per pedestrian.

PARKING

The Hybrid Scenario would include 346 parking spaces on the development site. Following the procedures detailed in the FEIS, parking demand estimates were developed for the Hybrid Scenario based on the travel demand assumptions and the parking assessment summarized in FEIS Chapter 14, "Transportation," on Table 14-5 and Section G, "Parking Assessment."

Accounting for the parking supply and parking demand generated by the Hybrid Scenario, the With Action public parking utilization is expected to increase to a maximum of 100 percent during the weekday midday peak period.

Per *CEQR Technical Manual* parking analysis guidelines, parking utilization levels at or exceeding 98 percent are considered "at capacity." Therefore, the projected 100 percent parking utilization during the weekday midday peak hour would result in the potential for a parking shortfall. In consideration of this potential parking shortfall, an additional inventory of off-street parking resources was conducted to determine if the potential shortfall can be accommodated by a slightly longer walking distance from the development site. A review of the existing off-street parking supply and utilization within ½-mile of the development site showed that there would be a total of approximately 5,900 parking spaces during the weekday midday peak hour. Although some of these existing parking facilities may be displaced by future developments in the area (i.e., Hudson Square Rezoning, etc.), other future off-street facilities would become available, such that the overall future off-street parking supply is expected to be generally comparable to what currently exists. Out of these approximately 5,900 spaces, approximately 74 percent were utilized during the weekday midday peak hour, with approximately 1,500 parking spaces available. Therefore, the potential parking shortfall resulting from the Hybrid Scenario during

the weekday midday peak hour could be accommodated with a slightly longer walking distance beyond the ¼-mile radius. Furthermore, as stated in the *CEQR Technical Manual*, 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.

AIR QUALITY

As discussed in the Transportation section of this Technical Memorandum, the Hybrid Scenario would not result in any new or additional impacts due to traffic. Therefore, like the Revised Proposed Project Alternative, the Hybrid Scenario would not result in any significant adverse air quality impacts due to mobile source emissions at intersections or associated with parking facilities.

The FEIS analyses concluded that stationary sources of emissions would not result in any significant adverse air quality impacts and included placement of an (E) designation (E-384) on the project site to enforce the assumptions that support the finding. The (E) designation (E-384) requirements for the North Site building would remain unchanged with the Hybrid Scenario. For the Center/South Site building, the Hybrid Scenario would be anticipated to include similar heating, ventilation and air conditioning (HVAC) systems that were assumed for the analysis in the FEIS. Conservatively assuming a single heating and hot water system that would serve the Center and South Sites, a minimum building height of 165 feet above grade, and a stack located on the tallest portion of the building (approximately 3 feet above the roof), the estimated minimum stack set back distance is 221 feet from buildings of a similar or greater height, following the screening procedures outlined in the *CEQR Technical Manual* for analysis of fossil fuel-fired heating systems. Based on the minimum distance to buildings of a similar or greater height, a setback would be required from the northern lot line to avoid the potential for a significant adverse air quality impact due to HVAC systems under the Hybrid Scenario; however, a stack setback would not be required with respect to the east, west or south lot lines.

Therefore, under the Hybrid Scenario, the requirements of the (E) designation (E-384) would be supplemented as follows:

In the event that there is new development on the Center and South Sites that does not utilize the special permit, it must utilize only natural gas in any fossil fuel-fired HVAC equipment, and HVAC stacks must be at least 161 feet above grade and located at least 156 feet away from the northern lot line facing West Houston Street to avoid any potential significant air quality impacts.

GREENHOUSE GAS EMISSIONS

As with the Revised Proposed Project Alternative, the Hybrid Scenario would incorporate measures to reduce greenhouse gas emissions (GHG) and to plan for sea level rise. The private applicant is currently evaluating the specific energy efficiency measures and design elements that may be implemented for all the buildings on the development site. The special permit development would be designed to accommodate projected flood levels projected for the year 2100 for all critical infrastructure and residential uses, and for the 2050s or higher for commercial uses (applying the higher 2100 levels where practicable). Therefore, as with the Revised Proposed Project Alternative, the Hybrid Scenario would be consistent with the City's GHG reduction goals and policies regarding adaptation to climate change.

NOISE

The FEIS analyses concluded that the Revised Proposed Project Alternative would not result in any significant adverse noise impacts and included placement of an (E) designation (E-384) on the project site to enforce the noise attenuation measures associated with that finding. With adherence to the requirements of the (E) designation (E-384), the Hybrid Scenario would not result in any significant adverse noise impacts.

PUBLIC HEALTH

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in significant adverse impacts to public health, as neither would result in unmitigated significant adverse impacts in technical areas related to public health, including air quality, water quality, hazardous materials, and noise. As with the Revised Proposed Project Alternative, during some periods of construction, the Hybrid Scenario development could result in significant adverse impacts related to noise as defined by *CEQR Technical Manual* thresholds, but the predicted overall changes in noise levels would not be large enough to significantly affect public health. Overall, as with the Revised Proposed Project Alternative, the Hybrid Scenario would not result in significant adverse public health impacts.

NEIGHBORHOOD CHARACTER

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario would not result in significant adverse impacts to neighborhood character. As described in the FEIS, the neighborhood character of the study area is defined by a few key components, including its mix of land uses and ongoing trend towards residential use, its location in a busy urban area with major roadways including Route 9A and arterial streets connecting to the Holland Tunnel, and its proximity to Hudson River Park and the waterfront. Since the neighborhood character of the study area is partly defined by existing relatively high traffic volumes, the increased traffic resulting from either the Revised Proposed Project Alternative or the Hybrid Scenario would not represent a significant change to the existing neighborhood character. Compared to the proposed project, the Hybrid Scenario would avoid a significant adverse open space impact and would not include new public open space. Both the Revised Proposed Project Alternative and the Hybrid Scenario would also support a defining feature of the character of the neighborhood—Hudson River Park—through the transfer of floor area from Pier 40 to the development site under the Special Hudson River Park District, which would provide critical funding for repairs to Pier 40. While both the Revised Proposed Project Alternative and the Hybrid Scenario would result in moderate effects in one technical area related to neighborhood character—shadows—even taken together with other categories, the moderate shadows effects would not result in a cumulative significant adverse impact to the area's neighborhood character. Overall, as with the Revised Proposed Project Alternative, the Hybrid Scenario would be consistent with the study area's mixed-use neighborhood character, and would enliven the development site.

CONSTRUCTION

Impacts associated with the construction of the Hybrid Scenario would be expected to be similar to, or less than, those identified for the Revised Proposed Project Alternative. The reuse of all or part of the existing building on the Center/South Sites would result in less intense construction activities compared to the construction of new buildings, as was analyzed in the FEIS.

Demolition, excavation, and foundation work on the Center/South Site would be limited compared to the Revised Proposed Project Alternative, due to reuse of the existing structure.

Under the Hybrid Scenario, development south of West Houston Street would be completed/occupied while construction would be occurring on the North Site; the occupied building would have the potential to experience noise generated by construction on the North Site. The maximum noise exposure at the Center/South Site would be the same as the maximum predicted noise exposure at the Center Site building during construction as described in the FEIS. However, the Center/South building would be commercial rather than residential. The duration of the noise exposure would be the same as that predicted for the Center Site in the FEIS, because the North Site development would be the same as the Revised Proposed Project Alternative. Therefore, as was disclosed in the FEIS, there is the potential for a temporary significant adverse noise impact on the Center/South Site building due to noise from construction of the North Site building.

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario has the potential to result in construction noise levels that exceed *CEQR Technical Manual* noise impact criteria at the future 354-361 West Street development site. However, because 354-361 West Street is mapped with a Noise (E) designation (E-218) requiring between 26 and 39 dBA of window/wall attenuation, which would be achieved by means of installing acoustically rated insulated glass windows, and an alternate means of ventilation (i.e., air conditioning that does not degrade the acoustical performance of the façade) to allow for the maintenance of a closed-window condition, there are no feasible and practicable mitigation measures that would be able to reduce or eliminate this potential significant adverse noise impacts.

Under the Revised Proposed Project Alternative, project-generated open space would be closed during demolition, excavation, and foundation activities, thus avoiding the potential for a significant adverse public health impact. However, the Hybrid Scenario would not include any new public open space, and, therefore, there would not be any potential for construction-related impacts on public open space.

MITIGATION

The FEIS described potential mitigation measures for open space and transportation.

OPEN SPACE

As described above, the Hybrid Scenario would not result in the significant adverse open space impacts identified for the Revised Proposed Project Alternative. In addition, the Hybrid Scenario would not result in any new significant adverse open space impacts. Therefore, no mitigation would be required.

TRANSPORTATION

The Hybrid Scenario would not result in potential traffic impacts during the weekday midday and Saturday peak hours. Therefore, mitigation measures identified for the Revised Proposed Project Alternative during these time periods would not need to be implemented until such time as the development of the Revised Proposed Project Alternative proceeds for the South block (Center and South Sites). For the weekday AM and PM peak hours, the anticipated impacts would be largely the same as those identified for the Revised Proposed Project Alternative. As described above, mitigation measures necessary to address the impacts associated with the

Hybrid Scenario would be the same as those identified for the Revised Proposed Project Alternative. The Hybrid Scenario would also include project improvements related to transportation, as discussed above.

UNAVOIDABLE ADVERSE IMPACTS

TRANSPORTATION

As discussed above and shown in Table 14, most of the impacted lane groups would be common to the Hybrid Scenario and the Revised Proposed Project Alternative. The Hybrid Scenario would also result in an unmitigated significant adverse impact at the intersection of Varick Street and West Houston Street during the weekday AM peak hour. This unmitigated impact was identified in the FEIS for the proposed project with big box scenario as well as in Technical Memorandum 001.

CONSTRUCTION NOISE

Under the Hybrid Scenario, development south of West Houston Street would be completed/occupied while construction would be occurring on the North Site; the occupied building would have the potential to experience noise generated by construction on the North Site. The maximum noise exposure at the Center/South Site would be the same as the maximum predicted noise exposure at the Center Site building during construction as described in the FEIS. However, the Center/South building would be commercial rather than residential. The duration of the noise exposure would be the same as that predicted for the Center Site in the FEIS, because the North Site development would be the same as the Revised Proposed Project Alternative. Therefore, as was disclosed in the FEIS, there is the potential for a temporary significant adverse noise impact on the Center/South Site building due to noise from construction of the North Site building. There are no feasible and practicable mitigation measures that would be able to reduce or eliminate this potential significant adverse noise impact.

Similar to the Revised Proposed Project Alternative, the Hybrid Scenario has the potential to result in construction noise levels that exceed *CEQR Technical Manual* noise impact criteria at the future 354-361 West Street development site. However, because 354-361 West Street is mapped with a Noise (E) designation (E-218) requiring between 26 and 39 dBA of window/wall attenuation, which would be achieved by means of installing acoustically rated insulated glass windows, and an alternate means of ventilation (i.e., air conditioning that does not degrade the acoustical performance of the façade) to allow for the maintenance of a closed-window condition, there are no feasible and practicable mitigation measures that would be able to reduce or eliminate this potential significant adverse noise impact. ✷