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Project Permutations

This chapter considers how the impacts of the Proposed Actions might change in the case of one or the other of the Proposed Projects being developed either at a different time or not at all.

Introduction

The Proposed Actions examined in this ~~Draft~~Final Environmental Impact Statement (~~DEIS~~FEIS) would affect two independent development sites—Development Site 1, at 629 West 54th Street (Manhattan Block 1102, Lot 11), and Development Site 2, at 801 Eleventh Avenue (Manhattan Block 1103, Lot 36). Previous chapters have considered the combined or cumulative impacts of the two projects as the Reasonable Worst-Case Development Scenario (RWCDS). However, the two Proposed Projects are independent of each other; either project may be delayed or ultimately not pursued. The analysis in this chapter is limited to evaluating specific locations or facilities for which impacts and mitigation needs have been identified under the cumulative impact analysis of the two projects. Since the impacts of each project individually would be less than when considered together, if the cumulative analyses identified no impacts, then there would be no impacts from an individual project. Therefore, the following technical areas were not considered in this chapter:

- Land Use, Zoning & Public Policy
- Socioeconomic Conditions
- Community Facilities and Services
- Open Space
- Shadows
- Urban Design and Visual Resources
- Hazardous Materials
- Water & Sewer Infrastructure
- Air Quality

- Greenhouse Gas Emissions and Climate Change
- Noise (operational)
- Public Health
- Neighborhood Character

The cumulative impact analyses presented in previous chapters have identified the potential for significant adverse impacts in the following technical areas:

- Transportation (Traffic, Bus)
- Construction (Traffic, Noise)

In these technical areas, the potential impacts of the individual projects are described below, and expected differences from the cumulative impacts are outlined. Therefore, the following project permutations consider whether the significant adverse impacts identified in these technical areas would occur with either permutation.

Principal Conclusions

Table 19-1 presents the anticipated significant impacts of the two projects individually. The technical areas in which there would be changes from the conclusions of the cumulative analysis for the Proposed Projects are described further below.

Table 19-1 Summary of Anticipated Significant Impacts

Area of Environmental Concern	Future with only Project on Development Site 1	Future with only Project on Development Site 2
Traffic	Impact to Twelfth Avenue and West 55th Street during the Saturday Peak hour	Impact to Twelfth Avenue and West 55th Street during the Saturday Peak hour
Bus	Impact to two bus lines (Eastbound M57 and Northbound M12)	Impact to two bus lines (Eastbound M57 and Northbound M12)
Construction - Transportation	Impacts at three intersections	Impacts at four intersections
Construction - Noise	Impacts at R32 (619 West 54th Street)	No Impact

If only Development Site 1 is developed, significant adverse traffic impacts would occur at the intersection of Twelfth Avenue and West 55th Street during the Saturday peak hour; similarly, if only Development Site 2 is developed, significant adverse traffic impacts would also occur at this intersection during the Saturday peak hour.

If only Development Site 1 is developed, there would be a significant adverse impact on two bus lines—the Eastbound M57 during the AM peak hour and the Northbound M12 during the PM peak hour—but would be less than the cumulative impact. If only Development Site 2 is developed, there would also be a significant adverse impact on the same two bus lines (during the same peak hours and in the same directions), albeit slightly less compared to the cumulative impacts.

If only Development Site 1 is developed, significant adverse traffic impacts due to construction would occur at three intersections. If only Development Site 2 is developed, significant adverse traffic impacts due to construction would occur at four intersections.

If only Development Site 1 is built, construction noise impacts are anticipated for sensitive receptors identified at 619 West 54th Street (R32). If only Development Site 2 is built, no construction noise impacts are anticipated at any sensitive receptors within the vicinity of the site.

Potential for Changes to Identified Impacts if a Project is Not Pursued

Transportation

As detailed in **Chapter 10, Transportation,** the Proposed Actions and the development of Development Sites 1 and 2, analyzed cumulatively, would be expected to result in significant adverse traffic and bus impacts. Mitigation measures, in the form of signal timing modifications and increased bus service, were identified in **Chapter 18, Mitigation**. If one of the two proposed development sites is delayed or not pursued, the impacts of the remaining Development Site and mitigation measures needed may be less intensive than those projected for the two development sites together or potentially not result in significant impacts.

The distribution of project-generated person trips by Development Site 1 and Development Site 2 are shown in **Table 19-2** and in **Table 19-3** for vehicle trips. Generally, Development Site 1 is anticipated to contribute 44 percent to 48 percent of the total person trip generation for the combined Proposed Projects in the weekday AM, PM and Saturday peak hours, versus 52 percent to 56 percent for Development Site 2. Development Site 1 is anticipated to contribute 52 percent to 55 percent of the total vehicle-trip generation for the combined Proposed Projects during the weekday AM, PM and Saturday peak hours, versus 45 percent to 48 percent for Development Site 2.

Table 19-2 Trip Generation Summary – Person Trips

	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
Mode	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Development Site 1 (629 West 54th Street)									
Auto	18	25	43	25	22	49	33	25	58
Taxi	9	19	28	19	15	34	22	18	40
Bus	28	28	56	32	36	68	37	31	68
Subway	116	169	285	162	163	325	167	144	311
Rail	13	7	20	8	14	22	5	4	9
Ferry	1	0	1	0	0	0	0	0	0
Bicycle	5	13	18	7	4	11	9	7	16
Walk-Only	81	151	232	179	151	330	242	213	455
Total	271	412	683	432	407	839	515	442	957
Development Site 2 (801 Eleventh Avenue)									
Auto	21	25	46	26	27	53	28	25	53
Taxi	6	15	21	13	10	23	14	12	26
Bus	18	21	39	18	20	38	17	15	32
Subway	78	125	203	96	94	190	94	79	173
Rail	9	4	13	3	8	11	3	3	6
Ferry	0	0	0	0	0	0	0	0	0
Bicycle	6	11	17	9	7	16	11	10	21
Walk-Only	179	235	414	390	366	756	441	428	869
Total	317	436	753	555	532	1,087	608	572	1,180
Total									
Auto	39	50	89	51	51	102	61	50	112
Taxi	15	34	49	32	25	57	36	30	66
Bus	46	49	95	50	56	106	54	46	100
Subway	194	294	488	258	257	515	261	223	484
Rail	22	11	33	11	22	33	8	7	15
Ferry	1	0	1	0	0	0	0	0	0
Bicycle	11	24	35	16	11	27	20	17	37
Walk-Only	260	386	646	569	517	1,086	683	641	1,324
Total	**588**	**848**	**1,436**	**987**	**939**	**1,926**	**1,123**	**1,014**	**2,137**

Note: Bus-only trips are shown above. Due to the distance from the development sites and the closest subway and rail stations, subway and rail trips would also include a bus connection trip.

Table 19-3 Trip Generation Summary – Vehicle Trips

	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
Mode	**In**	**Out**	**Total**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Development Site 1 (629 West 54th Street)									
Auto	15	22	37	21	19	40	23	17	40
Taxi	21	21	42	19	19	38	22	22	44
Truck	2	3	5	-1	-2	-3	1	1	2
Total	38	46	84	39	36	75	46	40	86
Development Site 2 (801 Eleventh Avenue)									
Auto	17	21	38	19	20	39	22	19	41
Taxi	16	16	32	13	13	26	15	15	30
Bus	3	4	7	0	-1	-1	0	0	0
Total	36	41	77	32	32	64	37	34	71
Total									
Auto	32	43	75	40	39	79	45	36	81
Taxi	37	37	74	32	32	64	37	37	74
Bus	5	7	12	-1	-3	-4	1	1	2
Total	**74**	**87**	**161**	**71**	**68**	**139**	**83**	**74**	**157**

Traffic

Development of both development sites would result in a significant traffic impact to the intersection of Twelfth Avenue and West 55th Street during the Saturday peak hour. This impact could be mitigated with signal timing modification. A sensitivity test was conducted and determined a modest increase in traffic to the westbound right turn movement (three right turn vehicle trips) would result in a significant traffic impact. Development of just one Development Site would result in an increase of vehicle trips that exceed this threshold; therefore, significant traffic impacts would be expected with development of either Development Site.

Bus

Development of both development sites would result in significant bus impacts to two bus routes:

- The M57 bus route in the eastbound direction during the AM peak hour
- The M12 bus route in the northbound and southbound directions during the PM peak hour

These significant bus impacts could be mitigated with increased bus service—two additional buses along the M57 bus route in the eastbound direction during the AM peak hour and one additional bus in each direction for the M12 bus route in the PM peak hour.

As shown in **Table 19-4** below, development of just one Development Site would result in significant impacts to the eastbound M57 bus route in the AM peak hour and to just the northbound M12 bus route in the PM peak hour. Impacts to the M57 bus route could be mitigated with one additional bus (compared to two buses with both development sites) and one additional bus for the M12 bus route (similar to the mitigation need with both development sites). Significant impacts would, however, not ~~be expected~~occur for the southbound M12 bus route in the PM peak hour if only one Development Site were developed.

Table 19-4 Comparison of Significant Bus Impacts

Significantly Impacted Bus Route	Both Development Sites	Development Site 1	Development Site 2
AM Peak Hour – Eastbound M57	Yes	Yes	Yes
PM Peak Hour – Northbound M12	Yes	Yes	Yes
PM Peak Hour – Southbound M12	Yes	No	No

Construction

As detailed in **Chapter 16, Construction,** the Proposed Actions would be expected to result in significant adverse traffic and noise impacts during construction. Where practicable and feasible, mitigation measures have been recommended to address these impacts. If one or the other of the two proposed development sites is delayed indefinitely or not pursued, the construction impacts would be less intensive than those projected in the cumulative analysis or may not materialize. Correspondingly, some of the mitigation measures identified may not be warranted or they may be reduced to address impacts of smaller magnitudes. The potential for changes in the cumulative construction traffic and noise impacts are summarized below.

Traffic

Construction traffic analysis was conducted at 11 intersections during the Q3 2028 construction peak quarter. Significant construction traffic impacts were identified at two intersections during the AM construction peak hour and five intersections during the PM construction peak hour. Signal timing modifications were identified to mitigate the significant traffic impacts at four of the five significantly impacted intersections during the PM construction peak hour.

Significant traffic impacts at the intersection of Twelfth Avenue and West 55th Street could not be mitigated during the AM and PM construction peak hours. The significant traffic impact at the intersection is largely due to the reduction of West 55th Street approach travel lanes (from three travel lanes to two travel lanes) in order to facilitate construction activities and protect pedestrian traffic. Significant traffic impacts at the intersection of Eleventh Avenue and West 56th Street would result in significant traffic impacts that could not be mitigated during the AM construction peak hour. Similarly, the significant impacts at this intersection are largely due to the reduction of West 56th Street approach travel lanes (from two travel lanes to one travel lane) in order to facilitate construction activities and protect pedestrian traffic.

As shown in **Table 19-5** the two development sites together would result in a total of 1,605 daily workers and 54 daily trucks during the peak construction quarter. Construction of Development Site 1 would, on average, need 376 daily workers and 22 daily trucks, and during the Q3 2028 peak quarter there would be 888 workers and 34 trucks per day. Construction of Development Site 2 would, on average, need 333 workers and 20 trucks per day, and 717 workers and 20 trucks per day during the Q3 2028 peak quarter.

Table 19-5 Average Number of Daily Construction Workers and Trucks by Quarter

Year	2026	2027				2028				2029			
Quarter	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Development Site 1 (629 West 54th Street)													
Workers	65	110	68	148	125	302	793	888	630	758	383	209	209
Trucks	13	11	30	30	15	27	36	34	21	14	14	14	14
Development Site 2 (801 Eleventh Avenue)													
Workers	28	30	45	80	149	257	625	717	617	584	500	317	317
Trucks	13	27	27	9	21	31	29	20	15	15	15	14	14
Total													
Workers	93	140	113	228	274	559	1,418	1,605	1,247	1,342	883	526	526
Trucks	13	38	57	39	36	58	65	54	36	29	29	28	28

Source: New Line Structures (2025)

If only Development Site 1 is built, significant traffic impacts would be expected at the intersections listed below:

- Eleventh Avenue and West 55th Street (PM peak hour)
- Twelfth Avenue and West 55th Street (AM and PM peak hours)
- Twelfth Avenue and West 57th Street (PM peak hour)

Significant impacts at two of the three significantly impacted intersections during the PM construction peak hour could be mitigated with similar signal timing modification measures as those proposed for the simultaneous construction of both development sites. The significant impact identified at the intersection of Eleventh Avenue and West 56th Street during the AM construction peak hour under simultaneous construction for the two development sites would not ~~be expected~~occur under this scenario as the reduction in West 56th Street travel lanes would not be needed. However, the intersection of Twelfth Avenue and West 55th Street would still be unmitigated during both the AM and PM construction peak hours due to the reduction of West 55th Street travel lanes in order to facilitate construction activities and protect pedestrian traffic at Development Site 1.

Under the scenario with only Development Site 2, significant traffic impacts would be expected at the intersections listed below:

- Eleventh Avenue and West 55th Street (PM peak hour)
- Eleventh Avenue and West 56th Street (AM and PM peak hour)
- Twelfth Avenue and West 55th Street (PM peak hour)
- Twelfth Avenue and West 57th Street (PM peak hour)

The reduction in the West 55th Street travel lanes associated with construction of Development Site 1 would not be needed but reduction in the West 56th Street travel lanes would remain. Significant traffic impacts at identified at the one significantly impacted intersection during the AM construction peak hour and two of the four intersections during the PM construction peak hour could be mitigated with similar signal timing modification measures as for construction of both development sites. Significant traffic impacts at the intersection of Eleventh Avenue and West 56th Street during the AM construction peak hour would remain due to the reduction of West 56th Street travel lanes in order to facilitate construction activities and protect pedestrian traffic at Development Site 2.

Noise

As described in **Chapter 20, Construction,** the construction of the Proposed Projects are anticipated to result in construction-period noise impacts at the existing commercial building at 619 West 54th Street (R32) located immediately east of Development Site 1.

If only Development Site 1 is built, significant construction noise impacts would occur at 619 West 54th Street (R32). If only Development Site 2 is built, there would be no construction noise impact.

With Development Sites 1 and 2 constructed simultaneously, the cumulative construction noise impact at impacted receptors would be the same.