## A. INTRODUCTION

The preceding chapters of the EIS discuss the potential for significant adverse impacts to result from the proposed action and/or the Base FAR Scenario. Where such potential impacts have been identified - in the areas of community facilities (schools, publicly funded day care facilities), open space, historic resources, shadows, traffic, transit-bus services - measures are examined to minimize or eliminate the anticipated significant adverse impacts. These mitigation measures are discussed below.

## B. COMMUNITY FACILITIES AND SERVICES

## Elementary and Intermediate Schools

The proposed action would generate 484 elementary school students and 101 intermediate school students. As discussed in Chapter 4, "Community Facilities and Services," development of the proposed action would result in a significant adverse impact on elementary schools in Region 3 of Community School District 2 (CSD 2), and in CSD 2 as a whole. The proposed action would also result in a significant adverse impact on intermediate schools in CSD 2. In the future with the proposed action, elementary schools within Region 3 would be at 144 percent of capacity, a potential shortfall of 1,133 seats, whereas CSD 2 would operate at 112 percent of capacity, a potential shortfall of 1,818 seats. In the future with the proposed action, intermediate schools in CSD $\underline{\underline{2}}$ would operate at 119 percent of capacity, a potential shortfall of 1,265 seats. Combined, elementary and intermediate schools in CSD 2 would operate at 114 percent of capacity, a potential shortfall of 3,083 seats.

Under the Base FAR Scenario, elementary schools within Region 3 would be at 137 percent of capacity, a potential shortfall of 962 seats, whereas CSD 2 would operate at 111 percent of capacity, a potential shortfall of 1,647 seats. In the future with the proposed action, intermediate schools in CSD 2 would operate at 118 percent of capacity, a potential shortfall of 1,229 seats. Combined, elementary and intermediate schools in CSD 2 would operate at 113 percent of capacity, a potential shortfall of 2,876 seats.

This shortfall in school seats in the future with the proposed action and under Base FAR Scenario conditions would increase a shortfall that is expected under No-Action conditions, due in part to substantial new demand for school seats generated by the development associated with the recently adopted Hudson Yards zoning actions.

The No. 7 Subway Extension - Hudson Yards Rezoning and Development Program Final Generic Environmental Impact Statement (FGEIS) (CEQR No. 03DCP031M) November 2004 discussed the
mitigation required for the cumulative school impacts of the West Chelsea and Hudson Yards development programs. As indicated in the Hudson Yards FGEIS, if the proposed action or the Base FAR Scenario (West Chelsea rezoning) is adopted, a new K-8 elementary/intermediate school would be required by 2013 in addition to a school enlargement (by 2010) and an additional school (by 2025) required as a result of the Hudson Yards rezoning itself. NYC Department Education (DOE) would continue to monitor trends in demand for school seats in the area. DOE responses to identified demand could take place in stages and include administrative actions and/or enlargement of existing schools, followed by the later construction or lease of new school facilities at an appropriate time.

The proposed March 2005 amendment to DOE's 2005-2009 Five Year Capital Plan provides funding for two capacity projects in Region 3 of CSD 2 to accommodate the forecasted additional students in the proposed Hudson Yards redevelopment area. In addition to the 110 -seat addition for PS 51, a 630-seat PS/IS, for a site near West 37 th Street and Tenth Avenue, has been funded in anticipation of the adoption of the West Chelsea rezoning plan. Design work will be funded in the 2005-2009 Five Year Capital Plan; construction of these projects will be funded in the next capital plan (20102014 Capital Plan).

Fo eliminate or alleviate this signifieant adverse impact, the following mitigation measures could be applied:

* DOE administrative aetions such as adjusting sehool eatehment areas (attendance zones) and/or reorganizing grade levels within sehools, and/or
* Creating additional eapacity in Region 3 of CSD 2 by eonstrueting a new sehoob, butidhing additional eapacity at existing sehools, or leasing additional sehool space.

These preliminary mitigationoptions will be further explored between the DEIS and FEIS, andeould inelude consideration of DOE's Five-Year Capital Plan, the primary vehiele for eapital planning and funding of new sehool facilities. In general, the proposed action would allow for the development of commmnity facility space, ineluding new sehool facilities, within the proposed action area. It shouldalsobe noted that any new sehool faeility would be subjeet to its own separate envirommental review.

## Day Care Centers (Publicly Funded)

As also discussed in Chapter 4, "Community Facilities and Services," the proposed action would result in significant adverse impacts on publicly funded day care. As a result of the proposed action the net unmet demand in the study area would increase by 79 slots, from 121 to 200 slots. With this increase, demand would increase by 33 percent as a percentage of capacity, which is 237 slots. As the proposed action would result in an increase of five percent or more over capacity, a significant adverse impact to publicly funded day care service would occur. Also, under the Base FAR Scenario, the demand would increase by 50 slots, from 121 to 171 slots. With this increase, demand would increase by 21 percent as a percentage of capacity; therefore, the Base FAR Scenario would also result in a significant adverse impact to publicly funded day care service.

Mitigation for this impact could include adding capacity to existing facilities or providing a new day care facility in or near the proposed action area. At this point, however, it is not possible to know exactly what type of mitigation would be most appropriate and when, because the demand for publicly funded day care depends not only on the amount of residential development in the area, but the proportion of new low-income families eligible for public day care. Therefore, the NYC Administration for Children's Services will monitor development of the proposed action area and respond as appropriate to provide the capacity needed.

Fo eliminate or alleviate this signifieant adverse impact, the following mitigation measures could be applied:

* The demand for day eare could be partially mitigated by the increasing availability of family tay eare alternatives and vouchers for private group day eare, and
* Mitigation for this impact could inelude providing a new day eare facility or adding eapacity to existing facilities in or near the proposed action area.

These preliminary mitigation options will be further explored between the DEIS and FEIS.

## C. OPEN SPACE

As discussed in Chapter 5, "Open Space," the proposed action, which includes the conversion of the High Line to an approximately 6.7 5.9-acre passive open space, would not result in significant adverse open space impacts; however, the Base FAR Scenario, which would generate fewer DUs than the proposed action and would not include the High Line as an open space resource, would result in a significant adverse open space impact. In particular, the ratio of total open space per 1,000 residents would decline by 7 percent compared to the future no-action condition. The decline would be more than nearly double that of the proposed action and would not be offset by the new 6.7 ㅎ.9acre High Line open space and the 0.23 -acre Subarea G open space.

Furthermore, additional requirements to create open space resources on the projected development sites are not considered feasible as such measures could tend to decrease the amount of housing developed within the proposed action area, which would be inconsistent with the purpose and need for the proposed action.

Based on CEQR Technical Manual guidelines, another way this open space impact could be mitigated is by improving existing open spaces in the study area to increase their utility, safety, and capacity to meet identified needs in the study area.

In this case, such mitigation measures should focus on active open space, given the expected open space ratios which would fall below the City's planning goal and the expected demand for such facilities from the Base FAR Scenario population. However, all of the open space resources with active open space are in good or excellent condition, with 14.40 acres of the existing 20.85 acres of active space in excellent condition. Open space to be added in the future without the proposed action is also expected to be in excellent condition, including the 7.96 acres of active space. As a majority
of future No-Action open space is expected to be in excellent condition and no existing open space is in fair condition, mitigating the Base FAR Scenario open space impact by improving existing open space resources does not appear to be a feasible measure.

## D. SHADOWS

## Historic Resources Impacts

As discussed in Chapter 6, "Shadows," the proposed action would result in significant adverse shadows impacts on the Church of the Guardian Angel and the General Theological Seminary (located within the Chelsea Historic District). Incremental shadows cast by the projected development would be cast on stained glass features of both resources.

The Church of the Guardian Angel would be cast in shadows from Projected Development Sites 15, 18, 19 and 21, and the General Theological Seminary would be cast in shadows from Projected Development Site 15.

Eliminating these sites from the rezoning area would mitigate the significant adverse shadow impacts. However, this is not considered feasible as such measures would decrease the amount of housing developed, which would be inconsistent with the purpose and need for the proposed action.

Another potential mitigation measure for these impacts would be to simulate the sunlit condition with artificial lighting. The provision of indirectly mounted lighting could simulate lost sunlight conditions at stained glass windows at the Church of the Guardian Angel and the General Theological Seminary. This would require lighting mounted at the stained glass window facades either on these buildings or on the facing building developed on Projected Development Site 15. To mount a lighting source on the sides of these buildings would be an unsightly addition to the potentially eligible historic resource and is not considered feasible.

Alternatively, lighting for Church of the Guardian Angel could be directed at the south facade from the north facade of the future building on Projected Development Site 15 while lighting for the General Theological Seminary could be directed at the west facade from the east facade of the development site. The lighting could be directed at the stained glass windows, but diffuse in nature and color-corrected so that it would be more similar to sunlight. However, such lighting would by necessity have to be very intense to create a lighted condition on stained glass windows from across the street and would create a very disturbing visual condition across from the facade of these historic resources that would have a negative effect on the streetscape and street character. The constant presence of a light band or series of lights would create a significant adverse visual distraction. In seeking to mitigate significant adverse shadows impacts on Church of the Guardian Angel and the General Theological Seminary, other adverse visual conditions would be created. This mitigation is not considered feasible.

Therefore, these significant adverse impacts would be unmitigated.

## E. HISTORIC RESOURCES

## Demolition/Expansion Impacts

As discussed in Chapter 7, the proposed action would result in significant adverse impacts to eight historic resources, including the demolition of two eligible resources, the E.R. Merrill Spring Company Building (Historic Resource \#9) and the Manufacturing Building (Historic Resource \#8) from development on Potential Development Sites 38 and 30, respectively, and the conversion of one resource, the Otis Elevator Building (Historic Resource \#5), to residential use (Projected Development Site 7). These significant adverse impacts would be unmitigated because development activity on these eligible resources would occur as-of-right.

## Construction Impacts

As also discussed in Chapter 7, inadvertent construction-related damage could potentially occur to five eligible resources including: the Wolff Building and Annex (Historic Resource \#13); the Cornell Ironworks (aka Standard Oil Building) (Historic Resource \#14); the Reynolds Metal Building (Historic Resource \#15); the B\&O Terminal (Historic Resource \#26); and the Nabisco Complex (Chelsea Market) (Historic Resource \#32). These significant adverse impacts would be unmitigated because development activity on these eligible resources would occur as-of-right. With respect to construction-related impacts, the five resources would be afforded limited protection under DOB regulations applicable to all buildings located adjacent to construction sites; however, since the resources are not S/NR-listed or NYLPC-designated, they are not afforded special protections under DOB's TPPN 10/88. The resources would be provided a measure of protection from construction as Building Code section 27-166 (C26-112.4), whieht requires that all lots, buildings, and service facilities adjacent to foundation and earthwork areas be protected and supported in accordance with the requirements of Building Construction Subchapter 7 and Building Code Subchapters 11 and 19. Additional protective measures afforded under DOB 10/88, which apply to designated historic resources, would not be applicable in this case, unless the eligible resources are designated in the future prior to the initiation of construction. If they are not designated, however, they would not be subject to the above construction protection procedures, and may therefore be adversely impacted by adjacent development resulting from the proposed action.

## Shadows Impacts

The proposed action would result in significant adverse shadows impacts on two historic resources, the Church of the Guardian Angel and the General Theological Seminary. Refer to the discussion of potential mitigation measures for these impacts in the Section D, "Shadows," above.

## Possible Mitigation Measures

Eliminating the projected and potential development sites creating these historic resources impacts would mitigate the impacts. However, this is not considered feasible as such measures would
decrease the amount of housing developed, which would be inconsistent with the purpose and need for the proposed action.

## F. TRAFFIC AND PARKING

As discussed in Chapter 16, "Traffic and Parking," the proposed action would result in a number of significant adverse traffic impacts; however, significant adverse impacts to parking are not anticipated. Therefore the possible mitigation measures discussed below only focus on the significant adverse traffic impacts.

## Traffic

As presented in Chapter 16 "Traffic and Parking", the proposed action would result in significant adverse impacts on $23 \underline{\underline{24}}$ different intersections in one or more peak hours over the 2004-2013 period. ${ }^{1}$ Of these, 8 intersections were on Route 9 A , with $15 \underline{\underline{16} \text { intersections spread out in the study }}$ area grid. Except for the intersections on Route 9A where significant adverse impacts are typically on the avenue, all except one of the significant adverse impacts in the grid itself were on cross-streets as these are the locations for the expected new accessory garage entrances on the projected development sites. Further, the avenues in West Chelsea are very lightly traveled, and no only one significant adverse impacts to the avenues were was identified. Chapter 16 also shows that over the approximately 10 year period, new traffic due to the projected residential developments would be low, and well distributed over a large area. To address this level of new traffic demand, only very modest mitigation measures would be required, consisting entirely of parking regulation changes on cross-streets plus timing or phasing adjustments to study area signals over the next 10 years, gradually increasing the green time allocated to the cross-streets without adversely affecting the avenues. Table 22-1 shows the proposed mitigation measures and Table 22-2 shows the effectiveness of these measures to mitigate action significant adverse impacts.

## Route 9A Corridor

Along this corridor, Table 22-1 shows that, typically, minor changes in signal timing ranging from 1 to $\} \underline{\underline{4}}$ seconds would address all of the action's significant adverse impacts. At W. 30th Street, Table $22-2$ shows that these measures would mitigate the significant adverse impact on the
 seconds (LOS E) in the midday and from $82.2 \underline{\underline{107.1} \text { seconds (LOS F) to } 63.0 \underline{\underline{77.4}} \text { seconds (LOS }}$ E) in the PM peak hours. At W. 24th Street, the addition of a permitted westbound right-turn signal phase with the southbound left-turn signal phase, along with signal timing adjustments, would reduce With-Action delay on the westbound right-turn from $123.1 \underline{\underline{122.3}}$ seconds (LOS F) to $38.9 \underline{\underline{38.8}}$ seconds (LOS D) and on the southbound left-turn from $140.9 \underline{\underline{141.0}}$ seconds (LOS F) to 117.9

[^0]Table 22-1
Proposed Traffic Mitigation Measures
this table has been revised for the feis

| Intersection | Approach | Current/ <br> No-Action <br> Signal <br> Timing <br> (Seconds) (1) | Proposed Mitigation |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  |  | Mitigation <br> Signal <br> Timing <br> (Seconds) (1) | Description of Mitigation |
| W. 30th Street (EB) @ Route 9A (N-S) | $\begin{gathered} \text { EB } \\ \text { NB/SB } \\ \text { SB } \\ \hline \end{gathered}$ |  |  | Transfer 3 sec . of green time from NB/SB to SB-only phase in the MD peak hour. Transfer 2 sec . of green time from NB/SB to SB-only phase in the PM peak hour. |
| W. 24th Street (E-W) @ Route 9A (N-S) | EB/WB <br> NB/SB <br> NB <br> SB | $\begin{gathered} 30 / 33 / 35 \\ 103 / 65 / 63 \\ 0 / 7 / 7 \\ 17 / 15 / 15 \end{gathered}$ | $\begin{gathered} 30 / 33 / 35 \\ 103 / 64 / 63 \\ 0 / 7 / 7 \\ 17 / 16 / 15 \end{gathered}$ | Add permitted westbound right turn to SB-only phase <br> Transfer 1 sec . of green time from NB/SB to SB-only phase in the MD peak hour. |
| W.20th Street (WB) @ Route 9A (N-S) | $\begin{aligned} & \text { NB/SB } \\ & \text { wB } \end{aligned}$ | 109/79/79 41/41/41 | 109/81/81 <br> 41/39/39 | Transfer 2 sec. of green time from WB to NB/SB phase in the MD and PM peak hour. |
| W.18th Street (EB) @ Route 9A (N-S) | $\begin{gathered} \text { NB/SB } \\ \text { SB-L } \end{gathered}$ | $\begin{gathered} \text { 109/79/79 } \\ 41 / 41 / 41 \end{gathered}$ | $\begin{gathered} 109 / 82 / 82 \\ 41 / 38 / 38 \end{gathered}$ | Transfer 3 sec. of green time from SB-L to NB/SB phase in the MD and PM peak hour |
| W.17th Street (E-W) @ Route 9A (N-S) | $\begin{gathered} \text { WB } \\ \text { EB } \\ \text { NB/SB } \\ \hline \end{gathered}$ | $\begin{gathered} 26 / 17 / 26 \\ 15 / 24 / 15 \\ 109 / 79 / 79 \\ \hline \end{gathered}$ | $\begin{array}{lr} \mathrm{EB} / \mathrm{WB} & 41 / 39 / 41 \\ \mathrm{NB} / \mathrm{SB} & 109 / 81 / 79 \end{array}$ | Implement a two-phase signal operation: $\mathrm{EB} / \mathrm{WB}$ and $\mathrm{NB} / \mathrm{SB}$ in all peak hours Transfer 3 sec . of green time from EB/WB to NB/SB phase in the MD peak hour |
| W.16th Street (EB) @ Route 9A (N-S) | $\begin{gathered} \mathrm{NB} / \mathrm{SB} \\ \mathrm{SB} \\ \mathrm{~EB} \\ \hline \end{gathered}$ | $\begin{gathered} 109 / 79 / 79 \\ 19 / 19 / 22 \\ 22 / 22 / 19 \\ \hline \end{gathered}$ | $\begin{gathered} 109 / 81 / 80 \\ 19 / 19 / 22 \\ 22 / 20 / 18 \\ \hline \end{gathered}$ | Transfer 2 sec . of green time from EB to NB/SB phase in the MD peak hour Transfer 1 sec . of green time from EB to $\mathrm{NB} / \mathrm{SB}$ phase in the PM peak hour |
| W.15th Street (E-W) @ Route 9A (N-S) | NB/SB <br> EB/WB | $\begin{gathered} 109 / 79 / 79 \\ 41 / 41 / 41 \end{gathered}$ | 111/81/80 <br> 39/39/40 | Transfer 2 sec. of green time from EB/WB to NB/SB phase in the AM and MD peak hour Transfer 1 sec . of green time from $\mathrm{EB} / \mathrm{WB}$ to $\mathrm{NB} / \mathrm{SB}$ phase in the PM |
| W.14th Street (EB) @ Route 9A (N-S) | $\begin{aligned} & \text { NB/SB } \\ & \text { SB-L } \end{aligned}$ | $\begin{gathered} 110 / 79 / 79 \\ 40 / 41 / 41 \end{gathered}$ | $\begin{gathered} 110 / 82 / 79 \\ 40 / 38 / 41 \end{gathered}$ | Transfer 3 sec. of green time from SB-LT to NB/SB phase in the MD peak hour |
| W.34th Street (EB) @ 11th Avenue (SB) | EB/WB <br> SB | $\begin{aligned} & 48 / 50 / 50 \\ & 42 / 40 / 40 \end{aligned}$ | $\begin{aligned} & 48 / 50 / 52 \\ & 42 / 40 / 38 \end{aligned}$ | Transfer 2 sec. of green time from SB to EB/WB phase in the PM peak hour |
| W.26th Street (EB) @ 11th Avenue (SB) | $\begin{aligned} & \text { EB } \\ & \text { SB } \end{aligned}$ | $\begin{aligned} & 27 / 27 / 30 \\ & 63 / 63 / 60 \end{aligned}$ | $\begin{aligned} & \text { 27/27/30 } \\ & 63 / 63 / 60 \end{aligned}$ | Implement No Standing 4PM-7PM for 100 ' to the intersection on south side of the EB approach to facilitate right turns in all peak periods. |
| W.23rd Street (E-W) @ 11th Avenue (SB) | $\begin{gathered} \text { WB } \\ \text { NB/SB } \end{gathered}$ | $\begin{aligned} & 43 / 42 / 42 \\ & 47 / 48 / 48 \end{aligned}$ | $\begin{aligned} & 41 / 42 / 42 \\ & 49 / 48 / 48 \end{aligned}$ | Transfer 2 sec.of green time from WB to NB/SB phase in the AM peak hour |
| W.26th Street (WB) @ 10th Avenue (NB) | $\begin{gathered} \mathrm{NB} \\ \mathrm{~EB} / \mathrm{WB} \\ \hline \end{gathered}$ | $\begin{aligned} & 53 / 53 / 53 \\ & 37 / 37 / 37 \\ & \hline \end{aligned}$ | $\begin{aligned} & 50 / 50 / 50 \\ & 40 / 40 / 40 \\ & \hline \end{aligned}$ | Transfer 3 sec. of green time from NB to $\mathrm{EB} / \mathrm{WB}$ in all peak periods |
| W.25th Street (WB) @ <br> 10th Avenue (NB) | $\begin{gathered} \mathrm{NB} \\ \mathrm{~EB} / \mathrm{WB} \end{gathered}$ | $\begin{array}{r} 57 / 57 / 57 \\ 33 / 33 / 33 \\ \hline \end{array}$ | $\begin{aligned} & 54 / 54 / 54 \\ & 36 / 36 / 36 \\ & \hline \end{aligned}$ | Transfer 3 sec. of green time from NB to $\mathrm{EB} / \mathrm{WB}$ in all peak periods |
| W.23rd Street (E-W) @ 10th Avenue (NB) | NB <br> EB/WB | $\begin{aligned} & 50 / 52 / 53 \\ & 40 / 38 / 37 \\ & \hline \end{aligned}$ | $\begin{aligned} & 50 / 50 / 50 \\ & 40 / 40 / 40 \\ & \hline \end{aligned}$ | Transfer 2 sec . and 3 sec . of green time from NB to EB/WB in the MD and PM peak hours, respectively |
| W.14th Street (E-W) @ 10th Avenue (NB) | NB EB/WB | $\begin{aligned} & \text { 50/50/50 } \\ & 40 / 40 / 40 \\ & \hline \end{aligned}$ | $\begin{aligned} & 50 / 50 / 48 \\ & 40 / 40 / 42 \\ & \hline \end{aligned}$ | Transfer 2 sec. of green time from NB to EB / WB in the PM peak hour |
| W.34th Street (EB) @ 9th Avenue (SB) | $\begin{gathered} \hline \mathrm{EB} / \mathrm{WB} \\ \mathrm{WB} \\ \mathrm{NB} \\ \hline \end{gathered}$ | $\begin{aligned} & \hline 35 / 38 / 35 \\ & 15 / 15 / 15 \\ & 40 / 37 / 40 \\ & \hline \end{aligned}$ | 36/39/36 14/15/14 40/36/40 | Transfer 1 sec. of green time from WB to EB-WB phase in the AM, and PM peak hours and transfer 1 sec of green time from SB to EB-WB in the MD peak hour |
| W.30th Street (EB) @ 9th Avenue (SB) | SB <br> EB <br> Ped. | $\begin{gathered} 49 / 49 / 49 \\ 34 / 34 / 34 \\ 7 / 7 / 7 \\ \hline \end{gathered}$ | $\begin{gathered} 48 / 49 / 49 \\ 35 / 34 / 34 \\ 7 / 7 / 7 \\ \hline \end{gathered}$ | Transfer 1 sec. of green time from SB to EB in the AM peak hour |
| W.26th Street (EB) @ 9th Avenue (SB) | $\begin{aligned} & \text { SB } \\ & \text { EB } \\ & \hline \end{aligned}$ | $\begin{array}{r} 55 / 55 / 55 \\ 35 / 35 / 35 \\ \hline \end{array}$ | $\begin{aligned} & 52 / 52 / 52 \\ & 38 / 38 / 38 \\ & \hline \end{aligned}$ | Transfer 3 sec. of green time from SB to EB in all peak hours |
| W.24th Street (EB) @ 9th Avenue (SB) | SB <br> EB | $\begin{array}{r} 56 / 56 / 56 \\ 34 / 34 / 34 \\ \hline \end{array}$ | $\begin{aligned} & 52 / 52 / 52 \\ & 38 / 38 / 38 \\ & \hline \end{aligned}$ | Transfer 4 sec. of green time from SB to EB in all peak hours |
| W.23rd Street (E-W) @ 9th Avenue (SB) |  | 43/42/45 32/32/32 15/16/13 |  | Implement No Standing 7AM-7PM for 100' to the intersection on south side of the EB approach to facilitate right turns in all peak periods. <br> Transfer 1 sec . of green time from EB-WB to SB in the MD peak hour. <br> Implement No Standing 7AM-7PM for 100' to the intersection on one side of SB approach |
| W.17th Street (WB) @ 9th Avenue (SB) | $\begin{gathered} \text { SB } \\ \text { WB } \end{gathered}$ | $\begin{aligned} & 50 / 50 / 50 \\ & 40 / 40 / 40 \\ & \hline \end{aligned}$ | $\begin{aligned} & 47 / 47 / 47 \\ & 43 / 43 / 43 \\ & \hline \end{aligned}$ | Transfer 3 sec. of green time from SB to WB in all peak hours |
| W.14th Street (E-W) @ 9th Avenue (SB) | $\begin{gathered} \text { NB } \\ \text { SB } \\ \text { EB/WB } \\ \text { PED } \\ \hline \end{gathered}$ | $\begin{gathered} 14 / 10 / 21 \\ 42 / 41 / 36 \\ 21 / 26 / 25 \\ 13 / 13 / 8 \\ \hline \end{gathered}$ | $\begin{aligned} & 14 / 10 / 20 \\ & 39 / 39 / 36 \\ & 24 / 28 / 26 \\ & 13 / 13 / 8 \\ & \hline \end{aligned}$ | Transfer 3 sec . and 2 sec . of green time from SB to EB/WB in the AM and MD peak hours and 1 sec from NB to EB/WB in the PM peak hour |
| W.23rd Street (E-W) @ 8th Avenue (NB) | $\begin{gathered} \text { EB/WB } \\ \text { NB } \\ \text { PED } \\ \hline \end{gathered}$ | 40/40/40 43/43/43 7/7/7 | 40/40/40 <br> 43/43/43 <br> 7777 | Implement No Standing 7AM-7PM for $100^{\prime}$ to the intersection WB approaches |
| W.14th Street (E-W) @ 8th Avenue (NB) | $\begin{gathered} \text { EB/WB } \\ \text { NB } \end{gathered}$ | $\begin{aligned} & \hline 40 / 40 / 40 \\ & 50 / 50 / 50 \end{aligned}$ | 40/40/42 <br> 50/50/48 | Transfer 2 sec. of green time from NB to EB-WB in the PM peak hour. |

Table 22-2 THIS Table has been revised for the fels


[^1]L-Left, T-Through, R-Right, DfL-Analysis considers a Defacto Left Lane on this approach .
V/C Ratio - Volume to Capacity Ratio, SEC/VEH - Seconds per vehicle

- Denotes Impacted Intersections
(1) - No impacted, the proposed action would generate less than 5 vph through that lane group in the AM peak hour
Analysis is based on the 2000 Highway Capacity Manual Methodology (HCS 2000).



[^2]Thable 22-2
THIS TABLE Has been revised for the fels

| IMPACTEDINTERSECTIONS | $\underset{\text { group }}{\substack{\text { LANE }}}$ | ${ }^{2013 \mathrm{NO} \text {-ACIION }}$ |  |  |  |  |  | ${ }^{2013}$ ACTION WMMitigation |  |  |  | 2013 NO-ACTION |  |  |  |  |  |  |  |  |  | $\xrightarrow{2013 \text { No-ACTION }}$ PM Peak |  |  |  | ${ }^{2013 \text { WITH-ACTION }}$ |  |  | ${ }^{2013}$ CCTION wMMALitation |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  |  | $\underset{\substack{\text { V/C } \\ \text { Ratio }}}{\text { cen }}$ | ( Dece) | Los |  |  |  |  |  | ( Dec) | ${ }^{\text {Los }}$ | ${ }_{\substack{\text { val } \\ \text { Ratio }}}^{\text {V/ }}$ | (jec) | Los | $\underset{\substack{\text { V/C } \\ \text { Ratio }}}{\text { a }}$ | (jec) | Los |  |  |  |  |  | $\underset{\substack{\text { V/C } \\ \text { Ratio }}}{\text { coin }}$ | $\underbrace{\substack{\text { Deay } \\ \text { (Sec) }}}_{\text {deay }}$ | Los | $\underset{\substack{\text { V/C } \\ \text { Ratio }}}{\text { chen }}$ | $\underbrace{\substack{\text { Delay } \\ \text { (sec) }}}$ | Los |  | $\underset{\substack{V / C \\ \text { Ratio }}}{\text { chen }}$ |  | Los |
| W. 34th Street (E-W) @ 9th Avenue (SB) | EB-TR WB -DefL WB - T SB-LTR | $\begin{aligned} & 1.19 \\ & 0.72 \\ & 0.41 \\ & 1.09 \end{aligned}$ | $\begin{aligned} & 123.6 \\ & \begin{array}{l} 1.6 \\ 15.1 \\ 50.0 \\ 50 . \end{array} \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { D } \\ & \text { B } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 1.21 \\ & 0.72 \\ & 0.41 \\ & 1.02 \end{aligned}$ | $\begin{aligned} & 131.1 .1 \\ & 4.5 \\ & 15.1 \\ & 48.7 \end{aligned}$ | F  <br> D  <br> B  <br> D  |  | $\begin{aligned} & 1.17 \\ & 0.76 \\ & 0.41 \\ & 1.02 \end{aligned}$ | $\begin{aligned} & 113.0 \\ & 4.3 \\ & 4.1 \\ & 15.1 \\ & 48.7 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { D } \\ & \text { B } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 1.10 \\ & 0.92 \\ & 0.95 \\ & 0.55 \\ & 0.95 \end{aligned}$ | $\begin{aligned} & 85.1 \\ & 6.7 \\ & 15.4 \\ & 37.4 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { E } \\ & \text { B } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 1.12 \\ & 0.92 \\ & 0.57 \\ & 0.96 \end{aligned}$ | $\begin{aligned} & 95.9 \\ & 6.9 \\ & 15.7 \\ & 38.1 \end{aligned}$ |  |  | $\begin{aligned} & 1.09 \\ & 0.92 \\ & 0.56 \\ & 0.99 \end{aligned}$ | $\begin{aligned} & 81.5 \\ & 67.7 \\ & 15.0 \\ & 45.0 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & { }_{B}^{B} \\ & { }^{2} \end{aligned}$ |  | $\begin{aligned} & 1.24 \\ & 0.4 \\ & 0.42 \\ & 0.7 \\ & 0.7 \end{aligned}$ | $\begin{aligned} & 146.2 \\ & \begin{array}{l} 14.6 \\ 15.3 \\ 24.3 \end{array} \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { C } \\ & \text { B } \\ & \text { C } \end{aligned}$ | $\begin{aligned} & 1.25 \\ & 0.20 \\ & 0.45 \\ & 0.78 \\ & 0.78 \end{aligned}$ | $\begin{aligned} & 148.8 .8 \\ & \begin{array}{l} 15.0 \\ 15.6 \\ 24.3 \end{array} \end{aligned}$ | $\begin{aligned} & \mathrm{F} \\ & \mathrm{C} \\ & \mathrm{~B} \\ & \mathrm{C} \end{aligned}$ |  | $\begin{aligned} & 1.20 \\ & 0.03 \\ & 0.45 \\ & 0.78 \end{aligned}$ | $\begin{aligned} & 129.6 .6 \\ & 3.5 \\ & 15.6 \\ & 24.3 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { D } \\ & \text { B } \\ & \text { C } \end{aligned}$ |
| W. 30th Street (EB) @ <br> 9th Avenue (SB) | $\left\lvert\, \begin{aligned} & \text { EB.TR } \\ & \text { SB-LTR } \end{aligned}\right.$ | 1.18 0.71 | $\begin{aligned} & 119.2 .2 \\ & 15.5 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { B } \end{aligned}$ | $\begin{aligned} & 1.20 \\ & 0.71 \end{aligned}$ | $\begin{gathered} 128.1 \\ 15.1 \end{gathered}$ | $\begin{aligned} & \mathrm{F} \\ & { }_{\mathrm{B}} \end{aligned}$ |  | $\begin{aligned} & 1.16 \\ & 0.73 \end{aligned}$ | $\begin{aligned} & 110.6 \\ & 16.5 \end{aligned}$ | $\begin{gathered} \mathrm{F} \\ \mathrm{~B} \end{gathered}$ | $\begin{aligned} & 0.79 \\ & 1.1 .10 \end{aligned}$ | $\begin{aligned} & 3.3,3 \\ & 69.3 \end{aligned}$ | $\begin{aligned} & \mathrm{C} \\ & \mathrm{E} \end{aligned}$ | ( $\begin{aligned} & 0.84 \\ & 1.10\end{aligned}$ | $\begin{aligned} & 3.5 .5 \\ & 71.2 \end{aligned}$ | $\begin{gathered} \mathrm{D} \\ \mathrm{E}_{\mathrm{E}} \end{gathered}$ |  | $\begin{aligned} & 0.84 \\ & 1.10 \end{aligned}$ | $\begin{aligned} & 33.5 \\ & 71.2 \end{aligned}$ | $\begin{gathered} \mathrm{D} \\ \mathrm{E} \end{gathered}$ |  | $\begin{aligned} & 0.80 \\ & 0.78 \\ & 0.8 \end{aligned}$ | $\begin{aligned} & 34.5 \\ & 16.9 \end{aligned}$ | $\begin{aligned} & \text { C } \\ & \text { B } \end{aligned}$ | 0.84 0.78 | 36.7 16.9 | ${ }_{n}^{D}$ |  | 0.80 0.71 | 33,5 16.2 | ${ }_{\text {c }}^{\text {B }}$ |
| W.26th Street (EB) @ <br> 9th Avenue (SB) | ${ }_{\substack{\text { SB.TR } \\ \text { SBPTL }}}$ | ${ }_{0}^{1.24}$0.62 | $\underset{\substack{159.2 \\ 9.9}}{ }$ | $\begin{gathered} \mathrm{F} \\ \mathrm{~A} \end{gathered}$ | ${ }_{0}^{1.29}$ | $\begin{aligned} & 178,4 \\ & 10,4 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { A } \end{aligned}$ |  | $\begin{aligned} & 1.10 \\ & 0.00 \end{aligned}$ | $\begin{aligned} & 98.2 . \\ & 14.5 \end{aligned}$ | $\begin{gathered} \mathrm{F} \\ { }_{\mathrm{B}} \end{gathered}$ | ${ }_{\substack{1.17 \\ 0.84}}$ | $\begin{aligned} & 129.2 \\ & 14.5 \end{aligned}$ | $\begin{gathered} \text { F } \\ { }_{B} \end{gathered}$ | - $\begin{aligned} & 1.24 \\ & 0.86\end{aligned}$ | 154.1 15.1 | $\begin{gathered} \mathrm{F} \\ { }_{\mathrm{B}} \end{gathered}$ |  | ${ }_{0.92}^{1.12}$ | $\begin{aligned} & 105.9 \\ & 20.7 \end{aligned}$ | $\begin{aligned} & \mathrm{F} \\ & { }_{\mathrm{C}} \end{aligned}$ |  | $\begin{aligned} & 1.02 \\ & 0.62 \end{aligned}$ | $\begin{aligned} & 79.9 \\ & 9.9 \end{aligned}$ | $\begin{gathered} \mathrm{E} \\ \mathrm{~A} \end{gathered}$ | ${ }_{0}^{0.96}$ | $\begin{aligned} & 6.5 .5 \\ & 10.1 \end{aligned}$ | $\begin{gathered} \mathrm{E} \\ { }_{\mathrm{B}} \end{gathered}$ |  | 0.87 0.08 | 45.8 12.7 | ${ }_{\text {D }}^{\text {D }}$ |
| W.24th Street (EB) @ <br> 9th Avenue (SB) |  | ${ }^{1.10}$ 0.56 | 100.4 8.7 | $\begin{gathered} \text { F } \\ \text { A } \end{gathered}$ | $\begin{aligned} & 1.11 \\ & 0.57 \end{aligned}$ | $\begin{aligned} & 10.79 \\ & 8.8 \end{aligned}$ | $\begin{gathered} \mathrm{F} \\ \mathrm{~A} \end{gathered}$ |  | 0.97 0.62 | $\begin{aligned} & 59.6 \\ & \left.\begin{array}{l} 12.0 \end{array}\right) \end{aligned}$ | E | 0 | $\begin{aligned} & 51.4 \\ & 11.9 \end{aligned}$ | $\begin{gathered} \text { D } \\ \text { B } \end{gathered}$ | ${ }^{0.95}$ 0.79 | $\begin{aligned} & 61.1 \\ & 12.2 \end{aligned}$ | $\begin{gathered} \mathrm{E} \\ \mathrm{~B} \end{gathered} \quad *$ |  | 0.83 0.85 | $\begin{aligned} & 4.00 \\ & 17.4 \end{aligned}$ | $\begin{gathered} \text { D } \\ \text { B } \end{gathered}$ |  | ${ }_{0}^{0.77} 0$ | $\begin{aligned} & 39.4 \\ & 8.9 \end{aligned}$ | $\underset{A}{\mathrm{D}}$ | ${ }_{0}^{0.81}$ 0.99 | $\begin{aligned} & 42.0 \\ & 9.0 \end{aligned}$ | $\begin{aligned} & \mathrm{D} \\ & { }_{\mathrm{A}} \end{aligned}$ |  | 0.71 0.64 | 32.0 12.2 | ${ }_{\text {c }}^{\text {B }}$ |
| W.23rd Street (E-W) @ <br> 9th Avenue (SB) | SB-LTR | $\begin{aligned} & 1.12 \\ & 0.41 \\ & 0.93 \\ & 0.93 \end{aligned}$ | $\begin{aligned} & 115.9 \\ & 11.8 \\ & 30.3 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { B } \\ & \text { C } \end{aligned}$ | $\begin{aligned} & 0.76 \\ & \begin{array}{l} 1.18 \\ 0.40 \\ 0.94 \end{array} \end{aligned}$ | $\begin{aligned} & 140.0 \\ & 16.7 \\ & 31.7 \\ & 31.7 \end{aligned}$ | $\begin{array}{lr} \text { F } & * \\ \text { B } & \\ \text { C } & \end{array}$ | $\begin{aligned} & \text { EB-T } \\ & \text { EB-R } \end{aligned}$ | $\begin{aligned} & 0.48 \\ & 0.57 \\ & 0.92 \\ & 0.99 \\ & 0.97 \end{aligned}$ | $\begin{aligned} & 27.8 \\ & 3,4 \\ & 34,9 \\ & 16.90 \\ & 36.5 \end{aligned}$ | $\begin{aligned} & \text { C } \\ & \text { C } \\ & \text { D } \\ & \text { B } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 0.71 \\ & \begin{array}{l} 1.01 \\ 0.07 \\ 1.00 \end{array} \end{aligned}$ | $\begin{aligned} & \begin{array}{l} 33.7 \\ 80.0 \\ \text { a } \\ 48.7 \end{array} \\ & \hline 1 \end{aligned}$ | $\begin{aligned} & \text { E } \\ & { }_{B} \\ & D_{D} \end{aligned}$ | 1.13 0.61 0.02 | $\begin{aligned} & 36.1 \\ & \begin{array}{l} 119.2 \\ 19.5 \\ 48.9 \end{array} \end{aligned}$ | $\begin{array}{lc} \mathrm{F} & * \\ \text { B } & * \\ \mathrm{D} & * \end{array}$ |  | $\begin{aligned} & 0.56 \\ & 0.41 \\ & 0.99 \\ & 0.93 \\ & 0.96 \\ & 0.98 \end{aligned}$ | $\begin{aligned} & 30.39 \\ & 29.1 \\ & 22.8 \\ & 20.4 \\ & 38.2 \end{aligned}$ | $\begin{aligned} & \text { C } \\ & \text { C } \\ & \text { C } \\ & \text { C } \\ & \text { D } \end{aligned}$ | ${ }^{\text {SB-L }}$ | $\begin{aligned} & 0.74 \\ & 0.48 \\ & 0.77 \\ & 0.12 \end{aligned}$ | $\begin{aligned} & 32.7 \\ & 38.2 \\ & \begin{array}{l} 38 . \\ 190.1 \\ 20.1 \\ 15.1 \end{array} \end{aligned}$ | $\begin{aligned} & \text { c } \\ & \text { D } \\ & \text { B } \\ & \text { c } \\ & \text { B } \end{aligned}$ | $\begin{aligned} & 0.71 \\ & 0.89 \\ & 0.52 \\ & 0.77 \\ & 0.12 \end{aligned}$ | $\begin{aligned} & 33.6 \\ & \begin{array}{l} 57.6 \\ 19.6 \\ 21.3 \\ 15.1 \end{array} \end{aligned}$ | $\begin{array}{ll} \text { C } & \\ \text { E } & * \\ \text { B } & \\ \text { C } \\ \text { B } & \end{array}$ | ${ }_{\text {EB-R }}^{\text {EB-T }}$ | $\begin{aligned} & 0.35 \\ & 0.73 \\ & 0.67 \\ & 0.52 \\ & 0.77 \\ & 0.12 \end{aligned}$ |  | $\begin{aligned} & \text { C } \\ & \text { D } \\ & \text { C } \\ & \text { B } \\ & \text { C } \\ & \text { B } \end{aligned}$ |
| W.17th Street (WB) @ <br> 9th Avenue (SB) | $\left.\right\|_{\text {SBB-LTR }} ^{\mathrm{w}}$ | ${ }_{0}^{0.84} \begin{aligned} & 0.72\end{aligned}$ | $\begin{aligned} & 40.4 \\ & 15.3 \end{aligned}$ | $\begin{aligned} & \mathrm{D} \\ & { }_{\mathrm{B}} \end{aligned}$ | ${ }_{0}^{0.89} 0$ | $\begin{aligned} & 46.3 \\ & 15.6 \\ & \hline \end{aligned}$ | $\begin{array}{ll} \mathrm{D} \\ \mathrm{~B} \end{array} \quad *$ |  | $\begin{aligned} & 0.82 \\ & 0.79 \end{aligned}$ | $\begin{aligned} & \begin{array}{c} 35.6 \\ 19.3 \end{array} \end{aligned}$ | $\begin{gathered} \text { D } \\ \text { B } \end{gathered}$ | $\begin{aligned} & 0.97 \\ & 0.7 \end{aligned}$ | $\begin{aligned} & 58.6 \\ & 15.0 \end{aligned}$ | $\begin{gathered} \text { E } \\ \text { B } \end{gathered}$ | 1.00 0.73 | $\begin{gathered} 67.8 \\ 15.3 \end{gathered}$ | $\begin{array}{lll} \mathrm{E} & * \\ \mathrm{~B} \end{array}$ |  | $\begin{aligned} & 0.92 \\ & 0.98 \end{aligned}$ | $\begin{aligned} & 4.4 \\ & 18.8 \end{aligned}$ | $\begin{gathered} \text { D } \\ { }_{B} \end{gathered}$ |  | $\begin{aligned} & 0.40 \\ & 0.67 \end{aligned}$ | $\begin{aligned} & 21.0 \\ & 14.4 \end{aligned}$ | $\begin{aligned} & \text { C } \\ & \text { B } \end{aligned}$ | ${ }_{0}^{0.45} 0$ | $\begin{aligned} & 21.66 \\ & 14.7 \end{aligned}$ | $\begin{aligned} & \text { C } \\ & \text { B } \end{aligned}$ |  | ${ }_{0}^{0.41} \begin{aligned} & 0.74\end{aligned}$ | 19.3 17.9 | ${ }_{\text {B }}^{\text {B }}$ |
| W.14th Street (E-W) @ 9th Avenue (N-S) | EB - LTR WB LTR NB LTR SB-LT SB-R | $\begin{aligned} & 0.82 \\ & 1.88 \\ & 0.40 \\ & 0.72 \\ & 0.28 \\ & 0.28 \end{aligned}$ | $\begin{aligned} & 54.8 \\ & 99.7 \\ & 35.4 \\ & 22.4 \\ & 16.3 \end{aligned}$ | $\begin{aligned} & \text { D } \\ & \mathrm{F}_{2} \\ & \mathrm{D} \\ & \mathrm{C} \\ & \mathrm{~B} \end{aligned}$ | $\begin{aligned} & 0.88 \\ & 1.10 \\ & 0.40 \\ & 0.73 \\ & 0.72 \\ & 0.28 \end{aligned}$ | $\begin{aligned} & 61.7 \\ & 103.4 \\ & 35.4 \\ & 22.5 \\ & 16.3 \end{aligned}$ | E $*$ <br> F $*$ <br> D  <br> C  <br> B  <br>   |  | $\begin{aligned} & 0.70 \\ & 0.92 \\ & 0.40 \\ & 0.79 \\ & 0.31 \end{aligned}$ | $\begin{aligned} & 42.1 \\ & 5.51 \\ & 35.4 .4 \\ & 27.2 .2 \\ & 19.0 \end{aligned}$ | $\begin{aligned} & \mathrm{D} \\ & \mathrm{D} \\ & \mathrm{D} \\ & \mathrm{C} \\ & \mathrm{~B} \end{aligned}$ | $\begin{aligned} & 0.66 \\ & 1.06 \\ & 0.45 \\ & 0.82 \\ & 0.28 \end{aligned}$ | $\begin{aligned} & 38.2 \\ & 90.1 \\ & 09.0 \\ & 026.3 \\ & 26.3 \\ & 9.1 \end{aligned}$ | $\begin{aligned} & \mathrm{D} \\ & \mathrm{~F} \\ & \mathrm{D} \\ & \mathrm{C} \\ & \mathrm{C} \end{aligned}$ | $\begin{aligned} & 0.68 \\ & 1.10 \\ & 0.45 \\ & 0.83 \\ & 0.88 \\ & 0.28 \end{aligned}$ | $\begin{aligned} & 38.8 \\ & 10.5 \\ & 40.0 \\ & 26.7 \\ & 19.1 \end{aligned}$ | $\begin{array}{ll} \text { D } & \\ \text { F } & * \\ \text { D } & \\ \text { C } \\ \text { B } \end{array}$ |  | $\begin{aligned} & 0.02 \\ & .1 .00 \\ & 0.05 \\ & 0.88 \\ & 0.30 \\ & 0.30 \end{aligned}$ | $\begin{aligned} & 34.8 \\ & 71.7 \\ & 40.0 \\ & 31.4 \\ & 30.6 \end{aligned}$ | $\begin{aligned} & \text { C } \\ & \text { E } \\ & \text { D } \\ & \text { C } \\ & \text { C } \end{aligned}$ |  | $\begin{aligned} & 1.11 \\ & 1.14 \\ & 0.39 \\ & 0.93 \\ & 0.83 \\ & 0.83 \end{aligned}$ | $\begin{aligned} & 120.4 \\ & 119.9 \\ & 33.7 \\ & 39.1 \\ & 37.6 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \text { F } \\ & \text { C } \\ & \text { D } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 1.18 \\ & 1.20 \\ & 0.39 \\ & 0.94 \\ & 0.83 \end{aligned}$ |  | $\begin{array}{ll}\mathrm{F} & * \\ \mathrm{~F} & * \\ \mathrm{C} & \\ \mathrm{D} & \\ \mathrm{D} & \\ & \end{array}$ |  | $\begin{aligned} & 1.0 .66 \\ & 1.12 \\ & 0.41 \\ & 0.95 \\ & 0.85 \end{aligned}$ | $\begin{aligned} & 99.3 \\ & 9.08 \\ & 34.8 \\ & 3.6 \\ & 39.0 \\ & 39.3 \end{aligned}$ | $\begin{aligned} & \text { F } \\ & \hline \text { F } \\ & \text { C } \\ & \text { D } \\ & \text { D } \end{aligned}$ |
| W.23rd Street (E-W) © <br> 8th Avenue (NB) | $\begin{aligned} & \begin{array}{l} \mathrm{EB}-\mathrm{LT} \\ \mathrm{wB}-\mathrm{TR} \end{array} \\ & \mathrm{NB}-\mathrm{LTR} \end{aligned}$ | $\begin{aligned} & 0.85 \\ & 0.87 \\ & 0.72 \end{aligned}$ | $\begin{aligned} & \begin{array}{l} 3.9 \\ 35.6 \\ 20.3 \end{array} \end{aligned}$ | $\begin{aligned} & \text { D } \\ & \text { D } \end{aligned}$ | $\begin{aligned} & 0.91 \\ & 0.86 \\ & 0.72 \end{aligned}$ | $\begin{aligned} & 43.4 \\ & 35.1 \\ & 20.3 \end{aligned}$ | $\begin{aligned} & \text { D } \\ & \text { D } \end{aligned}$ |  | $\begin{aligned} & 0.75 \\ & 0.50 \\ & 0.71 \\ & 0.72 \end{aligned}$ | $\begin{aligned} & 29.8 .8 \\ & 22.5 \\ & 30.9 \\ & 20.3 \end{aligned}$ | $\begin{aligned} & \mathrm{c} \\ & \mathrm{c} \\ & \mathrm{c} \\ & \mathrm{c} \end{aligned}$ | $\begin{aligned} & 0.93 \\ & 1.06 \\ & 0.99 \end{aligned}$ | $\begin{aligned} & 4.4 .3 \\ & 44.1 \end{aligned}$ | $\begin{gathered} \mathrm{D} \\ \mathrm{E} \end{gathered}$ | $\begin{aligned} & 1.06 \\ & 1.14 \\ & 0.99 \end{aligned}$ | $\begin{gathered} 7.3 .3 \\ 101.6 \\ 39.9 \end{gathered}$ | $\begin{array}{ll} \mathrm{E} & * \\ \mathrm{~F} & * \end{array}$ | $\begin{aligned} & \text { WB-TR } \\ & \text { WB-R } \end{aligned}$ | $\begin{aligned} & 0.85 \\ & 0.75 \\ & 0.79 \\ & 0.99 \end{aligned}$ | $\begin{aligned} & 3.4 \\ & 29.3 \\ & 33.8 \\ & 40.0 \end{aligned}$ | $\begin{aligned} & \mathrm{c} \\ & \mathrm{C} \\ & \mathrm{D} \\ & \mathrm{D} \end{aligned}$ |  | 0.67 0.83 0.72 | $\begin{aligned} & 26.5 \\ & 32.5 \\ & 20.4 \end{aligned}$ | $\begin{aligned} & \mathrm{c} \\ & \mathrm{c} \end{aligned}$ | 0.74 0.91 0.72 | 28.9 38.2 20.4 | $\begin{aligned} & \text { C } \\ & \text { D } \end{aligned}$ | $\mathrm{We}_{\text {WB.R. }}^{\text {We.tr }}$ | $\begin{aligned} & 0.65 \\ & 0.60 \\ & 0.61 \\ & 0.72 \end{aligned}$ | $\begin{aligned} & 2.5 .8 \\ & 2.4 . \\ & 2.7 .7 \\ & 20.7 \end{aligned}$ | $\begin{aligned} & \mathrm{c} \\ & \mathrm{c} \\ & \mathrm{c} \\ & \mathrm{c} \end{aligned}$ |
| W.14th Street (E-W) @ 8th Avenue (NB) | $\begin{aligned} & \mathrm{EB}-\mathrm{LT} \\ & \mathrm{WB}-\mathrm{TR} \\ & \mathrm{NB}-L T R \end{aligned}$ | $\begin{aligned} & 0.81 \\ & 0.91 \\ & 0.98 \end{aligned}$ | $\begin{aligned} & 34,4 \\ & 24.8 \\ & 12.9 \end{aligned}$ | $\begin{aligned} & \text { C } \\ & \text { D } \\ & \text { B } \end{aligned}$ | $\begin{aligned} & 0.85 \\ & 0.93 \\ & 0.58 \end{aligned}$ | $\begin{aligned} & 38.0 \\ & \begin{array}{l} 3.2 \\ 12.2 \end{array} \\ & 12 \end{aligned}$ | $\begin{aligned} & \mathrm{D} \\ & \mathrm{D} \\ & { }_{\mathrm{B}} \end{aligned}$ |  | $\begin{aligned} & 0.86 \\ & 0.93 \\ & 0.58 \end{aligned}$ | $\begin{aligned} & 38.7 \\ & 43.3 \\ & 12.9 \end{aligned}$ | $\begin{aligned} & \text { D } \\ & \text { D } \\ & \text { B } \end{aligned}$ | $\begin{aligned} & 0.85 \\ & 0.70 \\ & 0.78 \end{aligned}$ | $\begin{aligned} & 36.3 \\ & 27.6 \\ & 20.9 \end{aligned}$ | $\begin{aligned} & \text { D } \\ & \text { C } \\ & \text { C } \end{aligned}$ | $\begin{aligned} & 0.89 \\ & 0.73 \\ & 0.78 \end{aligned}$ | $\begin{aligned} & 33.8 \\ & 28.5 \\ & 20.9 \end{aligned}$ | $\begin{aligned} & \text { D } \\ & \text { c } \\ & \text { c } \end{aligned}$ |  | $\begin{aligned} & 0.90 \\ & 0.73 \\ & 0.75 \end{aligned}$ | $\begin{aligned} & 40.7 \\ & 28.7 \\ & 20.7 \end{aligned}$ | $\begin{aligned} & \text { D } \\ & \text { c } \\ & \text { C } \end{aligned}$ |  | $\begin{aligned} & 0.80 \\ & 0.47 \\ & 0.81 \\ & 0.85 \\ & 0.56 \end{aligned}$ | $\begin{aligned} & 53,2 \\ & 23.4 \\ & 32.6 \\ & 12.7 \end{aligned}$ | $\begin{aligned} & \text { D } \\ & \text { C } \\ & \text { c } \\ & \text { B } \end{aligned}$ | 0.87 0.51 0.05 0.56 | $\begin{aligned} & 64.7 \\ & 24.2 \\ & 35.5 \\ & 12.7 \end{aligned}$ | $\begin{array}{ll} \text { E } & * \\ \text { C } & \\ \text { D } & \\ \text { B } & \end{array}$ |  | $\begin{aligned} & 0.78 \\ & 0.48 \\ & 0.81 \\ & 0.59 \\ & 0.51 \end{aligned}$ | 48.9 22.2. 30.7 14.5 | D c C B |

[^3]seconds (LOS F) in the midday peak hour, and from 140.7 seconds (LOS F) to 42.0 seconds (LOS D) on the westbound right-turn movement in the PM peak hour.

At W. 20th Street, mitigation measures would reduce With-Action delays on the southbound movement from $95.4 \underline{\underline{109.1}}$ seconds (LOS F) to $81.7 \underline{\underline{93.9}}$ seconds (LOS F E) and from $88.5 \underline{\underline{99.2}}$ seconds (LOS F) to $73.8 \underline{\underline{84.2}}$ seconds (LOS E) in the midday and PM peak hours, respectively. At W. 18th Street, the mitigation measures would mitigate significant adverse impacts on the
 the midday, and on the northbound movement from $72.3 \underline{\underline{70.6}}$ seconds (LOS E) to $51.7 \underline{\underline{50.3}}$ seconds (LOS D) in the PM peak hour.

Mitigation measures to modify the signal at W. 17th Street to reduce the number of phases from three to two (as shown in Table 22-1) would mitigate significant adverse impacts on the westbound left-turn and right-turn movements in each peak hour, improving these movements from LOS E and LOS F to LOS C and LOS D. In addition, the measure would reduce delays on the southbound movement from 94.3109 .4 seconds (LOS F) to $80.6 \underline{\underline{94.1}}$ second (LOS F) in the midday peak hour. At W. 16th Street, the minor signal adjustment of 1 to 2 seconds would reduce With-Action delays on the southbound approach from $132.1 \underline{\underline{147.3}}$ seconds (LOS F) to $110.0 \underline{\underline{131.0}}$ seconds (LOS F) in the midday peak and from $70.7 \underline{\underline{78.6}}$ seconds (LOS E) to $63.6 \underline{\underline{71.4}}$ (LOS E) in the PM peak hour. At W. 15th Street, the mitigation measures in the midday and PM peak hours would mitigate the significant adverse impacts on the southbound approach by reducing the With-Action delay from $106.5 \underline{\underline{61.9}}$ seconds (LOS E F) to $92.6 \underline{\underline{50.6}}$ seconds (LOS $\underline{\underline{D} F}$ ) in the midday and from 159.8 seconds (LOS F) to 143.1 seconds (LOS F) in the PM, while at W. 14th Street, the signal timing adjustments would reduce With-Action delays from $80.2 \underline{\underline{91.3}}$ seconds (LOS F) to $60.3 \underline{\underline{69.7}}$ seconds (LOS E), also on the southbound approach in the midday peak hour.

## Eleventh Avenue Corridor

At W. 34th Street, mitigation measures would reduce With-Action delay on the eastbound approach from $97.3 \underline{\underline{131.0}}$ (LOS F) to $82.3 \underline{111.2}$ (LOS F). At W. 26th Street, installation of No-Standing 7AM 4PM- 7PM regulations on the eastbound approach would mitigate the significant adverse impact and reduce With-Action delays in the PM from $59.26 \underline{60.1}$ seconds (LOS E) to $33.1 \underline{\underline{35.0}}$ seconds (LOS C), while at W. 23rd Street, signal timing changes would reduce the With-Action delay from 59.3 58.7 seconds (LOS E | ) to 48.0 seconds (LOS D) in the AM peak hour on the |
| :---: | southbound left-turn approach.

## Tenth Avenue Corridor

Along this corridor, the mitigation measures to gradually increase signal green time on the crossstreets at each impacted location would mitigate significant adverse impacts. At W. 26th Street, the mitigation would reduce With-Action delay on the eastbound approach from 88.4 seconds (LOS F) to 60.0 seconds (LOS E) in the AM, and from 182.7 seconds (LOS F) to 132.6 seconds (LOS F) in the midday peak hours. At the adjacent W. 25th Street intersection, these signal changes would reduce westbound With-Action delay from $66.1 \underline{\underline{69.6}}$ seconds (LOS E) to $46.6 \underline{\underline{48.3}}$ seconds (LOS
D), and from $+42.7 \underline{\underline{148.5}}$ seconds (LOS F) to $90.5 \underline{\underline{94.8}}$ seconds (LOSF) in the midday and PM peak hours, respectively.

At W. 23rd Street, minor increases in signal green-time on the cross-street would mitigate the eastbound left-turn significant adverse impact by reducing delay from $129.9 \underline{\underline{127.4}}$ seconds (LOS F) to 93.893 .6 seconds (LOS F) in the midday, while in the PM, the westbound right-turn delay would be reduced from $60.3 \underline{\underline{61.3}}$ seconds (LOS E) to 42.943 .4 seconds (LOS D), mitigating that impact. At the southern edge of the corridor, the PM significant adverse impact on W. 14th Street westbound left-turn and right-turn movements would be mitigated with the left-turn delay being reduced from $103.4 \underline{\underline{110.4}}$ seconds (LOS F) to $76.0 \underline{\underline{81.1}}$ seconds (LOS F F ) and on the right-turn delay from 86.4 $\underline{\underline{85.3}}$ seconds (LOS F) to $66.7 \underline{\underline{65.9}}$ seconds (LOS E).

## Ninth Avenue Corridor

As shown in Table 22-2, mitigation measures to increase cross-street capacity would address all significant adverse impacts along this corridor. At W. 34th Street, mitigation measures would reduce
 seconds (LOS F) in the in the AM, from $81.2 \underline{\underline{95.9} \text { (LOS F) seconds to } 68.8 \underline{\underline{81.5}} \text { seconds (LOS E }}$ $\underline{\underline{F}}$ ) in the $\mathrm{MD} \underline{\underline{\text { midday }}}$, and from $135.2 \underline{\underline{148.8}}$ seconds (LOS F) to $117.7 \underline{\underline{129.6}}$ seconds (LOS F) in the PM.
W. 30th Street, a 1 second adjustment to the signal would mitigate the AM peak hour significant adverse impact on the eastbound approach with With-Action delay being reduced from $117.9 \underline{\underline{128.1}}$ seconds (LOS F) to $102.2 \underline{110.6}$ seconds (LOS F), while at W. 26th Street, a 3 second adjustment to timing would reduce eastbound delay from 178.4 seconds (LOS F) to 98.2 seconds (LOS F) in the AM and from 152.3154 .1 seconds (LOS F) to 105.3105 .9 seconds (LOS F) in the midday peak hour. At W. 24th Street, similar mitigation a 4 second adjustment would reduce eastbound delay
 seconds (LOS $\underline{\underline{E}} \mathrm{P}$ ) to $36.7 \underline{\underline{40.0}}$ seconds (LOS D) in the midday peak hour.

At W. 23rd Street, the westbound left-turn would be impacted in all peak hours and the mitigation measures to increase eastbound and southbound capacity through parking regulation changes would mitigate this significant adverse impact by reducing delay from $140.3 \underline{140.0}$ seconds (LOS F) to 54.4 54.9 seconds (LOS D), from $119.5 \underline{\underline{119.2}}$ seconds (LOS F) to $65.5 \underline{\underline{72.8}}$ seconds (LOS E) and from 55.457 .6 seconds (LOS E $Ө$ ) to 29.429 .9 seconds (LOS C) in the AM, midday and PM peak hours, respectively. This intersection would also have an impact at the southbound approach in the midday peak hour, which would be mitigated by parking regulation changes and a 1 second adjustment to timing to reduce delay from 48.9 seconds (LOS D) to 38.2 seconds (LOS D). At W. 17th Street, signal changes increase cross-street capacity thereby reducing westbound delay from 46.8 46.3 seconds (LOS D) to 35.9 35.6 seconds (LOS D) in the AM and from 76.0 67.8 seconds (LOS E) to 52.447 .4 seconds (LOS D) in the midday peak hour. At W. 14th Street, significant adverse impacts to the cross-street would be mitigated in all peak hours with minor changes in signalization with eastbound delays being reduced from 61.7 seconds (LOS E) to 42.1 seconds (LOS D) in the AM and from $144.0 \underline{\underline{145.3}}$ seconds (LOS F) to $98.4 \underline{\underline{99.3}}$ seconds (LOS F) in the PM peak hours. On
westbound W. 14th Street, Table 22-1 shows that this mitigation would also mitigate the significant adverse impacts in the AM, midday and PM peak hours.

## Eighth Avenue Corridor

At W. 23rd Street, parking regulation changes would increase cross-street capacity, thereby mitigating the midday significant adverse impact on the eastbound approach where With-Action delay would decrease from 63.7 78.3 seconds (LOS E) to 32.034 .4 seconds (LOS C) and on the westbound approach and where eastbound delays would decline from $84.3 \underline{\underline{101.6}}$ seconds (LOS $\underline{\underline{F}}$ モ) to $29.5 \underline{\underline{29.3}}$ seconds (LOS C).

At W. 14th Street, a 2-second adjustment to signal would mitigate the PM peak hour significant adverse impact on the eastbound left turn movement in the PM peak hour by reducing the WithAction delay from 64.7 seconds (LOS E) to 48.9 seconds (LOS D).

Overall, as noted above and detailed in Tables 22-1 and 22-2, the relatively low level of incremental demand due to primarily residential development requires modest mitigation measures to be implemented over the next 10 years. These are essentially traffic management measures, which would be implemented by NYCDOT over time. With these measures in place by 2013, all project traffic significant adverse impacts would be mitigated.

## G. TRANSIT AND PEDESTRIANS

The analysis of local bus conditions in the future with the proposed action shows that demand from proposed action would result in a significant adverse impact on westbound eastbound-combined M16/M34 service in the PM peak hour. As shown in Table 17-17, in the PM peak hour westbound eastbound M16/M34 service would experience a capacity shortfall of $\underline{\underline{10} 2}$-spaces at the maximum peak load point at 34th Street and Fifth Avenue. This compares to a surplus of $\underline{\underline{48} 44 \text { spaces in the }}$ future without the proposed action.

According to current NYC Transit guidelines, increases in bus load levels to above their maximum capacity at any load point is considered a significant adverse impact as it would necessitate the addition of more bus service along that route. New York City Transit as standard practice routinely conducts periodic ridership counts and adjusts bus service frequency to meet its service criteria, within fiscal and operating constraints. As such, the capacity shortfall on the M16/M34 crosstown route would be addressed by NYC Transit and no action-initiated mitigation is required for the proposed action.

Given the level of new demand generated by the proposed action, one additional westbound eastboundbus per hour during the PM peak hour provided by NYC Transit would be required to mitigate the significant adverse impact to westbound eastboundcombined M16/M34 service.

While the proposed action would result in a significant adverse impact, under the Base FAR Scenario, loading on this route would remain below capacity, with four three spaces westbound available eastbound in the PM. The proposed action's significant adverse impact to the combined M16/M34 route in the westbound eastbound direction in the PM peak hour would therefore not occur under the Base FAR Scenario.


[^0]:    ${ }^{1}$ In the DEIS, the proposed action was found to result in significant adverse traffic impacts on 24 intersections. The reference to 23 intersections in this chapter was a typographic error.

[^1]:    NOTES:
    EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound

[^2]:    EB-Eastbound, WB-Westbound, NB-Northbound, SB-Southbound
    
    
    *. Denotes Impacted Interections ${ }^{\text {Analysis is based on the 2000 Highway Cupacity Marual Methodology (HCS 2000). }}$

[^3]:     L-Leff, T-Through, R-Right, DLL Analysis considers a Defacto Lefit Laicl
    V/C Ratio - Volume to Capacity Ratio, SECVEH - Seconds per vehicle
    *. Denotes Impacted Interections
    Analysis is based on the 2000 Highway Capacity Marual Methodology (HCS 2000).

