

# CEQR TECHNICAL MANUAL CHANGES

## MARCH 2014 EDITION

---

This document summarizes the changes made in the March 2014 Edition of the *CEQR Technical Manual*. The changes are indicated by chapter and section number. When deemed appropriate, an entire section or paragraph is presented to provide context and indicate specific text changes. Deletions are indicated using ~~strikethrough~~, and additions are indicated using double underline. Minor edits, such as corrections to typographical or grammatical errors, were also made. These changes are not indicated below and have no effect on the substance of the guidance in the *CEQR Technical Manual*.

### Chapter 1, “Procedures and documentation”

#### Part B. CEQR Process

**Section 111** – Adds reference to the City Type II list of actions not requiring environmental review. The new text is as follows:

Similarly, the CEQR Rules of Procedure include a supplemental list of actions that are classified as Type II, and therefore, are not subject to environmental review. See 62 RCNY 5-03(c). Note that the CEQR Rules of Procedure also include prerequisites that certain of these actions must meeting before being classified as Type II. See 62 RCNY 5-03(d). SEQR regulations permit local agencies to promulgate their own Type II lists to supplement the state list. Because the city currently does not have a Type II list, only the state list need be consulted.

**Section 245.1** – Moves guidance on the use of interpretation or translation services for public hearings to Part C. Section 170.

**Section 410** – Clarifies the environmental review process that can follow a Generic Environmental Impact Statement (GEIS). The revised language is as follows:

The GEIS is used when the details of a specific impact cannot be accurately identified, as no site-specific project has been proposed, but a broad set of further projects is likely to result from the agency’s action. The GEIS follows the same format as the EIS for a more specific project, but its content is necessarily broader. Subsequent discretionary actions under the program studied in the GEIS require further review under CEQR if such actions were not addressed or were not adequately addressed in the GEIS and may have one or more significant adverse environmental impacts. It is recommended that the determination be documented in a technical memorandum, as set forth in Section 421, below. If supplemental review is required, it is possible, however to use the foundation of the GEIS for the subsequent environmental review for a site-specific project. Since the GEIS would have established the analysis framework, the subsequent supplemental environmental review need only target the specific narrow impacts associated with the subsequent action.

**Section 421** – Removes the separate subsection “421. Technical Memoranda” to include information on technical memoranda in Section 420. The section clarifies that a technical memorandum should examine the potential of a project to result in new, previously undisclosed impacts after completion of an Environmental Impact Statement as follows:



## CEQR TM CHANGES: MARCH 2014

In the event that the lead agency determines that it is appropriate to consider whether a SEIS is necessary, it is recommended that the lead agency document this assessment in a technical memorandum. The technical memorandum should be prepared by the lead agency for its files and should bear the same CEQR number as that of the original EIS. A technical memorandum examines whether changes in the project, newly discovered information, or changes in circumstances have the potential to result in any new, previously undisclosed impacts. In the event the technical memorandum assessment indicates that the preparation of an SEIS is or may be warranted, the lead agency should prepare an EAS or, if appropriate, may proceed to the issuance of a Positive Declaration. In the event the technical memorandum assessment indicates that the preparation of an SEIS is not warranted, no further documentation or analysis is needed. ~~The technical memorandum should be prepared by the lead agency for its files and should bear the same CEQR number as that of the original EAS. A copy should also be sent to MOEC.~~

**Part C. CEQR's RELATIONSHIP WITH OTHER PROCEDURES** – Changes the name of this part to “CEQR's Relationship with Other Procedures.”

**Section 140** – Adds information on proposed revisions to the Waterfront Revitalization Program (WRP). The revised language is as follows:

The New York City Waterfront Revitalization Program (WRP) is the city's principal coastal zone management tool. Originally adopted in 1982 and revised in 1999, the WRP establishes the city's policies for development and use of the waterfront and provides the framework for evaluating the consistency of all discretionary actions in the coastal zone with those policies. When a proposed project is located within the coastal zone and requires a local, state, or federal discretionary action, a determination of the project's consistency with the policies and intent of the WRP must be made before the project may move forward. The New York City Coastal Zone Boundary Maps may be found here. The Department of City Planning has proposed a series of revisions to the WRP to promote a range of ecological objectives and strategies, facilitate interagency review of permitting to preserve and enhance maritime infrastructure, and support a thriving, sustainable working waterfront. These revisions will not take effect until they are approved by the New York State Department of State with the concurrence of the United States Department of Commerce. Once the proposed revisions are adopted by the city and approved by the state and federal governments, projects in the City's Coastal Zone will have to demonstrate consistency with the revised policies. For further information regarding a WRP assessment under CEQR, please see Chapter 4, “Land Use, Zoning, and Public Policy.”

**Section 170** – Adds guidance to help ensure that people with limited-English proficiency can meaningfully participate in the CEQR process. The revised language is as follows:

### **170. LANGUAGE ACCESS**

In July 2008, Mayor Michael R. Bloomberg issued Executive Order 120, mandating that all City agencies that provide direct public services ensure meaningful access to their services by taking reasonable steps to develop and implement agency-specific language assistance plans. For agencies with language access plans that do not address public participation in the environmental review process, this section offers guidance to help ensure that people with limited-English proficiency (“LEP”) can meaningfully participate. Conversely, this guidance is not applicable to agencies with language access plans that address public participation in the environmental review process. Given that the need for language services varies by project and community, a lead agency must determine on a case-by-case basis whether language services should be provided and, if so, the types of services that are appropriate.



## CEQR TM CHANGES: MARCH 2014

Lead agencies should assess the need for language services by considering the following factors:

- Whether a proposed project is located in a Community District with a high percentage of LEP persons(see <http://www.nyc.gov/html/dcp/html/census/popacs.shtml> for more information);
- Whether a project would affect the community generally or a limited number of people and properties; and
- The level of interest demonstrated by LEP persons, community groups, and the foreign language press.

If, based on an assessment of these factors, the lead agency determines that language services are warranted, the lead agency should take reasonable steps to facilitate participation by LEP persons. To determine the appropriate language services to provide, lead agencies should balance the need for language services with the cost of providing each of the services described below.

### **171. Translation of Project Information**

In order to participate meaningfully in the CEQR process, LEP persons must have access to basic information about a proposed project. If project information is posted online, then providing automatic translation through the lead agency's website generally will be sufficient. For projects that warrant additional language services, a description of the project may be professionally translated and made available online. Steps should be taken to ensure that the translate function and/or links to translated materials can be easily located by LEP persons.

### **172. Translation of Notices of Public Hearings and Meetings**

Notices of public hearings and meetings should include a description of any language services that will be available to LEP persons at the hearings or meetings. Providing automatic translation through an agency's website may be an effective means to ensure that LEP persons have access notices of public hearings and meetings posted online. If a lead agency determines that enhanced services are warranted, notices may be professionally translated, distributed through the offices of interested Community Boards and elected officials, and posted on the lead agency's website. Again, steps should be taken to ensure that the translate function and/or links to translated notices can be easily located by LEP persons. Lead agencies may take additional steps that are deemed appropriate, such as publishing notices through the foreign language press.

### **173. Interpretation Services at Public Hearings and Meetings**

At all public hearings and meetings, lead agencies should accommodate LEP persons wishing to testify through their own interpreters or through interpreters provided by civic groups, and should allow additional time for these testimonies. Since the accuracy of interpretations provided by volunteers will vary, lead agencies should consider retaining professional interpreters for public hearings and meetings where testimony is anticipated from a large number of LEP persons. In such instances, foreign language signage should direct people wishing to testify to the speaker sign in table and instructions for giving testimony should be available in the appropriate language(s). Any professionally translated information about the project should also be available at the sign in table. If warranted, lead agencies should work with their language access coordinators to find volunteers from the City's language bank who can attend the meeting and help answer questions from LEP persons wishing to testify. For further information or assistance lead agencies should contact the Mayor's Office of Immigrant Affairs.



## CEQR TM CHANGES: MARCH 2014

Because CEQR public meetings and hearings provide an opportunity for members of the public to give comments to the lead agency, it is generally not necessary to have speaker testimonies interpreted to LEP persons in the audience. However, if an interpreter has been retained for the meeting, the lead agency should consider having its introductory remarks about the hearing and CEQR process interpreted to the audience. Lead agencies should accommodate civic organizations that wish to provide simultaneous interpretation via headsets to audience members to the extent practicable as determined by the lead agency.

### 174. Written Comments

If comments are received in a foreign language, lead agencies should work with their language access coordinators to have the comments translated by a volunteer from the City's language bank.

**Section 350** – Adds information about the U.S. Environmental Protection Agency's environmental justice strategy, Plan EJ 2014.

## Chapter 4, "Land Use, Zoning and Public Policy"

### Part A. LAND USE, ZONING, AND PUBLIC POLICY

**Section 121** – Changes the description of New York City's Waterfront Revitalization Program (WRP) and definitions of WRP-related terms to reflect the most recent updates to the program and the policies it sets forth. The revised language is as follows:

New York City's Waterfront Revitalization Program (WRP) is the city's principal Coastal Zone management tool and establishes a broad range of public policies for the city's coastal areas. The guiding principle of the WRP is to maximize the benefits derived from economic development, environmental conservation, and public use of the waterfront, while minimizing the conflicts among these objectives. Proposed projects that are situated within the designated boundaries of New York City's Coastal Zone must also be assessed for their consistency with the City's Waterfront Revitalization Program (See Figure 4-2). Preparation of a WRP assessment should begin with review of the New Waterfront Revitalization Program and completion of a NYC WRP Consistency Assessment Form. The WRP was originally adopted by the City of New York in 1982, revised in 2002, and is in the process of being updated in 2014. A local waterfront revitalization program, such as New York City's, is subject to approval in 1999, and subsequently approved by the New York State Department of State with the concurrence of the United States Department of Commerce pursuant to applicable state and federal law, including the Waterfront Revitalization of Coastal Areas and Inland Waterways Act and the Federal Coastal Zone Management Act (see Section 710, below). The WRP establishes the City's Coastal Zone Boundary (CZB), (See Figure 4-3), and sets forth includes 10 categories of policies that are used to assess the consistency of a proposed project within the CZB with the WRP, which include dealing with: (1) residential and commercial redevelopment; (2) maritime and industrial development water-dependent and industrial uses; (3) use of waterways commercial and recreational boating; (4) coastal-ecological systems; (5) water quality; (6) flooding and erosion; (7) hazardous materials solid waste and hazardous substances; (8) public access; (9) scenic resources; and (10) historical and cultural resources. The ten policies are not presented in order of importance and are numbered only for ease of reference. As directed by the short/full EAS form, for those projects that are located within the CZB, the preparation of the WRP consistency assessment should begin with a review of the WRP policies and completion of a NYC WRP Consistency Assessment Form (NYC CAF).

DCP's Comprehensive Waterfront Plan (1992) and reports prepared for each of the five boroughs (1993 and 1994) identified goals and objectives for the City's waterfront. These plans identified four



## CEQR TM CHANGES: MARCH 2014

principal water-front functional areas: natural, public, working, and redeveloping. Revised in 2011, Vision 2020: New York City's Comprehensive Waterfront Plan builds on these policies and sets the stage for expanded use of the waterfront for parks, housing and economic development, and the waterways for transportation, recreation and natural habitats. The WRP incorporates waterfront policies in a manner consistent with the goals set forth in Vision 2020. Accordingly, the policies set forth in the WRP should be used as the basis for assessing a project's consistency with the Comprehensive Waterfront Plan.

In 1993, to support the Comprehensive Waterfront Plan and the Waterfront Revitalization Program, New York City adopted the Waterfront Zoning Regulations (NYC Zoning Resolution, Article VI, Chapter 2). The regulations, which were amended in 2009, have the following stated purposes:

- To maintain and re-establish physical and visual public access to and along the waterfront;
- To promote a greater mix of uses in waterfront development in order to attract the public and en-liven the waterfront;
- To encourage water-dependent uses along the City's waterfront;
- To create a desirable relationship between waterfront development and the water's edge, public access areas and adjoining upland communities;
- To preserve historic resources along the City's waterfront; and
- To protect natural resources in environmentally sensitive areas along the shore.

The plan and adopted zoning regulations provide useful background information; however, WRP policies, goals, and standards should be used as the basis for determining a project's consistency with the Waterfront Revitalization Program.

The WRP consistency review includes consideration and assessment of other local, state, and federal laws and regulations governing disturbance and development within the Coastal Zone. Key laws and regulations include those governing waterfront public access, wetlands, flood management, and coastal erosion and hazardous materials. Although the consistency review is independent from all other environmental sections and must stand on its own, it is supported and conducted with consideration of all the other technical analyses performed as part of the project's environmental assessment under CEQR.

COASTAL ZONE. Pursuant to federal statute, the Coastal Zone encompasses all land and water that imposes a direct and significant impact on coastal waters. New York City's CBZ WRP establishes Coastal Zone boundaries (Figure 4-3) is set forth in the WRP and defines the geographic scope of the policies, within which a All discretionary actions located within the Coastal Zone must be reviewed assessed for consistency with the WRP Coastal Zone policies. The CBZ extends water-ward to Westchester, Nassau County, and New Jersey boundaries, as well as to the three-mile territorial limit in the Atlantic Ocean. The CBZ Coastal Zone, which is mapped in the City's Coastal Zone Boundaries maps, is the geographic area of New York City's coastal waters and adjacent shorelands that have a direct and significant effect on coastal waters. It generally extends landward to encompass the following coastal features: from the pierhead line or property line (whichever is furthest seaward) to include coastal resources and upland, usually at least to the first mapped street. The Coastal Zone includes islands, tidal wetlands, beaches, dunes, barrier islands, cliffs, bluffs, intertidal estuaries, flooding and erosion-prone areas, port facilities, vital built features (such as historic resources), and other coastal locations.



## CEQR TM CHANGES: MARCH 2014

- Significant Maritime and Industrial Areas
- Significant Coastal Fish and Wildlife Habitats
- Special Natural Waterfront Areas
- Staten Island Bluebelts
- Tidal and freshwater wetlands
- Coastal floodplains and Flood Hazard Areas
- Erosion hazard areas
- Coastal Barrier Resources Act Areas
- Steep slopes
- Parks and beaches
- Visual access and views of coastal waters and the harbor
- Historic, archaeological, and cultural sites closely associated with the coast
- Special zoning districts

Federal lands and facilities are excluded from the Coastal Zone, however, in accordance with federal legislation, federal activities conducted on federal lands that may affect the resources within the Coastal Zone may be subject to consistency review with New York City's WRP. For a more precise description and delineation of the Coastal Zone Boundary please refer to the WRP.

The Coastal Zone should not be confused with the "Waterfront Area" as such term is defined in Article I, Chapter 2 of the NYC Zoning Resolution or the more limited areas of "waterfront blocks" or "waterfront lots" as such terms are defined in Article VI, Chapter 2 of the NYC Zoning Resolution.

The following list contains definitions of terms and concepts that contribute toward a better understanding of policies and responses to policies. It should be noted this list is not exhaustive.

*BASE FLOOD OR 100-YEAR FLOOD.* A 100-year flood is one having a one percent (1%) chance of being equaled or exceeded in any given year. The Base Flood Elevation (BFE) is the elevation of the base flood, including wave height, as specified on FEMA Flood Insurance Rate Maps (FIRMs), relative to the National Geodetic Vertical Datum of 1929 (NGVD 1929). The NGVD 1929 elevation, the zero of sea level reference cited on FEMA's FIRMs is lower than the Borough Datum, frequently reported on surveys of properties within the five boroughs of NYC. For example, as shown in the following table, at an elevation point of 7.392 feet, the Bronx Borough Datum is equivalent to an elevation of 10 feet NGVD 1929 (7.392 plus the conversion figure for the Bronx, 2.608). Conversely, for example, given a NGVD elevation of 10 feet, subtract the conversion figure (2.608) to calculate the equivalent Bronx Borough elevation, 7.392 feet. FEMA's minimum standards refer to BFE requirements.

In December 2013, FEMA released the Preliminary FIRMs for New York City. The Preliminary FIRMs are maps to allow for public review of flood hazard risk before the issuance of effective FIRMs. FEMA developed a preliminary flood hazard data search tool (<http://hazards.fema.gov/femaportal/prelimdownload/>), and the New York City Preliminary FIRM Data Viewer (<http://apps.femadata.com/PreliminaryViewer/?appid=687703427dd347018b8fa2bb0adee979>). After a public comment period, the Preliminary FIRMs will become Effective FIRMs, which is expected to take place in 2015. The Base Flood Elevations in the Preliminary FIRMs are relative to the National North American Vertical Datum of 1988 (NAVD88).





**Table 4-1  
Conversion of Borough Datum to NGVD**

	<b>BOROUGH ELEVATIONS (IN FEET)</b>	<b>TO OBTAIN NGVD 29 EQUIVALENCY (IN FEET)</b>	<b>NGVD ELEVATION (IN FEET)</b>	<b>TO OBTAIN NAVD 88 EQUIVALENCY (IN FEET)</b>
<b>BRONX</b>	7.392	+Add 2.608	10.000	Subtract be- tween 1.03 and 1.083
<b>BROOKLYN</b>	7.453	+Add 2.547	10.000	Subtract be- tween 1.093 and 1.119
<b>MANHATTAN</b>	7.248	+Add 2.752	10.000	Subtract be- tween 1.104 and 1.109
<b>QUEENS</b>	7.275	+Add 2.725	10.000	Subtract be- tween 1.086 and 1.116
<b>STATEN ISLAND</b>	6.808	+Add 3.192	10.000	Subtract be- tween 1.027 and 1.109

...

**FREEBOARD.** Freeboard is a factor of safety usually expressed in feet above a flood level for purposes of floodplain management. "Freeboard" tends to compensate for the many unknown factors that could contribute to flood heights greater than the height calculated for a selected size flood and floodway conditions, such as wave action, bridge openings, the hydrological effect of urbanization of the watershed, and climate change. Freeboard is not required by National Flood Insurance Program (NFIP) standards, but communities are encouraged to adopt at least a one foot freeboard to promote safer development practices. New construction frequently incorporates freeboard on a discretionary basis while, in certain circumstances, the NYC Building Code mandates freeboard by requiring a Design Flood Elevation at a higher level than the Base Flood Elevation. See Appendix G of the NYC Building Code and ASCE 24 for Flood-Resistant Construction regulations.

**SIGNIFICANT MARITIME AND INDUSTRIAL AREAS (SMIA).** SMIA's are a special area designation defined by the Waterfront Revitalization Program that contain portions of the coastal zone especially valuable as industrial areas due to locational requirements. The criteria used to delineate these areas generally include concentrations of M2 and M3 zoned land; suitable hydrographic conditions for maritime-related uses; presence of or potential for intermodal transportation, marine terminal and pier infrastructure; concentrations of water-dependent and industrial activity; relatively good transportation access and proximity to markets; relatively few residents; and availability of publicly owned land.

**SPECIAL NATURAL WATERFRONT AREAS (SNWA).** SNWA's are a special area designation defined by the Waterfront Revitalization Program that contain large areas with significant open spaces



## CEQR TM CHANGES: MARCH 2014

and concentrations of the natural resources including wetlands, habitats, and buffer areas described above. Each of the SNWAs has a combination of important coastal ecosystem features, many of which are recognized and protected in a variety of regulatory programs, including the Significant Coastal Fish and Wildlife Habitats, Coastal Erosion Hazards Areas, and Tidal and Freshwater Wetlands.

...

**Section 300** – Corrects the numbering of subsections within this section.

**Section 322.1** – Clarifies the requirements for a preliminary assessment of consistency with the WRP. The revised language is as follows:

As stated in the Short and Full EAS Forms, the lead agency should include an analysis of WRP consistency as part of the environmental review if the project is located in the Coastal Zone.

The first step in conducting a WRP consistency assessment for many projects is a preliminary assessment evaluation of the project's potential effects upon the achievement of or inconsistency with the WRP policies. The A-Consistency Assessment Form (NYC CAF) was developed by DCP to help an applicant and reviewing parties identify the extent to which the proposed project may have an effect on the achievement of particular WRP policies apply to a specific project. The Q-questions listed under the heading "C. Coastal Assessment" should be answered by applicants. The numbers in parentheses after each question indicate the policy or policies that are the focus of the question. These questions presented in the NYC CAF are designed to identify whether a proposed project has screened out those policies that would have no bearing on a consistency determination for a proposed project has no potential effects upon a policy. Note that policies set forth in the WRP provide general goals for the city's waterfront as a whole and more specific goals for portions of the waterfront that have notable characteristics. Accordingly, the relevance of each applicable policy may vary depending upon the project type and where it is located. A policy may be considered applicable to a proposed project if its site surroundings or the action itself involves activities or conditions relevant to that policy.

Further, the WRP sets forth several special area designations. Maps depicting the boundaries of all of these area designations are included within the WRP. Within each of these areas, certain policies set forth in the WRP may be prioritized over other policies. Therefore, some policies may be more or less relevant in a consistency review depending on whether a proposed activity would occur in an area characterized as most appropriate for redevelopment, working waterfront uses, natural resource protection, or public use. For example, wetland restoration is a more relevant objective in areas mapped as Special Natural Waterfront Areas or Recognized Ecological Complexes, while the promotion of water-dependent industry is more relevant along the working waterfront and in areas mapped as Significant Maritime and Industrial Areas. When a policy is not applicable or relevant to a proposed project and its location, the policy would not be considered in the project's consistency review.

"Yes" answers to any of the questions indicate that a particular policy or policies of the WRP may be relevant and would warrant further examination. "No" Where the answers to a NYC CAF indicate that the proposed project does not have any potential effect upon the achievement of any particular policy, no further assessment of the project's potential effects on WRP policies is required or necessary. Where the answers to the questions indicate that the project may have a potential effect on the achievement of a particular identified policy or policies set forth in the WRP, further examina-





## CEQR TM CHANGES: MARCH 2014

tion through preparation of a detailed analysis is warranted and is not applicable to the proposed project. For any questions that warrant a "yes" answer or questions which cannot be answered definitively, an explanation should be prepared to assess the consistency of potential effects the proposed project may have on the achievement of with the noted policy or policies. Errors in the completion of a WRP assessment sometimes occur when an applicant completes a NYC CAF before a thorough appraisal of potential issues has been completed. For example, early in the environmental review process, an applicant may not know if a development site contains hazardous materials or has a history of under ground fuel tanks, oil spills, or other form of petroleum product use or storage. If the applicant elects to prepare a NYC CAF before necessary testing has been completed, Question 40 on the CAF, which inquires whether the project would result in development of a site that may contain contamination or that has a history of underground fuel tanks, oil spills, or other form or petroleum product use or storage, must be answered "yes." The applicant then requires an explanation of the steps that the applicant will take to evaluate site conditions and assure consistency with the identified relevant policy--in this case Policy 7.2: Prevent and remediate discharge of petroleum products.

Applicants may be reluctant to indicate that a proposed project may have a potential effect on the achievement of a stated policy on the NYC CAF answer "yes" to a policy question, mistakenly believing that an affirmative answer will suggest that a proposed project will be viewed as inconsistent with the WRP policy. To the contrary, an affirmative "yes" response provides an opportunity for an applicant to demonstrate that he or she understands the relationship requirements of the WRP to the proposed project when assessing the potential effect of the project on the stated policy in the detailed analysis. Where an affirmative response on the NYC CAF indicates that a project may have an effect on a WRP policy, as described further below in section 332.1, the detailed analysis should set forth in detail how the project advances or hinders the achievement of that particular policy, and the measures that will (or may) be required to ensure WRP policy consistency, in accordance with the standards and criteria within the New Water front Revitalization Program. Impacts identified within other areas of environmental analysis may raise WRP consistency issues that should be identified through the WRP consistency assessment. For example, if the environmental analysis indicates that a project may result in a significant adverse impact in another technical area, such as open space, the WRP consistency assessment should identify a potential inconsistency with WRP Policy 1, relating to the adequacy of open space facilities and infrastructure in the area.

When an applicant completes a NYC CAF before a thorough appraisal of potential issues affecting the site has been completed, errors or omissions in the completion of a WRP assessment can potentially occur. For example, early in the environmental review process, an applicant may not know if a development site contains hazardous materials or has a history of underground fuel tanks, oil spills, or other form of petroleum product use or storage. In the absence of completing the necessary testing before the applicant elects to prepare a NYC CAF, it cannot be assumed that the project will not have any potential effects toward the achievement of Policy 7.2: Prevent and remediate discharge of petroleum products. Where the applicant elects to complete the NYC CAF prior to conducting the necessary testing, an affirmative response is required and the explanation set forth in the detailed analysis must then address the steps the applicant will take to evaluate site conditions in order to further assess the potential effects of the proposed project toward the achievement of the identified relevant policy--in this case Policy 7.2.

**Section 332.1** – Clarifies the requirements for a detailed analysis of consistency with the WRP. The revised language is as follows. The revised language is as follows:

As directed by the NYC CAF, the detailed WRP consistency analysis considers all 10 Local Water-front Revitalization Program (LWRP) policies with their standards and criteria, and assesses the po-



tential effects of the proposed project toward the achievement of consistency with all those policies that are identified as relevant to the project through completion of the NYC CAF. The explanation of the project's potential effects toward the achievement of each of the noted policies should indicate whether the project advances the achievement of that policy, is neutral to it, or hinders the achievement of the noted policy, so that policies which are advanced may be balanced against those which are hindered, if necessary, with regard to determining appropriate uses for the site in question and overall consistency with the WRP.

This assessment may require additional information about the affected site and the project, such as the following:

- Piers, Platforms, or Floating Structures
- Mean High Water
- Mean Low Water
- Pierhead Line
- Bulkhead Line
- Water-Dependent and Water-Enhancing Uses
- Property Lines
- Depth to Water Table
- Ownership; Documentation of Lands Underwater
- Existing and Proposed Vegetation
- Existing and Proposed Stormwater Drainage
- Existing and Proposed Public Access
- Topography
- Wetlands (Freshwater and Tidal)
- Coastal Erosion Hazard Area
- Beach or Bank Profile
- Floodplains
- Base Flood Elevation
- Required or Proposed Freeboard
- Wildlife

As described below under Section 40, if a project would be inconsistent with a WRP policy, it is most often appropriate to determine whether it would also promote other WRP policies, so that these conflicting policies can be balanced against one another with regard to determining appropriate uses for the site in question. Impacts identified within other technical areas should be considered when assessing consistency with WRP policies. For example, if the environmental analysis indicates that a project may result in a significant adverse impact on open space, the detailed analysis should provide an assessment of the projects effects on the achievement of WRP Policy 8, relating to the adequacy of public access to, from and along the waterfront.

The level of detail of the analysis depends on the nature of the project and the relevance of each policy to the project. Both qualitative and quantitative effects may be pertinent. It should be noted, however, that several policies require adherence to specific minimum standards. ~~For each policy relevant to the proposed project, provide a brief description of how it relates to the project, and a statement as to whether or not the project is consistent with the policy.~~



## CEQR TM CHANGES: MARCH 2014

Because the WRP review considers the many laws affecting the coastal area, consideration of a project's overall consistency with the WRP typically requires a comprehensive assessment that includes synthesis of different technical areas described in this Manual. Therefore, close coordination with the assessment of other technical areas is needed. The analysis of ~~each of these~~ technical areas—such as natural resources, air quality, land use and zoning, hazardous materials, or historic resources—is summarized and presented below (Section 510) as it relates to the WRP policies. Although much of the detail of each technical chapter can be cross-referenced, it is important that the discussion of each policy be able to stand on its own in this chapter. In some cases, supplemental information to that provided in the technical analyses may be necessary to complete the WRP consistency evaluation.

The maps shown in Figures 4-4 through 4-7 may also assist applicants; however, these maps are simplified. More detailed maps are available through the sources listed in Section 700, Regulation and Coordination.

While lead agencies should conduct their own review of a project's consistency with the WRP during an environmental assessment, the City Planning Commission is required to make its own WRP consistency finding if it is an involved agency due to an action or number of actions associated with the project coming before the City Planning Commission. The City Planning Commission, acting as The City Coastal Commission, may elect to adopt the consistency determination and environmental findings of the lead agency or adopt different WRP consistency findings.

**Section 421** – Clarifies criteria for determining the significance of the potential effects of a proposed project on the WRP. The revised language is as follows:

~~As stated in the Short and Full EAS Forms, the lead agency should include an analysis of WRP consistency as part of the EAS. As noted above in Section 330.1, where the answers to the NYC CAF indicate that the proposed project may potentially affect the achievement of any one or more particular WRP policies, the detailed analysis should set forth the extent to which the~~ For any WRP policy, indicated as applicable on the NYC Consistency Assessment Form (CAF), the proposed project may advance that policy, be neutral to it, or hinder the policy. It is the last category—hindrance of a policy—that may result in an inconsistency, and therefore, requires more scrutiny in the policy consistency assessment.

~~If the lead agency determines that the project is consistent with the applicable WRP policies, no further assessment is necessary. For projects determined to be consistent with WRP policies, the analysis should state that the project would not substantially hinder the achievement of any of the coastal policies.~~

If a project is found to hinder any inconsistent with a WRP policy, the lead agency and applicant, if applicable, should consider the magnitude of the hindrance, whether changes to the project could be made to make the project consistent with the WRP or to modify the project such that, while there may still be an inconsistency with or hindrance of a policy, the lead agency may determine that the project would not substantially hinder the achievement of the coastal policy. ~~is able to make the four findings identified below in Section 500. If changes that would eliminate the inconsistency are not possible, the lead agency should consider whether the inconsistency is of such a degree as to be significant. In determining the significance of any inconsistencies, the lead agency should balance the policies that would be furthered by the project against those that would be hindered by the project. The lead agency may determine that some inconsistencies are not significant. For example, a proposed new structure that would slightly block a view corridor toward the water may be found to be insignificant~~ an insubstantial hindrance upon policies promoting greater visual



## CEQR TM CHANGES: MARCH 2014

connectivity to the waterfront, depending on the existing width of that view corridor and other circumstances.

If a project is found to cause a substantial hindrance to any one policy or policies, the lead agency, and applicant, where applicable, should consider whether any reasonable alternatives exist that would permit the project to be taken in a manner that would not substantially hinder the achievement of the policy. If modifications to the project would permit the project to be undertaken in such a manner that would not substantially hinder the achievement of the policy or policies, the analysis and project proposal should also be modified accordingly. Where no reasonable alternatives that would eliminate the substantial hindrance are possible, the lead agency must make the following findings:

- 1) No reasonable alternatives exist that would permit the project to be taken in a manner that would not substantially hinder the achievement of the policy;
- 2) The project would minimize all adverse effects related to the policy inconsistency to the maximum extent practicable;
- 3) The project would advance one or more of the other coastal policies; and
- 4) The project would result in an overriding local public benefit.

A substantial hindrance to an individual WRP policy typically does not result in the finding of a potentially significant adverse public policy impact. Developing measures to minimize adverse effects related to the policy inconsistency is discussed in Section 510.

**Section 510** – Clarifies mitigation measures to minimize the adverse effects related to a substantial hindrance of the achievement of a WRP policy. The revised language is as follows:

When no reasonable alternative exists that would permit a project to be undertaken in a manner that would not substantially hinder the achievement of a policy of the WRP, measures must be developed such that the project will minimize all adverse effects related to the policy inconsistency to the maximum a project would result in significant adverse impacts related to inconsistencies with the WRP, those impacts must be mitigated to the greatest extent practicable. If the impacts can be appropriately mitigated, the project would then be consistent with the WRP. Appropriate mitigation measures to minimize policy inconsistencies vary, depending on the particular policy inconsistency. The measures must either be sufficient to address the policy inconsistency, or enable the lead agency to determine that:

- ~~— No reasonable alternatives exist that would permit the project to be taken in a manner that would not substantially hinder the achievement of the policy;~~
- ~~The project would minimize all adverse effects related to the policy inconsistency to the maximum extent practicable;~~
- ~~The project would advance one or more of the other coastal policies; and~~
- ~~The project would result in an overriding local public benefit.~~

Proposed mitigation measures that are proposed to minimize the adverse effects related to a substantial hindrance to a policy must also must be assessed for consistency with the WRP policies to the same degree as the proposed project. Mitigation for a significant adverse impact related to the Measures to minimize the adverse effects related to a substantial hindrance to any WRP policy may require coordination with other technical analyses.



## CEQR TM CHANGES: MARCH 2014

Mitigation measures to minimize the adverse effects related to a substantial hindrance of the achievement to a WRP policy may include those mitigation measures described in Section 500 of the different technical chapters of this Manual. In some cases, those mitigation measures identified in difference areas of analysis may have to be adapted to minimize an inconsistency with a WRP policy modified to provide appropriate mitigation for significant impacts related to the WRP's policies. For example, mitigation for significant impacts related to flooding and erosion (Policy 6) is discussed in Chapter 11, "Natural Resources," may be used or adapted, as necessary, to minimize the adverse effects of the project related to a substantial hindrance toward the achievement of WRP Policy 6. In some cases, however, the significant adverse impact may be specific to the assessment of WRP and not identified in the analysis of another technical area, such as air quality or hazardous materials. For example, a reduction in existing or potential public access to or along coastal waters would be inconsistent with the WRP (Policy 8) and could constitute a significant adverse impact with respect to the WRP, although it might not constitute a significant adverse impact identified in the other technical analyses. If a project results in an unavoidable reduction of existing public access, mitigation could be proposed to create or significantly enhance public access near the project site.

**Section B – Sustainability** – Updates information to be relied on in public policy analysis to incorporate a report created by the Special Initiative for Rebuilding and Resiliency (SIRR). The revised language is as follows:

Additionally, using the foundation built through PlaNYC, the Special Initiative for Rebuilding and Resiliency (SIRR) released a report titled "A Stronger, More Resilient New York" in June 2013. The SIRR report outlines recommendations to protect neighborhoods and infrastructure from future climate events. Discussion of consistency with the SIRR Report may be appropriate for projects implementing an initiative outlined in the SIRR Report.

### Chapter 5, "Socioeconomic Conditions"

**Section 332.3** – Clarifies that information on supermarkets should be obtained from the New York State Department of Agriculture and Markets rather than the Department of City Planning's PLUTO.

### Chapter 7, "Open Space"

**Section 100** – Clarifies definition of public open space to include cemeteries, if publicly accessible on a regular basis for passive recreation.

**Section 342.2** – Clarifies how cemeteries should be accounted for in calculated open space acreage. The following text has been added to the acreage bullet:

The acreage for cemeteries should account for the publicly accessible areas used frequently by the public and located within the study area boundaries.

### Chapter 8, "Shadows"

**Section 314.5** – Corrects the caption to Figure 8-7B to reference the end of the analysis day at 4:29 p.m., rather than at 6:29 p.m.

### Chapter 9, "Historic and Cultural Resources"

**Sections 321.2 & 513** – Clarifies that evaluation of unknown archeological resources and field testing should be supervised by a professional archaeologist who is registered by the Register of Professional Archaeologists, and/or qualified for such registration.



## CEQR TM CHANGES: MARCH 2014

**Section 520** – Corrects numbering of subsections so that it “Adaptive Reuse” (former Section 522; current Section 521.3) is clearly identified as a redesign technique.

**Section 711.3** – Removes reference to the expired Intermodal Surface Transportation Efficient Act of 1991.

### Chapter 10, “Urban Design”

**Section 100** – Updates the definition of “wind” to specify that channelized and downwashed wind can affect both pedestrian comfort and safety.

**Section 230** – Clarifies circumstances in which an assessment of pedestrian wind conditions may be conducted. The revised language is as follows:

The construction of projects involving multiple, tall-large buildings at or in close proximity to waterfront sites ~~locations that experience high wind conditions~~ may result in an exacerbation of wind conditions due to ‘channelization’ or ‘downwash’ effects that may affect pedestrian comfort and safety. If appropriate, the lead agency should consult with DCP or the Mayor’s Office of Environmental Coordination (MOEC) to determine whether a pedestrian wind condition analysis is warranted for a proposed project. Factors that may be considered in making this determination include, but are not necessarily limited to:

- Whether the locations that could experience is exposed to high wind conditions, such as along the west and northwest-facing waterfronts, or other locations at or in close proximity to waterfront sites where prevailing winds from the waterfront are not attenuated by buildings or natural features;
- ~~The size and orientation of the buildings that are proposed to be constructed;~~
- The size of the project (generally only projects of a substantial size have the potential to alter wind conditions);
- The number of proposed buildings to be constructed;
- The size and orientation of the buildings that are proposed to be constructed; and
- The site plan and surrounding pedestrian context of the project.

If determined to be necessary, analysis may include ~~computer modeling or the use of a wind tunnel,~~ as appropriate, and should focus on the extent to which the massing and orientation of buildings and other features of the proposed development contribute to an exacerbation of pedestrian wind conditions. In the event that studies indicate the potential for exacerbation of pedestrian wind conditions that could affect pedestrian safety, modifications to the urban design features of the project, including changes to building massing, landscaping and other measures, that are consistent with the overall urban design objectives of the project, should be considered.

**Section 730** – Updates “Location of Information” with references to online copies of Department of City Planning’s Zoning Resolution and Department of Finance’s tax maps.

### Chapter 11, “Natural Resources”

**Section 120** – Corrects numbering of subsections to include a Subsection 121.





## CEQR TM CHANGES: MARCH 2014

**Section 121 (former Section 122)** – Clarifies the list of resources for further wetland information. The U.S. Department of Agriculture’s 2012 National Wetland Plant List has replaced the U.S. Fish and Wildlife’s Biological Report 88 of 1988.

**Section 200** – Removes requirement that project meet all requirements to avoid natural resource assessment. The revised language is as follows:

If the project does not meet all of these conditions or if it is unknown whether the project meets one or more of these conditions, some assessment of natural resources is appropriate.

**Section 323.1** – Revised to note that supervision of contractors and sub-contractors may be appropriate, but is not required, during their detailed site analyses to avoid damaging soils or vegetation or disturbing wildlife.

**Section 550** – Clarifies that “creation” can refer to either the creation of the same type of habitat (in-kind creation) as that which would be lost due to project impacts *or* creation of a different type of habitat (out-of-kind creation).

**Section 700** – Updates information on and citations for federal, state, and local regulations and standards governing natural resources.

**Section 714** – Updates the list of wetland and natural area protection public policies as follows:

The City has addressed or is addressing other aspects of wetlands and natural area protection through other planning processes, reports, and policies. These include (1) commitments not to increase the level of nitrogen discharged into the Long Island Sound; (2) the City’s comprehensive planning effort to adapt wetlands and other critical infrastructure to sea level rise and other effects of climate change; (3) the City’s Sustainable Stormwater Management Plan in December 2008 to help reduce sources of point and non-point stormwater pollution; (4) the NYC Green Infrastructure Plan to better water quality in New York Harbor and promote a sustainable New York City; (5) The New York City Wetlands Regulatory Gaps and Other Threats (January 2009), with suggestions for the identification and protection of urban wetland systems; (6) DEP’s Jamaica Bay Watershed Protection Plan in October 2007, with updates in October 2008, October 2010 and October 2012; and (7) the Wetlands Transfer Task Force (WTF) report issued in September 2007 pursuant to Local Law 83 of 2005, recommending the transfer of City-owned properties containing wetlands to DPR. (3) DEP’s Jamaica Bay Watershed Protection Plan in October 2007, with an update in October 2008; (4) The City’s Sustainable Stormwater Management Plan in December 2008 to help reduce sources of point and non-point stormwater pollution; and (5) the City’s comprehensive planning effort to adapt wetlands and other critical infrastructure to sea level rise and other effects of climate change.

Also includes updates to DEP’s Jamaica Bay Watershed Protection Plan from October 2010 and October 2012 and adds information relating to the Wetlands Transfer Task Force (WTF). The new text is as follows:

- Wetlands Transfer Task Force (WTF) Report. Pursuant to Local Law 83 of 2005 the Wetlands Transfer Task Force was created to inventory city-owned wetlands in the metropolitan area and to determine the technical, legal, environmental and economical feasibility of transferring these wetlands to the jurisdiction of DPR. The Task Force recommended the transfer of certain city-owned properties containing wetlands to DPR in their September 2007 report.



## CEQR TM CHANGES: MARCH 2014

**Section 732** – Updates contact information for the Society for Ecological Restoration.

### Chapter 12, “Hazardous Materials”

**Section 200** – Clarifies that circumstances where a hazardous materials assessment may be warranted include development on or near current or former dry-cleaning facilities.

**Section 300** – Clarifies the definition of a Phase II Environmental Site Assessment (ESA) Work Plan. The revised language is as follows:

Whenever possible, the Phase I and Phase II ESAs should reference and take into account proposed project plans to the extent they are known. For example, during the performance of the Phase I ESA, it may be sufficient to know that the existing building is to be demolished and excavation required. In contrast, whereas, when preparing the Phase II ESA Work Plan, the document that guides the Phase II investigation, excavation depth(s) and the proposed conceptual foundation design, may be necessary to define the appropriate investigation scope. Therefore, project plans (whether conceptual or final) should be referenced in, and attached to, the Phase II ESA Work Plan and any subsequent reports.

**Section 400** – Clarifies that when an institutional control has already been imposed on the project site or will be imposed as a component of the project, the potential for significant adverse impacts related to hazardous materials may be precluded. The new text is as follows:

- If an institutional control (see Subsection 500 below) related to hazardous materials has imposed on the project site or will be imposed on the site as part of the project, compliance with the terms and conditions of the institutional control may preclude the potential for significant adverse impacts.

### Chapter 13, “Water and Sewer Infrastructure”

**Section 321** – Corrects numbering of subsection to include a Subsection 321.1.

### Chapter 14, “Solid Waste and Sanitation Services”

**Section 112** (corrected in January 2013) – Updates the link to the current map of transfer station facilities.

**Section 120** – Updates information on the Solid Waste Management Plan (SWMP) to clarify the geographical reach of contracts for transport and disposal of refuse collected by the New York City Department of Sanitation (DSNY). The revised language is as follows:

Refuse collected by DSNY for disposal utilizes public and private transfer facilities, rail or barge transport, and long-term contracts for transport and disposal. The SWMP includes the following:

- A contract for containerization and rail export of DSNY-managed Bronx refuse to a Virginia landfill.
- A contract for export of DSNY-managed MSW from Staten Island in sealed containers by rail.
- A contract for transfer of DSNY-managed refuse from part of Brooklyn for containerized rail transport to a landfill in Virginia.



# CEQR TM CHANGES: MARCH 2014

- A planned contract for transfer of DSNY-managed refuse from part of Queens and for rail transport to a landfill in Virginia.
- ~~A planned contract to continue the disposal~~ of a portion of DSNY-managed refuse from ~~the west side of~~ Manhattan at a waste-to-energy facility in Newark, New Jersey.
- Plans to construct four DSNY waterfront marine transfer stations (“MTSs”) that would place refuse in sealed shipping containers for barge export to disposal facilities.
- Planned contracts with vendors to transport and dispose of barged waste from the MTS facilities at remote landfills or waste-to-energy facilities.

...

**Section 200** – Updates information on the City’s waste collection with 2013 data. The revised language is as follows:

DSNY has over 2,000 waste collection trucks in its fleet, ~~while the city’s Business Integrity Commission licenses over 4000 private carting trucks to collect the city’s commercial MSW and recyclables, and registers over 4000 more trucks to haul private sector construction and demolition debris in the city (2013 figures).~~ The capacity of DSNY’s collection truck fleet and ~~that of the more than 20400 private carters carting businesses authorized licenses to serve New York City~~ is sufficiently flexible to accommodate increased demand for waste and recyclables collection generated by most proposed projects as needed.

## Chapter 16, “Transportation”

**Section 100** – Updates “Bus Service” definition to reflect current service providers in New York City and specifically enumerates Westchester County buses and Nassau County buses as service providers to be included in transportation analysis. The revised language is as follows:

MTA has ~~three~~ two agencies that operate bus service in New York City: MTA New York City Transit (NYCT) and, MTA Bus Company (MTA BC), and MTA Long Island Bus (LIB) and New York City Transit (NYCT). In addition to these entities, Westchester County buses, Nassau County buses and privately operated fixed route service should be included in these analyses to the extent known.

**Section 200** Clarifies that CEQR Traffic Zones should also be consulted in determining whether numerical analysis is needed. Also updates Table 16-1, providing separate guidance for regional retail and local retail developments, and providing new minimum densities potentially requiring transportation analyses for local retail, restaurants and fast-food restaurants. Affected portions of the table have been revised as follows:

Development Type	Zone 1	Zone 2	Zone 3	Zone 4	Zone 5
<u>Regional Retail</u> (number of additional 1,000 gsf)	30	20	20	10	10
<u>Local Retail</u> (number of additional 1,000 gsf)	<u>15</u>	<u>15</u>	<u>15</u>	<u>10</u>	<u>10</u>
Restaurant** (number of additional 1,000 gsf)	20	20	<del>15</del> <u>10</u>	<del>15</del> <u>10</u>	10

\*\*In all zones, fast food restaurants of 2,500 gsf or more potentially require transportation analyses.

**Section 311** – Clarifies definition of “existing information” and clarifies that if a comparable survey site cannot be identified within the City, rates in the most recent edition of Institute of Transportation Engineers



## CEQR TM CHANGES: MARCH 2014

Trip Generation Report may be used in consultation with the New York City Department of Transportation. The revised language is as follows:

- Use of existing information (i.e., based on previously researched/approved trip generation rates provided in Table 16-2 as well as recently approved EISs and EASs), where the sources cited in the travel demand factors are based on a recent survey of a similar land use with comparable travel characteristics and are considered appropriate to be used in the trip generation analysis;
- If a comparable survey site cannot be identified within the City, the rates in the most recent edition of the Institute of Transportation Engineers (ITE) Trip Generation (the “ITE Trip Generation Report”) may be used in consultation with DOT. However, care must be exercised in using the ITE Trip Generation Report since most of its trip generation rates are based primarily on surveys conducted in suburban settings and need to be adjusted for New York City conditions.

**Section 311.1** – Clarifies in Table 16-2 that the trip generation rates for Destination Retail include linked trips. Also updates Table 16-2 to reflect updated data for examples of previously approved and researched trip generation rates for Passive Park Space, Active Park Space, Destination Retail, Fast Food Restaurants and Public Schools figures. Relevant portions of the table have been revised as follows:

Land Use	Weekday Daily Person Trips	Weekday Peak Hour Percentage			Saturday Daily Person Trips	Saturday Peak Hour Percentage
		AM	Midday	PM		
Passive Park Space*	44 per acre	3	5	6	62 per acre	6
Active Park Space*	139 per acre	3	5	6	196 per acre	6
Destination Retail**	78.2 per 1,000 sf	3	9	9	92.5 per 1,000 sf	11
Fast Food Restaurant***	1,748 per 1,000 sf	7	11	11	418 per 1,000 sf	35
Public School (Students)	2 per student	3.5	NA	49.5	NA	NA
Public School (Parents)	1 per student	3.6	NA	24.7	NA	NA
Public School (Staff)	2 per staff	40	NA	40	NA	NA

\*Temporal distributions for Passive and Active Park Uses are based on 18-hour operation. If fewer or different hours, please contact DOT.

\*\*The trip generation rates for Destination Retail Land Use account for linked trips, so no linked trip credit can be applied.

\*\*\*The Fast Food trip generation for a weekday is based on a 12-hour period and Saturday is based on a 3-hour period.

**Section 311.1** – Clarifies that a linked trip that goes from a primary point to a single destination and back again to the same primary point is considered two primary unlinked trips. The revised language is as follows:

Person-linked trips are trips that have multiple destinations, either within the proposed development site or between the development site and existing adjacent sites. However, a linked trip that goes from a primary point to a single destination and back again to the same primary point is considered two primary unlinked trips. Pass-by trips are trips that are already present on the adjacent network, have direct access to the site and enter the site only as an intermediate stop on the way to their final destination.



## CEQR TM CHANGES: MARCH 2014

**Section 312.5** – Removes example of auto and taxi occupancies used for office and residential projects in Midtown Manhattan.

**Section 321.2.2** – Clarifies factors to be considered when calculating appropriation percentages to multiple lines within a given area. Also advises consultation with NYCT Operations Planning as NYCT should agree with the assignment percentages. The revised language is as follows:

In cases where more than one subway line is available in a given area, appropriate percentages may be assigned to each of the lines, keeping in mind details such as the project's distance to each station, typical frequency of service for each line, proximity to express stations, proximity key transfer stations and proximity bus routes to which subway passengers can transfer. NYCT should agree with the assignment so it is recommended to consult with NYCT Operations Planning. Once rail trips have been assigned to particular lines and stations, the passenger arrivals and departures are then routed through the station to the exit or exits most likely to be used to access the proposed project site. This routing typically encompasses all levels of a station and thus covers the various platforms, street, mezzanine and platform stairwells, passageways or corridors, turnstile banks, and token booth/control areas extending between the subway car and the street level. The congestion on a given stairwell or through a given bank of turnstiles is less likely to affect a subway rider's choice of movement through the station than a vehicular traffic "check" point would affect motorists' decisions on routes to their destination.

**Section 342.2 – Use of Available Data** – Clarifies that New York City Department of Transportation has made traffic data available for review on its Traffic Information Management System (TIMS). Also, deletes the third bullet point on whether data older than three years are acceptable for use in determining the volume of traffic operating within the study area because this information is presented earlier in the Section.

**Section 342.2 – New Data Collection** – Clarifies in the last bullet that all traffic data collected for the CEQR traffic analysis should be delivered in accordance to TIMS compliance.

**Section 342.2 – Preparation of Peak Hour Traffic Volume Maps** – Clarifies that traffic volumes should be rounded to the nearest five.

**Section 342.2 – Street Geometry and Physical Inventory** – Clarifies presentation method of field verified geometric and operational information, and explains information to be included. The new text is as follows:

As part of the overall data assembly/data collection effort, information on the street network is needed. This provides a description of what the area's traffic network "looks like" and how it is sized to accommodate traffic flow. Field verified (not aerial dependent) geometric and operational information should be presented graphically and be legible and neatly prepared as it also becomes an additional set of inputs to the determination of street capacity and traffic levels of service. Information to be included in a physical inventory should be consistent with the requirements of the Highway Capacity Manual. For example, the Highway Capacity Manual requires hourly parking maneuvers within 250 feet upstream from the stop line, a near-side or far-side bus stop within 250 of the stop line (upstream or downstream), length of turning bays, etc. Data to be collected varies depending on the capacity analysis methodology used, but generally includes the following:

- The lane widths, number of travel lanes, bicycle lanes, bus lanes, parking lanes, cross walks, stop bars, turn bays and turn prohibitions, designated truck routes and direction of each street in the study area and along the major routes into the study area. ~~For added clarity, the direction of streets should be presented graphically, while street width information may be presented in either graphic, tabular, or text format, whichever is clearer. It is preferable that this information be presented graphically and should be legible and neatly prepared.~~ The location of traffic control devices, such as traffic signals, stop signs, yield signs, turn prohibitions, *etc.*, should be illustrated graphically. For signalized intersections, signal cycle length, phasing, and timing are need-



## CEQR TM CHANGES: MARCH 2014

ed to conduct capacity analyses. Official signal timing data should be obtained from DOT and field-checked; consultation with DOT is advisable should there be discrepancies between the two sets of timings.

- Restricted lanes, such as part time bus lanes, rush hour travel lanes, etc. ~~or bicycle lanes.~~
- General on-street parking regulations as well as parking maneuvers in the area and on the blocks leading to and away from the intersections being analyzed (more detailed parking inventories are needed for the parking analyses and are outlined later). The presence of bus stops and fire hydrants is accounted for in the traffic and parking capacity analyses. ~~It is preferable that this information is presented graphically, although it is also acceptable in tabular format or in-text within the analysis documentation.~~
- General pavement or alignment conditions along the major roadways in the area that affect traffic flow, e.g., poor pavement conditions, difficult vertical or horizontal geometries that affect traffic flow, or other like conditions should be noted.

**Section 342.2 – Travel Time and Delay Runs** – Edits the “floating car technique” to remove language “passing as many cars as pass the test vehicle.” The next text is as follows:

Travel time and delay runs are generally best collected via the “floating car technique,” in which the survey car seeks to travel at the speed of a typical car in the traffic stream, ~~passing as many cars as pass the test vehicle.~~

**Section 342.3 – Signalized Intersections** – Clarifies that, in assessing the capacity of signalized intersections, both pedestrian and bicycle conflicts should be considered as part of traffic conditions, and that signal coordination should be considered as part of signalization conditions. The new text is as follows:

According to the HCM, the capacities of signalized intersections are based on three sets of inputs: 1) geometric conditions, including the number of lanes, the length of storage bays for turns, the type of area the analysis location is situated in (e.g., central business district and others), the existence of parking or bus stop activity at the curb, etc.; 2) traffic conditions, including volumes by movement, vehicle classification, parking maneuvers, the nature of vehicular platooning in arrivals at the intersection, pedestrian and bicycle conflicts, etc.; and 3) signalization conditions, including signal cycle length, timing and phasing, signal coordination, and the existence of signal actuation capabilities by either vehicles or pedestrians.

Also instructs users to see Appendix for guidance on HCS adjustment factors.

**Section 342.3 – Other Analysis Methodologies** – Updates software and simulation models which may be employed. The new text is as follows:

Other software (i.e., Synchro, TRAFFIX) or simulation models (i.e., CORSIM, SimTraffic, AIMSUN) may be employed for use in the particular study area only if they may be proven appropriate and are compatible with air quality models.

**Section 342.4 – Overview of Level of Service Determinations** – Clarifies that the lead agency should consult with New York City Department of Transportation with regard to LOS calibration or HCS adjustment factors if the v/c ratio for a lane-group is greater than 1.05 under the existing conditions.

**Section 343.3** – Clarifies that planned geometric changes should be confirmed with the New York City Department of Transportation before inclusion in the No-Action condition. The revised language is as follows:





## CEQR TM CHANGES: MARCH 2014

This assessment accounts for any programmed ~~street or highway geometric~~ changes that could affect traffic flow or levels of service, such as any mitigation measures that are incorporated in the approvals for a development project considered in the No-Action condition.

**Section 344.1 – Preparation of Future With-Action Volumes and Levels of Service** – Clarifies relevant capacity analysis input factors should be re-computed in consultation with the New York City Department of Transportation. The new text is as follows:

Within the traffic analyses, the traffic assignment process may, for example, result in significant increases in the percentage of turns at specific intersections, and it may be appropriate to re-compute relevant capacity analysis input factors in consultation with DOT (i.e., pedestrian LOS analysis should consider added conflicting vehicles).

Also, clarifies the information that should be provided as part of the future With-Action analysis. The revised text is as follows:

The future With-Action analyses culminate with the preparation of balanced traffic volume maps and a full set of capacity and LOS analyses (including 85<sup>th</sup> percentile queue, v/c ratios, and average control delays per vehicle and LOS for each lane group, intersection approach and overall intersection) for traffic conditions.

**Section 351.1.1 – Subway/Rail Transit Study Area** – Clarifies guidelines for determining the subway and rail transit study area. Suggests coordination with NYCT Operations Planning as NYCT should be in agreement with the assignment to lines and stations. Also suggests that subway station analyses encompass all station circulation and fare control elements, and removes language regarding generic projects that may have cumulative impacts. The revised text reads as follows:

For the analysis of subway and rail facilities, the study area relates ~~more to the specific subway lines and stations serving proximate to the project site than to a physical area or intersections.~~ For the subway system, the closest station to the proposed project site would be studied for each line serving the site, provided that station is within 0.5 mile of the project site or more than 200 peak hour bus transfers would be generated by the project at any particular station. Should a proposed project site be served equally well by two different stations along the same line or along different lines, both (or all) stations and lines may need to be studied. If no station is within a reasonable walking distance of the project site, appropriate "feeder" stations at which subway passengers transfer to buses to reach the project site would be analyzed. The extent to which subway riders would travel to the site should be determined by direction, to identify which of the two stations could potentially be significantly affected. For example, if a project is sited in the vicinity of 42nd Street and Ninth Avenue in Manhattan, it would be served (within 0.5 mile) by 42nd Street – Port Authority Bus Terminal station of the A/C/E lines, Times Square-42nd Street station of the 1/2/3/7 and N/Q/R/S lines, and 42nd Street-Bryant Park station of the B/D/F/M lines, all three stations would be included in the rail transit study area and should be analyzed. Alternatively, if a project built in eastern Queens on Hillside Avenue would result in bus trips that would come from or go more than 200 people transferring from buses to the 179th Street F station that and more than 200 peak hour subway trips would be generated at that station, the station should be included in the transit analysis, even though the station is farther than 0.5 mile from the project. For large-scale projects or projects that affect several neighborhoods, it may be necessary to analyze the cumulative impacts of the project at key locations or at major passenger transfer locations within both the line haul and subway station analyses. NYCT should be in agreement with the assignment to lines and stations, so it is recommended to coordinate this effort with NYCT Operations Planning.

The subway station analysis ~~must should~~ encompass all station circulation and fare control elements, whether in the free-zone or paid-zone, that would have an increase in ridership resulting



## CEQR TM CHANGES: MARCH 2014

from the project, such as all affected stairs, escalators, elevators, fare arrays, platforms and passageways. A platform analysis is usually conducted for projects such as the design of a new stations or a large station renovation, and is often not conducted for existing stations. However, there are instances where an analysis of an existing station is appropriate, and the lead agency, in consultation with NYCT, should determine the appropriateness of a platform analysis. Elevators should be analyzed only if they provide primary access to the subway (for example, the 181 Street–St. Nicholas Avenue station (1 line)). The study area could also include an assessment of the line-haul capacities of the specific subway lines serving those stations, since the subway cars may exceed NYCT loading guidelines. For generic projects that affect several neighborhoods, it may be necessary to analyze the cumulative impacts of the project at key locations within the line-haul analyses or at major passenger transfer locations.

**Section 352.1.1 – Determination of the Peak Hour for Analysis Purposes** – Details factors that may increase peak hour ridership, and removes cross-reference to Subsection 332. The new language is as follows:

The first step in the analysis of existing conditions is the determination of the peak travel hours to be analyzed. Guidance for determining the peak travel hours is located in subsection 332. For most projects, at most subway stations and for most line haul analyses, the weekday morning peak hour is from 8 to 9 AM, while the weekday evening peak hour is from 5 to 6 PM. Note that there are several factors that could influence the specific timing of the peak hour.

- Increasing ridership along the shoulders of the typical peak hour may require a shift in a peak hour by 15-minutes at either end (for example, a morning peak of 8:15 to 9:15 AM).
- The further away a project or station is from the major central business districts, the earlier the AM and the later the PM peak hour will be.
- In cases when a project is projected to generate the highest amount of hourly trips during a non-traditional peak hour, a determination must be made as to whether the project's peak hour would have a greater impact on the subway system than would the hourly trips generated during a more traditional peak hour. In some cases, it may be necessary to analyze multiple peak hours.
- Stations and lines affected by such items as stadiums, large schools, summer beach crowds or special events may have peak hours that are different from or in addition to the more traditional peak hours.

Also note that peak hour subway ridership levels are typically lowest during the summer months. Therefore, data collected between July 1st and the first week of September may need to be calibrated using seasonal adjustment factors. Consult with NYCT Operations Planning for these factors or for additional guidance.

**Section 352.1.2** – Clarifies that existing passenger and pedestrian volume data may be used if it was collected in the last two years. Also adds up and down movements on the street, mezzanine or platform stairways and escalator and elevator pedestrian counts to the count areas. The revised language is as follows:

Available data may be used if the data is from within the past two years and if there have not been major changes in nearby land uses or transit services that have significantly affected transit usage since the data were collected. However, most of the data needed to conduct the rail transit analyses generally need to be newly collected. It is also generally appropriate to observe pedestrian movement patterns through the station and along critical platforms simultaneously with the counts. NYCT can supply recent turnstile registrations (entries only) as well as existing, and, where appropriate, No-Action line-haul volumes. Required actual counts may include any or all of the following, ~~depending on whether these elements are part of the transit study area:~~



## CEQR TM CHANGES: MARCH 2014

- Up and down movements on the street, mezzanine or platform stairways, and escalator, and elevator pedestrian counts.

...

**Section 352.1.3 – Analysis of Stairs and Passageways** –Consolidates and clarifies guidance on the analysis of stair and passageway flows. The revised language is as follows:

The first steps in calculating existing and projected v/c ratios are measuring the width of stair or passageway and to count passenger volumes, noting the degree of surging. The counts should be in 15-minute intervals, by direction, during the appropriate peak periods as described above. The v/c ratio and LOS rating of a stair or passageway is based on its peak 15-minute passenger volume divided by the capacity. The peak 15-minute volume is obtained by taking 31.25 percent of the peak hour volume (this is 25 percent above the average 15-minute volume). The peak 15-minute volume for stations that serve stadiums, large schools or special events will usually be larger than the typical 31.25 percent peaking factor; consult with NYCT Operations Planning in such cases.

For CEQR analyses, “capacity” is based on the width of the stairs or passageway, the maximum volume for that width based on NYCT capacity guidelines and adjustments for passenger flow surging and counterflow. When counting passenger volumes, it is critical to note whether or not passenger flow is surged. Typically, flows off platforms are not uniform over a 15-minute period and are surged in that passengers are densely concentrated after disembarking from trains. Passenger flows en route to platforms (via street stairs, corridors or platform stairs) tend to be more uniform over a 15-minute interval, although surged flow can sometimes result from such things as heavy transfer flow, heavy use of buses feeding a subway station or even a traffic signal at street level which results in platoons of pedestrians crossing the street to enter a particular station.

~~The first step in calculating existing and projected v/c ratios is to measure the width of the stair or passageway, count passenger volume, and observe degree of surging. The counts should be in 15-minute intervals, by direction, during the peak hours (usually morning and evening peak hours). It is also critical to note if passenger flow is surged or not. Typically exit flow out of stations or transfer flows between subway lines are “surged,” i.e., passengers are concentrated in dense groups after disembarking from trains. However, de-train transfers may be metered by other circulation elements or multiple surged flows may merge “downstream.” Thus exit or transfer flows may be more uniform than surged if they are remote from the actual train platform(s). Typically, entry flows into the subway are uniform over a 15-minute interval.~~

~~The numerator in the v/c calculation is always the peak unaltered 15-minute passenger flow volume. The “capacity” denominator is derived from four factors: the NYCT guideline, the effective width of the stair or passageway, and surging and counterflow factors, if applicable. Each of these factors are discussed individually, followed by the calculation itself and finally, the v/c ratio ratings.~~

Split Table 16-5 into two tables: 16-5a, which provides surging factors for surge flows off of platforms; and 16-5b, which provides surging factors for flows onto platforms. The revised text and tables are as follows:

Table 16-5a should be used for surged flow off of platforms; Table 16-5b should be used for surged flow onto platforms. Note that surging factor is applied only to the exiting pedestrian volume.

<b>Table 16-5a</b>	
<b>Surging Factors (Flows off of Platforms)</b>	
<b>Location of Circulation</b>	<b>Number of Tracks Served Factor</b>



Element	One or two tracks served	Three or more tracks served
Platform Level	0.75	N.A.
One floor above or below the platform	0.8	0.9
Two or more floors above or below the platform	0.9	0.95

**Table 16-5b**  
**Surging Factors (Flows onto Platforms)**

Location of Circulation Element	Factor
Same level as source of surge	0.75
One floor above or below source of surge	0.8
Two or more floors above or below source of surge	0.9

Also, deletes instruction that only the “capacity” denominator is adjusted and that “volume” numerator should always remain unaltered for v/c ratios for stairs.

**Section 352.1.3 – Analysis of Escalators and Turnstiles** – Clarifies that for both escalator and turnstile analysis the numerator in the v/c calculation is the peak 15-minute passenger flow volume as opposed to the unaltered volume. Also clarifies that since turnstiles are subject to two-way flow, they must incorporate a friction factor. The revised language is as follows:

~~Passenger flow on escalators and through turnstile arrays is different from flow on stairs or passageways. Passengers routinely use escalators and turnstiles at a rate closer to maximum throughput. In contrast, maximum passenger “through put” on a stair or in a passageway throughout a 15-minute interval is uncomfortable and undesirable.~~

~~For both escalators and turnstiles, the numerator in the v/c calculation is the unaltered peak 15-minute passenger flow volume. For escalators, the “capacity” denominator includes only two factors: the NYCT guideline capacity for a 15-minute interval and a surging factor of up to 25 percent. Like stairs and passageways, the surging factor is variable based on the extent of actual surging. Escalators and turnstiles immediately off of the platform with heavy detraining traffic require a 25 percent surging factor. Circulation elements that are farther from the platform are served by multiple train lines, or are predominantly entry flow, require a smaller surging factor or none at all. Consult the Surging Factor tables, Tables 16-5a and 16-5b, for the appropriate factor to apply. Although there is no friction factor due to the one-directional nature of escalators, turnstiles are subject to two-way flow and thus a friction factor.~~

**Section 352.1.3 – Analysis of Escalators** – Changes measuring unit from 90 “treads” per minute to 90 “feet” per minute and updates Table 16-6 to reflect current escalator capacity data. The revised text and table are as follows:

## CEQR TM CHANGES: MARCH 2014

### ANALYSIS OF ESCALATORS

NYCT uses three widths of escalators (as measured across the tread)--24", 32" and 40". Escalator width at hip height is usually about 8" wider. NYCT escalators are operated at one of two speeds--90 feet treads-per minute (fpm tpm) and 100 fpm tpm. Table 16-6 indicates the guideline capacities by minute and by 15-minute interval for different escalator widths and speeds. These capacities are based on observed through-put rates of escalators under peak period conditions.

	<b>Tread Speed</b>	<b>24" Tread</b>	<b>32" Tread</b>	<b>40" Tread</b>
90 <u>fpm tpm</u>	<u>68 treads per minute</u>	480	750	945
100 <u>fpm tpm</u>	<u>75 treads per minute</u>	600	825	1050

**Section 352.1.3 – Analysis of Turnstiles** – Notes that NYCT policy does not call for the use of emergency gates for everyday exiting purposes. Accordingly, passengers who utilize these gates should be counted as if they had used a turnstile. The revised language is as follows:

NYCT operates regular (low) turnstiles, High Entry/Exit Turnstiles (HEETs) and high exit turnstiles (HXTs) in the subway. Low turnstiles and HEETs are bi-directional and serve both entry and exit moves. Because entry requires a MetroCard swipe (and exiting does not), there are different through-put rates by direction. Therefore, turnstile analysis involves calculation of separate v/c ratios by direction, which are then combined into a single v/c ratio for the turnstile array. Surging and counterflow factors are applied as appropriate. Note that NYCT policy does not call for the use of emergency gates for everyday exiting purposes. Although passengers may make use of these gates, these passengers for analysis purposes should be assigned to turnstiles since one goal of fare array design is to provide adequate non-emergency entry and exit capacity without the use of emergency gates.

**Section 352.1.3 – Analysis of Platforms** – Deletes reference to Time-Space Analysis as a third acceptable methodology for analysis of platform zones.

**Section 352.1.3 – Analysis of Elevators** – Suggests consultation with NYCT if an elevator analysis is to be undertaken.

**Section 352.2.2 – Analysis of Bus Load Levels** – Removes references to Long Island Bus and deletes Long Island Bus standards.

**Section 353.3** – Clarifies that programmed transit changes in the No-Action condition may include mitigation measures incorporated in the approvals for other development projects. The revised language is as follows:

This assessment should also account for any programmed transit changes that could affect passenger flows or levels of service. For example, in the No-Action condition it may be appropriate to consider mitigation measures (e.g., stairwell widening at a particular subway station) that are incorporated in the approvals for other development projects. As another example, For example if the NYCT has programmed the closure of a stairwell at a particular subway station, the effects of such measures would be accounted for in the No-Action analysis.



## CEQR TM CHANGES: MARCH 2014

**Section 362 – Determination of Peak Periods** – Clarifies that generally peak periods for pedestrian analysis should be the same as for traffic analysis.

**Section 363.1 – Determination of Peak Hour for Analysis Purposes** – Explains how to calculate peak pedestrian hour analysis, and indicates that the lead agency and the New York City Department of Transportation should be consulted if there are multiple projects planned in the study area. The new language is as follows:

### **363.1. Determination of the Peak Hour for Analysis Purposes**

The first step in the analysis of existing conditions is to determine the peak pedestrian hours to be analyzed, which should be determined independently of traffic peak hours. The pedestrian analysis considers the peak activity hours of the proposed project, the peak hours for background pedestrian traffic already existing in the study area, and which combinations of the two may generate significant impacts.

One means of quantitatively determining the peak pedestrian analysis hour is to prepare a table showing existing hour-by-hour pedestrian volumes at a set of representative locations within the area or at a cordon line around the area, side by side with hour-by-hour projection of the expected trip generation of the project. A comparison of the two sets of volumes would indicate: a) which pedestrian hours are likely to be the busiest in the future; and b) at which hours the influence, or impact, of the proposed project's trip-making levels would likely be the greatest. From this comparison, potential significant impact hours—and thus the peak pedestrian hours to be analyzed—may be identified. Should there be multiple projects in the study area, it is recommended that common peak analysis hours be used. The lead agency and DOT should be consulted if there are multiple projects in the study area.

In some cases, the peak condition to be analyzed is obvious because the peak hour of the project's trip-making would coincide with the existing peak hour. In other cases, the two peak hours may be very close, and it may be proper to use the existing peak hour and later, during the impact analysis stage, to superimpose the peak trip generation of the proposed project onto the peak existing condition. In yet other cases where the two peaks are not coincidental (or nearly coincidental), a screening analysis is needed to determine which of the two peaks (the existing peak or the proposed project's peak) would effect the worst impact condition, or whether both hours require detailed analysis.

**Section 363.3 – Preparation of Existing Pedestrian Volumes and Levels of Service Analysis** – Clarifies that a Pedestrian LOS Worksheet prepared by DOT should be used for analysis of sidewalks, crosswalks and corner reservoir areas. Updates input data to utilize including peak hour factor, effective sidewalk or walkway width and average walking speed. Updates data contained in Table 16-9 and inputs for peak hour analysis. Deletes distinct directions for reporting pedestrian volumes for intersection corners and cross-walks. The revised text is as follows:

The methodologies presented in the HCM 2010 are the basic analytical tools used to analyze pedestrian conditions and the HCM 2010 should be referred to for detailed information on analytical procedures. A Pedestrian LOS Worksheet should be prepared using the “Pedestrian LOS Worksheet, Sample and Instructions” for the analysis of sidewalks, crosswalks, and corner reservoir areas.

For midblock-sidewalk locations or other walkways locations, the most important parameters inputs for the analyses are the pedestrian volumes by direction for of pedestrians passing a given point during the peak 15 minutes of each peak period, the peak hour factor, the effective sidewalk or walkway width (the portion of a sidewalk or walkway that can be used effectively by pedestrians) and average walking speed. A schematic of existing conditions should be prepared detailing total sidewalk or walkway width, sidewalk or walkway obstructions (i.e., poles, signs, trees, hydrants,



subway entrances, parking meters, newsstands, street vendors, telephone booths, etc.) and effective clear sidewalk or walkway width. Care must be taken in estimating the effective sidewalk or walkway width by taking into account shy distances of building faces and curbs, preemptive width of obstructions, and effective length of occasional obstructions. Refer to the HCM 2010 for details.

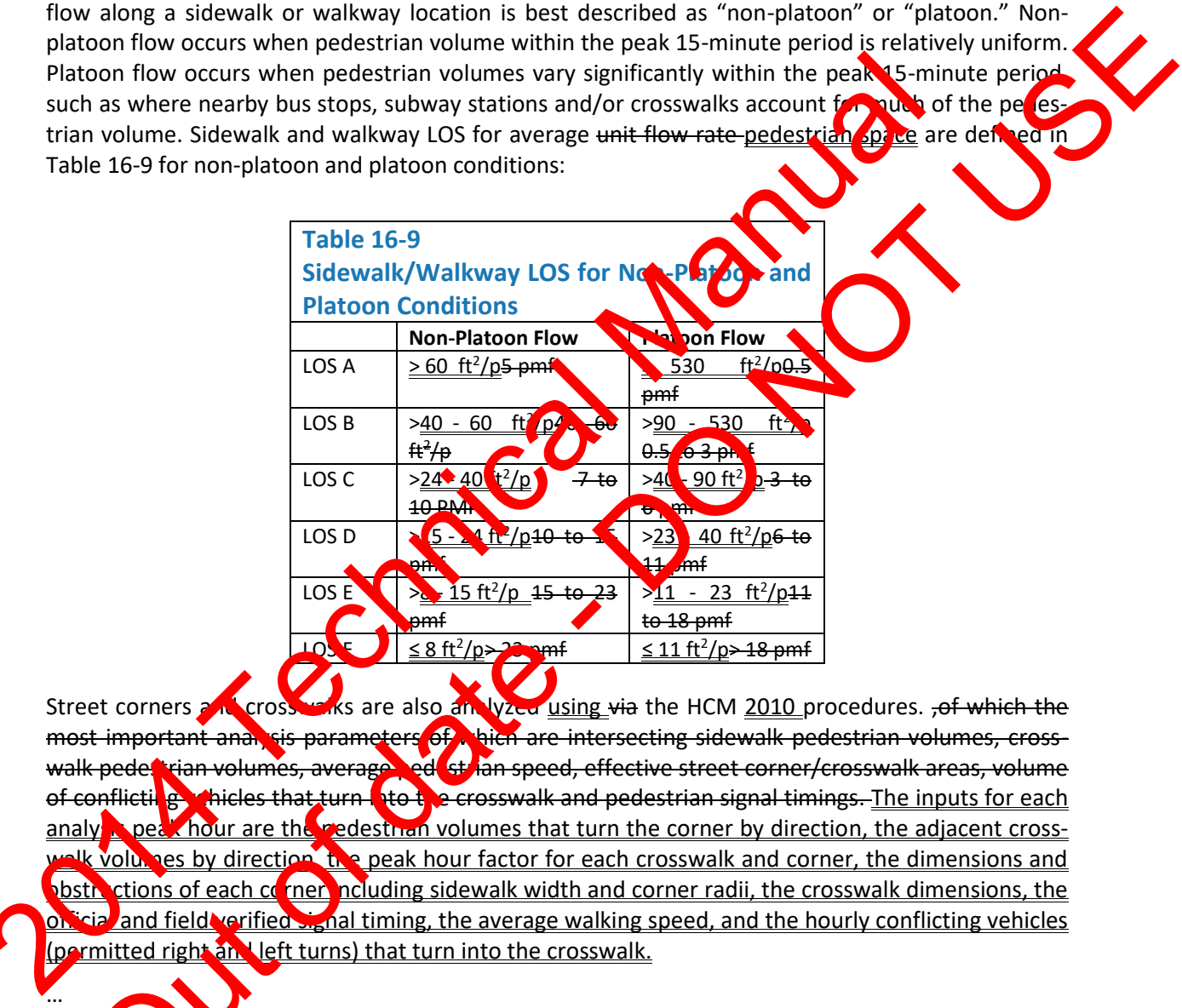
The primary performance measure for sidewalks and walkways is pedestrian space unit flow rate, expressed as square feet per pedestrian per minute per foot of width (ft<sup>2</sup>/p), which is an indicator of the quality of pedestrian movement and comfort. It must be determined whether the pedestrian flow along a sidewalk or walkway location is best described as “non-platoon” or “platoon.” Non-platoon flow occurs when pedestrian volume within the peak 15-minute period is relatively uniform. Platoon flow occurs when pedestrian volumes vary significantly within the peak 15-minute period, such as where nearby bus stops, subway stations and/or crosswalks account for much of the pedestrian volume. Sidewalk and walkway LOS for average unit flow rate pedestrian space are defined in Table 16-9 for non-platoon and platoon conditions:

**Table 16-9  
Sidewalk/Walkway LOS for Non-Platoon and Platoon Conditions**

	Non-Platoon Flow	Platoon Flow
LOS A	$> 60 \text{ ft}^2/\text{p} > 5 \text{ pmf}$	$> 530 \text{ ft}^2/\text{p} > 0.5 \text{ pmf}$
LOS B	$> 40 - 60 \text{ ft}^2/\text{p} > 4 - 6 \text{ pmf}$	$> 90 - 530 \text{ ft}^2/\text{p} > 0.5 - 3 \text{ pmf}$
LOS C	$> 24 - 40 \text{ ft}^2/\text{p} > 7 \text{ to } 10 \text{ PMH}$	$> 40 - 90 \text{ ft}^2/\text{p} > 3 \text{ to } 6 \text{ PMH}$
LOS D	$> 15 - 24 \text{ ft}^2/\text{p} > 10 \text{ to } 15 \text{ pmf}$	$> 23 - 40 \text{ ft}^2/\text{p} > 6 \text{ to } 11 \text{ pmf}$
LOS E	$> 11 - 15 \text{ ft}^2/\text{p} > 15 \text{ to } 23 \text{ pmf}$	$> 11 - 23 \text{ ft}^2/\text{p} > 11 \text{ to } 18 \text{ pmf}$
LOS F	$\leq 8 \text{ ft}^2/\text{p} > 23 \text{ pmf}$	$\leq 11 \text{ ft}^2/\text{p} > 18 \text{ pmf}$

Street corners and crosswalks are also analyzed using via the HCM 2010 procedures. of which the most important analysis parameters of which are intersecting sidewalk pedestrian volumes, crosswalk pedestrian volumes, average pedestrian speed, effective street corner/crosswalk areas, volume of conflicting vehicles that turn into the crosswalk and pedestrian signal timings. The inputs for each analysis peak hour are the pedestrian volumes that turn the corner by direction, the adjacent crosswalk volumes by direction, the peak hour factor for each crosswalk and corner, the dimensions and obstructions of each corner including sidewalk width and corner radii, the crosswalk dimensions, the official and field verified signal timing, the average walking speed, and the hourly conflicting vehicles (permitted right and left turns) that turn into the crosswalk.

When reporting pedestrian volumes and conducting LOS analyses for intersection corners and crosswalks, a peak 15-minute period for each pedestrian element should be used rather than a common peak 15-minute period. For example, during an AM peak hour of 8:00 a.m. to 9:00 a.m., the peak 15-minute period for a crosswalk may be 8:30 a.m. to 8:45 a.m., but for an adjacent corner, it may be 8:45 a.m. to 9:00 a.m. Therefore, the analysis for these two elements would be based on their respective peak 15-minute volumes.





## CEQR TM CHANGES: MARCH 2014

**Section 370** – Clarifies that an assessment of Vehicular and Pedestrian Safety Issues may be appropriate in addition to Detailed Traffic and/or Pedestrian Analysis.

**Section 413** – Summarizes significant impacts for basic freeway segments. The revised language is as follows:

The determination of significant impacts for basic freeway segments is summarized as follows:

- If the level of service under the no-action condition is LOS D, an increase in the projected density of 5 or more passenger cars per mile per lane (pc/mi/ln) under the action condition should be considered a significant impact.
- If the level of service under the no-action condition is LOS E, an increase in the projected density of 4 or more pc/mi/ln under the action condition should be considered a significant impact.
- If the level of service under the no-action condition is LOS F, an increase in the projected density of 3 or more pc/mi/ln under the action condition should be considered a significant impact.

Highway or ramp sections being analyzed—including main line capacity sections, weaving areas, and ramp junctions—should not deteriorate more than one-half of a level of service between the No-Action and With-Action conditions when the No-Action condition is within LOS D, E, or F.

**Section 414** – Updates the criteria for the determination of significance for freeway weaving, and ramp junction intersections. The revised language is as follows:

The determination of significant impacts for freeway weaving and freeway merge and diverge segments is summarized as follows:

- If the level of service under the no-action condition is LOS D, an increase in the projected density of 4 or more passenger cars per mile per lane (pc/mi/ln) under the action condition should be considered a significant impact.
- If the level of service under the no-action condition is LOS E, an increase in the projected density of 3 or more pc/mi/ln under the action condition should be considered a significant impact.
- If the level of service under the no-action condition is LOS F, an increase in the projected density of 2 or more pc/mi/ln under the action condition should be considered a significant impact.

**Section 421** – Corrects Equation 16-5 to include “X 12” and clarifies that the effective width of stairways should be specified in feet. The revised equation is as follows:

$$WWT = \left( \frac{Vb \text{ up}}{150 \times Sf_{up} \times Ff} + \frac{Vb \text{ down}}{150 \times Sf_{down} \times Ff} - Wef \right) \times 12$$

**Section 442** – Throughout this section and the subsections, changes the metric to be used in calculating sidewalk impact from flow rates to average pedestrian space. Accordingly, the guidance throughout this section in Equations 16-8 and 16-9, and in Tables 16-14, 16-15, 16-16 and 16-17 has been revised.

**Section 450** – Suggests that the availability of alternative modes of transportation should be considered in determining whether a parking shortfall is significant.

**Section 500** – Updates example to reference average pedestrian space as opposed to average flow rate.

**Section 510** – Clarifies that an impact is considered fully mitigated when the resulting degradation in the average control delay per vehicle, as opposed to LOS, is no longer deemed significant following the criteria described in Section 420. Also references FDNY and NYPD as agencies that may either implement or approve mitigation measures. Updates to Table 16-18 to reflect multiway stop control and two-way stop control as



## CEQR TM CHANGES: MARCH 2014

additional low-cost, readily implementable mitigation measures, indicates that MUTCD for multiway stop control must be followed, and includes FDNY as agencies that must approve geometric improvements.

**Section 511** – Indicates if a signal timing change exceeds four seconds of green time reallocation, a signal progression analysis is likely required. Also instructs the lead agency to consult DOT to determine whether such analysis is needed, the appropriate study corridors and the analysis tools to be used. Adds that the DOT official signal timing plan should be used for average walking speed. Clarifies instructions for using parking modifications as proposed mitigation. The revised text is as follows:

The goal of this measure is to restrict, remove, or relocate parking (including bus stops) by modifying curbside regulations along streets where additional travel lanes are needed for traffic capacity reasons, or to reduce conflicts between cars involved in parking maneuvers and through traffic. In adding capacity by removing on-street parking, the analysis also evaluates impacts on bus service and whether there is sufficient parking space within the study area to accommodate those parked cars that have been displaced. Please note that when a parking modification is proposed as mitigation, the scaled schematic should identify a curbside travel lane no less than 11 feet wide and include a turning radii using the appropriate design vehicle turn template for DOT's review and approval. It should be noted that relocation of bus stops would require NYC/MTABC review and approval of such mitigation measures.

Also revises guidance on Lane Restriping and Pavement Marking Changes. The revised text is as follows:

The objective of these measures is to make more efficient use of a street's width, either in ~~by~~ providing an exclusive turning lane, if warranted, restriping the lane markings to give greater width to those movements that need them with guard lane widths, etc. For example, an intersection approach characterized by a very heavy right-turn movement and moderate through and left-turn movements may currently provide a 10-foot wide right-turn lane and two ~~12~~11-foot wide lanes for the other movements. Restriping the approach to provide a ~~12~~11-foot wide right-turn lane and two ~~11~~10.5-foot wide lanes for the other movements may provide right-turning vehicles with the capacity they need. It should be emphasized that any proposed lane widths modifications should follow the DOT guideline. One other objective would be to improve pedestrian safety by widening crosswalks at critical intersections (e.g., a travel lane could be 10 feet wide, but it should not be greater than 11 feet unless it is a bus lane in which case it could be 12 feet wide, a curb lane and a travel lane next to the centerline should be 11 feet wide, etc.). One other objective would be to improve pedestrian operation by widening crosswalks at impacted locations in conformance with the guidance in DOT's 2009 *Street Design Manual*. Please note that whenever a turning bay and/or shift in centerline is proposed, a scaled schematic covering the transition area should be submitted for DOT review and approval.

**Section 512** – Provides that for traffic signal approval, a private applicant must provide a commitment letter to DOT identifying the funding for the design and installation of a new traffic signal.

**Section 515** – Clarifies that for new transit services, both coordination with and prior written approval from NYTCT/MTABC is required.

**Section 516** – Indicates that the monitoring commitments should be acknowledged in both the FEIS and in the DOT sign-off letter.

**Section 521** – Clarifies that the addition of vertical capacity refers to the addition of an elevator, escalator, or additional stairway.



## CEQR TM CHANGES: MARCH 2014

**Section 530** – Adds that inclusion of real time bus arrival information for passengers should be considered as a possible bus transit mitigation measure.

**Section 540** – Instructs that for crosswalk widening, a crosswalk width should be determined from the property line to the face of the curb minus two feet. Also instructs that adding new traffic signals may require a traffic level of service analysis. Clarifies that any street closure for more than 180 days must follow the requirements of Local Law 24 of 2005.

**Sections 741 & 742** – Updates the address for the Mayor’s Office of Environmental Coordination (MOEC). MOEC’s current address is 100 Gold Street, 2<sup>nd</sup> Floor, Manhattan, NY 10028.

**Section 743** – Removes references to Long Island Bus.

### Chapter 17, “Air Quality”

**Global Change** – Where PM is discussed in terms of mobile sources, the PM emissions are a concern from both gasoline and diesel powered vehicles; not just diesel vehicles.

**Global Change** – Where stationary sources are referenced, “major” sources requiring Title V permits are distinguished from “large” sources requiring State Facilities permits.

**Section 121** – Updated to list Regulated Pollutants first then National and State Ambient Air Quality Standards Section after, now as “122.”

**Section 121.3** – Includes a new section specifically for nitrogen oxides, which discusses stationary source emissions.

**Section 121.7** – Clarifies that the solid waste incinerators, rather than all solid waste facilities, could emit noncriteria pollutants. The revised language is as follows:

Examples include a project that would result in the development of a residential building near a manufacturing area that has several low-level sources (one- to two-story industrial facilities with multiple exhaust stacks) that emit airborne toxic compounds; or development of new industrial sources, such as solid waste incinerator facility, that could emit such compounds in potentially significant quantities.

**Section 122.1** – Revises the number of Hazardous Air Pollutants from major facilities and area sources regulated by USEPA from 187 to 189.

**Section 122.2** – Updates Table 17-1 to reflect recent changes in the National Ambient Air Quality Standards (NAAQS). On December 14, 2012, the U.S. Environmental Protection Agency (USEPA) strengthened the annual primary NAAQS for fine particles (PM<sub>2.5</sub>) to 12.0 micrograms per cubic meter (µg/m<sup>3</sup>). The 3-hour average secondary standard for sulfur dioxide (SO<sub>2</sub>) is 0.5 parts per million (ppm). Also includes all pertinent New York State ambient air standards. Added footnote to Table 17-1 stating that the lead standard is not to be exceeded.

Also updates color limitations in New York, adding the following language:

New York State has a 1-hour ambient air quality standard for hydrogen sulfide (which has a malodorous smell similar to rotten eggs) of 10 parts per billion (ppb). The 1-hour New York State ambient air standard is nuisance-based and is applicable at all off-site locations when analyzed under CEQR.

**Section 123** – Updates information on New York City’s attainment or nonattainment status for air pollutants regulated under the Clean Air Act, including updated dates, attainment designations and status of



## CEQR TM CHANGES: MARCH 2014

plans/submittals. Also removed text stating that it is premature to conduct a quantitative assessment of NO<sub>2</sub>. The revised language is as follows:

The USEPA designates areas that do not meet one or more of the NAAQS as nonattainment areas (NAA). The CAA, as amended in 1990, requires that each state with a NAA to submit a State Implementation Plan (SIP) that delineates the control strategies to achieve compliance with the NAAQS. New York City complies with the NAAQS for SO<sub>2</sub>, NO<sub>2</sub>, CO and lead, but is designated as a NAA for 8-hour ozone and PM<sub>2.5</sub>. New York County is also designated as a NAA for PM<sub>10</sub>.

Historical monitoring data for New York City indicate that the ozone 8-hour standard is exceeded. To be in compliance, the 3-year average of the annual fourth highest maximum 8-hour average concentration should not exceed the ozone 8-hour standard. In August 2007, the state submitted the final proposed revision of the SIP for ozone, documenting how the area will attain the 8-hour ozone standard by 2013. In March 2008, the USEPA revised the 8-hour ozone NAAQS to 0.075 parts per million (ppm). Separately, in June 2011, the state has requested petitioned the USEPA to make a binding determination that the NY-NJ-CT metropolitan area (NYMA) has attained the 1997 8-hour ozone NAAQS of 0.08 ppm.

~~Air quality monitoring in Manhattan indicates that the annual average concentration of respirable particulates is above the NAAQS. The USEPA designated New York County (Manhattan) as a nonattainment area for respirable particulate matter (PM<sub>10</sub>). The other four New York City boroughs are designated as in attainment for the PM<sub>10</sub> standards. All five New York City boroughs have been designated as a PM<sub>2.5</sub> non-attainment area under the CAA due to by exceeding both the 24-hour and annual average standard. New York State has withdrawn the PM<sub>10</sub> SIP and requested a clean air finding in January 2013. New York State also submitted a redesignation demonstration and a maintenance plan draft SIP to the USEPA in June 2013 for PM<sub>2.5</sub>. On December 14, 2012, the USEPA promulgated a new annual primary NAAQS for PM<sub>2.5</sub> of 12 micrograms per cubic meter based on the annual arithmetic mean, averaged over 3 years. The USEPA anticipates initial designations of NAAs will become effective in early 2015. New York would have until 2020 (5 years after designations are effective) to meet the revised annual PM<sub>2.5</sub> NAAQS, if it is designated as a non-attainment area. to meet the annual average standard by April 8, 2010. By April 2012, New York will be required to submit a SOP demonstrating attainment with the 24-hour standard by 2014 (EPA may grant attainment date extensions for up to five additional years.)~~

Monitoring data for the other three national criteria pollutants (SO<sub>2</sub>, NO<sub>2</sub>, CO, and lead) demonstrate that New York City is in compliance with the corresponding NAAQS for these pollutants.

On February 9, 2010, the USEPA revised the Clean Air Act's primary NAAQS for NO<sub>2</sub> by supplementing the existing annual primary standard of 53 parts per billion (ppb) with a new 1-hour primary standard at of 100 parts per billion (ppb) based on the 3-year average of the 98<sup>th</sup> percentile of the daily maximum 1-hour average concentrations, and establishing a new monitoring program. (75 Fed.Reg. 6475 (Feb. 9, 2010)). The final rule became effective on April 12, 2010. The USEPA intends to promulgate initial NO<sub>2</sub> designations of attainment, nonattainment, and unclassifiable areas, using the 3 most recent years of quality-assured air quality data from the current monitoring network. The USEPA will designate as "nonattainment" any areas with NO<sub>2</sub> monitors recording violations of the revised NO<sub>2</sub> NAAQS, and intends to designate all other areas of the country as "unclassifiable" to indicate that there is insufficient data to determine whether or not they are attaining the revised NO<sub>2</sub> NAAQS. The current monitoring network focuses upon concentrations for general population exposure at neighborhood and larger scales to support the current annual NO<sub>2</sub> standard, and therefore, does not include monitors near major roadways that could measure the localized concentrations, which are estimated to be responsible for the majority of 1-hour peak NO<sub>2</sub> exposures. (75 Fed.Reg.





## CEQR TM CHANGES: MARCH 2014

6479). The 2010 rule required States to site NO<sub>2</sub> near-roadway monitors and have them operational by January 1, 2013. The USEPA proposed revisions to this rule on October 5, 2012 to require states to begin operating the near-road component of the NO<sub>2</sub> monitoring network in phases between January 1, 2014 and January 1, 2017. This means that sufficient air quality data from the new network will not be available to determine compliance with the revised NAAQS until after 2015 at the earliest.

Until the NO<sub>2</sub> designations are made, the USEPA rule states that major new and modified sources applying for New Source Review (NSR)/Prevention of Significant Deterioration (PSD) permits "will initially be required to demonstrate that their proposed emissions increases of NO<sub>x</sub> will not cause or contribute to a violation of either the annual or 1-hour NO<sub>2</sub> NAAQS and the annual PSD increment" (75 Fed. Reg. 6525) (Feb. 9, 2010) (referring to 40 C.F.R. 51.166(k)). The USEPA may provide additional guidance in the future, as necessary, to assist states and emissions sources to comply with the CAA requirements for implementing new or revised NO<sub>2</sub> NAAQS. At this time and for the purpose of CEQR, it is premature to conduct a quantitative assessment of the effect of a project's potential NO<sub>2</sub> emissions on the new 1-hour NO<sub>2</sub> primary standard. Data and technical gaps need to be addressed and neither the EPA nor DEC has promulgated guidance for such an assessment. Currently, the baseline NO<sub>2</sub> data provided by the current monitoring network and the variability of the NO<sub>x</sub> to NO<sub>2</sub> conversion factor for purposes of the one-hour standard do not provide for a meaningful ability to predict exceedances of the hourly standard. Under specific circumstances, the lead agency may determine that a qualitative or quantitative discussion/analysis of a project's NO<sub>2</sub> emissions in terms of the new 1-hour standard may be appropriate. EPA's clarification memoranda on modeling could be found at [http://www.epa.gov/ttn/scrur/guidance\\_clarificationmemos.htm](http://www.epa.gov/ttn/scrur/guidance_clarificationmemos.htm). MOEC will issue further guidance as appropriate.

On June 22, 2010, the USEPA promulgated a new 1-hour NAAQS for SO<sub>2</sub> of 75 ppb. The final rule became effective on August 23, 2010. New York submitted a letter to the USEPA on June 1, 2011 recommending that New York City be designated as "attainment" for the new 1-hour NAAQS. States are required to submit their initial area designation recommendations for SO<sub>2</sub> to EPA no later than June 2011. EPA will Once areas are designated as "attainment," "nonattainment" or "unclassifiable" for the new 1-hour NAAQS, the USEPA plans to approve plans needed to provide for attainment and maintenance of the new 1-hour NAAQS by approximately August 2017 in all areas of the state, including any area initially designated "nonattainment," and also including any area designated "unclassifiable" that has SO<sub>2</sub> sources with the potential to cause or contribute to a violation of the NAAQS.

**Section 172** – Updated Microscale analyses to include "volume" sources. The new text is as follows:

### VOLUME SOURCES

Volume sources are used to simulate the effects of emissions from a wide variety of industrial sources. In general, the volume source model is used to simulate the effects of emissions from sources such as building roof monitors and line sources (for example, conveyor belts and rail lines).

Updated with text regarding dispersion models as follows:

The dispersion models should generally conform to the EPA's are addressed in Appendix A of USEPA's *Guideline on Air Quality Models*, which is (also published as Appendix W of 40 CFR Part 51). The guidelines are periodically updated revised to ensure that new model developments or expanded regulatory requirements are incorporated.

**Section 200** – Updates Table 17-2 to include "induced trucks" as an additional potential issue of concern in regard to new or modified roadways.





## CEQR TM CHANGES: MARCH 2014

**Section 210** – References boats as an additional potential mobile source of pollutants.

**Section 220** – Moves definitions of major and large emission sources from section 322.2 and defines these as follows:

Major sources are identified as those sources located at Title V facilities that require Prevention of Significant Deterioration permits. Large sources are identified as sources located at facilities which require a State facility permit.

Removes bullet related to projects that would result in new structures with corresponding new uses within 400 feet of a stack associated with commercial, institutional, or residential developments to avoid double counting with background concentrations.

**Section 310** – Removes example of heat input of 2.8 million BTU/hour or higher for potential cumulative impacts.

**Section 311.2** – Updates description of receptor locations. The revised text is as follows:

Therefore, receptor locations are placed on sidewalks adjacent to, and across the street from, the parking lot/open-sided garage.

**Section 312.1** – Clarifies that for both generic and programmatic actions, consideration of the potential ranges of stationary sources is the first step in defining the study area.

**Section 312.2** – Adds examples of reasonable air quality receptor sites, including the following:

- Edges of rights-of-way for roadways without sidewalks, if publicly accessible;
- Property lines of all residences, hospitals, schools, and playgrounds, and the entrances and air intakes to all other buildings; and
- Portions of parking lots to which the public has pedestrian access.

**Section 320** – Updates the hyperlink to the US EPA's *Guideline on Air Quality Models* to the 2005 edition rather than the 1979 edition and clarifies that assessments for large stationary sources should be consistent with these models. Deletes statement that for mobile sources, the predictions for the analysis year are made using mathematical models rather than actual monitoring.

**Section 321** – Updates Section 321 and its subsections to reflect its applicability to both CO and PM modeling requirements. Revises Section 321 as follows:

CO and PM are the primary pollutants of concern for most microscale mobile source analyses, including the assessments of roadways and automobile parking lots and garages. Particulate matter may also be of concern for parking lots and garages used primarily by heavy-duty diesel-powered trucks and buses and for projects generating bus or truck traffic with the potential to affect nearby sensitive receptors for a prolonged period of time.

The basic tool for analyzing pollutant concentrations from mobile sources is air pollutant dispersion models. These models estimate CO and PM concentrations under given conditions of traffic conditions, meteorology meteorological conditions, and roadway configurations. First, traffic data for the analysis years are input into the model. Then, emissions from vehicle exhaust systems (and other on-road sources of emissions for PM) and their distribution over the roadway are estimated for that



## CEQR TM CHANGES: MARCH 2014

year, using a separate mathematical model. However, for areas with complex topography, or projects that propose or would affect a fully or partially covered roadway, it may be more appropriate to use physical rather than mathematical models to assess the potential for significant impacts. Then, the way these emissions are dispersed because of meteorological conditions, roadway geometry, and other factors is considered. However, for areas with complex topography, or projects that propose or would affect a fully or partially covered roadway, it may be more appropriate to use physical rather than mathematical models to assess the potential for significant impacts.

**Section 321.1** – Updates description of MOVES in the subsection on Estimates of Mobile Source Emissions, and removes Ambient Temperature section as this data is not required under MOVES. Also removes subsection on Vehicle Operating Conditions. Adds new subheading for Estimates of Fugitive Dust Emissions. Text under this subheading remains the same. Updates Dispersion Modeling section to specify that it is applicable to CO analysis. Also updates Time Averaging Periods and Background Concentrations to reflect CO and PM guidelines and incorporated 2012 ambient monitoring data from NYSDEC into Background Concentrations.

Revises the text of the subsections on Estimates of Mobile Source Emissions, Dispersion Modeling, and Background Concentrations as follows:

### ESTIMATES OF MOBILE SOURCE EMISSIONS

Emissions—USEPA's models are used to predict the distribution of pollutants emitted emissions from vehicles' exhaust systems over the roadway (for both idling and moving vehicles). The primary pollutants of concern from mobile sources on roadways from autos is CO and PM, while particulate matter may be more of a concern from diesel trucks and buses. Emissions models used to analyze CO and particulate matter from mobile sources are a series of mathematical models developed by the USEPA are used to analyze CO and PM emissions from mobile sources. These models are periodically updated to account for the most recent test data on new vehicles under production (and any revised standards for emissions from new vehicles (*i.e.*, also called "tailpipe" standards). The USEPA's MOVES program is the most recent version of the mobile emissions factor model for CO and PM emissions estimates. Projects undergoing CEQR review should use MOVES, a program available for project-level analysis.

MOVES estimates emissions for both on-road and non-road vehicular sources covering carbon monoxide, particulate matter, CO, PM, as well as greenhouse gases: carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), and methane (CH<sub>4</sub>). The model allows for multiple scale analyses from fine-scale analysis to national inventory estimation, and encompasses the tools, algorithms, data, and guidance necessary for analyses associated with regulatory development, compliance with statutory requirements, and estimations and projections of national/regional inventories. DEP should be consulted for information regarding new releases and updates to mobile emission models. In addition, the USEPA continues to issue policy and technical guidance on running the MOVES, available here. These general guidelines are intended to provide conservative estimates. DEP should also be contacted for specific data regarding the various factors to be utilized when using the MOVES model for a specific project or location.



## CEQR TM CHANGES: MARCH 2014

The various factors to be considered when using mobile emissions models are described below. These general guidelines are intended to provide conservative estimates and may be revised at times when specific data about a project or location are available.

...

### DISPERSION MODELING

The necessary traffic data for each roadway segment and the emission outputs from the recommended mobile emission model (both discussed above) are analyzed together using a dispersion model. Mobile source dispersion models estimate the way CO and PM concentrations resulting from given traffic conditions are dispersed because of meteorological conditions, roadway geometry, and other factors, and predict resultant pollutant concentrations at given receptor sites.

For most locations adjacent to at-grade signalized roadways that require CO analysis, the CAL3QHC version 2.0 dispersion model, as described in User's Guide to CAL3QHC 2.0, Research Triangle Park, North Carolina, is usually most appropriate. The CAL3QHC version 2.0 model is a microcomputer-based modeling methodology developed by the USEPA to predict the pollutant concentration of CO and particulate matter from motor vehicles traveling near or through roadway intersections. Based on the assumption that vehicles at an intersection are either in motion or idling, the program is designed to predict air pollution levels by combining the emissions from both moving and idling vehicles.

The CAL3QHC version 2.0 model requires a coordinate system corresponding to the roadway geometries under study as part of the input to the program. For each street approach to a signalized intersection, a "free flow" link simulates the emissions from vehicles over the blocks that are not delayed by traffic signals. A second "queue" link length is calculated by the algorithms within the program, using input parameters supplied to the model for each approach of a signalized intersection. Emission factors for idling vehicles from the mobile model are input entered into the CAL3QHC version 2.0 model to estimate emission rates from these queued links. As recommended in the User's Manual for CAL3QHC, "for overcapacity situations, where the predicted hourly traffic volume-to-capacity ratio ( $v/c$ ) is greater than 1, the model-predicted queue length" could be larger than the physical roadway configuration. The user could either revise the traffic assumption for the link, or limit the length of the queue by running the analysis in the following manner: (1) input the queue link as a free flow link; (2) specify X1, Y1, X2, Y2 coordinates that determine the physical limits of the queue (i.e., the physically largest queue length); and (3) input the emission source as the equivalent VPH (from the output run on the queue link) with an emission rate of  $EF=100$ . This provides the appropriate emission source for the queue link with the manually determined queue length. In certain cases, the links for left- or right-turn movements may be separated from the through movements of an approach if the signal phasing differs or if such movements have high volume-to-capacity ( $v/c$ )  $V/C$  ratios.

For intersection locations which required a PM analysis and those intersections which require a more refined CO analysis, the CAL3QHC model has been updated with an extended module that allows for the incorporation of actual meteorological data into the modeling, instead of worst-case assumptions regarding meteorological parameters.

...



## CEQR TM CHANGES: MARCH 2014

The CAL3QHCR model also offers a second approach, called Tier II, for which the same meteorological data used in the Tier I approach are entered into the model. The vehicular emissions, traffic volume, and signalization (ETS) data, however, are more detailed and reflect traffic conditions for each hour of a week. CAL3QHCR reads the ETS data as up to 7 sets of hourly ETS data (in the form of diurnal patterns) and processes the data into a week of hourly ETS data. The weekly ETS data are synchronized to the day of the week of the meteorological data year (weekday or weekend). The weekly traffic conditions are assumed to be the same for each week throughout the modeled period. ~~The Tier II modeling approach is not typically employed for projects evaluating peak hour conditions or short term pollutant time averaging periods.~~ Before undertaking a Tier II analysis, consultation with DEP is recommended.

Since the refined CAL3QHCR model uses meteorological data in the computation of pollutant levels at selected receptor locations, the coordinate system in the modeling must be developed with consideration of true north and the corresponding directions of the compass. A critical component of the hourly meteorological data used in these computations is wind direction. When the meteorological data are initially compiled, all hourly wind directions are referenced to true north. Therefore, ~~like coordinate systems developed for stationary source mathematical modeling,~~ mobile source modeling must simulate sources and receptor locations using a coordinate system that is consistent with the meteorological data set.

...

### *TIME AVERAGING PERIODS*

Predictions of pollutant concentrations are made for the same time periods as the National Ambient Air Quality Standards (for example, the NAAQS for CO are for 1-hour and 8-hour concentrations; the PM<sub>10</sub> standards are for a 24-hour maximum concentration; the PM<sub>2.5</sub> standards are for an annual mean and a 24-hour average concentration.) ~~These standards are for the average concentration during each of these time periods. Annual standards pertain to the average pollutant concentrations either predicted or measured in a calendar year, while 24-hour standards pertain to pollutant concentrations occurring in a calendar day.~~

...

### *BACKGROUND CONCENTRATIONS*

Mobile source modeling of CO ~~and PM~~ concentrations at sidewalk locations accounts solely for emissions from vehicles on the nearby streets, but not for overall pollutant levels. Therefore, background pollutant concentrations must be added to modeling results to obtain total pollutant concentrations at a prediction site. Background pollutant concentrations are usually derived from recorded pollutant concentrations throughout New York City at elevated monitors maintained by the NYSDEC that are not unduly influenced by local sources of pollutants. These monitors are indicative of pollutant levels associated with pollutants throughout the nearby region.

~~One of the primary applications of mobile source modeling is to evaluate maximum predicted 8-hour CO and PM concentrations at places of with public access. Therefore, background CO and PM levels for the 8-hour specific averaging periods of concern are is required for each of the analysis years (the existing and build year(s), as appropriate). Existing and future year background concentrations are based on CO and PM measurements at the nearest NYSDEC monitoring stations. The maximum second highest 8-hour measurement is used, based upon the most recent five year period for which complete monitoring data is available. For CO and PM modeling of on-street sources, background levels are generally considered to be the same for existing and future year conditions.~~



## CEQR TM CHANGES: MARCH 2014

DEP will provide the most up-to-date monitored pollutant background levels for the various regions within New York City. ~~Note that PM<sub>2.5</sub> background concentrations are generally not required because impacts are assessed on an incremental basis.~~

...

**Section 321.2** – Clarifies that USEPA’s AP-26 may be used to estimate carbon monoxide (CO) impacts at pedestrian-level height for lower exhaust vents on parking garages rather than stacks. Includes PM as a primary pollutant of concern for unenclosed, at-grade parking lots. Also removes text distinguishing analysis for parking lots used by large numbers of diesel trucks or buses. Additionally, updates data for automobile garages. Modifies ambient temperature for parking lots to be the same as the ambient temperature profile utilized for the roadway intersection analysis. For parking garages, ambient temperature would be 45°F for all areas within NYC. The revised text is as follows:

### PARKING LOTS

...

*ESTIMATES OF MOBILE SOURCE EMISSIONS.* Emissions estimates for CO and PM are calculated using the USEPA MOVES program, discussed in Subsection 321.1 above, using the same ambient temperature profile utilized for the roadway intersection modeling at an ambient temperature of 43°F (except for Manhattan, which uses 50°F) with a mobile emissions model (such as the USEPA’s MOVES model, discussed in Subsection 321.1, above). Additional information required for the mobile emission model includes the following: the dimensions (i.e., length and width) of the parking lot; idle emission factors for cold autos/SUV or idle emission factors for other vehicles; emission factors at 5 miles per hour for both cold and hot autos/SUVs or other vehicles; and hour-by-hour vehicular entrances to and exits from ("ins and outs") the parking lot (typically, the eight hours with the highest volumes). Peak 1-hour averaging periods' emission rates are typically calculated for the build year, assuming that autos idle for 1 minute before starting to travel to the parking lot exit(s). The traveling distance within the lot by vehicles entering and exiting the lot is usually conservatively estimated by calculating this mean travel distance as two thirds of the maximum travel distance from the entrance/exit of the lot to the farthest parking space. The 1-hour and (in most cases) 8-hour averaging periods with the largest total number of departing autos yield the highest CO emission rates for these respective time averaging periods. For PM, the averaging time period would be either 1-hour or 24-hour.

*DISPERSION ESTIMATES.* Potential cumulative concentrations from on-street sources and emissions from the parking lot at a receptor location adjacent to the lot may be calculated by adding the CO and/or PM levels calculated ~~from~~ for the parking facility at this location to the contribution of on-street sources. It is advisable to analyze receptor locations on the near and far sidewalks adjacent to the parking lot to ensure that maximum cumulative effects from on-street and parking lot emissions are disclosed. Appropriate background concentrations also must be added. Contribution of on-street source emissions at this receptor locations may be calculated through microscale modeling for the same wind directions that cause the parking lot emissions to affect this location. Or, alternatively, they may be calculated to include parking lot emissions as line sources, as mentioned below. ~~Air quality impacts from parking facilities may be followed to estimate potential CO concentrations from parking lots with the EPA’s SCREEN3 model (described in Screening Procedures for Estimating the Air Quality Impact of Stationary Sources, EPA 450/4-88-010). A sample air quality analysis of potential impacts from an automobile multilevel, naturally ventilated parking facility is included in the Appendix.~~



## CEQR TM CHANGES: MARCH 2014

As discussed in Subsection 321.2, eEmissions from parking facilities may also be modeled as line sources in CAL3QHC or CAL3QHCR for assessing cumulative emissions adjacent to on-street sources. This would include simulating the parking lot as multiple line sources adjacent to the on-street source in a dispersion model, such as CAL3QHC or CAL3QHCR. The USEPA's Guideline on Air Quality Models provides more information.

For parking lots used by large numbers of diesel trucks or buses, where  $PM_{2.5}$  and  $PM_{10}$  are the primary pollutants of concern, a procedure analogous to that used for automobile parking lots (see above) may be used to determine PM concentrations near the lot:

- Idle emissions of  $PM_{2.5}$  and  $PM_{10}$  from heavy-duty diesel vehicles are insignificant when compared with PM emission rates for accelerating heavy-duty diesel trucks. Therefore, only PM emission rates from trucks traveling within the lot are typically estimated, usually from factors listed in EPA's Compilation of Air Pollutant Emission Factors (AP-42) or the MOVES emission model used for this kind of analysis. Estimates of particulate emissions from heavy vehicles operating on paved and unpaved surfaces may also be included in such analyses if they overlap with the parking areas.
- Analyses are performed to determine the maximum potential  $PM_{10}$  and  $PM_{2.5}$  24-hour concentrations adjacent to the lot, based on the hourly average (over a 24-hour period) for the diesel vehicles entering and exiting the parking lot.
- Twenty-four-hour  $PM_{10}$  background values are then added to the localized contribution.

### MULTILEVEL, NATURALLY VENTILATED PARKING FACILITIES

Multilevel parking facilities with at least three sides partially open are, for air quality analyses, considered in a similar manner to that of at-grade parking lots. As with at-grade lots, CO is and PM are the primary pollutants of concern for facilities used by automobiles, and PM is of concern when for facilities used by diesel trucks or buses use the facility. The CO and PM impact analyses for these facilities are almost identical to those performed for parking lots, except that CO/PM emissions from arriving and departing vehicles are distributed over the various levels and ramps of the parking facility. It is usually appropriate to adjust the calculation of CO impacts at a ground-level receptor from the above-grade levels of the facility following calculations presented in the USEPA's Workbook of Atmospheric Dispersion Estimates (AP-26). A PM<sub>10</sub> and PM<sub>2.5</sub> analysis for a multilevel, naturally ventilated facility used by diesel trucks or buses may be similarly modified. A sample air quality analysis of potential CO impacts from a multilevel, naturally ventilated automobile parking facility is in the [Appendix](#).

...

### PARKING GARAGES

These include any parking facilities – whether multi- or single-level, below- or above-grade – that would be enclosed and include a ventilation system. Similar to at-grade lots and multi-level, naturally ventilated facilities, CO is and PM are the primary pollutants of concern for automobile parking garages, and PM is of concern when heavy-duty diesel trucks or buses use the garage. In either case, pollutants would be present within the garage and would be exhausted by the garage's vent(s) as part of the mechanical ventilation system. Thus, pollutant levels could be elevated near the vents outside of the garage. The vents are considered stationary sources, similar to stacks. The analysis of pollutant concentrations within and outside parking garages is described below.

For automobile garages, the following procedures are generally appropriate:





## CEQR TM CHANGES: MARCH 2014

- For CO and PM concentrations within the garage, it is recommended that CO-emissions ~~within the facility~~ be conservatively estimated at an ambient temperature of 43-45°F (50 F for Manhattan). Total CO and PM emissions rates (for 1-hour, and 8-hour, or 24-hour averaging periods, as appropriate) within the garage are calculated following the same procedures for the multilevel, naturally ventilated garage, and all of the emissions from the different levels are ~~summed~~ added together.
- These total emission rates are then divided by the minimum ventilation rate required by the New York City Building Code (*i.e.*, 1 cubic foot per minute of fresh air per gross square foot of garage area), to determine the maximum ~~1 and 8-hour CO levels~~ impacts within the garage.
- The appropriate background concentrations are then added to the predicted concentrations.
- For concentrations near the garage vents, the CO-concentrations predicted within the garage are then used in the calculations. The garage vent(s) are converted into "virtual point sources" using equations listed in the USEPA's AP-26, and the concentrations within the garage are used to estimate the initial dispersion at the garage vent(s). These equations may be used to estimate impacts at nearby elevated receptors (*e.g.*, tall residential buildings nearby) if the effluent is exhausted at an elevated height, or at pedestrian-level height (for lower exhaust stacks vents).
- Potential cumulative CO/PM impacts on the near and far sidewalks adjacent to the garage vent(s) may be calculated by adding the impact from the garage exhaust to on-street sources following a methodology similar to that employed for naturally ventilated parking facilities. A sample air quality analysis of potential CO impacts from an automobile parking garage is in the Appendix.

...

### TIME AVERAGING PERIODS

The anticipated hourly vehicular entrances and exits to the facility are usually reviewed to determine the hour that would yield the largest amount of pollutants emitted from the parking facility. Peak 1-hour concentrations adjacent to the facility (and peak 1-hour concentrations within the facility if it's an enclosed garage), are then determined for this hour. The hourly vehicular entrances to, and exits from, the garage are also used to determine the period that would generate the largest amount of pollutants over a multi-hour period. Off-site concentrations calculated with the average hourly pollutant emission rate ~~over this multi-hour interval are also~~ multiplied by a persistence factor ~~when to~~ determining multi-hour pollutant incremental impacts from parking facilities.

...

**Section 3.2.1** – Adds information on the City rule (15 RCNY 2-15) that is phasing out the use of No. 4 and No. 6 oils in boiler or burner installations in favor of cleaner fuels. Also updates Table 17-3 to express units in “ug/m3”. The new text is as follows:

### SCREEN FOR HEAT AND HOT WATER SYSTEM

...

In some cases, it may be possible to pass this screening analysis by restricting the type of fuel that could be used to supply heat and hot water. As illustrated in the air quality stationary source



## CEQR TM CHANGES: MARCH 2014

screening analysis figures in the appendices, No. 2 oil has No. 4 and No. 6 oils have greater emissions than No. 2 oil or natural gas. The use of No. 6 and No. 4 oils is being phased out by a rule finalized in April 2011. No new boiler or burner installations may use No. 6 or No. 4 oils and all buildings must convert to one of the cleanest fuels by 2030 or upon boiler or burner replacement. 15 RCNY 2-15. Based on the fuel type to be used (natural gas or No. 2 oil), and the type of development (residential or commercial), the screening figures in the Appendix may be used following the six steps above. Based on the fuel type to be used (natural gas or, No. 2, or No. 4 oil), and the type of development (residential or commercial), the screening figures in the Appendix may be used following the six steps 1 through 6 above. Limiting the fuel used by the proposed project to No. 2 oil or natural gas may eliminate the potential for significant adverse impacts and the need for further analysis. The project, however, would have to include the restriction on the boiler fuel type (and indicate the mechanism that would ensure the use of a specific fuel type) if this option is selected.

Revises the instructions for instances when projects fail the heat and hot water system and/or the industrial screen as follows:

### Industrial Source Screen

...

If these screening methods indicate If a proposed project fails the above screening procedures for heat and hot water systems and/or the industrial screen, the USEPA's AERSCREEN model may be used to determine any potential for significant adverse impacts. The AERSCREEN screening assessment should be consistent with USEPA's AERSCREEN guidance, described in the AERSCREEN User's Guide (EPA-454/B-11-001). If a proposed project fails the above screening procedures and/or if an AERSCREEN analysis determines that further analysis is necessary, then a detailed stationary source analysis is required as described in the following subsection.

**Section 322.2** – Moves definitions of major and large emissions sources from this section to Section 220. Refers exclusively to AERMOD for analysis in lieu of SCREEN3. Updates references to the AERMOD Implementation Guide, March 2009. Removes detailed explanation of cavity regions calculations. Under the Cumulative Analysis subsection, clarifies that all large emissions sources within the 1,000-foot study area that may not be properly accounted for in background concentrations should be identified. Also deletes the general description of procedure that are used to determine if there are any projected NAAQS exceedances. Updates Background Concentrations subsection with NYSDEC 2012 data and deletes description of how to determine annual average background levels and the worst case short-term background levels.

**Section 323** – Moves conformity analyses from Section 321.3 to 323.

**Section 411.1** – Discusses mobile sources in guidance for evaluating potential air quality impacts and clarifies that some short-term standards are based on a 3-year average percentile value not to be exceeded. The revised language is as follows:

#### **411.1. Comparison with Standards**

The predicted pollutant concentrations for the of pollutants of concern associated with a proposed project are compared with either the NAAQS for criteria air pollutants or ambient guideline concentrations for non-criteria pollutants. In general, if a project would cause the standards for any pollutant to be exceeded, it may likely constitute result in a significant adverse air quality impact. In addition,



## CEQR TM CHANGES: MARCH 2014

tion, for CO from mobile sources and for PM<sub>2.5</sub>, the de minimis criteria (described below in Subsection 412) are also used to determine significant impacts.

To evaluate the potential air quality impacts for criteria pollutants and non-criteria pollutants from mobile and stationary sources, predictions for these pollutant concentrations must correspond to the appropriate NAAQS time averaging periods. ~~These standards are for the average concentration during each of those time periods.~~ Annual standards pertain to the average pollutant concentrations either predicted or measured in a calendar year, while 24-hour standards pertain to pollutant concentrations occurring in a calendar day. There are various forms of the ambient air standards; annual standards are not to be exceeded; for some short-term standards (i.e., 1-, 3-, 8-, and 24-hour averaging periods), two exceedances of the corresponding short-term standard in one calendar year (at the same location) constitute a violation of the standard, while some short-term standards are based on a 3-year average percentile value not to be exceeded. Recommended SACs and ACCs for non-criteria pollutants correspond to time-averaging periods of 1-hour and annual averages, respectively.

**Section 412.2** – Clarifies that PM<sub>2.5</sub> impacts are incremental and that predicted increases should be measured in terms of a 24-hour maximum PM<sub>2.5</sub> concentration increase. Also adds that the 0.3 µg/m<sup>3</sup> increment criteria applies only to stationary sources. The revised text is as follows:

The following criteria should be used for determination of significant adverse PM<sub>2.5</sub> incremental impacts for projects subject to CEQR:

- Predicted 24-hour maximum PM<sub>2.5</sub> concentration increase of more than half the difference between the 24-hour background concentration and the 24-hour standard; or
- Predicted annual average PM<sub>2.5</sub> concentration increments greater than 0.1 µg/m<sup>3</sup> at ground level on a neighborhood scale (*i.e.*, the annual increase in concentration representing the average over an area of approximately 1 square kilometer, centered on the location where the maximum ground-level impact is predicted for stationary sources; or for mobile sources, at a distance from a roadway corridor similar to the minimum distance deemed for locating neighborhood scale monitoring stations); or
- Predicted annual average PM<sub>2.5</sub> concentration increments greater than 0.3 µg/m<sup>3</sup> at any a discrete or ground-level receptor location for stationary sources.

**Section 413** – Clarifies DEP standards for screening potential significant odor impacts. The revised language is as follows:

DEP uses a 1 ppb increase in hydrogen sulfide concentration from wastewater related processes as a screening value for potential significant odor impact. The 1 ppb guidance level is recommended when considering hydrogen sulfide as an indicator for assessing malodorous compounds from a facility in sensitive receptors (e.g., residences, playgrounds). Since DEP has, in some cases, performed more detailed studies on the sources of malodorous pollutants of concern related to wastewater processes, it should be consulted before undertaking detailed odor impact assessments. Generally, there are no other specific standards for odors as there are for other regulated pollutants.

**Section 430** – Simplifies the requirements for presentation of results by instructing that impacts should be rounded to the number of significant figures that is appropriate for comparison to the applicable air quality standard or impact criteria.



## CEQR TM CHANGES: MARCH 2014

**Section 510** – Updates the incremental standards to comport with current data. Also modified text to include PM in the list of measures for when mitigation would need to be considered.

The revised text is as follows:

Measures that would mitigate the full increment of PM<sub>2.5</sub> (24-hour and annual) CO resulting from the project should be identified. In addition, if potential concentrations exceed the 8-hour CO-24-hour PM<sub>10</sub> standard of 9 ppm-150 ug/m<sup>3</sup>, further measures that allow the city to attain compliance should be identified. As discussed above, refined dispersion modeling with CAL3QHCR should be performed before identifying traffic mitigation measures for eliminating predicted impacts.

**Section 530** – Adds reference to programmatic actions.

**Section 711.2** – Updates reference to NIOSH’s Pocket Guide to Chemical Hazards to the September 2007 version.

**Section 712** – Clarifies that relevant New York State air quality regulations are found in both Subchapters A and B of Title 6, Chapter III of the New York Codes, Rules and Regulations (NYCRR). Further, the text is revised to reflect the repeal of 6 NYCRR 222.

**Section 713** – Clarifies that certain relevant New York City air pollution regulations are found in Title 24 of the Administrative Code of the City of New York, Chapter 1, Subchapter 6, Section 24-146, which governs fugitive dust. Also clarifies references to Local Law No. 7 of 2003 and amendments, Title 24 of the Administrative Code of the City of New York, Chapter 1, Subchapter 7, Section 24-163.3, governing the use of ultra-low sulfur fuel and emissions control technology in nonroad vehicles used in city construction.

**Section 720** – Clarifies that coordination with DEP should be sought if a potential violation of the ambient air quality standards is predicted from either mobile or stationary sources at any location in the project’s build year or an exceedance of any of the *de minimis* impact criteria.

**Section 730** – Updates address for DEP’s Bureau of Environmental Compliance to reflect its location in Flushing.

**Chapter 18, “Greenhouse Gas Emissions and Climate Change”** – Changes the name of this chapter from “Greenhouse Gas Emissions” to “Greenhouse Gas Emissions and Climate Change.”

**Introduction** – Updates references to city policies and laws that address greenhouse gas emissions and climate change.

The revised language is as follows:

Increased greenhouse gas (GHG) emissions are changing the global climate, which is predicted to lead to wide ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels and intensity. Although this is occurring on a global scale, the environmental effects of climate change are also likely to be felt at the local level. In New York City, increased temperatures may lead to an increase in summertime electricity demand due to greater usage of air conditioning, which in turn may result in more frequent power outages. Increases in precipitation levels and intensity may lead to more street and sewer flooding, while extended droughts and increased water demand may strain the City’s water supply system. Rising sea levels may lead to increased risks of coastal flooding, as well as damage to infrastructure not designed to withstand saltwater exposure.



## CEQR TM CHANGES: MARCH 2014

Through PlaNYC 2011 Update, New York City's long-term sustainability program, the City advances sustainability initiatives and goals for both greatly reducing greenhouse gas (GHG) emissions and increasing the City's resilience to the effects of climate change. The City's goal of reducing GHG emissions 30% below 2005 levels by 2030 was developed as part of PlaNYC for the purpose of planning for an increase in population of almost one million residents while achieving significant greenhouse gas reductions, and was codified by the New York City Climate Protection Act (Local Law 22 of 2008). See §24-803 of the Administrative Code of the City of New York. Seeking to expand its codified goal of reducing GHG emissions by 30% by 2030, the City is considering potential strategies to reduce its GHG emissions by more than 80% by 2050. To reach its aggressive sustainability goals, the City has already launched initiatives and implemented various local laws aimed at energy efficiency measures and reduction of GHG emissions:

- At the request of the City, the Urban Green Council (New York Chapter of the U.S. Green Building Council) convened a Green Codes Task Force, consisting of over 150 building and design professionals, to strengthen the City's energy and building codes and address the impacts of climate change. On February 1, 2010, the Task Force released a report of 111 code improvement recommendations to the City, roughly half of which focus on reduction of GHG emissions. Three years after the release of the report, 3743 of the 111 recommendations had been enacted.
- The Greener, Greater Building Plan, which targets energy efficiency in large existing buildings, consists of four local laws requiring that large buildings to annually benchmark their energy consumption (Local Law 84 of 2009); a local energy code be adopted (Local Law 85 of 2009); every 10 years these buildings conduct an energy audit and retro-commissioning (Local Law 87 of 2009); and by 2025, the lighting in non-residential spaces be upgraded to meet code and large commercial tenants be provided with sub-meters (Local Law 88 of 2009). These laws will reduce GHG emissions by almost five percent.
- Local Law 86 of 2009 requires new buildings, additions, and substantial building reconstruction work in capital projects that receive City funds to be built in accordance with the rigorous standards of the Leadership in Energy and Environmental Design (LEED®) green building rating systems developed by the U.S. Green Building Council (USGBC). It also requires that most of this work, as well as larger lighting, boiler, HVAC controls, and plumbing upgrade work, be designed to reduce the use of hot energy and potable water well beyond that required by the current NYC building code.

The City has determined that consideration of GHG emissions is appropriate under CEQR for at least certain projects for several reasons: (1) greenhouse gas emission levels may be directly affected by a project's effect on energy use; (2) the U.S. Supreme Court has upheld the determination that carbon dioxide, one of the main greenhouse gases, is an air pollutant, subject to regulation as defined by the Clean Air Act and the U.S. Environmental Protection Agency has begun regulating mobile and stationary sources; and (3) Local Law 22 of 2008 codified PlaNYC's Citywide GHG emissions reduction goal of 30 percent below 2005 levels by 2030 (the "GHG reduction goal"). The guidance for determining the appropriateness of a GHG emissions assessment for a project and conducting analysis of a project's GHG emissions is presented in this chapter. Although the contribution of a proposed project's GHG emissions to global GHG emissions is likely to be considered insignificant when measured against the scale and magnitude of global climate change, certain projects' contribution of GHG



## CEQR TM CHANGES: MARCH 2014

emissions still should be analyzed to determine their consistency with the City's Citywide GHG reduction goal, which is currently the most appropriate standard by which to analyze a project under CEQR.

In addition to policies aimed at addressing GHG emissions, the City is also engaged in several initiatives related to assessing potential local impacts of global climate change and developing strategies to make existing and proposed infrastructure and development more resilient to the effects of climate change. These initiatives include the following:

- In 2008, the City launched the Climate Change Adaptation Task Force to develop strategies to secure the City's critical infrastructure against potential threats from rising sea level higher temperatures, and changing precipitation patterns projected to result from climate change. The Task Force is composed of 40 City, state, and federal agencies, public authorities, and private companies that operate, regulate, or maintain critical infrastructure in New York City. The Task Force identified more than 100 types of infrastructure that climate change could impact. The Task Force will use this initial assessment to develop coordinated strategies to increase the resilience of the region's infrastructure. The focus of the Task Force will be expanded to include public health and safety services in its assessment.
- The current 100-year floodplain, defined as the area with a one percent chance of flooding in any given year, is based on historical data. The City has established an interagency group to work with the Federal Emergency Management Agency (FEMA) to revise the Flood Insurance Rate Maps for the City, which set the flood elevations that are the triggers for the City building code's flood protection requirements. The City is working with FEMA to reflect current shorelines and elevations, employing technological changes that allow for more accurate map-making. Subsequent development within the flood zone will reflect any changes to the floodplain elevations.
- The City convened the New York City Panel on Climate Change (NPCC) to develop climate change projections for New York City. The 2009 Climate Risk Information report released by the NPCC was prepared as part of PlanNYC to advise the Mayor and the New York City Climate Change Adaptation Task Force on issues related to potential impacts on infrastructure due to climate change (i.e., temperature, precipitation, rising sea levels, and extreme events). The NPCC developed projections using the Intergovernmental Panel on Climate Change (IPCC)-based methods to generate model-based probabilities for temperature, precipitation, sea level rise, and extreme events including coastal flooding (including the 1-in-100 year flood) in the 2020s, 2050s, and 2080s. These projections were developed using 16 global climate model (GCM) simulations and three GHG emission scenarios developed by the IPCC. This The NPCC released Climate Change Adaptation in New York City: Building a Risk Management Response in 2010 to lay the foundation for climate change adaptation in the City. In June 2013, the NPCC released a report titled Climate Risk Information 2013: Observations, Climate Change Projections, and Maps. This report outlines the most recent NPCC future climate projections. These reports and other work produced by the NPCC will be used to guide the City's policymaking process. The NPCC will continue to regularly assess climate change projections and establish process to update its climate projections regularly.





## CEQR TM CHANGES: MARCH 2014

- The City has established an interagency group to work with the Federal Emergency Management Agency (FEMA) to revise the Flood Insurance Rate Maps (FIRMs) for the City, which set the flood elevations that are the triggers for the City building code's flood protection requirements. The FIRMs have been revised to reflect current shorelines and elevations. Future development within the flood zone will reflect any changes to the floodplain elevations. At the request of the City, the Urban Green Council (New York Chapter of the U.S. Green Building Council) convened a Green Codes Task Force, consisting of over 150 building and design professionals, to strengthen the City's energy and building codes and address the impacts of climate change. On February 1, 2010, the Task Force released a report of 111 code improvement recommendations to the City, 41 of which focus on climate change. In early December 2013, FEMA released the Preliminary FIRMs for New York City. FEMA developed a preliminary flood hazard data search tool (<http://hazards.fema.gov/femaportal/prelimdownload/>), and the New York City Preliminary FIRM Data Viewer (<http://apps.femadata.com/PreliminaryViewer/?appid=687703427d547018b8fa2b0adee979>). After a public comment period, the Preliminary FIRMs will become effective FIRMs, which is expected to take place in 2015.
- An emergency executive order, Executive Order 230 of 2013, suspended height and certain other zoning restrictions so that buildings can meet new flood elevation standards based on the ABFE maps. The City also adopted a new rule to increase the required minimum flood proofing elevation so that substantially damaged buildings and other new construction are built to withstand greater flood risk. The measures also should help New Yorkers minimize the cost of future Federal flood insurance premiums linked to FEMA FIRMs by better protecting properties in flood-prone areas from risk and damage.
- The City plans to create a climate risk assessment tool that quantifies its exposure and vulnerability to climate risks today and over time to prioritize investments, develop cost-benefit estimates for impacts and actions, and track progress. In addition, the City is examining how to update local laws and zoning regulations that can require new buildings to be built to better withstand flooding, temperature extremes, and other conditions.
- To best prepare the City for extreme climate events, the City has developed a number of plans, including the Natural Hazard Mitigation Plan, Coastal Storm Plan, Heat Emergency Plan, Debris Management Plan, Power Disruption Plan, Winter Weather Emergency Plan, and Flash Flood Emergency Plan. To continue to prepare for and respond to climate-related emergencies as effectively as possible, the City plans to integrate climate change projections into its emergency management and preparedness plans and procedures and include climate change as a hazard assessed under the Natural Hazard Mitigation Plan, which will be updated in 2014.
- The New York City Department of Environmental Protection (DEP) is in the process of evaluating and implementing adaptive strategies for its infrastructure. In May 2008, DEP issued its Climate Change Assessment and Action Plan to establish near-, medium-, and long-term actions that it will undertake to address this critical issue. DEP is currently assessing potential impacts of climate change on the City's drinking water systems and is proposing to undertake a long-term planning and conceptual engineering effort for the drainage and wastewater management systems in the City.



## CEQR TM CHANGES: MARCH 2014

The City has also developed a New York City Green Infrastructure Plan (September 2010) and a Sustainable Stormwater Management Plan (December 2008).

- In October 2013, DEP issued a comprehensive NYC Wastewater Resiliency Plan, presenting an assessment of wastewater treatment plants and pumping stations identified as at-risk for flooding, potential costs of future damages, and suggested protective measures, such as elevating and water proofing critical equipment to reduce the risk of damage and loss of services.
- The Department of City Planning has proposed a series of revisions to the New York City Waterfront Revitalization Program (WRP), the City's principal coastal zone management tool that establishes the City's policies for development and use of the waterfront. The proposed changes to the WRP will not take effect until they are approved by the New York State Department of State with the concurrence of the United States Department of Commerce. The proposed revisions proactively advance the long-term goals laid out in Vision 2020: The New York City Comprehensive Waterfront Plan, released in 2011 and address climate change considerations. Chapter 4, "Land Use, Zoning and Public Policy," discusses assessments of consistency with the current WRP that should be conducted for CEQR projects located in the City's Coastal Zones. If and when the proposed revisions to the WRP are approved by the state and federal government, projects in the City's Coastal Zone will have to demonstrate consistency with polices such as increasing resilience to future conditions created by climate change.
- In June 2013, two reports were released featuring extensive recommendations for improving New York City's resiliency in the wake of Hurricane Sandy: (1) Special Initiative for Rebuilding and Resiliency (SIRR) Report, "A Stronger, More Resilient New York;" and (2) a report of recommendations of the Building Resiliency Task Force. The SIRR Report builds on PlaNYC's sustainability goals to present more than 250 specific recommendations to fortify the City against future climate events. The Building Resiliency Task Force recommendations include 33 proposals that expand on the initiatives outlined in the SIRR Report. Specifically, the proposals address options to help existing buildings become more resilient and ways to strengthen the Building Code and Zoning Resolution to ensure a high level of resilience in future construction.

As detailed above, the City is studying and preparing for the likely consequences of climate change Citywide. Federal, state, and local standards are still evolving to address and account for these changing environmental conditions and, as noted above, it is anticipated that the City's infrastructure design criteria, building codes, and other laws and regulations will be further updated to incorporate measures related to a building's project's resilience to climate change.

Currently, standards and a framework for analysis of the effects of climate change on a proposed project are not included in CEQR; as this area of analysis develops, the Mayor's Office of Environmental Coordination ("MOEC") should be consulted about the scope of climate change analyses in CEQR reviews. At the same time, where climate change is predicted to result in increased temperatures, extended droughts, and higher levels of precipitation, in the context of CEQR, sea level rise, increases in storm surge, and coastal flooding are the most immediate threats in New York City for which site-specific effects may be analyzed. Consideration of the potential impacts of climate change on a project may be appropriate for certain projects, depending on the project's sensitivity,



## CEQR TM CHANGES: MARCH 2014

location, and useful life. Where appropriate, the potential for a proposed project to result in a significant adverse impact to the environment as a result of the anticipated effects of climate change may be qualitatively discussed in environmental review. For example, if a proposed project that includes storage of hazardous materials is located in a floodplain, the possibility of flooding and, to the extent warranted, methods to prevent adverse effects on the surrounding area in such an event, such as raising or flood proofing storage areas, should be discussed. Such a discussion should focus on early integration of climate change considerations into the project and may include proposals to increase climate resilience and adaptive management strategies to allow for uncertainties in environmental conditions resulting from climate change.

The City has determined that consideration of GHG emissions is appropriate under CEQR for at least certain projects for several reasons: (1) greenhouse gas emission levels may be directly affected by a project's effect on energy use; (2) the U.S. Supreme Court has upheld the determination that carbon dioxide, one of the main greenhouse gases, is an air pollutant, subject to regulation as defined by the Clean Air Act; and (3) Local Law 22 of 2008 codified PlaNYC's citywide GHG emissions reduction goal of 30 percent below 2005 levels by 2030 (the "GHG reduction goal"). The guidance for determining the appropriateness of a GHG emissions assessment for a project and conducting analysis of a project's GHG emissions is presented in this chapter. It is expected that this guidance will be revised with respect to both GHG emissions and climate change risks as regulatory standards evolve and analytic tools are developed and refined over time.

Although the contribution of a proposed project's GHG emissions to global GHG emissions is likely to be considered insignificant when measured against the scale and magnitude of global climate change, certain projects' contribution of GHG emissions still should be analyzed to determine their consistency with the City's citywide GHG reduction goal, which is currently the most appropriate standard by which to analyze a project under CEQR. This goal was developed as part of PlaNYC for the purpose of planning for an increase in population of almost one million residents while achieving significant greenhouse gas reductions, and was codified by the New York City Climate Protection Act (Local Law 22 of 2008). See §24-203 of the Administrative Code of the City of New York. Seeking to expand its codified goal of reducing GHG emissions by more than 30% by 2030, the City is undertaking a study to determine potential strategies to reduce its GHG emissions by more than 80% by 2050.

As with each technical area assessed under CEQR, it is important for an applicant to work closely with the lead agency throughout the review process. As appropriate, the lead agency should consult with the Mayor's Office of Environmental Coordination (MOEC) about the GHG emissions assessment and climate change assessments described below. It is recommended that MOEC be contacted as early as possible in the environmental review process. Section 700 further outlines appropriate coordination.

**Section 120** – Provides background information relating to climate change. The updated language is as follows:

Climate change is expected to result in increasing temperatures, changes in precipitation patterns, rising sea levels, and more intense and frequent extreme weather events, such as heavy downpours,



## CEQR TM CHANGES: MARCH 2014

heat waves, droughts, and high winds. For example, the New York City Panel on Climate Change (NPCC) projects that by the 2050s, sea levels could be between 11 and 24 inches higher than they are today; the NPCC's high estimate for sea level rise is 31 inches by 2050. In addition, coastal flood and storms are projected to occur more frequently with higher associated storm surges. Table 18-2 summarizes projected changes in air temperature, precipitation, and sea level rise published by the NPCC in its 2013 Climate Risk Information Report.

Also adds Table 18-2.

**Section 200** – Renames section as follows: “Determining Whether a GHG Emissions or Climate Change Assessment is Appropriate.”

**Section 210** – Labels this as the section on “Greenhouse Gas Emissions.”

**Section 220** – Adds this new section on “Climate Change.” The revised language is as follows:

MOEC should be consulted about the need for and scope of climate change analyses in CEQR reviews. Although significant climate change impacts are unlikely to occur in the analysis year for most projects, depending on a project's sensitivity, location, and use of land, it may be appropriate to provide a qualitative discussion of the potential effects of climate change on a proposed project in environmental review. Such a discussion should focus on early integration of climate change considerations into the project and may include proposals to increase climate resilience and adaptive management strategies to allow for uncertainties in environmental conditions resulting from climate change.

Rising sea levels and increases in storm surge and coastal flooding are the most immediate threats in New York City for which site-specific conditions can be assessed. If an analysis of climate change is deemed warranted for projects at sites located within the 100- or 500-year flood zone, (i) projections for the future sea level rise, and, to the extent available, likely future flood zone boundaries projected for the area of the site for different years within the expected life of the development should be provided (e.g., the 2020s 100-year and 2020s 500-year floodplain shape files, and the 2050s 100-year and 2050s 500-year floodplain shape files on NYC Open Data); and (ii) any city, state, or federal initiatives to improve coastal resilience, such as those set forth in the Special Initiative for Rebuilding and Resiliency (SIRR) report, “A Stronger, More Resilient New York,” should be discussed if they have the potential to affect the project site.

The New York City Waterfront Revitalization Program, March 2012 Revisions (the “Revised WRP”), will not be effective as the Local Coastal Zone Management Program until it is approved by the New York State Department of State and the United States Department of Commerce. However, the Revised WRP has been approved by the City Planning Commission and City Council pursuant to Section 197-a of the New York City Charter and reflects the long-term goals relating to sustainability and climate resilience. Accordingly, for site-specific development plans, an analysis of consistency with Policy 6.2 of the Revised WRP may provide sufficient information to assess the potential effects of sea level rise, storm surge and coastal flooding.

**Section 300** – Renames this section “Assessment Methods.”

**Section 310** – Renames this section “GHG Assessment.”



## CEQR TM CHANGES: MARCH 2014

**Section 312.1** – Includes compliance with Local Law 86 as a factor to consider in an assessment of consistency with the City’s greenhouse gas reduction goal. The new text is as follows:

### **LOCAL LAW 86 OF 2005**

Like seeking LEED® Silver certification or an EPA Energy Star® rating, compliance with Local Law 86 of 2005 (LL86) does not automatically make a project “consistent” with the GHG reduction goal; however, it is a vehicle for helping to ensure consistency. The requirements of LL86 can apply to projects where construction is managed through city agencies as well as to projects where construction is managed through non-city entities, such as cultural organizations, state agencies, and private developers. The trigger for LL86 is city funding: in order for a project managed by a non-city entity to be subject to any of the law's requirements the project must receive \$10 million or more in city funds, or, in cases where a project will receive less than \$10 million of city funding, the city funding contribution must be greater than or equal to 50% of the project cost. When LL86 applies, new buildings, additions, and substantial reconstruction of buildings must be built in accordance with the standards of the LEED® green building rating systems. It also requires that most of this work, as well as larger lighting, boiler, HVAC controls, and plumbing upgrade work, be designed to reduce the use of both energy and potable water well beyond that required by the current NYC Building Code.

## **Chapter 19, “NOISE”**

**Introduction** – Notes that a goal of CEQR noise analyses is to determine the potential for significant noise impacts at open spaces.

**Section 123.1** – Notes that FAA maps refer to L<sub>50</sub> levels as DNL.

**Section 211** – Clarifies that an initial noise assessment may be appropriate if a project would introduce a new receptor near a heavily trafficked thoroughfare. The revised language is as follows:

An initial noise assessment, as described in Subsection 311.1, may be appropriate if a proposed project would:

- Generate or reroute vehicular traffic; or
- ~~Be located~~ introduce a new receptor near a heavily trafficked thoroughfare.

**Section 331.2** – Clarifies that a measuring microphone should be placed with a direct line of site to the noise source. Moves instructions on calculation of certain, extremely variable sources, such as aircrafts, from the Subsection on “Other Activities During the Conduct of The Noise Measurements” to the Subsection on “Duration of Noise Measurements.” The new language reads as follows:

When there is extreme variability in measured data from the noise sources, they should be calculated rather than measured.

**Section 332** – Clarifies that CadnaA and SoudnPLAN models may be utilized for CEQR analyses. However, federal or federal-aid highway projects being undertaken pursuant to 23 C.F.R. 772 must use TNM.

## **Chapter 20, “Public Health”**

**Section 320** – Moves the following text from Section 400 to Section 320:



## CEQR TM CHANGES: MARCH 2014

When this analysis is undertaken, it is important to gather as much project and site-specific data as possible. If these data are unavailable, reasonable, but conservative, assumptions should be made. Literature reviews may be helpful in identifying concentration response functions and dose-response relationships.

### Chapter 22, “Construction”

**Section 200 – Air Quality or Noise** – Removes the presumption that if transportation analysis is not needed air quality or noise assessment of construction vehicles is also likely to be unnecessary. Defines “short-term” construction activities as those lasting less than two years. Removes bullet, which stated that construction activities are likely not warranted if “pieces of diesel equipment that would operate in a single location at peak construction are limited in number.”

**Section 310 – Air Quality** – Adds reference to NO<sub>2</sub> as follows: “For stationary sources, they are typically correlated with large diesel equipment, on-site batching plants, and fugitive dust emissions, and often focus on emissions of PM<sub>2.5</sub> and NO<sub>2</sub>.”

**Section 320** – Clarifies that the study areas for construction analyses depend on the locations of the construction activities. Removes examples of study areas used for construction air and noise.

**Section 330** – Adds “completed and occupied portions of the project under prior phases” to the activities that may be considered in conjunction with construction analyses. In the Air Quality subsection, suggests that cumulative analysis from construction traffic and stationary sources may be appropriate, and removes summary description of the analysis that is usually undertaken in accordance with the Air Quality chapter. Suggests that “usage factors” should be accounted for when estimating emissions. Revises Table 22-1 to delete the footnote, which identified pieces of construction equipment that are considered impact devices, and clarifies which noise emission reference levels are drawn directly from Local Law 113 of 2005. Also revises L<sub>max</sub> figures for jackhammers and air compressors.

**Section 500** – Adds the use of equipment with diesel particulate filters as a potential mitigation in the Air Quality subsection, and the substitution of diesel equipment with electric-powered equipment as a potential mitigation in the Noise subsection.

### Appendix: Shadows

**Page 1** – Clarifies that the Shadows Appendix details the manual method for a Tier 3 screening analysis.

**Page 2** – Changes the height of the example building in “Part A. Manual Method for Calculated Shadows for the Tier 3 Screening Analysis” to 850 feet to be consistent with the example building used in “Part B. Manual Method for Calculated Shadows for the Detailed Shadow Analysis.”

### Appendix: Transportation

**Pages 1 to 39** – Provides current materials for intersection control analysis and left-turn analysis. Also, at pages 38 and 39, includes links to Excel versions of the forms for left-turn analyses.

**Page 40** – Adds level of service criteria at freeway-ramp junctions. The new table is as follows:

Level of Service Criteria at Freeway-Ramp Junctions	
LOS	Density (passenger car/mile/lane)





## CEQR TM CHANGES: MARCH 2014

A	≤10
B	> 10 – 20
C	> 20 – 28
D	> 28 – 35
E	> 35
F	Demand exceeds capacity
Source: Transportation Research Board, <i>Highway Capacity Manual 2000</i>	

**Pages 41 to 48** – Provides accident data for 2011 and 2012.

### Glossary

**Pages 1 & 2** – Expands the list of agency acronyms to include all City, State and federal agency acronyms used in the Technical Manual. Corrects Bureau of Environmental Planning and Analysis (“BEPA”) to reflect that it is a division within the Department of Environmental Protection.

**Page 5** – Revises the definition “Type II Action” to include reference to the City’s type II list. The revised text is as follows:

An action that has been either found categorically not to have significant adverse impacts on the environment or statutorily exempted from review under SEQRA and correspondingly, CEQR. Any action or class of actions listed as Type II in 6 NYCRR 617.5 requires no further review under CEQR. Additionally, subject to the prerequisites of 62 RCNY 5-05(d), any action or class of actions listed as Type II at 62 RCNY 5-05(c) requires no further review under CEQR.

**Page 14** – Replaces the definition of “MOBILE” with the definition of “MOVES” because MOVES is the air pollutant emissions simulation model that now should be used in mobile source air quality analyses.

2014 Technical Manual - DO NOT USE  
Out of date