DEPARTMENT OF CITY PLANNING
CITY OF NEW YORK

ENVIRONMENTAL ASSESSMENT AND REVIEW DIVISION

Joseph B Rose, *Director*
Department of City Planning

NOTICE OF COMPLETION OF THE FINAL ENVIRONMENTAL IMPACT STATEMENT

November 16, 2001

Memorial Sloan-Kettering Cancer Center Campus Rezoning:

Project Identification:
CEQR No. 01DCP050M
ULURP Nos. 010547 ZMM, 010548 ZSM, 010549 ZAM & 010550 ZCM
BSA No. 130-01-BZ
SEQRA Classification: Type I

Lead Agency:
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Pursuant to City Environmental Quality Review (CEQR), Mayoral Executive Order No. 91 of 1977, and the regulations of Article 8 of the State Environmental Conservation Law, State Environmental Quality Review Act (SEQRA) as found in 6 NYCRR Part 617, a Final Environmental Impact Statement (FEIS) has been prepared for the action described below. Copies of the FEIS are available for public inspection at the office of the undersigned. The proposal involves actions by the City Planning Commission and Council of the City of New York pursuant to Uniform Land Use Review Procedures (ULURP), as well actions by the Board of Standards and Appeals. A public hearing on the Draft Environmental Impact Statement (DEIS) was held on October 10, 2001 and a continued public hearing was held on October 12, 2001. Written comments on the DEIS were requested and were received by the Lead Agency until the 10th calendar day following the close of the public hearing. This FEIS incorporates responses to the public comments received on the DEIS and additional analysis conducted subsequent to the completion of the DEIS.

A. PROJECT DESCRIPTION

Memorial Sloan-Kettering Cancer Center (MSKCC) is among the world's foremost medical center devoted to the care of cancer patients and to the advancement of cancer treatment through a comprehensive research program. MSKCC's campus is located on three blocks between First and York Avenues and East 66th and 69th Streets on the Upper East Side of Manhattan.
The proposed actions would support MSKCC's commitment by allowing it to expand its research and diagnostic and treatment facilities, have adequately sized state-of-the-art inpatient rooms, and to provide housing for patients who must be near the hospital for treatment.
The proposed actions include a rezoning from R8 to R9 of the midblocks in two blocks and the designation of the campus as a Large-Scale Community Facility Development (LSCFD). They also include actions specific to the first phase of anticipated development, a research laboratory building on the north block of the campus, as well as transfer of development rights from the north block to the main campus block.

PROJECT PURPOSE AND NEED

MSKCC's mission to prevent and cure human cancers depends on advances in basic biological and clinical research; the care offered today builds on yesterday's scientific and medical achievements. New cancer therapies and diagnostic approaches—the tools that will alleviate the human suffering that cancer causes—will also depend on how well and how rapidly insights from the laboratory are translated into the clinical, patient-care setting.

Emerging knowledge of the human genome, as well as the technology that allows scientists to better understand the complex interactions among genes, will speed that translational research process in dramatic ways. As the nation's leading cancer center, MSKCC must strengthen its century-long commitment to innovation in research and patient care as well as the collaboration among scientists, physicians and other clinical investigators to retain this leadership role.

RESEARCH

MSKCC has begun a process that would enable it to construct a new research building. To seize new scientific opportunities, MSKCC must expand its research program. While the Kettering Building represented the latest thinking about laboratory design and technology when it opened in 1964, much has changed. Neither the Kettering Building nor the Arnold and Marie Schwartz International Hall of Science for Cancer Research (Schwartz Building) can adequately accommodate a leading-edge program of biological research. The Rockefeller Laboratory Building is fully occupied and cannot support MSKCC's future research program. To take advantage of the opportunities made possible through such developments as the sequencing of the human genome, MSKCC must expand its research facilities.

The proposed research building is designed to house a comprehensive laboratory research

program, with a particular emphasis on translational research that would bridge MSKCC's programs of patient care and fundamental biological research. Translational research—described by MSKCC as "bench to bed"—takes the findings of basic biological research and applies that understanding toward the development of new therapeutic agents. MSKCC believes that transitional research requires the close and effective interaction among scientists, clinician-scientists, and clinicians. In the view of MSKCC, a vibrant program of translational research must occur in close proximity to Memorial Hospital and foster face-to-face interactions among investigators.

INPATIENT ROOMS

The Memorial Hospital is now 27 years old. Licensed for 565 beds, it only operates 431 beds and provides limited outpatient capacity and space for administrative offices. While a floor-by-floor renovation of all inpatient floors is planned, the lifespan of the present hospital is limited. In-place renovation costs are high, and renovation will not provide the level of amenities that many patients expect. For example, the majority of rooms include two patient beds, whereas most hospitals are now being built with only single rooms. Replacement of the present Memorial Hospital must be a part of any long-range master plan if MSKCC is to continue providing world-class care. With a reasonable worst-case build-out on the main campus block, it is estimated that the number of beds in operation could rise by 130 to 561. The number of licensed beds would remain at 565.

DIAGNOSTIC AND TREATMENT

Diagnostic and treatment facilities are located throughout the main campus buildings and satellite facilities. Programs housed in the Schwartz Building and the Howard Building include radiology and nuclear medicine, clinical laboratories, rehabilitation and speech and hearing, day surgery, pathology, and radiation oncology. A blood donor room and its associated laboratories are also based in the Schwartz Building. Short-term upgrades are now underway to accommodate new technology, but both space and the age of these buildings will be factors that affect future investment. In addition, future refinements in the development of radiation oncology are likely to require significant renovations and/or new construction in the present Radiation Oncology Building, located east of the Schwartz Building.

OFFICE/ADMINISTRATION

Administrative and academic offices, including those for Clinical Laboratories, Pediatrics and Facilities Management, are located throughout the MSKCC campus, within the Schwartz Building, the Howard Building, the Sloan House and the Scholars Residence. Major administrative functions continue to be moved off campus in order to make way for direct clinical care or laboratory research, including clinical trials management. This is not ideal. While some support functions—including human resources, finance, and information systems—have long been located

off the main campus, it is essential that new offices be an integral part of long-term campus planning.

PROJECT SITE

REZONING AREA

The rezoning area comprises the midblocks (100 feet west of York Avenue and 100 feet east of First Avenue) of two blocks between East 67th and East 69th Streets on the upper east side of Manhattan. These midblocks total approximately 165,888 square feet, are zoned R8, and may be developed to a floor area ratio (FAR) 6.5 for community facilities.

MSKCC owns or controls approximately 143,294 square feet of the total rezoning area including unused development rights from the St. Catherine's Church property in the north block. The remainder of the rezoning area in the north block is occupied by all of one and part of two other residential buildings that serve as staff housing for New York Hospital-Cornell Medical Center (NYH-CMC).

LARGE SCALE COMMUNITY FACILITY DEVELOPMENT AREA

The boundaries of the proposed LSCFD area would contain the campus of MSKCC including the St. Catherine's Church property. In the north block, it excludes the residential buildings on the eastern end of the block and the properties west of St. Catherine's Church. It includes all of the main campus block from York Avenue to First Avenue. In the block south of the rezoning area (south block) it includes the area within 300 feet of York Avenue. The overall site area for the LSCFD (excluding the streets) would be 243,711 square feet.

PROPOSED ACTIONS

REZONING

MSKCC proposes to rezone the midblocks between East 67th and 69th Streets and York and First Avenues from R8 to R9. The allowable development would increase from 6.5 to 10 FAR for community facility use. The rezoning from an R8 to an R9 zoning district would increase the total permitted floor area in the midblock from 931,405 to 1,432,940 square feet with 603,500 square feet on the north block and 829,440 square feet on the main campus block.

In the northeast corner of the rezoning area there are two non-MSKCC properties that would be affected by the proposed rezoning. These properties have a combined 22,593 square feet of lot area within the rezoning area (one is located entirely within the rezoning area and the other is partially located in the rezoning area). Both lots are controlled by another institution and contain

three residential buildings for staff. Accounting for existing buildings, the rezoning would increase the amount of floor area on these properties by approximately 79,075 square feet. Of that, it is assumed that 45,637 square feet could be used for community facility use and 33,438 square feet could be used for apartments. Assuming residential unit sizes of 1,000 square feet, the number of apartments could increase by 33.

LARGE-SCALE COMMUNITY FACILITY DEVELOPMENT

MSKCC proposes that its campus be designated as a LSCFD. The LSCFD designation would allow development planning to encompass the entire campus. More specifically, it would allow, by City Planning Commission (CPC) authorization, transfer of development rights from one portion of the campus to another part of the campus, and waivers of height, setback, and yard requirements. This designation would not affect the remainder of the rezoning area.

OTHER CPC ACTIONS

MSKCC's proposed research building on the north block is anticipated to use up to 100,000 square feet less than would be available on this site. Therefore, MSKCC requests the transfer of up to 100,000 square feet from the north block to the main campus block.

For the proposed research building, MSKCC requests an authorization to modify height and setback requirements on streets internal to the LSCF (ZR Section 79-21), specifically East 68th Street; and a Special Permit to modify height and setback on peripheral streets (ZR Section 79-43), specifically East 69th Street. These would modify the bulk form of the research building. Also as part of the proposed actions, an (E) designation for noise (window/wall attenuation) would be placed on the lots within the LSCFD area. In order to ensure an acceptable interior noise environment, any buildings constructed in the future must provide a closed-window condition with a minimum window/wall attenuation to maintain interior noise levels of 45 dB(A) or lower.

BOARD OF STANDARDS AND APPEALS ACTIONS

The proposed laboratory building would also require three additional actions from the Board of Standards and Appeals (BSA): a variance (pursuant to ZR Section 72-21) for lot coverage (ZR Section 24-11) and a variance for modification of the rear yard equivalent (ZR Section 24-38). These would allow the proposed foot print and bulk form of the proposed building. In addition, for a brief period during construction of the research laboratory on the north block, a special permit for temporary failure to comply (ZR Section 73-642) would be requested to allow MSKCC to retain the Kettering Building on the site until its functions could be moved into the new laboratory building.

PROPOSED PLANS

With the rezoning and the designation of the LSCFD, MSKCC proposes to build a research building on the north block. In the future it would then redevelop portions of its main campus block (between 67th and 68th Streets). The research building is expected to be completed in 2007. The build-out for the remainder of floor area allowed under the rezoning is assumed to be 2011 for the purposes of performing this environmental review. While the proposed laboratory facility on the north block is now being designed in detail, the development of the main campus block is a hypothetical worst case developed for analysis purposes.

It is possible that in the future, development on the main campus block may not follow the exact pattern described. However, for each change of the LSCFD, MSKCC would be obligated to obtain CPC approval, which would in turn require environmental review prior to approval.

PROPOSED MSKCC RESEARCH BUILDING/NORTH BLOCK

The proposed research building site is L-shaped area in the middle of the north block. It is currently occupied by three buildings: St. Catherine's Church to remain; the Church Rectory to be demolished; and the Kettering Building to be demolished. A portion of the site along 69th Street is vacant.

This proposed research building would have a maximum of approximately 510,400 square feet of zoning floor area. It would include research laboratories, support space, offices, an auditorium, and a replacement space for the Church Rectory.

The height and setback waivers from CPC would allow the envelope of the proposed research building to rise its entire height (including mechanical stacks) of approximately 420 feet without setting back. Programmatic requirements necessitate equally sized laboratory floors.

Because of the need to maintain the existing Kettering Building in use on this site until its activities can be moved into the new facility, construction would be staged to begin with a structure adjacent to the church. This building would primarily provide laboratories, service areas, and offices for the researchers. On its lower levels, it would also provide approximately 19,000 square feet for the Rectory.

As soon as its activities can be moved into the proposed research building, the Kettering Building would be demolished and construction would continue on the low-rise portion of the building which would provide an auditorium at ground level, dry labs above.

MAIN CAMPUS BLOCK

Plans for further development pursuant to the rezoning and LSCFD designation are not definite at this time. MSKCC and its architects and planners have developed a reasonable worst-case scenario development for the main campus block that would represent the full build-out of the floor area allowed by the rezoning and the authorization to move a maximum of 100,000 square feet from the north block to the main campus block. This scenario involves demolition of the Schwartz Building on First Avenue and the Howard Building on 68th Street. Research laboratory space would be replaced in the proposed research building. Other laboratory as well as diagnostic, treatment, and office space in these two buildings would be replaced by space in the potential new hospital building and the renovated Memorial Hospital.

A new hospital building (approximately 613,700 square feet) would be constructed to house inpatient rooms and replace Memorial Hospital. With the new hospital building, it is expected that the number of beds in operation could rise by 130 to 561.

At the east end of the main campus block, part of Memorial Hospital (234,000 square feet) would be renovated to house offices and on-call space.

PROPOSED DESIGN

RESEARCH BUILDING

The taller laboratory portion would be 23 stories—approximately 420 feet tall to the top of the mechanical stacks. Oriented in a north/south direction, it would be perpendicular to 68th and 69th Streets, which is expected to minimize its perceived bulk along these streets. The lower portion of the building, running along 68th Street, would be only seven stories (approximately 140 feet) tall. The facade of the building would be primarily stone, metal, and glass.
The main entrance would be on 68th Street, recognizing the linkage of this building to the main campus block. A through-block lobby with secondary access off 69th Street is being contemplated. Two off-street, enclosed loading docks would also be located on 69th Street.
The replacement space for the rectory would be located on the lower levels of the tower adjacent to St. Catherine's Church for direct access between the church and the rectory. The facade of the building would be designed to acknowledge the presence of the rectory and the adjacency of the church and its windows.

Since publication of the DEIS, the project architects have continued to develop the design elements for the proposed project. As currently contemplated, the proposed research building would present four distinct faces to the community. The south facade on 68th Street would be composed of a vertical face of the tower and a horizontally oriented mid-rise face of the lower wing. The latter would relate directly to the scale of the neighborhood. At the western base of this facade where the new rectory would be located, masonry would be used to relate in scale,

color and texture to the brick facade of the church. The north facade on 69th Street would be similarly composed of a high-rise portion and a mid-rise portion. The single-story entrance to the building would be located adjacent to the residential building to the east. On both the north and south facades, the entrances would be transparent glass to link interior lobby and exterior sidewalk. Planting areas would also be provided along the street.

As currently contemplated, the eastern facade of the tower would be transparent glass articulated by a pattern of horizontal shading devices. The western facade would also be glass but would have a vertical composition of patterned fritted and/or textured glass. Both of these facade treatments are intended to reduce the scale of these facades visually.

MAIN CAMPUS BLOCK

For analysis purposes, it is assumed that as-of-right development on the main campus block would occur under the proposed rezoning and transfer of floor area. The new inpatient hospital building on the west part of the main campus block is expected to be 5 stories (approximately 85 feet) tall along First Avenue. Set back 100 feet from First Avenue and approximately 33 feet and 46 feet from 67th and 68th Streets respectively, the building would rise to a total of 28 stories (approximately 448 feet). This building would have its main entrance on First Avenue, providing access to the MSKCC campus from First Avenue for the first time.

On the eastern end of the main campus block all of the inpatient floors in Memorial Hospital would be renovated for office and on-call space. No major changes to the exterior of the building are contemplated.

CHANGES IN POPULATION

Accounting for relocation of existing activities to new and expanded state-of-the-art facilities, MSKCC has estimated the following increases in patients, staff and visitors that would occur as a result of the proposed rezoning and development of the proposed research building and the reasonable worst case development scenario on the main campus and south blocks (see Tables S-1 and S-2).

Table S-1
North Block
Population Estimates for MSKCC

	Workers
Laboratory Tower	612
Demolish Kettering Building	(364)
Multipurpose wing	300
Change	548

Note: Because this phase does not include any work on other parts of the campus, no transfers from other blocks are assumed.

Table S-2
Main Campus Block
Population Estimates for MSKCC

	Research Staff	Office staff	D&T Staff	Inpatient Staff	Inpatients	Inpatient Visitors	D&T Patients	D&T visitors
Demolish Schwartz/Howard	(114)	(582)	(235)				(141)	(277)
New Facility on Schwartz/Howard site			623	457	561	1,683	671	1,677
Renovation of Memorial		882		(377)	(431)	(1,293)		
Change Main Campus Block	(114)	300	388	80	130	390	530	1,400

Notes:
Population of Schwartz and Howard is the entire population shown as "total existing demolished " This accounts for all the staff that currently in these buildings
Population for the New Facility is the total as the existing staff are netted out as negatives for Schwartz/Howard and Memorial.

ENVIRONMENTAL REVIEW

The CEQR process provides a mechanism for decision makers to understand the environmental consequences, the alternatives, and the need for mitigating significant impacts. CEQR rules guide the environmental review through: establishing a lead agency; determining whether the proposed action may have a significant impact on the environment; scoping; preparing a DEIS; beginning the public review; preparation of an Final Environmental Impact Statement (FEIS) by the lead agency; and the adoption of a formal set of written findings, reflecting its conclusions about the potential significant adverse environmental impacts of the proposed action, potential alternatives, and mitigation measures.
The proposed actions are also subject to ULURP, a city process designed to allow public review of proposed actions by the Community Board, the Borough President, CPC, and the City Council. The procedure sets time limits for review at each stage to ensure a maximum total review period of approximately 7 months.

B. FUTURE WITH THE PROPOSED ACTIONS

LAND USE, ZONING AND PUBLIC POLICY

LAND USE

By 2007, development of the proposed research building would result in an increase in the

density of development on that site by replacing the existing 3-story St. Catherine's Church Rectory, the Kettering Building, and vacant land with a new 23-story research building. While the proposed research building would be an expanded, more intensive use of the site, it would be in keeping with existing uses. The existing St. Catherine's Church Rectory would be replaced. Overall, development of the proposed research building would be compatible with the institutional character of the surrounding area.

It is also possible that by 2007 further development could occur as a result of the rezoning on properties not owned by MSKCC on the portion of the rezoning area on the eastern end of the north block. The increase in allowable floor area on these sites is not expected to result in substantial new development and would not result in significant adverse land use impacts. Development by 2011 would represent the full build-out of the floor area allowed under the proposed actions. In addition to the research building, this development would include a new inpatient hospital building on the west portion of the main campus block and renovation of portions of Memorial Hospital for office and on-call space. Overall, the proposed buildings would be larger than the buildings currently located on the site, but would involve similar land uses compared to the space that would be demolished.

The proposed MSKCC plans are not likely to change development trends in the surrounding area or induce new development projects that would occur absent the proposed actions. The activity generated by the new facilities is not expected to alter the current balance of residential, institutional, commercial, and industrial uses within the study area.

ZONING AND PUBLIC POLICY

Rezoning the two midblocks from R8 to R9 would increase allowable community facility development from 6.5 to 10 FAR and residential development from 6.02 to 7.52 FAR. The rezoning from an R8 zoning district to an R9 zoning district would increase the total permitted floor area from 1,649,561 to 2,437,108 square feet.

The LSCFD designation would allow development planning to encompass the entire campus. More specifically, it would allow, by CPC authorization, transfer of development rights from one portion of the campus to another part of the campus, and waivers of height and setback requirements. This designation would not affect the remainder of the rezoning area. Pursuant to the LSCFD, MSKCC would request the transfer of up to 100,000 square feet from the north block to the main campus block.

For the proposed research building, MSKCC would also request an authorization to modify height and setback requirements on streets internal to the LSCFD (ZR Section 79-21), a Special Permit to modify height and setback on peripheral streets (ZR Section 79-43). The proposed research building would also require actions by the Board of Standards and Appeals (BSA): variances (pursuant to ZR Section 72-21) for lot coverage (ZR Section 24-11) and a variance for

modification of the rear yard equivalent (ZR Section 24-38). In addition, for a brief period during construction of the proposed research building, a special permit for temporary failure to comply (ZR Section 73-642) would be requested.

The proposed R9 residential rezoning would be compatible with other zoning designations nearby. Much of the surrounding area is currently zoned for residential uses, including blocks immediately surrounding the rezoning area. The R9 district would represent a transitional area between existing R8 and R10 districts.

The actions described above would all be implemented by 2007. As the main campus block is developed, further authorizations or special permits from CPC pursuant to the LSCFD or other actions by the BSA may be needed, depending on programmatic requirements and architectural design, which have not yet been developed. Such additional actions would be subject to CEQR as part of their approval process.

Overall, the proposed actions would not have significant adverse impacts in terms of land use, zoning, and public policy.

SOCIOECONOMIC CONDITIONS

Overall, the anticipated development as a result of the proposed actions is not expected to generate any significant adverse socioeconomic effects. The new development would not result in the direct displacement of residential, business, or institutional uses. The actions would not result in development that is markedly different from existing uses, development, and activities within the neighborhood, and would therefore not lead to any indirect displacement. In contrast, the proposed project would create significant new research and patient care facilities and would generate employment and fiscal benefits for New York City and State.

COMMUNITY FACILITIES AND SERVICES

The proposed actions would increase the number of workers, patients and visitors in the area, which would place increased demand on the capacity and performance of community facilities in the area. By 2007, the proposed research building is expected to result in a net increase in workers over those who occupy the existing Kettering Building. Similarly, the number of MSKCC employees, patients and visitors would increase by 2011 as a result of potential development on the main campus block. Although these increases may minimally increase the demands on the Police and Fire Departments, this is not expected to adversely affect their provision of services.

The proposed actions would support MSKCC's role as a significant community facility by allowing it to expand its research, diagnostic, and treatment facilities, and have adequately sized state-of-the-art inpatient rooms. Overall, the proposed actions would not result in any significant

adverse impacts related to community facilities.

OPEN SPACE AND RECREATIONAL FACILITIES

Since publication of the DEIS, MSKCC has reduced the height of the envelope of the proposed research building from 440 feet to 420 feet (to the top of the mechanical stacks) and removed the south block from the rezoning area. These changes reduce the effect of the proposed project on open space. Overall, the proposed actions are not anticipated to have significant adverse impacts on open space resources in the area in 2007; however, with the increased population and shadows from development on the main campus block in 2011, the analysis indicates that the proposed actions would have an adverse impact on open space.

The proposed research building, which is expected to be complete by 2007, would add an estimated 548 daytime workers to the area, while potential community facility and residential expansion on other lots in the north block could add up to 97 workers to the area, resulting in a 1.8 percent decrease in the worker open space ratio, or a decrease of less than 0.01 acres of passive open space per 1,000 workers. The residential expansions that could result from the proposed rezoning would add approximately 53 residents to the study area, resulting in a 0.9 percent decrease in the overall passive open space ratio. For users as a whole, the proposed research building is not likely to have a significant effect on passive open space in the study area in 2007.

The remaining anticipated development in the rezoning area expected by 2011 would decrease the worker open space ratio by 3.5 percent, a decrease of less than 0.01 acres of passive open space per 1,000 workers. There would be a 1.7 percent decrease in the overall passive open space ratio, a decrease of less than 0.01 acres per 1,000 residents and workers.

The quantitative analysis indicates that the proposed actions could have a significant adverse impact on daytime workers' use of passive open space in the study area in 2011. The negative effects from this reduction in the passive open space ratio also would be exacerbated by shadows cast on open space resources from the proposed research building and other potential development on the main campus block of the MSKCC campus. There are no available mitigation measures and this results in an unavoidable adverse impact (see below, "Unavoidable Adverse Impacts").

SHADOWS

Since publication of the DEIS, MSKCC has amended the proposed actions to reduce the height of the proposed research building from 440 feet to 420 feet and to remove the south block from the rezoning area. The reduction in the height of the research building has reduced the early morning shadows on St. Catherine's Park.

Due to its height and bulk, the proposed research building would increase the shadows on St. Catherine's Park in the early morning. At their greatest extent, these increases would be substantial; however, at most times they would be less substantial. This increase would be of limited duration and by 9:30 AM Eastern Standard Time (EST) the building's shadow would be off the park. While a large part of the park is in shadow at the beginning of the analysis period on all analysis days (except December when there is no increment) this is very early in the morning when the park is much less likely to be used for passive recreation, for which sunlight would be most appreciated. In warmer months, leaves on the tall trees of the park already cast ample shade.

The incremental increase in shadows on the public plaza on York Avenue between 70th and 71st Streets is not considered significant because it would only fall on a small portion of the plaza for a short time in the spring, fall, and winter.

Since the proposed project would be built adjacent to the east side of St. Catherine's Church, there would also be an increase in shadows on its east facade. Measures to mitigate this impact are discussed below, under "Mitigation."

With full development assumed for 2011, there would also be an increase in shadows from the tower in the main campus block. It would be offset by a decrease in shadows due to the base of the building on First Avenue being shorter than the current building. The increment from the tower would cover large portions of the park in the mid-morning and extend the duration of the shadow increment from the proposed actions to as late as 11:00 AM (12 Noon) in March/ September and May/August. By midday there would be no new shadows from MSKCC buildings on this park in any season.

Overall, there are increases in morning shadows on St. Catherine's Park in the spring, summer, and fall. On cooler days this could lessen the enjoyment of park users, especially passive users of the open space. On the coolest days in the winter when users would most appreciate the sun, the MSKCC development would not increase the shadow on St. Catherine's Park. In terms of vegetation, the trees are unlikely to be affected as they receive ample sunlight over the course of the day. The other plantings, such as daffodils, are seasonal. As the shadow of the project moves quickly across the expanse of the park, it is unlikely that they would be affected by diminished light during in the growing season.

HISTORIC RESOURCES

The FEIS does not include an analysis of archaeological resources. Significant adverse impacts are not anticipated. As noted in a letter dated May 25, 2001, the New York City Landmarks Preservation Commission (LPC) concluded that the development sites have no archaeological significance and that an archaeological analysis was not warranted.

Construction of the proposed research building could potentially cause damage to St. Catherine's

Church as it is located immediately west of the project site. To avoid adverse physical impacts on the church, a construction protection plan would be developed and implemented following the guidelines set forth in "The New York City Landmarks Preservation Commission Guidelines for Construction Adjacent to a Historic Landmark" and "Protection Programs for Landmark Buildings."

The increase in shadows on the stained-glass windows of St. Catherine's Church has the potential to create a significant adverse impact on historic resources. Measures that would mitigate this impact are discussed below, under "Mitigation." Although the proposed research building would be substantially taller and larger-scaled than the church, the difference in height and scale would not constitute a significant adverse impact to the church. As currently contemplated, the architectural design of the proposed building could help minimize the visual differences in height and scale between the proposed research building and the church. The building's height and bulk would not adversely affect architectural resources because the area's architectural resources include a large, bulky resource—the New York Hospital-Cornell Medical Center complex—and because all these resources exist and retain their importance in an area with numerous taller bulkier structures.

URBAN DESIGN AND VISUAL RESOURCES

By 2007, new development on the north block would change the character of the project site by introducing a modern research building and new activity to the site. The proposed research building would be built to the sidewalk and would have a much greater presence at the streetwalls of East 68th and 69th Streets. The main entrance to the proposed research building on East 68th Street would maintain the linkage to the central MSKCC campus block. An additional entrance would be provided on East 69th Street. As currently contemplated, the facade of the proposed research building would be composed of glass and metal with a masonry base, and thus would be quite different from the extant masonry buildings on the project site. However, the masonry base would relate in scale, color, and texture to the adjacent St. Catherine's Church. The currently contemplated design of the building would also acknowledge the adjacency of the church through the use of a linear courtyard separating the two buildings. The transparent, glass-enclosed entrances of the proposed research building would visually link its interior with the exterior, enlivening the adjacent streets by day as well as by night.

At approximately 420 feet, the building to be constructed by the proposed project would be considerably taller than the existing buildings on the site. The north-south orientation of the building would differ from the norm, as midblock sites are typically occupied by tenements or mid-size, east-west oriented apartment buildings, (approximately 104 to 219 feet tall) set back slightly from the streetline. This orientation would serve to minimize the building's appearance along East 68th and 69th Streets, although the long side of the building would be more visible in the distance, particularly from the west. The lower portion of the building on East 68th Street would be shorter than the existing Kettering Building and its scale would be more in keeping

with that of surrounding buildings. As currently contemplated, the architectural design calls for projecting horizontal shading devices on the east side of the tower that would create shadow patterns across this facade, constantly changing the tower's perceived scale and appearance. The western facade would include a vertical composition of fritted and/or textured glass, again to visually reduce the scale of the building. Despite design measures currently contemplated, the new mid-block tower would significantly increase density in the midblock, adversely affecting this component of urban design. However, the reduction in height from 440 feet to 420 feet would partially mitigate the impact.

Full campus development assumed by 2011 would not alter the street pattern or any natural features or block shapes in the study area. The project development would be built to the sidewalk and would maintain a presence at the respective streetwall. The proposed actions would also provide a major new entrance to the campus on a side street where little activity now occurs, and would be expected to enliven nearby streets with greater activity and more pedestrians. The building on the main campus block would be generally larger in scale than what currently exists, with lower floors built to the street and a set-back "tower," similar to some of the institutional and residential buildings in the area. As discussed above, the larger mid-block buildings in the surrounding area are typically much smaller in height and floorplate size than the proposed buildings. In addition, most have an east-west orientation; while the tower of the building on the main campus block shares this orientation, the research building on the north block does not. The lower portions of the buildings at the streetline, rather than the towers, would be most apparent to pedestrians passing by. The buildings would not obstruct any significant views or vistas, or significantly affect the viewing of visual resources in the area.

Overall, the two towers in the mid-blocks in 2011 and the increased density would cause a significant adverse impact. Alternatives that would reduce this impact were considered (see "D. Alternatives," below).

NEIGHBORHOOD CHARACTER

In both 2007 and 2011, the proposed actions would be expected to affect some but not all of the elements contributing to the neighborhood character of this area of Manhattan's Upper East Side. The proposed actions would allow expansion of a traditional land use in the area—medical facilities—and would support the overall utility of the area.

The proposed research building and the potential development on the remainder of the campus would increase densities on the midblocks, contributing to an on-going trend of increasing density in the area. New development would bring a higher level of activity to the area with increases in the workers, patients, and visitors. This increase would result in additional traffic, transit, and pedestrian trips in the study area. Overall, there would be a significant adverse impact on the general character of the area.

The proposed actions would not significantly impact socioeconomic conditions or noise. With a construction protection plan for St. Catherine's Church, construction-related impacts on historic resources would be mitigated. Although no view corridors or visual resources would be affected, views to the east-facing clerestory windows of St. Catherine's Church would be blocked. The architectural design of the proposed research building has been developed to respect the small-scale St. Catherine's Church immediately to its west with a linear courtyard between the two buildings and a masonry facade to complement the brick facade of the church. In addition, to reduce both the midblock density and the impact of the new building, between the Draft and Final Environmental Impact Statements, the height of the building envelope was reduced from 440 to 420 feet. This would partially mitigate the building's adverse effect on urban design and its corresponding effect on this aspect of neighborhood character.

Overall, a number of factors that create the character of the neighborhood would be supported, while others would not be affected because of mitigation or avoidance measures. The increase in traffic and in urban design density at full build-out would tend to indicate an adverse impact on neighborhood character. However, the impact would be partially mitigated by the reduction in the size of the proposed research building and the elimination of the south block (and resulting development, employees, patients and visitors) from the rezoning area, which also took place after publication of the DEIS. Alternatives that would mitigate or reduce this impact were considered (see "D. Alternatives," below).

HAZARDOUS MATERIALS

MSKCC OPERATIONS

Hazardous materials are used in small quantities by trained professionals within MSKCC. The MSKCC Environmental Health and Safety Director establishes safety procedures and conducts an ongoing program of safety training for staff and employees. The Environmental Health and Safety Director is also responsible for ensuring that MSKCC conforms with all city, state, and federal regulations relating to the use and disposal of hazardous materials. The MSKCC Radiation Safety Officer supervises the use, storage, and disposal of radioactive materials. As it has for MSKCC's existing facilities, the Health and Safety Department would provide plans, training and equipment for cleanup of any hazardous chemical spills. The hazardous materials employed at the proposed development would be similar to those currently in use at MSKCC. Although there would be no significant change to the types of materials used, their quantities would vary under the proposed actions, with increases in the amounts of some hazardous materials. Because the proposed research building and other potential development would adhere to all regulations regarding hazardous materials, no significant adverse impacts are anticipated.

CONSTRUCTION ACTIVITIES

There is a potential for adverse impacts during construction activities resulting from the presence of chemical and radioactive products, hazardous waste, petroleum storage tanks, asbestos-containing materials, PCB-containing materials, and lead-based paint. Construction activities could disturb hazardous materials and increase pathways for human exposure. However, impacts would be avoided by performing construction activities (including identification, handling and disposal of any hazardous materials) in accordance with all applicable local, state and federal guidelines and regulations.

Prior to excavation, a Phase II subsurface investigation of the Kettering Laboratory site and the portion of the main campus block that would be affected by new construction would be conducted to fully characterize the potential contamination at the site. An investigative work plan including a testing protocol and Health and Safety Plan would be submitted to NYCDEP for review and approval before testing is undertaken. The results of the testing program and the remediation plan, if required, would be submitted to NYCDEP for review and approval. Since the Kettering Laboratory must continue to function until the building is demolished, it is impractical to complete a testing program until that time. Therefore, MSKCC has entered into a restrictive declaration that would ensure that the appropriate characterization and remediation take place before any soil disturbance or construction begins. With this restrictive declaration, the potential for an adverse impact would be avoided.

INFRASTRUCTURE, SOLID WASTE, AND ENERGY

The proposed project would increase demand for water and energy, and would generate additional sewage and solid waste. However, in both 2007 and 2011 these increases would be relatively small and would not result in significant adverse impacts.

There would be no significant effect on the New York City water supply system's ability to deliver water reliably. Additional sanitary sewage resulting from the proposed actions would not cause the Newtown Creek WPCP to exceed its design capacity or State Pollution Discharge Elimination System (SPDES) permit flow limit. Waste from the proposed research building and other potential development on the MSKCC campus would be handled by private carters and would have no effect on the city's municipal waste handling system. Solid waste generated by non-MSKCC properties would be a relatively small amount that is not expected to burden the city's solid waste handling services. Energy consumption is not expected to result in any additional loads that could not be handled by Con Edison or another power company. Overall, the proposed actions would not have significant adverse impacts on infrastructure, solid waste, or energy.

TRAFFIC AND PARKING

Based on the standards of the CEQR Technical Manual, the increases in traffic generated by the proposed project would cause significant impacts in both the 2007 and 2011 analysis years. In 2007, there would be impacts at 3 intersections in the AM peak hour and 5 intersections in the PM peak hour. There would not be any impacts in the midday peak hour.
Impacts would occur at the following intersections in 2007:

- York Avenue and East 63rd Street (PM peak);
- York Avenue and East 67th Street (PM peak);
- York Avenue and East 69th Street (AM peak);
- York Avenue and East 71st Street (AM peak);
- York Avenue and East 72nd Street (PM peak);
- First Avenue and East 68th Street (PM peak); and
- Second Avenue and East 68th Street (AM and PM peaks).

In 2011, the increases in traffic generated by the proposed project would cause significant impacts at 9 intersections in the AM peak hour, 8 intersections in the midday peak hour, and 11 intersections in the PM peak hour.

Impacts would occur at the following intersections in 2011:

- York Avenue and East 61st Street (PM peak);
- York Avenue and East 62nd Street (AM and PM peaks);
- York Avenue and East 63rd Street (midday and PM peaks);
- York Avenue and East 66th Street (PM peak);
- York Avenue and East 67th Street (AM, midday, and PM peaks);
- York Avenue and East 69th Street (AM and PM peaks);
- York Avenue and East 71st Street (AM, midday, and PM peaks);

- York Avenue and East 72nd Street (AM, midday, and PM peaks);
- First Avenue and East 67th Street (AM and midday peaks);
- First Avenue and East 68th Street (AM, midday, and PM peaks);
- Second Avenue and East 68th Street (AM, midday, and PM peaks); and
- Second Avenue and East 69th Street (AM, midday, and PM peaks).

For both analysis years, all of the impacted locations could be fully mitigated through signal retiming or changes to parking regulations. These mitigation measures are described below.

Off-street parking facilities within ¼ mile of the project site would continue to operate with available capacity in future conditions with the proposed actions, and no project-related parking impacts are anticipated.

TRANSIT AND PEDESTRIANS

Because no significant impacts to pedestrian conditions would have resulted in either the 2007 or 2011 future analysis years under the larger program analyzed under the DEIS, none are expected under the proposed actions. However, the subway station stairs at the southeast and northeast corners of East 68th Street at Lexington Avenue would be significantly affected during the AM and PM peak periods analyzed. In 2007, there would be a significant impact at the northeast stair, which would operate at LOS F. In 2011, there would be significant impacts at both the southeast and the northeast stairs, which would continue to operate at LOS F. These impacts could be mitigated through stairway widening, as described below. If stair widening is not implemented, the project would result in a significant adverse impact.

AIR QUALITY

The proposed actions would result in increased mobile source emissions in the immediate vicinity of the MSKCC campus. However, the project-generated trips for the full development in 2011 would be below the CEQR Technical Manual screening threshold. Therefore, no detailed analysis was undertaken for 2007 or 2011 in the FEIS. As analyzed in the DEIS, no significant air quality impacts would occur at any of the analyzed receptors as a result of the proposed actions. The mobile source analysis indicates that carbon monoxide concentrations would be within the applicable standard of 9 parts per million (ppm) and the incremental impacts would all be less than the de minimis criteria.

An analysis of emissions from the proposed research building's fume hood exhaust system indicates that there would be no predicted significant adverse impacts from the laboratories'

exhaust system on any MSKCC campus buildings or the surrounding community.

The effect of the exhaust plumes from the New York Hospital boiler on the proposed development shows that the predicted pollutant concentrations for all of the pollutant time averaging periods are below their respective standards. Therefore, no significant adverse air quality impacts would occur from New York Hospital's boiler exhaust.

NOISE

At full development in 2011, future noise levels would be less than 2.0 A-weighted decibels (dBA) higher than future No Build noise levels. Changes of this magnitude would be insignificant and imperceptible. Thus, the proposed actions would not result in significant noise impacts in either 2007 or 2011.

To ensure interior noise levels of at most 45 dBA, all of the project buildings would have well sealed, double-glazed windows and central air conditioning (i.e., alternative ventilation). These measures would result in interior noise levels of 45 dBA or lower. In addition, mechanical equipment such as HVAC and elevator motors would utilize sufficient noise reduction devices to comply with applicable noise regulations and standards. Overall, the proposed project would not have any significant adverse noise impacts. In addition, an (E) designation would be placed on buildings subject to the rezoning to ensure that CEPO-CEQR requirements are satisfied. The text of the (E) designation is as follows concerning Block 1463, Lots 5, 11, 21, 31:

> In order to ensure an acceptable interior noise environment, at all facades to East 68th and 69th Streets, future uses must provide a closed window condition with a minimum window/wall attenuation of 30 dB(A), in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners.

The text of the (E) designation is as follows on Block 1462, Lot 5:

> In order to ensure an acceptable interior noise environment, at all facades to roadways, future uses must provide a closed window condition with a minimum window/wall attenuation of 35 dB(A), in order to maintain an interior noise level of 45 dB(A). In order to maintain a closed-window condition, an alternate means of ventilation must also be provided. Alternate means of ventilation includes, but is not limited to, central air conditioning or air conditioning sleeves containing air conditioners.

The (E) designation would ensure that there would be no significant adverse noise impacts.

CONSTRUCTION IMPACTS

Proposed and potential development would require the demolition of the existing buildings on the MSKCC campus. Construction of the proposed research building is expected to be completed by 2007, while completion of full development is assumed by 2011. Although some construction impacts would be unavoidable, the duration and severity of these effects would be relatively short-term and would be minimized by implementing measures during scheduling and staging of activities to control intrusive construction-related noise and particulate emissions, as well as minimize disruption to existing traffic and pedestrian circulation.

During periods of intensive excavation activity, such as excavation of bedrock, appropriate measures would be taken to ensure that no structural damage to adjacent structures would occur. The project would implement a program to monitor vibrations to ensure that blasting and excavation activities are done in conformance with applicable building codes. Existing building foundations adjacent to the construction site would be surveyed and structural movement would be monitored to safeguard the integrity of these structures from construction activities.

MSKCC has discussed relocation of Woodward School with the school's leadership and with representatives of New York-Presbyterian Hospital, which owns the school's present location. It is likely that Woodward would be relocated to the ground floor of the present MSKCC library, and have a separate entrance to that space from 1233 York Avenue. A play area would be provided in a terrace adjacent to the medical library. Preliminary designs are now being developed for review by Woodward.

During construction of the proposed research building a Construction Protection Plan would be implemented to avoid adverse impacts on St. Catherine's Church, a potential historic resource.

Prior to excavation, a Phase II subsurface investigation of the Kettering Laboratory site and the main campus block would be conducted to fully characterize the potential contamination at the site. The results of the testing program and the remediation plan, if required, would be submitted to NYCDEP for review and approval.

C. MITIGATION

HISTORIC RESOURCES

Construction of the proposed research building could potentially affect the Church of St. Catherine of Siena. To mitigate these potential adverse physical impacts, a construction protection plan would be developed and implemented following the guidelines set forth in "The New York City Landmarks Preservation Commission Guidelines for Construction Adjacent to a Historic Landmark" and "Protection Programs for Landmark Buildings." Since the proposed project would be built adjacent to the east side of the Church of St. Catherine of Siena, between it

and the sun, there would be an increase in shadows on the east facade of the church as a result of the proposed project. To mitigate this potential impact, the applicant has included in the project's design exterior illumination for the stained glass windows at this location. This illumination would supplement the natural light on the windows that would be diminished by the proposed project. The illumination would allow the stained glass windows to be seen from within the church in a way that would provide clarity to the artwork. The light sources would be located on the exterior of the church and/or the exterior of the research building, and be directed toward each of the stained glass openings. The selection and direction of the fixtures would be such as to minimize spill onto the adjacent buildings. The exterior light sources would be located after consultation with church officials and be placed in such a manner as to minimize impact on the exterior of the church.

URBAN DESIGN

The two towers in the mid-blocks and the increased density could cause a significant adverse impact to urban design. Since publication of the DEIS, the height of the proposed research building has been reduced from 440 to 420 feet (to the top of the mechanical stacks) to partially mitigate this impact. Alternatives that would reduce or mitigate this impact were considered (see "D. Alternatives," below).

HAZARDOUS MATERIALS

NYCDEP has requested that prior to excavation, a Phase II subsurface investigation would be conducted to fully characterize the potential contamination at the Kettering Laboratory site and portions of the main campus block that would be affected by new construction. An investigative work plan including a testing protocol and Health and Safety Plan would be submitted to NYCDEP for review and approval before testing is undertaken. The results of the testing program and the remediation plan, if required, would be submitted to NYCDEP for review and approval. Since the existing Kettering Laboratory must continue to function until the building is demolished, it is impractical to complete a testing program until that time. Therefore, MSKCC has entered into a restrictive declaration that would ensure that the appropriate characterization and remediation take place before any soil disturbance or construction begins. With this restrictive declaration, the potential for an adverse impact would be avoided.

TRAFFIC

Mitigation would be required for several intersections. NYCDOT has reviewed these mitigation measures and has agreed to evaluate operating conditions prior to completion of Phase 1 and Phase 2. At that time, appropriate mitigation measures will be implemented. For the 2007 analysis year impacts, modification of the signal timing plan is proposed for the following intersections: York Avenue and East 63rd, East 69th, East 71st, and East 72nd Streets; First Avenue and East 68th Street; and Second Avenue and East 68th Street. The impact at York

Avenue and East 67th Street could be mitigated by prohibiting parking (daylighting) along one of the approaches, and creating a lagging northbound phase.

For the 2011 analysis year, modification of the signal timing plan is proposed for the following intersections: York Avenue and East 61st, East 62nd, East 63rd, East 66th, East 67th, and East 69th Streets; First Avenue and East 67th and East 68th Streets; Second Avenue and East 68th and East 69th Streets. The impacts at York Avenue and East 67th, East 71st, and East 72nd Streets could be mitigated by modifying the signal timing plan and prohibiting parking (daylighting) along one of the approaches.

Proposed mitigation measures are detailed below; these measures would mitigate impacts to No Action service conditions or better. If mitigation measures are not implemented, significant adverse impacts would occur.

RECOMMENDED MITIGATION MEASURES—2007

York Avenue and East 63rd Street

The impact at the southbound left-turn movement at this intersection during the PM peak period could be mitigated by subtracting 1 second of green time from the westbound phase and adding to the southbound lagging phase. With this retiming, delays at the southbound left-turn movement would improve to 63.0 spv (LOS F) with a v/c ratio of 1.056 from a delay of 86.2 spv (LOS F) with a v/c ratio of 1.109 in 2007 with the proposed actions. This measure would mitigate the impact to No Action conditions or better.

York Avenue and East 67th Street

The impact at the northbound approach at this intersection during the PM peak period could be mitigated by prohibiting parking (daylighting) for approximately 150 feet from the intersection (approximately 6 spaces) on the northbound approach and developing an 8-second lagging phase for the northbound through and left-turn. Parking regulations at the northbound approach would be "No Standing from Here to Corner 4 PM to 7 PM." With these measures, delays at the northbound approach would improve to 5.9 spv (LOS B) with a v/c ratio of 0.630 from a delay of 39.6 spv (LOS D) with a v/c of 0.790 at the defacto northbound left-turn movement and 57.3 (LOS E) with a v/c ratio of 1.082 at the northbound left-through movement in 2007 with the proposed actions. This measure would mitigate the impact to No Action conditions or better.

York Avenue and East 69th Street

The impact at the northbound left-through movement at this intersection during the AM peak period could be mitigated by subtracting 1 second of green time from the eastbound/westbound pedestrian phase and adding it to the northbound/southbound phase. With this retiming, delays at

the northbound left-through movement would improve to 30.6 spv (LOS D) with a v/c ratio of 1.013 from a delay of 35.0 spv (LOS D) with a v/c ratio of 1.027 in 2007 with the proposed actions. This measure would mitigate the impact back to 32.5 spv or better.

Based on an approximately 60-foot roadbed width on York Avenue, an average pedestrian walking speed of 3 feet per second, and a start-up time of 3 seconds, the minimum time needed for pedestrians crossing York Avenue is 23 seconds. With the proposed retiming, there would be 36 seconds available for pedestrians crossing York Avenue. If this retiming is not implemented, and there is no alternative mitigation measure, there would be a significant impact at this intersection.

York Avenue and East 71st Street

The impact at the northbound approach at this intersection during the AM peak period could be mitigated by subtracting 1 second of green time from the westbound phase and adding it to the northbound/southbound phase. With this retiming, delays at the northbound approach would improve to 75.0 spv (LOS F) with a v/c ratio of 1.113 from a delay of 86.2 spv (LOS F) with a v/c ratio of 1.134 in 2007 with the proposed actions. This measure would mitigate the impact back to No Action conditions or better.

York Avenue and East 72nd Street

The impact at the westbound approach at this during the PM peak period could be mitigated by subtracting 1 second of green time from the northbound/southbound phase and adding it to the eastbound/westbound phase. With this retiming, delays at the westbound approach would improve to 99.5 spv (LOS F) with a v/c ratio of 1.081 from a delay of 123.6 spv (LOS F) with a v/c ratio of 1.130 in 2007 with the proposed actions. This measure would mitigate the impact back to No Action conditions or better.

First Avenue and East 68th Street

The impact at the eastbound approach at this intersection during the PM peak period could be mitigated by subtracting 1 second of green time from the northbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 73.1 spv (LOS F) with a v/c ratio of 1.069 from a delay of 87.4 (LOS F) with a v/c ratio of 1.102 in 2007 with the proposed actions. This measure would mitigate the impact back to No Action conditions or better.

Second Avenue and East 68th Street

The impact at the eastbound approach at this intersection during the AM peak period could be mitigated by subtracting 2 seconds of green time from the southbound phase and adding it to the

eastbound phase. With this retiming, delays at the eastbound approach would improve to 62.3 spv (LOS F) with a v/c ratio of 1.017 from a delay of 84.4 spv (LOS F) with a v/c ratio of 1.075 in 2007 with the proposed actions. This measure would mitigate the impact back to No Action conditions or better.

During the PM peak hour, the impact could be mitigated by subtracting 1 second of green time from the southbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 69.7 spv (LOS F) with a v/c ratio of 1.060 from a delay of 82.5 spv (LOS F) with a v/c ratio of 1.091 in 2007 with the proposed actions. This measure would mitigate the impact back to No Action conditions or better.

RECOMMENDED MITIGATION MEASURES--2011

York Avenue and East 61st Street

The impact at the northbound defacto left-turn movement at this intersection during the PM peak period could be mitigated by subtracting 1 second of green time from the westbound phase and adding it to the northbound/southbound phase. With this retiming, delays at the northbound defacto left-turn movement would improve to 122.0 spv (LOS F) with a v/c ratio of 1.037 from a delay of 137.4 spv (LOS F) with a v/c ratio of 1.067 in 2011 with the proposed actions. This measure would mitigate the impact back to No Action conditions or better.

York Avenue and East 62nd Street

The impacts at the northbound approach at this intersection during both the AM and midday peak periods could be mitigated by subtracting 1 second of green time from the southbound lagging phase and adding it to the northbound/southbound phase. With this retiming, delays would improve to 32.1 spv (LOS D) with a v/c ratio of 0.955 from 35.8 spv (LOS E) with a v/c ratio of 0.957 in 2011 with the proposed actions during the AM peak period.

The impact at the southbound approach at this intersection during the PM peak period could be mitigated by subtracting 1 second of green time from the pedestrian phase and adding it to the southbound lagging phase. With this retiming, delays would improve to 57.5 spv (LOS E) with a v/c ratio of 1.198 from 65.3 spv (LOS F) with a v/c ratio of 1.113 in 2011 with the proposed actions.

With these measures in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and East 63rd Street

The impact at the southbound left-turn movement at this intersection during the midday and PM peak periods could be mitigated by subtracting 1 second of green time from the northbound/ southbound phase and adding it to the southbound lagging phase. With these retimings, delays would improve to 71.9 (LOS F) with a v/c ratio of 1.041 from 102.8 spv (LOS F) with a v/c ratio of 1.110 during the PM peak period in 2011 with the proposed actions during the midday peak period, and to 79.1 spv (LOS F) with a v/c ratio of 1.096 from 107.2 spv (LOS F) with a v/c ratio of 1.150 in 2011 with the proposed actions.

With these measures in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and 66th Street

The impact at the northbound defacto left-turn movement at this intersection during the PM peak period could be mitigated by subtracting 5 seconds of green time from the westbound phase and adding it to the northbound/southbound phase. With this retiming, delays would improve to 37.9 spv (LOS D) with a v/c ratio of 0.809 from a delay of 76.7 (LOS F) with a v/c ratio of 0.944 in 2011 with the proposed actions. With this measure in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and East 67th Street

The impact at the northbound left-turn and through movements at this intersection during the AM, midday, and PM peak periods could be mitigated by creating a leading northbound phase with 8 seconds of green time (and 3 seconds of yellow plus all red time). In addition, during the midday and PM peak periods, parking at the southbound approach would be prohibited (daylighting) for approximately 150 feet from the intersection (approximately 6 spaces). Parking regulations would be "No Standing from Here to Corner Noon to 2 PM and 4 PM to 7 PM." With these measures, delays would improve to 4.8 spv (LOS A) with a v/c of 0.479 from delays of 81.7 spv (LOS F) with a v/c ratio of 0.965 at the northbound defacto left-turn movement and 5.0 spv (LOS A) with a v/c ratio of 0.512 at the through movement in 2011 with the proposed actions during the AM peak period, to 10.2 spv (LOS B) with a v/c ratio of 0.870 from a delay of 166.0 spv (LOS F) with a v/c ratio of 1.188 at the defacto left-turn movement and 95.6 (LOS F) with a v/c ratio of 1.163 at the through movement in 2011 with the proposed actions during the midday peak period, and to 7.4 (LOS B) with a v/c ratio of 0.740 from 68.7 spv (LOS F) with a v/c of 0.917 at the defacto left-turn movement and 69.6 spv (LOS F) with a v/c ratio of 1.110 at the through movement in 2011 with the proposed actions during the PM peak period. With these measures in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and East 69th Street

The impact at the northbound approach at this intersection during the AM and PM peak periods could be mitigated by creating a leading northbound phase with 8 seconds of green time (and 3 seconds of yellow plus all red time). With this retiming, delays at the northbound approach would improve to 6.8 spv (LOS B) with a v/c ratio of 0.709 from 57.0 spv (LOS F) with a v/c ratio of 1.088 in 2011 with the proposed actions during the AM peak, and to 8.1 spv (LOS B) with a v/c ratio of 0.774 from delays of 49.8 spv (LOS E) with a v/c ratio of 1.068 in 2011 with the proposed actions during the PM peak.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and East 71st Street

The impact at the northbound approach at this intersection during the AM peak period could be mitigated by prohibiting parking for approximately 150 feet from the intersection (approximately 6 spaces) at the northbound approach. Parking regulations would be "No Standing From Here to Corner 7AM to 10AM." With this measure, delays at the northbound approach would improve to 57.8 spv (LOS F) with a v/c ratio of 1.074 from a delay of 120.2 (LOS F) with a v/c ratio of 1.193 in 2011 with the proposed actions.

During both the midday and PM peak periods, the impacts could be mitigated by subtracting 1 second of green time from the westbound phase and adding it to the northbound/southbound phases. With this retiming, delays at the northbound approach would improve to 78.5 spv (LOS F) with a v/c ratio of 1.129 from a delay of 94.4 (LOS F) with a v/c ratio of 1.157 in 2011 with the proposed actions during the midday peak period, and to 75.2 (LOS F) with a v/c ratio of 1.114 from a delay of 85.9 spv (LOS F) with a v/c of 1.134 in 2011 with the proposed actions during the PM peak period.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and East 72nd Street

The impacts at the eastbound and westbound approaches during the AM peak period could be mitigated by subtracting 1 second of green time from the northbound and southbound phase and adding it to the eastbound/westbound phase. With this retiming, delays at the eastbound approach would improve to 86.6 spv (LOS F) with a v/c ratio of 1.088 from 103.0 (LOS F) with a v/c ratio of 1.122 in 2011 with the proposed actions. At the westbound approach, delays would improve to 101.3 spv (LOS F) with a v/c ratio of 1.068 from 125.0 (LOS F) with a v/c ratio of 1.118 in 2011 with the proposed actions.

During the midday peak period, the impact at the northbound approach could be mitigated by subtracting 1 second of green time from the eastbound/westbound pedestrian phase and adding it to the northbound/southbound phase. With this retiming, delays at the northbound approach would improve to 89.3 spv (LOS F) with a v/c ratio of 1.147 from a delay of 106.7 (LOS F) with a v/c ratio of 1.176 in 2011 with the proposed actions.

During the PM peak period, the impact at the westbound approach could be mitigated by prohibiting parking (daylighting) for approximately 150 feet from the intersection (approximately 6 spaces) on westbound approach. Parking regulations would be "No Standing From Here to Corner 4PM to 7PM." Parking demand is discussed below. With this measure, delays at the westbound approach would improve to 89.1 (LOS F) with a v/c ratio of 1.059 from a delay of 261.5 spv (LOS F) with a v/c ratio of 1.324 in 2011 with the proposed actions.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

First Avenue at East 67th Street

The impact at the westbound approach at this intersection during the AM and midday peak periods could be mitigated by subtracting 2 seconds of green time from the northbound phase and adding it to the westbound phase. With this retiming, delays at the westbound approach would improve to 53.2 spv (LOS E) with a v/c ratio of 0.976 from a delay of 72.0 spv (LOS F) with a v/c ratio of 1.036 in 2011 with the proposed actions during the AM peak period, and to 75.2 spv (LOS F) with a v/c ratio of 1.051 from a delay of 103.8 spv (LOS F) with a v/c ratio of 1.115 in 2011 with the proposed actions during the midday peak period.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

First Avenue and 68th Street

The impact at the eastbound approach during the AM peak period could be mitigated by subtracting 3 seconds of green time from the northbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 55.2 spv (LOS E) with a v/c ratio of 0.997 from a delay of 88.7 spv (LOS F) with a v/c ratio of 1.087 in 2011 with the proposed actions.

The impact at the eastbound approach at this intersection during the midday and PM peak periods could be mitigated by subtracting 1 and 2 seconds of green time, respectively, from the northbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 82.3 spv (LOS F) with a v/c ratio of 1.086 from a delay of

98.1 spv (LOS F) with a v/c ratio of 1.119 in 2011 with the proposed actions during the midday peak period, and to 78.8 spv (LOS F) with a v/c ratio of 1.086 from a delay of 112.1 spv (LOS F) with a v/c ratio of 1.152 in 2011 with the proposed actions during the PM peak period.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

Second Avenue and 68th Street

The impact at the eastbound approach at this intersection during the AM peak period could be mitigated by subtracting 4 seconds of green time from the southbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 66.0 spv (LOS F) with a v/c ratio of 1.035 from a delay of 121.2 spv (LOS F) with a v/c ratio of 1.153 in 2011 with the proposed actions.

During the midday and PM peak periods the impacts at the eastbound approach could be mitigated by subtracting 1 and 2 seconds of green time, respectively, from the southbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 82.5 spv (LOS F) with a v/c ratio of 1.088 from a delay of 97.4 spv (LOS F) with a v/c ratio of 1.119 in 2011 with the proposed actions during the midday peak, and to 74.9 spv (LOS F) with a v/c ratio of 1.076 from a delay of 104.6 spv (LOS F) with a v/c ratio of 1.138 in 2011 with the proposed actions during the PM peak.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

Second Avenue and East 69th Street

The impact at the westbound approach at this intersection during the AM peak period could be mitigated by subtracting 2 seconds of green time from the southbound phase and adding it to the westbound phase. With this retiming, delays at the westbound approach would improve to 37.2 spv (LOS D) with a v/c ratio of 0.904 from a delay of 48.4 spv (LOS E) with a v/c ratio of 0.957 in 2011 with the proposed actions.

During the midday peak period, the impact could be mitigated by subtracting 1 and 2 second of green time from the southbound phase and adding it to the westbound phase. With this retiming, delays at the westbound approach would improve to 79.8 spv (LOS F) with a v/c ratio of 1.081 from a delay of 94.6 spv (LOS F) with a v/c ratio of 1.112 in 2011 with the proposed actions.

During the PM peak period the impact could be mitigated by subtracting 1 second of green time from the southbound phase and adding it to the westbound phase. With this retiming, delays at the westbound approach would improve to 43.5 spv (LOS D) with a v/c ratio of 0.937 from a

delay of 50.0 spv (LOS E) with a v/c ratio of 0.965 in 2011 with the proposed actions.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

PARKING

It is assumed that the 18 on-street parking spaces lost due to the proposed 2011 mitigation measures would add to the off-street parking demand in the area, increasing the midday off-street parking utilization rate to approximately 94.5 percent. There would be available off-street parking capacity, and no significant impacts to parking would result from restricting on-street parking as described above.

PEDESTRIANS AND TRANSIT

The proposed actions would result in a significant impact to the subway station stairs at the northeast corner of East 68th Street at Lexington Avenue. In 2007, restoring the service measurement to No Action conditions would require a widening of one inch as recommended by CEQR. In 2011, a widening of two inches at the southeast stair would be required to alleviate crowded stair conditions, and at the northeast stairs a widening of three inches would be necessary.

The Metropolitan Transit Authority (MTA) generally does not disrupt service on a stairway to complete a widening of two inches, but could instead choose to widen the stair by at least six inches to one foot. Therefore, no subway stair mitigation would be undertaken for 2007. Instead, discussions with the MTA have focused on widening the northeast and southeast stairs as part of the Phase 2 development. The MTA has reviewed and approved conceptual improvement plans, as discussed above in, "Mitigation." According to the CEQR Technical Manual "the applicant generally identifies the cost associated with the percent of construction required to mitigate the action's significant adverse impacts." The applicant would be responsible for this portion of the improvement. There is no commitment by the MTA regarding funding this mitigation at this time. If mitigation is not implemented, a significant adverse impact would occur.

AIR QUALITY

There would be no adverse impacts on air quality with the proposed traffic mitigation measures in place.

D. ALTERNATIVES

In addition to the No Action Alternative, build alternatives were considered as follows: an R8

Research Building Alternative, with height and setback waivers; an R8 As-of-Right Research Building Alternative; an R8 As-of-Right Mixed-Use Alternative with development on the north block; an R9 As-of-Right Research Building Alternative; an R9 As-of-Right Mixed-Use Alternative; the Manhattan Borough President's Alternative; the CIVITAS Alternative; Alternative Sites; and a Reduced Main Campus Block Development Alternative.

NO ACTION ALTERNATIVE

This alternative is discussed and analyzed as the future without the proposed project in each of the technical areas of the EIS. The No Action Alternative would not involve any major changes to the structures on the project site (construction or demolition). The Church Rectory would remain on site.

LAND USE, ZONING, AND PUBLIC POLICY

The former site of St. Catherine's School would remain a vacant lot, and the Church Rectory and the Kettering Building would remain. There would be no expansion and enhancement of medical facilities. In 2011 there would be no further development on the main campus block.

There would be no rezoning of the midblocks between 67th and 69th Streets and York and First Avenues from R8 to R9 and the allowable density would not be increased. No LSCFD would be designated and planning for the campus would be impeded.

SOCIOECONOMIC CONDITIONS

The existing rectory of St. Catherine's Church would not be removed and then replaced in the base of the new structure adjacent to the church. None of the economic benefits realized during construction and operation of the proposed research building and potential future development on the main campus block would occur.

COMMUNITY FACILITIES

There would be no adverse impacts to New York City Police Department or New York City Fire Department services with or without the proposed actions. The No Action Alternative would not allow MSKCC to build its proposed research building and would significantly diminish MSKCC's ability to plan for future needs on the main campus.

OPEN SPACE AND RECREATIONAL FACILITIES

Without the proposed actions, the associated population would not increase the number of open space users in the study area. Without the proposed research building or any redevelopment in

the remainder of the north block rezoning area, there would be 645 fewer workers in 2007. The 1.8 percent decrease in the worker open space ratio would not occur. The 0.9 percent decrease in the overall passive open space ratio would not occur.

Without the proposed actions there would be approximately 1,299 fewer workers in the study area in 2011.The decrease in the worker open space ratio by 3.5 percent (a decrease of less than 0.01 acres of passive space per 1,000 workers) would not occur. The 1.7 percent decrease in the overall passive open space ratio (a decrease of less than 0.01 acres per 1,000 residents and workers) would not occur. Unlike the proposed research building, there would not be an impact on open space due to the combination of increased users and increased shadows.

SHADOWS

Without the proposed research building, there would be no increase in early morning shadows on St. Catherine's Park in the spring, summer, and fall, and there would not be an increase in shadows on the east facade of the Church in 2007. Without the proposed research building and the potential development on the main campus block there would be no major increase in shadows on St. Catherine's Park from the beginning of the analysis period through the morning in 2011.

HISTORIC RESOURCES

Without the proposed research building, there would be no potential for construction-related impacts to St. Catherine's Church and no construction protection plan would be required. There would be no increase in shadows on the stained-glass windows on the east side of St. Catherine's Church and mitigation (lighting of these windows) would not be required. Consequently there would be no potential significant impact on historic resources in the study area.

URBAN DESIGN AND VISUAL RESOURCES

The No Action Alternative would not alter the urban design context in 2007 with the introduction of new activity and more dense development to the project site, in a building reaching to 420 feet in the midblock between East 68th and 69th Streets. In 2011 the density between East 67th and 69th Streets would not be increased by the construction of a new building on the north block and new development on the main campus block reaching to approximately 420 and 448 feet, respectively. The urban design context of the surrounding streets would not be altered. Views of the east windows of St. Catherine's Church would not be blocked. There would be no potential adverse impact on urban design. As with the proposed actions, existing visual resources and view corridors would not be affected by the No Action Alternative in 2007 or 2011.

NEIGHBORHOOD CHARACTER

With the No Action Alternative, there would be no potential significant adverse impact on neighborhood character. Without the proposed research building, there would not be the addition of a tall structure adversely affecting urban design and increasing the density of its midblock location. Views to the east-facing windows of St. Catherine's Church would not be blocked. Further, there would be no additional project-generated traffic.

HAZARDOUS MATERIALS

With the No Action Alternative, as with the proposed actions and resulting development, all hazardous chemicals and other hazardous materials would continue to be handled, stored, and disposed of in accordance with all applicable federal, state, and local regulations. Any asbestos-containing materials and lead paint would remain in place. A Phase II testing program and, if necessary, a remediation program would not be required.

INFRASTRUCTURE

Under this alternative, demands on local utility systems, including water supply, solid waste and recycling, and energy, would not increase over the existing conditions, but, even with the proposed actions and anticipated development no adverse impacts are anticipated.

TRAFFIC AND PARKING

Traffic volumes would be expected to increase as a result of planned developments in the study area and general growth in the city, resulting in increased congestion at some locations. This alternative would not result in any new project-generated trips. In 2007 the No Action Alternative would not result in significant impacts at 3, 0, and 5 intersections during the AM, midday, and PM peak periods, respectively, as there would be with the proposed actions. There would be no need for traffic mitigation associated with MSKCC operations, as there would be with the proposed actions. Unlike the proposed project there would be no increase in demand for parking with the No Action Alternative.

In 2011 this alternative would not result in significant impacts at 9, 8, and 11 intersections during the AM, midday, and PM peak periods, respectively, as there would be with the proposed actions. There would be no need for traffic mitigation associated with MSKCC operations, as there would be with the proposed action. Unlike the proposed project there would be no increase in demand for parking with the No Action Alternative.

PEDESTRIANS AND TRANSIT

Pedestrian facilities in the study area would experience an increase in pedestrian volumes as a result of background growth and planned developments. This alternative would not result in any new pedestrian trips and, therefore, there would be no increased demand for pedestrian space in the study area.

Similarly, subway and bus trips would not increase as a result of this alternative, and no additional demand for subway and bus service would occur with this alternative. There would be no potential adverse impacts on two subway stairs at East 68th Street and Lexington Avenue in 2007 or 2011, and no need for mitigation at these stairs in 2011.

AIR QUALITY

No violations of the National Ambient Air Quality Standards (NAAQS) are expected to occur either under the No Action Alternative or with the proposed action and resulting development, and both would be consistent with the State Implementation Plan (SIP). In addition, there would be no potential effects from any research building exhaust system on any MSKCC campus buildings or the surrounding community.

NOISE

Both with the No Action Alternative and the proposed project, in the years 2007 and 2011, noise levels in the project study area will not be significantly increased compared to existing levels. Without the proposed action, there would be no actions to require sound attenuation under an (E) designation.

CONSTRUCTION IMPACTS

The No Action Alternative would avoid the temporary construction impacts associated with proposed and potential development on the MSKCC campus.

R8 RESEARCH BUILDING ALTERNATIVE

This alternative assumes a smaller research building, 18 rather than 23 stories tall (approximately 360 feet—approximately 60 feet shorter than the proposed building). With an allowable FAR of 6.5, it would have 392,275 square feet of floor area. It would provide the same laboratory floor plates in both the tower and the low-rise wing as the proposed project. A portion of the building could be allocated for the Church Rectory. There would be no increase in allowable floor area on the main campus block. Since it is fully built out at R8, it is assumed that there would be no further development on this block. With 11 out of the 16 proposed laboratory floors, this research

building would not satisfy MSKCC's program needs. The total population of this building would be 720 as compared to 912 with the proposed actions.

This R8 Research Building Alternative would require the same height and setback modifications and variances for lot coverage and rear yard requirements the proposed research building from both CPC and BSA. This design would allow phasing of the research building so the Kettering Building could be retained until the tower portion is built. Therefore, it would also require the same special permit from BSA for temporary failure to comply. It would also require the (E) designation for noise attenuation.

LAND USE, ZONING, AND PUBLIC POLICY

As with the proposed actions, St. Catherine's Church Rectory and the Kettering Building would be demolished and a proposed research building would be developed by 2007. There would be a lesser expansion and enhancement of medical facilities. In 2011 conditions would be the same as those in 2007 as no further development would take place on the main campus block.

There would be no rezoning of the two midblocks. The allowable density of development for community facilities in the proposed rezoning area would not be increased. No LSCFD would be designated.

SOCIOECONOMIC CONDITIONS

The economic benefits realized during the construction and operation of the R8 Research Building Alternative would be substantially less than those anticipated with the proposed research building.

COMMUNITY FACILITIES

The R8 Research Building Alternative would increase the worker population by a much smaller number and it would bring no new patients to the project site. Neither this alternative nor the proposed actions would result in any adverse impacts on the services of the New York City Police Department or the New York City Fire Department.

However, MSKCC would not be able to build the full program of research space that its believes it needs in 2007, and MSKCC believes it would have significantly diminished ability to plan for future needs on the main campus block.

OPEN SPACE AND RECREATIONAL FACILITIES

In 2007 there would be 356 new workers as compared to 645 with the proposed building and

other development in the north block. With only 356 workers, this alternative would fall below the threshold for an open space analysis and would not affect open space. While there would be early morning shadows on St. Catherine's Park, they would be less than with the proposed actions; and similar to the proposed project, this alternative would not create an open space impact.

In 2011 there would be no additional development on the main campus block and, as in 2007, the open space analysis would not be warranted.

SHADOWS

With the smaller R8 research building there would be a smaller increase in early morning shadows on St. Catherine's Park in the spring, summer, and fall in 2007. The shadows on St. Catherine's Church would be the same as those of the proposed research building. In 2011 without the potential development on the main campus block, the increase in shadows on St. Catherine's Park would be as described above for 2007.

HISTORIC RESOURCES

Similar to conditions with the proposed actions, the R8 research building would have potential construction-related impacts on St. Catherine's Church and require a Construction Protection Plan. The R8 alternative would reduce light to the east windows of the church, similar to the proposed actions. Mitigation to reduce this impact would be the same as for the proposed project.

URBAN DESIGN AND VISUAL RESOURCES

Due to its lower height, approximately 60 feet shorter than the proposed research building, the R8 research building would not result in the partially mitigated urban design impact that would occur with the proposed actions. As with the proposed actions, the R8 research building would block views of the stained-glass windows on the east side of the Church of St. Catherine of Siena. As with the proposed actions, the design of the research building under this alternative would incorporate a number of design measures to reduce the visual effect of the increased density. In addition to providing a masonry base, they include dividing the tower into slipped forms to diminish its visual presence, horizontal shading fins on the east facade, a composition of fritted or patterned glass on the west facade, and transparent ground-level entrances and plantings to join the interior and exterior. The R8 Research Building Alternative would not develop the main campus block or change the context or density of that block, and thus would have less of an impact than the proposed actions. Overall, the impact on urban design would be less with this alternative than with the proposed actions. As with the proposed actions, existing view corridors would not be altered in 2007 or 2011 by the R8 Research Building Alternative.

NEIGHBORHOOD CHARACTER

The R8 Research Building Alternative would not result in significant adverse neighborhood character impacts related to open space, urban design, and shadows. However, as noted above, MSKCC does not believe that this alternative would meet its stated programmatic needs.

HAZARDOUS MATERIALS

This alternative would have the same effects with respect to hazardous materials as the proposed actions. All hazardous chemicals and other hazardous materials would continue to be handled in accordance with all applicable federal, state, and local regulations. Any asbestos-containing materials and lead paint in the Kettering Building and the rectory would be removed in accordance with all regulations. As with the proposed research building, a Restrictive Declaration would require a Phase II testing program and, if necessary, mitigation prior to any excavation on the Kettering Laboratory site and the main campus block.

INFRASTRUCTURE

With this alternative or with the proposed actions, no adverse impacts are anticipated.

TRAFFIC AND PARKING

Traffic volumes would increase less with this alternative because anticipated development would be much less. In 2007 the R8 Alternative would generate 30, 12, and 32 fewer trips during the AM, midday, and PM peak periods, resulting in lower traffic volumes than with the proposed actions. The need for traffic mitigation measures would be similar to those recommended for 2007 with the proposed actions. The increase in demand for parking would be less than with the proposed actions, and there would be no significant impacts to parking with this alternative.

In 2011, there would be no further MSKCC development, and this alternative would result in 140, 96, and 178 fewer vehicle trips than the proposed actions during the AM, midday, and PM peak periods, respectively. There would be fewer affected locations than with the proposed actions. The need for traffic mitigation associated with MSKCC operations would be reduced as compared to the proposed actions. Again, the increase in demand for parking would be less than with the proposed actions, and there would be no significant impacts to parking with this alternative.

PEDESTRIANS AND TRANSIT

Pedestrian facilities in the study area would experience an increase in pedestrian volumes as a result of the R8 Research Building Alternative. However, in 2007, this alternative would

generate 173, 89, and 182 fewer pedestrian trips than the proposed actions during the AM, midday, and PM peak periods, respectively. In 2011, this alternative would result in 656, 554, and 816 fewer pedestrian trips than the proposed actions during the AM, midday, and PM peak periods, respectively. Like the proposed action, there would not be any significant adverse impacts to pedestrian conditions with this alternative.

Similarly, subway and bus trips would increase as a result of this alternative, but in 2007, there would be 74, 2, and 77 fewer subway trips, and 27, 2, and 27 fewer bus trips than with the proposed actions during the AM, midday, and PM peak periods, respectively. Unlike the proposed actions, there would not be an impact to the northeast subway stair in 2007. No subway mitigation would be required with either this alternative or the proposed actions in 2007. In 2011, there would be 275, 53, and 313 fewer subway trips, and 101, 45, and 127 fewer bus trips than with the proposed action during the AM, midday, and PM peak periods, respectively. Unlike the proposed actions, there would be no impacts and no need for mitigation at the northeast and southeast subway stairs at the East 68th Street station in 2011.

AIR QUALITY

Increases in 8-hour carbon monoxide concentrations expected from this alternative would be comparable to or lower than those of the proposed actions, none of which are significant. No violations of the National Ambient Air Quality Standards (NAAQS) are expected to occur either under the R8 Research Building Alternative or with the proposed actions and resulting development by 2007 or 2011, and both would be consistent with the State Implementation Plan (SIP). With the R8 Research Building Alternative, due to the shorter research building, additional measures may be required to avoid potential significant adverse impacts from the exhaust system of the laboratories in the proposed research building on any MSKCC campus buildings and the surrounding community. Such measures may include, but would not be limited to, changes in the design of the mechanical systems that would modify exhaust parameters to reduce emissions.

NOISE

With both the R8 Research Building Alternative and the proposed project, no significant adverse noise impacts would result from additional vehicle trips or building mechanical systems. Noise attenuation similar to that for the proposed research would be required.

CONSTRUCTION IMPACTS

As compared to development with the proposed actions, the R8 Research Building Alternative would have smaller temporary construction impacts attributable to construction of the north block, which is anticipated to be completed by 2007. No further development would be anticipated on the south and main campus blocks.

R8 AS-OF-RIGHT RESEARCH BUILDING ALTERNATIVE

This alternative assumes that the rezoning does not take place, and that a smaller as-of-right research building would be built under current zoning on the north block. It would have a 38 percent tower, which would not be a suitable form to house a state-of-the-art research building. A portion of the building could be allocated for use as St. Catherine's Church Rectory. It would be approximately 407 feet tall—slightly shorter than the proposed research building. With an allowable FAR of 6.5, it would have 382,451 square feet of floor area, approximately 137,000 square feet smaller than the proposed research building. Without the rezoning, there would be no increase in allowable floor area on the main campus block, and it is assumed that it would remain as it is, with no further changes beyond the current construction program.

MSKCC believes that the R8 As-of-Right Research Building Alternative would not satisfy its stated needs for research space, and construction of the building could not be phased to allow the Kettering Building to remain in place until the tower portion is complete. The total population of this building is assumed to be 720 as compared to 912 with the proposed actions. On the main block of the campus, MSKCC believes that it would be severely constrained in its planning for future development.

The R8 as-of-right research building would not require any of the height and setback modifications and variances for lot coverage and rear yard requirements that are needed for the proposed research building. It would also not require the BSA Special Permit for a temporary failure to comply, as the Kettering Building would have to be demolished before construction could begin.

The Build year is assumed to be 2007 with no further development in 2011.

LAND USE, ZONING, AND PUBLIC POLICY

As with the proposed research building, the St. Catherine's Church Rectory and the Kettering Building would be demolished. The sites of the these two buildings as well as the vacant lot on East 69th Street would be redeveloped with a new research building by 2007. Because the Kettering Laboratory would have to be displaced at the beginning of construction, this would be unacceptable to MSKCC. In 2011 conditions would be the same as those in 2007 as no further development would take place on the main campus block and the R8 as-of-right research building would be the only new building.

Unlike the proposed project, there would be no rezoning of the two midblocks between East 67th and 69th Streets and York and First Avenues from R8 to R9. The allowable density of development for community facilities in the proposed rezoning area would not be increased from 6.5 FAR to 10 FAR. No LSCFD would be designated and in MSKCC's opinion planning for the

campus as a whole would be impeded. There would be no shift of additional bulk from the north block to the main campus block. There would be no waivers of height, setback, and lot coverage from CPC and BSA.

SOCIOECONOMIC CONDITIONS

The economic benefits realized during the construction and operation of the R8 As-of-Right Research Building Alternative would be substantially less than those anticipated with the proposed actions. In 2007 there would be less direct or generated construction employment and income; and the city and state revenue resulting from the construction employment, income, and activity would be less. Employment resulting from construction expenditures, including jobs from business establishments providing goods and services to contractors, would be less. In 2011 there would be no additional economic activity.

COMMUNITY FACILITIES

The R8 As-of-Right Research Building Alternative would create a smaller new research building and no new buildings on the main campus block. It would increase the worker population by a much smaller number and it would bring no new patients to the project site. Neither this alternative nor the potential development with the proposed actions would result in any adverse impacts on the ability of the New York City Police Department or the New York City Fire Department to provide adequate routine services in the area.

OPEN SPACE AND RECREATIONAL FACILITIES

Under this alternative, the research building would be smaller than the proposed research building and would add a smaller population to the open space users in the study area. In 2007 there would be 356 new employees as compared to 645 new employees with the proposed actions. There would be no additional residential population due to development (unrelated to MSKCC) permitted by the rezoning. With fewer than 500 new employees, this alternative is below the CEQR threshold for an open space analysis, and would not affect open space. Since the building would be taller but more slender than the proposed research building, it would have longer but narrower shadows. Since they would only fall on St. Catherine's Park in the early morning, they would not significantly affect open space.

While this alternative would not result in any open space impacts, MSKCC believes that this alternative is infeasible as noted above.

SHADOWS

As with the proposed actions, this alternative would not result in significant adverse shadow

impacts although its shadows would be somewhat different.

HISTORIC RESOURCES

Potential impacts could occur during construction. However, because the building is as-of-right, a construction protection plan would not be required. Increased shadows on the east-facing stained-glass windows of St. Catherine's Church would be somewhat less, but mitigation would not be required.

URBAN DESIGN AND VISUAL RESOURCES

There would be new, more dense development on the north block. While the R8 as-of-right building would be only approximately 13 feet shorter than the proposed research building, it would be set back 30 feet above the one-story base and would not have an adverse impact on urban design. The R8 As-of-Right Research Building Alternative would not develop the main campus block or change the context or density of that block, and thus would have less of an impact than the proposed actions. As with the proposed actions, existing view corridors would not be altered in 2007 or 2011.

NEIGHBORHOOD CHARACTER

With the R8 As-of-Right Research Building Alternative, the development site in the north block would be redeveloped to expand and improve an existing land use in the area, medical facilities. However, a construction protection plan would not be required to avoid construction-related impacts to St. Catherine's Church. There would be a new, slightly taller tower adjacent to the small-scale St. Catherine's Church which would block views and sunlight to its east windows. The tall structure would increase density in the midblock location; but because it would be set back 30 feet above its one-story base, it would not have an urban design impact. There would be less new activity in the area in 2007 and much less in 2011. The increase in traffic due to the R8 as-of-right research building would be less than with the proposed research building and much less as compared to conditions in 2011 with the proposed actions. As an as-of-right project, an (E) designation for noise attenuation would not be imposed. Overall, similar to conditions with the proposed actions, this alternative would have an adverse impact on some elements of neighborhood character in 2007, but no additional impacts in the 2011 analysis year.

HAZARDOUS MATERIALS

Asbestos-contaminated materials and lead-based paint believed to be present in the existing buildings to be demolished would be removed in accordance with all applicable local, state and federal regulations.

As with the proposed actions, potential construction-related impacts could occur as a result of

development on the Kettering Building site. However, because this alternative is as-of-right, a Phase II subsurface investigation would be not be required.

All hazardous chemicals and other hazardous materials would continue to be handled, stored and disposed of in accordance with all applicable federal, State and local regulations as they are now and as they would be with the proposed actions and anticipated development.

INFRASTRUCTURE

Under this alternative, demands on local utility systems, including water supply, solid waste and recycling, and energy, would increase in 2007, but would be substantially less than with the proposed actions. The would be no further increase in the demand or usage of infrastructure in 2011 as no further development is anticipated. However, even with the proposed actions and anticipated development, no adverse impacts are anticipated.

TRAFFIC AND PARKING

Traffic volumes would increase less with this alternative because anticipated development would be much less. In 2007 the R8 As-of-Right Research Building Alternative would generate 30, 12, and 32 fewer trips during the AM, midday, and PM peak periods, resulting in lower traffic volumes than with the proposed actions. The need for traffic mitigation measures would be similar to those recommended for 2007 with the proposed actions. The increase in demand for parking would be less than with the proposed actions, and there would be no significant impacts to parking with this alternative.

In 2011, there would be no further MSKCC development, and this alternative would result in 140, 96, and 178 fewer vehicle trips than the proposed actions during the AM, midday, and PM peak periods, respectively. There would be fewer affected locations than with the proposed actions. The need for traffic mitigation associated with MSKCC operations would be reduced as compared to the proposed actions. Again, the increase in demand for parking would be less than with the proposed actions, and there would be no significant impacts to parking with this alternative.

PEDESTRIANS AND TRANSIT

Pedestrian facilities in the study area would experience an increase in pedestrian volumes as a result of the R8 As-of-Right Research Building Alternative. However, in 2007, this alternative would generate 173, 89, and 182 fewer pedestrian trips than the proposed actions during the AM, midday, and PM peak periods, respectively. Unlike the proposed actions, there would not be an impact to the northeast stair in 2007. No subway mitigation would be required with either this alternative or the proposed actions in 2007. In 2011 this alternative would not add any more pedestrian trips. Like the proposed action, there would not be any significant adverse impacts to

pedestrian conditions with this alternative.

Similarly, subway and bus trips would increase as a result of this alternative, but in 2007, there would be 74, 2, and 77 fewer subway trips, and 27, 2, and 27 fewer bus trips than with the proposed actions during the AM, midday, and PM peak periods, respectively. Like the proposed actions, there would be no need for subway stair mitigation in 2007. In 2011, there would be 275, 53, and 313 fewer subway trips, and 101, 45, and 127 fewer bus trips than with the proposed action during the AM, midday, and PM peak periods, respectively. Unlike the proposed actions, there would be no impacts and no need for mitigation at the northeast and southeast subway stairs at the East 68th Street station in 2011.

AIR QUALITY

With the R8 As-of-Right Research Building Alternative, in 2007 and 2011 the increases in the 8-hour carbon monoxide concentrations expected from development associated with the proposed actions, none of which are significant, would be comparable or lower, since project-generated traffic volumes would be lower for this alternative. No violations of the National Ambient Air Quality Standards (NAAQS) are predicted to occur either under the R8 As-of-Right Research Building Alternative or with the proposed actions and resulting development, and both would be consistent with the State Implementation Plan (SIP). Due to the shorter research building, additional measures may be required to avoid potential significant adverse impacts from the exhaust system of the laboratories in the proposed research building on any MSKCC campus buildings and the surrounding community. Such measures could include, but would not be limited to, changes to the design of the mechanical systems that would modify exhaust parameters to reduce emissions. However, for an as-of-right project these mitigation measures would not be required.

NOISE

Both with the R8 As-of-Right Research Building Alternative and the proposed actions, in the years 2007 and 2011, noise levels in the project study area will not be significantly increased compared to existing levels. With both the R8 As-of-Right Research Building Alternative and the proposed project, no significant adverse noise impacts would result from building mechanical systems. Like the proposed project, this alternative could result in a noise impact by placing a sensitive receptor in a noisy area; however, because there would be no rezoning an (E) designation for noise attenuation could not be placed on the site and the impact would be unmitigated.

CONSTRUCTION IMPACTS

As compared to development with the proposed actions, the R8 As-of-Right Research Building Alternative would have smaller temporary impacts attributable to construction of the north block,

which is anticipated to be completed by 2007. Under this alternative, no further development would be anticipated on the main campus block. Similar to the proposed actions, any construction-related impacts would be relatively short-term and be governed by applicable city, state, and federal regulations regarding construction activity, thereby avoiding significant adverse impacts. The R8 As-of-Right Research Building Alternative would reduce the duration of construction-related impacts as compared to the proposed actions but would still entail the same activities and phasing.

R8 AS-OF-RIGHT MIXED-USE ALTERNATIVE

This alternative assumes an R8 mixed-use development on the north block with no additional floor area available on the main campus block of the MSKCC campus. In this alternative, development on the north block would include community facility uses on the first five floors and residential above. The five floors of community facility use would total 137,112 square feet. The residential tower would have 32 floors with 8,400-square-foot floor plates for a gross floor area of 268,800 square feet. Assuming an apartment area of 900 square feet, this would yield approximately 317 apartments. A portion of the building could house the rectory of St. Catherine's Church.

Unlike the R8 as-of-right research building, which had a square tower intended to maximize tower floor plates, this alternative would have a taller more slender tower intended to maximize height and views for residential units. Therefore, it is much taller than the R8 as-of-right research building discussed above.

The overall height to the top of the residential floors would be 481 feet, with an additional 22 feet for the mechanical penthouse. The total floor area would be 405,912 square feet as compared to the proposed research building, which would have a floor area of 510,389 square feet.

This alternative requires no land use actions.

This alternative does not satisfy MSKCC's urgent need for new research laboratory space. It would not provide sufficient community facility space to satisfy the research program, and would not provide the required laboratory floor plate. Further, it would not allow any additional development on the main campus block. Overall, it does not represent an acceptable alternative to MSKCC because it would not satisfy the purpose and need of the proposed actions.

It is assumed that the mixed-use building would be built in 2007 but that there would be no further development in 2011.

LAND USE, ZONING, AND PUBLIC POLICY

With the R8 As-of-Right Mixed-Use Alternative, St. Catherine's Church Rectory and the Kettering Building would be demolished and a new mixed- use building would rise on the north block of the site in 2007. This alternative would provide far less community facility space for hospital use than the proposed research building. The expansion of MSKCC facilities in 2007 would be largely residential.

In 2011 there would be no new development on the main campus block. Overall, land use on the MSKCC campus would become more dense only on the north block where the site is underbuilt in an R8 zone.

There would be no zoning and land use actions. In MSKCC's opinion, planning for the campus as a whole would be impeded.

SOCIOECONOMIC CONDITIONS

The economic benefits realized during construction on the north block and operation of the R8 mixed-use building would be far less than with the proposed R9 research building as it would be over 100,000 square feet smaller, and because a residential tower would cost less to build and provide fewer jobs during operation. The direct or generated construction employment and income, and the expected city and state revenue resulting from the construction employment, income, and activity would be less. Employment resulting from construction expenditures, including jobs from business establishments providing goods and services to contractors, would be less than with the proposed actions. In 2011, there would be no new economic activity on the main campus block. Overall, the R8 As-of-Right Mixed-Use Alternative would be a far smaller generator of economic activity and of city and state revenues.

COMMUNITY FACILITIES

The R8 As-of Right Mixed-Use Alternative would not only increase the demand for police and fire protection, but its residential component would increase the demand for school seats in neighborhood schools. It would not create the proposed research building, and there would be no expansion of hospital facilities on the main campus block. Therefore, in MSKCC's opinion it would contribute far less to MSKCC's goals, research, and treatment facility.

OPEN SPACE AND RECREATIONAL FACILITIES

With the R8 As-of-Right Mixed-Use Alternative, the residents of the apartments would increase the demand for active open space within a ½-mile radius as well as passive open space within a ¼ mile as compared to development with the proposed actions, which would only increase the

demand for passive open space within a ¼-mile radius.

With the R8 mixed-use building, the 300 apartments would be assumed to have 480 residents (based on 1.6 persons per household, U.S. Census 2000). There would be a total of about 264 employees, or a loss of 100 employees, compared to a net gain of 548 new employees in the proposed research building. There could be an adverse impact on open space due to the combination of increased users and increased shadows on St. Catherine's Park. Since the project would be as-of-right, there would be no consideration of mitigation.

With this alternative in 2011 there would be no new employees in the north block, no new employees on the main campus block, and approximately 100 fewer employees overall compared to existing conditions. The would be a 0.3 percent increase in the worker open space ratio, compared to a 3.5 percent decrease with the proposed actions. The percent decrease in the overall passive open space ratio would be 0.5 as compared to 1.7 with the proposed actions. Compared to the proposed project, impacts would occur sooner (2007 instead of 2011) and would relate to active rather than passive open space.

SHADOWS

In 2007 the tower of the R8 mixed-use building would cast a longer but more slender shadow on St. Catherine's Park compared to the proposed research building. It would also cast shadows on the windows of St. Catherine's Church, similar to the proposed project, but less on the north end of the east facade.

With the R8 As-of-Right Mixed-Use Alternative there would be no new development on the main campus block and the duration of the shadow increment on the park in spring, summer, and fall would be reduced as compared to the proposed actions.

HISTORIC RESOURCES

This alternative could potentially have adverse impacts on St. Catherine's Church during construction, but because it is as-of-right a construction protection plan could not be required. There would be an increase in shadows on the stained-glass windows of St. Catherine's Church as with the proposed project; however, again no mitigation would be required because this alternative is as-of-right.

URBAN DESIGN AND VISUAL RESOURCES

The building would be significantly taller (503 feet) than the proposed research building (420 feet) but less wide in its north-south dimension. While this alternative would increase the density of the mid-block as compared to existing conditions, the setbacks of the tower would avoid urban design impacts.

In 2011 the density of the project site between East 68th and 69th Streets would be increased only by the mixed-use tower described above. There would be no further development on the rest of the campus. As with the proposed actions, existing view corridors would not be altered in 2007 or 2011 by the R8 As-of-Right Mixed-Use Alternative.

NEIGHBORHOOD CHARACTER

Similar to conditions with the proposed actions, the site in the north block which contains the Rectory, the Kettering Building, and a vacant lot would be redeveloped. The mixed-use building would be significantly taller and predominantly residential in use. This would represent a minor increase in medical facilities as compared to the proposed actions. Measures to avoid impacts on St. Catherine's Church, a historic resource, would not be required. Views as well as light to the Church's east windows would be blocked; but no mitigation could be required. The new tower next to St. Catherine's, a small-scale church, would be far taller than the proposed research building. There would be new activity in the area. Traffic generated by the R8 As-of-Right Mixed-Use Alternative would be similar to the proposed actions in 2007, and would decrease compared with the proposed actions in 2011. Similar to conditions with the proposed actions there would be no impact on noise levels. Overall, there would be an adverse impact on neighborhood character due to the height of the building and the traffic it would generate in 2007, but no additional effects in the 2011 analysis year.

HAZARDOUS MATERIALS

This alternative would have the same effects with respect to hazardous materials as the proposed actions. Asbestos-contaminated-materials and lead-based paint believed to be present in the existing buildings to be demolished would be removed in accordance with all applicable city, state and federal regulations. During construction a potential impact could occur. However, there is no mechanism to mitigate impacts for as-of-right projects. All hazardous chemicals and other hazardous materials would continue to be handled, stored and disposed of in accordance with all applicable federal, state and local regulations as they are now and as they would be with the proposed actions and anticipated development.

INFRASTRUCTURE

Under this alternative, demands on local utility systems, including water supply, solid waste and recycling, and energy, would generally be greater than with the proposed actions; however, even with the proposed actions and anticipated development, there would not be any adverse impacts.

TRAFFIC AND PARKING

The R8 As-of-Right Mixed-Use Alternative would result in 317 dwelling units and a net loss of 125 employees in 2007. As compared to the proposed actions, vehicular trip generation in 2007 would be expected to decrease by approximately 33 vehicle trips during both the AM and PM peaks. There would be an increase of 14 vehicle trips during the midday peak with the R8 As-of-Right Mixed-Use Alternative. Similar to conditions with the proposed research building there would be traffic impacts; however, as the building would be as-of-right, no mitigation would be required. There would also be an increase in demand for parking, but like the proposed actions, there would be no significant adverse impact to parking with this alternative.
Under the R8 As-of-Right Mixed-Use Alternative, in 2011 there would be no new trips generated by activities on the main campus block, and new trips generated from the north block would be the same as in 2007. In 2011, the R8 As-of-Right Mixed-Use Alternative would result in 143, 70, and 179 fewer vehicle trips than the proposed actions during the AM, midday, and PM peak periods, respectively. There would be fewer affected locations than with the proposed actions. However, there would be no requirement for mitigation. Again, the increase in demand for parking would be much less than with the proposed actions and, like the proposed actions, there would be no significant adverse impact to parking with this alternative.

PEDESTRIANS AND TRANSIT

Pedestrian facilities in the study area would experience an increase in pedestrian volumes over No Action conditions under the R8 As-of-Right Mixed-Use Alternative. However, in 2007 this alternative would generate 192, 99, and 175 fewer pedestrian trips than the proposed actions during the AM, midday, and PM peak periods, respectively. In 2011, the R8 As-of-Right Mixed-Use Alternative would result in 675, 564, and 809 fewer pedestrian trips than the proposed actions during the AM, midday, and PM peak periods, respectively. Like the proposed actions, the R8 As-of-Right Mixed-Use Alternative would not result in any significant adverse pedestrian impacts.

Similarly, subway and bus trips would increase above No Action conditions as a result of this alternative. In 2007, this alternative would result in 154 and 160 fewer subway trips and 32 and 31 fewer bus trips during the AM and PM peaks, and 16 more subway and 14 more bus trips during the midday peak period. Unlike the proposed actions, there would not be an impact to the northeast subway stair in 2007. No subway mitigation would be required with either this alternative or the proposed actions in 2007. In 2011, there would be 355, 35, and 396 fewer subway trips and 106, 29, and 131 fewer bus trips during the AM, midday, and PM peak periods, respectively. Unlike the proposed actions, there would be no impacts and no need for mitigation at the northeast and southeast subway stairs at the East 68th Street Station in either 2007 or 2011.

AIR QUALITY

With the R8 As-of-Right Mixed-Use Alternative, the increases in the 8-hour carbon monoxide concentrations expected from the proposed actions, none of which are significant, would be comparable, since project-generated traffic volumes would be lower with this alternative. No violations of the NAAQS are expected to occur either under the R8 As-of-Right Mixed-Use Alternative or with the proposed actions by 2007, and both would be consistent with the SIP. In 2011 there would be no additional traffic or increases in carbon monoxide concentrations.

In addition, the R8 As-of-Right Mixed-Use Alternative would not have potential effects from laboratory exhaust systems as this alternative would not include laboratories. This alternative also assumes development of a taller residential building on the north block. However, due to the distance from the New York Hospotal boiler stack to the building, it is not expected that any significant stationary source impacts would occur on the proposed development.

NOISE

Both with the R8 As-of-Right Mixed-Use Alternative and the proposed actions, in the years 2007 and 2011, noise levels in the project study area would not be significantly increased compared to existing levels. With both the R8 As-of-Right Mixed-Use Alternative and the proposed project, no significant adverse noise impacts would result from building mechanical systems. There would be a potential adverse impact due to developing a sensitive receptor in a noisy area; however, as there would be no rezoning there would be no (E) designation for noise and the impact would be unmitigated.

CONSTRUCTION IMPACTS

The R8 As-of-Right Mixed-Use Alternative would reduce the duration of the temporary construction impacts attributable to development anticipated pursuant to the proposed actions. Moreover, similar to the proposed actions, any construction-related impacts would be relatively short-term and be governed by applicable city, state, and federal regulations regarding construction activity, thereby avoiding significant adverse impacts.

R9 AS-OF-RIGHT RESEARCH BUILDING ALTERNATIVE

This alternative assumes that the rezoning takes place, but that there is no transfer of floor area from the north block to the main campus block. It assumes that the full floor area generated on the north block remains on the north block, and that development under the rezoning takes place as-of-right. No LSCFD would be established, no waivers for height and setback or yards would be sought, and no BSA actions would be required. A Restrictive Declaration for hazardous materials similar to that for the proposed project would be placed on the property.

The research building would be 30 stories (551 feet) tall to the top of the roof enclosure. The tower would be set back 30 feet from both East 68th and 69th Streets. The 1-story (21-foot) base would cover the site. With a floor area of approximately 594,000 square feet, this alternative provides more floor area than MSKCC is requesting. This layout is less efficient and, therefore, the building might accommodate somewhat more program or may only accommodate the proposed program. Further, the configuration of this laboratory floor plate would not allow the Kettering Building to remain in place while the tower is being built. A portion of the building could be allocated for use as St. Catherine's Church Rectory.

On the main campus block, the new building area would be 513,700 square feet as compared to 613,700 as proposed. The new as-of-right building for the inpatient hospital would be five floors shorter than the new building assumed with the proposed actions. This inpatient hospital would have 150 fewer beds. This would reduce the main campus block population as compared to that of the proposed actions by 111 inpatients, 333 inpatient visitors, and 65 inpatient staff.

Overall, MSKCC does not believe that this is a viable alternative; nor would MSKCC pursue such an alternative.

The rezoning would allow the same additional development on the non-MSKCC properties in the north block as the proposed actions would.

LAND USE, ZONING, AND PUBLIC POLICY

With the R9 As-of-Right Research Building Alternative, there would be a larger expansion of an already important land use in the study area. However, the Kettering Laboratory would have to be displaced at the beginning of construction. This would be unacceptable to MSKCC. In the 2011 analysis year the additional development on the main campus block would be less than proposed by 100,000 square feet. Overall the land use on the MSKCC campus would be similar to conditions with the proposed actions.

The allowable density of development for community facilities in the rezoning area would be increased from 6.5 to 10 FAR. However, there would be no authorizations from CPC to transfer floor area from the north block to the main campus block and no modifications of height and setback, no variances for lot coverage and rear yard, and no special permit for temporary failure to comply for the proposed research building.

SOCIOECONOMIC CONDITIONS

The economic benefits realized during the construction and operation of the R9 As-of-Right Research Building Alternative would be similar to those anticipated with the proposed actions. A similar number of employees would come to the site upon completion of the project. However, it

would be a less efficient working environment. While overall this alternative would be similar in floor area, it would provide what MSKCC believes would be a lesser new hospital than the proposed actions. Overall, this alternative would likely generate less economic benefits.

COMMUNITY FACILITIES

Neither this alternative nor the potential development with the proposed actions would result in any adverse impacts on the ability of the New York City Police Department or the New York City Fire Department to provide adequate routine services in the area. However, with this alternative, would be less able to perform research and provide treatment and care for its patients than it would with the proposed actions.

OPEN SPACE AND RECREATIONAL FACILITIES

The R9 as-of-right research building would provide more floor area and possibly more staff than the proposed research building. It would be much taller and cast a longer shadow on St. Catherine's Park. Given the potential additional population increase and the longer shadow, this alternative may have an impact on open space in 2007. If impacts were to occur, the impact would be unmitigable.

Considering development on both the north block and the main campus block, the amount of development would be similar to the proposed project and overall the populations would be similar. While there would be an increase in shadow with the taller research building there would be a decrease in shadow with the shorter building on the main block. Overall, similar to the proposed actions, there would be an adverse impact. Since no mitigation is available, this alternative would have an unavoidable adverse impact similar to the proposed actions.

SHADOWS

The R9 as-of-right research building would be 551 feet tall, about 150 feet taller than the proposed research building. The increase in early morning shadows on St. Catherine's Park in the spring, summer, and fall in 2007 would be greater but the increment would be gone by mid-morning. In 2011 under this alternative there would be a 65-foot-shorter building in the main campus block. Therefore, the later morning shadow increment would be less than with the proposed actions.

HISTORIC RESOURCES

Similar to conditions with the proposed research building, this alternative research building would require a construction protection plan to avoid construction-related impacts to the Church of St. Catherine of Siena. The new shadows on the church's east-facing, stained-glass windows

during the morning would cover most of the windows that are not currently in shadow. To mitigate this impact, lighting could be provided to replace the sunlight lost in the morning. No other historic resources would be affected by MSKCC's actions with this alternative or the proposed actions.

URBAN DESIGN AND VISUAL RESOURCES

The R9 As-of-Right Research Building Alternative would create less of a streetwall presence on 68th and 69th Streets. The tower would be set back 30 feet on both the north and south before rising to 551 feet (131 feet taller than the proposed building). Its effects on urban design conditions would be somewhat greater than the proposed actions given its additional bulk. Development on the main campus block would be reduced by 100,000 square feet; and the smaller potential building would have less of an urban design impact than the one described with the actions as proposed. As with the proposed actions, existing view corridors would not be altered in 2007 or 2011 by this alternative.

NEIGHBORHOOD CHARACTER

With this alternative, the development site in the north block would be redeveloped to expand and improve an existing land use in the area, medical facilities. As with the proposed actions, a construction protection plan would be implemented to avoid construction-related impacts to St. Catherine's Church. Morning sunlight to the east-facing windows of the church would be largely lost. There would be a new and taller tower adjacent to the small-scale St. Catherine's Church. There would more new activity in the area in 2007, but much less in 2011. The increase in traffic would be similar to that in the proposed actions for 2007 and 2011. Similar to conditions with the proposed actions, with an (E) designation there would be no noise impacts on interiors of new construction in the rezoning area. Overall, as compared to conditions with the proposed actions, this alternative would have a lesser impact on elements of neighborhood character in the 2011 analysis year.

HAZARDOUS MATERIALS

Asbestos-containing materials and lead-based paint believed to be present in the existing buildings to be demolished would be removed in accordance with all applicable local, state and federal regulations. As with the proposed actions, an impact related to subsurface excavation could occur, but would be mitigated by a Phase II subsurface investigation and, if necessary, remediation. The protocol and remediation plan would be reviewed and approved by DEP as specified in a Restrictive Declaration on the property. All hazardous chemicals and other hazardous materials would continue to be handled, stored and disposed of in accordance with all applicable federal, state and local regulations as they would be with the proposed actions.

INFRASTRUCTURE

The increase in demands on local utility systems, including water supply, solid waste and recycling, and energy, would be approximately the same as with the proposed actions. However, even with the proposed actions and anticipated development, there would not be any adverse impacts.

TRAFFIC AND PARKING

The R9 As-of-Right Research Building Alternative would result in more floor area than the proposed actions in 2007. However, because it could be less efficiently arranged, it might not accommodate more program area or more population. Assuming the same user population on the north block as the proposed actions, development of the north block would result in the same number of vehicle trips as the proposed actions. Traffic impacts and mitigation would be the same as for the proposed actions. There would also be an increase in demand for parking, but like the proposed actions, there would be no significant adverse impact to parking.

Under this alternative, in 2011 there would be new trips generated from the north block as in 2007, as well as trips to the main campus block. Based on fewer inpatiemts, visitors, and staff in 2001, trips to the main campus block would be fewer than with the proposed project. Assuming there are the same trips to the north block this would result in 9, 9, and 12 fewer vehicle trips than the proposed project in 2011. Impacts and the need for traffic mitigation associated with MSKCC operations would be similar to the proposed actions. The increase in demand for parking would also be similar to proposed conditions, and there would be no significant adverse impact to parking.

PEDESTRIANS AND TRANSIT

In 2007, this alternative would generate the same number of pedestrian trips as the proposed actions. In 2011, it would result in 44, 51, and 62 fewer pedestrian trips than the proposed actions. Like the proposed actions, this alternative would not result in any significant adverse pedestrian impacts.

Similarly, subway and bus trips would increase above No Action conditions as a result of this alternative. In 2007, this alternative would result the same number of subway and bus trips as the proposed actions. Like the proposed actions, there would be the same impact at the northeast subway stair that would not require mitigation in 2007. In 2011, there would be 19, 6, and 21 fewer subway trips, and like the proposed actions, mitigation would be required at the northeast and southeast subway stairs at the East 68th Street Station.

AIR QUALITY

With the R9 As-of-Right Research Building Alternative, the increases in the 8-hour carbon monoxide concentrations expected from the proposed actions, none of which are significant, would be comparable in 2007 and 2011. No violations of the NAAQS are expected to occur under this Alternative or with the proposed actions, and both would be consistent with the SIP.

Similar to the development under the proposed actions, there would be no potential significant impacts from the exhaust system of the laboratories in the proposed research building on any MSKCC campus buildings or the surrounding community. This alternative also assumes development of a taller residential building on the north block. However, due to the distance from the New York Hospital boiler stack to the building, it is not expected that any significant stationary source impacts would occur on the proposed development.

NOISE

Both with this alternative and the proposed actions, in the years 2007 and 2011, noise levels in the project study area would not be significantly increased compared to existing levels. No significant adverse noise impacts would result from building mechanical systems. Similar to the proposed actions, this alternative could include an (E) designation for noise attenuation in the rezoning area due to existing conditions.

CONSTRUCTION IMPACTS

The R9 As-of-Right Research Building Alternative would have temporary construction impacts similar to the proposed actions. Any construction-related impacts would be relatively short-term and be governed by applicable city, state, and federal regulations regarding construction activity, thereby avoiding significant adverse impacts.

R9 AS-OF-RIGHT MIXED-USE ALTERNATIVE

This alternative assumes that the proposed rezoning is approved, and development of a mixed-use building proceeds on an as-of-right basis. There would be no designation of a LSCFD and no transfer of development rights from the north block to the main campus block. Given these parameters, the most likely development on the north block would be a mixed-use building with hospital-related uses on the first 10 floors and staff housing uses above. The total floor area would be 603,500 square feet, with the floor area for the residential uses of 344,599 square feet, and the floor area for community facility use of approximately 258,901 square feet. This amount of space for community facility use would not support the proposed laboratory program, nor would it provide similar laboratory floor plates. In addition, a portion of this community facility space would be expected to be allocated for St. Catherine's Church rectory. The building would

have a total of 56 floors including the mechanical penthouse rising to a total height of 704 feet.

The first floor of the mixed-use building would cover the site. The second to fifth floors would be set back 30 feet on the north and south sides. The sixth to the tenth floors would be only on the through-block portion of the site. The tower would rise of the eastern side of the base. Above two mechanical floors, there would be 43 floors of apartments with approximately 400 units.

On the main campus block development would be as proposed, except that there would be no transfer of up to 100,000 square feet. Therefore, the overall development would be 100,000 square feet less than proposed. The new inpatient tower would be shorter by about 64 feet.

While this alternative shows what could be developed as-of-right with the proposed rezoning, it does not satisfy MSKCC's need for new research laboratory space. Further, it assumes demolition of the Kettering Building, which MSKCC considers unlikely without construction of new research space. On the main campus block the reduction in floor area of 100,000 square feet would reduce either the number of inpatient beds or the diagnostic and treatment space that could be provided. This too would be inconsistent with MSKCC's stated program goals.

Again, it is assumed that the site in the north block would be complete by 2007, and that development on the main campus block would follow with an analysis year of 2011.

Unlike the proposed project, the only action necessary for this alternative is the rezoning of the midblocks from R8 to R9.

LAND USE, ZONING, AND PUBLIC POLICY

St. Catherine's Church Rectory and the Kettering Building would be demolished. A new mixed-use building would rise on the proposed research building site providing space for hospital-related uses as well as staff housing. The expansion of MSKCC facilities in 2007 would be largely residential. As with the proposed actions, there could be the development on two other lots located on the north block not owned by MSKCC..

In 2011, development on the main campus block would be 100,000 square feet smaller, as compared to the proposed actions. Overall, the land use on the MSKCC campus would become more dense.

Similar to the proposed actions, there would be a rezoning from R8 to R9 of the two midblocks, increasing the allowable density of development for community facilities from 6.5 to 10 FAR. However, no LSCFD would be designated and the planning for the campus as a whole would be impeded. There would be no authorization to shift bulk from the north block to the main campus block. None of the actions in relation to height and setback, lot coverage, or rear yards would be required for this alternative.

SOCIOECONOMIC CONDITIONS

The economic benefits (activity, income, and tax revenues) realized during construction on the north block and operation of the mixed-use building would be less than with the proposed research building, as a residential tower would cost less to build. All the new researchers and the increase in research and hospital activity anticipated as a result of the proposed research building would not occur.

Development on the main campus block would also be reduced due to the potential development on the main campus block being smaller by 100,000 square feet. Overall, the R9 As-of-Right Mixed-Use Alternative would be a significantly smaller generator of economic activity and of city and state revenues.

COMMUNITY FACILITIES

Similar to development with the proposed actions, this alternative would increase the demand for police and fire protection. Unlike the proposed project, it would have a residential component which would increase the demand for seats in neighborhood schools.

It would not create the proposed research building and the new construction on the main campus block would be smaller than proposed actions. Therefore, it would contribute far less to MSKCC as a medical, research, and treatment facility.

OPEN SPACE AND RECREATIONAL FACILITIES

With the R9 As-of-Right Mixed-Use Alternative, the residents of the apartments would increase the demand for active open space in a ½-mile radius, as well as passive open space within ¼ mile as compared to development with the proposed actions, which would only increase the demand for passive open space.

With the mixed-use building, the 400 apartments are assumed to have 640 residents. There would be a total of about 489 employees, or an increase of 125 employees compared to a net increase of 548 employees with the proposed research building. The decrease in the overall passive open space ratio would be 1.2 percent as compared to 0.9 percent with the proposed actions. The reduction in the open space ratio is due to the large residential population with the mixed-use building. As with the proposed actions, the worker population is not expected to result in significant adverse impacts to open space under this alternative. However, the additional residents added by this alternative could result in an open space impact by 2007. Shadows from the mixed use building would add to this impact.

With this R9 As-of-Right Alternative in 2011 there would be approximately 423 fewer new

employees in the north block and approximately 107 fewer employees in the main campus block in 2011 (based on the employee-per-square-foot ratio for development on the main campus block under the proposed actions). The decrease in the worker open space ratio would be 2.1 percent as compared to 3.5 percent with the proposed actions. The percent decrease in the overall passive open space ratio would be 1.8 as compared to 1.7 with the proposed actions. The potential impact on passive open space would be slightly higher within the ¼-mile study area, and the demand for active open space would be increased with the increase in residential population.

As with the proposed actions, the combination of increased users and increased shadows on St. Catherine's Park would indicate a potential adverse impact on open space by 2011. Like conditions with the proposed actions, the open space impact would be unmitigated.

SHADOWS

In 2007 the tower of the mixed-use building would cast a shadow on St. Catherine's Park longer than that of the proposed research building, as this building would be taller. The tower would also be more slender in its north-south dimension making its shadow somewhat more slender given its angle to the Park. It would also cast less shadow on the windows of St. Catherine's Church.

With the R9 As-of-Right Alternative, development on the main campus block would cast a shorter shadow reducing later morning shadows on the March/September, May/August and June analysis dates.

HISTORIC RESOURCES

Similar to conditions with the proposed actions, the R9 As-of-Right Alternative would result in an impact and would have mitigation in the form of a construction protection plan for St. Catherine's Church to avoid construction-related impacts to that structure. This alternative would increase shadows on the east-facing stained-glass windows of St. Catherine's Church except at its north end. Like the proposed actions, the R9 alternative could provide lighting to the church's east-facing windows.

No other historic resources would be affected by MSKCC's actions with this alternative or the proposed actions.

URBAN DESIGN AND VISUAL RESOURCES

The R9 As-of-Right Mixed-Use Alternative would have a significant adverse impact on urban design in 2007 from the introduction of new activity and more dense development to the project site, in a building reaching to 704 feet in the midblock. The mixed-use building would be approximately 284 feet taller than the proposed research building, and thus would be expected to

have a much greater presence. The tower of this alternative would be much more slender than the proposed research building. The building would have an FAR of 10 compared to the proposed FAR of approximately 9.0. Its setbacks and more slender tower should be somewhat more compatible with urban design conditions, but overall its impact would be comparable or greater than that of the proposed actions. Unlike the proposed research building, which rises to 420 feet without setbacks, this alternative would have a 21 foot high one-story base with a 30 foot setback. The alternative would also enliven the nearby portions of the study area with greater activity and more pedestrians, but to a different degree given the different uses of the building.

In 2011 the density of the project site between East 67th and 69th Streets would be increased by the mixed-use tower described above, as well as by a tower in the middle of the main campus block. However, as there would be no FAR transfer to the main campus block, the midblock tower would not be as tall as with the proposed actions, and thus would have less of a presence in and effect on the surrounding area. Overall, the increased midblock density could create a significant adverse impact. Mitigation measures developed as part of the design process could avoid impacts; however, if none were identified, an unmitigated adverse impact could result. As with the proposed actions, existing view corridors would not be altered in 2007 or 2011 by the R9 As-of-Right Alternative.

NEIGHBORHOOD CHARACTER

Similar to conditions with the proposed actions, the site in the north block would be redeveloped. However, the development would be much taller and predominantly residential. This would not represent such an important increase in medical facilities as compared to the proposed actions. Similar to conditions with the proposed actions, a construction protection plan would be implemented to avoid construction-related impacts to St. Catherine's Church. Sunlight to its east windows would be blocked except at the north end. There would be a new tower next to St. Catherine's, a small-scale church; and there would be an increase in density in the midblocks. There would be new activity in the area. The increase in traffic due to development generated by this alternative would be greater than the proposed actions in 2007 and less than the proposed actions in 2011. There would be no impact on noise levels with this alternative or with the proposed project. Overall, there would be an adverse impact on some aspects of neighborhood character similar to the proposed project.

HAZARDOUS MATERIALS

Asbestos-contaminated-materials and lead-based paint believed to be present in the existing buildings to be demolished or renovated would be removed in accordance with all applicable city, state and federal regulations. As with the proposed project, prior to excavation a Phase II subsurface investigation would be implemented, and, if necessary, remediation would be undertaken, in accordance with a plan approved by DEP, as specified in a restrictive declaration on the property. All hazardous chemicals and other hazardous materials would continue to be

handled, stored and disposed of in accordance with all applicable federal, State and local regulations as they are now and as they would be with the proposed actions and anticipated development.

INFRASTRUCTURE

Under this alternative, demands on local utility systems, including water supply, solid waste and recycling, and energy, would increase similar to the proposed actions; however, even with the proposed actions and anticipated development, there would not be any adverse impacts.

TRAFFIC AND PARKING

As compared to the proposed actions, the R9 As-of-Right Mixed-Use Alternative would be expected to result in an increase of approximately 8, 24, and 8 vehicle trips during the AM, midday, and PM peak hours, respectively, in 2007. This alternative would result in similar impacts to locations as the proposed actions. Similar to 2007 conditions with the proposed actions, there would be a need for traffic mitigation associated with MSKCC operations. There would also be an increase in demand for parking, but like the proposed actions, there would not be significant adverse impacts to parking with this alternative.

In 2011 with the R9 As-of-Right Alternative, there would be fewer trips generated by the main campus block as compared to the proposed actions, and full build-out of the R9 As-of-Right Alternative would result in a decrease of approximately 2 and 3 vehicle trips during the AM and PM peak hours, respectively. There would be an increase of 24 vehicle trips during the midday peak hour. Similar to conditions with the proposed project, there would be need for traffic mitigation associated with MSKCC operations. There would also be an increase in demand for parking, but like the proposed actions, there would not be a significant adverse impact to parking from this alternative.

PEDESTRIANS AND TRANSIT

Pedestrian facilities in the study area would experience an increase in pedestrian volumes above the No Action conditions under the R9 As-of-Right Mixed-Use Alternative. In 2007, this alternative would generate 68, 37, and 111 more pedestrian trips than the proposed actions during the AM, midday, and PM peak periods, respectively. In 2011, the R9 As-of-Right Mixed-Use Alternative would result in 13, 8, and 53 more fewer pedestrian trips than the proposed actions during the AM, midday, and PM peak periods, respectively. Like the proposed actions, no significant adverse impacts to pedestrian conditions are expected with this alternative.

Similarly, subway and bus trips would increase as a result of this alternative. In 2007, there would be 22, 28, and 32 more bus trips than the proposed actions in 2007 during the AM, midday, and PM peak periods, respectively. In 2007, the R9 As-of-Right Mixed-Use Alternative

would result in 63 and 61 fewer subway trips during the AM and PM peak periods, and 20 more subway trips during the midday peak period. Unlike the proposed actions, there would not be an impact to the northeast subway stair in 2007. No subway mitigation would be required with either this alternative or the proposed actions in 2007. In 2011, this alternative would result in 89 and 88 fewer subway trips during the AM and PM peak periods, respectively, than would the proposed actions. This alternative would result in 20 more subway trips during the midday peak period, and 14, 28, and 22 more bus trips during the AM, midday, and PM peak periods, respectively. Like the proposed project, there would be impacts requiring mitigation at the northeast and southeast stairs in 2011.

AIR QUALITY

With the R9 As-of-Right Mixed-Use Alternative, the increases in the 8-hour carbon monoxide concentrations expected from development associated with the proposed project, none of which are significant, would be comparable or lower, since project-generated traffic volumes would be only slightly higher in 2007 and would be lower in 2011 with this alternative. No violations of the NAAQS are expected to occur either under the R9 As-of-Right Mixed-Use Alternative or with the proposed actions, and both would be consistent with the SIP.

There would be no potential effects from any laboratory exhaust system, since this alternative would not include any research facility development. This alternative also assumes development of a taller residential building on the north block. However, due to the distance from the New York Hospital boiler stack to the building, it is not expected that any significant stationary source impacts would occur on the proposed development.

NOISE

Both with the R9 As-of-Right Mixed-Use Building Alternative and the proposed actions, in the years 2007 and 2011 noise levels in the project study area would not be significantly increased compared to existing levels. With both the R9 As-of-Right Mixed-Use Alternative and the proposed actions, no significant adverse noise impacts would result from building mechanical systems. Similar to the proposed actions, this alternative would require an (E) designation for noise attenuation.

CONSTRUCTION IMPACTS

The R9 As-of-Right Mixed-Use Alternative would have temporary construction impacts similar to the proposed actions. Similar to the proposed actions, any construction-related impacts would be relatively short-term and be governed by applicable city, state, and federal regulations regarding construction activity, thereby avoiding significant adverse impacts.

MANHATTAN BOROUGH PRESIDENT'S ALTERNATIVE

The Manhattan Borough President proposed an alternative to strike a balance, reducing the amount of the area to be rezoned and the amount of development that could take place while satisfying MSKCC's research building program. This alternative proposes the following:

- North block—Rezoning only the southern half of the north midblock and limiting the height of the research tower to the top of the stacks to 360 feet.

  This rezoning would generate a total of approximately 519,771 square feet of floor area, with 491,465 square feet of that space available for research, as compared to 510,389 square feet in the proposed research building with 491,907 square feet available for research. However, due to the 360-foot height limit, five laboratory floors would not be constructed. This alternative does not discuss inclusion of space for St. Catherine's Church Rectory.

- Main campus block—Eliminating 100,000 square feet of floor area to be transferred to this block for the north block and limiting development to a new hospital (up to 300 feet tall) on First Avenue and development on the midblock to a height of 175 feet.

  Without the transfer of floor area from the north campus block, the increase in zoning floor area on this block would be 290,340 square feet rather than 390,340 square feet. This alternative would require height and setback waivers or variances.

- Elimination of the south block (between 66th and 67th Streets) from the rezoning area.

  Rezoning of this block has been removed from the proposed action in the FEIS.

MSKCC believes that the Manhattan Borough President's (MBP) Alternative would not meet the needs of its proposed research program and would limit its ability to plan for the future and create a new hospital on its main campus block. Overall, MSKCC believes that this alternative does not satisfy its objectives

In addition to the rezoning, the MBP Alternative would require all of the same actions for the research building in the north block as well as height and setback waivers for the potential new hospital building on the main campus block.

LAND USE, ZONING, AND PUBLIC POLICY

The St. Catherine's Church Rectory and the Kettering Building would be demolished. The sites of the these two buildings as well as the vacant lot on East 69th Street that was the site of St. Catherine's School would be redeveloped with a new, smaller research building by 2007. There would be a much smaller expansion and enhancement of medical facilities, as compared to the

proposed actions.

In the 2011 analysis year the additional development on the main campus block would be less than proposed by 100,000 square feet. Overall the land use on the MSKCC campus would become somewhat more dense on the north and the main campus blocks.

Unlike the proposed actions, there would be no rezoning of the northern half of the midblock between East 68th and 69th Streets from R8 to R9. Planning for the campus as a whole would be impeded as compared to the proposed actions. There would be no shift of additional bulk from the north block to the main campus block.

SOCIOECONOMIC CONDITIONS

The economic benefits realized during the construction and operation of the MBP Alternative Research Building would be less than those anticipated with the proposed research building. Overall, the MBP Alternative would be a smaller source of economic activity and city and state revenues.

COMMUNITY FACILITIES

This alternative would create a smaller new research building and less new construction on the main campus block. It would increase the worker population by a much smaller number and it would bring many fewer new patients and visitors to the project site. Neither this alternative nor the potential development with the proposed actions would result in any adverse impacts on the ability of the New York City Police Department or the New York City Fire Department to provide adequate routine services in the area.

However, with this alternative, MSKCC believes that it would have a much diminished ability to plan for future needs on the main campus and south blocks and it would be less able to perform research and provide treatment and care for its patients.

OPEN SPACE AND RECREATIONAL FACILITIES

Under this alternative, the research building would accommodate a smaller program area and have less staff than the proposed research building. By being substantially shorter, its shadow on St. Catherine's Park would be smaller.

In 2007, the decrease in the worker open space ratio would be 1.0 percent (or a decrease of less than 0.01 acres of passive open space per 1,000 workers). The decrease in the overall passive open space ratio would be 0.5 percent. As compared to the proposed actions, there would be a smaller increase in shadows on St. Catherine's Park. Similar to the proposed project, the MBP Alternative would not have an impact on open space in 2007.

There would be approximately 384 fewer workers at full build-out as compared to conditions with the proposed actions. The decrease in the worker open space ratio would be 2.5 percent rather than 3.5 percent. The decrease in the overall passive open space ratio would be 1.2 rather than 1.7 percent. However, with the potential new hospital along First Avenue in a building 300 feet tall, there would be a greater impact on open space than the proposed actions due to an increase in shadows cast on St. Catherine's Park. Unless mitigation measures could be identified this would result in an unavoidable adverse impact.

SHADOWS

With the MBP Alternative the research building would be 60 feet shorter than the proposed building. The increase in early morning shadows on St. Catherine's Park in the spring, summer, and fall in 2007 would be reduced. Shadows would be approximately 14 percent shorter and this difference could be noticeable on sunny days in May to August. Similar to shadows with the proposed research building, the increment would be gone by mid-morning. Neither this alternative nor the proposed actions would result in significant shadow impacts to the park in 2007.

In 2011 with the MBP research building and with a 300-foot-tall hospital along First Avenue on the main campus block, the increase in shadows on St. Catherine's Park would be greater than with the proposed project, which assumed as-of-right development with R9 zoning. The difference would be noticeable on sunny days from March to September. Overall, in 2011, neither this alternative nor the proposed actions would result in significant shadow impacts to the park, although their shadows would be somewhat different.

HISTORIC RESOURCES

Similar to the proposed research building, the MBP research building could result in construction-related impacts to the Church of St. Catherine of Siena. The same mitigation measure—a construction protection plan—would be employed to avoid this impact. The new shadows on the church's east-facing, stained-glass windows during the morning would cover most if not all of the windows that are not currently in shadow. To mitigate this impact, MSKCC would provide lighting to the east-facing windows to replace the sunlight lost in the morning.

No other historic resources would be affected by MSKCC's actions with this alternative or the proposed actions.

URBAN DESIGN AND VISUAL RESOURCES

As with the proposed actions, the MBP research building would have a much greater presence at the streetwall of East 68th and 69th Streets, and it would block views of the stained glass

windows on the east side of the Church of St. Catherine of Siena. However, with the reduction in height, the MBP Alternative would have less potential to adversely impact urban design.

Development on the main campus block would be reduced by 100,000 square feet. With the new hospital tower along First Avenue and the height of midblock development limited to 175 feet, this alternative would substantially reduce the proposed project's overall impact on density in the midblock. As with the proposed actions, existing view corridors would not be altered in 2007 or 2011 by the Smaller Alternative.

NEIGHBORHOOD CHARACTER

With the MBP Alternative, the development site in the north block would be redeveloped to expand and improve an existing land use in the area, medical facilities. As with the proposed actions, a potential construction impact could occur, but a construction protection plan would be required to avoid construction-related impacts to St. Catherine's Church. There would be a new, but shorter, tower adjacent to the small-scale church. The MBP Alternative would reduce sunlight to the east-facing windows of St. Catherine's Church and lighting would have to be provided for mitigation. There would the somewhat less new activity in the area in 2007, but much less in 2011. The increase in traffic from the smaller research building would be less than that of the proposed research building, and at full build-out there would be much less traffic generated as compared to conditions in 2011 with the proposed actions. Similar to conditions with the proposed actions, with an (E) designation there would be no noise impacts on interiors of new construction in the rezoning area. Overall, as compared to conditions with the proposed actions, this alternative would have a lesser impact or no impact on elements of neighborhood character in the 2011 analysis year.

HAZARDOUS MATERIALS

This alternative would have the same potential for hazardous materials impacts as the proposed project and would require the same mitigation measures and restrictive declaration.

INFRASTRUCTURE

Under this alternative, demands on local utility systems, including water supply, solid waste and recycling, and energy, would increase far less than with the proposed actions, but, even with the proposed actions and anticipated development, there would not be any adverse impacts.

TRAFFIC AND TRANSPORTATION

The MBP Alternative would result in less development than the proposed actions in 2007. This alternative would result in 17 fewer vehicle trips than the proposed actions during the AM and

PM peaks, and the same number of vehicle trips during the midday peak. Similar to conditions with the proposed actions, there would be a need for traffic mitigation associated with MSKCC operations. There would also be an increase in demand for parking, but like the proposed actions, there would be no significant adverse impact to parking.

In 2011, the MBP Alternative would result in 26, 8, and 29 fewer vehicle trips than the proposed actions during the AM, midday, and PM peak periods, respectively. There would be fewer impacted locations during the AM, midday, and PM peaks, respectively, than with the proposed actions. The need for traffic mitigation associated with MSKCC operations would be reduced as compared to the proposed actions. Again, the increase in demand for parking would be less than with the proposed actions, but like the proposed actions, there would be no significant adverse impact to parking.

PEDESTRIANS AND TRANSIT

In 2007, this alternative would generate 96, 49, and 99 fewer pedestrian trips than the proposed actions during the AM, midday, and PM peak periods, respectively. In 2011, the MBP Alternative would result in 140, 100, and 161 fewer pedestrian trips than the proposed action during the AM, midday, and PM peak periods, respectively. Like the proposed actions, the MBP Alternative would not result in any significant adverse pedestrian impacts.

In 2007, this alternative would result in 44, 0, and 46, fewer subway and 15, 0, and 14 fewer bus trips during the AM, midday, and PM peaks than the proposed actions. Unlike the proposed actions, there would not be an impact to the northeast subway stair in 2007. No subway mitigation would be required with either this alternative or the proposed actions in 2007. In 2011, there would be 63, 6, and 67 fewer subway trips and 21, 5, and 24 fewer bus trips during the AM, midday, and PM peak periods, respectively. Like the proposed actions, this alternative would result in impacts requiring and mitigation at the northeast and southeast subway stairs at the East 68th Street Station in 2011.

AIR QUALITY

With the MBP Alternative, as with the proposed actions there would be increases in the 8-hour carbon monoxide concentrations in 2007 and 2011. No violations of the NAAQS are expected to occur either under the MBP Alternative or with the proposed actions by 2007, and both would be consistent with the SIP.

In addition, in 2007 and 2011 with the MBP Alternative, due to the shorter research building additional measures may be required to avoid potential significant adverse impacts from the exhaust system of the laboratories in the proposed research building on any MSKCC campus buildings and the surrounding community. Such measures may include, but would not be limited to, changes to the design of mechanical systems that would modify exhaust parameters to reduce

emissions.

NOISE

Both with the MBP Alternative and the proposed actions, in the years 2007 and 2011, noise levels in the project study area would not be significantly increased compared to existing levels. With both the Smaller Alternative and the proposed actions, no significant adverse noise impacts would result from building mechanical systems. Similar to the proposed actions, this alternative could include an (E) designation for noise in the rezoning area.

CONSTRUCTION IMPACTS

The MBP Alternative would reduce the duration of construction-related impacts as compared to the proposed actions but would still entail the same activities and phasing (i.e., demolition, excavation and foundation, structure and shell, interior finishing).

CIVITAS ALTERNATIVE

CIVITAS proposed an alternative research building to be built under existing zoning, but did not consider any further development on the main campus block. The alternative presented below represents CIVITAS' submission dated October 18, 2001.

According to the materials submitted, the CIVITAS Alternative would have 520,000 square feet of floor area, similar to MSKCC's proposed research building. However, its height would be limited to approximately 320 feet on 68th Street facing the main block of the MSKCC campus. On 69th Street it would rise 9 levels or approximately 160 feet.

The intent of the CIVITAS Alternative is to create a research building that is under the existing R8 zoning and also meets the programmatic needs of MSKCC. CIVITAS believes that this alternative would be more in keeping with the lower midblock densities intended by zoning. However, the CIVITAS Alternative would require BSA approvals for major bulk waivers and variances. These would include some form of variance to increase allowable floor area from 6.5 to 8.2 (8.6 with church and rectory), a variance for 100 percent lot coverage, a variance to waive rear yards and rear yard equivalents, and modification of height and setback.

MSKCC believes that this alternative does not meet its objectives. First, there would be no further development allowed on the main campus block, reducing MSKCC's ability to plan for a new hospital once the research building is completed. CIVITAS states that its alternative would only provide 260,000 square feet in the first phase of development of the research building, as compared to MSKCC's proposed first phase which would provide 425,000 square feet. Therefore, in the first phase of construction, the CIVITAS Alternative would not accommodate the program for replacing space in the Kettering Building and Schwartz Buildings,

supplementing undersized laboratory facilities in the Rockefeller Research Laboratory, and providing for recruitment or expansion of programs.

Further, the floor areas provided with the CIVITAS Alternative do not appear to provide for any floor area for mechanical space. Therefore, floors could have to be added for mechanical space, or the CIVITAS Alternative would actually provide less floor area than the proposed laboratory building.

MSKCC believes that the laboratory floor plates that would be provided in the completed building would have inefficient layouts and would not serve the intended research programs. MSKCC believes that removing six floors from the top of the building and miscellaneously adding the area to lower floors would not produce efficient functional layouts.

Overall, MSKCC does not believe that the CIVITAS Alternative represents a viable alternative.

The CIVITAS Alternative is analyzed below assuming it provides the same program area as the proposed research building.

LAND USE, ZONING, AND PUBLIC POLICY

The St. Catherine's Church Rectory and the Kettering Building would be demolished. The sites of the these two buildings as well as the vacant lot on East 69th Street that was the site of St. Catherine's School would be redeveloped with a new research building by 2007. There would be what MSKCC believes would be a less useful expansion and enhancement of an already important land use in the study area, medical facilities, as compared to the proposed actions.

In the 2011 analysis year there would be no additional development on the main campus block.

There would be no rezoning and no other CPC actions. The BSA actions would include some form of variance to increase allowable floor area from 6.5 to 8.2 (8.6 with church and rectory), a variance for 100 percent lot coverage, a variance for rear yards and rear yard equivalents in their entirety for the entire height of the building, and a modification of height and set back.

SOCIOECONOMIC CONDITIONS

If the CIVITAS Alternative is assumed to provide the same floor area and program area as the proposed research building, the economic benefits realized during the construction and operation of the CIVITAS research building would be similar to those with the proposed research building. The same number of new workers would come to the site.

As there would be no development on the main campus block, the CIVITAS Alternative would not generate any of the economic benefits associated with development in that block. Overall,

this alternative would generate substantially less economic activity and city and state revenues.

COMMUNITY FACILITIES

The CIVITAS Alternative would create a new research building but no new development on the main campus block. It would increase the worker population by a much smaller number and it would bring no new patients and visitors to the project site. Neither this alternative nor the potential development with the proposed actions would result in any adverse impacts on the ability of the New York City Police Department or the New York City Fire Department to provide adequate routine services in the area.

However, with this alternative, MSKCC believes that it would have substantially diminished ability to plan for its future needs and that it would be less able to perform research and provide treatment and care for its patients.

OPEN SPACE AND RECREATIONAL FACILITIES

Under this alternative, the research building is assumed to accommodate the same program area and have the same staff as the proposed research building. However, by being substantially shorter its shadow on St. Catherine's Park would be reduced. In 2007 there would be no new residents in the north block or workers not associated with MSKCC because there would be no rezoning to allow further development of non-MSKCC properties.

The decrease in the worker open space ratio would be 1.5 percent (or a decrease of less than 0.01 acres of passive open space per 1,000 workers). The decrease in the overall passive open space ratio would be 0.7 percent. Similar to the proposed actions, there would be no significant impact on open space in 2007.

With the CIVITAS Alternative, there would be no further development beyond 2007. Therefore, open space conditions would be the same as in 2007, and the unmitigated impacts attributed to the proposed action would not occur.

SHADOWS

With the CIVITAS Alternative the research building would be approximately 320 feet tall on 68th Street at its southwest corner, which is nearest St. Catherine's Park. This would be 100 feet lower than the proposed research building. The increase in early morning shadows on St. Catherine's Park in the spring, summer, and fall in 2007 would be substantially reduced.

Since there would be no development in the main campus block, there would be no additional shadows later in the morning with the CIVITAS Alternative.

HISTORIC RESOURCES

Similar to conditions with the proposed research building, construction of the CIVITAS research building could impact St. Catherine's Church and would require mitigation—a construction protection plan to avoid construction-related impacts to the church. As with the proposed actions, new shadows on the church's east-facing, stained-glass windows during the morning would cover most if not all of the windows that are not currently in shadow. Also like the proposed project, this impact would be mitigated by providing lighting to the windows.

No other historic resources would be affected by MSKCC's actions with this alternative or the proposed actions.

URBAN DESIGN AND VISUAL RESOURCES

The CIVITAS Alternative would have a 140 foot high streetwall along 69th Street and a 322 foot high streetwall along 68th Street. The lower wing along 69th Street may be more in keeping with the heights of typical midblock buildings, but this alternative would not reduce the density of development on the site. Further, the street wall along 68th Street would be 322 feet by 290 feet which would have a significant adverse impact in terms of density.

With no development on the main campus block, the CIVITAS Alternative would reduce the overall impact on density in the midblock compared to the proposed actions. As with the proposed actions, existing view corridors would not be altered in 2007 or 2011 by the CIVITAS Alternative. Although this alternative would have less of an impact on urban design than the proposed actions, MSKCC does not believe that this alternative meets its programmatic needs.

NEIGHBORHOOD CHARACTER

With the CIVITAS Alternative, the north block would be redeveloped to expand and improve medical facilities. As with the proposed actions, a construction protection plan would be required to avoid construction-related impacts to St. Catherine's Church. There would be new, but shorter and wider facades adjacent to the small scale St. Catherine's Church. This alternative would have lesser overall impacts to urban design. Like the proposed actions, this alternative would not result in an open space impact in 2007, but would not have any of the additional effects associated with the proposed actions in 2011. There would be similar new activity in the area in 2007, but much less in 2011. The increase in traffic from the research building would be the same as that of the proposed research building, but at full build-out there would be much less traffic generated as compared to conditions in 2011 with the proposed actions. An (E) designation would only be applied to the research building site. Overall, as compared to conditions with the proposed actions, this alternative would have a lesser impact on neighborhood character in the 2011 analysis year.

HAZARDOUS MATERIALS

Like the proposed actions, this alternative would have the potential to disturb hazardous materials. Asbestos-contaminated-materials and lead-based paint believed to be present in the existing buildings to be demolished would be removed in accordance with all applicable city, state and federal regulations. A Restrictive Declaration could be placed in the site in connection with the BSA actions and, if necessary, a Phase II investigation.

All hazardous chemicals and other hazardous materials would continue to be handled, stored and disposed of in accordance with all applicable federal, state and local regulations, as they are now and as they would be with the proposed actions and anticipated development.

INFRASTRUCTURE

Under this alternative, demands on local utility systems, including water supply, solid waste and recycling, and energy, would increase far less than with the proposed actions. However, even with the proposed actions and anticipated development, there would not be any adverse impacts.

TRAFFIC AND PARKING

The CIVITAS Alternative would result in the same development as the proposed actions in 2007. Similar to conditions with the proposed actions, there would be a need for traffic mitigation associated with MSKCC operations at 3, 0, and 5 intersections during the AM, midday, and PM peaks, respectively. There would also be an increase in demand for parking, but like the proposed actions, there would be no significant adverse impact to parking with the CIVITAS Alternative.

Under the CIVITAS Alternative, there would be no new development on the main campus block and therefore no additional changes in study area traffic and parking conditions due to MSKCC activities. Impacts attributed to the proposed actions in 2011 would, therefore, not occur, and mitigation for those impacts would not be needed.

PEDESTRIANS AND TRANSIT

In 2007, this alternative would generate the same pedestrian trips as the proposed actions. However, there would be no additional increase in pedestrians since there would be no further development on the main campus block. Like the proposed actions, the CIVITAS Alternative would not result in any significant adverse pedestrian impacts.

Similarly, subway and bus trips would increase above No Action conditions as a result of this alternative. In 2007, this alternative would result in the same subway and bus trips as the proposed actions and the same subway impact that would not require mitigation, as with the

proposed actions. Like the proposed actions, this alternative would result in an impact at the northeast stair but would not require mitigation in 2007. However, with no further development, MSKCC would not add more transit trips in 2011. Therefore, unlike the proposed actions, no mitigation would be required at the northeast and southeast stairs in 2011.

AIR QUALITY

With the CIVITAS Alternative, the increases in the 8-hour carbon monoxide concentrations expected from the proposed actions, none of which are significant, would be the same in 2007, since project-generated traffic volumes would be the same. No violations of the NAAQS are expected to occur either under the CIVITAS Alternative or with the proposed actions by 2007, and both would be consistent with the SIP.

With the shorter CIVITAS research building additional measures may be required to avoid potential significant adverse impacts from the exhaust system of the laboratories on the surrounding community. Such measures may include, but would not be limited to, changes to the design of the mechanical systems that would modify exhaust parameters to reduce emissions.

NOISE

Both with the CIVITAS Alternative and the proposed actions, noise levels in the study area would not be significantly increased compared to existing levels in 2007. With both the CIVITAS Alternative and the proposed actions, no significant adverse noise impacts would result from building mechanical systems. This alternative would require noise attenuation for the research building, which would be similar to the (E) designation for the proposed actions.

CONSTRUCTION IMPACTS

The CIVITAS Alternative would have temporary construction impacts similar to the proposed actions. Construction activities would be comparable to that of the proposed actions on the north block. Similar to the proposed actions, any construction-related impacts would be relatively short-term and be governed by applicable city, state, and federal regulations regarding construction activity, thereby avoiding significant adverse impacts.

ALTERNATIVE LOCATIONS

During the public review, several alternative locations were proposed for the research building. As described below, none of the other locations mentioned met MSKCC's goals for the project and none are deemed practicable by MSKCC.

- **Avenue sites or other sites owned or controlled by MSKCC in Manhattan.**

  Of the properties owned by MSKCC on the upper East Side of Manhattan, the site of the proposed laboratory building is the largest except the main campus block and the south block of MSKCC. MSKCC believes that it is not feasible to demolish a sufficiently large portion of the main campus block to develop the proposed research building. Nor does MSKCC believe that it is feasible to demolish a sufficiently large portion of the south block because the Rockefeller Research Laboratory occupies more than half this site. Given that the constraints of the proposed research building site produce a building of 23 stories, development on any of the smaller sites would produce smaller and what MSKCC believes to be less efficient floor plates.

  If the research facility were to be built on any of the other sites on the Upper East Side, impacts would likely be similar to those with the proposed building. Further, it can be assumed that the site of the proposed research building would be developed for a different use. Development could be for a range of uses from the R8 As-of-Right Mixed Use Alternative or to an ambulatory care facility (outpatient clinic).

- **Long Island City.**

  A location in Long Island City, even with ferry connections, would be too far away from the main campus block and the inpatient hospital to meet the needs of translational research, which requires a close bench-to-bed relationship. Translational research relies on face-to-face communication and interaction among clinicians, scientists, and patients.

  Long Island City has been considered for the development of commercial biotech laboratories. While biotech laboratories do depend on relatively proximate major teaching hospitals, as commercial operations they do not generally share staff closely.

  Again, if the proposed research building could be developed in Long Island City, the proposed site in the north block would be developed and development could range from a mixed-use building to an ambulatory care facility.

- **Roosevelt Island.**

  Similar to a location in Long Island City, MSKCC believes that a location on Roosevelt Island would be too distant from the MSKCC campus to serve for translational research. Further, the Roosevelt Island plan does not call for such a use.

  If development of a research facility were to occur on Roosevelt Island, the proposed site of the research facility in the north block would be redeveloped, and a range of uses, described above, would be possible.

REDUCED MAIN CAMPUS BLOCK DEVELOPMENT ALTERNATIVE

This alternative is the same as the proposed actions except for the amount of new floor area assumed on the main campus block.

While the main campus block would be rezoned to R9, this alternative assumes that only 125,000 square feet of additional floor area is developed without additional review and approval by CPC. This area could be used by MSKCC for one or more small projects similar to the infill/infrastructure project currently under construction on the main campus. However, it would not be sufficient for construction of a new inpatient hospital. It is assumed that this area would be used as diagnostic and treatment space. Based on a population estimate of 388 staff, 530 patients and 1,400 visitors for 161,600 square feet of diagnostic and treatment space with the proposed actions, the potential population of this 125,000 square feet would be 302 staff, 413 patients and 1,092 visitors. (This is a total of 466 fewer staff, 130 fewer inpatients, 117 fewer diagnostic and treatment patients, and 698 fewer visitors than the proposed actions would bring to this block.)

The physical form of this 125,000 square feet is not defined, but it is expected that it could be developed in a form similar to the infill/infrastructure project which is essentially filling voids in the midblock of the main campus block.

This alternative would require all the same actions and approvals as the proposed project as well as some form of limitation on development in the main block. Use of the additional floor area generated by the rezoning and the transfer of floor area from the north block would require additional review and approval by CPC.

In 2007 this alternative would be similar to the proposed research building. At full build-out, this alternative would reduce the impacts associated with population. Since it would not create a major new structure, the urban design and shadow effects would be reduced as would the economic benefits.

LAND USE, ZONING, AND PUBLIC POLICY

Land use impacts would be similar and the rezoning would take place as proposed. However, the floor area of the midblock of the main campus block available for use without additional review and approval by CPC would be far less than with the proposed project.

SOCIOECONOMIC CONDITIONS

The economic benefits realized during the construction and operation of this alternative would be less than those anticipated with full build-out of the proposed project. There would be less direct or generated construction employment and income; and the city and state revenue resulting from the construction employment, income, and activity would be less. Employment resulting from

construction expenditures, including jobs from business establishments providing goods and services to contractors, would be less.

At full build-out this alternative is estimated to provide 466 fewer jobs than development with the proposed actions. Overall, this alternative would generate fewer economic benefits.

COMMUNITY FACILITIES

This alternative would create the same new research building, but less new construction on the main campus block. It would increase the worker population by a smaller number and it would bring fewer new patients and visitors to the project site. Neither this alternative nor the potential development with the proposed actions would result in any adverse impacts on the ability of the New York City Police Department or the New York City Fire Department to provide adequate routine services in the area.

With this alternative, MSKCC would continue to have the ability to plan for future needs subject to the need to seek additional review and approval by CPC.

OPEN SPACE AND RECREATIONAL FACILITIES

The population associated with this alternative would be the same as with the proposed actions in 2007. This alternative would have the same shadows on St. Catherine's Park as compared to the proposed project. Similar to the proposed actions, this alternative would not have an open space impact in 2007.

In 2011 open space user population on the main campus block would be greatly reduced. There would be no additional new shadow on St. Catherine's Park from the relatively low structure in the midblock. With this alternative, there would be approximately 466 fewer workers in the study area in 2011. There would be a 2.6 percent decrease in the open space ratio, compared to a 3.5 percent decrease with the proposed actions. The percent decrease in the overall passive open space ratio would be 1.3 percent as compared to 2.7 percent with the proposed actions. The potential impact on open space would be less under this alternative compared to the proposed actions, but would still constitute a significant adverse impact. As with the proposed actions, this impact would be unmitigable.

SHADOWS

In 2007 the shadows would be less than with the proposed building. In 2011 under this alternative there would be no additional increase in shadows on the park.

HISTORIC RESOURCES

This alternative would have the same historic resource impacts and require the same mitigation measures for those impacts as the proposed actions. Similar to conditions with the proposed actions, the research building could have an adverse impact on St. Catherine's Church during construction. As with the proposed actions, mitigation to avoid this impact would be a construction protection plan. New shadows on the church's east-facing, stained-glass windows during the morning would cover most if not all the windows that are not currently in shadow. To mitigate this impact, lighting could be provided to the east-facing windows to replace the sunlight lost in the morning. Similar to the proposed actions, no other historic resources would be affected by MSKCC's actions with this alternative or the proposed actions.

URBAN DESIGN AND VISUAL RESOURCES

Since the research building in the Reduced Main Campus Block Development Alternative would be the same as the proposed project, it would have the same adverse impacts on urban design in 2007. As with the proposed actions, this impact would be unmitigable.

In 2011, development on the main campus block would be far less than with the proposed actions. There would be no major new structure of 390,000 square feet, but rather portions of the midblock would be infilled with up to 125,000 square feet, which would be the equivalent of adding less than two floors across the midblock. As compared to the proposed actions, this would not significantly increase the midblock density in this block. Overall this alternative would have less impact on urban design than with the proposed actions. The impact, combined with the impact of the proposed research facility, would constitute a significant adverse impact. As with the proposed actions, the impact would be unmitigable. As with the proposed actions, this alternative would have no impact on visual resources or view corridors.

NEIGHBORHOOD CHARACTER

With this alternative, the development site in the north block would be redeveloped to expand and improve an existing land use in the area, medical facilities. As with the proposed actions, a construction protection plan would be needed to mitigate construction-related impacts to St. Catherine's Church. Morning sunlight to the east-facing stained-glass windows of St. Catherine's Church would be largely lost. Compared to the proposed actions, there would be a new and taller tower adjacent to the small-scale St. Catherine's Church. There would more new activity in the area in 2007, but much less in 2011. The increase in traffic from the research building would be the same as with the proposed project but less at full buildout. Similar to conditions with the proposed actions, with an (E) designation there would be no noise impacts on interiors of new construction in the rezoning area. Overall, as compared to conditions with the proposed actions, this alternative would have a lesser impact on elements of neighborhood character in the 2011 analysis year. As with the proposed actions, the impacts could be considered significant and

adverse and would be unmitigable.

HAZARDOUS MATERIALS

Like the proposed actions, this alternative would have the potential to disturb hazardous materials. Asbestos-contaminated-materials and lead-based paint believed to be present in the existing buildings to be demolished (St. Catherine's Church Rectory and the Kettering Building) would be removed in accordance with all applicable local, state and federal regulations. As with the proposed project, potential construction related impacts could occur as a result of development of the Kettering site. The impacts could be mitigated by the same mechanism (a Restrictive Declaration on the property) requiring prior to excavation a Phase II subsurface investigation to determine if contamination exists. If necessary, remediation would be undertaken. All hazardous chemicals and other hazardous materials would continue to be handled, stored and disposed of in accordance with all applicable federal, state and local regulations as they are now and as they would be with the proposed actions and anticipated development.

INFRASTRUCTURE
Under this alternative, the increase in demands on local utility systems, including water supply, solid waste and recycling, and energy, would be the same in 2007 and far less in 2011 than with the proposed actions. However, even with the proposed actions and anticipated development, there would not be any adverse impacts.

TRAFFIC AND PARKING
The Reduced Main Campus Block Development Alternative would result in the same floor area and the same number of vehicle trips as the proposed actions in 2007. Similar to conditions with the proposed actions, there would be the same impacts and a need for traffic mitigation associated with MSKCC operations. There would also be an increase in demand for parking, but like the proposed actions, there would be no significant adverse impact to parking.

In 2011, trips to the main campus block would be fewer that with the proposed project. Assuming there are more trips to the north block, this alternative would result in 60, 30, and 70 fewer vehicle trips during the AM, midday, and PM peak hours, respectively, than the proposed project in 2011. In 2011, there would be impacts at 7, 7, and 9 intersections with this alternative, as compared to 9, 8, and 11 intersections with the proposed actions during the AM, midday, and PM peaks. Based on standards set forth in the CEQR Technical Manual, the increases in traffic generated by this alternative would cause significant impacts in 2011 at the locations listed below:

- York Avenue and East 61st Street (PM peak);
- York Avenue and East 63rd Street (PM peak);

- York Avenue and East 66th Street (PM peak);
- York Avenue and East 67th Street (AM, midday, and PM peaks);
- York Avenue and East 69th Street (AM and PM peaks);
- York Avenue and East 71st Street (AM, midday, and PM peaks);
- York Avenue and East 72nd Street (midday and PM peaks);
- First Avenue and East 67th Street (AM and midday peaks);
- First Avenue and East 68th Street (AM, midday, and PM peaks);
- Second Avenue and East 68th Street (AM, midday, and PM peaks); and
- Second Avenue and East 69th Street (AM and midday peaks).

With this alternative, there would not be impacts at the following locations, as there would be with the proposed actions:

- York Avenue and East 62nd Street (AM and PM peaks);
- York Avenue and East 63rd Street (midday peak);
- York Avenue and East 72nd Street (AM peak); and
- Second Avenue and East 69th Street (PM peak).

Traffic mitigation would be similar to the proposed actions. All of the impacted locations could be fully mitigated through signal retiming or changes to parking regulations. These mitigation measures are described below. The increase in demand for parking would also be less than with the proposed conditions, and like the proposed actions, there would be no significant adverse impact to parking.

Recommended Mitigation Measures

The paragraphs below discuss each affected intersection and its required mitigation. Proposed signal retimings that would mitigate impacts would result in all of the affected intersections being brought back to the same service conditions, or better, than those under No Action con-

ditions. This alternative would result in the need for mitigation measures similar to or lesser than the proposed actions. NYCDOT has reviewed the mitigation measures for the proposed actions, and has agreed to evaluate operating conditions upon to completion of Phase 2. At that time, appropriate mitigation measures would be implemented.

York Avenue and East 61st Street

The impact at the northbound defacto left-turn movement at this intersection during the PM peak period could be mitigated by subtracting 1 second of green time from the westbound phase and adding it to the northbound/southbound phase, as with the proposed actions. With this retiming, delays at the northbound defacto left-turn movement would improve to 120.8 spv (LOS F) with a v/c ratio of 1.035 from a delay of 136.0 spv (LOS F) with a v/c ratio of 1.064 in 2011 with this alternative. This measure would mitigate the impact back to No Action conditions or better.

York Avenue and East 63rd Street

The impact at the southbound left-turn movement at this intersection during the PM peak periods could be mitigated by subtracting 1 second of green time from the northbound/southbound phase and adding it to the southbound lagging phase, as with the proposed actions. With this retiming, delays would improve to 73.5 (LOS F) with a v/c ratio of 1.083 from 100.2 spv (LOS F) with a v/c ratio of 1.137 in 2011 with this alternative during the PM peak period.

With this measure in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and 66th Street

The impact at the northbound defacto left-turn movement at this intersection during the PM peak period could be mitigated by subtracting 3 seconds of green time (as compared to 5 seconds with the proposed actions) from the westbound phase and adding it to the northbound/southbound phase. With this retiming, delays would improve to 39.2 spv (LOS D) with a v/c ratio of 0.806 from a delay of 59.4 spv (LOS E) with a v/c ratio of 0.885 in 2011 with this alternative. With this measure in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and East 67th Street

The impact at the northbound left-turn and through movements at this intersection during the AM, midday, and PM peak periods could be mitigated by creating a leading northbound phase with 8 seconds of green time (and 3 seconds of yellow plus all red time). In addition, during the midday and PM peak periods, parking at the southbound approach would be prohibited (daylighting) for approximately 150 feet from the intersection (approximately 6 spaces). Parking regulations would be "No Standing from Here to Corner Noon to 2 PM and 4 PM to 7 PM." These measures would be the same as with the proposed actions. With these measures, delays

would improve to 4.7 spv (LOS A) with a v/c of 0.464 from delays of 68.8 spv (LOS F) with a v/c ratio of 0.925 at the northbound defacto left-turn movement and 4.9 spv (LOS A) with a v/c ratio of 0.504 at the through movement in 2011 with this alternative during the AM peak period, to 9.8 spv (LOS B) with a v/c ratio of 0.862 from a delay of 157.1 spv (LOS F) with a v/c ratio of 1.175 at the defacto left-turn movement and 91.6 (LOS F) with a v/c ratio of 1.156 at the through movement in 2011 with this alternative during the midday peak period, and to 7.2 (LOS B) with a v/c ratio of 0.731 from 59.2 spv (LOS F) with a v/c of 0.883 at the defacto left-turn movement and 67.6 spv (LOS F) with a v/c ratio of 1.106 at the through movement in 2011 with this alternative during the PM peak period. With these measures in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and East 69th Street

As with the proposed actions, the impact at the northbound approach at this intersection during the AM and PM peak periods could be mitigated by creating a leading northbound phase with 8 seconds of green time (and 3 seconds of yellow plus all red time). With this retiming, delays at the northbound approach would improve to 6.6 spv (LOS B) with a v/c ratio of 0.697 from 48.9 spv (LOS E) with a v/c ratio of 1.068 in 2011 with this alternative during the AM peak, and to 7.5 spv (LOS B) with a v/c ratio of 0.747 from delays of 43.7 spv (LOS E) with a v/c ratio of 1.051 in 2011 with this alternative during the PM peak.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and East 71st Street

With the proposed actions, the impact at the northbound approach at this intersection during the AM peak period could be mitigated by prohibiting parking (daylighting) for approximately 150 feet from the intersection (approximately 6 spaces) at the northbound approach. Parking regulations would be "No Standing From Here to Corner 7AM to 10AM." With this alternative, the impact at the northbound approach could be mitigated by subtracting 2 seconds of green time from the westbound phase and adding it to the northbound/southbound phase. With this measure, delays at the northbound approach would improve to 84.7 spv (LOS F) with a v/c ratio of 1.134 from a delay of 110.3 (LOS F) with a v/c ratio of 1.177 in 2011 with this alternative.

During both the midday and PM peak periods, the impacts could be mitigated by subtracting 1 second of green time from the westbound phase and adding it to the northbound/southbound phase, as with the proposed actions. With this retiming, delays at the northbound approach would improve to 75.5 spv (LOS F) with a v/c ratio of 1.123 from a delay of 91.0 (LOS F) with a v/c ratio of 1.151 in 2011 with this alternative during the midday peak period, and to 72.3 (LOS F) with a v/c ratio of 1.108 from a delay of 82.8 spv (LOS F) with a v/c of 1.128 in 2011 with this alternative during the PM peak period.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

York Avenue and East 72nd Street

During the midday peak period, the impact at the northbound approach could be mitigated by subtracting 1 second of green time from the eastbound/westbound pedestrian phase and adding it to the northbound/southbound phase, as with the proposed actions. With this retiming, delays at the northbound approach would improve to 84.5 spv (LOS F) with a v/c ratio of 1.138 from a delay of 101.3 (LOS F) with a v/c ratio of 1.167 in 2011 with this alternative.

With the proposed actions, during the PM peak period, the impact at the westbound approach could be mitigated by prohibiting parking (daylighting) for approximately 150 feet from the intersection (approximately 6 spaces) on westbound approach. Parking regulations would be "No Standing From Here to Corner 4PM to 7PM." With this alternative, the impact at the westbound approach could be mitigated by subtracting 2 seconds of green time fro the northbound/southbound phase and adding it to the eastbound/westbound phase. With this measure, delays at the westbound approach would improve to 126.2 (LOS F) with a v/c ratio of 1.139 from a delay of 193.7 spv (LOS F) with a v/c ratio of 1.242 in 2011 with this alternative.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

First Avenue at East 67th Street

The impact at the westbound approach at this intersection during the AM and midday peak periods could be mitigated by subtracting 1 second of green time (as compared to 2 seconds with the proposed actions) from the northbound phase and adding it to the westbound phase. With this retiming, delays at the westbound approach would improve to 56.2 spv (LOS E) with a v/c ratio of 0.985 from a delay of 65.4 spv (LOS F) with a v/c ratio of 1.015 in 2011 with this alternative during the AM peak period, and to 83.2 spv (LOS F) with a v/c ratio of 1.070 from a delay of 97.9 spv (LOS F) with a v/c ratio of 1.102 in 2011 with this alternative during the midday peak period.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

First Avenue and 68th Street

The impact at the eastbound approach during the AM peak period could be mitigated by subtracting 2 seconds of green time (as compared to 3 seconds with the proposed actions) from

the northbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 50.8 spv (LOS E) with a v/c ratio of 0.976 from a delay of 69.2 spv (LOS F) with a v/c ratio of 1.035 in 2011 with this alternative.

The impact at the eastbound approach at this intersection during the midday and PM peak periods could be mitigated by subtracting 1 second of green time (as compared to 1 second in the midday and 2 seconds in the PM, respectively with the proposed actions), from the northbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 80.7 spv (LOS F) with a v/c ratio of 1.082 from a delay of 96.2 spv (LOS F) with a v/c ratio of 1.115 in 2011 with this alternative during the midday peak period, and to 87.6 spv (LOS F) with a v/c ratio of 1.104 from a delay of 104.7 spv (LOS F) with a v/c ratio of 1.137 in 2011 with this alternative during the PM peak period.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

Second Avenue and 68th Street

The impact at the eastbound approach at this intersection during the AM peak period could be mitigated by subtracting 3 seconds of green time (as compared to 4 seconds with the proposed actions) from the southbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 65.1 spv (LOS F) with a v/c ratio of 1.029 from a delay of 103.0 spv (LOS F) with a v/c ratio of 1.117 in 2011 with this alternative.

During the midday and PM peak periods the impacts at the eastbound approach could be mitigated by subtracting 1 second of green time (as compared to 1 second during the midday and 2 seconds during the PM, respectively with the proposed actions), from the southbound phase and adding it to the eastbound phase. With this retiming, delays at the eastbound approach would improve to 80.5 spv (LOS F) with a v/c ratio of 1.083 from a delay of 95.0 spv (LOS F) with a v/c ratio of 1.114 in 2011 with this alternative during the midday peak, and to 82.4 spv (LOS F) with a v/c ratio of 1.093 from a delay of 97.6 spv (LOS F) with a v/c ratio of 1.124 in 2011 with this alternative during the PM peak.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

Second Avenue and East 69th Street

The impact at the westbound approach at this intersection during the AM peak period could be mitigated by subtracting 2 seconds of green time from the southbound phase and adding it to the westbound phase, as with the proposed actions. With this retiming, delays at the westbound approach would improve to 35.2 spv (LOS D) with a v/c ratio of 0.889 from a delay of 45.2 spv

(LOS E) with a v/c ratio of 0.941 in 2011 with this alternative.

During the midday peak period, the impact could be mitigated by subtracting 1 second of green time from the southbound phase and adding it to the westbound phase, as compared with the proposed actions. With this retiming, delays at the westbound approach would improve to 79.0 spv (LOS F) with a v/c ratio of 1.079 from a delay of 93.7 spv (LOS F) with a v/c ratio of 1.110 in 2011 with this alternative.

With these proposed measures in place, impacts would be mitigated back to No Action conditions or better.

Parking

As with the proposed actions, assuming a background growth rate of 5.0 percent, utilization of the study area's off-street parking facilities was assumed to increase with project-generated demand. As shown in Table 18-9, the projected conditions indicate that the overall utilization rate of the off-street parking facilities would increase to approximately 93 percent (as compared to 94 percent with proposed actions) from a 2011 No Action utilization of 91 percent. It is assumed that the 6 on-street parking spaces (compared with 18 spaces with the proposed action's) lost due to the proposed 2011 mitigation measures would add to the off-street parking demand in the area, increasing the midday off-street parking utilization rate to approximately 93.3 percent. There would be available off-street parking capacity, and no significant impacts to parking would result from restricting on-street parking as described above.

PEDESTRIANS AND TRANSIT

Pedestrian facilities in the study area would experience an increase in pedestrian volumes over No Action conditions under this alternative. In 2007, this alternative would generate the same number of pedestrian trips than the proposed actions. In 2011, it would result in 270, 213, and 328 fewer pedestrian trips as the proposed actions. Like the proposed actions, this alternative would not result in any significant adverse pedestrian impacts.

Similarly, subway and bus trips would increase above No Action conditions as a result of this alternative. In 2007, this alternative would result the same number subway and bus trips than the proposed actions. In 2007, there would be the same impact to the northeast subway stair as the proposed actions, and, as discussed above in "Mitigation," mitigation would not be required. In 2011, there would be 117, 17, and 132 fewer subway trips than the proposed actions, but like the proposed actions, there would be impacts to the northeast and southeast stairs requiring mitigation. A widening of two inches at each of the northeast and southeast stairs would be required, as compared to the proposed actions, which would require a widening of three inches at the northeast stair and two inches at the southeast stair. An engineering feasibility study with conceptual plans has been reviewed and approved by the MTA for the proposed actions; the

same improvements would appropriately mitigate this impact. As with the proposed actions, the applicant would be responsible for funding the cost associated with the percent of construction required to mitigate the alternative's impacts. As with the proposed actions, there is no commitment by the MTA regarding funding this mitigation at this time, and if mitigation is not implemented, a significant adverse impact would occur.

AIR QUALITY

With this alternative, the increases in the 8-hour carbon monoxide concentrations expected from the proposed actions would be less. No violations of the NAAQS are expected to occur under this alternative or with the proposed actions by 2007 or 2011, and both would be consistent with the SIP.

In addition, similar to the development under the proposed actions, there would be no potential significant adverse impacts from the exhaust system of the laboratories in the proposed research building on any MSKCC campus buildings or the surrounding community.

NOISE

Both with this alternative and the proposed actions, in the years 2007 and 2011, noise levels in the project study area would not be significantly increased compared to existing levels. With both this alternative and the proposed actions, no significant adverse noise impacts would result from building mechanical systems. Similar to the proposed actions, this alternative would require the same (E) designation for noise in the rezoning area to avoid significant adverse impacts.

CONSTRUCTION IMPACTS

The Reduced Main Campus Block Development Alternative would have temporary construction impacts similar to the proposed actions. The duration and phasing of construction activities would be comparable to that of the proposed actions on the north block. On the main campus block there would be much less construction. Similar to the proposed actions, any construction-related impacts would be relatively short-term and be governed by applicable city, state, and federal regulations regarding construction activity, thereby avoiding significant adverse impacts.

E. UNAVOIDABLE ADVERSE IMPACTS

As described above, there would be an adverse impact on open space in 2011 due to the increase in open space users and the increase in shadows on St. Catherine's Park from the proposed research building and potential development on the main campus block. Potential improvements are limited, as St. Catherine's Park (the only public space in the immediate area) has been

extensively renovated in the past few years and there are no capital improvements that it needs relative to passive open space. There are no potential sites for additional open space in the control of the New York City Department of Parks and Recreation or MSKCC. Therefore, the project would result in an unmitigated significant adverse impact to open space in 2011.

The proposed actions would also result in a significant adverse impact to urban design in 2007 and 2011, due to increased density in the midblocks. This significant adverse impact on urban design would be partially mitigated by reduction in height of the proposed research building envelope from 440 to 420 feet. At full build out the two buildings would have a significant adverse impact on urban design due to increased density.

This impact on urban design would also result in a significant adverse impact to neighborhood character. However, the reduction in the height of the research building's envelope would partially mitigate the building's adverse effect on urban design and its corresponding effect on this aspect of neighborhood character. At full build out in 2011, increases in traffic and in urban design density would cause a significant adverse impact on neighborhood character. This impact was reduced and partially mitigated between DEIS and FEIS by the reduction in the size of the research building and the elimination of the south block (and resulting development, employees, patients and visitors) from the rezoning area. Nonetheless, this impact to neighborhood character would not be fully mitigated.

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