Chapter Three
The Community Context of the Bethesda Campus

3.1 Location of the NIH Bethesda Campus in the Region

3.1.1 General

The NIH main campus is located in Montgomery County, Maryland, one of the largest jurisdictions in the Washington, D.C. region. As a result of expansion of the urbanized area, cross-commuting patterns, and other economic interrelationships, the federal government designated a broader Consolidated Metropolitan Statistical Area (CMSA). A CMSA is a geographic entity defined by the Federal Office of Management and Budget for use by federal statistical agencies. An area becomes a CMSA if it meets the requirements to qualify as a metropolitan statistical area, has a population of 1,000,000 or more, if component parts are recognized as Primary Metropolitan Statistical Areas, and if local opinion favors the designation.

This CMSA encompasses both the Baltimore and Washington metropolitan areas, embracing an area of nearly 9,600 square miles circumscribed by a 75-mile radius around downtown Washington, D.C. It includes communities from the Pennsylvania border to Calvert and Charles Counties in southern Maryland and on southward in Virginia to Fredericksburg and Spotsylvania County (nearly to the edge of metropolitan Richmond). From Queen Anne's County, Maryland, on the eastern shore of the Chesapeake Bay, the CMSA extends westward beyond the City of Hagerstown and Washington County in western Maryland to Berkeley and Jefferson Counties in West Virginia.

The area is expanding at a very rapid rate - with a 2000 Census population of 7,608,070 - with communities and employment spreading over an ever-widening geographic area. This spread can also be seen in the residential location patterns of NIH employees and the broad area benefitting from NIH's procurement of goods and services.

See Consolidated Metropolitan Statistical Area Map, Figure 3.1.1

3.1.2 The Region

The NIH Bethesda campus is also within the National Capital Region (NCR), as defined in the National Capital Planning Act of 1952, as amended. The jurisdictions within the NCR include:

- The District of Columbia;
- Montgomery and Prince George's Counties in Maryland;
- Arlington, Fairfax, Loudoun, and Prince William Counties in Virginia;
- All cities now or hereafter existing in Maryland or Virginia within the geographic areas bounded by the outer boundaries of the combined areas of said counties. (40 U.S.C. ' 71(b))

The campus is located in southern Montgomery County, Maryland and at the southern end of the highly developed Washington, D.C./Rockville, Maryland Corridor following I-270 and MD Route 355 (Rockville Pike).

See National Capital Region Map, Figure 3.1.2

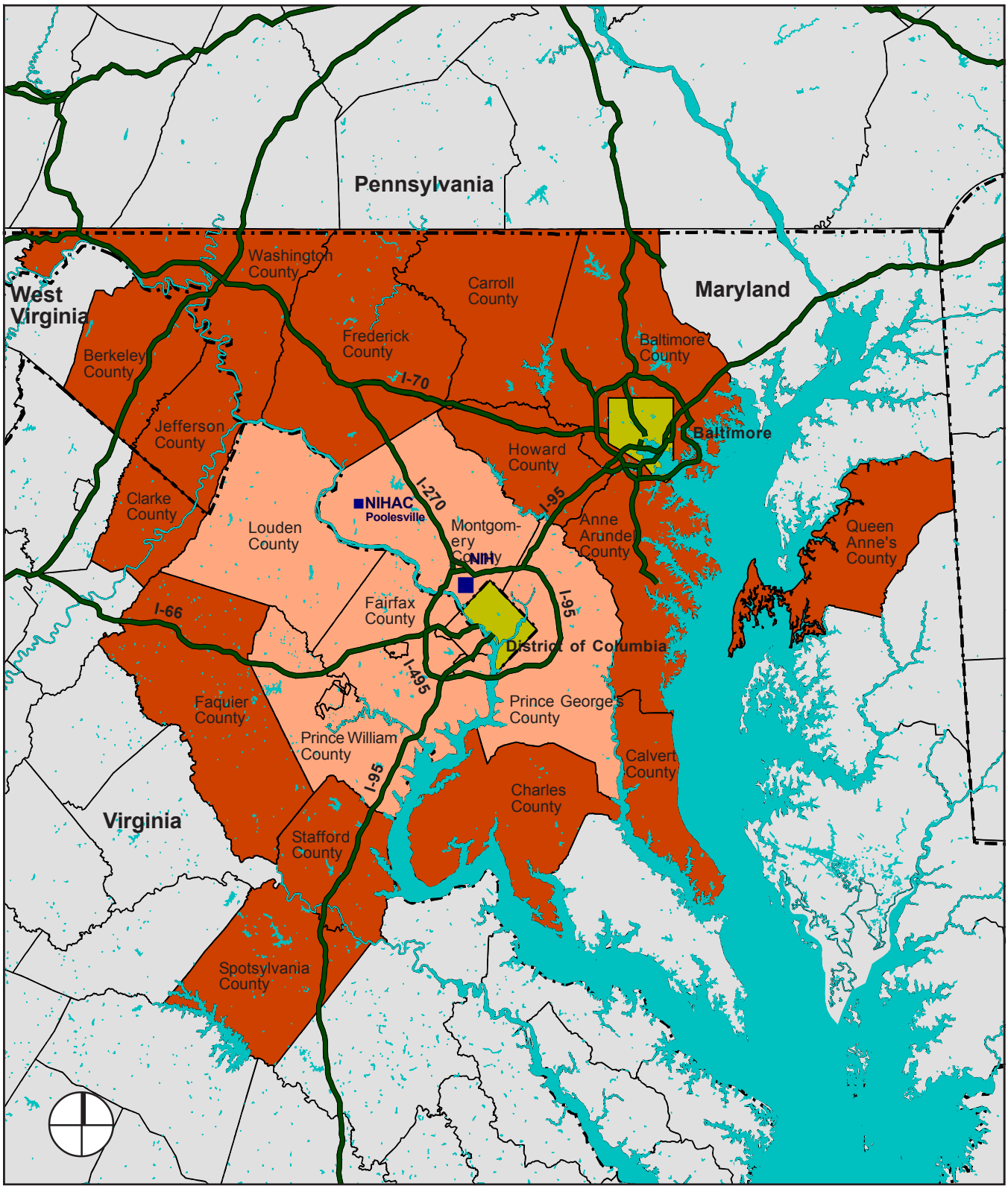

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Figure 3.1.1

Consolidated Metropolitan Statistical Area

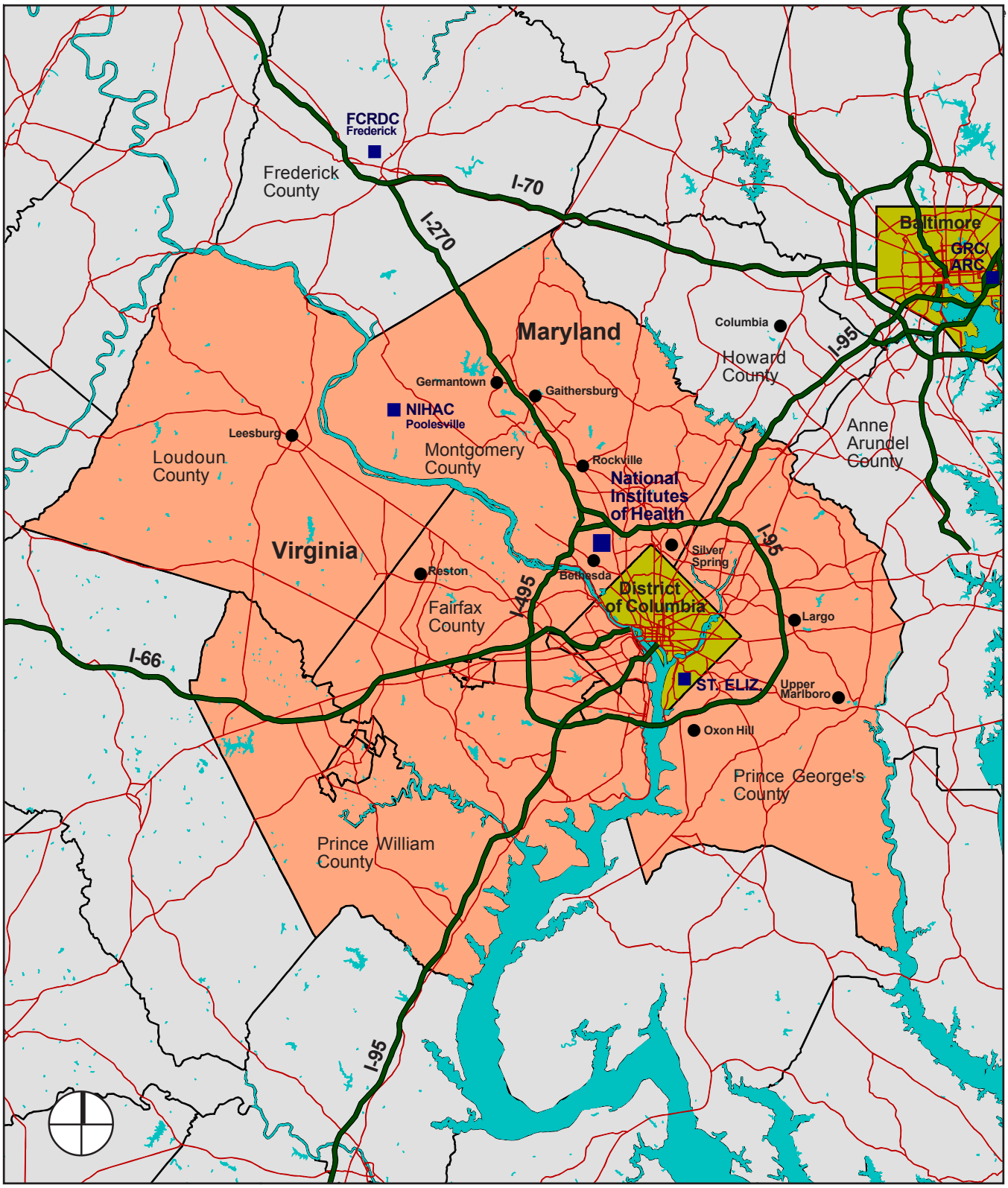

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Figure 3.1.2

National Capital Region Map

3.1.3 The Vicinity

The NIH Campus is situated within the boundaries of the Bethesda - Chevy Chase Master Plan, April 1990. It is located within the Bethesda-Chevy Chase/North Bethesda Planning Area 2 boundaries, adjacent to and to the north of the Bethesda Central Business District (CBD).

Recent master plans and sector plans in this Community-Based Planning area acknowledge the established and stable nature of local residential neighborhoods. These plans also recognize that the central business districts of Bethesda and Friendship Heights, the transit station areas of Grosvenor, White Flint, and Twinbrook, and the commercial centers of Westbard and Wildwood serve as community focal points for the surrounding residential neighborhoods. The National Naval Medical Center and the NIH campus serve as major employment areas for both the area and region. The MD Route 355 (Wisconsin Avenue/Rockville Pike) county and regional buses, and the Metrorail system provide major transportation links within this geographic area.

The Bethesda-Chevy Chase/North Bethesda Work Program, a part of the master planning process for this Planning Area, emphasizes the coordination of development within the commercial centers and employment areas through regulatory review to assure that individual projects cohesively fit into development patterns envisioned by the sector and master plans. It also continues the work to protect and maintain the residential neighborhoods throughout the area.

See Vicinity Location Map, Figure 3.1.3

3.1.4 The Immediate Residential Neighborhood

Seven predominantly single-family neighborhoods and one multi-family neighborhood are immediately adjacent to the NIH. These include Edgewood/Glenwood, East Bethesda, Huntington Terrace, Maplewood, Sonoma, Locust Hill, and Ayrlawn. One predominantly multi-family neighborhood adjoins the campus to the south, Battery Lane District.

Only one of these single-family neighborhoods - Glenwood, the eastern portion of Edgewood/Glenwood - adjoins the NIH campus directly, along with the Battery Lane District. The other six are separated from the campus by major roads.

In the 2000 Census, the neighborhoods immediately surrounding the NIH were included in five census tracts. These tracts are somewhat more extensive than the neighborhoods themselves. Nevertheless, census data, coupled with information from interviews and observations in the neighborhoods, help create a picture of the neighboring residential area. Vicinity Census Tracts, Figure 3.1.4, shows outlines of these census tracts and their numerical designations.

Most of this area (64.4% of Bethesda-Chevy Chase Households) is developed with single-family detached homes on relatively small lots - one quarter acre or less. The oldest homes date from the 1920s when this was a summer cottage area for residents of the District of Columbia. These were supplemented over the years by a varied assortment of additional summer houses, and then by permanent homes. The last major group of homes was built after World War II in the late 1940s and 1950s. Home building continues on the remaining vacant land in the area, including a recently completed cluster of townhouses across Rockville Pike from NIH south of Jones Bridge Road, and several detached houses opposite the Center Drive entrance on Old Georgetown Road.

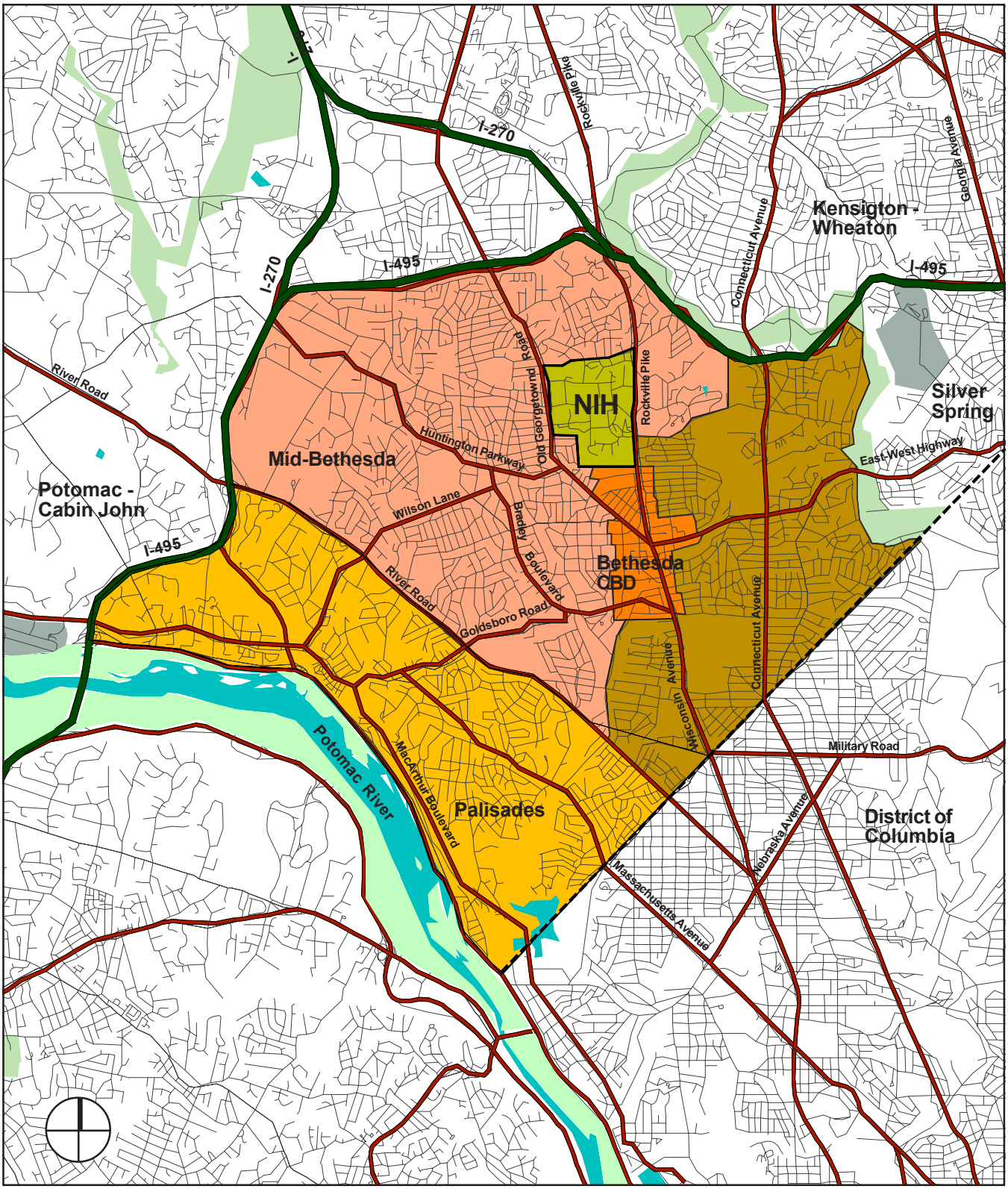

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Figure 3.1.3

Vincinity Location Map

This segment of Bethesda has not experienced the extensive tract house construction seen further north and west in Montgomery County. It is filled with an eclectic assortment of housing styles and sizes, set on relatively narrow, tree-lined streets. These varied houses, with their convenient down-county location and good schools, command sale prices in the upper price ranges for their respective size and categories, and they tend to sell relatively quickly when they come on the market. There are some isolated pockets of new construction on vacant parcels or lots where more expensive new homes are replacing smaller older models around them.

A significant concentration of apartment buildings lies immediately south of the NIH campus. Along both sides of Battery Lane are over 1,600 apartments, many of them rental units. Most are in mid-rise buildings built 40 to 50 years ago, but there are a few newer high-rise towers. Phoenix House, a private assisted-living residential tower for the elderly, is also located on Battery Lane.

Most homes in the area are owner-occupied. However, rental units account for 26% of households, the market for which is supported, in part, by NIH employees. 2000 Census data indicate that in the surrounding Census Designated Places (CDPs) where almost all the homes are single-family detached, about 30-40 percent of the total housing stock is occupied by rental tenants. Vacancy rates are about 3%-4%.

As is typical for Montgomery County as a whole, residents of this portion of Bethesda are relatively mobile. 2000 census data indicated that about half the residents had moved to the vicinity of NIH within the previous five years. About 9.96% of the NIH neighborhood residents had moved from overseas, versus 11.9% in the County as a whole and 9.5% in Bethesda. This may have been due in part to the impact of NIH visiting scientists as well as the area's attraction for foreign diplomats and returning U.S. foreign service officers.

3.1.5 The Bethesda Central Business District

The Bethesda Central Business District (CBD), adjoining the southern boundary of the campus, is one of the largest suburban business centers in the region (See Figure 3.1.5). In the decade ending in 2000, over 960,000 square feet of office and 280,000 square feet of retail space were completed. There are 7 major projects under construction in the Bethesda CBD, including multi-family and mixed-use projects such as the Bethesda Theater, the Residences of Rosedale Park, the Edgemor, the Palisades and the Whitney. A new complex, the Chevy Chase Bank Headquarters, at the northeast corner of Wisconsin Avenue and East-West Highway was completed in autumn 2001, adding 750,000 rentable square feet of space to the Bethesda CBD. The largest mixed-use complex in the CBD, Metro Center, is built directly over the Bethesda Metrorail station and bus terminal which handles more than 15,000 passengers on the average weekday.

In 1990, the CBD contributed 5% of Montgomery County's property tax revenues, and 15% of the yield from commercial properties. Unlike most suburban downtowns, which are predominantly office complexes, the Bethesda CBD contains extensive retail space and many apartment buildings and hotels. The several hotels host NIH-oriented conferences, visitors, patients, and patients' families.

The Bethesda Urban Partnership organizes events and undertakes maintenance of streets and sidewalks utilizing funds from a special tax levied on property owners.

Total employment in 2000 in the CBD was estimated to be 43,000, of which 31,800 were office workers. Between the CBD, the NIH, and the National Naval Medical Center

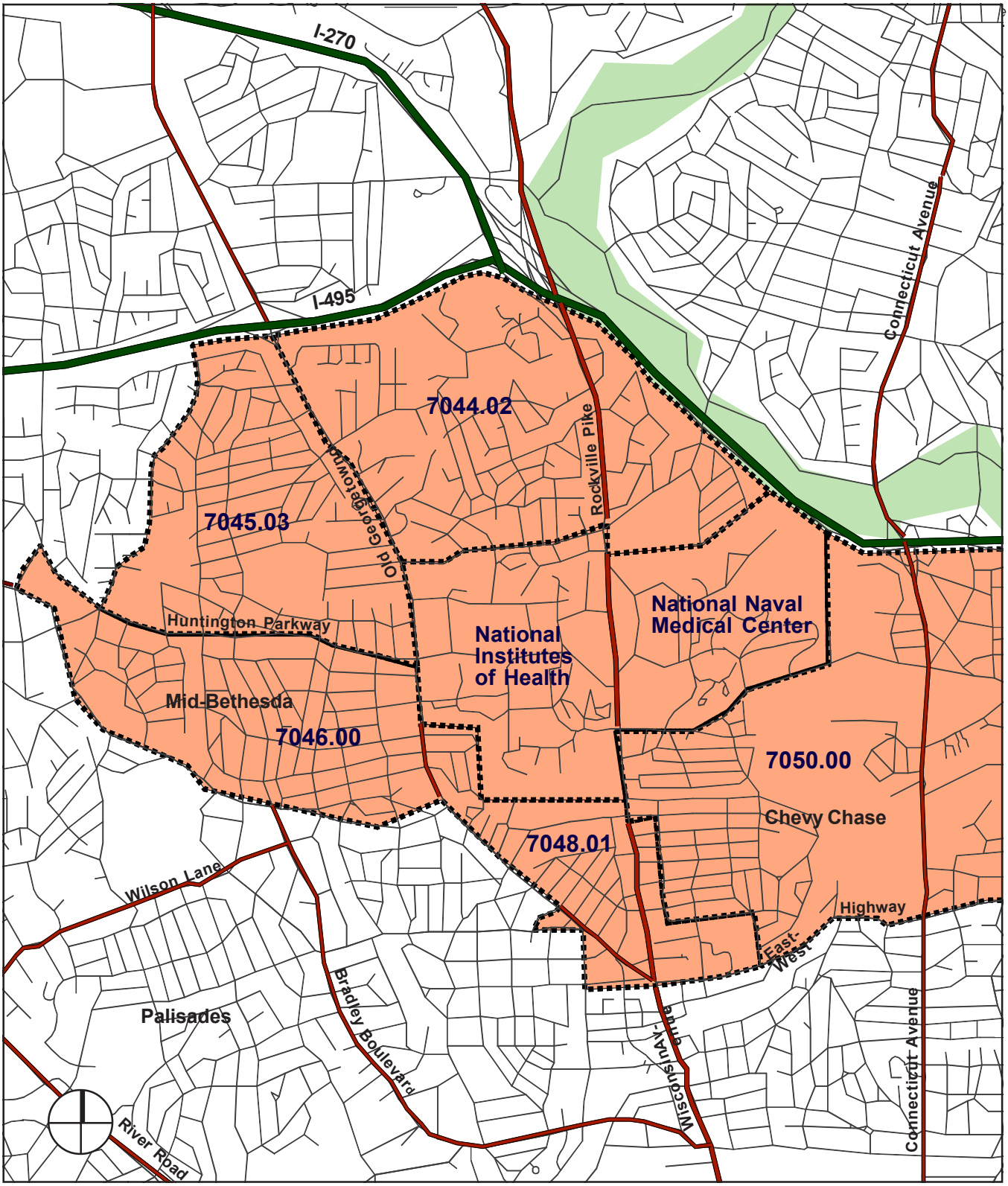

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Figure 3.1.4

Vicinity Census Tracts

(NNMC), the area has one of the largest employment concentrations in suburban Maryland.

Residential development within the business district includes 5,200 units, almost ninety percent of which are high-rise or garden apartments, many completed over the last decade. The 2000 population of the Bethesda CBD was 8,035. Projects range from moderate income rentals to luxury condominiums. In a survey of housing in Bethesda, managers of several apartment complexes said the NIH was an important source of tenants. Battery Lane, the first major east-west street south of the NIH campus, has garden apartment buildings on both sides that cater to NIH personnel. Employees living in this area can access the NIH by a pedestrian path/bikeway extending from Battery Lane, past the Phoenix elderly housing project, to an employee gate leading to the south campus. Singles, young couples, and elderly also comprise the population mix in the CBD. Median housing value is $396,400, and estimated average household income is $99,102

Montgomery County has a number of public facilities within the CBD, including a satellite government center, a police station, a library, and the Bethesda-Chevy Chase High School.

One of the most striking characteristics of the CBD is the partnership among business interests, county government, and residents in the surrounding single-family neighborhoods. This has prevailed throughout recent redevelopment and dates back to the early World War II period. Unlike areas where citizen/government/developer clashes have been frequent, the three groups have good communications and a complex, though positive, working relationship. In addition to the Urban Partnership Board which includes business, county government and local citizen members, a Citizens' Advisory Board, appointed by the county government, meets regularly to review events and issues. Organizations such as Bethesda Evergreen which plants trees in the CBD involve a variety of interests. Other active groups support performance and visual arts in Bethesda, and there are street festivals in the CBD several times a year.

3.1.6 Land Use in Montgomery County

Montgomery County's land area is approximately 497 square miles, or about 321,300 acres. Between 1960 and 1991, the amount of developed land in the county more than tripled. As of 1960, about 49,000 acres (15 percent) of the county's land area had been developed; by 1991 a total of about 155,000 acres (48 percent) was urbanized.

In 1995, land devoted to Research and Development consisted of 1,113 acres (0.3 percent); and for offices 6,276 acres (2 percent). Farming still accounts for 92,466 acres (29 percent), and public space - primarily for parks and recreation, accounted for 45,350 (14 percent).

Residential land uses have continued to grow rapidly, with single family dwellings in 2003 continuing to occupy the largest portion of the expanded urbanized area. In 1960, single-family use comprised 23,700 acres (7.5 percent) of the land area and by 1991, 86,800 acres (26.7 percent) of the county's land area. As of January 2003, single-family dwelling comprise 149,637 acres (51.5%) of zoned land. Multi-family residential land use has been clustered in relatively few locations, utilizing far less land — 700 acres in 1960, 6,700 acres in 1991, and 3,318 in 2003, the latter scarcely over 1.1 percent of the county's land. One of the largest concentrations of multi-family housing in the county is in Bethesda.

The NIH campus is situated at the southern end of the highly developed "Technology Corridor" in Montgomery County. The County General Plan, called "On Wedges and

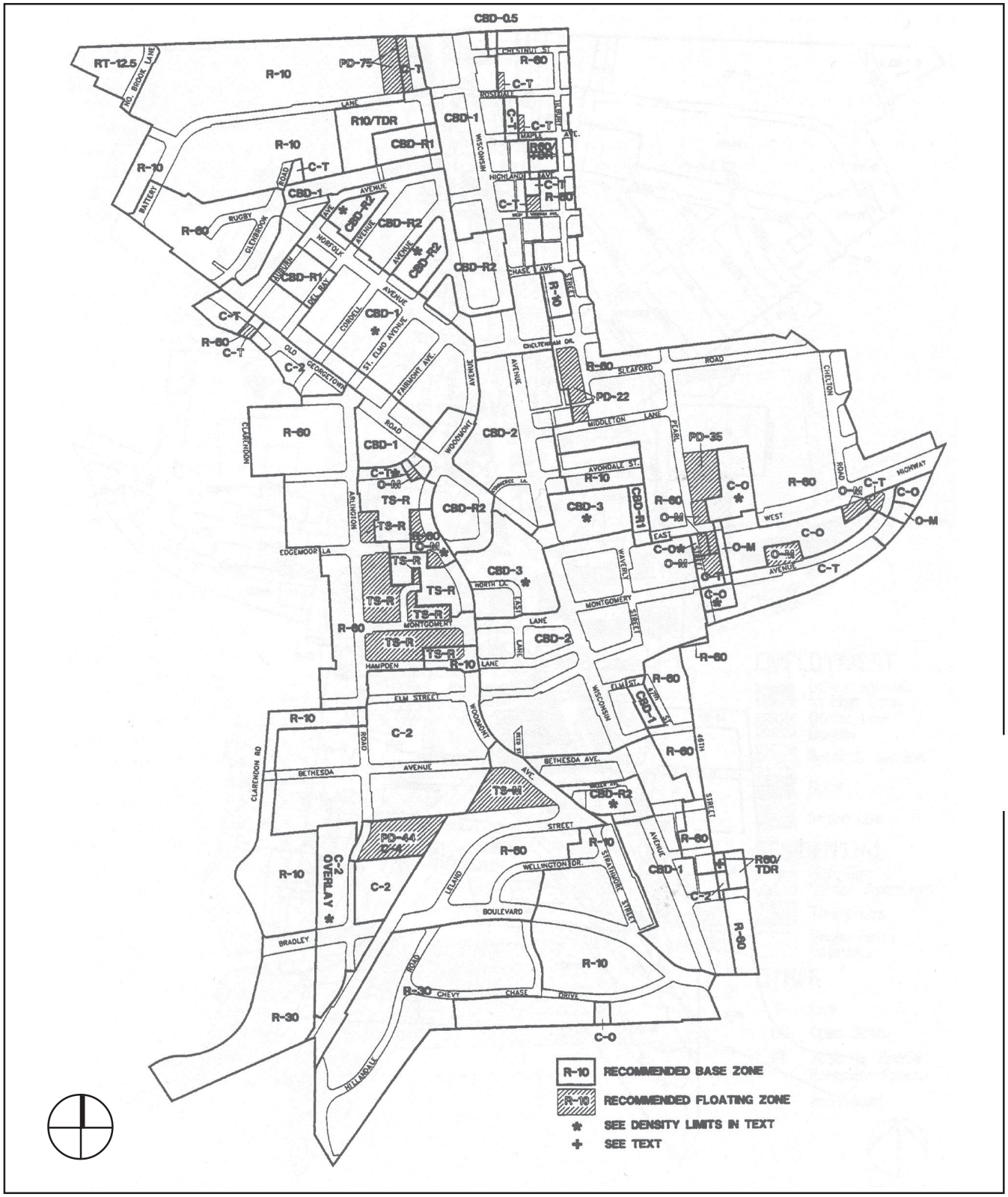

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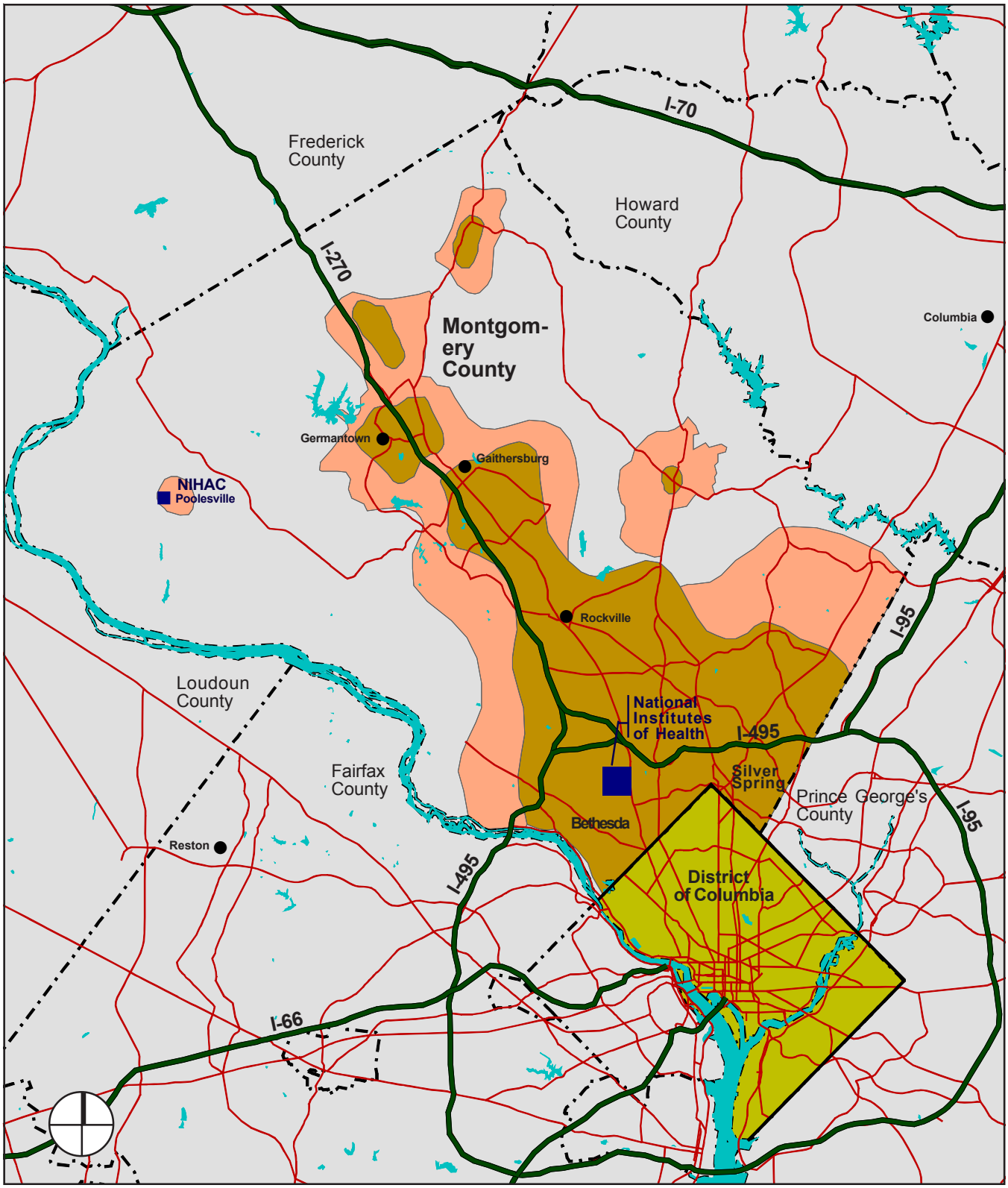
Figure 3.1.5

Bethesda CBD Zoning Plan

Corridors", as it was updated and revised in 1970, calls for growth centers and corridor cities along the concentrated growth corridor of I-270 and Rt. 355 (Rockville Pike), and low-density "wedge" areas east and west of the corridor. Most of this corridor is devoted to residential land uses with clusters of commercial, institutional and industrial land uses along the corridor and wide expanses of agricultural and low-density residential uses in the wedges. The satellite communities of Clarksburg and Damascus to the north, Olney to the east, and Poolesville to the west are interspersed through the low-density wedge areas.

The I-270 corridor is the location of numerous high-technology companies, non-profit organizations and federal agencies, such as the National Institute of Standards and Technology (NIST) and Department of Energy (DOE), housed in large office buildings, office parks and complexes. These groups specialize in telecommunications, biomedical research, computer science, electronics and aerospace just to name a few. The 165-acre Shady Grove Life Sciences Center is in a setting resembling the NIH. Large office-park complexes in the region include the 200-acre Quince Orchard Office Park, the 61-acre Park 270 and the 60-acre Corporate Center. Two major developments which include office, retail and residential activities are the 211-acre Washingtonian and the 210-acre Shady Grove Executive Center. NIH has leased a number of properties in this area. (See Figure 3.7.1)

See County General Plan –Wedges and Corridors, Figure 3.1.6



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Concentrated Growth Centers, Corridor Cities
Low Density "Wedge" Areas

Figure 3.1.6

County General Plan - Wedges & Corridors

3.1.7 Bethesda/Chevy Chase Vicinity Non-Residential Land Use

Predominantly low-to mid-density residential uses, as discussed in Section 3.1.4, comprise the Bethesda-Chevy Chase area surrounding the NIH campus. In addition, however, a limited number of clearly defined, high-density commercial and residential precincts are near the campus as well. Numerous institutional, private and public facilities are dispersed throughout the surrounding area. Several large land holders include federal installations, country clubs, private schools and institutional services. These large land holders, combined with a broad park system and low-density wooded sites, create a strong sense of openness that adds to the special character of the community.

The National Naval Medical Center (NNMC) and the Uniformed Services University of the Health Sciences (USUHS), to the east of the NIH campus, are military installations, which also maintain a campus setting. NIH leases facilities on the NNMC grounds.

Another federal employment center in the area is the National Imagery and Mapping Agency at the southern end of Bethesda-Chevy Chase. Other federal installations, located close by but outside of the Bethesda-Chevy Chase planning boundary, are the Forest Glen Section of the Walter Reed Army Medical Center, 2.5 miles east of the NIH, and the Naval Surface Warfare Center on MacArthur Boulevard.

The Naval Surface Weapons Center on the border of Montgomery and Prince George's Counties at White Oak is currently under development as a campus for the Food and Drug Administration (FDA) which will include new space for relocation of the Center for Biologics Evaluation and Research (CBER) now located in Buildings 29, 29A, and 29B on the NIH campus.

Directly west of the NIH is Suburban Hospital. The hospital, a private not-for-profit facility, currently has 217 inpatient beds, including 31 for long-term care, according to the Public Relations Department at Suburban Hospital. This facility is currently planning a renovation and expansion.

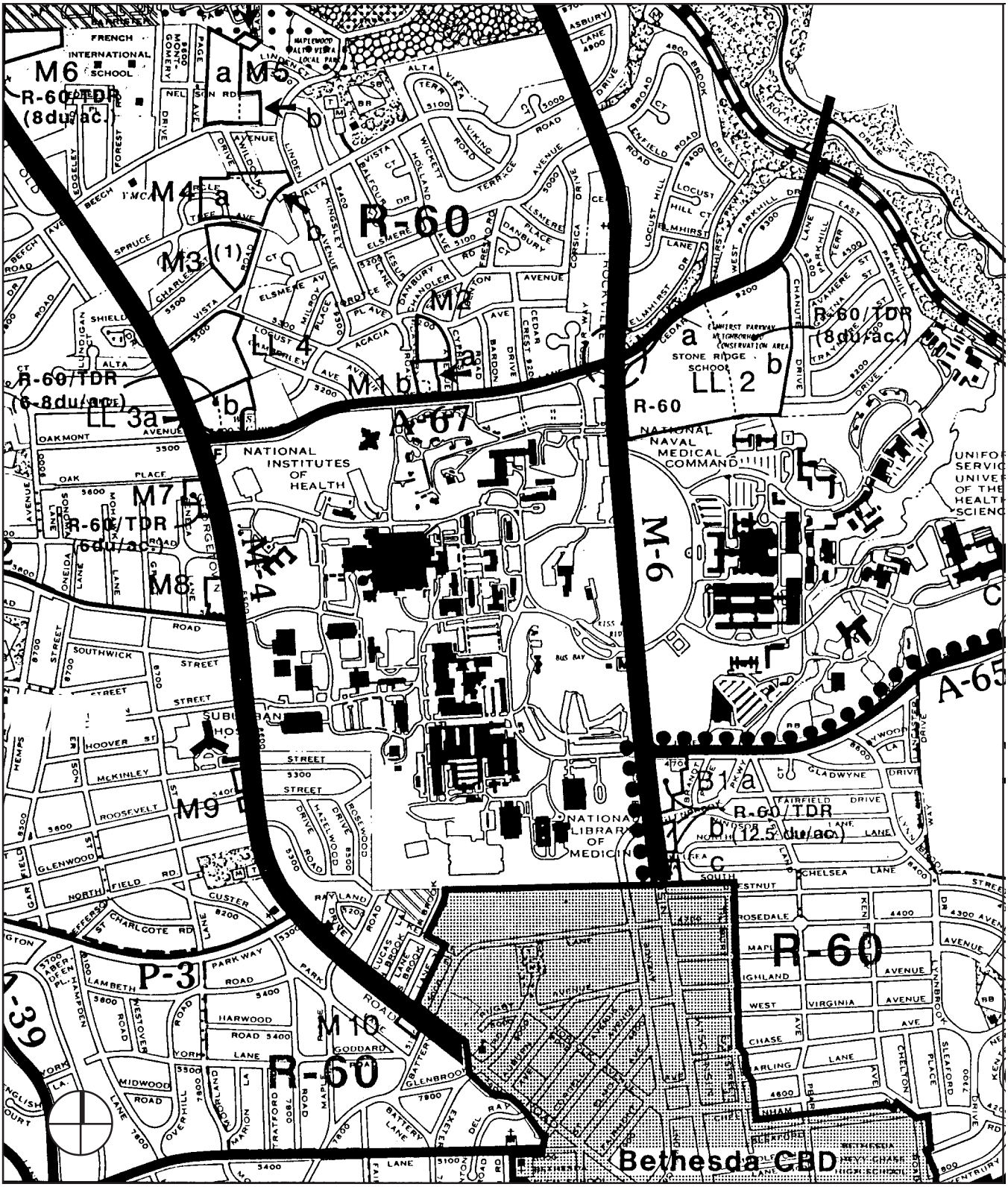

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Figure 3.1.7-a

Local Zoning

Old Georgetown Road, which constitutes most of the western border of the NIH Bethesda campus, contains a variety of uses, including residential properties, schools, churches and synagogues, fire and rescue services, as well as a number of professional office uses. Nearly all of the non-institutional uses along Old Georgetown Road resulted from special (zoning) exceptions for conversions of residences to professional offices. These conversions have impacted both the visual quality and traffic along Old Georgetown Road. The 1990 Bethesda-Chevy Chase Master Plan recommends reinforcement of the area's residential character and the protection of the adjacent single-family neighborhoods from further encroachment by special exception uses, except those that are community-serving.

Old Georgetown Road is an important connector to major NIH leased facilities on Executive Boulevard, Democracy Boulevard and the Rockledge area.

Rockville Pike, on the eastern border of the NIH Bethesda campus, is a major artery which, in the vicinity of the site, features a mix of institutional and commercial uses, in addition to recently developed town house residential units. Several NIH leased office functions are in Rockville in office parks along Rockville Pike north of the Bethesda campus, especially along Executive Boulevard at the Twinbrook and Parklawn complexes or in North Bethesda in the Rock Spring Park office park. The NIH also leases space in the Gateway building on Rockville Pike's southern segment, Wisconsin Avenue, in the Bethesda CBD.

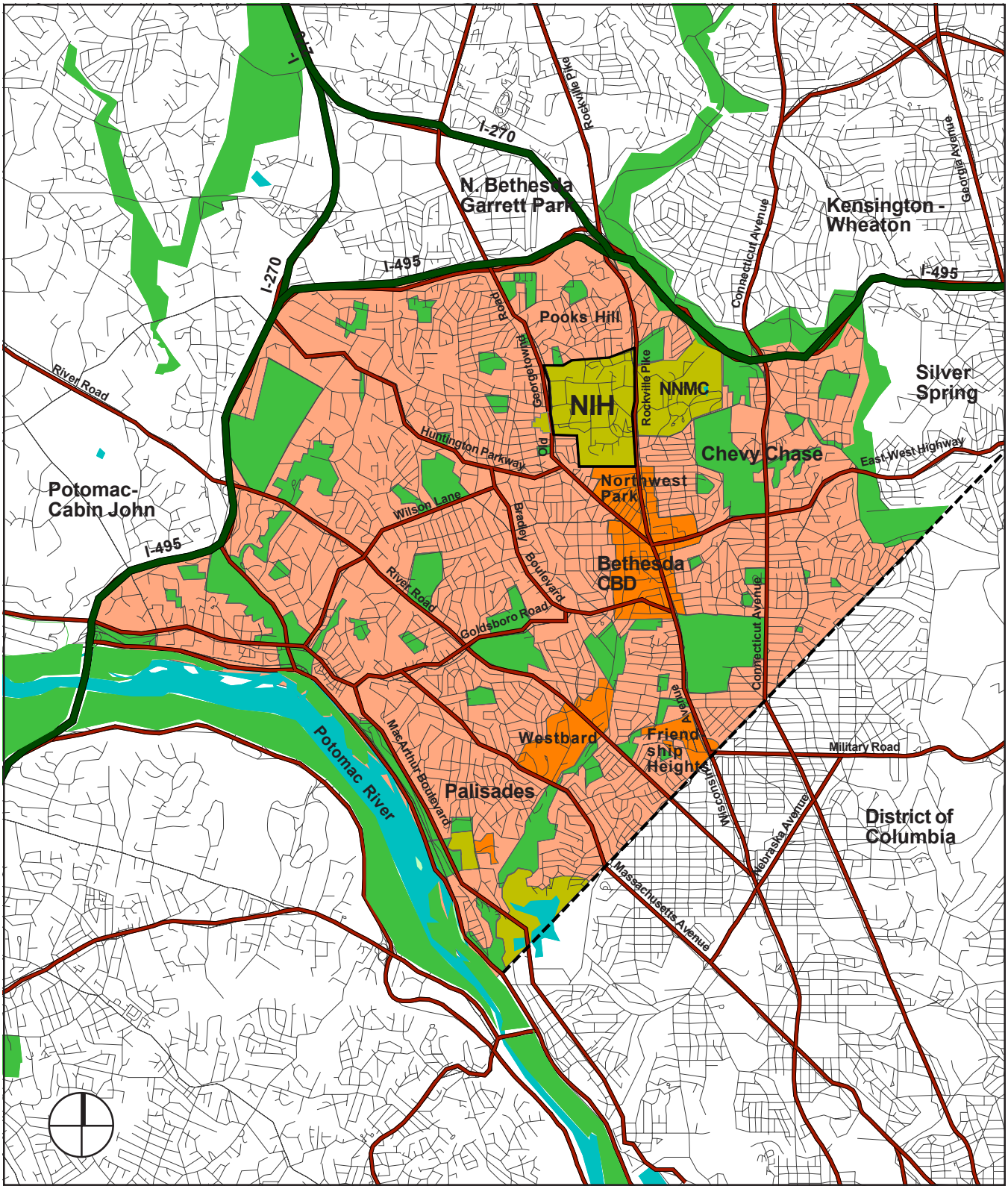
Two major private school properties are on Rockville Pike, the 95-acre Georgetown Preparatory School and the 35-acre Stone Ridge School of the Sacred Heart.

As federal agencies, the NIH and the National Naval Medical Center are exempt from local zoning ordinances. The NIH borders the Bethesda CBD to the south. The CBD contains high-density, multiple family residential (R-10) and townhouse (RT.-12.5) zones. On all other sides of the campus, except the NNMC to the east, is R-60 one-family residential zoning. As noted above, however, there have been a number of special exceptions granted along Old Georgetown Road, especially between McKinley Street and Beech Avenue, a practice the Bethesda-Chevy Chase Master Plan seeks to discourage.

See Local Zoning Map, Figure 3.1.7-a

The Friendship Heights Business District, at the intersection of Wisconsin and Western Avenues bordering Washington, D.C., is a compact, high-density urban area containing a mix of regional department stores, high-rise office buildings, corporate headquarters, specialty retail shops and high-rise housing. The Sector Plan for Friendship Heights was approved and adopted by M-NCPPC in March of 1998. This plan recommends adding up to 1,979,286 square feet of new office, retail, hotel and residential development in the Sector, including as many as 4,490 dwelling units. The area currently has 6,799,814 square feet of space.

Friendship Heights, like the Bethesda CBD, straddles the Wisconsin Avenue corridor which is heavily used as a main artery from Montgomery County to employment centers in the District of Columbia and depends heavily on the WMATA's Red Line Metrorail service to mitigate the additional volume of trips to and from the area. Friendship Heights is also experiencing major development of 313,848 square feet of office and retail under construction on the Chevy Chase Land site.



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- Residential
- Commercial
- Institutional/Government
- Recreational/Open Space

Figure 3.1.7-b

Vicinity Land Use

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The Westbard area to the west of Friendship Heights contains a variety of retail-commercial uses, both regional and local. The area includes and is surrounded by single-family and townhouse neighborhoods. It is located on the edge of the environmentally sensitive Palisades district on the Potomac River.

Two other high-density residential neighborhoods are located near the NIH, Pooks Hill to the north and Northwest Park to the south of the campus.

See Vicinity Land Use Map, Figure 3.1.7-b

3.2 Transportation

See Regional Transportation Map, Figure 3.2

3.2.1 Major Thoroughfares

The campus is located at the southern end of the I-270 Corridor which provides an immediate access via Maryland Route 28 west to the NIHAC in Poolesville, Maryland, and to northern parts of Montgomery County, as well as Frederick County and the NCI Frederick research center at Ft. Detrick. I-270, which connects with Interstate 70, provides access to western Maryland, West Virginia and Pennsylvania.

The NIH campus is situated one mile south of I-495, the Capital Beltway, and is served primarily by three Beltway interchanges: Old Georgetown Road, Rockville Pike, and Connecticut Avenue via Jones Bridge Road to the Center Drive campus entrance.

Other major highways that provide indirect connections to the NIH area, through Beltway interchanges, are:

- I-95, U.S. Route 29, and the Baltimore-Washington Parkway to and from Howard County and Baltimore, Maryland.
- U.S. Route 50 to and from Prince George's County, Anne Arundel County and Annapolis, Maryland;
- I-66 in western Virginia;
- I-95 in southern Virginia; and
- Numerous other routes to and from the suburban Northern Virginia communities.

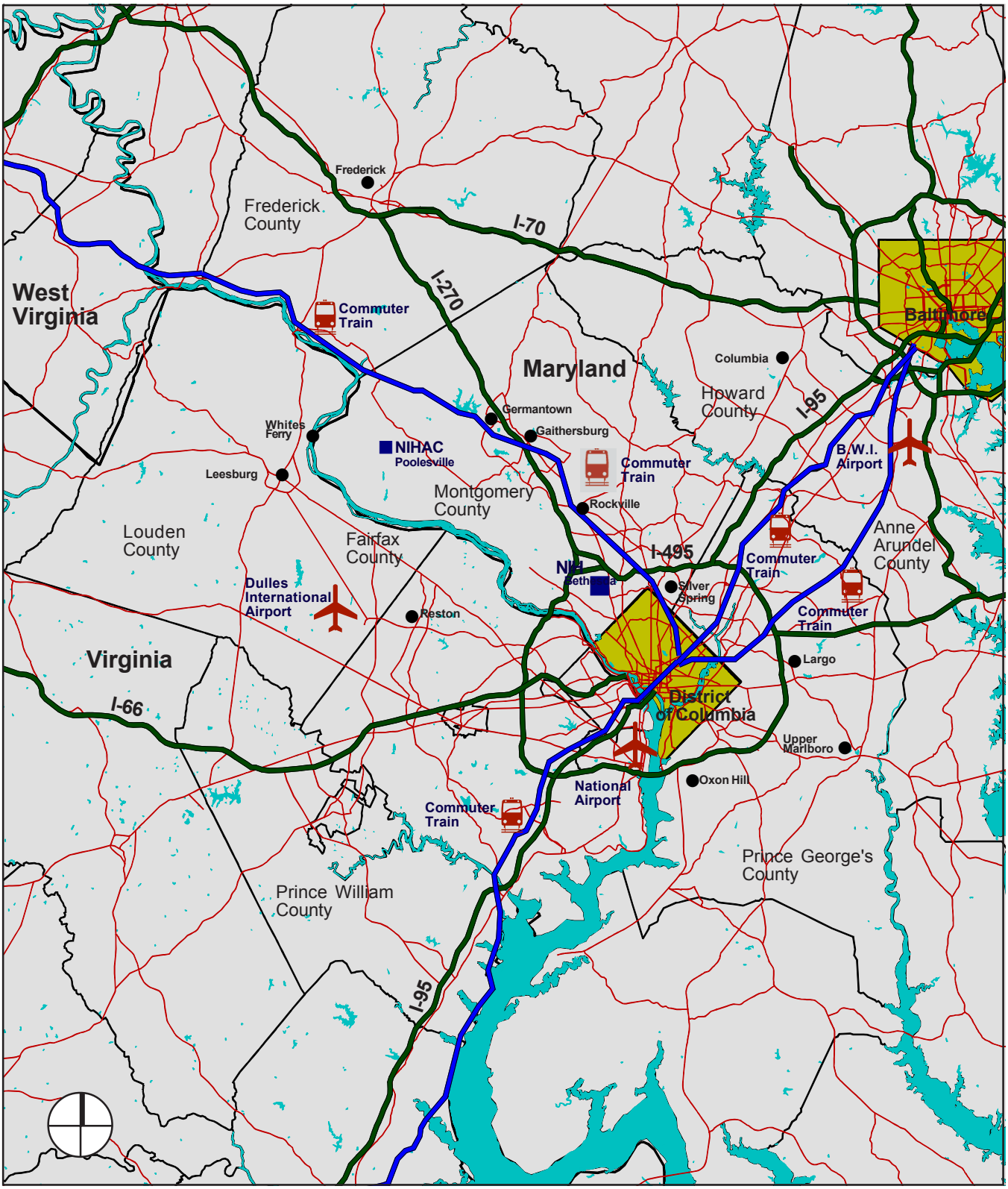
Jones Bridge Road connects the campus to Maryland Route 410, East-West Highway, via Jones Mill Road. East-West Highway is a major thoroughfare to Silver Spring. Rockville Pike/Wisconsin Avenue and Connecticut Avenue provide primary access from the Bethesda campus to the District of Columbia.

NIH employees live and/or work in all the locations served by the major thoroughfares described above.

3.2.2 Airports

Three major airports serve the Washington, D.C., metropolitan area, including the NIH campus:

- Ronald Reagan Washington National Airport, Arlington County, Virginia, 14 miles south. Ground transportation from the NIH is available by Metrorail, Metrobus, and the Washington Flyer airport coach.
- Washington Dulles International Airport, Chantilly, Virginia, 22 miles west.



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Cities
Hospitals
Airports
Commuter Train

Figure 3.2

Regional Transportation

Ground transportation from the NIH is available by Washington Flyer and by Metrorail to the Vienna, Virginia station and shuttle to the airport from there.
- Baltimore-Washington International Airport (BWI), Maryland, 35 miles northeast. Ground transportation from the NIH is available by Metrorail to Union Station, then AMTRAK (intercity rail) or MARC commuter train.

3.2.3 AMTRAK Intercity Rail

Three train stations with AMTRAK terminals are located in the vicinity of the NIH campus:

- Rockville Station, in Montgomery County;
- Union Station, in the District of Columbia; and
- New Carrollton Station in Prince George's County

Other AMTRAK regional terminals are located at the Baltimore-Washington International Airport; Penn Station in Baltimore, Maryland; Rockville, Maryland; Alexandria, Virginia; Lorton, Virginia; Woodbridge, Virginia; Manassas, Virginia; and Quantico, Virginia.

3.2.4 Commuter Trains

Three commuter train lines serve the Washington D.C. metropolitan area from Maryland and provide access via Metrorail connections to the NIH Campus:

- The MARC Camden Line provides commuter service between Baltimore, MD and Washington, D.C. at 20-to 45-minute intervals, during rush hours only.
- The MARC Penn Line provides commuter service between Baltimore, MD and Washington, D.C. at 15 to 40-minute intervals during rush hours, and at 60 minute intervals throughout the remainder of the day.
- The MARC Brunswick Line provides commuter service between Brunswick, MD (and two trains between Martinsburg, WV) and Washington, D.C. (Union Station), with intermediate stops in Montgomery County, including Gaithersburg, Rockville, and Silver Spring, MD at 20-30 minute intervals, during rush hours only.

The Virginia Railway Express offers rail service that connects Manassas and Fredericksburg, Virginia and intermediate points in Northern Virginia with the District of Columbia at several Metrorail stations. Both the Manassas and Fredericksburg lines have four trains on-line and both lines terminate at Union Station with stops at L'Enfant Plaza, Crystal City and Alexandria.

3.2.5 Intercity Bus Service (Greyhound)

Two Greyhound Bus terminals are located near NIH in the metropolitan area:

- Sligo Avenue and Fenton Street in Silver Spring, Montgomery County; and
- 1st and L Streets, N.E., in the District of Columbia, north of Union Station.

3.2.6 Water Traffic

The last surviving ferry on the Potomac River, White's Ferry, carries 24 cars per trip from Dickerson, Maryland to Leesburg, Virginia and back.

3.2.7 Local Roadway System

Immediate north-south access to the NIH campus is provided by two major highways:

Wisconsin Avenue/Rockville Pike and Old Georgetown Road.

From the east, access from Connecticut Avenue and East-West Highway (MD 410) to the NIH campus is provided by Jones Bridge Road, an arterial road. Access from the west is provided by two primary residential streets, Greentree Road and Huntington Parkway. Other important east-west roads are West Cedar Lane, an arterial road to the north of the site, and Battery Lane to the south, within the Bethesda CBD.

See Local Roadway System Map, Figure 3.2.7

3.2.8 Mass Transit

The Washington Metropolitan Area Transit Authority (WMATA) operates Metrobus and Metrorail service throughout Montgomery County and the Washington area. The Medical Center Metrorail station, on the Red Line, serves commuters to and from the campus. The station is served by Metrobus routes J-1, J-2, J-3, and J9. The Montgomery County Department of Transportation operates the Ride-On bus system which provides service from Metrorail/Metrobus stations, including the on-campus Medical Center Station, to points throughout the county. Mass transit is further augmented by NIH shuttle buses that move people to and from designated on-site pick-up locations and to off-campus locations.

Transit Routes Serving the Campus and Service Frequency:

Metrobus Routes

J-2/3: Silver Spring Metro rail Station; East-West Highway and Grubb Road; East-West Highway and Connecticut Avenue; Bethesda Metro Station; Medical Center Metro; Democracy Boulevard and Old Georgetown Road; and Montgomery Mall; 10-to 30-minute intervals.

J-1: Silver Spring Metrorail Station; East-West Highway and Grubb Road; Jones Bridge Road and Connecticut Avenue; Medical Center Metro; Democracy Boulevard and Old Georgetown Road; Peak period service at 20-minute intervals.

J-9 I-270 Express Line: Lakeforest Transit Center; Naval Medical Center; Medical Center Metro; Old Georgetown Road/Battery Lane; Bethesda. Peak period service at 20-to 25-minutes.

Metrorail

Red Line:

Shady Grove to and from Glenmont stopping at Medical Center; 3-to 10-minute intervals.

See Metrorail System Map, Figure 3.2.8

Ride-On Routes

Ride-On is a public bus service operated by the Montgomery County Department of Transportation. Routes serve many county areas and usually run at 3-minute intervals. Following are the routes that best serve the NIH campus:

#34:	Bethesda Metro rail - Bethesda/Wheaton/ Aspen Hill
#42:	Medical Center Metro rail - Bethesda/Friendship Heights Metro rail
#30:	Medical Center Metro - Bethesda Metro
#33:	Medical Center Metro - Kensington/Bethesda/Layhill
#46:	Medical Center Metro rail - Montgomery College Rockville
#70	Germantown - Bethesda Metro/Milestone Park + Ride

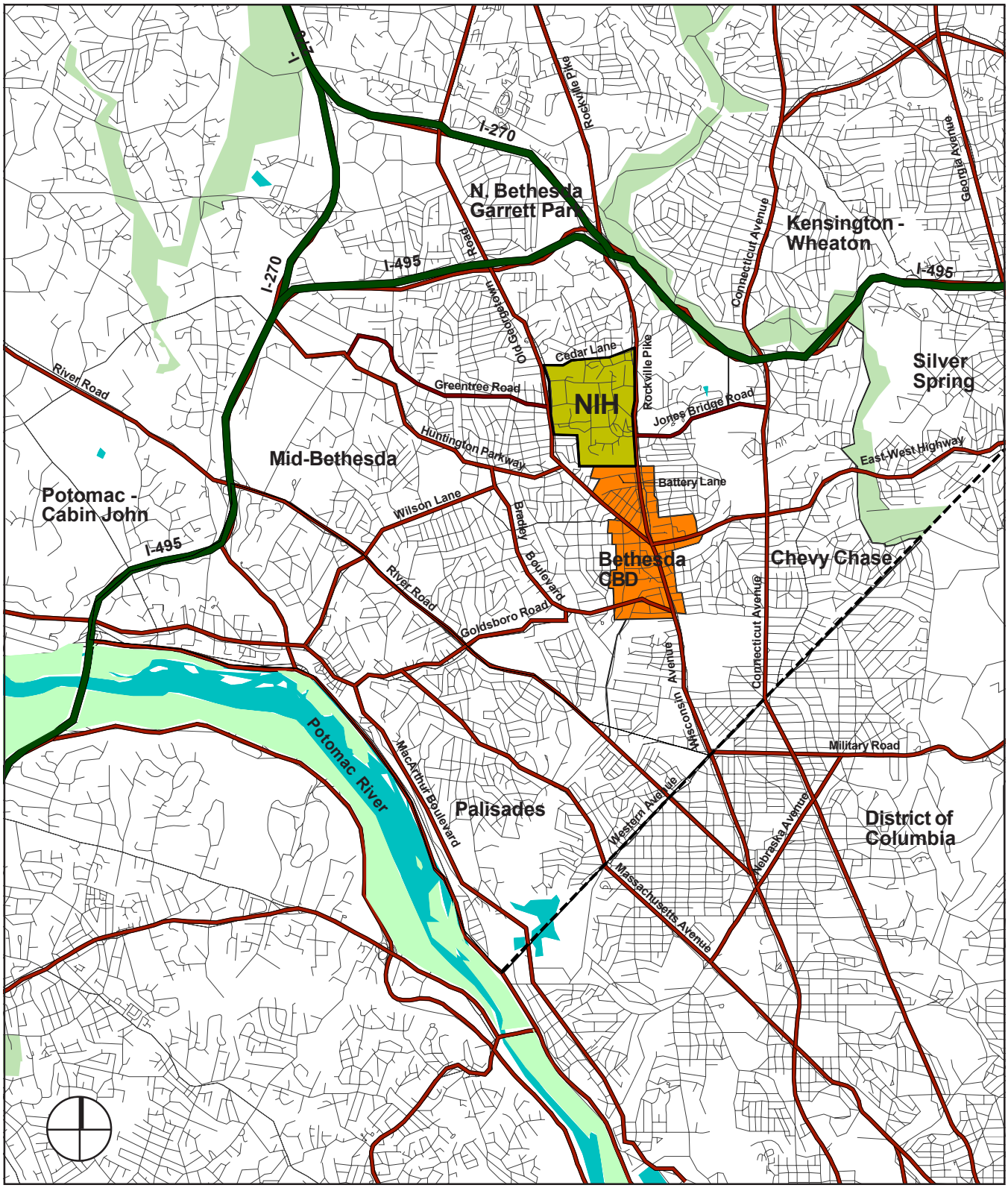

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Figure 3.2.7

Local Roadway System

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Metro Station

Under Construction

Transfer Stations

Figure 3.2.8

Metrorail System

3.2.9 Taxis

Montgomery County has licensed over 550 taxicabs, which includes wheelchair accessible vans available 24 hours, 7 days a week. There are a number of taxicab companies with radio dispatch. Although there is not a taxicab stand on campus, there is one at Old Georgetown Road and West Cedar Lane. In addition, direct telephone lines to taxicab companies are at various campus locations, including Building 31 and the Clinical Center Complex.

3.2.10 NIH Shuttles

The NIH provides shuttle bus services circulating among selected locations on-campus; to the Gateway Building; Executive Plaza, and Rockledge. Shuttle bus service is also provided between the campus and the satellite parking lot at Mid-Pike Plaza on Rockville Pike, and an FDA route between Woodmont and Parklawn. Shuttle service between the campus, National Naval Medical Center, and NCI-Frederick is also available. Shuttle service is regularly reviewed and adjusted to meet increasing needs of off-campus NIH personnel.

3.2.11 Bicycle Accommodations

The Montgomery County Master Plan of Bikeways is designed to meet recreational and transportation needs of the area. There is bicycle access to and around a portion of the perimeter of the NIH campus, but much of the network remains to be developed. A pedestrian and bicycle path along the south border of the campus connects neighborhoods on the west side to Rockville Pike and the Metrorail station. NIH employees using bicycles to access the campus are able to enter the campus through several pedestrian/bicycle entrance gates as well as through vehicle entrance gates using their NIH ID and card keys. Visitors with bicycles will be screened at the Gateway Center for visitors at the South Drive and Rockville Pike entrance. Bicycle paths and routes are provided within the campus and bicycle racks and lockers are provided for cyclists' use at the Medical Center Metrorail Station and at most major buildings. The NIH has biycle facilities capable of securing over 600 bicycles on the campus, including bucycle racks and lockers. Several buildings have showers and lockers for bycyclists. An active NIH Bicycle Commuter Club recommends bicycle facilities needs to the NIH management.

3.3 Utilities

3.3.1 Water

Water is supplied to the NIH by the Washington Suburban Sanitary Commission (WSSC), and the Bethesda campus is surrounded by the WSSC transmission and distribution grid. WSSC maintains 12-inch and 24-inch diameter mains under Old Georgetown Road and a 24-inch main under West Cedar Lane. The water main along Rockville Pike is 12-inch in diameter between West Cedar Lane and South Drive, and 8-inch in diameter to the south. The system head or pressure elevation is 495 feet. Area mains are fed by water from the WSSC Patuxent and Potomac Water Filtration Plants.

In its review of the Draft EIS for the 1995 Master Plan, WSSC indicated that there was

sufficient WSSC transmission and distribution capacity to meet NIH needs.

3.3.2 Gas

Natural Gas is supplied to the NIH Power Plant by the Washington Gas Light Company from gas mains along West Cedar Lane and Old Georgetown Road.

3.3.3 Sanitary Sewer

NIH is in the WSSC sanitary sewer service area. WSSC maintains an 8-to 12-inch diameter sanitary collection main under Old Georgetown Road, and a 15-inch main under West Cedar Lane on the north side of the campus. Beginning at Rockville Pike, an 18-inch sanitary relief sewer runs parallel to the 15-inch Cedar Lane main. The 15-inch main carries an estimated 80,000 gallons per day of sanitary waste from sources outside NIH.

3.3.4 Stormwater

With the exception of a 32-acre area in the southeast corner and 5-acre area along Old Georgetown Road, all of the NIH campus drains to the northeast toward the West Cedar Lane/Rockville Pike intersection. The drainage area upstream from this point is 455 acres, including 57 acres in the Edgewood/Glenwood neighborhood to the southwest of the campus, 55 acres north of West Cedar Lane in Maplewood, and 25 acres east of the NIH along Rockville Pike and on the National Naval Medical Center property.

The second drainage area covers the northern sector of the campus. The dry channel of the North Branch of the NIH Stream is the main drainage system for this area. Flows occur in the branch only during wet weather. The branch flows in a 48-inch diameter culvert under the residential area between West and Zelkova Drives. Elsewhere it is confined to a concrete-lined channel as it crosses the campus. Campus drainage occurs via overland flow, and through small individual collection networks serving building roofs and street and parking lot inlets. Stormwater drainage from West Cedar Lane and the western two-thirds of Maplewood also flows to the channel by direct pipe connections.

The third drainage shed is independent of the other two, covering the southeast corner of the campus. Most drainage is overland. A small storm drain network collects flows from the vicinity of Buildings 38, 38A and MLP-7 and directs them to a small dry stormwater pond to the southeast of these structures.

The storm drainage system on the Bethesda campus has sufficient capacity for the 10-year storm event. During the 100-year storm event some flooding occurs in the vicinity of Building 46 and the Child Care Center. This area of flooding will be alleviated during implementation of the Master Plan 2003 Update.

Stormwater management (SWM) for the campus is regulated by the State of Maryland Department of the Environment. Recent construction projects have been bringing the “project site” areas into compliance with the State requirements for quantity and quality control of stormwater runoff. Insofar as possible, the NIH will attempt to meet county stormwater management criteria as well.

NIH has prepared a Draft NIH Bethesda Institutional Stormwater Management Plan (ISMP), which has been submitted to the Maryland Department of the Environment (MDOE) for review. The ISMP proposes management on a campus-wide basis.

A North SWM facility, shown as an open pond in the 1995 Master Plan, has recently been completed and consists of underground fields of large diameter pipe laid side-by-side in rows about 50 to 100 feet in length. The facility will capture runoff from the entire North Branch watershed, as well as roof top drainage from the new CRC and Building 10 that lie within the NIH Stream basin. Release of stored runoff is controlled through a single smaller diameter outlet pipe for each buried field.

NIH and Montgomery County have signed a Memorandum of Understanding (MOU) wherein the NIH is willing to consider granting an easement for and implementation of a new county SWM facility, provided that certain conditions are met and issues are satisfactorily resolved.

The proposed county Stormwater Management Facility, or Stony Creek Pond, will have three elements. The first is an underground screening facility to trap trash and sediments. Access would be provided through the roof for clean-out and maintenance. Runoff would then flow into a small forebay water pool, about 60 feet in diameter, where settlement of suspended material would occur. Outfall from the forebay pool would then flow into the main pool, which would be one acre in extent under dry weather conditions. The pools would have water depths up to 5 or 6 feet in the center. Montgomery County requires fencing around all wet ponds greater than two feet in depth.

3.3.5 Electrical Power

Power is supplied to the campus by the Potomac Electric Power Company (PEPCO) via two PEPCO substations. PEPCO Substation 80 is located in Building 17 to the northwest of the Rockville Pike/South Drive intersection. Primary distribution to the substation is via four 35 kilovolt (KV) lines from Rockville Pike. PEPCO operates four 20,000 kilovolt-amp (KVA) transformers in Building 17. PEPCO Substation 167 is located in Building 46 on the southwest side of the campus. It is served by three 35 KV lines, extending from Old Georgetown Road, that supply three 20,000 KVA transformers.

A third PEPCO/NIH substation Building 63, the North NIH Substation, was completed in 2003. The purpose of the station is to not only provide needed additional capacity, but also increase service reliability. The substation has space for three 30,000 KVA, 35/13.8 KV transformers. Only two of the transformers have been installed initially. They will be dedicated to NIH service.

Cogeneration: Boiler 7, which is planned for 2007 installation, would supply steam to drive a small 5 MW electric power generating turbine or COGEN unit. The power generated would be used by NIH in Building 11 and elsewhere on campus as a back-up in case of loss of outside power. When not serving this purpose,
the power could be used to drive the cooling towers, auxiliary pumps and equipment supporting the steam-driven chillers. This load is estimated to be about 4,650 KW (4,900 KVA).

3.4 Cultural Assets

See Cultural Resources Map, Figure 3.4.1

3.4.1 Educational Assets

- The Montgomery County public high school districts serving the neighborhoods near the Bethesda campus are the Walt Whitman, Walter Johnson, and Be-

thesda-Chevy Chase clusters. These are served by three high schools, five middle schools and nineteen elementary schools. The 1990 Bethesda-Chevy Chase Master Plan endorses the use of public school sites as flexible resources for a range of recreational, civic, and educational purposes that meet community and neighborhood needs.

- The Stone Ridge School of the Sacred Heart is a Roman Catholic college preparatory day school for girls located on a 35-acre site on Rockville Pike and Cedar Lane opposite the NIH.

- The Georgetown Preparatory School is a Roman Catholic, Jesuit day and boarding school for boys on a 95-acre site on Rockville Pike at Strathmore Avenue, opposite Strathmore Hall about 2 miles north of the NIH campus.

- Academy of the Holy Cross is a Roman Catholic day preparatory school for girls on a 3-acre site adjacent Strathmore about 2 miles north of the NIH campus on Strathmore Avenue.

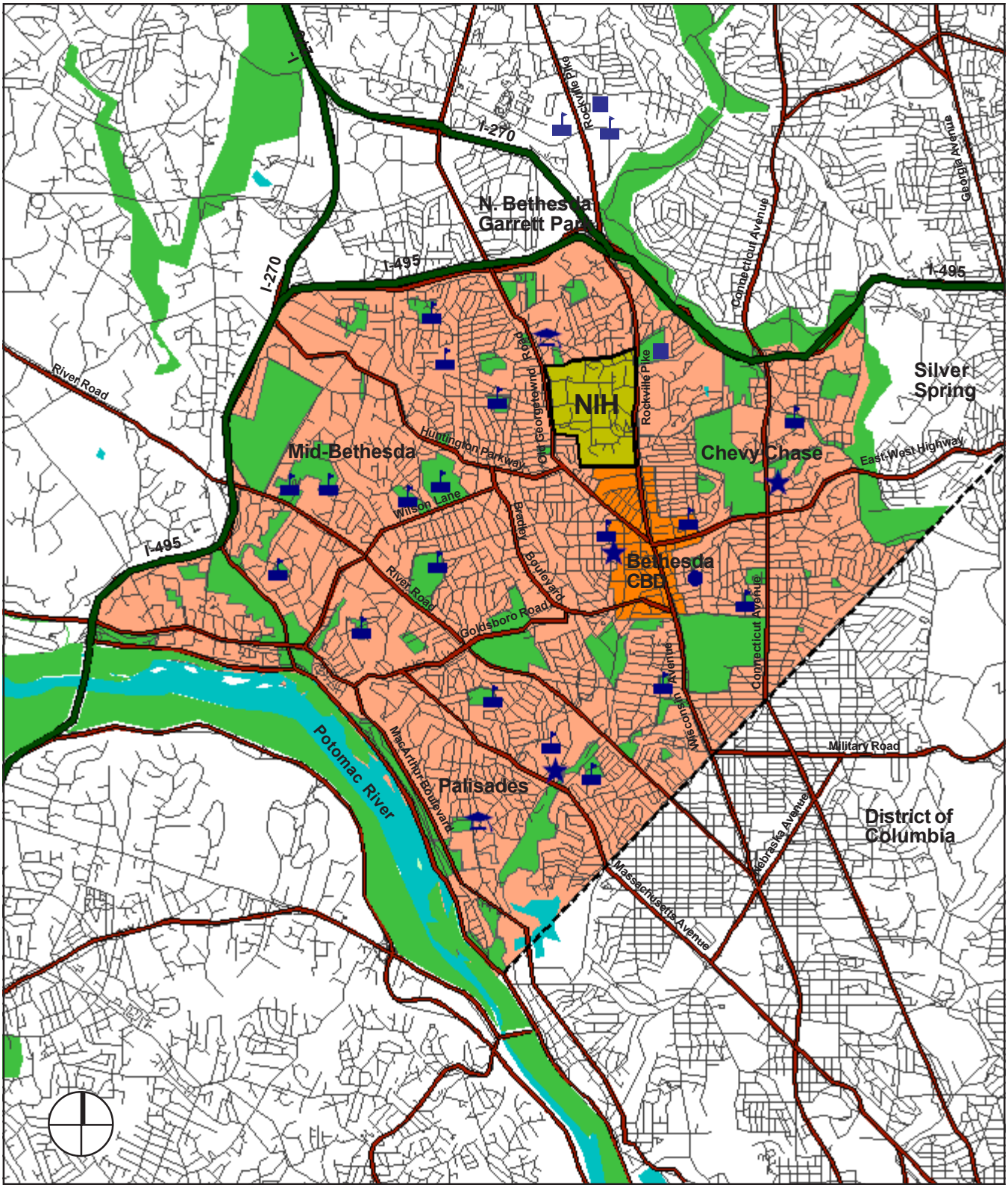
- The Uniformed Services University of the Health Sciences (USUHS), located on the site of the National Naval Medical Center and accessible from an entrance on Jones Bridge Road, is a military institution and medical school with no current community program or formal relations with the NIH. Other local medical schools are located at Johns Hopkins University and the University of Maryland in Baltimore, Maryland and Howard University, Georgetown University and George Washington University in Washington, D.C.

- The American College of Cardiology (ACC), located on Old Georgetown Road north of the campus is a professional society of over 25,000 cardiovascular physicians and scientists from around the world that support ACC's mission, "to foster optimal cardiovascular care and disease prevention through professional education, promotion of research, leadership in the development of standards and guidelines, and the formulation of health care policy."

- The Foundation for Advanced Education in the Sciences (FAES) is located at 9109 Old Georgetown Road. The beginnings of FAES can be traced back to the early 1950s, when a Graduate Evening Program was formed at NIH to permit members of the science and medical community to supplement laboratory training with advanced formal education. By 1959, FAES was incorporated as a non profit organization with a mission "to foster and encourage scientific research and education, and to facilitate communication among scientists, by whatever means may be practical."

  Each year approximately 3,000 individuals participate in the courses offered by the FAES Graduate School at NIH. Courses are offered at both graduate and undergraduate levels. The majority of the school's faculty is made up of NIH staff, making their specialized knowledge available to a wider audience. Although the primary recipients of the school's programs have always been members of the NIH scientific staff at all levels, courses are also open to other federal employees and the general public.

  There are presently almost 184 courses at the school, each certified by the Maryland Higher Education Commission and accepted for credit at most universities. The majority of the classes are in the biomedical field. However, there is strong representation in the physical and behavioral sciences, and in English and foreign language studies.



NIH Master Plan 2003 Update

Bethesda Campus

Parks/Recreation
Schools
Colleges
Libraries
Community Centers
Performance Arts

Figure 3.4.1

Cultural Resources

- The Howard Hughes Medical Institute (HHMI) at 4000 Jones Bridge Road in Chevy Chase, MD, is a nonprofit medical research organization that employs hundreds of leading biomedical scientists working at the forefront of their fields. In addition, through its grants program and other activities, HHMI is helping to enhance science education at all levels and maintain the vigor of biomedical science worldwide.

  The Institute is one of the world's largest philanthropies, with laboratories across the United States and grants programs throughout the world. HHMI's endowment in early 2002 was approximately $11 billion.

- On the NIH campus is the Mary Woodard Lasker Center for Health Research and Education of theHHMI.

  The Institute offers medical students a one-year sabbatical to do research in an NIH laboratory in the hope that students with first-hand experience in the laboratory will be more likely to carry out research after they graduate.

  The program, now eight years old, has placed over 230 students from 73 medical schools in various NIH laboratories. It has proved so popular that HHMI has slowly expanded the class size from 23 to 50, and some students, absorbed in their research, elect to stay a second year.

  Students can put their medical background to the test in one of almost 300 NIH laboratories under the guidance of a tenured investigator. Some participants start and complete their own projects during their stay, while others take over experiments already in progress. Students spend 40 to 80 hours per week in the laboratory and must give a presentation of their work to their fellow students. Participants live on the NIH campus in a former convent built in the 1920s by the Sisters of the Visitation.

The NIH itself has an extensive educational and training program for pre- and post-doctoral students, totaling over 12,000 appointments per year. The NIH also runs an annual educational series of lectures for the public called "Medicine for the Public" given in the Masur Auditorium of the Clinical Center. Most of the Institutes participate in an outreach educational program, Adopt-a-School, through which speakers from the Institutes go to local high schools or groups of high school students are brought to the NIH. Institutes have also assisted schools with donated furniture and equipment and provided volunteers to read to students and provide other educational assistance.

3.4.2 Libraries

- The Bethesda Regional Library and two community libraries, the Chevy Chase Library and the Little Falls Library, serve the Bethesda-Chevy Chase area.

- The National Library of Medicine (NLM), located on the southeast corner of the site, is open to and used by the worldwide medical community as well as the public at-large, and is the world's largest research library in a single scientific and professional field. It has an expanding collection of 5.8 million books, journals, audiovisuals, microforms, historical items, manuscripts, etc. Begun in 1836, the Library today has a statutory mandate from the Congress to apply its resources broadly to the advancement of medical and health-related sciences. Traditionally, this advancement took the form of collecting, organizing, and making available its immense collections. In addition to continuing to provide these traditional services, the Library is in the forefront of the Information Age creating and providing access to the Medical Literature Analysis and Retrieval System (MEDLARS)

which represents a family of over forty medical information databases available to individuals and institutions throughout the world. The most famous and most frequently used database is MEDLINE®.

The NLM also conducts research and development in the uses of computer, communication and audiovisual technologies to improve the organization, dissemination, and utilization of biomedical information.

- Other libraries on the NIH campus are the National Institutes of Health Library and the Patients' Library, both in the Clinical Center, and a small library in Building 12A. In 1995, the NIH established an Environmental Reading Room in Building 31 to permit community residents access to documents related to construction, waste management, master planning and environmental management.

3.4.3 Community Centers

The Chevy Chase Community Center is the only public center in the area.

3.4.4 Parks and Open Space

There are approximately 30,000 acres of parks in Montgomery County and 700 acres of parkland within the Bethesda/Chevy Chase area, with 193 acres in community use parks. The remaining acreage is in the county-wide parks: Rock Creek Stream Valley Park is the eastern boundary of the planning area; Cabin John Park and Booze Creek Park are located in the western portion of the stream valley; Little Falls Park starts in the central portion of the area and runs to the southern boundary. These parks are interconnected along major stream valleys and provide public access to streams and trails for jogging, hiking and bicycling.

The recreational facilities within the parks include 30 ball fields, 42 tennis courts, 8 recreation centers, 35 playgrounds, hiker-biker trails and an outdoor swimming pool.

The NIH campus itself is used by the NIH employees for walking, biking, and passive and active recreation on the lawns. The surrounding community also enjoys the space outside the perimeter fence.

3.4.5 Recreation

An important private open space resource for the largely developed area of Bethesda-Chevy Chase are the private country clubs, which provide many recreational functions and serve the needs of the surrounding community as well:

- Chevy Chase Country Club
- Kenwood Country Club
- Burning Tree Country Club
- Burning Tree Recreation Center
- Columbia Country Club

3.4.6 Historic Resources

The architectural heritage of the Bethesda/Chevy Chase area is quite significant, and includes historic structures ranging from early farmhouses to grand estates. Numerous sites within the boundaries of the Bethesda-Chevy Chase Planning Area are listed in the National Register of Historic Places, including: Bethesda Meeting House; Bethesda Naval Hospital; Chevy Chase Historic District; Woodend; Chesapeake and Ohio Canal National Historical Park, including Locks #7, 8, and 10; Clara Barton

House; Glen Echo Chautaqua; Milton Loughborough House; Cabin John Aqueduct; Wiley-Ringland House; Robert Llewellyn Wright House; and the David W. Taylor Model Basin.

Montgomery County's Master Plan for Historic Preservation (1979) contained in Chapter 24A of the Montgomery County Code (1979, rev'd. 1989) and the Historic Preservation Ordinance of Montgomery County are designed to protect and preserve the county's historic and architectural heritage. The George Freeland Peter Estate is the only site on the NIH campus listed on the County's Master Plan for Historic Preservation.

The following historic sites listed on the Master Plan for Historic Preservation are

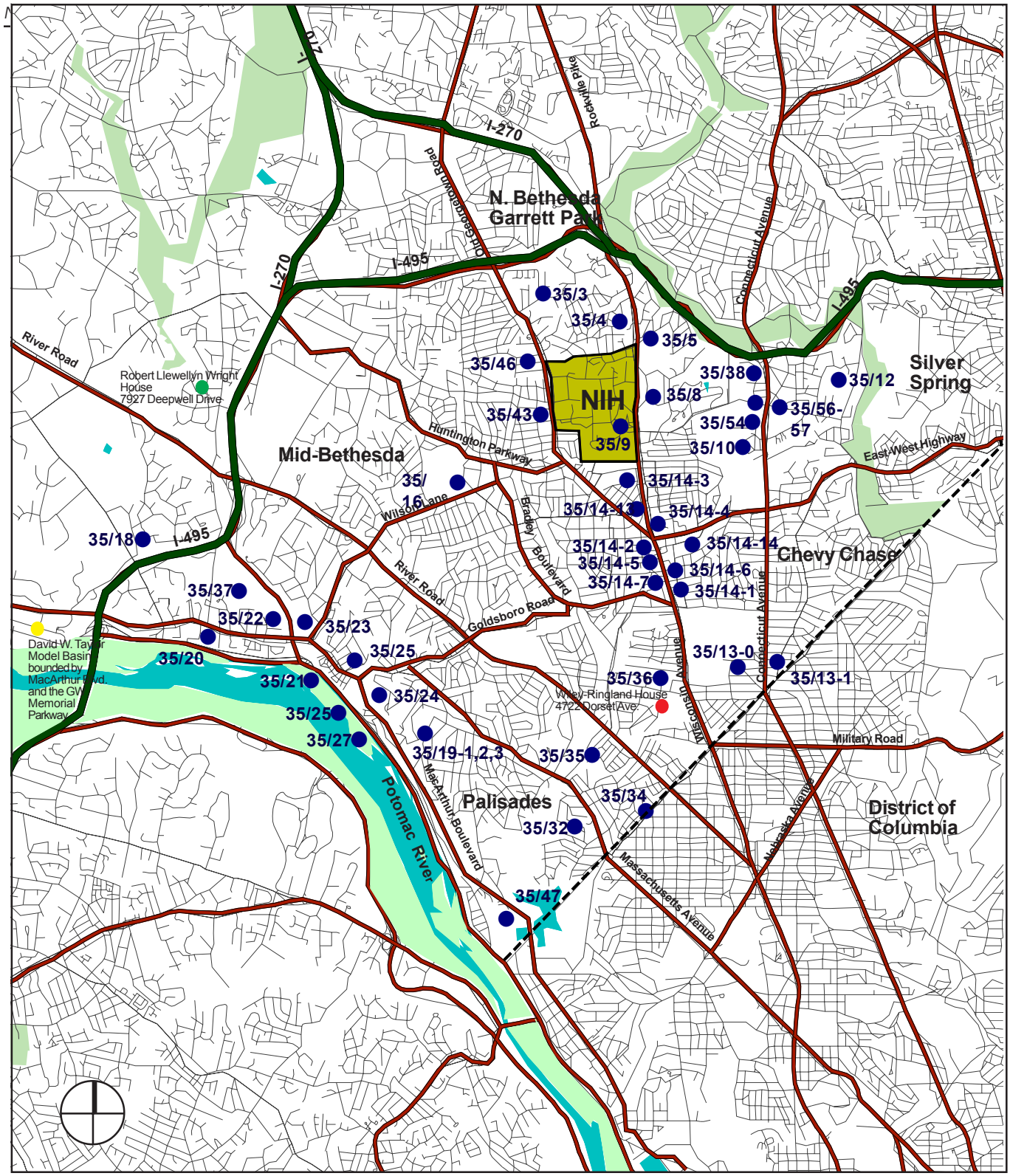


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Figure 3.4.6

Historical Resources

located within the boundaries of the Bethesda/Chevy Chase planning area:

(35/3)	Alta Vista
(35/4)	Samuel Perry House
(35/5)	Bethesda Meeting House
(35/8)	Bethesda Naval Hospital Tower Block
(35/9)	George Freeland Peter Estate (NIH)
(35/10)	Hayes Manor
(35/11)	Chevy Chase Lake/Trolley Station (moved out of the county)
(35/12)	Woodend
(35/13)	Chevy Chase Historic District and numerous individual sites located in Chevy Chase Section 3, Section 5, and in the vicinity of Martin's Additions.
(35/13)	1 - Corby Mansion
(35/14)	1 - Farm Women's Market
	2 - Madonna of the Trails Statue
	3 - Little Tavern
	4 - Bethesda Theater Complex
	5 - Bethesda Post Office
	6 - Brooks Photographers
	7 - Community Paint & Hardware
	13 Leslie Beall House (Mrs. Wither's House)
	14 Bethesda-Chevy Chase High School
(35/16)	C. W. Landsdale House/Landon School
(35/18)	W. Lynch House
(35/20)	Lock #10 & Lockhouse
(35/21)	Lock #8 & Lockhouse
(35/22)	Oakmont/Rammed Earth House
(35/23)	Cabin John Hotel Gas House
(35/24)	Reading House
(35/25)	Clara Barton House
(35/26)	Glen Echo Chautaqua [Historic District]
(35/27)	Lock #7 & Lockhouse
(35/29)	1 - Baltzley Castle
	2 - R. A. Charles Castle
	3 - Kimmel House
(35/32)	Civil War Earthworks
(35/34)	DC/MD Boundary Stones
(35/35)	Milton House
(35/36)	Somerset Historic District
(35/37)	Cabin John Aqueduct
(35/38)	"In the Woods"
(35/43)	Bethesda Community Store
(35/46)	Walter Johnson House
(35/47)	Bonfield's Garage
(35/54)	Hawkins Lane Historic District
(35/56)	Hurley -Sutton House
(35/57)	Gilliland-Beloom House

See Historical Resources Map, Figure 3.4.6

3.4.7 Other Cultural Assets

- Strathmore, an 11-acre arts facility centered on the Strathmore Hall mansion with a new 2000-seat concert hall is scheduled for completion in 2005 and will become the summer home of the Baltimore Symphony Orchestra.

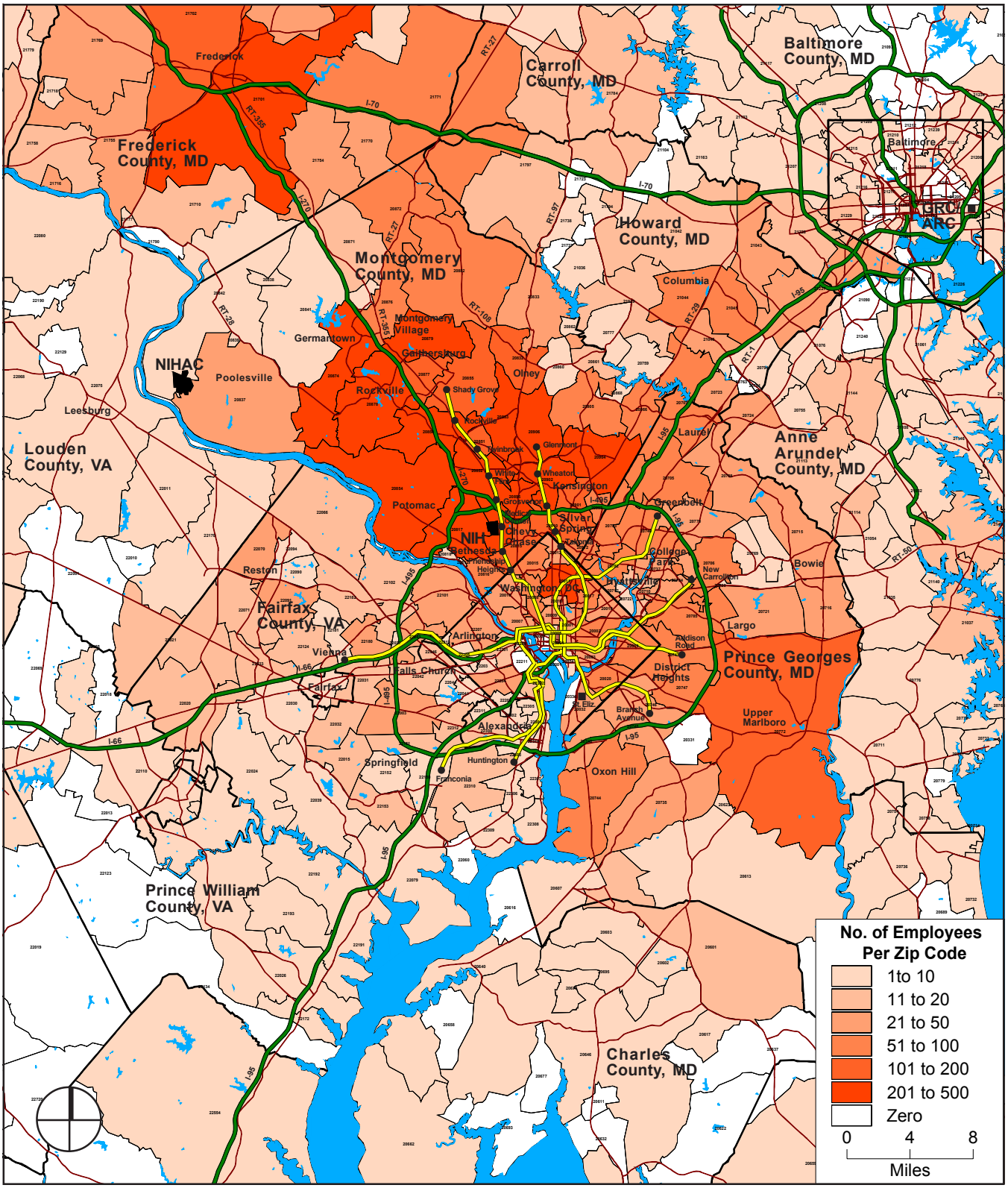

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Figure 3.5.2

NIH Employee Distribution

3.5 Population

3.5.1 Population Trends

The population of the Washington-Baltimore Consolidated Metropolitan Statistical Area (CMSA) in 2000 was 7.7 million, making it the fourth largest CMSA in the nation. It is also one of the most rapidly growing of the larger urbanized areas, with a population increase of more than 13% since 1990. The MD-VA-DC Metropolitan Area portion had 4.9 million people in 2000, an increase of 16.6% over 1990. The Baltimore region's population increased 7.2% in the 1990s, reaching 2.6 million by 2000.

Fairfax County is the largest jurisdiction within the Washington-Baltimore region, and with 969,749 people in 2000, it has increased by 18.5% within the last nine years. Prince George's County ranked third, with 801,515. Fairfax County's population represents about 18% of the total MD-VA-DC Metropolitan Area population, and about 13% of total CMSA population.

Although Loudoun County has grown at a much faster rate that its sister county since 1990, Fairfax County has been one of the most rapidly growing of the larger jurisdictions in the region over the same period. Population increased by 151,165 over this period, or 18.4%. During this same time, Montgomery County grew by 116,314 or 14.5%, and Baltimore County by 62,158, just 9%. Several newly urbanizing jurisdictions on the urban periphery posted larger percentage gains: Howard and Calvert counties in Maryland grew by 32.3% and 45.1%, respectively, and Spotsylvania and Loudoun Counties, Virginia increased their population, by 57.5% and 96.8%.

Projections call for Montgomery County to continue to grow, albeit at a somewhat slower rate than over the past decade. By 2010, Montgomery County is expected to increase by about 105,500 people, bringing its total population to 975,000; by 2020 the total population is expected grow by another 75,000, passing the 1 million mark.

Though the average household size in Montgomery County declined from 2.77 persons in 1980 to 2.65 persons in 1990, it has increased slightly since then, by 0.4%, to 2.66 persons in 2000. The total number of households has increased from 203,800 in 1980 to 324,565 in 2000 or an increase of 60%. The number is expected to rise to 370,000 in 2010 and to 405,000 in 2020. Multi-family households make up 30% of the total households, whereas single-family households account for 70% of the total.

A noteworthy amount of growth in the population was accounted for by persons 65 years of age or older, reflecting national trends. Their percentage of the total population increased from 8.7% in 1980 to 11.2% in 2000, whereas those aged under 20 years decreased from 29.7% to 27.2% in 2000.

Montgomery County residents are well-educated. In 2000, 54.6% of residents 25 years of age and older completed 4 or more years of college. Potomac and Bethesda contain the greatest concentration of persons with highest college and graduate degree attainment.

3.5.2 The NIH Employee Distribution

The people working at the Bethesda campus, locally-leased sites, and at Poolesville, Frederick and Baltimore live in every jurisdiction of the Washington-Baltimore CMSA and beyond in Pennsylvania, Delaware and West Virginia. They are widely scattered, with no more than 700 in a single zip code.

The 2003 population of 17,511 workers at the Bethesda campus consist of two broad categories:

- Approximately 14,200 NIH employees, that is, staff on wage grade schedules, clinical associates, staff fellows and senior staff fellows, visiting associates and scientists, and stay-in-schoolers. The distribution of most of these has been determined through records of the NIH Office of Human Resources Management,(OHRM) and they are widely dispersed in 420 zip codes in various densities.

See NIH Employee Distribution Map, Figure 3.5.2

- Approximately 3,300 non-employees, including Intramural Research Training Award (IRTA) Fellows, visiting fellows, guest researchers, volunteers, consultants, contractors and auxiliary personnel. The distribution of most of these has also been determined through records of the OHRM, but nearly a third, particularly volunteers and contractor personnel, are distributed throughout the region in a way unknown to the office.

The distribution of NIH employees by state is 7.8% in Virginia, 7.5% in the District of Columbia, and 84.3 % in Maryland, primarily in Montgomery County.

There are 23 Zip Codes in Maryland with 95 or more resident NIH employees comprising 6,869, or 53% of the NIH Bethesda campus population, and 14 Zip Codes, each with 200 or more NIH employees, comprising 5,315 or 30% of NIH Bethesda campus employees: The largest of these are:

Table 3.5.2

Zip Code	Community	Number of Employees
20814	Central Bethesda	693
20817	Mid-Bethesda	630
20878	Gaithersburg / Quince Orchard	626
20906	North Silver Spring	424

Bethesda-Chevy Chase/Cabin John/Kensington contain 15.5% of the NIH population, which are the most likely areas from which NIH employees who walk or bike are drawn.

The Gaithersburg and Germantown areas together account for 1,701 employees, or 9.6% of the NIH total, greater even than the District of Columbia's total (955). The two jurisdictions have similar land areas (71.2 sq. mi. & 68.52 sq. mi., respectively), but while D.C. is served by 41 Metrorail stations, the other area has none - the nearest being Shady Grove in Rockville. Virginia accounts for only 1,002 employees.

The largest concentrations of NIH employees in the District of Columbia are in Zip Code 20011 (157) near the Ft. Totten-Takoma Metrorail stations, in northeast D.C. The next greatest is Zip Code 20008 (103) around the Woodley Park-Zoo-Adams Morgan, Cleveland Park and Van Ness-UDC Metrorail stations in Northwest D.C..

The largest concentration of NIH employees in Virginia are in Zip Codes 22904/22102 (78) in McLean, and the next greatest is in Zip Codes 22180, 22181 and 22182 (64) in Vienna.

3.6 Economy and Housing

3.6.1 The Consolidated Metropolitan Statistical Area (CMSA)

The Washington - Baltimore DC-MD-VA-WV CMSA was created by the Bureau of the Census in 1992. The CMSA has a total 2000 population of 4,923,153 living in 1,848,064 housing units of which 64% are owner-occupied and 36% are renter-occupied.

The total labor force (over 16) in 2000 was 2.7 million, with 48.6% in management, professional and related occupations. The median household income was $62,206. A little over five percent of families were below the poverty level.

3.6.2 Washington D.C. Primary Metropolitan Statistical Area (PMSA)

The industrial bases in the Washington, D.C. metropolitan area are not typical when compared with those of the nation as a whole. Employment in the manufacturing sector in Montgomery County, for example, is small relative to that of the nation, or 4.3% compared with almost 14.1% nationally. Not surprisingly, government employment is much more important, accounting for 21.7% of jobs.

The dominant non-government employment sector in the area is the services sector, which covers occupations from unskilled to highly professional. The major sub-categories are business services and health services. Total employment in 2000 for the metropolitan area was well over 2,500,000 persons.

Job growth has generally kept up with the population dispersion, especially around the Beltway corridors. By the year 2000, more than half of the region's employment was in Montgomery, Prince George's and Fairfax Counties. The District of Columbia's employment share has dropped from 43% to 30% of regional jobs.

In 2000, NIH employees represented over 3% of all government employees in the Washington D.C. metropolitan area.

3.6.3 Montgomery County

Income Levels
Montgomery County had a higher median household income in 1999 ($71,551) than the state ($52,868) and the nation ($41,994), as well as a higher percentage of households with an income over $50,000 per year (68% in Montgomery County).

Employment
Montgomery County's status as a major employment center in both the region and the state is reflected in the size of its at-place employment. The county had 545,000 jobs in 2000 and close to 58% of the county's residents who are employed work in Montgomery County. No other jurisdiction in the State employs so large a share of its own residents. With 42% of its jobs filled by commuters from surrounding jurisdictions, Montgomery County is also an important employment center for the region and the State. It represents 22% of all jobs in the State and a similar share within the PMSA, although its share in the metropolitan area economy has been declining due to the more rapid growth in Fairfax County, Virginia. Montgomery County has been the major generator of new employment in the State of Maryland with a gain of 80,000 jobs since 1990. Montgomery County's employment base (i.e., total number of jobs) and number of private sector jobs are larger than that of any other jurisdiction in Maryland. The

county is projected to add about 130,000 jobs over the next 20 years, increasing employment to 630,000 in the year 2010 and 675,000 by 2020.

The county's fastest growing employment sector since 1970 has been the service sector, which grew from 21% of the county's jobs in 1970 to more than 55% in 2000.

Despite substantial growth in federal employment over the past twenty years, federal government employment as a share of total employment in Montgomery County has been steadily declining due to the diversification and expansion of the county's employment base. In 1970, about 20% of employees in the county worked for the federal government, but by 2000, this had decreased to 17.5%. Nonetheless, federal employment continues to be an important component of the county's economic base with nineteen federal agencies located in the county.

Because of Montgomery County's significance in the regional and State economic picture, important components of the local economic base are also important to the region and State.

Impacts of the Federal Government on the County Economy
A study, *Economic Forces That Shape Montgomery County, Annual Update 2001* (the 2003 update does not include the federal Impact as of this writing), prepared by the Research and Technology Center of the Montgomery County Planning Board, M-NCPPC, offers some measures of the role of the federal government, in general, and particularly, the NIH as it focuses sharply on these elements in characterizing impacts of the recession and prospects of the early 1990s for the future:

> ***Federal Impact***
> *The federal government plays three very important roles in Montgomery County's economy: it is an employer, it is a tenant and landowner, and it is a purchaser of goods and services. As an employer, the federal government is a major source of income for Montgomery County residents and workers in the County. During Fiscal Year 1999, the federal government paid workers in the County $2.7 billion in wages and salaries. It also paid County residents $2.3 billion in direct payments to individuals for retirement and other benefit programs.*
>
> *Employment levels are rising. According to a survey of 12 federal agencies, jobs in federally-owned and leased space increased by 4,200 from February 2000 (54,800 jobs) to February 2001 (59,000 jobs), an increase of 7.7 percent. Most of the increase came in the Department of Health and Human Services (H&HS). The National Institutes of Health (NIH) reports 2,300 more workers than a year ago, reporting increases on their campus and in leased space. H&HS, other than NIH and the Food and Drug Administration (FDA), reports 2,000 more workers than a year ago all in leased space. Collectively, the agencies surveyed anticipate job levels increasing by another 7 percent (4,000 jobs) through 2005 and then anticipate job increases of 3 percent between 2005 and 2015 when workers at these agencies will number about 64,700.*
>
> *Given the federal policy of shifting workers from leased space to owned space, workers at federally owned space are expected to increase by 12,100 between 2001 and 2015, and workers in federally leased space are expected to decline by 6,400. The main shift from leased to owned space will be the FDA's consolidation at their facility in White Oak.*
>
> ***Federally Leased Space***
> *Federally leased space has remained relatively unchanged since December 1999. The General Services Administration (GSA) leases 6.5 million square feet of*

space in Montgomery County, about 12 percent of the County's existing rentable office space.

Over half of this space, 65 percent or 4.2 million square feet, is leased by the Department of Health and Human Services. The Department of Commerce is the only other agency leasing more than 1 million square feet. Its 1.1 million square feet of leased space is 17 percent of GSA's inventory in the County.

Over half of GSA's leased space is in the Rockville area, which includes most of North Bethesda. GSA leases 3.5 million square feet of space in the Rockville area, 54 percent of their County inventory. Two other areas have over 1 million square feet of GSA leased space: Silver Spring has 1.3 million square feet (20 percent) and Bethesda has 1 million square feet (16 percent).

Federal Procurement

Fiscal Year 2000's $3.8 billion procurement spending in the County is the County's all time high, an increase of 10 percent over FY1999. During the same period, federal procurement rose by 11.7 percent in the Washington Area and by 11.2 percent nationally. Over the past ten years, the County's federal procurement increased at a respectable annual compound growth rate of 7.2 percent, though lower than the Washington Area's annual compound growth rate of 8.6 percent. During most of the 1990s, about two-thirds of the Washington Area's procurement growth has gone to Northern Virginia. The trend has been to shift procurement dollars from purchasing products and research and development activities to purchasing services. Northern Virginia had an established information technology base, located near major defense installations, that was well positioned to capitalize on this shift in procurement purchasing.

The Departments of Health and Human Services and Defense are the source of over half the procurement dollars spent in the County. H&HS spent $1.25 billion, 33 percent of total procurement, and Defense spent $1.16 billion, 31 percent. H&HS had the biggest gain in procurement spending surpassing last year's total by $351 million, a 39 percent increase. Procurement spending by the Department of Commerce more than doubled over the past year, increasing by $217 million, up 152 percent. The biggest drop in procurement spending was by the Department of Transportation who spent $247 million less than last year, a drop of 88 percent.

More than half the federal procurement spent in the County in FY2000 was spent on Business Services, 31 percent or $1.2 billion, and Engineering and Management Services, 23 percent or $856 million. Almost 90 percent of the Business Service procurement was spent on computer related services, such as systems design, computer maintenance and repair, facilities management, data processing, and programming services. Almost 80 percent of the Engineering and Management Services procurement was spent on management services, engineering services, management consulting services, and commercial physical research.

A study by the Maryland Department of Economic and Employment Development published in December 1994 studied the economic impact of the NIH on Maryland and the U.S. (No subsequent study has been identified) The following is from the Executive Summary:

In FY 1993, the NIH obligations in the U.S. totaled $10.3 billion. Nationwide, over 30,000 extramural research awards, fellowships and other extramural obligations represented over 81 percent of the NIH FY 1993 budget, or about $8.3 billion. The intramural research and administrative support expenditures, on the other hand, represented the remaining 19 percent of the NIH obligations, or about $1.9 billion.

In Maryland, the NIH spending obligations in FY 1993 amounted to about $1.7 billion or nearly 17 percent of the total nationwide obligations. The bulk of the NIH spending in Maryland, about $1.2 billion, is on intramural research and administrative support programs, representing nearly 68 percent of the NIH obligations in Maryland. The extramural research programs of NIH, amounting to about $550 million, accounted for the remaining 32 percent of expenditures in Maryland. The Johns Hopkins University in Baltimore is the largest single recipient of the NIH extramural research grants and contracts in the U.S. In FY 1993, the university received over $259 million for medical research from the NIH.

In relation to the U.S., Maryland accounts for over 59 percent of intramural and administrative support expenditure and about 7 percent of total extramural obligations. However, despite a considerably smaller share of extramural obligations, Maryland ranks fourth in the nation — behind California, New York, and Massachusetts — in total research grants awarded by the NIH in FY 1993.

NIH is a significant contributor to the economies of Maryland and the United States. Through its various procurement programs, research and development contracts, and grants and fellowships, NIH significantly enhances business development opportunities, creates jobs and increases the tax bases of the federal, state, and local governments. However, the importance of the NIH to Maryland and the nation extends well beyond its measurable impact arising from a wide array of extramural, intramural, and administrative support programs. An important example of NIH's diverse economic impact is the U.S. biotechnology industry. This industry, which is currently a world leader in generating new production processes and new products is highly dependent on NIHs biomedical research. By promoting collaboration between government, industry, and academia, the NIH is fostering the growth of the nation's biotechnology industry.

Although NIH's input in spurring the development of the biotechnology industry can only be assessed indirectly, this study estimates the overall economic impact of NIH based on those variable that can be measured directly. As such, this study is a conservative estimate of NIH's economic value to the state of Maryland and the nation.

This study estimates, for the first time, the economic and fiscal impacts of NIH within Maryland. Since the overall economic impact of NIH extends beyond Maryland borders, this report also presents a summary of its impact on the United States economy. This study also quantifies the extent to which the annual contractual obligations of NIH affect supplier networks within Maryland, where the suppliers are defined as both primary contractors and a host of other Maryland industries and services that, in turn, provide the input needs of those contractors.

Economic Impact of NIH in Maryland

The annual economic importance of the National Institutes of Health to Maryland is the sum of several major components that impact through those extramural, intramural, and administrative support expenditures specific to Maryland. In FY 1993, NIH obligations in Maryland resulted in $1.7 billion of direct expenditures. These direct expenditures, in turn, generate a substantial secondary economic impact in Maryland.

The overall annual economic impact of NIH, or the total impact, is the sum of direct expenditures plus the ripple effects of indirect and induced spending in Maryland directly attributable to the direct spending by NIH.

The total or overall annual economic impact of NIH in Maryland is an estimated

$3.6 billion in gross sales, $1.9 billion in employee income, and about 62,900 jobs. The intramural and administrative support programs represented the bulk of the economic impact — nearly 62 percent of the total gross sales ($2.2 billion), 68 percent of the total employee income ($1.3 billion), and 60 percent of the total jobs generated statewide (37,700 jobs). The extramural expenditures of NIH in Maryland generated the remaining $1.4 billion of gross sales, $615 million of employee income, and about 25,200 jobs.

Fiscal Impact of NIH in Maryland

The fiscal impact represents annual state retail sales tax and personal income tax receipts from the expenditures generated at all levels — direct and secondary — in response to the NIH expenditures in Maryland. The fiscal impact also includes local receipts from the personal income surtaxes. State retail sales tax receipts include tax revenues from direct expenditures generated by the employees of NIH, its contractors and their suppliers spending their disposable incomes on taxable purchases in Maryland.

In FY 1993, NIH spending in Maryland generated a total of $17 million in state retail sales tax receipts, $70 million in state personal income tax receipts, and about $35 million in local personal income surtaxes. As a result, the combined state and local tax receipts as a consequence of the NIH annual activities in Maryland amounted to an estimated $122 million in 1993 dollars.

The intramural and administrative support programs with an estimated $83 million in total selected state and local tax receipts generated the bulk of the fiscal impact (about 68 percent of the total). Extramural programs with an estimated $39 million in state and local tax receipts comprise the remaining 32 percent of fiscal impact.

Economic Impact of NIH in the U.S.

Nationwide, NIH obligations in FY 1993 resulted in over $10.3 billion of direct expenditures on extramural, intramural and administrative support programs. These direct expenditures generate a significant secondary impact in the U.S. The total economic impact of NIH is the sum of direct and secondary economic benefits.

The total annual contribution of NIH to the U.S. economy, sum of direct and secondary economic benefits, amounts to an estimated $44.6 billion in gross output or sales, $17.9 billion in employee income and over 726,000 jobs. The extramural awards, fellowships and obligations represent the bulk of the economic impact — nearly 86 percent of the total gross sales ($38.2 billion), 84 percent of the total employee income ($15.1 billion) and 87 percent of the total jobs generated nationwide (631,000 jobs). The intramural and administrative support programs of NIH represent the remaining $6.4 billion in gross sales, $2.8 billion of employees income, and over 95,000 jobs.

The NIH has further impact in the community through a number of special hiring programs with educational thrust or through targeting of special needs groups. The 1992 regular summer program employed 444, of whom 172 were members of minority populations. Summer AAides@ numbered 57, and 15 were hired in 1992 under the Summer Disabilities Program. There were 9 Junior Fellows in 1992 and 202 hires under the Intramural Research Training Award Program. The Commissioned Officer Student Training and Extern Program (CO-STEP) included 25 that summer. Participants in the year-round STAY-IN-SCHOOL Program employed at the NIH totaled 850. Altogether, these various programs provide unique educational opportunities and work experience for 1,602 individuals in 1992 alone.

Moreover, the presence of the NIH in Montgomery County, along with the National Naval Medical Center, helps to create a critical mass of health-related interests and support groups that, together, attract additional organizations and enterprises. Over 50 associations in the health, bioscience and related technical fields have located in Montgomery County, as have other institutions such as the Howard Hughes Medical Institute and the American College of Cardiology. The State of Maryland has published a 1992-93 directory of biotechnology/medical companies in the state. Of 135 entities listed, in addition to research units of the University of Maryland and Johns Hopkins University, 62 firms have Montgomery County addresses. Another roster, published by Montgomery County's Office of Economic Development in early 1992, identified another 64 biological and medical science-related industries in the community that were not included in the State's directory.

The fact that no more than one in six or one in ten of these companies listed in the county or state directory, respectively, appears on the list of 1992 NIH contractors, is evidence that the influence of the NIH is far broader than their direct contract expenditures alone would suggest. The NIH is, indisputably, at the core of a health sector that is very important not only to the local economy and critical to the community's future economic development, but it is also significant in national terms.

Ernst & Young ranks Maryland's concentration of biotech companies as the third largest in the nation, surpassed by only California and Massachusetts. The volume of product sales was estimated by this source at $4 billion, up from $750 million in 1989. A tenfold increase is projected by the turn of the century.

The number of biotechnology workers in these private companies (which include firms from around the world) is estimated at 5,000. By no means is such a constellation of businesses and industries running on NIH expenditures alone. Clearly, they produce for national and international markets. But without the reputation of the NIH and the role it plays in attracting, training and stimulating the human resources so essential to the intellectual vitality of this health sector, there is question it would be here at all.

3.6.4 Bethesda-Chevy Chase

Income

Bethesda-Chevy Chase residents enjoy a high household income level which has risen more rapidly than that of the nation. In addition, only 4.5% of the area's residents have income levels under $15,000 compared to 15.8% nationally.

Employment

Bethesda-Chevy Chase is an established but growing employment center. The Bethesda CBD is the largest single area of employment in the Planning Area, followed closely by the NIH and the National Naval Medical Center.

The number of jobs in Bethesda-Chevy Chase in 2000 (97,688) exceeds the number of households (35,655). Based on development approved to-date, this proportion of jobs to households will rise in the future. Office employment dominates job opportunities in Bethesda-Chevy Chase.

Future Development

The 1990 Bethesda-Chevy Chase Master Plan endorses a moderate level of development. The recommended level of development could result in about 18,000 more jobs than in 1988 within the Planning Area by the year 2010. The level of job development

endorsed by the B-CC Master Plan is projected to be shared among the major employment centers within the Bethesda and Friendship Heights Central Business Districts, the NIH and the National Naval Medical Center. The B-CC Master Plan recognizes the continued importance of biomedical and medically-oriented development and employment, and it places less emphasis on large-scale office projects. Development levels must remain within the transportation system capacity constraints of the Bethesda-Chevy Chase area.

3.6.5 Housing

Montgomery County had a total of 334,632 housing units in 2000, having added over 6,400 dwellings per year in the decades since 1980. Over this period, the average annual growth of 5,358 households amounted to a 2.1 percent gain, practically matching the 2.2 percent average annual rate of population increase.

Housing Types
During this period of rapid growth, the County's housing stock also changed significantly. Single-family detached housing declined in share of the market from 68 percent to 51.2 percent, while townhouses accounted for 17.9 percent (59,951 units) in 1997, and multi-family units -had a 30.9 percent share of the mix.

Development Patterns
Growth in housing supply has generally followed the patterns established in the county's General Plan, known as *Wedges and Corridors*. The plan seeks to avoid suburban "sprawl" by channeling growth into the county's radial transportation corridors - particularly I-270/MD 355 and I-95/U.S. 29, and into the more densely developed down-county area nearest the District of Columbia, known as the urban ring, while preserving the wedges in between the corridors for rural land use and open space.

The Zoning "Envelope"
Residential zoning under the General Plan has been "pegged" to growth projections for the year 2000. The land planned for residential use is close to being "built-out". Less than 10 percent of the total future residential development potential is in areas within walking distance of the county's Metrorail stations.

Housing Costs
Montgomery County is one of the highest priced housing markets in the nation. The median price of new single-family homes (attached and detached) increased from $170,000 in 1990 to $217,500 in 2000. Montgomery County's housing prices were 31% percent above the national median price of $166,000.

Median household income in Montgomery County in 1999 was $71,586, 71.5% higher than the national median income of $41,994. Despite these income levels, a recent analysis by the County Planning Department of the price ranges of the county's housing stock relative to household incomes of residents indicated the affordability of new housing in the county to its residents has declined substantially since the mid-1970's. The county's most affordable for-sale housing is located primarily in the northern up-county I-270 Corridor, and the U.S. 29 corridor, and some portions of the urban ring. Moderate-Priced Dwelling Units (MPDUs) are available in all parts of the county under the 1973 law which requires 15 percent of all new developments with 50 units or more to be MPDUs.

Future Supply
Household growth forecasts anticipate a slowing rate of increase in Montgomery County. Housing production is expected to average 4,000 new units annually .

As the demographic composition of the county changes, housing demand and the types of housing needed will change as well. Elderly population is increasing, household sizes have been declining, and the number of single-person households increased dramatically, constituting more than one out of four households in 2000. Similarly, non-family households which can be described as a group of unrelated persons living together, have been increasing from 16 percent in 1970 to 31 percent in 2000. New products are expected to be offered by the housing industry to meet the changing needs of these market segments. Corresponding changes in zoning and locational patterns can be expected as well.

Women are continuing to enter the labor force in record numbers. At the same time more children are being born than in any period since the post-World War II *baby boom*. Dual-income family households will likely continue as a strong market element. However, land for the single-family detached homes preferred by these types of households will be more scarce, more costly and farther from the down-county employment sites developed during the past two decades.

3.7 Other Relevant Federal Research Facilities

3.7.1 NIH Off-Campus Facilities and Installations

Gerontology Research Center (GRC), NIA, Baltimore, MD
Initially part of the National Heart Institute, the Gerontology Research Center (GRC) was transferred to the National Institute of Child Health and Human Development (NICHD) in December 1965 and to the National Institute on Aging (NIA) after its establishment in July 1975. It is the setting for the bulk of the NIA intramural research programs. The Institute's Laboratory of Neuroscience operates basic research and clinical programs out of the NIH Clinical Center on the Bethesda campus. The GRC laboratories are located on the grounds of the Bayview Medical Center campus, at the Johns Hopkins Medical Institution. A multimillion-dollar GRC building was completed and opened in 1968. The facilities and resources available at this center are the most comprehensive in the country, committed to research in aging, and it is the site of the most extensive longitudinal study of a single population segment over a period of 35 years. The center serves as a regional and national focal point for research in aging, and training in gerontology and geriatrics.

Addiction Research Center (ARC), of the National Institute on Drug Abuse (NIDA), Baltimore, MD
The ARC is located on the Bayview Medical Center Campus, proximate to the Francis Scott Key Medical Center, in Baltimore, Maryland. The mission of the ARC is to plan, develop, and conduct intramural preclinical and clinical research on the causes, hazards, treatment, and prevention of drug abuse and addiction, the nature of the addiction process, and the addiction liability of new drugs by drawing on the biomedical, neuroscience, psychological, and behavioral sciences. The ARC provides in-house research scientist training in a variety of disciplines for work in drug abuse-related research; and develops preclinical and clinical research studies and procedures for protection of human subjects from research risks and monitors the provision of medical care to these subjects.

NIH Animal Center (NIHAC), Poolesville, MD
The Division of Veterinary Resources (DVR) operates a specialized laboratory animal center situated on 513 acres of farm land located 8 miles southwest of Poolesville, MD, near the Potomac River. The land was purchased in 1960, and a construction program to provide permanent buildings and facilities began in 1963. The first phase was ***NIH***

completed in May 1965 and included a farm animal building, a kennel building, and a central utility plant, together with necessary water wells, sewage treatment, electric power, steam, chilled water, and paved access roads. Two dwellings were also constructed for resident personnel. A building for research holding as well as quarantine and conditioning of non-human primates was completed in May, 1971. Also completed were buildings used by the National Institute of Mental Health (NIMH) for its Laboratory of Brain Evolution and Behavior.

The NIHAC is a major extension of the animal holding and production facilities at Bethesda. Programs of the Institutes include studies of animal behavior, conduct of immunologic procedures and sampling, and surgical investigation of larger animals. The size and character of the animal population varies in response to changes in research programs. The species kept at the NIHAC (in descending order of inventory size) are non-human primates, rodents, dogs, sheep, swine, cats, fowl, goats, horses, and cattle.

Rocky Mountain Laboratory (RML), National Institute of Allergy and Infectious Diseases (NIAID), Hamilton, MT

The earliest studies of Rocky Mountain spotted fever were begun at this laboratory in 1902, and it was formally established as a Public Health Service field station in 1921. Although the Rocky Mountain Laboratoy remains a center for the study of medically important tick-borne diseases and diseases transmissible from animals to man, a recent reorganization has diversified the laboratory focusing research on the basic cellular level.

In March 1979, three new laboratories were established at the RML facility. These capabilities allow RML scientists to become involved in the diagnosis and treatment of a variety of important infectious diseases. Facilities and a biomedical research program to address the problems of diagnosis, prevention and treatment of AIDS have also been developed at the Rocky Mountain Laboratories.

Frederick Cancer Research and Development Center (FCRDC), Frederick, MD

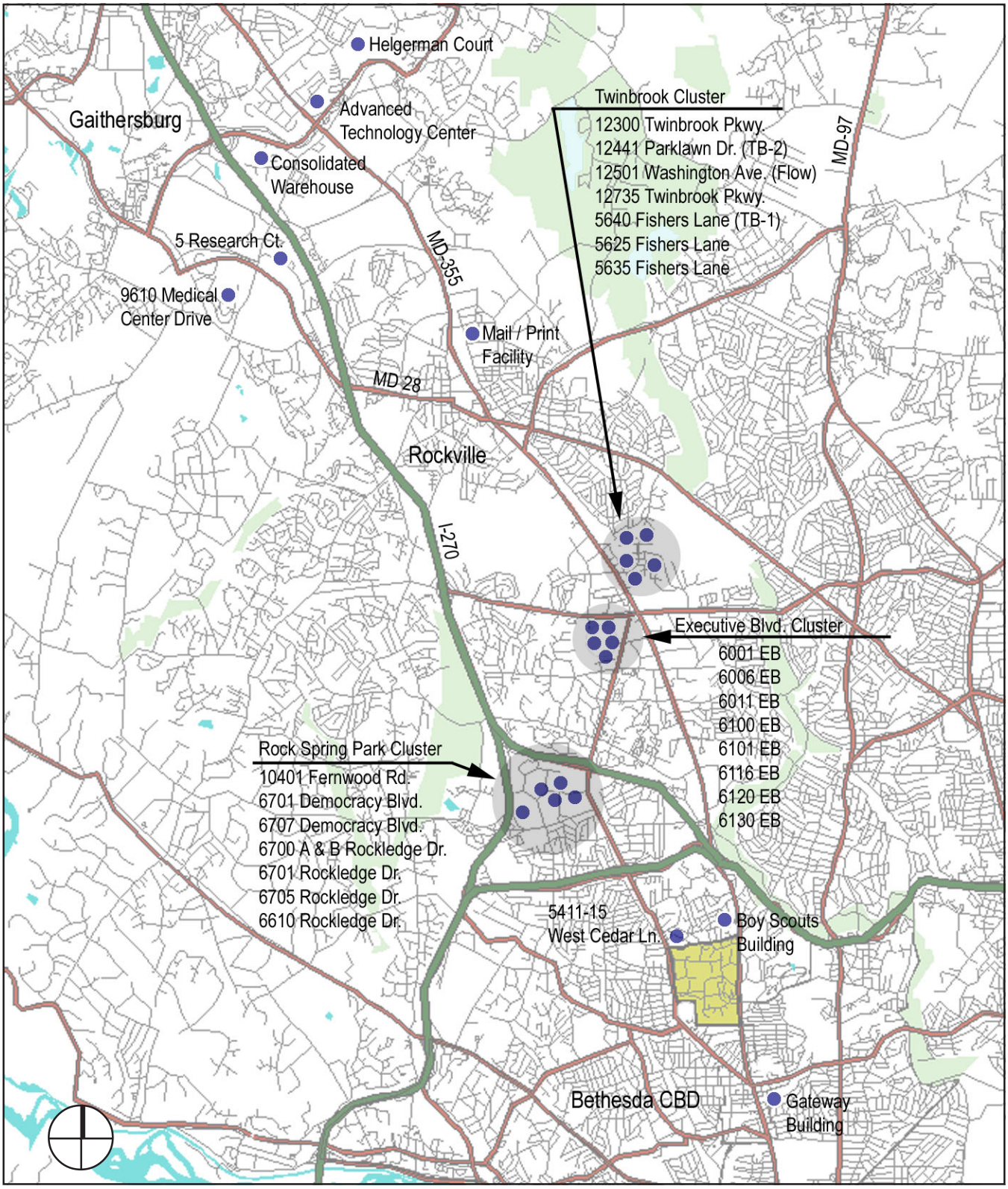
This center consists of 74 buildings located on 68.61 acres of land in Frederick, Maryland. The primary Institutes located there are the National Cancer Institute (NCI), the National Institute of Allergy and Infectious Diseases (NIAID) and the National Institute of Neurological Disorders and Stroke (NINDS) whose activities include cancer and non-cancer research, molecular virology studies and rodent breeding.

National Institute of Environmental Health Services (NIEHS) Research Triangle Park (RTP), Research Triangle, NC

This facility consists of 28 buildings located on 453.2 acres in Research Triangle Park, North Carolina. The primary Institute located there is NIEHS which conducts intramural research and administers extramural programs. The Environmental Protection Agencies also has a major research facility at this location.

New Iberia Research Center, New Iberia, LA

This center consists of one building located on 28.85 acres of land in New Iberia, Louisiana. The NCI and NCRR use this facility for animal research and breeding.



NIH
Master Plan
2003 Update
Bethesda Campus

Figure 3.7.1

NIH Leased Facilities

May 5, 2003

Leased Facilities

Locally leased facilities (rentable sq. ft.) include the following in the Bethesda/ Rockville/Gaithersburg area as of March 16, 2004:

Table 3.7.1 NIH Leased Facilities

	Admin & Support		Labs		Total
Rock Spring Park Cluster, Bethesda, MD					
10401 Fernwood Road	Office	159,079 SF			
6701 Democracy Blvd	Office	83,723 SF			
6707 Democracy Blvd.	Office	216,457 SF			
6700 A & B Rockledge Drive	Office	152,587 SF			**1,183,822 SF**
6701 Rockledge Drive	Office	242,071 SF			
6705 Rockledge Centre	Office	199,606 SF			
6610 Rockledge Drive	Office	130,299 SF			
Sub-Total		**1,183,822 SF**		**0**	
Executive Blvd. Cluster, Rockville, MD					
Executive Plaza North & South	Office	302,491 SF			
6001 Executive Blvd.	Office	250,846 SF			
6006 Executive Blvd.	Office	18,870 SF			
6006 Executive Blvd.	Child Care	25,985 SF			**1,036,666 SF**
6011 Executive Blvd.	Office	90,462 SF			
6100 Executive Blvd.	Office	133,595 SF			
6101 Executive Blvd.	Office	42,577 SF			
6116 Executive Blvd.	Office	171,840 SF			
Sub-Total		**1,036,666 SF**		**0**	
Twinbrook Cluster, Rockville, MD					
12300 Twinbrook Parkway	Office	5,775 SF			
12441 Parklawn Dr.			TB-2 Lab	52,003 SF	
12501 Washington Ave.			Flow-Lab	26,597 SF	
12735 Twinbrook Parkway			TB-3-Lab	68,081 SF	**442,103 SF**
5640 Fisher Lane			TB-1-Lab	24,500 SG	
5625 Fisher Lane			Lab	153,385 SF	
5635 Fisher Lane	Office	111,762 SF			
Sub-Total		**117,537 SF**		**324,566 SF**	
Other Local Area Locations					
5413 & 5415 West Cedar Lane, Bethesda, MD	Office	8,100 SF			
7201 Wisconsin Ave., Bethesda, MD	Office	46,344 SF			
9610 Medical Center Drive, Rockville, MD			Lab	12,717 SF	
8424 Helgerman Court, Gaithersburg, MD	Office	7,075 SF			**323,702 SF**
8717 Grovemont Circle, Gaithersburg, MD			ATC- Lab	133 SF	
5 Research Court, Rockville, MD			Lab	43,950 SF	
16050 Industrial Drive, Gaithersburg, MD	Warehouse	150,000 SF			
301 N. Stonestreet Ave., Rockville, MD	Mail/Print	55,383 SF			
Sub-Total		**266,902 SF**		**56,800 SF**	

See NIH Leased Facilities Map, Figure 3.7.1

3.7.2 Additional DHHS Regional Installations

Other Department of Health and Human Services (DHHS) installations within the National Capital Region which administer and fund health research programs for the nation are:

The **Substance Abuse and Mental Health Services Administration (SAMHSA)**, located in Rockville, MD, and formerly the Alcohol, Drug Abuse and Mental Health Administration (ADAMHA), administers and coordinates national programs to improve understanding and prevention of mental illness and of alcohol and drug abuse.

The **Food and Drug Administration (FDA)**, administers and coordinates activities directed toward the protection of the health of the nation against impure and unsafe foods, drugs, cosmetics and other potential hazards. The majority of FDA activities are housed in Rockville, MD (Fishers Lane); however, a number of FDA employees are housed in Buildings 29/29B at the NIH Bethesda Campus.

The **Health Resources and Services Administration (HRSA)** provides leadership and direction to programs and activities designed to improve the health services for all persons in the United States. The installation is on Fishers Lane in Rockville, MD.

The **Agency for Health Research and Quality (AHRQ),** located on Fishers Lane in Rockville, MD., funds, administers, and conducts health services and outcome research and evaluation.

The **Centers for Disease Control and Prevention (CDC),** headquartered in Atlanta, Georgia, but with local offices in Hyattsville, MD., is responsible for disease prevention and health promotion programs.

3.7.3 Additional Federal Research Facilities

Other federal research facilities in the Washington suburban area include:

The **Department of Energy (DOE)**, Washington, D.C. - The DOE is responsible for long-term, high-risk research and development of energy technology; the marketing of federal power; energy conservation and efficiency; the nuclear weapons program; energy regulatory programs; and a central energy data collection and analysis program.

The **National Institute of Standards and Technology (NIST),** Gaithersburg, MD - The NIST is an agency of the U.S. Commerce Department's Technology Administration. Its mission is to help U.S. industry invent and manufacture superior products reliably, ensure a fair marketplace for consumers and businesses, and promote acceptance of U.S. products in foreign markets.

The **Walter Reed Army Medical Center (WRAMC)**, Washington, D.C. - The medical center is located on 113 acres and has approximately 300 active inpatient beds. More than 88 specialty clinics are located on campus and four are located at satellite sites. The number of personnel located there now exceeds 7,000, including 640 physicians and 448 registered nurses. Tenant activities at Walter Reed include the Armed Forces Institute of Pathology (AFIP), and the Henry M. Jackson Foundation, which specializes in HIV research.

The **WRAMC, Forest Glen Section**, Silver Spring, MD - This section is an auxiliary service, support and research area located in Montgomery County, Maryland, approximately three miles from the WRAMC Main Section. The facility includes laboratories of the Walter Reed Army Institute of Research, equipment and maintenance shops, storage and animal housing and breeding.

The **National Naval Medical Center (NNMC),** Bethesda, MD - The NNMC's primary mission, in addition to research and education, is the care and treatment of active duty military personnel, dependents and military retirees on a space-available basis and government officials including the President and Vice President and their families, members of Congress, Supreme Court Justices, foreign embassy personnel, and other designated beneficiaries. The Medical Center, comprised of ten adjoining buildings, has an operating capacity of over 427 beds, expandable to 779 in an emergency, employs more than 3,300 people and has more than 50 outpatient clinics that treat approximately 2,500 patients daily.

Located on the grounds of the NNMC in approximately 500,000 sq. ft. is the Uniformed Services University of the Health Sciences (USUHS). The university has a full range of laboratories, teaching halls, seminar rooms and a library. In addition to a doctor of

medicine degree, USUHS also offers graduate education in the basic medical sciences. Doctoral degrees are available in fields such as biochemistry, anatomy, microbiology, pharmacology and nursing.

The **Naval Surface Warfare Center (NSWC), Carderock Division**, Potomac, MD, formerly the David Taylor Research Center (DTRC) in Carderock, Annapolis, and the Naval Ship Systems Engineering Station (NAVSSES) in Philadelphia. - The Carderock Division researches, develops, tests and evaluates the new concepts and technologies to be applied in creating the Navy's surface and undersea vehicles of the 21st century and beyond. The Carderock laboratory is located 12 miles northwest of Washington, DC.

The **Beltsville Agricultural Research Center,** Beltsville, MD - The mission of the Agricultural Research Service in the Beltsville area is to conduct basic and related applied research on problems of broad scope and high national priority in agricultural production and marking, environmental quality, family economics and human nutrition.

In addition, the Beltsville area serves to educate the American public and international visitors concerning natural resources, plant and animal life, food and agricultural technologies, human nutrition, family economics and research concepts and methods.

The **Patuxent Wildlife Research Center (PWRC)**, Laurel, MD - As the only national wildlife refuge and research center, PWRC is charged with protecting and conserving the nation's wildlife and natural environment through research on critical environment problems. Its extensive forest, meadow, and wetland habitats are managed for habitat biodiversity for both resident and migratory wildlife and provide a unique outdoor laboratory for management-related research in a rapidly urbanizing area.

The **U.S. Army Research Laboratory (ARL)**, Adelphi, MD - The U.S. Army Research Laboratory is charged with executing fundamental and applied research to provide the Army the key technologies and the analytical support necessary to assure supremacy in future land warfare.

ARL's two primary missions are research and technology development, and analysis of weapon system performance. ARL does technical and analysis work in 6 areas: computational and informational sciences, sensors and electronic devices, survivability/lethality analysis, weapons and materials research, human research and engineering, and vehicle technology.

Currently, at the Adelphi campus, research and technology development is primarily in the area of sensors, signatures, and signal and information processing.

The **National Aeronautics and Space Administration (NASA),** Goddard Space Flight Center, Greenbelt, MD - The mission of the Goddard Space Flight Center is to expand knowledge of the Earth and its environment, the solar system, and the universe through observations from space. To assure that the nation maintains leadership in this endeavor, the Center is committed to excellence in scientific investigation, in the development and operation of space systems, and in the advancement of essential technologies. Also, Goddard is the lead Center in NASA's Mission to Planet Earth program.

The **Naval Research Laboratory (NRL),** Washington, D.C. - NRL's mission is to conduct a broadly based multi-disciplinary program of scientific research and advanced technological development directed toward maritime applications of new and improved materials, techniques, equipment, systems and ocean, atmospheric and

improved materials, techniques, equipment, systems and ocean, atmospheric and space sciences and related technologies.

NRL provides primary in-house research for the physical, engineering, space, and environmental sciences; broadly based exploratory and advanced development programs in response to identified and anticipated Navy needs; broad multi-disciplinary support to the Naval Warfare Centers; and space and space systems technology, development, and support.

3.8 Review Agency and Community Coordination

3.8.1 Relationship of the NIH Master Plan 2003 Update to the Federal Elements of the Comprehensive Plan for the National Capital

The Comprehensive Plan sets forth goals of the federal government and means of achieving them. This 2003 Master Plan Update is consistent with those goals:

Foster a Capital worthy of a great nation.
Though the NIH is located outside the National Capital, the NIH Master Plan 2003 Update, when implemented, will give the campus the order and dignity associated with the Mall and other distinguished federal sites.

The NIH occupies a unique position in training biomedical researchers from around the world. The success of this program will be strengthened by improvement of campus facilities and the scholarly environment.

The NIH enjoys an esteem nationally and internationally for its contributions to science in the service of health. The Master Plan seeks to support the quality of science through development of NIH facilities and preservation of the relationships that have made the NIH unique.

The NIH Master Plan 2003 Update seeks to improve the identity of the NIH to the public by developing its image as an institution that by its existence and programs, commemorates the achievements of its founders, leaders, scientists and supporters.

As the NIH Master Plan 2003 Update is realized, the architectural and natural environments will be improved by design guidelines that seek to bring harmony to all parts of the campus while respecting historic buildings.

Provide for the efficient and effective operation of the federal establishment while contributing to the general order and beauty of the National Capital.
The NIH Master Plan 2003 Update proposes an orderly development of the NIH campus that will increase efficiency by improving adjacencies and by providing for long term improvement to the research environment. The creation of defined and protected open spaces within the campus core and on the perimeter, together with removal of surface parking and with new design goals, will contribute to the beauty of the facility.

Deploy the federal work force in a manner that enhances the efficiency and productivity of federal agencies and strengthens economic development and expands employment opportunities in the National Capital Region.

The NIH Master Plan 2003 Update has as its rationale the estimated personnel needs to fulfill the scientific mission of the NIH over the next twenty years. The plan has taken into account the infrastructure capacities serving the Bethesda site.

Facilitate the efficient exercise and satisfactory performance of diplomatic and international functions in harmony with the planned development of the National Capital.
The NIH, through its international fellowship, research, awards, and studies programs, has trained thousands of the world's biomedical researchers. The Fogarty International Center at the NIH assists the many foreign personnel that come to the NIH every year, and hosts foreign visitors, including heads-of-state, by conducting tours and receptions, usually at the historic Stone House.

Preserve the important historic features of the National Capital while permitting new development which is respectful of these features.
The NIH Master Plan 2003 Update protects identified historic resources and their settings, while at the same time permitting the NIH to achieve its programmatic goals. The following resources on the Bethesda campus have been recognized as historically significant: Buildings 1,2, and 3, Building 6, the Wilson House (Tree Tops), the Peter Estate (Stone House and the related Caretaker's House), and the Convent.

Conserve the natural features and resources of the National Capital and enhance cultural and recreational opportunities and open space of the region.
The NIH Master Plan 2003 Update seeks to restore as much of the natural quality of the site as possible by removing surface parking and placing it in structures; restoring and enhancing the perimeter landscaped buffer zone around the site; enhancing the NIH Stream at the northeast corner of the site; and retaining and acknowledging the site's key hills on which Tree Tops and the Stone House are located.

Conserve energy resources.
The NIH has undertaken a far reaching Master Utilities Plan that is directed at improving the quality and efficiency of its entire utility generation and distribution system.

The NIH has begun a master plan sustainability study.

The NIH has also been in the vanguard of federal agencies in developing and implementing a comprehensive Transportation Management Plan that is directed at reducing dependency on the single occupancy vehicle.

Promote adequate systems for the transportation of residents, employees, visitors, and goods to, from, and within the National Capital Region.
In addition to the Transportation Management Plan already begun by the NIH, the NIH Master Plan 2003 Update maximizes the increased use of mass transit by NIH employees through greater concentration of large employee groups toward the middle and south portions of the campus closer to the Medical Center Metrorail-intermodal transit stop.

The NIH already operates extensive internal and inter-site bus transportation services to supplant use of private vehicles, and the Master Plan supports and improves these services.

Accommodate visitors to the National Capital in an efficient, attractive, and informative manner.
The NIH already attracts many visitors each year, many for educational purposes such as those engaged in research fellowships, high school students, the general public seeking continuing education, and patients and families participating in clinical trials at the Clinical Center.

Promote intergovernmental cooperation and public participation in federal planning of the National Capital.

This NIH Master Plan 2003 Update itself is evidence of the NIH's commitment to achieving this goal. The development of this plan has involved extensive coordination with other interested government agencies through meetings with staff of the NCPC and the M-NCPPC. The NIH has , since 1995, consulted the Community Liaison Council (which meets monthly and consists of representatives of over 30 communities) on its master planning and building programs.

3.8.2 Local Development Criteria

As a federal agency, the NIH Bethesda campus is not subject to the Montgomery County Zoning Ordinance. The site, however, is considered low-density by zoning criteria:

- With 7,360,734 square feet of gross building area, (excluding 1,480,000 square feet of parking structures) and approximately 283 acres of land, excluding roadways, the Floor Area Ratio (FAR) of 0.60, nearly that of the lowest density commercial zone, C-T. With the projected maximum gross building area for the Final Phase (excluding parking) of 10,716,636 square feet, it would, at 0.86 FAR, be considerably less dense than allowed under a moderate-intensity office building zone (O-M).
- With only 10% of the land in building coverage (approximately 1.4 million square feet), the site is less dense than allowed in an R-60 zone (such as exists in the adjoining Edgewood/Glenwood residential area to the southwest of the site) which permits 35% of the lot area to be developed. The projected maximum building coverage for the Final Phase would be about 19% of the site.

Steadily increasing development in Montgomery County and especially in Bethesda has raised concerns of the community and planning agencies over the capacities of the roads and intersections, and the impact that increased automobile traffic might have on nearby neighborhoods.

The NCPC in the Comprehensive Plan For the National Capital - federal Elements, has adopted a federal Parking Policy that encourages maximum use of public and shared transportation and establishes a maximum ratio for the Bethesda area of one space for every two employees. Because the demand for parking at the site continues to exceed supply, nearby neighborhoods have complained of overflow NIH parking on their streets in spite of residential parking permit controls.

On May 14, 1992, the NIH negotiated a Memorandum of Understanding (MOU) with the NCPC and the Montgomery County Planning Board in which the NIH agreed to implement and monitor a Transportation Management Plan (TMP) developed in 1991 that has the goals of improving availability of parking on-campus and mitigating the impact on roadways from future growth at the NIH. Among other things, the TMP and MOU adopted a ratio not to exceed 0.5 parking spaces for each employee plus 16% additional spaces for visitors and patients in conjunction with continued efforts to reduce the future parking demand to the extent practicable. This Master Plan adheres to the terms of the MOU, and recognizes the need to continue to lease space off-campus locally to moderate growth and consequent pressures on traffic and parking.

3.8.3 Relationship to Local Development Plans

The NIH Bethesda campus is located in the Mid-Bethesda sector of the Bethesda-Chevy Chase Montgomery County Planning Area 35, the southernmost in the county with 20.1 sq.mi. (Figure 5-1). The applicable planning document for the area is the Bethesda-Chevy Chase Master Plan, M-NCPPC, 1990, which was approved and adopted by M-NCPPC in April 1990. The purpose of the plan is to establish a policy framework that will guide the direction of Bethesda-Chevy Chase for the next 20 years.

Bethesda once was a rural village, a focal point for shopping and community services on a limited scale. Now, it is the "downtown" or Central Business District (CBD) of the planning area with the greatest concentration of commercial and office development within Bethesda-Chevy Chase. Planning for the Bethesda CBD is conducted in much greater detail, nearly on a parcel-by-parcel basis, in the Bethesda CBD Sector Plan.

Planning for the two areas is coordinated and complementary, since the Bethesda CBD adjoins the southern boundary of the NIH campus. The CBD covers 405 acres, an area about one-third larger than the NIH campus.

The NIH Master Plan 2003 Update is compatible with the land use recommendations of the Bethesda-Chevy Chase Master Plan. The Plan neither requires nor applies pressures to change existing and future recommended land use and zoning. The NIH campus provides a buffer between the Bethesda CBD and residential communities to the north and west of the campus. The Plan is complementary to the Bethesda-Chevy Chase Master Plan and Bethesda CBD Sector Plan, which proposes R-60 and R-10 land uses around the periphery of the campus, offering opportunities for non-vehicle employee home-work trips between the NIH and the surrounding community.

3.8.4 Coordination with Local Planning Agencies

The planning agency with jurisdiction over the Bethesda area is the M-NCPPC. Representatives of the NIH have been in frequent communication with M-NCPPC staff and the Montgomery County Planning Board over the years as various capital projects have been reviewed by NCPC and referred to M-NCPPC.

Continuing the practice developed for the 1995 Master Plan, informal meetings and interviews were held with government agencies, local jurisdictions, citizen associations, and individuals. NIH representatives and the master planning team established initial contact with NCPC and M-NCPPC staff members. In addition, representatives of NCPC and M-NCPPC were present at nearly all Community Liaison Council meetings devoted to the NIH Master Plan 2003 Update.

There has also been on-going coordination and cooperation between NIH and the Montgomery County Department of Transportation regarding transportation management.

3.8.5 Community Participation

In the development of the 1995 Master Plan, NIH conducted a rigorous and active public involvement program that included consultation with and review by jurisdictional government agencies and participation by the surrounding communities and general public. Separate scoping meetings identifying issues were held with the agencies, NIH employees, and the general public. Introductory and progress meetings were held with the M-NCPPC, and the NCPC.

In the scoping process, the importance of the buffer area around the periphery of the campus was stressed nearly unanimously by residents from the surrounding neighborhoods. Continuing NIH growth in facilities and employees; and related traffic generation and construction impacts, also were identified as concerns. In response to community concerns over the Master Plan and environmental issues on the Bethesda Campus, Dr. Harold Varmus, Director of theNIH at that time, met with community leaders on May 11, 1994 and made a public commitment on behalf of NIH to involve community members in Master Plan development. In September 1994, Dr. Varmus established the NIH Office of Community Liaison to provide policy oversight and monitoring of community-related activities, including development of the 1995 Master Plan.

Subsequently, NIH, through the Office of Community Liaison extended invitations to 77 citizen associations and community groups to send a representative to join a working group to provide advice and guidance in the Master Plan development. The first meeting of the Master Plan Core Working Group was held in January, 1995. Nineteen communities were represented. Regular participation expanded to 22 communities along with members from NCPC, M-NCPPC, the Maryland Office of Planning, and the Bethesda-Chevy Chase Chamber of Commerce.

Subgroups covering specific issues were formed. Presentations of concepts, drafts, working papers and other Master Plan material for review and comment were made to the Subgroups and Working Group. Discussion and comment resulted in revisions and modifications throughout the process. Interaction between the NIH staff and community members enabled cooperative resolution of issues and concerns. Community representatives reported to their respective community organizations on the progress of the Master Plan Core Working Group and returned to the working group with further comments.

After completion of the 1995 Master Plan, NIH decided to make the Master Plan Working Group a permanent organization, the Core Community Working Group. It would serve as a conduit for information about day-to-day NIH activities and community issues. It would also provide the surrounding community the opportunity to review and comment on Master Plan projects as they were implemented during the design and construction phases. In 1998, the group's name was changed to the NIH Community Liaison Council (CLC). The CLC meets monthly, although August meetings are sometimes omitted.

In 1998, modifications to the 1995 Master Plan were required in the northwest sector of the campus because of an unanticipated design configuration for the Mark O. Hatfield Clinical Research Center. NIH prepared an amendment to the 1995 Master Plan and a Supplemental Environmental Impact Statement to cover the proposed revisions and their potential impacts. As part of the NEPA process, the draft documents were circulated to government agencies and the general public for review and comment. Presentations were made to the CLC at its July and November 1998, and April and June 1999 monthly meetings.

The established ongoing community participation has continued through the development of the NIH Master Plan 2003 Update. Meetings were held with the NCPC and M-NCPPC to inform them of the projections for the future number of campus employees as indicated by programming, and the initiation of the planning phase of work. Subsequent briefings of the two Commissions' staff were held in January 2003.

In a manner similar to that used in 1995, three CLC working groups covering construction impacts, environmental issues, and transportation related to the Master Plan Update have been formed. Each group held a series of meetings between July and October 2002 to discuss specific issues in detail. Recommendations from the environmental and transportation work groups were adopted by the full CLC in November 2002.