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STATE OF WISCONSIN  
DEPARTMENT OF ADMINISTRATION

Monona Terrace Convention Center  
Final Environmental Impact Statement ("FEIS")

NOTICE OF EXTENSION OF PUBLIC COMMENT PERIOD ON THE FEIS

On July 19, 1993, the Department of Administration gave Notice of Availability of FEIS and Notice of Public Hearing. In that notice, the public comment period on the FEIS was scheduled to end on August 23, 1993.

You are hereby notified that the public comment period is now extended until September 7, 1993. The public hearing was scheduled for Monday, August 23, 1993 and will be held on that date. Other provisions of the previous notice remain in effect.

Dated this 2nd day of August, 1993.

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Edward D. Main, Hearing Examiner

RECEIVED - DNR

AUG 4 1993

Here is your copy of the Final Environmental Impact Statement for the Monona Terrace Convention Center Project.

The analysis has been prepared by Woodward-Clyde Consultants at the request of the State of Wisconsin Department of Administration and the City of Madison.

The State will convene a public hearing in late August to obtain additional public input.

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APPENDIX A LAW PARK PLANT INVENTORY

APPENDIX B SUMMARY OF COMMENTS ON THE MONONA TERRACE  
CONVENTION CENTER DRAFT ENVIRONMENTAL IMPACT  
STATEMENT

## INTRODUCTION

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The State of Wisconsin Department of Administration, "the Department" or "DOA," has determined that it will prepare an Environmental Impact Statement (EIS) for the proposed Monona Terrace Convention Center. The Convention Center is being planned for construction on Lake Monona in Madison, Wisconsin.

The Department's involvement in the project is limited to funding the construction of a parking ramp that will be part of the Convention Center complex. The City of Madison, "the City," which does not have any obligations under either the Wisconsin Environmental Policy Act (WEPA) or the National Environmental Policy Act (NEPA), is responsible for the overall design and construction of the project and will be ultimately responsible for the operation and maintenance of the Convention Center.

As required by WEPA and in accordance with the guidelines of the United States Council on Environmental Quality, the federal agency responsible for implementation of NEPA, the Department has promulgated regulations, see Chapter Adm 60, Wisconsin Administrative Code, that define the content of a Department-prepared EIS.



## 1.1 PROPOSED ACTION

Project Background: The City of Madison has considered proposals and ideas for the construction of a public building at the Lake Monona shoreline since the early 1900's. Previous proposals have included boat houses, theaters, and civic centers. In 1938, Frank Lloyd Wright, who spent much of his life in the Madison area, unveiled the design for what he called a "Dream Civic Center on Lake Monona." Wright revised his 1938 design in 1955 and again in 1959 and the Wright design has been the focus of many attempts to develop a public meeting building in downtown Madison. Since 1960, at least five different Convention Center proposals in various locations in Madison have been considered by the City or private developers. Each proposal failed to attract the necessary public or private support and no convention center has yet been developed in downtown Madison.

In August of 1990, the City of Madison Common Council created the Monona Terrace Commission ("the Commission") to oversee and study a new proposal involving the adaptation of the 1959 Frank Lloyd Wright design for a Convention Center on Lake Monona. In October, 1991, the Commission issued a report concluding that the adapted Wright design for the Monona Terrace Convention Center was economically feasible and would be beneficial to Madison and the Dane County region. Subsequently, the Commission made a recommendation to proceed with the project.

The Wisconsin Legislature voted to provide funding for the parking structure associated with the Convention Center in 1991. The legislative authorization specified that the funding was provided for the parking structure that was a planned part of the City of Madison's 1991 Monona Terrace Commission Report recommending development of the Frank Lloyd Wright-designed structure in Law Park.

Project Description: The proposed Convention Center complex is a 250,000 square foot structure which would extend from the Olin Terrace, southwest of the State Capitol square, over John Nolen Drive and the adjacent railroad corridor, onto Law Park and over about 80 feet of Lake Monona. Much of the complex would be supported by some 1,725 steel pilings, averaging about 50 feet in length. These pilings would be driven into the ground at Law Park and into the bed of Lake Monona. Other than these pilings, the project will require no fill in Lake Monona.

The facility, as proposed, would extend approximately 1,600 feet along the Lake Monona shoreline, thus replacing about 1,600 feet of Law Park shoreline with the Convention Center. Renderings of the proposed facility are shown in Section 5.9: Aesthetics/Visual, Figures 5.9-1 to 5.9-3.

As designed, the facility will contain exhibit space, a ballroom and banquet hall, an assembly hall, kitchen facilities, meeting rooms, public roof space, and a 558 stall parking garage.

Contemporaneous with the Monona Terrace project, the City is planning to expand John Nolen Drive. As proposed, the expanded John Nolen Drive would pass under the proposed parking garage for a distance of approximately 900 feet. The passageway is planned to be open on the north side to the existing escarpment wall or buildings and would also be open on the Lake Monona side for about half of the total length of the passageway. The existing bike path would be rerouted and a new path would be constructed on the Lake Monona side of the Convention Center. The present rail corridor would be reduced in width, and because of design requirements related to the expansion of John Nolen Drive, one existing rail line would be eliminated. However, the remaining rail corridor will be large enough to accommodate the reconstruction of a second rail line.

## **1.2 POTENTIAL IMPACTS**

As a result of the scoping process, the list of potential impacts to be addressed in this document include:

- Air Quality
- Noise
- Water Quality
- Fishery
- Terrestrial Vegetation/Wildlife
- Subsurface Conditions
- Socioeconomics
- Cultural Resources
- Transportation
- Recreation
- Aesthetics/Visual

Each of these issues is discussed in detail in sections 4.0 and 5.0 of this document.

- The tourism industry of Madison and Dane County would benefit from the creation of the Monona Terrace Convention Center.

## **2.2 HISTORY AND BACKGROUND OF THE PROPOSED ACTION**

Proposals and ideas for the construction of a city auditorium, civic center, and convention center in downtown Madison date back to the early 1900's. Since that time, Madison's civic and government leaders have been interested in somehow providing a pleasing and functional connection between the State Capitol square area and Lake Monona's shoreline. City planners have proposed numerous variations on the goal of creating a mall between the State Capitol and Lake Monona and using this space for governmental offices and other public buildings. In 1938, Frank Lloyd Wright first proposed a "civic center," including city/county offices, an auditorium, and boat facilities, near the present proposed site. Frank Lloyd Wright refined and modified his 1938 proposal, but the City was not able to garner sufficient public support for the project during Frank Lloyd Wright's lifetime.

Other proposals to construct a convention center in downtown Madison have considered other sites. Since 1960, at least five different downtown sites for a convention center have been proposed, studied, and ultimately abandoned. Section 10.0 lists many of the reports that were produced to analyze each of these sites.

The Monona Terrace Commission Report, described in Section 2.1, recommended construction of a convention center in Law Park at the end of the Olin Terrace Park. That report also recommended the use of a modified Frank Lloyd Wright design for the Monona Terrace Convention Center.

Based upon its review of the failed attempts in the past to develop a convention center in downtown Madison, the availability of Law Park, and the unique and architecturally significant Frank Lloyd Wright design for a facility, the Commission recommended the consideration of only one location and only one design. The proposed Convention Center, the project that is the subject of this EIS, is the adapted 1959 Frank Lloyd Wright design on Lake Monona. The City's choice of this particular facility grew out of the failed efforts over the past century to develop a convention center in downtown Madison. Therefore, the City did not seriously consider any alternatives in deciding to promote the Monona Terrace

project. The Department of Administration was not involved in the selection of the location or design of the proposed project. The Department's involvement in the project is based upon legislation providing state funding for the parking garage portions of the proposed project.

### 2.3 PHYSICAL DESCRIPTION OF THE PROPOSED ACTION

Figures 2.3-1 and 2.3-2 indicate the location of the proposed Convention Center. The basic structure follows the "footprint" of the 1959 Frank Lloyd Wright design. The current proposed design has been certified by the Taliesin Associated Architects to meet the criteria necessary for them to designate the structure a "Frank Lloyd Wright" design. Table 2.3-1 shows the areas covered by the "foot print" of the facility. The structure's 5.4 acre footprint on the Law Park area is made up of 0.9 acres of parking lot and access roads, 3.7 acres of "greenspace", and 0.8 acres of John Nolen Drive right of way.

The space provisions of the Convention Center are shown on Table 2.3-2. The proposal includes a 558 stall parking garage. The parking garage will be located over John Nolen Drive and the railroad corridor.

**TABLE 2.3-1  
APPROXIMATE MONONA TERRACE "FOOT PRINT" AREAS**

Structure	Area (acres)
Entire Facility (Convention Center, parking ramp, access roads, green islands)	10.63
Facility Covering Open Water	1.50
Facility Covering Law Park	5.40
Facility Covering John Nolen Dr. & RR Corridor	3.73

Source: Areas measured from current designs by WCC.

The Convention Center will be supported by pilings. The building will extend over the surface of Lake Monona for most of the waterfront length of the facility. Because of the curved design of the building and the irregular shoreline, the amount that the building extends out over the lake at any point along the shoreline varies from zero feet to about 93 feet. The average distance that the building will extend out over the lake along the central portion of the building is about 87 feet. The building is designed to extend to, but not exceed, the legal "dock line" authorized by the Wisconsin Legislature in 1927. Figure 2.3-4 and 2.3-5 show the extent of the building over the lake based on an outline of the structure laid out on the ice of Lake Monona.

**TABLE 2.3-2  
MONONA TERRACE SPACE ALLOCATIONS**

Function	Area (Square Feet)
Exhibit Space	42,000
Mezzanine (overflow exhibit space)	9,420
Grand Ballroom	15,000
Meeting Rooms/Assembly Halls	12,600
Multi-media Auditorium	11,500
Subtotal	90,520
Public Circulation	23,890
Lobby/Registration	35,610
Subtotal	59,500
Administration/Offices	8,900
Public Restrooms	9,650
Service Circulation	10,700
Kitchen	12,000
Concessions	1,400
General Storage	12,000
Maintenance	3,900
Mechanical/Electrical/Construction	27,000
Loading Docks	5,430
Unassigned Space	9,000
Subtotal	99,980
<b>TOTAL</b>	<b>250,000</b>

Source: Monona Terrace Commission Report, October 1991

The entire structure, including the automobile access ramps, parking garage, and Convention Center, will occupy about 1,600 linear feet along the lake shore. Approximate elevation points of the proposed structure and selected points in the area are shown on Table 2.3-3.

**TABLE 2.3-3**  
**APPROXIMATE RELATIVE ELEVATIONS OF POINTS ASSOCIATED WITH**  
**THE MONONA TERRACE CONVENTION CENTER**

Point	Relative Elevation (feet)
Lake Monona (normal level)	0
Ground Level (base of Olin Terrace Wall)	4
Olin Terrace Wall (top of south rail)	49
Wilson Street (at Martin Luther King Jr. Boulevard)	56
Convention Center (roof)	74

Source: Elevations from current designs and City of Madison topographic map.

The top of the structure will be about 72 feet above the ground level at Law Park (74 feet above the normal lake level), about 25 feet higher than the rail at the south edge of Olin Terrace, and about 18 feet higher than Wilson Street.

Pedestrian and motorized access will be provided to the parking garage and Convention Center from the Wilson Street level and from the John Nolen Drive/Law Park level. Automobile entrance and exit ramps to the parking garage will be provided at the southern ends of Carroll Street and Pinckney Street. Automobile entrance and exit to the parking garage from John Nolen Drive will be provided through the use of helix ramps. Pedestrian access from Wilson Street will be provided through Olin Terrace Park (see Figure 2.3-3). Current designs provide two sets of external stairs from the Law Park level to the top of the parking garage. Also, an external elevator is provided from the Law Park level to the top of the parking garage. Additional access among levels is provided inside the building. The current design complies with all local and state handicap access requirements as well as the provisions and standards of the 1990 Americans With Disabilities Act.

The current design provides for emergency vehicle access to appropriate points around the building, including ambulance and police vehicle access to the lake level plaza at the front of the building.



The roof of the Convention Center will be developed as an urban park.

Figure 2.3-3 shows some detail of the layout of the proposed Convention Center. Additional depictions of the building are shown in section 5.9 under the "Aesthetics/Visual" discussion.

Construction of the Monona Terrace Convention Center is estimated to last from two to two and one-half years. The first one and one-half years will be the period when most of the heavy machinery is used. It is estimated that about 1,725 steel pilings, at an average of about 50 feet in length, will be needed for the entire structure. About 345 pilings will be driven into the lake bed. A crane mounted on a barge would likely be used to drive the piles into the lake bed. The pile driving for the entire structure is estimated to take 60 to 80 working days. No fill will be placed on the bed of Lake Monona because the building will be solely supported by the pilings. Similarly, because the pilings will also support those portions of the project that will be constructed over Law Park, major excavation of the Law Park area will not be required. Minor excavation of some areas of Law Park will likely be required for placement of utilities, column pile caps, and site grading.

The proposed Convention Center is intended for a variety of uses. The main exhibit hall will accommodate trade shows and other large exhibits. A 900-seat, multi-media auditorium will allow for audio-visual presentations or lectures. A banquet room and ballroom are included in the proposed design. Food service facilities for Convention Center users are included in the design. Also, the building is designed to permit movable food service stations throughout the building, on the rooftop park, and on the outdoor plaza at the lake level. There will be space for large and small group meetings. Social functions such as weddings, receptions, and proms are other anticipated uses of the facility.

John Nolen Drive will pass under the Convention Center's parking garage. The garage will, like the rest of the Convention Center, be constructed on pilings.

The John Nolen Drive passageway will be about 900 feet long and will be open on the Lake Monona side for about half that length of the passageway (the Convention Center building itself will occupy about 500 feet along the south side of the passageway). On the north side, the passageway will be open to the present structures that make up the Olin Terrace escarpment (Figure 2.3-3).

The expansion of John Nolen Drive (from four lanes to six lanes) will reduce the current railroad corridor along the north side of John Nolen Drive by a maximum of about 11.5 feet.

The costs of the entire development are summarized below.

**TABLE 2.3-4  
SUMMARY OF COST ESTIMATES (1992 DOLLARS)**

<b>Convention Center</b>	
General Conditions	\$ 1,622,000
Building Structure	12,237,000
Building Enclosure	6,024,000
Interior Finishes	4,731,000
Building Equipment and Furniture	5,232,000
Mechanical and Electrical	9,995,000
Subtotal	\$ 39,841,000
<b>Site Development and Parking Ramp</b>	
Site Development	\$ 4,877,000
Parking Ramp	10,722,000
Subtotal	\$ 15,599,000
<b>Other Development Costs</b>	
Architectural and Engineering Fees	\$ 3,760,000
Railroad Acquisition and Relocation	1,000,000
Project Contingencies	3,300,000
Subtotal	\$ 8,060,000
<b>TOTAL ESTIMATED PROJECT COST</b>	<b>\$ 63,500,000</b>

Source: Monona Terrace Commission, 1992.

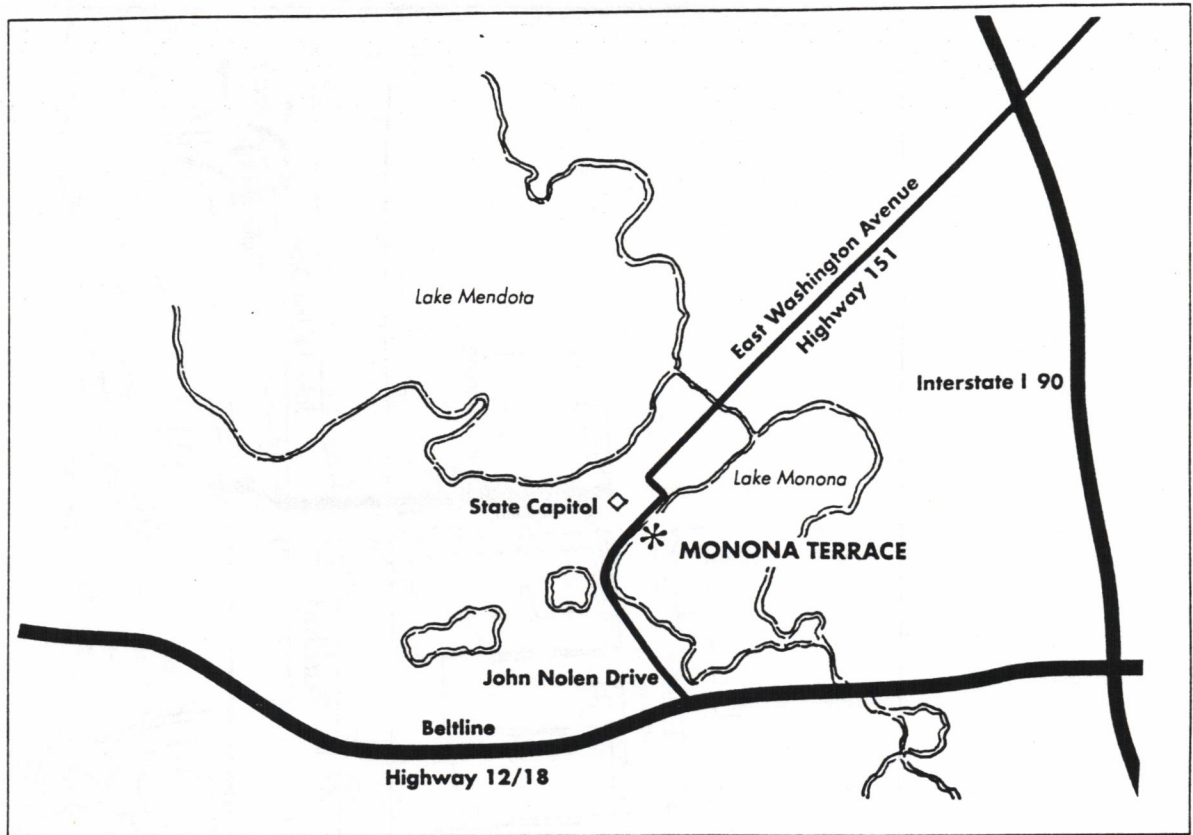


FIGURE 2.3-1  
 LOCATION OF PROPOSED CONVENTION CENTER IN RELATION TO MAJOR ROADS

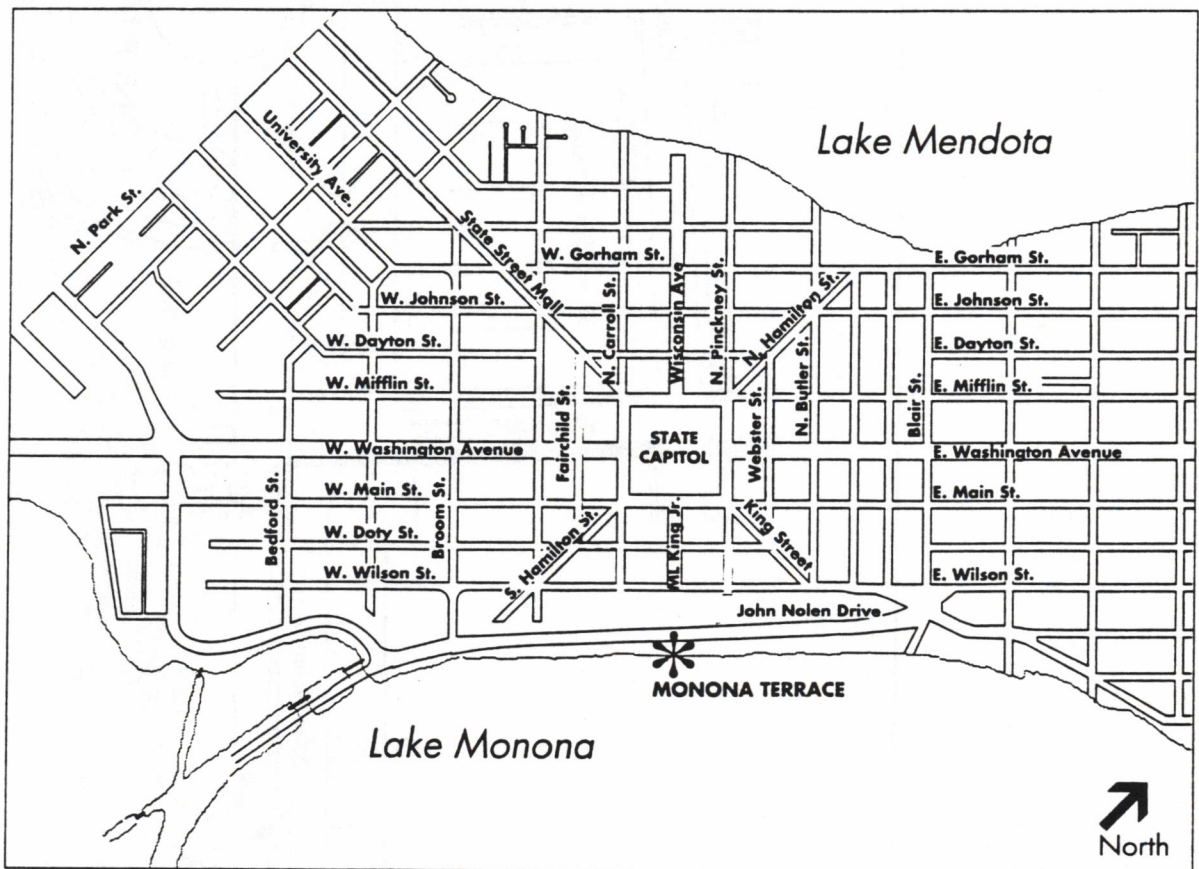


FIGURE 2.3-2  
 LOCATION OF PROPOSED CONVENTION CENTER IN DOWNTOWN MADISON

2-10

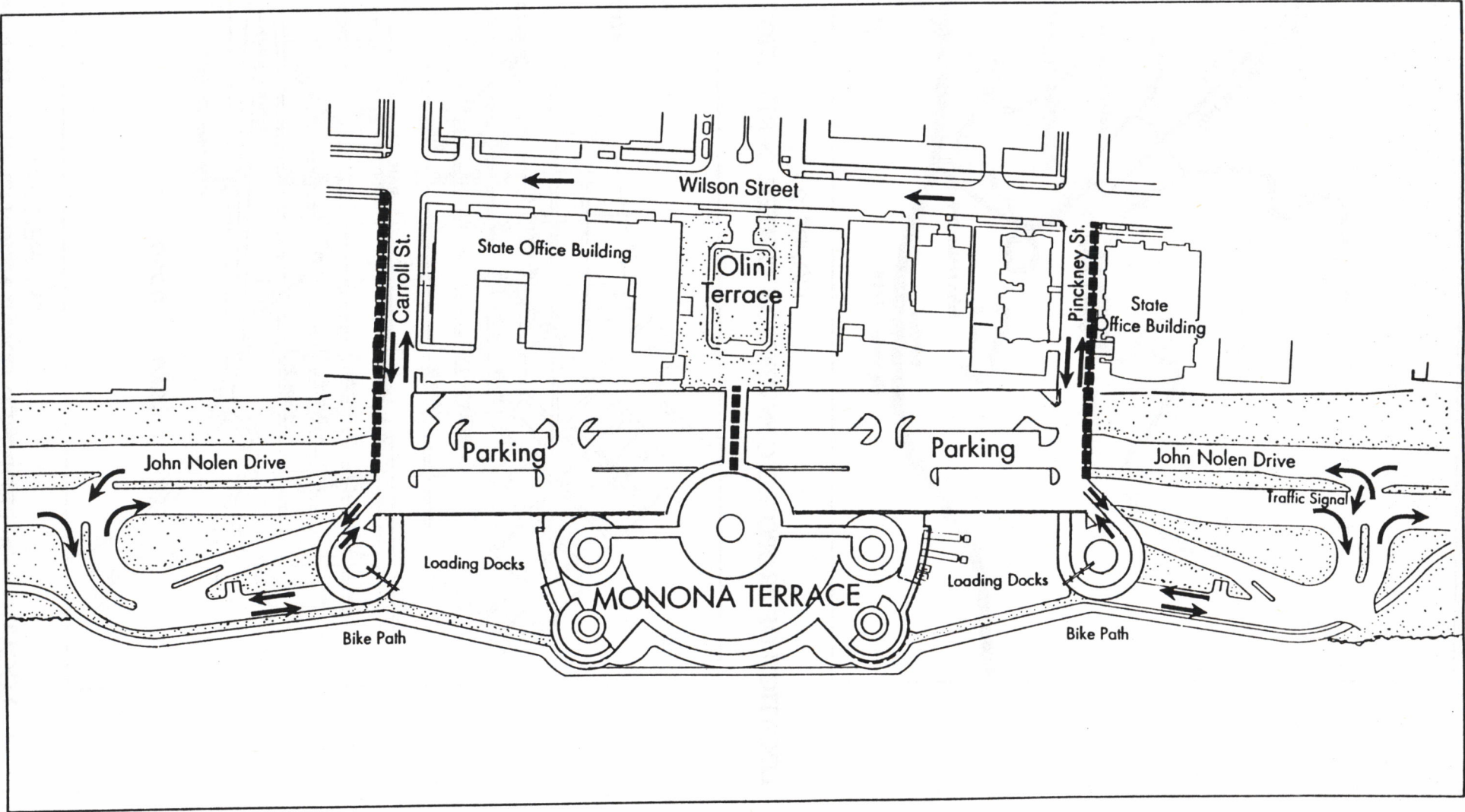
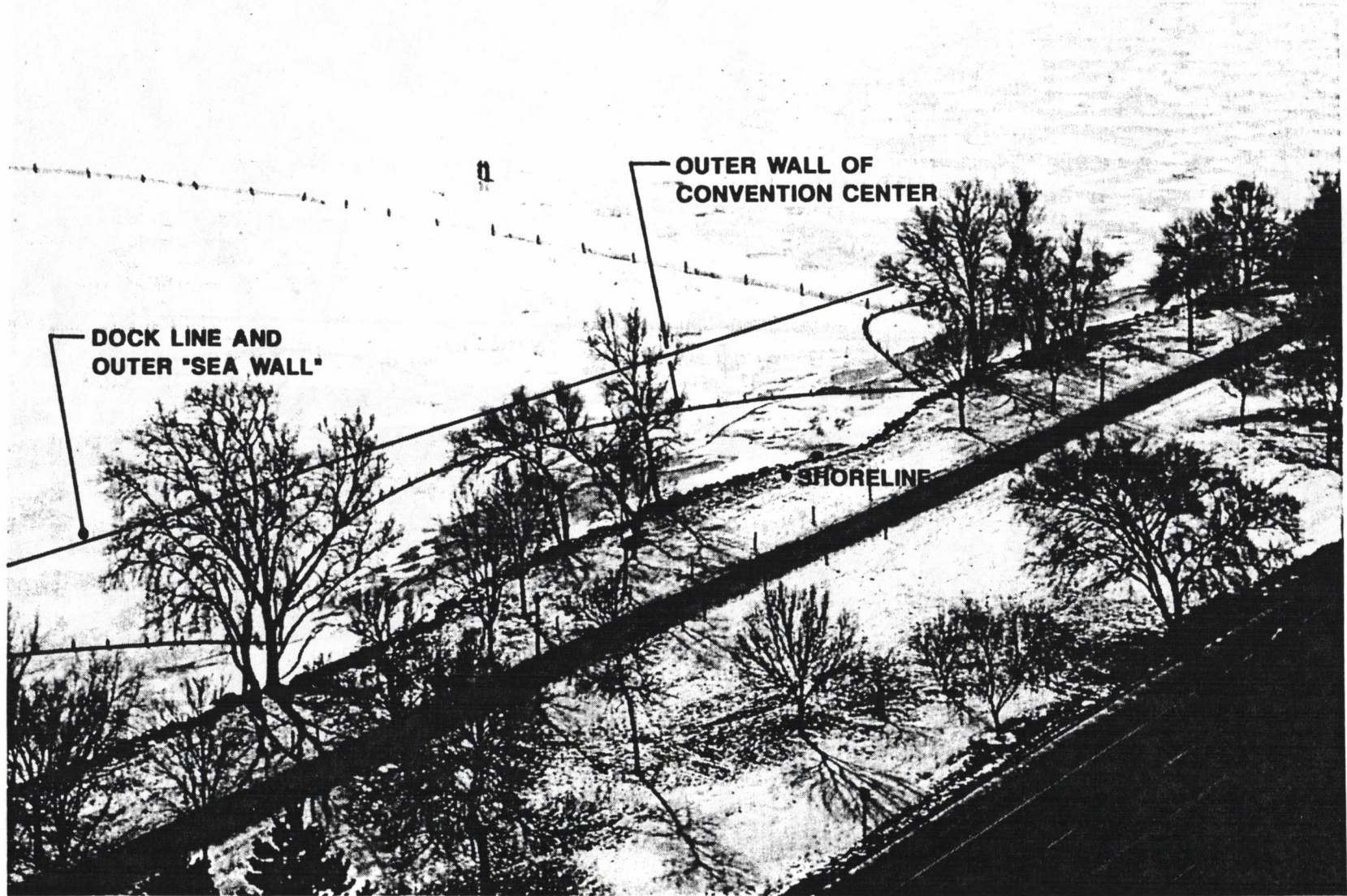
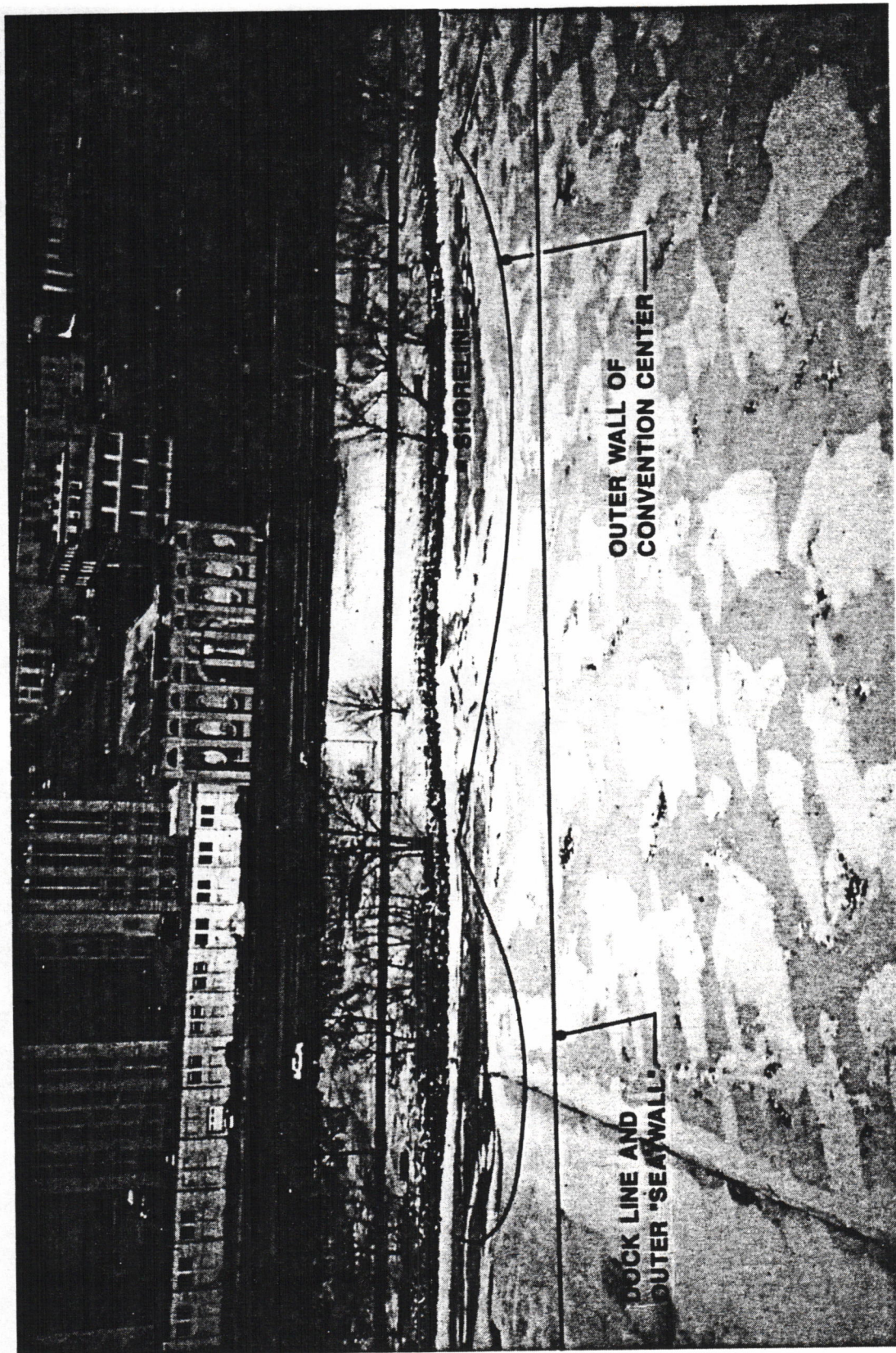


FIGURE 2.3-3

PLAN VIEW OF PROPOSED CONVENTION CENTER (WITH VEHICLE AND PEDESTRIAN ACCESS)



**FIGURE 2.3-4 FOOTPRINT OF MONONA TERRACE CONVENTION CENTER OVER LAKE MONONA - LOOKING SOUTH**



**FIGURE 2.3-5 FOOTPRINT OF MONONA TERRACE CONVENTION CENTER  
OVER LAKE MONONA - LOOKING NORTHEAST**

**GENERAL DESCRIPTION OF THE PROPOSED ACTION**

---

**2.1 INTRODUCTION**

In August of 1990, the Madison Common Council created the 28-member Monona Terrace Commission. The Commission's responsibility was to oversee the adaption of Frank Lloyd Wright's drawings and plans for a meeting place and Civic Center on Lake Monona. The Commission was charged with analyzing Wright's 1959 plans and determining the feasibility of using those plans to design a facility to meet Madison's needs for a municipal meeting place and convention center. The Commission studied the physical aspects of the Convention Center and related requirements. It also studied the financial, scheduling, and management needs of the project. A report from the Commission was completed in October of 1991 and presented to the Mayor and Common Council. A copy of the report is available from the City of Madison, Department of Planning and Development.

The report reached the following conclusions:

- The 1959 Frank Lloyd Wright plan for the Monona Terrace could be adapted to meet the City's current space needs for a meeting place and Convention Center in the downtown area.
- The proposed alterations to Wright's 1959 plans would retain the building's character as a Frank Lloyd Wright design. The altered plans were reviewed by Taliesin Associated Architects, the architectural firm that was established by, and operates in conformance with the philosophy of, Frank Lloyd Wright. Taliesin Associated Architects certified that the Monona Terrace Convention Center would meet their criteria for designation as a Frank Lloyd Wright designed building.
- The Monona Terrace project would not conflict with plans for the expansion of the Dane County Exposition Center.

- The tourism industry of Madison and Dane County would benefit from the creation of the Monona Terrace Convention Center.

## **2.2 HISTORY AND BACKGROUND OF THE PROPOSED ACTION**

Proposals and ideas for the construction of a city auditorium, civic center, and convention center in downtown Madison date back to the early 1900's. Since that time, Madison's civic and government leaders have been interested in somehow providing a pleasing and functional connection between the State Capitol square area and Lake Monona's shoreline. City planners have proposed numerous variations on the goal of creating a mall between the State Capitol and Lake Monona and using this space for governmental offices and other public buildings. In 1938, Frank Lloyd Wright first proposed a "civic center," including city/county offices, an auditorium, and boat facilities, near the present proposed site. Frank Lloyd Wright refined and modified his 1938 proposal, but the City was not able to garner sufficient public support for the project during Frank Lloyd Wright's lifetime.

Other proposals to construct a convention center in downtown Madison have considered other sites. Since 1960, at least five different downtown sites for a convention center have been proposed, studied, and ultimately abandoned. Section 10.0 lists many of the reports that were produced to analyze each of these sites.

The Monona Terrace Commission Report, described in Section 2.1, recommended construction of a convention center in Law Park at the end of the Olin Terrace Park. That report also recommended the use of a modified Frank Lloyd Wright design for the Monona Terrace Convention Center.

Based upon its review of the failed attempts in the past to develop a convention center in downtown Madison, the availability of Law Park, and the unique and architecturally significant Frank Lloyd Wright design for a facility, the Commission recommended the consideration of only one location and only one design. The proposed Convention Center, the project that is the subject of this EIS, is the adapted 1959 Frank Lloyd Wright design on Lake Monona. The City's choice of this particular facility grew out of the failed efforts over the past century to develop a convention center in downtown Madison. Therefore, the City did not seriously consider any alternatives in deciding to promote the Monona Terrace



## GENERAL DESCRIPTION OF THE PROPOSED ACTION

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### 2.1 INTRODUCTION

In August of 1990, the Madison Common Council created the 28-member Monona Terrace Commission. The Commission's responsibility was to oversee the adaptation of Frank Lloyd Wright's drawings and plans for a meeting place and Civic Center on Lake Monona. The Commission was charged with analyzing Wright's 1959 plans and determining the feasibility of using those plans to design a facility to meet Madison's needs for a municipal meeting place and convention center. The Commission studied the physical aspects of the Convention Center and related requirements. It also studied the financial, scheduling, and management needs of the project. A report from the Commission was completed in October of 1991 and presented to the Mayor and Common Council. A copy of the report is available from the City of Madison, Department of Planning and Development.

The report reached the following conclusions:

- The 1959 Frank Lloyd Wright plan for the Monona Terrace could be adapted to meet the City's current space needs for a meeting place and Convention Center in the downtown area.
- The proposed alterations to Wright's 1959 plans would retain the building's character as a Frank Lloyd Wright design. The altered plans were reviewed by Taliesin Associated Architects, the architectural firm that was established by, and operates in conformance with the philosophy of, Frank Lloyd Wright. Taliesin Associated Architects certified that the Monona Terrace Convention Center would meet their criteria for designation as a Frank Lloyd Wright designed building.
- The Monona Terrace project would not conflict with plans for the expansion of the Dane County Exposition Center.

- The tourism industry of Madison and Dane County would benefit from the creation of the Monona Terrace Convention Center.

## **2.2 HISTORY AND BACKGROUND OF THE PROPOSED ACTION**

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## **2.4 MANAGEMENT OF THE PROPOSED CONVENTION CENTER**

In February of 1993, Dane County and the City of Madison negotiated an intergovernmental agreement regarding the funding and managing of the proposed Monona Terrace Convention Center. This agreement calls for a Monona Terrace Community and Convention Center Board to be created. The Board will oversee the management of the Convention Center. The Board will include twelve members: six appointed by the City of Madison, five appointed by Dane County, and one appointed by the State of Wisconsin. A chairperson will be elected from the Board membership.

**SUMMARY OF THE SCOPING PROCESS**

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The Department of Administration, relying in part upon the substantial efforts of the City of Madison, conducted the scoping process to determine the content of the EIS. Although the City has no formal obligations pursuant to WEPA, it has nonetheless been concerned about the potential environmental impacts of the project it was proposing to be built over Lake Monona. Therefore, the City, for its own purposes, has insisted that the potential environmental impacts of the Monona Terrace project be fully evaluated and understood. Accordingly, the City conducted a significant amount of scoping of the potential impacts of the project which were used to assist in producing this EIS. All of the scoping efforts are summarized below.

**February 28, 1991**

The City of Madison held a "regulatory agency coordination meeting," also known as the "pre-application" meeting, to determine what state and federal permits, if any, would be required for construction of the Convention Center. The United States Environmental Protection Agency, United States Fish and Wildlife Service, United States Army Corps of Engineers, Wisconsin Department of Natural Resources, Wisconsin State Historic Preservation Office, and City of Madison Engineering, Traffic, Parks and Public Works Departments were represented. As part of the permitting discussions, potential environmental impacts were discussed.

**May 15, 1992**

Woodward-Clyde Consultants (WCC) submitted their proposed scope of work for the Draft EIS (DEIS). The proposal included the summary of the baseline conditions in the project area and identified probable impacts on: aquatic conditions, including water quality, fishery and fish habitat, lake circulation, and wave action; air quality, noise, transportation, including automobile, bus, rail, bicycle, and pedestrian; recreation and land use; aesthetics and visual impacts; economics; cultural and social resources; and Law Park subsurface conditions.

### **June 24, 1992**

Dane County's "Commission on the Environment," comprised of members representing urban and rural views on environmental matters, is a standing committee created by the Mayor of Madison and the Dane County Executive. WCC held two meetings, both noticed and open to the public, with the "Commission on the Environment." The purpose of these meetings was to explain WCC's EIS proposal and solicit comments and recommendations on the scope of potential environmental impacts that should be evaluated.

### **July 3, 1992**

Madison's Mayor appointed a special "Monona Terrace EIS Scoping Committee," to raise questions and environmental issues that are to be addressed in the EIS. This committee met with WCC on July 15, 22, 29, and August 4, 1992. All meetings by the Commission on the Environment and the Monona Terrace EIS Scoping Committee were noticed, open meetings, and public comments were solicited at each meeting.

### **August 3, 1992**

The City of Madison Planning Department sent special notices to approximately 90 different neighborhood associations soliciting comments on the scope of the environmental impacts that should be considered in the EIS.

### **August 5, 1992**

The Department of Administration solicited public comments on the scope of the DEIS in a news release published in the Wisconsin State Journal.

### **September 2, 1992**

The Department sent copies of the potential impacts identified, as of that date, as the result of the scoping process, to the Secretaries of the Departments of Natural Resources and Transportation and to the Director of the State Historical Society and solicited those agencies' comments on the identified potential impacts and the scope of the DEIS.

### **September 8, 1992**

The Department held a scoping meeting with interested state agencies. The Departments of Natural Resources, Transportation, Administration, the State Historical Society, and the City of Madison were represented. A summary of the results of the scoping process was presented and comments were solicited from these state agencies.

### **September 30, 1992**

The City's Scoping Committee received a "Preliminary" copy of the DEIS and met with WCC to forward initial comments. These comments, along with public comments, were received and incorporated into this document.

The results of these meetings and notices confirmed the public's concern about many of the issues that had been outlined in WCC's original scope of work and highlighted certain areas of special concern. These included:

- loss of greenspace and undeveloped urban shoreline,
- bicycle and pedestrian access through the Law Park area,
- shoreline fishing access,
- secondary automobile traffic impacts on neighborhood streets,
- air quality impacts from exhaust from the John Nolen Drive passageway under the parking garage,
- impacts on the terrestrial vegetation at Law Park,
- groundwater impacts from potential disturbances of the fill material at Law Park,
- nonpoint source pollution impacts from the site, and
- loss of a portion of the rail corridor.

The impacts evaluated in this final EIS are based upon the review of the extensive existing reports and data related to Lake Monona, Law Park, and the Monona Terrace project proposal. For example, the EIS relies heavily on the analysis of socioeconomic conditions prepared by the Monona Terrace Convention Center Commission which was based upon the

Vandell and Shilling Reports of 1991 and 1992. These existing studies were supplemented as necessary with new field studies and evaluations.

Based upon comments received and new concerns raised during the DEIS process, WCC conducted the following additional investigations for the final EIS:

- lake bed sediment sampling within the proposed construction site;
- soil, soil gas, and groundwater sampling at sites in Law Park, within the proposed construction site;
- additional analysis of impacts on views of the Convention Center and views of the State Capitol building from the proposed site;
- additional analysis of the potential for lake bed scour to occur at the site upon completion of the proposed structure;
- additional analysis of the impacts on the present rail corridor and potential use for mass transit of the area;
- additional studies of the loss of park and greenspace at the site relative to the available park and greenspace around Lake Monona;
- additional analysis of noise impacts during the construction phase; and
- additional analysis of socioeconomic impacts.

The EIS's consideration of alternatives to the proposed action is very limited. The DOA has no authority to consider alternatives to the proposed project. The Legislature determined, prior to the EIS process, that the State would fund the parking garage that was planned as part of the Monona Terrace Project and specified the location of that parking garage. Also, the Project under consideration is based upon a unique, site-specific design by Frank Lloyd Wright. As such, the utilitarian values of the proposed Convention Center are considered by many people, including the City's planners, to be at least matched, if not outweighed, by

the architectural, artistic, and historic value of the completed building. Since the proposed project is a site-specific, design-specific project, there are few, if any, reasonable alternatives to the proposed project.



## DESCRIPTION OF THE EXISTING ENVIRONMENT

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This section describes the current baseline conditions of each topic listed. Where data permits, the current activity levels and uses are quantified. A listing of the sources used for this information is given in Section 10.0 of this document.

### 4.1 AIR QUALITY

Various parameters of ambient air quality are measured in Madison at several fixed stations within the City. The selection of these stations by the Wisconsin Department of Natural Resources (WDNR) is based upon meteorological models to select "worst-case" air quality locations. In other words, the monitoring stations are expected to have some of the highest ambient air quality pollutants in the Madison area. The actual air quality at the Monona Terrace project site is expected to be better than the air quality at the monitoring sites because of greater exposure to the large open area (Lake Monona) and enhanced air circulation that exist at the project site.

#### Carbon Monoxide

The United States Environmental Protection Agency (EPA) has designated the Madison area an attainment area for carbon monoxide under the National Ambient Air Quality Standards (NAAQS) program. Being classified an "attainment area" means that available data shows the area meets the NAAQS standards for the parameter of concern. Carbon monoxide in Madison is monitored by the WDNR at the Braxton Apartments, 702 Braxton Place. The highest one-hour observations for carbon monoxide in 1990 were 7.3 parts per million (ppm) recorded on November 19, 1990, and 7.0 ppm recorded on January 15, 1990. These values are both well below the NAAQS of 35 ppm for one-hour carbon monoxide concentrations. The highest eight-hour average values for carbon monoxide in 1990 were 5.2 ppm, recorded on January 16, and 4.4 ppm, recorded on November 20. These values are also well below the NAAQS of 9.0 ppm for eight-hour average carbon monoxide concentrations.

Historical air quality monitoring data are similar to the 1990 results discussed above. Carbon monoxide levels in the Madison area have always been well below the NAAQS limits.

### **Particulate Matter**

EPA has designated the Madison area an attainment area for particulate matter (PM) under the NAAQS. Particulate matter is monitored by WDNR at three sites in the City of Madison: the Madison Area Technical College (MATC), located at 2125 Commercial Drive; the Madison Water Reservoir located at Dayton and Livingston Streets; and the Wisconsin Primate Research Center located at 1220 Capitol Court. All three sites monitor particulate matter as total suspended particulates (TSP). The designation of particulate matter (PM) as "PM<sub>10</sub>" refers specifically to those suspended particles under 10 microns in size. TSP refers to airborne suspended particles of the "PM<sub>10</sub>" size plus particulates larger than the "PM<sub>10</sub>" size. The highest annual arithmetic means for TSP from the Madison sites in the last two years were 37 micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ) at the MATC site in 1990 and 40  $\mu\text{g}/\text{m}^3$  at both the Water Reservoir and the Primate Center sites, also in 1990. Both values are below the NAAQS for PM<sub>10</sub> of 50  $\mu\text{g}/\text{m}^3$ .

The highest 24-hour average TSP concentrations during the last two years were recorded on the same day, January 11, 1990. The recorded concentrations were 239  $\mu\text{g}/\text{m}^3$  recorded at the Primate Center, 199  $\mu\text{g}/\text{m}^3$  recorded at the Water Reservoir, and 175  $\mu\text{g}/\text{m}^3$  recorded at the MATC site. All three of these values exceed the NAAQS for 24-hour PM<sub>10</sub> concentrations of 150  $\mu\text{g}/\text{m}^3$ . EPA declared this single exceedance at all three monitoring sites on the same day to be an "exceptional event" that did not affect Madison's designation as an attainment area for PM<sub>10</sub>.

### **Ozone**

EPA has designated the Madison area an attainment area for ozone under the NAAQS. Ozone in Madison is monitored by WDNR at the Sherman School, 1601 North Sherman Avenue. The two highest one-hour daily values recorded in 1990 were 94 parts per billion (ppb), recorded on July 3, and 79 ppb, recorded on May 27. Both values are below the

NAAQS of 120 ppb for ozone. No ozone exceedances were recorded in the years 1987 through 1990.

### **Sulfur Dioxide**

EPA has designated the Madison area an air quality attainment area for sulfur dioxide under the NAAQS. Sulfur oxides are primarily released through the combustion of fuel containing sulfur, such as coal and oil. Other sources include ore processing plants, petroleum refineries, and processes involving sulfuric acid, such as paper manufacturing. Sulfur oxides are emitted primarily as sulfur dioxide (SO<sub>2</sub>); conversions to sulfur trioxide (SO<sub>3</sub>), sulfuric acid (H<sub>2</sub>SO<sub>4</sub>), and various sulfates may occur in the atmosphere through catalytic and photochemical reactions.

Sulfur dioxide in Madison is monitored by WDNR at the Braxton Apartments, 702 Braxton Place. In 1990 the annual arithmetic mean for SO<sub>2</sub> was 11 µg/m<sup>3</sup>. The 24-hour SO<sub>2</sub> maximum for 1990 was 80 µg/m<sup>3</sup>. The highest three-hour average in 1990 was 149 µg/m<sup>3</sup> ppm. All of these maximum recorded values are well below the NAAQS for sulfur dioxide of 80 µg/m<sup>3</sup> for annual averages, 365 µg/m<sup>3</sup> for 24-hour averages, and 1,300 µg/m<sup>3</sup> for three-hour averages.

### **Nitrogen Dioxide**

The Madison area is "unclassified" for nitrogen dioxide. This designation has been set because there is not enough monitoring data to confirm that the NAAQS standards are being met. Nitrogen dioxide is not currently monitored in the Madison area. Very few areas in the United States have ever recorded nitrogen dioxide levels in excess of the NAAQS.

## **4.2 WATER QUALITY**

Madison's lakes have been extensively studied over the past several decades. The conditions discussed below are, for the most part, based on these studies (which are listed in Section 10.0). Additional lake bed sediment sampling was conducted as a part of the EIS process. These results are discussed under the section titled "Lake Bed Sediment Quality".

## **Trophic Status**

One general measure of a lake's water quality is the classification of its trophic status. The trophic status is a general description of the nutrient level in a lake. Lake Monona is considered eutrophic. (Dane County Regional Planning Commission, "RPC", 1991). This eutrophic condition is characterized by frequent blooms of blue-green algae and dense growths of macrophytes (lake weeds). Dense macrophyte growth in Lake Monona is not a recent phenomena. As early as 1914, Monona's Turville Bay was described by C. Juday as "filled with a large amount of vegetation".

The naturally-occurring high nutrient content of Lake Monona has been exacerbated by increased nutrient discharge into Lake Monona generally associated with increasing human populations. Nonpoint sources of nutrients (urban and rural runoff) and direct disposal of sewage into Lakes Monona and Mendota (that continued until about 1950), both contributed to the increase of nutrients to Lake Monona. Communities upstream from Lake Monona did not discontinue discharging sewage into the Yahara River watershed system until 1971. Beginning in 1971, these upstream communities were connected to the Madison Metropolitan Sewerage District, which discharges effluent to Badfish Creek. Badfish Creek does not drain to Lake Monona.

Three measurements of a lake's trophic status are water clarity, (usually measured with a Secchi disk), Chlorophyll-a concentrations, and total phosphorus concentrations. Figures 4.2-1, -2, and -3 are based upon concentrations reported by Lathrop (1988) and have been updated by Lathrop (personal communication, 1992). These figures show the trends of each of the three parameters in Lake Monona from 1975 - 1991. Nutrient loadings from runoff events along with climatic conditions are the likely explanations for the short-term variability demonstrated on the figures.

## **Water Clarity**

Measuring water clarity with a Secchi disk is an easily understood indication of "how green" a lake is perceived to be. Classification of clarity depths are shown on Table 4.2-1. Figure 4.2-1 shows that Lake Monona's water clarity has been in the "poor" to "fair" range between

1976 and 1986. Between 1987 and 1989 the trend was toward the "good" range. In 1990 and 1991, clarity dropped into the "poor" to "fair" range.

### Chlorophyll-a

Chlorophyll-a is a photosynthetic pigment found in algae. This parameter is a measure of the algal biomass. This measurement varies widely throughout the summer depending on the algal bloom cycle. Table 4.2-1 shows the classification of Chlorophyll-a concentrations relative to perceived water quality. Figure 4.2-3 shows a general trend of decreasing Chlorophyll-a concentrations since 1975 with a sharp peak in 1990.

### Phosphorus Concentrations

Phosphorus is generally considered the nutrient most responsible for supporting the excessive algae growths. When a lake's surface layer of water is high in phosphorus, high algae production can be expected. Classification of total phosphorus concentrations are shown in Table 4.2-1. The phosphorus concentrations since 1975 have generally been in the "poor" to "fair" range with occasional concentrations in the "very poor" range (Figure 4.2-2).

**TABLE 4.2-1**  
**WATER QUALITY INDEX FOR WISCONSIN LAKES**  
**BASED ON TOTAL WATER CLARITY,**  
**CHLOROPHYLL *a*, AND PHOSPHORUS**

<b>Water Quality</b>	<b>Approximate Water Clarity (ft)</b>	<b>Approximate Chlorophyll *a* (<math>\mu\text{g/L}</math>)</b>	<b>Approximate Total Phosphorus (mg/L)</b>	<b>Approximate Trophic Status Index*</b>
Excellent	>20	<1	<.001	<34
Very good	10-20	1-5	.001-.01	34-44
Good	6-10	5-10	.01-.03	44-50
Fair	5-6	10-15	.03-.05	50-54
Poor	3-5	15-30	.05-.15	54-60
Very poor	<3	>30	>.15	>60
<p>*After Carlson (1977)                      "&lt;" means "less than"</p> <p>Source: WDNR Technical Bulletin      "&gt;" means "greater than"</p> <p>138 (1983)</p>				

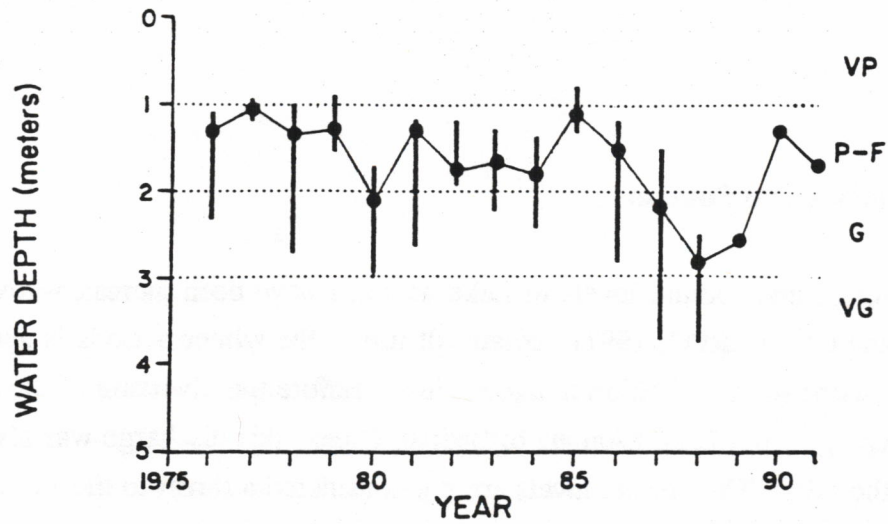


FIGURE 4.2-1

TRENDS IN SUMMER WATER TRANSPARENCY FOR LAKE MONONA: 1976 - 1991

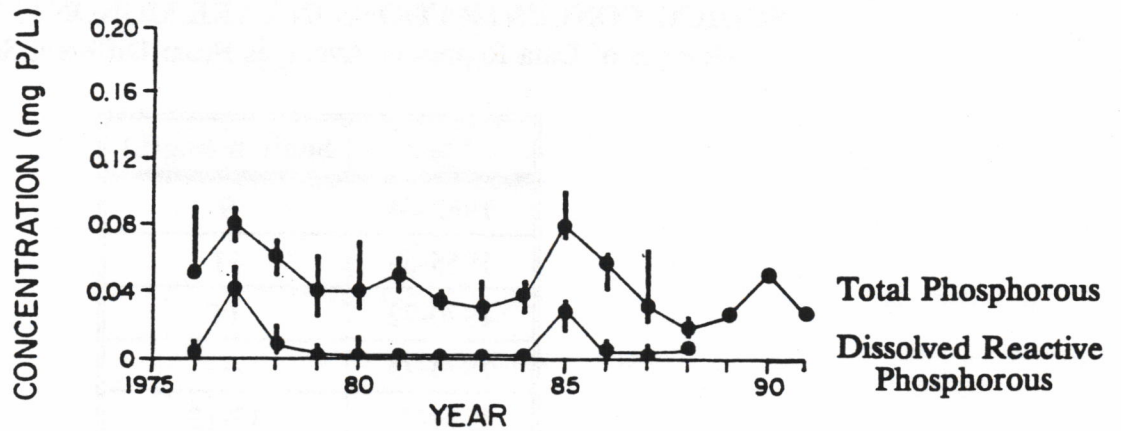


FIGURE 4.2-2

TRENDS IN SUMMER PHOSPHORUS CONCENTRATIONS FOR LAKE MONONA: 1976 - 1991

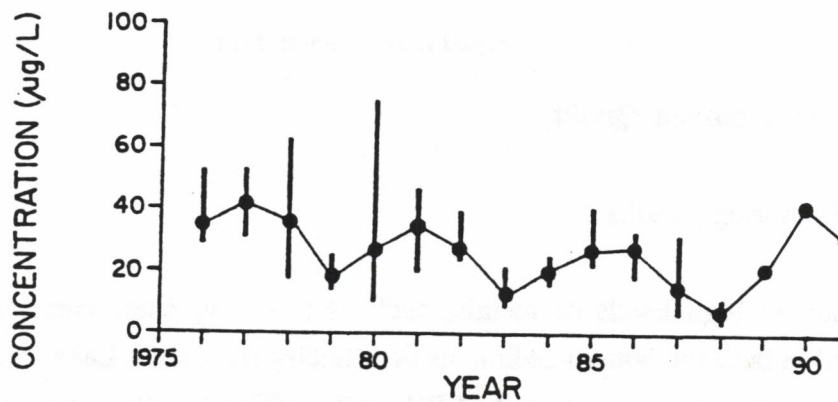


FIGURE 4.2-3

TRENDS IN SUMMER CHLOROPHYLL-a FOR LAKE MONONA: 1976 - 1991

● MEDIAN VALUES

┆ RANGE OF VALUES

Source: Lathrop, 1988, Research Management Findings  
Lathrop, 1992, Personal Communication

## Chloride and Sodium

Chloride and sodium levels in Lake Monona have been increasing over the past 30 years. (Dane County RPC, 1991). Road salt use in the winter periods is generally believed to be the major source of chloride and sodium. Before the diversion of the municipal wastewater discharge from Lake Monona to Badfish Creek, this discharge was also a significant source of the salts. The present levels are not considered a threat to the aquatic life in the lake and the current rates of increase are not predicted to pose a threat for the foreseeable future. (Dane County RPC, 1991, and Lathrop, 1988).

**TABLE 4.2-2**  
**SODIUM CONCENTRATIONS IN LAKE MONONA, 1962-1987.**  
(Ranges of Data Represent Averages From Different Sources)

Year	Sodium (mg/L)
1962-64	9
1965-69	11
1970-72	15
1973-75	---
1977-79	12-13
1980-82	14
1983-85	15
1986-87	14

Adapted from: Lathrop 1988

## Lake Bed Sediment Quality

### Past Monitoring Results

Moderate to high levels of metals, such as mercury, lead, zinc, and arsenic have been reported in both the bottom sediments of tributary streams to Lake Monona and in the lake's bottom sediments. (Dane County RPC Staff, 1992) A 1988 survey by WDNR sampled 11 sites in Lake Monona for sediment quality. (WDNR, 1989). Two sites were in Monona



Bay. The other sites were in deep water, (greater than 30 feet) and approximately 200 to 400 feet off the shore of Lake Monona from the John Nolen Drive Causeway along the northeast portion of the lake to the east side of the lake. The sediment was analyzed for polychlorinated biphenyls (PCBs), arsenic, copper, and mercury (Table 4.2-3)

Other lake sediment sampling (from the summer of 1985) is reported by WDNR in the 1989 Technical Bulletin #163. The data from this source is also shown on Table 4.2-3. This sampling took place on Lake Monona's northeast shore near Olbrich Park.

Sediments from Monona Bay have the highest recorded concentrations of PCBs and mercury of the 11 samples taken in 1988. Detectable levels of both compounds were found at all 11 sites (both in the bay and in the lake proper). Likely causes of these elevated concentrations include the fact that City storm sewers drain directly into the relatively shallow Monona Bay and the fact that before 1950, the City discharged municipal wastewater directly into the lake.

Copper and arsenic have also been found in Lake Monona's sediments. The likely sources of these metals are the aquatic herbicides that have been applied to Lake Monona for weed control since the 1920's. The use of these herbicides, both in terms of the frequency of applications and the concentrations of metals in the herbicides, has decreased since the late 1970's.

**TABLE 4.2-3**  
**WDNR LAKE MONONA SEDIMENT SAMPLING RESULTS SUMMARY**  
 (October 1988)

Site	PCB (Aroclor) mg/kg	Arsenic mg/kg	Copper mg/kg	Mercury mg/kg
M10 Monona Bay (west)	(total PCB)			
0 -10 cm	<.05	5	5	.07
10-20 cm	<.05	-	-	-
20-30 cm	<.05	2	<2	<.02
M11 Monona Bay (north)	(1254-1260)			
0-10 cm	.76	27	140	.84
10-20 cm	.77	50	130	1.1
20-30 cm	.66	51	120	1.0
Deep Lake Samples	(1254-1260)			
Site M1	.15	16	160	.53
Site M2	.14	15	150	.54
Site M3	.15	28	200	.79
Site M4	.15	11	120	.38
Site M5	.14	13	130	.42
Site M6	.17	20	160	.62
Site M7	.16	14	140	.53
Site M8	.07	14	97	.62
Site M9	.07	12	110	.43

Source: WDNR, 1988.

(Summer, 1985)

Lake Depth (ft)	Arsenic mg/kg	Copper mg/kg	Mercury mg/kg	Lead mg/kg	Cadmium mg/kg	Chromium mg/kg
13	12	29	<0.1	39	0.5	31
42	23	184	0.8	86	4.1	159
62	15	106	0.1	72	2.9	99

Source: WDNR, 1989.

### Convention Center Site Monitoring Results

Table 4.2-4 reports the results of lake bed sediment sampling that WCC conducted within the proposed project area. Three sediment cores were obtained on January 19, 1993. One core was divided into an upper and lower layer for separate analysis. The other two cores were composited for analysis. At each site, the depth of the "soft sediment" was measured. This soft sediment is a layer of material deposited over the original lake bed. Major sources of this soft sediment include nonpoint runoff from the watershed and decaying aquatic plant material. The sampling site locations are shown on Figure 4.2-4.

The sampling conducted at the Convention Center site confirms that the metal concentrations in the sediments off of Law Park are in the same range or somewhat less than the metal concentrations found in other parts of the lake.

During the sampling, evidence of petroleum product was observed in the sediment cores. For this reason a Diesel Range Organic (DRO) analysis was conducted on the samples. DRO is a general analysis for petroleum compounds which are found in diesel types of fuels or oils. These compounds were found at the west and center sampling sites. The likely sources of the DRO are nonpoint runoff or leaching from the fill material at Law Park. The subsurface conditions at Law Park are described in Section 4.5.

**TABLE 4.2-4**  
**LAKE SEDIMENT SAMPLING RESULTS FROM WITHIN THE PROJECT AREA**  
 (January 19, 1993)

Site/Sediment (depth) *	PCB mg/kg	Arsenic mg/kg	Copper mg/kg	Mercury mg/kg	Lead mg/kg	Cadmium mg/kg	Chromium mg/kg	DRO ** mg/kg
West (0-10")	<0.064	33	15	0.17	52	0.37	6.2	1600
West (18-37")	<0.067	0.44	3.1	0.41	<2.0	<0.15	0.28	54
Center (0-14")	<0.069	5.4	15	0.16	59	0.41	0.28	560
East (0-28")	<0.068	0.44	2.6	<0.021	<2.0	<.15	0.45	<51

\* At each site the sampling depth and length of core sample varied because of sediment compression within the sampler:

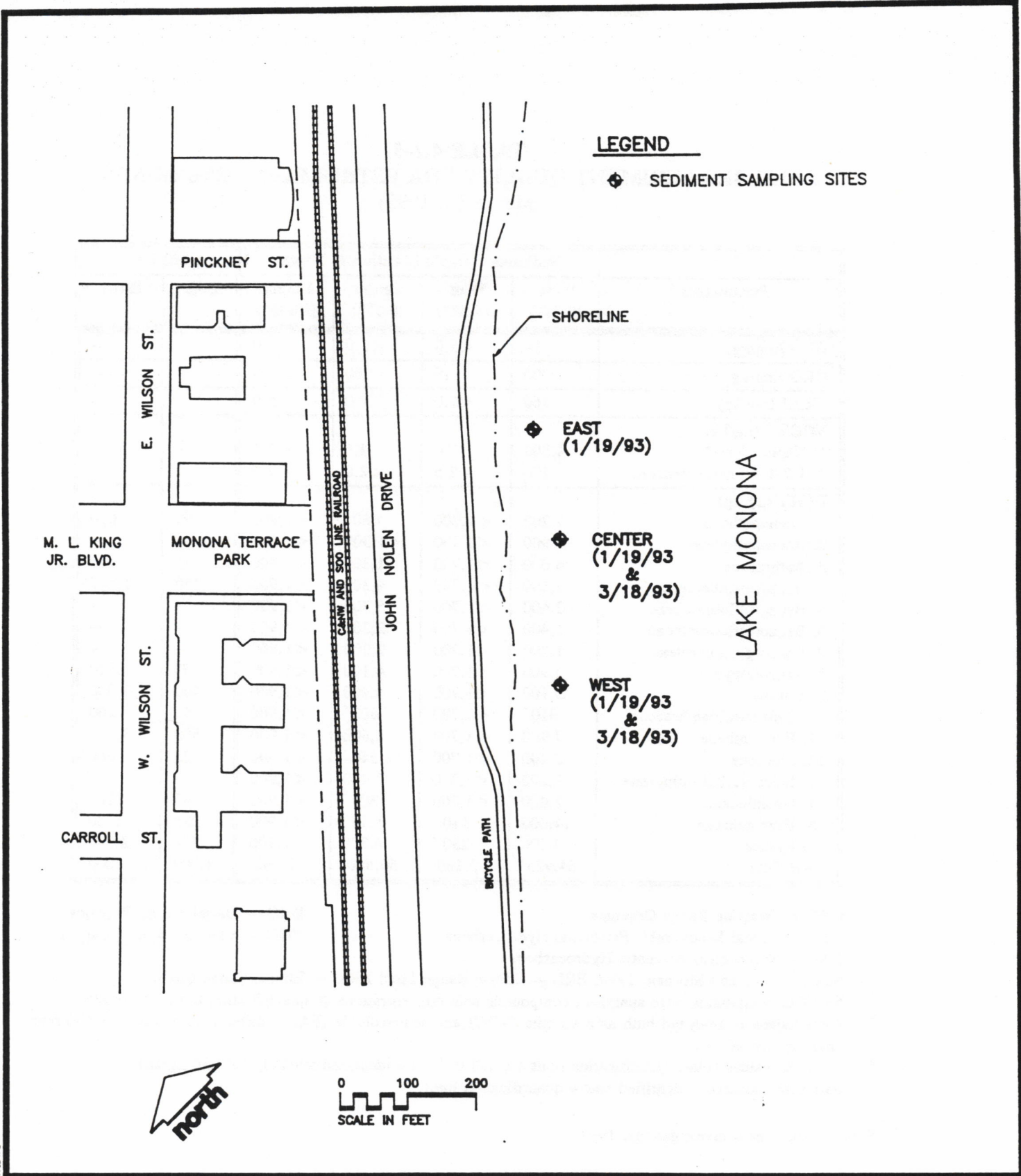
site	water depth	distance from shore	sediment thickness	recovered core length
West	22.2'	60.0'	40"	37"
Center	24.3'	65.0'	25.5"	14"
East	19.5'	50.0'	48"	28"

\*\* Diesel Range Organics, modified procedure because of holding time

Source: WCC sampling, 1993.

Because of the DRO found in the sediments, a second sampling effort was conducted to further define the petroleum compounds in the sediments. A second set of lake bed sediment samples was obtained on March 18, 1993. Table 4.2-5 presents the results of this sampling. The west and center sampling sites are approximately in the same location as the West and Center sites listed in Table 4.2-4.

Analysis of the sediment indicates that the top layers of sediment contain the highest concentrations of petroleum compounds. The analysis shows that the petroleum compounds are primarily composed of diesel (DRO) and heavier oils (TRPH). Both sites contained elevated levels of petroleum. Table 4.2-5 shows the specific volatile organic compounds (VOCs) and polynuclear aromatic hydrocarbons (PAHs) detected within the petroleum products.



**LEGEND**

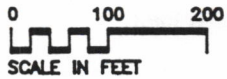
◆ SEDIMENT SAMPLING SITES

◆ EAST  
(1/19/93)

◆ CENTER  
(1/19/93  
&  
3/18/93)

◆ WEST  
(1/19/93  
&  
3/18/93)

LAKE MONONA



**LAKE BED SEDIMENT SAMPLE SITES**

MONONA TERRACE CONVENTION CENTER – MADISON, WISCONSIN

DRAWN BY: JAG

CHECKED BY: JAB

PROJECT NO. 92C6683 A.70

DATE: 5-20-93

FIGURE NO: 4.2-4

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**TABLE 4.2-5**  
**LAKE BED SEDIMENT QUALITY FOR PETROLEUM COMPOUNDS**  
(March 18, 1993)

Parameters <sup>1</sup>	Sediment Sample Location & Depth				Guideline <sup>2</sup>	
	West (0-14")	West (14-32")	Center (0-13")	Center (13-35")	ERL	ERM
GRO (mg/kg)	14	<5.0	<5.0	<5.0	--	--
DRO (mg/kg)	200	15	200	23	--	--
TRPH (mg/kg)	160	<5.0	390	<5.0	--	--
VOC's <sup>3</sup> (µg/kg)						
1. Naphthalene <sup>4</sup>	4,300	24	4.6	<2.9	--	--
2. 1,2,4 Trimethylbenzene	170	<2.6	<2.0	<2.9		
PAH's (µg/kg)						
1. Acenaphthene	5,200	<1,700	460 *	<1,900	150	650
2. Acenaphthylene	<900	<1,700	<1,300	<1,900	--	--
3. Anthracene	6,000	<1,700	1,300	<1,900	85	960
4. Benzo(a)anthracene	3,600	<1,700	4,300	<1,900	230	1,600
5. Benzo(b)fluoranthene	2,600	<1,700	5,300	<1,900	--	--
6. Benzo(k)fluoranthene	1,400	<1,700	2,300	<1,900	--	--
7. Benzo(g,h,i)perylene	1,200	<1,700	2,300	<1,900	--	--
8. Benzo(a)pyrene	2,900	<1,700	4,100	<1,900	400	2,500
9. Chrysene	3,100	<1,700	4,400	<1,900	400	2,800
10. Dibenz(a,h)anthracene	310 *	<1,700	600 *	<1,900	60	260
11. Fluoranthene	7,900	<1,700	8,600	<1,900	600	3,600
12. Fluorene	3,700	<1,700	540 *	<1,900	35	640
13. Indeno(1,2,3-cd)pyrene	1,200	<1,700	2,400	<1,900	--	--
14. Naphthalene <sup>4</sup>	2,400	<1,700	300 *	<1,900	340	2,100
15. Phenanthrene	14,000	310 *	5,100	<1,900	225	1,380
16. Pyrene	9,300	230 *	8,300	<1,900	350	2,200
PAH Total	64,925 <sup>5</sup>	2,150 <sup>5</sup>	50,540 <sup>5</sup>	1,840 <sup>5</sup>	4,000	35,000

- <sup>1</sup> GRO = Gasoline Range Organics  
TRPH = Total Recoverable Petroleum Hydrocarbons  
PAH = Polynuclear Aromatic Hydrocarbons
- <sup>2</sup> Source: Long and Morgan, 1990; ERL = Effects Range Low; ERM = Effects Range Medium
- <sup>3</sup> 58 VOC compounds were analyzed; compounds with concentrations > quantification limits are shown
- <sup>4</sup> Naphthalene is analyzed both as a volatile (VOC) and semi-volatile (PAH); differences are due to different analyses procedures
- <sup>5</sup> Assumes values below quantification limit are half of lowest identified level (1/2 of 230 µg/kg)
- \* parameter positively identified below quantification limit
- DRO = Diesel Range Organics  
VOC = Volatile Organic Carbon

Source: WCC field investigations, 1993.

There are no established federal or state sediment quality criteria to define "clean" or "polluted" sediments, although several systems have been proposed by researchers to define these criteria. The actual biological effects of a contaminant in sediment, perhaps the most important concern associated with contamination, is dependent on many factors specific to a particular site. Long and Morgan (1990) have reviewed historical results of sediment - biological affects and have developed the guideline system shown in Table 4.2-5. This system uses two levels to define the potential level of contamination of sediment. The Effects Range-Low (ERL) concentration is a level below which toxic effects on an organism were rarely or never observed. The Effects Range-Medium (ERM) concentration is a level above which toxic effects were frequently or always observed. It is important to note that these levels are used only as guidelines to provide a general description of the sediment quality at the site.

The upper layer of the sampled lake bed sediments at the project site contain levels of PAH's that are near, or greater than, the ERM levels for most of the compounds that have guidelines. Two likely sources of the petroleum found in the sediments are the fill used in Law Park and urban runoff. There are storm sewer outfalls located near the west and central sampling sites.

The highest concentrations of metals and PCBs in Lake Monona have been reported in the deeper areas of the lake (except for Monona Bay which is directly impacted by storm sewers) and in deeper layers of the sediment throughout the lake. The reasons for these findings are two-fold:

- 1) The metals are more readily attached to the finer mineral particles (clay size). These particles settle out in the most "quiet" portions of the lake which are generally the deep water areas. The sediments along the shore tend to be coarser material (silt and sand size).
- 2) The metals and PCBs are also more readily attached to the fine organic particles. This organic material is also found in the deep water areas of the lake for the same reasons listed above.

Arsenic is an exception to the pattern described above. This metal is found in higher concentrations in the shallower water because it was heavily used as an aquatic herbicide in the past. This metal was applied to the weed beds which are in the shallower waters of the lake.

### **Public Beach/Human Health Conditions**

As part of a nonpoint source watershed planning effort, the City of Madison and Dane County RPC monitored selected public beaches on Lake Monona for bacteria and heavy metals in 1989. The sampling was done following two stormwater runoff events to measure the impacts (if any) from nonpoint source pollution. The beaches sampled were Brittingham, Frostwoods, Olbrich, and Olin. Fecal coliform levels did not exceed the State Division of Health guidelines for beach closure at any sampled sites. Levels of fecal streptococci and Staphylococcus aureus were either unchanged or only slightly elevated. Heavy metal concentrations in the water were below detection limits except for one detection of silver at Brittingham Beach which had a concentration of 0.07 milligrams per liter (mg/l). The 1989 study suggests that the expected high bacteria levels in urban storm water runoff, which have been generally documented (Bannerman, Personal Communication, 1992), were not present at levels substantial enough to raise the concentrations at the monitored beaches.

Lake Monona's public beaches have been closed, for health reasons, in the past. These occurrences have been related to high concentrations of duck feces at the public beaches (Dane County RPC, 1992). Management efforts have been successful in reducing the incidence of beach closures from this source.

### **Pollution Sources**

Between 1988 and 1991 the Dane County RPC, as part of the State of Wisconsin Nonpoint Source Pollution Abatement Program, conducted an extensive study on the Lake Monona watershed. The project area for this study did not include the watershed to Lake Mendota. The study identified the sources of pollution and their significance to Lake Monona and its tributaries. The following information is based on that study.

Urban and rural nonpoint pollution were identified as the major sources of sediment, nutrients, and heavy metals to Lake Monona. Table 4.2-6 shows some of the results of an



investigation conducted by the Dane County RPC as part of the "Yahara/Monona Priority Watershed Plan".

Other less significant sources of nonpoint pollution were also identified in this study and included:

- sewage sludge application sites;
- bulk fertilizer/pesticide storage facilities;
- pesticide mixing/loading sites;
- hazardous waste storage facilities;
- salvage/junk yards;
- solid waste disposal sites;
- underground storage tanks; and
- unsewered subdivisions.

Since pollution from these sources is generally regulated by state and/or federal agencies, actual runoff from these areas into the lake is typically the result of poor management or accidental spills.

**TABLE 4.2-6  
SOURCES OF NONPOINT SOURCE POLLUTION TO LAKE MONONA**

Source	Phosphorus (lbs/yr)	Sediment (tons/yr)	Zinc (lbs/yr)
Rural Cropland Runoff	No Estimate	4,119	No estimate
Animal Lot Runoff	116	No Estimate	No estimate
Urban Runoff	11,248	2,872	8,290
Construction Site Erosion	No Estimate	690	No estimate
Yahara River (from Lake Mendota)	16,100	4,025	No estimate
Total	27,464	11,706	8,290

Source: Dane County RPC, 1992; rural cropland, animal lot, and urban estimates from the "Yahara Monona Priority Watershed Plan" tables 4-4, 4-9, 4-10, construction erosion based on 69 acres under construction @ 10 t/ac/yr (assumes construction erosion control measures are 66 percent effective); Yahara River phosphorus load from table 5-12; Yahara River sediment load estimate based on sediment/phosphorus ratio of 1/.002 (Dane Co. RPC Personal Communication, 3/5/93)

The annual nonpoint pollution load to Lake Monona from the Monona Terrace site was estimated using the Source Load and Management Model (SLAMM). This was the same tool used in the "Yahara - Monona Priority Watershed Plan" to estimate the urban nonpoint source pollutant loads. The results of this estimation are shown on Table 4.2-7.

**TABLE 4.2-7  
CURRENT ANNUAL NONPOINT POLLUTANT LOAD ESTIMATES  
FROM THE MONONA TERRACE SITE\***

<b>Land Cover</b>	<b>Acres</b>	<b>Total Phosphorus (lbs/yr)</b>	<b>Sediment (tons/yr)</b>	<b>Total lbs/yr</b>
Parking Lots	0.88	1.4	0.16	0.9
J. Nolen Drive	2.37	3.9	0.44	2.4
R.R. Track	2.86	4.7	0.53	2.9
Park Grass	4.52	1.3	0.11	0.1
<b>TOTAL</b>	<b>10.63</b>	<b>11.3</b>	<b>1.24</b>	<b>6.3</b>

\* Based on unit area loads from the Source Load and Management Model (SLAMM) (WDNR, April 1989).

### 4.3 FISHERY AND FISH HABITAT

#### Fish Surveys

Lake Monona is one of the four major lakes (Mendota, Monona, Waubesa, and Kegonsa) collectively known as the Yahara Lakes. The lakes are interconnected by the Yahara River. Of these lakes, Lake Monona is the second largest (3,275 surface acres) and is located within the City limits of Madison and Monona. The lake supports a sport fishery and is an important open water and ice fishing recreation area for the communities. Recreational uses of the Yahara Lakes are important sources of revenue for the Cities of Madison and Monona and the State of Wisconsin.

Lake Monona has a reported maximum depth of 73 feet and contains large areas that are shallow, less than ten feet in depth. Generally, these shallow areas have dense growths of

rooted aquatic macrophytes, or weeds, during the summer. Lake Monona has 13.2 miles or 69,700 feet of shoreline. (Dane County RPC, 1992)

The WDNR conducts periodic surveys of the fish population in Lake Monona and the results of these surveys are the primary source for the information provided in this section. The most recent comprehensive fish surveys were conducted in 1976 and 1988. The following species of fish were reported to be present in Lake Monona:

- Northern Pike
- Walleye
- Smallmouth Bass
- Rock Bass
- Pumpkinseed
- Yellow Bass
- Yellow Perch
- White Crappie
- Brown Bullhead
- Freshwater Drum
- Lake Sturgeon
- White Sucker
- Carp
- Largemouth Bass
- Tiger (hybrid) Musky
- Bluegill
- Orange Spotted Sunfish
- Green Sunfish
- White Bass
- Black Crappie
- Black Bullhead
- Yellow Bullhead
- Warmouth Bass
- Bigmouth Buffalo
- Longnose Gar
- Bowfin

In 1988 and 1991 WDNR conducted shoreline fish surveys on Lake Monona including the area of the proposed Convention Center. Results of these surveys indicate that a good bass population exists in the lake and that high numbers of panfish, especially bluegill and pumpkinseed sunfish, are located in the areas with aquatic macrophytes. (WDNR, 1988; Stewart, 1988) Although lower in numbers, walleye, northern pike, and tiger musky were also collected during these shoreline fish surveys. No threatened or endangered fish species have been found in Lake Monona and none are known to occur. Recent stockings in the lake included northern pike, muskie, and tiger (hybrid) muskie. These stockings have been made with the intent of increasing the variety and quality of the sport fishery within Lake Monona.

The Law Park shoreline provides suitable spawning habitat for fish species including largemouth bass, bluegill, pumpkinseed, and white crappie. The water depth and substrate make this shoreline generally unsuitable or only marginally suitable for spawning by walleye.

The northern pike population in Lake Monona has been reported to be decreasing over the past several decades. This decrease may be explained by the reduction in the suitable wetland areas for spawning, low water levels during the spring, and/or excessive fishing. The Law Park shoreline generally is not suitable for Northern Pike spawning.

### **Fish Habitat and Macrophyte Condition**

All of the Yahara Lakes, including Lake Monona, have large areas of shallow water and are eutrophic. Lathrop (1989) reports that approximately 26 percent, or about 850 acres, of Lake Monona has a water depth less than ten feet. During the summer periods these shallow areas have dense aquatic macrophyte growth.

Aquatic macrophytes are often considered by anglers, boaters, and swimmers to be a nuisance and the Madison area has a history, dating back to the late 1930's, of using aquatic herbicides, as well as mechanical cutting, to reduce or eliminate macrophytes from certain shoreline areas. However, some aquatic macrophytes provide important habitat for many fish species and massive weed eradication programs often eliminate desirable macrophytes along with the undesirable macrophyte species.

Changes in the WDNR regulations that govern the Aquatic Plant Management Program went into effect in 1989 under Chapter NR 107, Wisconsin Administrative Code. As part of the program, the WDNR restricted application of herbicides for lake weed control in about 93 percent, or about 65,000 feet, of Lake Monona's shoreline. In these areas, herbicide treatment is not permitted until after mid-June to protect fish spawning in the weedy areas. The Law Park shoreline is affected by these regulations and herbicide treatments are prohibited before mid-June.

The seven percent of Lake Monona's shoreline not affected by the herbicide application restrictions includes:

- 3735 Monona Drive to 4100 Monona Drive, 2,390 feet of shoreline;
- Winnequah boat landing - Tecumseh access point, 750 feet of shoreline; and
- Brittingham Park - Bernie's Beach, 1,440 feet of shoreline.

Although springtime herbicide treatments are permitted in these non-critical areas, generally only about 50 percent of the eligible areas actually receive herbicide treatments in any one year (WDNR, 1990).

The Dane County Lakes and Watershed Commission is currently reviewing a new proposal prepared by WDNR for managing the macrophytes in Lake Monona (Winkelman and Lathrop, 1993). The proposal designates categories of Lake Monona shoreline for different levels of macrophyte management. The three categories are "natural area," "watch area," and "no restriction." The boat launch area at Law Park is designated a "no restriction" area, which means that macrophyte harvesting would be allowed to enhance the boating access to and from the boat ramp. The rest of the Law Park shoreline is designated a "watch area." This means that harvesting would be allowed only in conditions where "weedy" species are present in medium to high densities. Otherwise, cutting would be allowed only on the surface of the lake, to provide lanes of access to the open lake. This proposal has not yet been acted upon by the Dane County Lakes and Watershed Commission.

#### **4.4 TERRESTRIAL VEGETATION AND WILDLIFE**

The site of the proposed Convention Center (the Law Park area) is composed of fill that was placed on the bed of Lake Monona prior to 1960. Law Park's vegetation is relatively recent and post-dates the placement of the fill.

The existing trees and shrubs consist of a variety of species. In 1992 the City of Madison Parks Department conducted an inventory of the vegetation in Law Park and along the north side of John Nolen Drive in the area of Law Park that would be directly impacted by the proposed Convention Center. The complete plant inventory is included in Appendix A. Most of the trees and shrubs identified in Law Park are non-native horticultural varieties and

no endangered or threatened species of vegetation were found on the site. The most common trees were Green Ash, Elm, River Birch, and Black Willow. Common shrubs included Buttonbush, Honeysuckle (various types), and Gray Dogwood. All of the vegetation on the site was planted, except for a few of the "weedy" species such as Box Elder and Cottonwood. The trees are generally mature and some are in the 20 to 30-year age class.

The WDNR concluded in its comments on the John Nolen Drive expansion project: "Due to the urban setting, wildlife habitat in the area is rather limited" (WDNR letter to the City of Madison, December 11, 1990).

Small mammals, such as squirrel, rabbit, raccoon, and muskrat, and common song birds and other bird species, have been reported in the Law Park area. These wildlife are commonly found in an urban setting.

Migratory waterfowl have been reported, on occasion, in Lake Monona, especially at the MG&E cooling water outfall about 1,700 feet northeast of the project area. Common loons, mergansers, Canadian geese, and other waterfowl not commonly found in urban areas have been observed on occasion in Lake Monona.

There are no reports of any endangered or threatened wildlife species in the project area.

#### **4.5 SUBSURFACE CONDITIONS**

The subsurface of the project area consists of fill materials deposited on the natural soils and lake bed. The natural soils below the fill are a very dense glacial drift deposit overlying bedrock. The surface of the glacial deposit slopes downward from shore out into Lake Monona. These glacial deposits are overlain by a very soft lake sediment layer. These sediments vary in thickness from 0 feet to 30 feet and generally begin at the original lake shore near the base of Olin Terrace and get deeper toward the lake.

Groundwater depth at the site (in Law Park) varies from 3.6 to 4.5 feet below the surface, as recorded in the monitoring wells established in January 1993.

## Previous Subsurface Reports

A significant amount of study has been conducted to assess the subsurface conditions of the fill under the John Nolen Drive -- Law Park area. The existing studies are related to the original filling of the lake bed, earlier assessments for previous convention center studies, and a study as part of the environmental assessment of the John Nolen Drive expansion project. The following reports were considered and provide the basis of this section of the final EIS.

March 9, 1956, Memorandum to the Mayor and Common Council by PACE Associates, Chicago, Illinois. This report references soil borings in the area for preliminary foundation design of an earlier proposed version of a building at the Monona Terrace site. However, the boring logs were not attached, and no reference to fill materials were made.

City of Madison Engineering Department Historical Drawings. These drawings were reviewed to help locate the Lake Monona shoreline between 1937 and 1951. The drawings indicate that by 1951 fill materials in the present-day Law Park area extended 200 or more feet into the lake parallel to the railroad tracks between Broom and Blair Streets.

January 31, 1969, Warzyn, Inc. Subsurface Exploration and Soils Engineering Analysis for Madison Civic Auditorium and Parking Structure. This report identified fill stability as a critical problem for foundation support and recommended that pilings be utilized for supporting the proposed structure. The report went on to say:

Since 1941, and mostly prior to 1947, miscellaneous fill materials have been dumped into the lake. They comprise the majority of materials now visible at the ground surface within the area of the proposed project. These fill materials include miscellaneous trash, cinders, non-organic soil, concrete gravel, etc. Some of these fill materials such as cinders are subject to future decomposition, which could result in additional settlement thereof.

In addition, the fill materials are expected to be acidic and highly corrosive with respect to those segments of steel pilings or other metal structural members embedded in the fill. The exact limits of the corrosive areas cannot be predicted. Therefore,

the entire fill area must be assumed to be corrosive and must be dealt with by positive means, other than overly thickening any pilings or other metal structures that extend through the fill. We believe that cathodic protection is required.

October 1989 Recollections of Former Madison Street Commissioner, Submitted by James A. Brophy. This document indicates that the area along the lakeshore between Broom and Blair Streets had received municipal solid waste between 1936 and approximately 1950. According to Mr. Brophy, the portion of the lakeshore between Broom and Proudfit Streets was filled with "...good base material".

May 10, 1991, Warzyn, Inc., Phase I and II Environmental Assessment for the John Nolen Drive Expansion. This assessment concluded that there were no serious environmental concerns based upon the review of the "background of resources, site and soil observations, analytical testings, and a soil gas survey." The assessment noted that the Law Park site is listed on the WDNR active and abandoned landfill list as a municipal waste site, but that testing of the soils in the area for metals and TPH's (total petroleum hydrocarbons) showed only low levels of weathered hydrocarbons, that resembled No. 2 fuel oil, at a site near John Nolen Drive on a line forming an extension of Hancock Street. The study included 12 soil borings along the John Nolen Drive corridor. Three of the borings were in the area where the proposed Convention Center will be located. Analytical testing of soil samples from these three borings showed no trace of fuel oil or hydrocarbons.

The assessment noted the presence of an unregistered underground storage tank next to the small boat house at the edge of Lake Monona near the boat launch area of Law Park. This tank is used by the Dane County Police Boat Patrol. The assessment concluded that the tank was not found to present any detrimental environmental effects. However, the report suggested the tank be removed if no longer used. This tank is not near the area where the Monona Terrace Convention Center is proposed to be located.

The report also concluded that significant levels of methane were not detected in, and are not likely to be a problem with, the fill in the Law Park area. Warzyn attributed this to the high water table and the age and composition of the fill material.



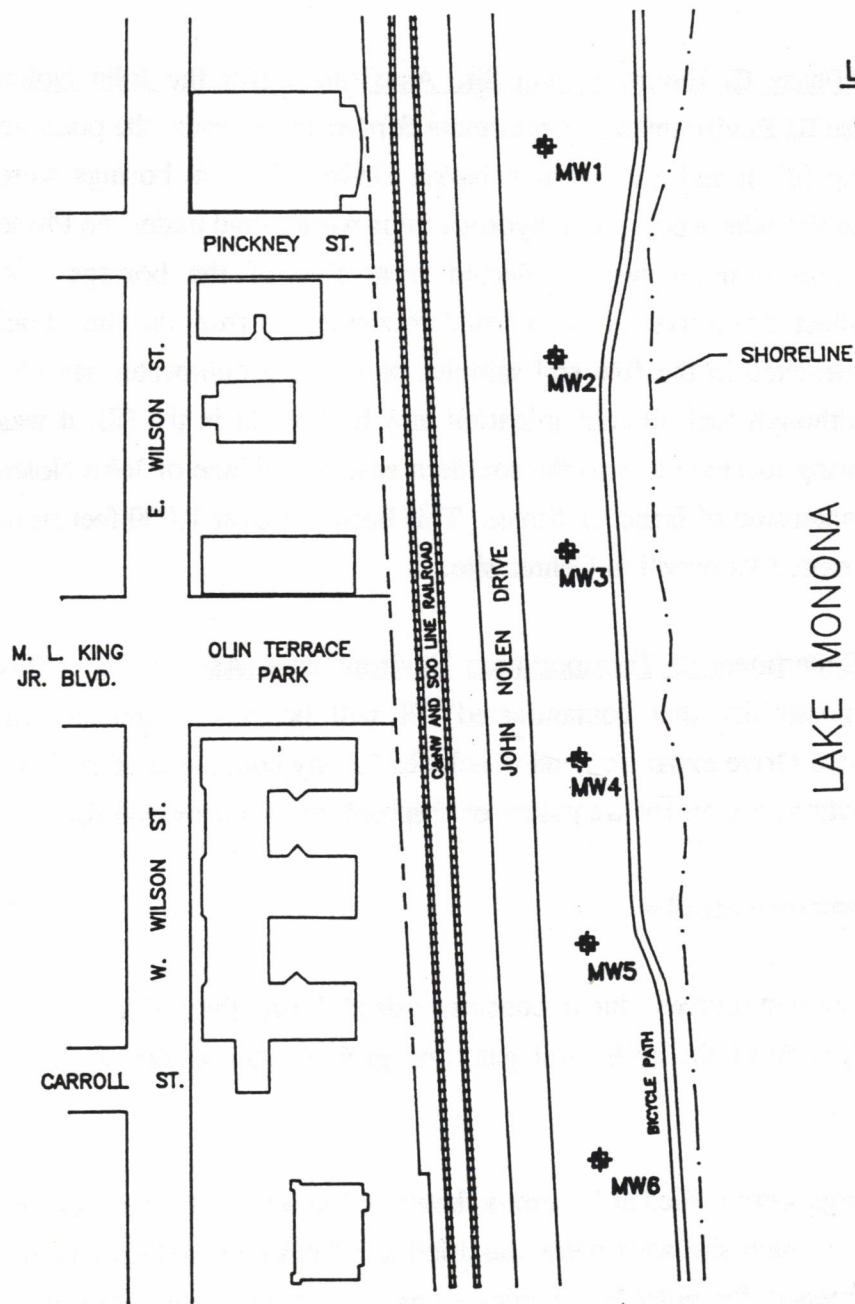
April 1992, Warzyn Inc., Phase III Environmental Site Assessment (for the John Nolen Drive expansion). The Phase III Environmental Assessment further investigated the possible fuel oil contamination in the fill in and around John Nolen Drive. Six soil borings were drilled in the area around the site where petroleum hydrocarbons were found under the Phase I and II investigations. Soil samples were collected from five of the borings. A groundwater sample was collected at a sixth boring located downgradient from the site. Fuel oil contamination was not detected in the five soil samples or in the groundwater sample. The report concludes that although fuel oil contamination may be present in the fill, it was detected in only one soil boring located close to the southern east bound lane of John Nolen Drive on a line forming an extension of Hancock Street. This boring is over 1,000 feet from the western edge of the proposed Convention Center site.

May 8, 1992, Wisconsin Department of Transportation Environmental Assessment. This assessment discusses the possibility that contaminated fill will be encountered during construction of the John Nolen Drive expansion and concludes "if any contaminated soil [is] encountered during construction, a plan for treatment or disposal will be provided for."

#### **Monona Terrace EIS Subsurface Studies**

In addition to the above mentioned sources, due to concerns raised during the DEIS process, WCC conducted an investigation of the soils, soil gas, and groundwater at the proposed building site. \*

In January of 1993, six borings were drilled at locations shown in Figure 4.5-1. The borings averaged 13 feet in depth. At each site soils were classified and field logs were prepared. Soil samples were field screened for volatile organics using a calibrated photoionization detector (PID). Soil samples were also screened with a combustible gas indicator (CGI). Samples with PID readings above background levels were submitted to Hazelton Environmental Services Laboratory for analysis of Total Recoverable Petroleum Hydrocarbons (TRPH). These results are shown in Table 4.5-1.



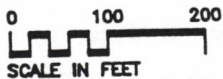
**LEGEND**

⊕ SOIL BORING AND MONITORING  
 MW1 WELL LOCATON & NUMBER



**NOTES**

1. SOIL BORINGS PERFORMED BY ENVIRONMENTAL & FOUNDATION DRILLING ON JANUARY 21 AND 22, 1993.
2. MONITORING WELLS WERE INSTALLED AT THE COMPLETION OF EACH BORING.
3. BASE MAP PROVIDED BY CITY OF MADISON.



**SOIL BORING & MONITORING WELL LOCATION PLAN**  
 MONONA TERRACE CONVENTION CENTER – MADISON, WISCONSIN

DRAWN BY: JAG

CHECKED BY: JAB

PROJECT NO. 92C6683 A.70

DATE: 5-20-93

FIGURE NO: 4.5-1

D:\92C6683\BORING.DWG

**TABLE 4.5-1**  
**SUMMARY OF ANALYTICAL SOIL TESTING**  
 January 21-22, 1993

Site Number	Sample Number	Depth (ft)	TRPH <sup>1</sup> (ppm)
MW-1	4	8.5-10.0	900
MW-4	2	3.5-5.0	240
MW-6	2	3.5-5.0	3,000
MW-6	4	8.5-10.0	3,200

<sup>1</sup> TRPH = Total Recoverable Petroleum Hydrocarbons

Source: WCC field investigation, 1993.

TRPH is a measurement of general petroleum product. Measurable amounts were found at three of the sites. The most likely petroleum product causing the elevated TRPH measurements is diesel type oil that may have been dumped in the old landfill. The petroleum was recorded in the far west, central, and far east boring sites.

The soil logs indicated that the oil was noticed at these three sites visually and by odor. The soil logs generally showed that the upper one foot was a top soil material. Below that layer, various material was found including clay, sand, possible foundry sand, concrete, wood, glass, brick, gravel, cinders, cloth, paper, and pieces of metal.

During the drilling at site MW-6 (the west station of the site), four attempts had to be made to drill to the 13 foot depth. On the first three tries, "auger refusal" occurred at about 6.5 feet. The field notes suggest that a large slab of concrete was struck. A new site was selected. None of the other five sites encountered any similar drilling problems.

Monitoring wells were installed and developed at each site. The monitoring wells served to monitor both groundwater and soil gases. At each well, a groundwater sample was obtained and submitted to Hazelton Environmental Services Laboratory for analysis of TRPH. The results of the groundwater analysis are shown in Table 4.5-2.

Measurable amounts of TRPHs in the groundwater were found in two of the wells. Additional groundwater monitoring was conducted at these two sites, and the results are presented on Table 4.5-3.

\* Results of the additional groundwater sampling show that concentrations of benzo(a)pyrene exceed the Enforcement Level, as listed in NR 140, Wisconsin Administrative Code, at both wells. Naphthalene concentrations at site MW-3 exceeded the Preventive Action Limits of NR 140.

**TABLE 4.5-2**  
**SUMMARY OF GROUNDWATER ANALYTICAL TESTING**  
 February 3, 1993

Site Number	Water Table Depth (ft. below surface)	pH (SU)	TRPH (ppm)
MW-1	4.3	7.8	<1.0
MW-2	4.5	8.1	<1.0
MW-3	4.5	7.8	4.5
MW-4	4.5	7.5	2.3
MW-5	4.3	7.3	<1.0
MW-6	3.6	8.1	<1.0

Source: WCC field investigation, 1993.

GW Monitoring Results

**TABLE 4.5-3**  
**SUMMARY OF DETAILED GROUNDWATER MONITORING RESULTS**  
 March 26, 1993

Parameter	Site	Site	WI Groundwater Standards <sup>1</sup>	
	MW-3	MW-4	Enforcement Level	PAL <sup>3</sup>
<b>VOC's (µg/l)<sup>3</sup></b>				
1. Methylene Chloride	<1.0	1.1	150	15
2. Benzene	<1.0	<1.0	5	<.067
3. Ethylbenzene	<1.0	<1.0	1360	272
4. Toluene	<1.0	<1.0	343	68.6
5. Xylene	<1.0	<1.0	620	124
<b>PAH's (µg/l)</b>				
1. Acenaphthene	15.0	1.24	none	none
2. Acenaphthylene	<.1	.17	none	none
3. Anthracene	31.0	2.29	none	none
4. Benzo(a)anthracene	66.0	5.36	none	none
5. Benzo(b)fluoranthene	51.1	5.17	none	none
6. Benzo(k)fluoranthene	30.1	3.08	none	none
7. Benzo(g,h,i)perylene	46.0	5.17	none	none
8. Benzo(a)pyrene	59.3	6.44	.003	.0003
9. Chrysene	61.2	5.25	none	none
10. Dibenzo(a,h)anthracene	10.5	1.20	none	none
11. Fluoranthene	251	15.6	none	none
12. Fluorene	22.2	1.43	none	none
13. Indeno(1,2,3-cd)pyrene	33.3	4.01	none	none
14. Naphthalene	14.4	2.34	40	8
15. Phenanthrene	207	14.2	none	none
16. Pyrene	168	16.8	none	none

<sup>1</sup> Wisconsin Administrative Code: NR 140; Groundwater Quality  
<sup>2</sup> Preventive Action Limit (PAL)  
<sup>3</sup> Selected VOC compounds are shown; no other compounds were measured above detection levels

Source: WCC field monitoring.

The third type of measurement taken at the boring sites was for soil gas. Two types of gas monitoring were conducted: 1) a field screening test for volatile organics using a PID; and 2) a methane gas measurement of the monitoring wells after being sealed for two days.

**TABLE 4.5-4**  
**SOIL GAS MONITORING RESULTS**  
 February 10, 1993

Site Number	PID <sup>1</sup> (ppm)	Methane (% of the LEL) <sup>2</sup>
MW-1	3.3 (at 9')	0
MW-2	0.0	0
MW-3	0.0	4
MW-4	3.3 (at 4')	0
MW-5	0.0	0
MW-6	13.3 (at 9')	22

<sup>1</sup> PID measures volatile organic compounds

<sup>2</sup> Lower Explosive Limit

Source: WCC field investigation, 1993.

Elevated levels of methane gas were detected at two of the monitoring wells on February 10, 1993. The Lower Explosive Limit (LEL) for methane is a 5 percent concentration of methane in air. The WDNR's Bureau of Solid Waste, to protect public health and safety, generally does not permit development in areas where the methane concentration exceeds 25 percent of the LEL. The highest concentration of methane measured in the Law Park monitoring wells was 22 percent of the LEL at MW-6. Methane gas was subsequently tested over a two-week period at all sites. The results are summarized in Table 4.5-5. At each site, the air from each well was pumped and continuously monitored over a ten minute period to measure any changes in methane concentrations. Detectable levels of methane were found only at well MW-6 on two of the ten days. The only time elevated levels of methane were found in MW-6 was after two days passed between sampling times (Friday-Monday). During the week, when sampling was done every day, measurable amounts of methane were not found in MW-6 (or in any other well). This may indicate that methane buildup within the well requires a couple of days to reach a measurable level. The concentrations of methane found in the follow-up monitoring are shown on Table 4.5-6. No methane concentrations in excess of the 25 percent LEL level were ever detected.

**TABLE 4.5-5**  
**FOLLOW UP METHANE GAS MONITORING**  
 April 4-17, 1993

Date	Methane (% of the LEL)
4/4/93	0.0% in all monitoring wells (MW-1 - MW-6)
4/5/93	0.0% in all monitoring wells (MW-1 - MW-6)
4/6/93	0.0% in all monitoring wells (MW-1 - MW-6)
4/7/93	0.0% in all monitoring wells (MW-1 - MW-6)
4/8/93	0.0% in all monitoring wells (MW-1 - MW-6)
4/12/93	0.0% in MW-1 - MW-5 MW-6 - refer to Table 4.5-6
4/13/93	0.0% in all monitoring wells (MW-1 - MW-6)
4/14/93	0.0% in all monitoring wells (MW-1 - MW-6)
4/15/93	0.0% in MW-4, MW-5 and MW-6 No readings in MW-1, MW-2 and MW-3 - wet weather interference
4/16/93	0.0% in MW-1 and MW-2 No readings in MW-3, MW-4, and MW-6 - wet weather interference
4/19/93	0.0% in MW-1 - MW-5; MW-6 - refer to Table 4.5-6

Note: Methane in monitoring wells was analyzed with Geo Group Infra Red Gas Analyzer; instrument's calibration checked with 2.5 percent methane standard on 4/5/93 and 4/12/93.

**TABLE 4.5-6  
METHANE GAS DETECTIONS: SITE MW-6**

<b>Date</b>	<b>Time (Minutes)</b>	<b>Methane (% of the LEL)</b>
4/12/93	1	10
	2	12
	3	12
	4	12
	5	12
	6	12
	7	14
	8	14
	9	12
	10	*
4/19/93	1	8
	2	12
	3	16
	4	*

\* Test discontinued - water in line.

Source: WCC field investigation, 1993.

Additional soil gas testing was conducted for the presence of hazardous gases. These results are shown in Table 4.5-7. Benzene was detected at two wells on April 6, 1993. Subsequent sampling for benzene was conducted at these wells on April 19, 1993. The levels of gas found represent concentrations in the soil (below ground), not levels at or above the surface.



**TABLE 4.5-7**  
**FOLLOW UP HAZARDOUS SOIL GAS TESTING**  
 April 6 & 19, 1993

Site #	Vinyl Chloride (ppm)	Benzene (ppm) (4/6/93)	Benzene (ppm) (4/19/93)	Hydrogen Sulfide (ppm)
MW-1	<0.0025	0.012	<0.02	<0.20
MW-2	<0.0025	<0.003	—	<0.20
MW-3	<0.0025	<0.003	—	<0.20
MW-4	<0.0025	<0.003	—	<0.20
MW-5	<0.0025	<0.003	—	<0.20
MW-6	<0.0025	0.009	<0.02	<0.20

Source: WCC field investigation, 1993.

Industry standards for exposure to the tested compounds have been set by both the Occupational Safety and Health Administration (OSHA) and U. S. Department of Health and Human Services' National Institute for Occupational Safety and Health (NIOSH). These standards are shown in Table 4.5-8 and are ambient air measures, not soil gas measurements, and comparisons between an ambient air quality standard and a soil gas concentration is problematic. Soil gas concentrations necessary to produce measurable concentrations in ambient air would typically be significantly higher than the concentration recorded in the ambient air. The benzene concentrations found in the soil gas of the Monona Terrace site were well below these ambient air standards.

**TABLE 4.5-8  
OSHA & NIOSH STANDARDS FOR VINYL CHLORIDE, BENZENE, AND  
HYDROGEN SULFIDE GASES**

Parameter	OSHA		NIOSH	
	15 min. exposure	8 hr. exposure	Short Term	10 hr. exposure
Vinyl Chloride	5 ppm	1 ppm	none	< detection
Benzene	5 ppm	1 ppm	1 ppm (15 min)	.1 ppm
Hydrogen Sulfide	15 ppm	10 ppm	10 ppm (10 min)	none

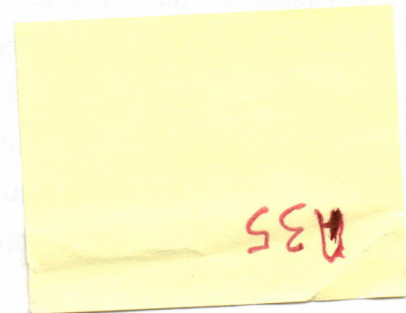
Source: Pocket Guide to Chemical Hazards, USDHHS, 1990.

### Summary of Subsurface Site Conditions

Below is a summary of the current subsurface site conditions based on the previous and current studies:

- The material found at the site consisted mostly of construction materials, household wastes, and cinders covered by an average of one foot of soil material.
- Some of the fill material contains petroleum product, other areas of the fill are not contaminated with petroleum.
- Petroleum product is also found in some groundwater samples.
- The pH found in the groundwater was neutral to slightly basic.
- The current fill material is at least 30 years old and has been exposed to oxygen and decomposing conditions for that period of time. Decomposition is still ongoing as indicated by the soil gas measurements.
- Soil methane has been found at measurable levels. The concentrations appear to be somewhat higher in the winter (frozen ground) conditions.

- During the period when the City was routinely dumping waste materials into Lake Monona to create the Law Park area, toxic compounds that are found in household products today were not commonly available. No such substances have been reported in the fill.
- The site is hydrologically connected with Lake Monona. The groundwater is likely interconnected with Lake Monona. Pollutants in the fill have been available to the Lake Monona environment for the past 30 years.



## **4.6 CULTURAL RESOURCES**

"Cultural Resources" generally include prehistoric and historic archaeological sites, historic architectural and engineering remains, and sites of traditional value or religious importance to Native Americans or other ethnic groups.

### **Study Area**

For purposes of the EIS, an area of potential project effect (APE) was defined with the assistance of the Historic Preservation Division of the State Historical Society. (Figure 4.6-1) The Monona Terrace project would directly affect the two city blocks aligned with the State Capitol from South Pinckney to South Carroll Streets and would impact Law Park from approximately Hancock Street to a line extending to the waterline from South Henry Street. Potential impacts to prehistoric and historic archaeological resources, if any, were considered to fall within this area.

The APE for historical and architectural resources, also known as the "built" environment, encompasses a larger area than the APE for archaeological resources. This larger study area extends farther up the terrace above Lake Monona to Wilson Street and extends from South Hancock Street west to Henry Street to the edge of Lake Monona. It also encompasses a single block extension between Wilson and Doty Streets and South Carroll and South Pinckney Streets. Relevant properties, within or abutting this area, were addressed for purposes of this study. A summary discussion of prehistory and history for the study area and surrounding region is provided below.

### **Baseline Conditions**

#### Prehistory

The project area is situated near the convergence of wetland, lake, and hardwood forest environments. These environments would have provided prehistoric inhabitants of the area with an abundance of floral and faunal resources during much of the year. This prehistoric scenario is supported by archaeological evidence which indicates humans were in the Madison area perhaps 9000 years ago or more. During the next few thousand years during

the Archaic and Woodland periods, the archaeological evidence for human occupation in the Madison area is limited. During the middle and late Woodland period beginning about 1500 years ago there is evidence for increasing human utilization of the area. Populations tend to be focused on riverine resources with populations apparently increasing and becoming more stable in their settlement pattern as groups coalesced into larger village units and seasonally dispersed into smaller seasonal camps.

This period is also associated with mound-building activity in southern Wisconsin. The City of Madison contains one of the highest concentrations of mounds in Wisconsin. Two mound groups once existed near the project area. One grouping containing a turtle effigy and two conical mounds, collectively known as the Monona Avenue Park Mound Group, occurred at the intersection of Wilson Street and Martin Luther King, Jr. Boulevard. A panther effigy, known as the Capitol Park Effigy, once existed near the State Capitol grounds. Neither of these mound groups exist today.

Between A.D. 900 and 1300 the Oneota Indians began to occupy permanent villages in riverine and lakeshore environments. The Madison area was peripheral to their permanent village locations, but small temporary campsites associated with this group have been found in the region. None have been found adjacent to the project area. By the proto-historic and historic periods other groups such as the Winnebago and the Potawatomi utilized the area. By the 1830's both groups were displaced from the area.

### History

The City of Madison was platted in 1836 by James Doty, who also platted the Capitol Square and the surrounding capitol park at that time. The first State Capitol was erected on the platted location in 1839 and was replaced with a second capitol building in 1869.

Madison experienced accelerating growth in the latter 19th century. By the 1880's a residential neighborhood was established along Wilson Street. At this time the City acquired a 132 acre strip of land at the end of Martin Luther King, Jr. Boulevard known as Olin Terrace. A portion of this area is encompassed by the Monona Terrace project area.

Madison pioneered the concept of integrated city planning. John Olin, an activist for park development and city planning at the turn-of-the-century, was instrumental in encouraging Madison to hire John Nolen, a noted landscape architect, to produce a comprehensive city landscape plan. Nolen's plans included a capitol mall that provided a linkage between Lake Monona and the State Capitol.

A by-product of Madison's growth was an ever-increasing amount of refuse. Beginning in the 1890's the strip of marsh along the north shore of Lake Monona was used as a dumping location on an informal basis. Between 1935 and 1945 what is now Law Park became an official dumping location where both residential and commercial refuse was dumped and periodically compacted (see Section 4.7 for details).

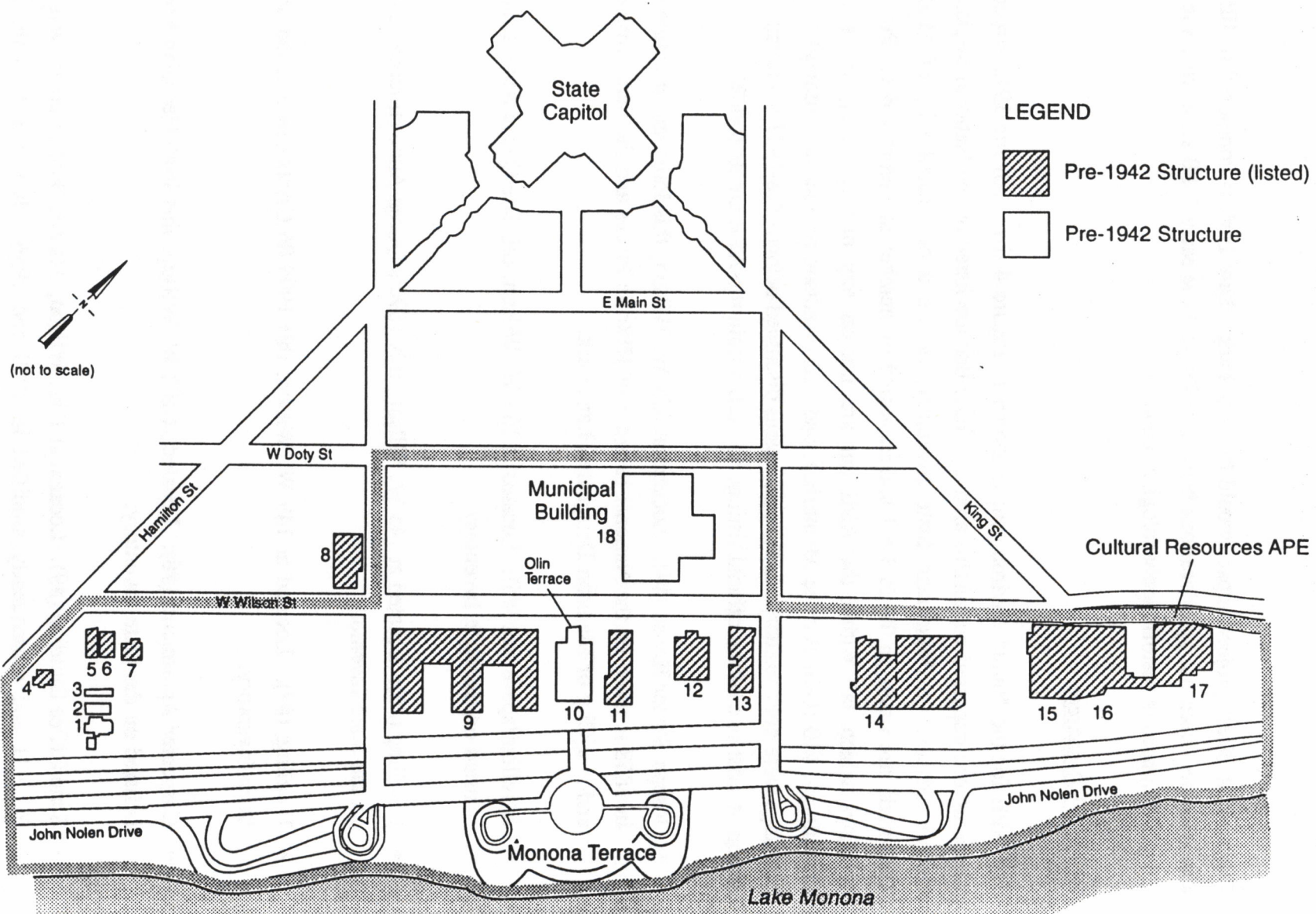
The 132-foot long Olin Terrace Wall, which is situated between Wilson Street and Olin Terrace, was built in phases commencing in 1931. Other developments associated with the wall included a design for walkways, garden areas, and benches. In 1938 architect Frank Lloyd Wright proposed construction of a civic center in Law Park at the foot of what is now Martin Luther King, Jr. Boulevard on the shore of Lake Monona. This design was for a complex including government offices, performing arts center, exhibit space, galleries, and parking spaces. Wright subsequently modified the design up until his death in 1959.

## **Area of Potential Effect Site Summary**

### **Archaeological Resources**

A review of the site files at the Division of Historic Preservation of the State Historical Society of Wisconsin and of supplemental published and unpublished literature indicates, as discussed above, that two prehistoric sites containing effigy mounds once sat near the project area. The Monona Avenue Park Mound Group (47DA389) was situated at the intersection of Wilson Street and Martin Luther King, Jr. Boulevard. This group consisted of one turtle effigy and two conical mounds. The Capitol Park Effigy (47DA177) was located on the east edge of the State Capitol grounds. This site contained a panther effigy. Both of these sites were destroyed by development and no vestiges remain.

4-39



Source: Adapted from Monona Terrace Commission Report, 1991.

Project No. 92C6683	Monona Terrace	AREA OF POTENTIAL EFFECT FOR CULTURAL RESOURCES WITH PRE-1942 PROPERTIES IDENTIFIED BY NUMBER	FIGURE 4.6-1
Woodward-Clyde Consultants			

The area of direct project impact would be Law Park. Law Park is composed of fill that was imported from multiple locations between 1935 and the early 1950's. Such a site will not yield important historic archaeological data.

### Historical Resources

The APE for the "built" environment is shown in Figure 4.6-1. All pre-1942 structures which are encompassed within this area and those that are listed on the National Register of Historic Places, the Wisconsin State Inventory, or are a designated City of Madison Landmark, are listed on Table 4.6-1 and identified by number in Figure 4.6-1. Pre-1942 buildings which fall within the APE but are not on any official listing are #1, #2, (dwellings); #10 (Olin Terrace Memorial); and #18 (Madison Municipal Building). These buildings were not considered in the evaluations discussed below. Pre-1942 buildings which are on at least one of the official listings and fall within the APE are as follows:

- Joseph Stoner House (#4): Located at 321 W. Wilson, this Italianate structure built in 1858 is listed on the National Register of Historic Places and the State Inventory, and is a City of Madison Designated Landmark.
- Dwelling/apartment (#5): Located at 153 W. Wilson, this late Queen Anne structure is listed on the State Inventory.
- Dwelling (#6): Located at 145 W. Wilson, this 1890's Queen Anne structure is listed on the State Inventory.
- Dwelling (#7): Located at 149 W. Wilson, this 1905-06 Craftsman is listed on the State Inventory.
- Carpenter Apartments (#8): Located at 102 W. Wilson, this 1940 Georgian Revival is listed on the State Inventory.
- State Office Building (#9): Located at 1 W. Wilson, this Art Deco structure was built in 1931 and subsequently modified in 1939 and 1956. It is listed on the State Inventory and the National Register of Historic Places.



- **Madison Club (#11):** Located at 5 E. Wilson, this 1916-18 Georgian Revival is listed on the State Inventory.
- **Madison Catholic Center (#12):** Located at 15 E. Wilson, this 1938 English Revival is listed on the State Inventory.
- **Bellevue Apartments (#13):** Located at 29 E. Wilson, this 1914 Classic Revival is listed on the State Inventory and the National Register of Historic Places and is a City of Madison Designated Landmark.
- **Munz Corporation (#14):** Located at 117 E. Wilson, this Art Moderne structure was built in 1942 and subsequently modified in 1958 and 1972. It is listed on the State Inventory.
- **Overland-Madison Co. (Dept. of Corrections) (#15):** Located at 149 E. Wilson, this 1916 commercial structure is listed on the State Inventory.
- **Union Transfer and Fireproof Storage (#16):** Located at 155-301 E. Wilson, this 1916 commercial structure is listed on the State Inventory.
- **Madison Saddlery Company (#17):** Located at 313-317 E. Wilson, this 1907 commercial structure is listed on the State Inventory.

**TABLE 4.6-1  
PRE-1942 PROPERTIES WITHIN THE AREA OF INVESTIGATION<sup>1</sup>**

Property	Address	Ca. Date	Style	State Inventory	Madison Landmark	NR*
1. Dwelling	321 S. Henry	pre-1892	gabled ell			
2. Dwelling	319 S. Henry	pre-1892	front facing gable			
3. Dwelling	309 S. Henry	1890s	front facing gable			
4. Joseph Stoner House	321 W. Wilson	1858	Italianate	X	X	X
5. Dwelling/Apartment	153 W. Wilson	1911	Late Queen Anne	X		
6. Dwelling	145 W. Wilson	1890s	Late Queen Anne ?	X		
7. Dwelling	149 W. Wilson	1905-1906	Craftsman	X		
8. Carpenter Apartments	102 W. Wilson	1940	Georgian Revival	X		
9. State Office Building	1 W. Wilson	1931, 1939,	Art Deco 1956	X		X
10. Olin Terrace Memorial	Wilson & M.L. King	1933-1931	Classical Revival			
11. Madison Club	5 E. Wilson	1916-1918	Georgian Revival	X		
12. Diocese of Madison Chancery	15 E. Wilson	1938	English Revival	X		
13. Bellevue Apartments	29 E. Wilson	1914	Classical Revival	X	X	X
14. Munz Corporation	117 E. Wilson	1942, 1958,	Art Moderne 1972	X		
15. Overland-Madison Co. (State of WI)	149 E. Wilson	1916	Commercial	X		
16. Union Transfer and Fireproof Storage	155-301 E. Wilson	1916	Commercial	X		
17. Madison Saddlery Company	313-317 E. Wilson	1907	Commercial	X		
18. Madison Municipal Building	M.L. King & E. Wilson	1927	Classical Revival			

<sup>1</sup> The data in this table are taken from the Wisconsin State Inventory, Mollenhoff 1982, and Durand 1974.

\* NR = National Register of Historic Places

## Other Features

While not subject to review by the Wisconsin Division of Historic Preservation or the Madison Landmarks Commission, the following works of art fall within the APE:

- Olin Terrace Mural: Designed by artist Richard Haas in 1987. The 44 foot high by 137 foot long mural is situated on the lake side of the Olin Terrace wall.
- "Timekeeper" sculpture: Executed by Robert Curti in 1983. This sculpture is in Law Park.
- Otis Redding Memorial Benches: Designed by Ross Ishikawa. These commemorative benches are situated in Law Park.

## 4.7 TRANSPORTATION

### Source Documents

The City of Madison's documentation of the transportation baseline conditions are the basis of the following discussion. Downtown roadway traffic volumes for 1991 were provided by the City of Madison, Department of Transportation, Division of Traffic Engineering. Figure 4.7-1 is a map presentation of the traffic volumes for the Isthmus area and proposed Convention Center location. Traffic volumes are shown for each link of the local streets.

The baseline conditions are also shown in the Wisconsin Department of Transportation Environmental Screening of Facilities Development Actions - John Nolen Drive: North Shore Drive to Blair Street. The Traffic Summary Sheet (Basic Sheet 5) from the report identifies the existing year (1990), construction year (1994), construction year+10 (2004), and design year (2014) traffic volumes for John Nolen Drive. The integration of information from these reports is shown in Table 4.7-1.

The following discussion also relies on the 1992 study by the City of Madison, Dane County, and the Wisconsin Department of Transportation, which is a comprehensive transportation planning document for Dane County called "Dane 2020." The purpose of the

document was to create a strategic plan that would integrate transportation, land use, and environmental issues to provide broad based recommendations for the future transportation modes in Dane County. The recommendations included compact urban development (or "infilling") and multi-modal transportation systems.

### General Transportation Systems

The City of Madison is served by the Madison Metro Transit System. The system provides public bus transportation to all areas of the City. The Capitol Concourse (two blocks from the proposed site) is served by most of the bus lines from all parts of the City. There are currently no bus lines stopping on John Nolen Drive or on Wilson Street near the proposed project area.

Pursuant to the 1990 Intermodal Surface Transportation Efficiency Act (ISTEA), the City of Madison has submitted, and received State approval for, the 1993 Transportation Improvement Program (TIP). The Dane County Planning Commission is the designated Metropolitan Planning Organization (MPO) for ISTEA programs. At this point in time, the City and State of Wisconsin are applying for funding through the ISTEA program for portions of the John Nolen Drive expansion project. Such elements must meet program requirements and be included as part of the regional transportation planning activity.

The two rail lines just north of John Nolen Drive are owned by the Soo Line and the Chicago Northwestern companies. The lines both carry freight. There is currently no passenger train service to Madison; however, negotiations with Amtrak to bring passenger service to the City have been initiated. At this time there has been no final determination on the potential of Amtrak service to Madison.

Bicycle commuting is a form of transportation for some downtown employees. The bicycle path along Law Park is used by bicyclists as a commuting route. The baseline conditions for bicycle usage in Law Park are discussed under Recreation (Section 4.8).

### Vehicle Traffic Volumes

1991 traffic volumes for the Isthmus area of Madison are shown in Figure 4.7-1. The route of John Nolen Drive to Blair Street to East Washington Avenue is a major route through the Isthmus area. The City of Madison has attempted to maintain this route as a major through system to discourage traffic on the smaller, neighborhood streets in the Isthmus area.

### Isthmus Parking

Figure 4.7-2 shows the locations of public parking ramps in the Isthmus area. The parking ramps are generally used by downtown commuters and people doing business in the Isthmus area. Table 4.7-2 shows the occupancy rate of public parking lots in the downtown area of Madison. This data was obtained by the City of Madison, Department of Transportation. Parking lots are surveyed Tuesday, Wednesday, or Thursday during the second or third week of each month between the hours of 11 a.m. to 1 p.m. These are generally considered the periods of peak parking use.

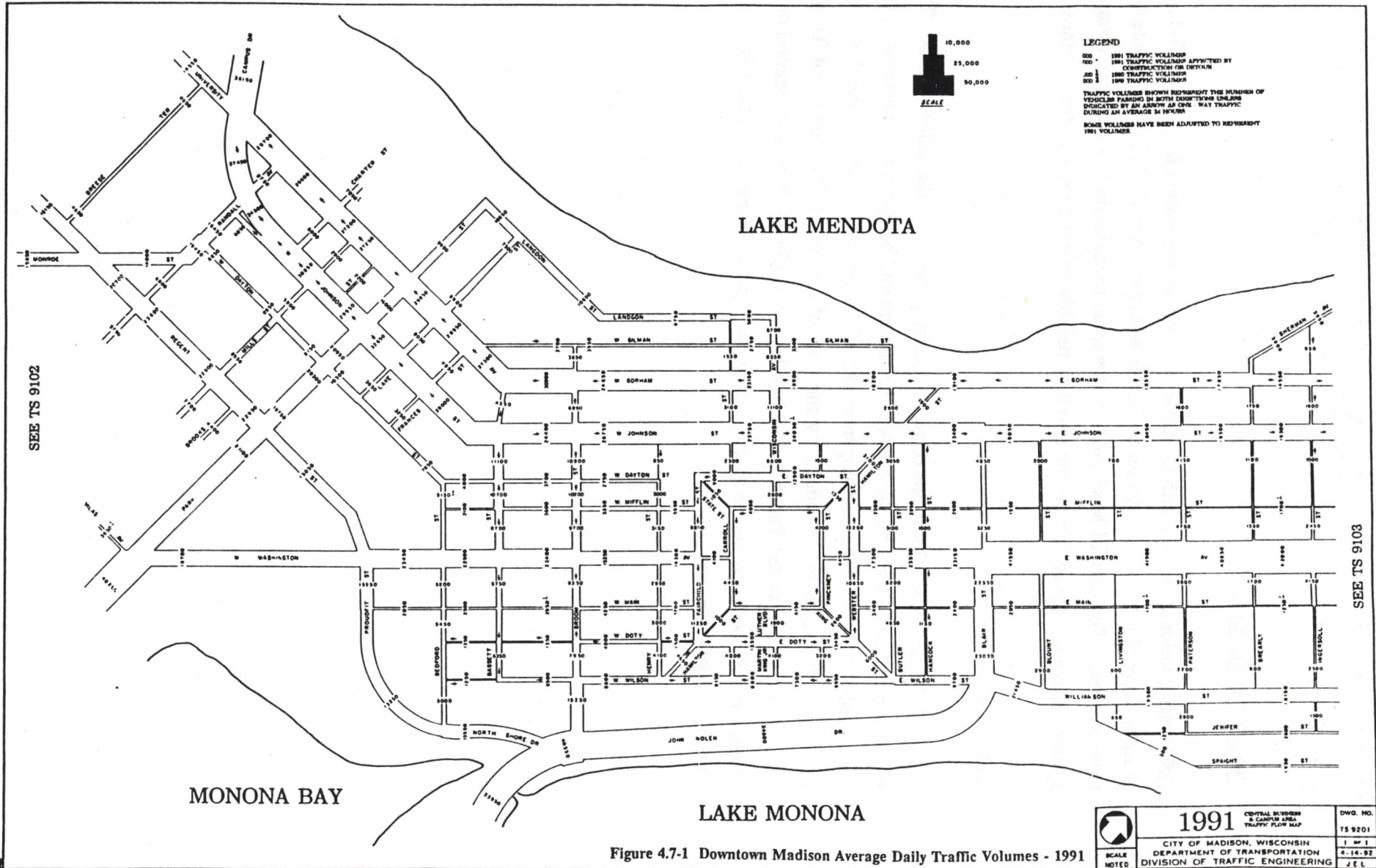


Figure 4.7-1 Downtown Madison Average Daily Traffic Volumes - 1991

**Table 4.7-1  
MONONA TERRACE CONVENTION CENTER TRAFFIC SUMMARY**

Transportation Factors		John Nolen Drive Roadway Segment (segment end points)			Broom Street
		Blair-Broom	Broom-Northshore	Northshore-Lakeside	John Nolen-Wilson
<b>Traffic Volumes</b>					
Existing	1990 ADT	33,450	40,450	34,850	16,850
Update Existing	1991 ADT	34,500	40,550	33,950	15,250
Construction Year	1994 ADT	35,500	44,000	36,500	16,900
Construction Year + 10 years	2004 ADT	39,500	49,200	40,900	17,900
Design Year	2014 ADT	44,000	55,000	45,700	20,000
	2014 DHV	3,520	5,220	4,340	1,600
<b>Traffic Factors</b>					
Design Year 2014	K (%)	9	9	9	9
	D (%)	55	55	55	70
	T (% of ADT)	2	2	2	2
	T (% of DHV)	2	2	2	2
<b>Other Transportation Factors</b>					
Design Year 2014	P (% of ADT)	9.5	9.5	9.5	9.5
	K <sub>8</sub> (% of ADT)	6.7	6.7	6.7	6.7

ADT = Average Daily Traffic

K = % ADT in DHV

T = Truck percent

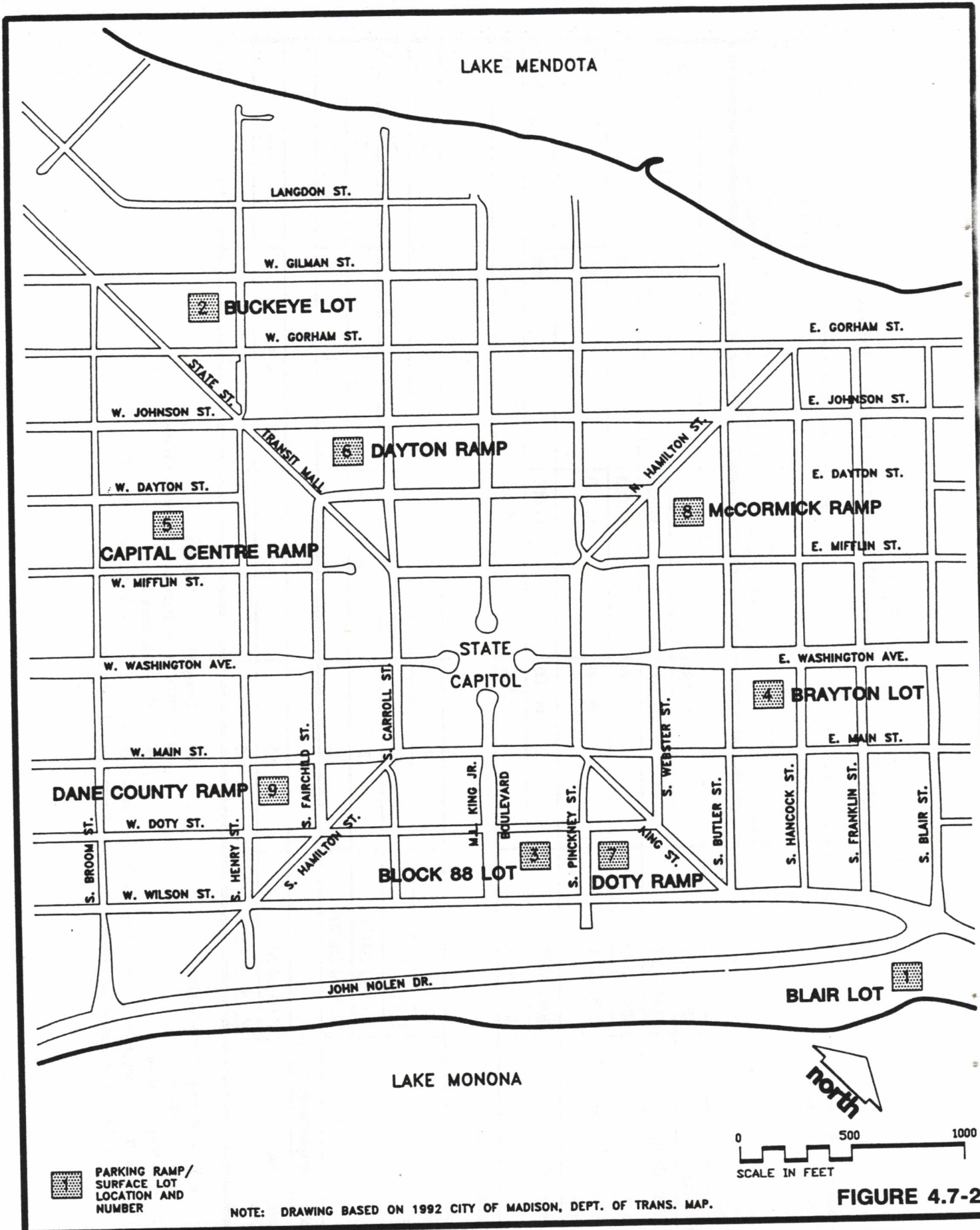
K<sub>8</sub> = % ADT occurring in the average of the highest consecutive hours of traffic on the average day

Source: Wisconsin Department of Transportation, Environmental Assessment

DHV = Design Hourly Volume

D = % DHV in predominant direction of travel

P = % of ADT in peak hour



**CENTRAL MADISON AREA PUBLIC PARKING RAMPS AND SURFACE LOTS  
STATE OF WI, D.O.A./MONONA TERRACE CONVENTION CENTER EIS**



**TABLE 4.7-2  
PUBLIC PARKING AVAILABILITY IN DOWNTOWN MADISON**

Facility	Approx. Spaces Available <sup>1</sup>	Average Weekday Occupation Rate (%) - 1991 and 1992											
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
1. Blair (reserved) <sup>2</sup>	72	100	100	100	100	100	100	100	100	100	100	100	100
2. Buckeye	53	69	55	59	77	57	90	90	95	73	80	85	86
3. Municipal Building (Block 88)	18	97	100	94	78	91	75	80	97	89	75	81	83
4. Brayton	184	96	98	96	93	96	80	84	84	94	82	92	98
5. Capitol Centre													
monthly: <sup>2</sup>	50	100	100	100	100	100	100	100	100	100	100	100	100
attended:	577	75	77	79	78	77	74	76	75	79	81	86	82
6. Dayton *	506	75	82	82	86	68	72	70	72	94	90	93	82
7. Doty													
monthly: <sup>2</sup>	107	100	100	100	100	100	100	100	100	100	100	100	100
attended:	425	98	100	100	100	100	98	98	98	99	100	100	100
8. McCormick													
monthly: <sup>2</sup>	200	100	100	100	100	100	100	100	100	100	100	100	100
attended:	422	88	89	88	87	85	84	79	78	89	84	84	83
9. Dane Co.													
permit: <sup>2</sup>	1000	89	85	84	89	89	89	89	89	89	89	89	89
meters:	582	100	100	100	100	100	100	100	100	100	100	100	100
meters:	412	75	68	58	75	59	49	56	60	80	66	68	65
Totals:	3608	90	90	88	90	87	86	87	89	92	89	91	90

<sup>1</sup> Available spaces varies by season because of maintenance, construction, and snow storage.

<sup>2</sup> Reserved, monthly, and permit spaces are not available for daily parking even when vacancies exist.

Source: City of Madison, Department of Transportation.

## 4.8 RECREATION

### Background

Law Park was created in 1943 to serve the recreation needs of the downtown Madison population. Its use has since expanded to include a local bikeway connection and numerous other passive and active activities. Law Park continues to be "an important linear open space." ("Downtown 2000", 1989)

Law Park's users generally originate from downtown residences, businesses, and health clubs, as well as other areas connected to the bike path that extends the length of the park.

Law Park is about 7.3 acres in size and has about 4,200 feet of frontage along Lake Monona. The width of Law Park (between Lake Monona and the John Nolen Drive gravel shoulder varies from 70 to 185 feet. However, the John Nolen Drive right of way is included in this figure. The established John Nolen Drive right of way, which is currently grass covered, is about 20 - 25 feet wide, i.e., from the gravel shoulder of John Nolen Drive toward the lake. Law Park contains a boat launch, parking for boat trailers, plus two additional parking lots each with a capacity of about 30 vehicles.

Pedestrian access from the Wilson Street level to the park is provided by an outside stairway near the west side of the One West Wilson State Office Building. Pedestrians using the stairway from Wilson Street must cross the railroad corridor and John Nolen Drive to enter Law Park.

Table 4.8-1 shows the public access available to Lake Monona from the City of Madison and the City of Monona.

**TABLE 4.8-1  
PUBLIC SHORELINE ON LAKE MONONA**

<b>Municipality</b>	<b>Park/Public Access</b>	<b>Lake Frontage (feet)</b>	<b>%</b>	<b>Size (acres)</b>	<b>%</b>
Madison	Law Park	4,200	12	7.3	3
Madison	Brittingham/S. Shore/Bernie's	9,300	26	33	15
Madison	John Nolen Causeway	8,000	22	4.3	2
Madison	Olin-Turville	5,300	15	108	49
Madison	Esther Beach	200	1	0.9	0
Madison	Paunack Park	1,000	3	2.3	1
Madison	Olbrich Park	3,200	9	53	24
Madison	Hudson Park	800	2	0.7	0
Madison	B. B. Clark	700	2	1.3	1
Madison	Yahara Park	1,900	5	6	3
Madison	Morrison Park	400	1	0.3	0
Monona	Graham Park	50	0	0.1	0
Monona	Frostwood Beach	120	0	0.8	0
Monona	Birch Haven Park	50	0	0.2	0
Monona	Tecumseh Park	50	0	0.7	0
Monona	Winnequah Tr. Boat Launch	50	0	0	0
Monona	Wyldhaven Park	70	0	0.3	0
Monona	Tonyawatha Boat Landing	250	1	0.7	0
Monona	Schluter Beach Park	320	1	1.8	1
Monona	Stone Bridge Park	110	0	0.6	0
Monona	Cold Spring Ct.	50	0	0	0
Monona	Lake Edge Park	160	0	0.6	0
	<b>Totals:</b>	<b>36,280</b>		<b>222</b>	

Sources: City of Madison, Department of Public Works, Parks Division; City of Monona, Department of Public Works.

Table 4.8-2 below shows the amount of public open space available for the City of Madison, categorized according to location relative to central Madison. These statistics were obtained from the City of Madison, Department of Public Works, Parks Division. The central area for this analysis is shown on Figure 4.8-1. The open space is divided into conservation parks and developed parks. Conservation parks have some remnant of "natural" type of vegetation, natural shoreline, or some unique topography. Developed parks are landscaped with horticultural varieties of vegetation and have more cultural features such as playgrounds, athletic fields, boat launches, etc. For this comparison, the City included non-City owned lands such as the UW Arboretum, UW athletic fields, and Edgewood College properties. Law Park is classified as a developed recreational area.

**TABLE 4.8-2  
COMPARISON OF AVAILABLE PARK SPACE BY POPULATION**

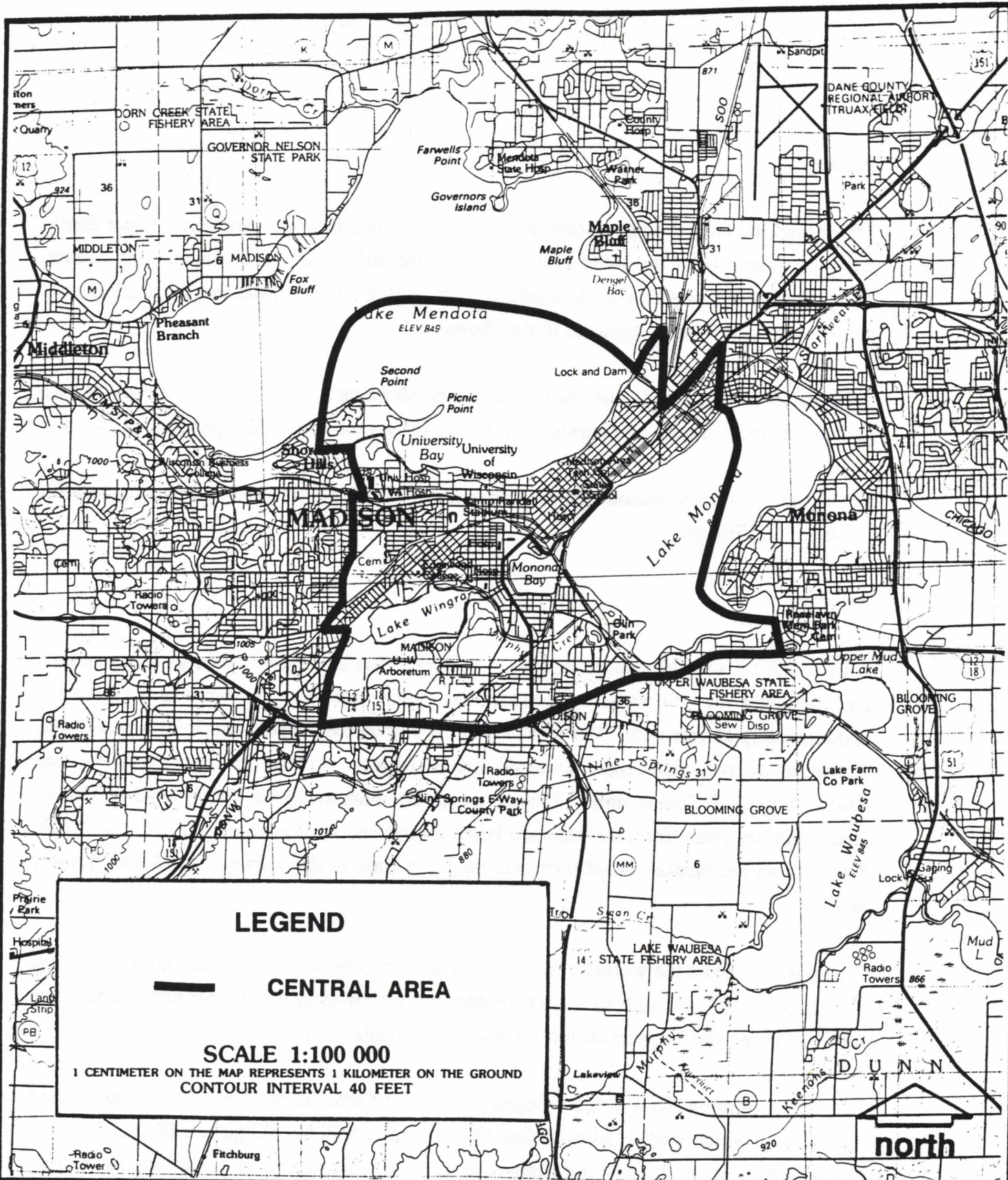
Area	Developed Park Acres/1,000 pop.	Conservation Park Acres/1,000 pop.	Total Park Acres/1,000 pop.
Central Area	9.3	21.4	30.7
Outside Central Area	22.8	16.8	39.6
City-Wide	18.0	18.5	36.5

Source: City of Madison, Department of Public Works, Parks Division.

Recreational activities associated with Law Park are summarized in Table 4.8-3 and are described below.

### **Wind Surfing**

Wind surfers use Law Park primarily when winds are out of the west. Wind surfers park in the existing parking lots and use the grassy areas adjacent to the boat launch area as a staging area for their equipment.



**CITY OF MADISON CENTRAL AREA BOUNDARY  
FOR RECREATIONAL SPACE PER CAPITA ANALYSIS**

**DRAWN BY: JBO**

**CHECKED BY: JAB**

**PROJECT NUMBER: 92C6683 A.80**

**DATE: 5-26-93**

**FIGURE NO: 4.8-1**



## **Fishing**

The entire Law Park shoreline provides deep water fishing from the shoreline. Water depths quickly increase from the shore providing shoreline fishing access to diverse fish habitat. The water depth along Law Park reaches 25 feet within 50 feet of the shore. Anglers have convenient parking areas adjacent to the shoreline.

A handicap fishing pier is also located along the shoreline. It is accessible from the bike path and is located near two parking areas with flat access from these parking lots.

During the ice fishing season, the parking areas at Law Park are used as a staging area for off-shore ice fishing.

## **Bicycling**

A bike trail traverses the entire length of the park. The bike path is used as a recreational and commuter route throughout the year. The asphalt path supports two-way traffic and is approximately 10 feet wide. Portions of the path run directly adjacent to John Nolen Drive. Access to the path from the Capitol Square is indirect. Connections are available from Broom and Blair Streets only. Bicycle usage is summarized on Table 4.8-3 and more detailed information (from the Madison Parks Department) is shown on Table 4.8-4. Table 4.8-5 shows the breakdown of bike path usage by time of day between April and October in 1992.

Figure 4.8-2 shows the weekday usage of the bike path between April through October for the period of 1987 through 1992. There does not appear to be a trend for this period. The levels of usage are likely most influenced by the weather conditions.

In a report from the Dane County Regional Planning Commission (1991), a conceptual plan is described which would link two state bicycle trails, Military Ridge and Glacial Drumlin Trails, with a route through the Isthmus area. The proposed route would use the bicycle trail in Law Park.

**TABLE 4.8-3  
INVENTORY OF RECREATIONAL USES AT LAW PARK**

ACTIVITY	PARK USE (Facilities and Areas in Use)	COUNTED USERS (Time Lapse)*			ESTIMATED USERS (User Reps)**
		8/1	8/21	8/24	
Wind Surfing	Staging area: ~.24 acres Parking lots	1	0	0	40-75/windy day event
Shore Fishing	Fishing: ~ 4500 LF shoreline Parking lots Handicapped Fishing Pier: ~20 LF shoreline Launch ramps/parking lots	1	0	0	20-100/day
Ice Fishing	Staging Areas: shore side parking lots Entry Points: ~4300 LF shoreline	No Information			No Information
Walking/Jogging	Bike Path: ~ 4500 LF Walking: Jogging:	76 28	24 22	33 25	No Information
Boat Launching	2 Launch Ramps Car/trailer parking	No Information			1,425 launches/yr. (5-year avg., 1987 to 1991)
Cycling	Bike Path: ~ 4500 LF	150	100	124	908/summer 185/winter (6-year average, 1987 to 1992)
Water Skiing	Boat Launch Ramps Special Events: water ski shows Club Practices Estimated Park Use Area: ~.5 ac.	No Information			100-250/ water ski show
Roller Blading	Bike path: ~4500 LF	46	1	6	75-100/ weekend****
Special City Events	"Percheree" fishing contest Paddle and Portage canoe race Ski Team Fun Days Estimated Park Use Area: ~1-2 acres	No Information			~ 1000 ~ 2500 ~ 2500-3000
Other Active Recreation	Frisbee	2	0	0	No Information
Other Passive Recreation	Picnic areas Shoreline Greenspace Total Greenspace: ~7.3 acres	23	6	10	No Information

\* Time lapse video taken Saturday, August 1, 1992, 8:05 a.m. to 6:05 p.m.; Friday, August 21, 1992, 7:52 a.m. to 5:50 p.m.; and Monday, August 24, 1992, 8 a.m. to 6 p.m.

\*\* Usage figures are estimates provided by the sources listed on the contact list (Reference Section 10.0).

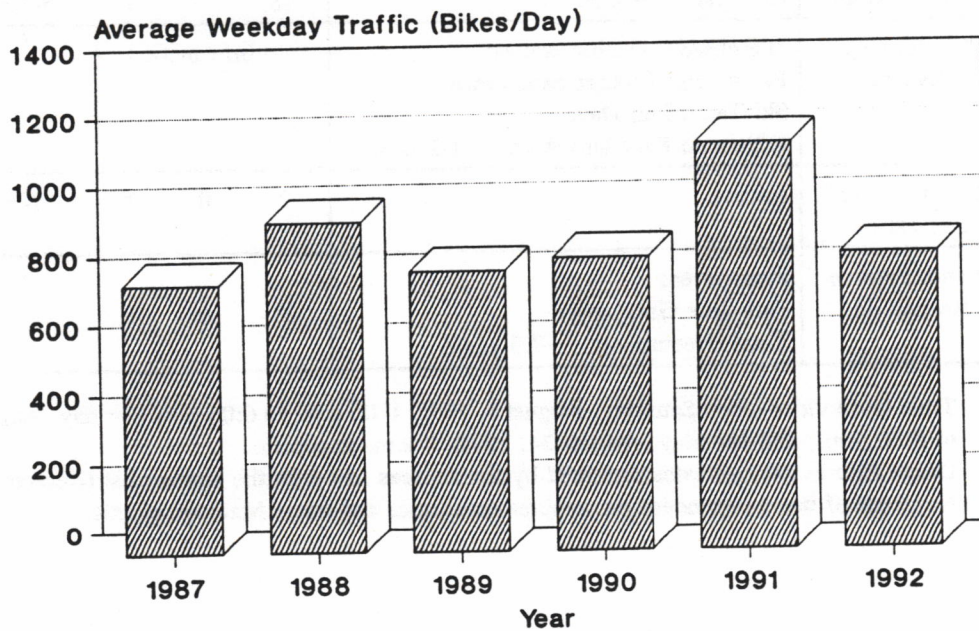
\*\*\* Numbers of users dependent on weather conditions and other Madison events.

**TABLE 4.8-4  
AVERAGE WEEKDAY BICYCLE TRAFFIC BY MONTH  
LAW PARK PATH**

Months	1987	1988	1989	1990	1991	1992	6-Year Average
January	79	58	124	158	54	150	104
February	218	166	92	194	169	122	160
March	244	328	132	322	247	297	262
April	270	505	634	263	554	526	459
May	622	1,156	652	711	1,434	868	907
June	1,412	1,436	1,472	1,027	1,544	1,622	1,419
July	1,260	1,251	758	905	1,649	1,008	1,139
August	1,037	1,041	980	1,213	1,396	685	1,059
September	507	793	728	1,142	1,137	681	831
October	373	544	492	700	532	625	544
November	242	291	225	319	276	327	280
December	40	126	125	125	187	120	121
Annual Total	6,304	7,695	6,414	7,079	9,179	7,031	7,284
Annual Avg.	525	641	535	590	765	586	607
Apr.-Oct. Avg.	783	961	817	852	1,178	859	908
Nov.-March Avg.	165	194	140	224	187	203	185

Source: City of Madison, Traffic Engineering

**Figure 4.8-2: Trends in Bicycle Usage  
At Law Park (April-October)**



Source: City of Madison, Traffic Engr.



**TABLE 4.8-5  
TIME OF DAY BICYCLE USE AT LAW PARK  
APRIL-OCTOBER, 1992**

Hour	Average Number of Bicyclers	%
12 noon - 6 a.m.	21	2
6 a.m. - 9 a.m.	151	18
9 a.m. - 4 p.m.	275	32
4 p.m. - 7 p.m.	277	32
7 p.m. - 12 p.m.	135	16
Total	859	

Counts for weekdays only, April-October, 1992.

Source: City of Madison, Traffic Engineering.

**TABLE 4.8-6  
BOAT LAUNCH USAGE AT THE LAKE MONONA CITY PARKS**

Park	YEAR									
	1987		1988		1989		1990		1991	
	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)	(#)	(%)
Olin	3,371	42	4,131	41	4,923	45	5,023	46	4,413	46
Olbrich	2,923	36	4,353	43	4,629	42	4,649	42	4,228	44
Law	1,725	22	1,679	17	1,398	13	1,359	12	965	10
Annual Total	8,019	100	10,163	100	10,950	100	11,031	100	9,605	100

(%) = percent of launches for Lake Monona at each site.

Source: City of Madison, Parks Department

The asphalt bike path is about 10 feet wide with a center line. Open space between the asphalt path and the lake's shore varies from 30 to 50 feet. It is this area, i.e., the path and the grass adjacent to the path, that is the most frequently used by bikers, joggers, and other users traveling through the park.

### **Walking/Jogging**

Joggers and walkers use the bike path and adjacent grassy areas for leisure and fitness recreation. In addition to their use of the paved bike trail, users have also trampled a trail or "desire line" into the turf on the lake side of the bike path. Desire for the alternate path may be attributed to the pedestrians' effort to separate themselves from faster traffic or a desire for a softer running or walking surface.

The bike path is also used as a route for local foot races.

### **Boat Launching**

Law Park's two boat launch ramps are currently used to launch sail boats, power boats, and small fishing craft. The number of boats launched at this location is the lowest of the three City of Madison ramps on Lake Monona (see Table 4.8-6).

### **Water Skiing**

Two Madison ski clubs perform shows offshore of Law Park four nights per week during the summer. The ski clubs practice offshore from Law Park an additional two nights per week. Approximately 1/2-acre of the park's central greenspace is used as a public viewing and performer staging areas. This greenspace is directly adjacent to Lake Monona. People attending the ski shows arrive by car, bicycle, and on foot.

### **Roller Blading**

Roller bladers utilize the bike path. A roller blade rental business operates out of a parking lot in Law Park, contributing to the number of roller blade users.

## **Special City Events**

The following are special events that use Law Park and draw large crowds:

- Each summer Madison's "Percheree" uses Law Park as the weigh-in station for perch caught in Lake Monona.
- The route of the annual Paddle and Portage Canoe race passes through Law Park and then returns to and terminates there.
- Four water ski team fun days (water ski shows, music, food, etc.) are held each summer.

## **Other Active Recreational Activities**

Frisbee tossing is a common activity in the larger open green areas of Law Park.

## **Other Passive Recreational Activities**

Law Park is also currently used for passive recreation such as picnicking, sun bathing, people watching, and lake viewing.

## **Support Facilities**

There are four parking lots in the immediate vicinity of Law Park. Two lots in the central park area have a parking capacity of 30 cars each, for a total of 60 cars. Forty car/trailer parking stalls exist at the boat launch ramps, and approximately 72 stalls are available in a "permit only" lot north of the boat launch ramps. Portable toilets are provided by the City of Madison.

## **Existing User Conflicts**

Recreational demands at Law Park are high due to the large downtown Madison population and the fact that recreational uses of Law Park are extremely diverse and concentrated in a narrow corridor between John Nolen Drive and Lake Monona. Law Park is also adjacent to a busy four

lane urban road and railroad corridor. Moreover, as seen on Table 4.8-2, there is less per capita developed parkland in the central portion of Madison, than exists in the rest of the City.

As a result, a number of user conflicts currently exist, mostly related to use of the bike path. The bike path has an incompatible mix of traffic speeds. Pedestrians, joggers, handicapped users, roller bladers, and bicyclists all use the bike path. In addition, crowds that gather for the water ski shows and other special events overflow onto the bike path causing further conflict.

The City of Madison pedestrian-bicycle safety coordinator (Ross, personal communication, 1992) indicates that minor bike accidents frequently occur in Law Park but are rarely reported. The City's limited statistics on bike-related accidents show a low incidence of serious accidents (i.e., accidents that involve ambulance calls). Bike accidents generally involve pedestrians, other bikes, and cars which are entering or exiting parking areas.

#### **4.9 AESTHETICS/VISUAL**

##### **Landscape Features**

The topography at the site of the proposed Convention Center is flat. The area contains the Lake Monona shoreline, landscape plantings (trees and shrubs), cultural features (i.e., sculpture, mural, and a historic marker), parking lots, greenspace, a four-lane undivided roadway, a railroad corridor, and a bike trail.

##### **Adjacent Scenery**

Views from the lake level of the proposed project area include the dome of the State Capitol building and the backs of six structures with some historical significance (see Cultural Baseline Conditions, Sections 4.6). Lake Monona, large expanses of shoreline, and the John Nolen Drive transportation corridor can also be viewed from the Olin Terrace level and the Law Park area of the project site.

## **Uniqueness Of View of the Project Area**

The project area currently contains the Otis Redding Memorial Benches, the "Timekeeper" sculpture, the Olin Terrace Mural, and the Lake Monona shoreline. All of these features lend uniqueness to the views of the project area. Also, because of the large amount of privately owned shoreline in Madison, the view of this large, open, public, shore-side greenspace is also distinctive. All other landscape features are common to most urban areas and do not lend uniqueness to the site.

## **4.10 SOCIOECONOMICS**

### **Introduction**

The socioeconomic study area is defined as the area that could receive socioeconomic impacts from the project. This study area consists primarily of the City of Madison and Dane County but, to a lesser extent, also includes the entire State of Wisconsin and the midwestern United States in general, due to the potential impacts that the proposed project could have on the convention industry throughout the region. The majority of socioeconomic impacts would occur in the City of Madison and Dane County, due to direct project impacts on local employment, services, utilities, and the lifestyle of residents living and working near the project site. The City and county will serve as the detailed study area for purposes of the socioeconomic analysis in this EIS.

The discussion below describes the baseline socioeconomic conditions in these areas, and is focused only on those conditions that are likely to receive project impacts. Particular attention is given to the convention and hospitality industries, due to the potential for significant impacts on those industries. Again, the City of Madison and Dane County are emphasized, due to potential project impacts on those jurisdictions. The following population discussion is based primarily on Madison Community Profiles for 1991 and 1992 (City of Madison, 1991 and 1992).

### **Population**

As of 1980, the total population of Dane County was 323,545 and the population of the City of Madison was 170,616. In 1990, Dane County had a population of 367,085 and the City of Madison had a population of 191,262. These are increases of 14 percent and 12 percent respectively over the decade. Population increases are expected to continue over the next few decades as well. Table 4.10-1 shows the Madison and Dane County population by age group for 1990. The greatest percentage of the population (approximately 58 percent) is between the ages of 18-44. People are drawn to this area, in part, due to the state government and the University of Wisconsin-Madison. The proposed project site is in the heart of this important urban center.

**TABLE 4.10-1**  
**POPULATION: CITY OF MADISON AND DANE COUNTY BY AGE GROUP 1990**

Age Group	City of Madison		Dane County	
	Number	% of Total	Number	% of Total
0 - 4	11,863	6.2	25,747	7.0
5 - 13	17,323	9.0	41,923	11.4
14 - 17	6,469	3.4	15,667	4.3
18 - 24	42,089	22.0	57,741	15.7
25 - 34	38,997	20.4	72,957	19.9
35 - 44	29,381	15.4	60,900	16.6
45 - 54	15,469	8.1	33,777	9.2
55 - 64	11,840	6.2	24,366	6.6
65 - 74	9,813	5.1	18,994	5.2
75 and over	8,018	4.2	15,013	4.1
<b>Total</b>	<b>191,262</b>	<b>100</b>	<b>367,085</b>	<b>100.0</b>

Source: City of Madison, 1992.

### Local Government

Dane County residents elect a county executive as well as 41 supervisors, who represent the 41 districts in the county. There are over 45 committees, boards, and commissions that make decisions about county-wide issues. The City of Madison has a Mayor/Aldermanic form of government. The residents elect a mayor and 22 alder persons who represent the districts. Over 60 committees, boards, and commissions address city issues. Dane County has 6 cities and 19 villages in which the residents elect representation at the local level.

### Local Employment and Economy

In March of 1993, the seasonally adjusted unemployment rates were 2.0 percent for Dane County, 4.2 percent for the State of Wisconsin, and 7.0 percent for the total United States (DILHR, 1993). The Dane County distribution of employment by major industry is reported in Table 4.10-2. The government sector is one of the largest employers at 65,000 workers in

1992. From 1989 to 1992, federal government employment has not changed, and state government employment has increased by 11.5 percent.

Services and retail trade also employ a very large number of people. The service sector has increased its number of employees by 14.4 percent, and retail trade has increased by 5.1 percent, between 1980 and 1991. Madison's economic structure has remained relatively stable because of its diversified industries and government employers. This diversification is one reason why Madison's unemployment rate is so low relative to the national levels.

**TABLE 4.10-2  
DANE COUNTY NON-AGRICULTURAL EMPLOYMENT  
BY MAJOR INDUSTRY GROUPS**

Industry	1989*	1990*	1991*	1992*
Manufacturing	25,100	25,600	25,200	25,300
Durable Goods	13,200	13,300	12,800	13,000
Nondurable Goods	11,900	12,300	12,400	12,300
Contract Construction	8,400	8,800	9,000	9,900
Transportation and Public Utilities	7,400	7,900	7,800	8,100
Communications and Utilities	4,400	4,400	4,500	4,500
Wholesale Trade	9,100	9,500	9,700	9,400
Retail Trade	39,200	40,700	40,400	41,200
Finance, Insurance, Real Estate	18,500	19,400	20,200	20,300
Services	47,100	49,200	50,800	53,900
Government	58,200	60,600	62,200	65,000
Federal Government	3,700	3,600	3,500	3,700
State Government	39,700	41,600	42,800	44,300
Local Government	14,800	15,400	15,900	17,000

\* Annual average

Source: Wisconsin Department of Industry, Labor and Human Relations.

Source: City of Madison, 1993.



**TABLE 4.10-3  
MADISON AREA MAJOR PRIVATE EMPLOYERS 1991**

<b>Company</b>	<b>No. of Employees</b>
Meriter Hospital (Madison General, Methodist, and Retirement Centers)	3,100
Oscar Mayer Foods Corporation	2,800
American Family Insurance Group	3,000
CUNA Mutual Insurance Group	2,406
The Swiss Colony, Inc. (permanent and seasonal)	2,200
St. Mary's Hospital Medical Center	1,500
Dean Medical Center	1,400
Graber Industries, Inc.	1,200
Physicians Plus Medical Group, S.C.	850
Madison Gas & Electric Company	900
McDonald's Corporation	800
Ohmeda	750

Source: City of Madison 1991, 1992, Community Profile.

**TABLE 4.10-4  
ADJUSTED GROSS INCOME\* PER CAPITA**

Year	Madison	Dane County	State Average
1980	8,467	8,106	7,088
1981	8,865	8,470	7,333
1982	9,208	8,668	7,407
1983	9,576	8,957	7,583
1984	10,473	9,774	8,289
1985	11,022	10,367	8,714
1986	12,316	11,548	9,589
1987	13,072	12,454	10,176
1988	13,989	13,525	11,081
1989	14,257	13,881	11,552
1990	16,021	15,565	12,686

\* Wisconsin adjusted gross income is less than the personal income estimated by the U.S. Department of Commerce.

Source: City of Madison, 1992, Community Profile.

Table 4.10-3 displays the major private employers in Dane County as of February 1991.

Table 4.10-4 shows adjusted gross income per capita for the years 1980-1990. Madison's and Dane County's per capita adjusted gross income are both typically well above the state average.

### **Housing**

The population and land area of Madison continue to grow steadily, and housing starts in Madison and Dane County follow this growth. In 1984, the number of authorized building permits in Dane County was 2,165. By 1988, the number had increased by 44.9 percent to 3,138. The number of single-family units has gradually increased over the years, while the number of multi-family units has had a much more sporadic growth. Annexations by the City have increased available land area for building. In 1991 alone, 2,590 acres of land were

annexed into the City. Madison's real estate market values increased an average of 7.5 percent in 1990. In 1990, total new construction in Madison was valued at \$167.7 million.

## **Government Facilities, Services, And Fiscal Conditions**

### **Facilities**

The Madison Metropolitan School District is the second largest school district in the State of Wisconsin, with a total 1991 enrollment of 23,841 students and 2,858 teachers, administrators, and support personnel. The Madison District includes 29 elementary schools, 9 middle schools, and 4 high schools. Dane County also offers over 20 parochial schools, 3 private elementary/middle schools, 4 private inter-denominational schools, and 2 general education program offerings.

Dane County has several colleges and universities, including the University of Wisconsin-Madison, Madison Area Technical College, Edgewood College, Madison Business College, Cardinal Stritch (Adult Program), Lakeland College (Madison Campus), and Upper Iowa University (Adult Program). Several business, vocational, and trade schools are also available.

Madison has numerous quality libraries. The Madison Public Library consists of the downtown Central Library and seven branches. The University of Wisconsin libraries were ranked thirteenth in size among United States and Canadian universities in 1991, and third among Big Ten Universities. Madison also has several special libraries, such as the Wisconsin State Historical Society Library, the U.S. Forest Products Laboratory Library, the Ray-O-Vac Corporation Library, Residuals Management Technology Inc. Library, and the Raltech Scientific Services Library.

Dane County has a wide variety of recreational and entertainment facilities. The County includes over 26,000 acres of public land designated for recreational use, including over 20,000 acres of lake surface. There are also many opportunities for biking, golfing, skiing, skating, and hiking in Madison's 5,000 acres of public park lands. Within Dane County are four major museums, the Madison Civic Center with a theater and a playhouse, and the Dane County Coliseum.

Dane County Regional Airport provides air service to Madison and, through connections in larger cities such as Minneapolis, Chicago, and Milwaukee, to many major U.S. cities, with about 100 scheduled takeoffs/landings each day. A 35,000 square foot addition to the airport was completed in 1991. Full-service terminal facilities include four car rental agencies, taxi and limousine service, a restaurant, and a gift shop. Madison also has several air cargo companies, including Airborne, Federal Express, and United Parcel Service.

Other means of transportation in Madison include the Madison Metro Transit System and five taxi cab companies. Intercity bus services consist of Greyhound Bus Lines, Badger Coaches, Inc., and Alco/Van Galder Bus Company.

### Services

Fire protection services are provided by the Madison Fire Department from its ten stations throughout the City. The Department employs about 270 fire fighters. The Department has 10 engines, 4 ladder trucks, 6 rescue ambulances, and various service vehicles. In addition to fire fighting, services provided by the fire department include emergency medical service, water rescue, hazardous waste material spills, technical rescue, fire prevention, fire investigation, and community education.

Law enforcement is maintained by the Madison Police Department, which is currently authorized to employ 311 commissioned officers. There are approximately 60 additional civilian support positions in the department. The department is headquartered in downtown Madison, with an additional precinct building located in the south side of Madison.

Utilities are supplied by private and public utility companies. Water is provided by the Madison Water Utility from 24 wells. The maximum daily capacity of these wells is more than twice the average daily pumpage. The Madison Metropolitan Sewerage District handles the wastewater collection and treatment, serving an area of 145 square miles. Electricity and natural gas are supplied by Madison Gas & Electric Company and Wisconsin Power & Light Company.

Dane County has several medical centers, including Meriter/Methodist General, St. Mary's, and the University of Wisconsin Hospitals. In addition to hospitals, there are over 100 clinics and

urgent care centers, 9 home health care services, 5 health maintenance organizations, a mental health institute, a Center for Developmentally Disabled, and one Hospice.

Madison has extensive child care facilities, including family-based home care, center care for toddlers and preschoolers, and after school day care programs.

Fiscal Conditions

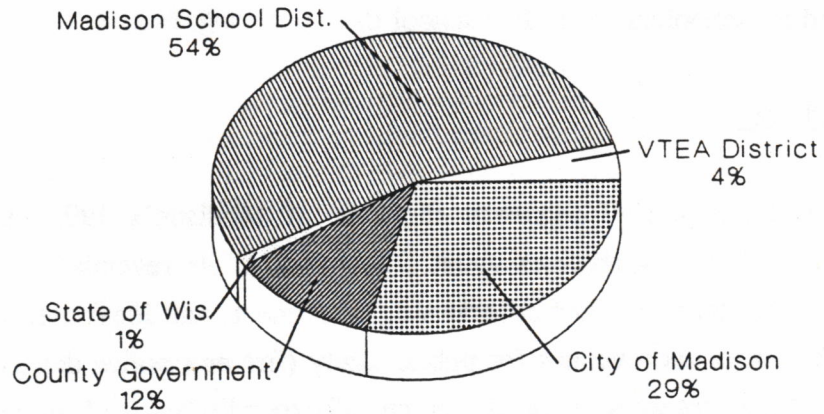
Figures 4.10-2 and 4.10-3 represent the City of Madison's 1992 estimated revenues and expenditures. The City receives about 56 percent of its revenues from property taxes, the remainder from other state and federal aid, investment, and local user fees. The City spends about 37 percent of its revenues for public safety (fire and police departments). Public works and transportation receives about 28 percent of expenditures, and the rest goes to the general government, debt service, and community service. Figure 4.10-1 shows the 1991 City of Madison property tax rate division. The Madison School District receives the largest tax levy (54 percent). The City of Madison and Dane County follow with 29 percent and 12 percent, respectively. Table 4.10-5 shows the 1991 City of Madison mill rate.

**TABLE 4.10-5  
CITY OF MADISON 1991 MILL RATE**

<b>Tax Division</b>	<b>Rate/\$1,000 of Assessed Value</b>
State Tax	\$0.21
County Tax	\$4.23
City Tax	\$10.19
Vocational School	\$1.55
School Tax	<u>+\$19.43</u>
<b>Gross Tax Rate</b>	<b>\$35.61</b>
Credit	-\$2.2593
<b>Net Tax Rate</b>	<b>\$33.3507</b>

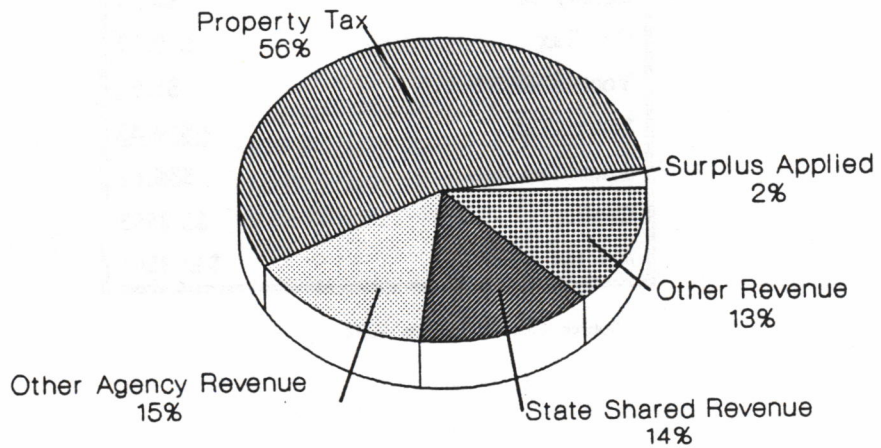
Source: City of Madison, 1992.

**Figure 4.10-1  
City of Madison  
1991 Property Tax Rate Division**



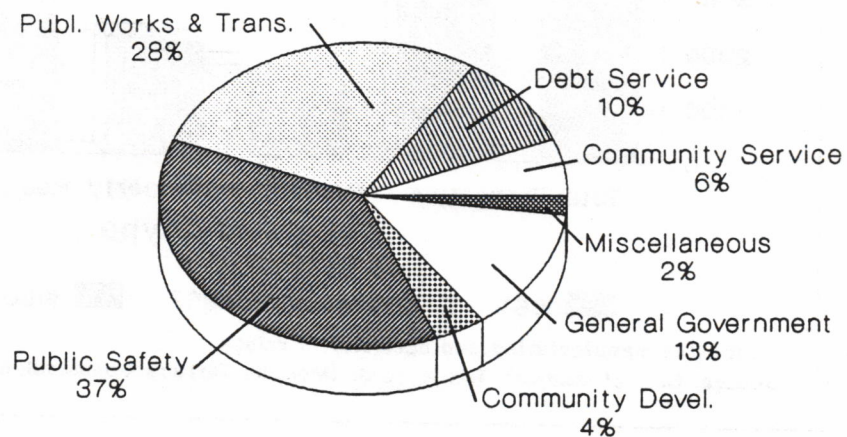
**Source: 1992 Madison Community Profile**

**Figure 4.10-2  
City of Madison  
1992 Estimated Revenue Sources**



**Source: 1992 Madison Community Profile**

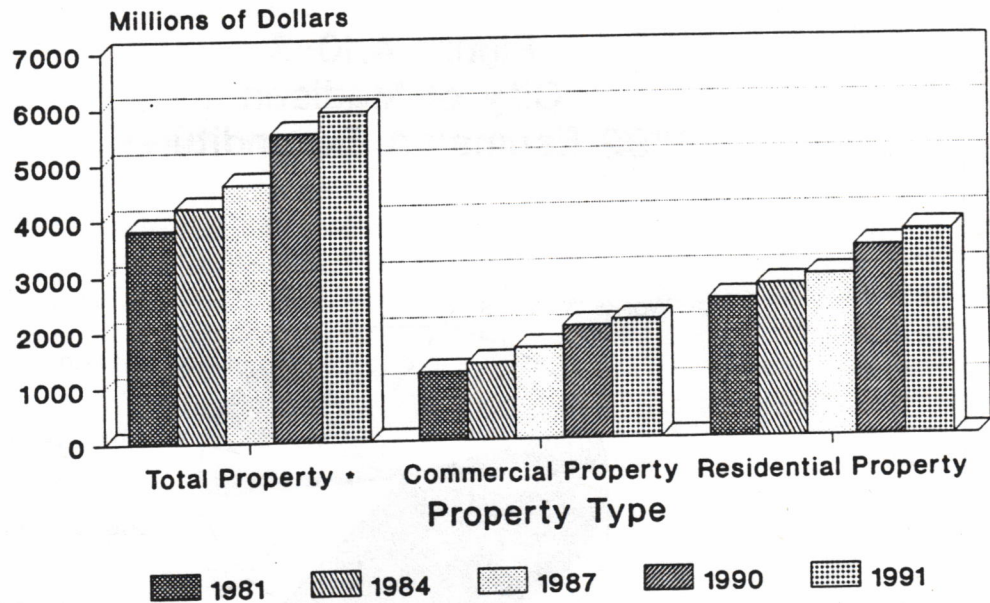
**Figure 4.10-3  
City of Madison  
1992 Estimated Expenditures**



Source: 1992 Madison Community Profile

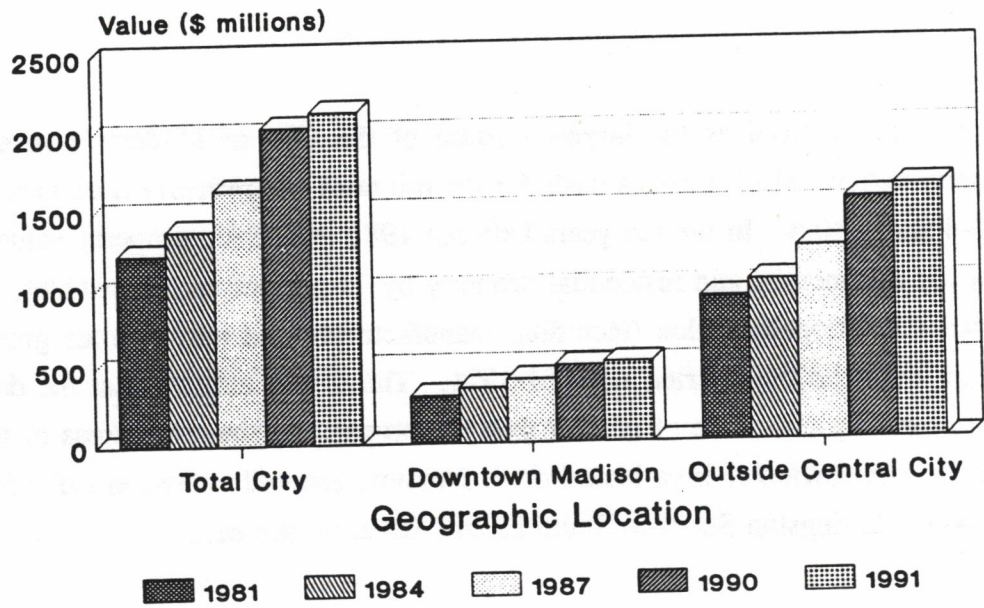
Property taxes provides the largest portion of the City of Madison's revenues. Trends in property values (which forms a basis for the mil rates and property taxes) are shown in Figures 4.10-4 and 4.10-5. In the ten years between 1981 and 1991, property values within Madison grew for commercial and residential property by 73 percent and 47 percent, respectively. The overall City property value (including manufacturing and agricultural) grew at a rate of 54 percent over the time period of 1981-1991. The trends indicate that the downtown property values have a slower rate of growth than the property in the other areas of the City. For this analysis, the downtown area included the Isthmus, generally between Mills Street on the west, and North Livingston Street to South Blount Street on the east.

**Figure 4.10-4: Property Value Trends  
City of Madison**



\* includes manufacturing and agricultural values  
Source: City of Madison Tax Records (Monona Terrace Commission, 1992)

**Figure 4.10-5: Assessed Property  
Trends, Downtown & City of Madison\***



\* assessed values of commercial properties only  
Source: City of Madison Tax Records (Monona Terrace Commission, 1992)



## **Existing Convention Centers**

### **Madison**

The largest convention facility in Madison is the Dane County Exposition Center. This complex contains the Memorial Coliseum, the Forum, seven livestock buildings, and the Dane County Arena, with a total area of 91,000 square feet. The Memorial Coliseum has a seating capacity of 10,200 and is used for concerts, sporting events, horse shows, circuses, religious events, conventions, and banquets. The facility is utilized 45.8 percent of the year. The Forum is primarily used for trade shows, meetings, and banquets. Its capacity is 2,000 people, and had an occupancy rate of 60 percent in the period 1980-1985 (National Feasibility Corporation 1986).

Dane County is in the process of planning for an addition to the Forum building. The expansion would include 80,000 additional square feet of exhibition space. The design of the expansion is ongoing at this time. The schedule calls for construction to begin in 1994.

The Holiday Inn-Madison West is a hotel-convention center located in Middleton (five miles west of downtown Madison). This facility has 42,000 square feet of exhibit space and 18 meeting rooms of various sizes. The largest room's capacity is 2,500 persons for theater-style seating. The Holiday Inn-Madison West plans to add up to 120 hotel rooms and an additional 20,000 square feet of space in 1993-94. It has not been determined how this space (e.g., either as meeting room or exhibit space) will be allocated at this time (Bengry, personal communication, 1993).

The Civic Center located in downtown Madison is tailored for receptions and cultural events such as opera, rock concerts, ballet, and local performing groups (National Feasibility Corporation, 1986). The Center includes five separate areas: the Crossroads, an open area which serves as a lobby; the Madison Art Center; the Isthmus Playhouse; the Media Arts section; and the Oscar Mayer Theater containing 2,000 seats.

The University of Wisconsin has three extension conference centers with a variety of room sizes seating between 100-300 people (National Feasibility Corporation, 1986).

Area hotels include the Concourse, Edgewater, Howard Johnson Plaza, Inn On The Park, Sheraton Inn, The Inntowner, Holiday Inn-Southeast, the Howard Johnson's East Towne Hotel and Conference Center, Quality Inn-South, Radisson Inn-Madison, Ramada Inn, and the Sheraton Inn and Conference Center. Total area hotel capacity in 1985 was 2,101 rooms (National Feasibility Corporation, 1986). An update in 1991 shows that the first five hotels listed (which are closest to the proposed Convention Center site), have a total capacity of 1,114 rooms (Monona Terrace Commission, 1991).

### Midwest Region

Several convention centers are currently operated in Wisconsin and the midwest region. Table 4.10-6 summarizes the statistics of these convention centers, with the current proposal for Madison added. Table 4.10-6 includes planned expansions at the Holiday Inn-Madison West (in Madison) and at the Dane County Exposition grounds. Neither of these planned expansions have started construction at the time of the final EIS preparation, and both are in the preliminary design phases.

**TABLE 4.10-6**  
**EXISTING COMPETITIVE CONVENTION CENTERS AND FACILITIES**  
**IN THE MIDWEST**

City, State	Name	Total Exhibit Space (Sq Ft)	Capacity of Largest Meeting Room	# of Nearby Hotel Rooms	# of Meeting Rooms
Eau Claire, WI	Ray Wachs Civic Center	13,624	950	150	3
Green Bay, WI	Convention Center	18,432	2,800	577	16
LaCrosse, WI	LaCrosse Center	50,000	8,000	539	14
Milwaukee, WI	MECCA	225,000	12,150	1,500	27
Oshkosh, WI	Oshkosh Centre	18,000	1,930	200	11
Madison, WI	Proposed Monona Terrace Convention Center <sup>1</sup>	51,420	1,600	1,114 <sup>2</sup>	18 <sup>3</sup>
Madison, WI	Dane County Exposition Center (planned expansion)	91,000 (+80,000)	2,022	236	7
Middleton, WI	Holiday Inn Madison-West (planned expansion)	42,000 (+ 20,000) <sup>4</sup>	2,500	295 (+ 120)	18
Des Moines, IA	Convention Center	100,191	N/A	1,900	N/A
Minneapolis, MN	Auditorium and Convention Hall	93,000	7,500	4,400	23
Springfield, IL	Prairie Capital Convention Center	44,000	N/A	1,500	N/A

<sup>1</sup> Specifications from Frank Lloyd Wright Monona Terrace Commission (1991) and current schematic from Puttnam, 1993.

<sup>2</sup> Number includes Concourse, Edgewater, Howard Johnson Plaza, Inn on the Park, and Sheraton Inn hotel room current capacity.

<sup>3</sup> Number does not include ballroom or auditorium.

<sup>4</sup> Exact use of this space has not been determined at this time.

Sources: Adapted from Pannell Kerr Forster, July 1987, D. Bengry 1993, and R. Ritari, personal communication, 1993.

### Trends in Meetings

Convention business and delegate attendance in Madison steadily increased during the early 1980's. From 1980-1985, delegate attendance increased by 29 percent, from 227,300 to 292,900 (National Corporation Feasibility, 1986). However, updated figures suggest that growth

of the convention business nationwide has fallen since 1985 and that new convention centers are coming into operation at a rate which may outstrip the demand.

Nationally, the total number of meetings between 1981 and 1985 increased by 1.8 percent per year. During this same time, the average annual expenditure increased by 12.3 percent (PKF, 1987). The results of a more recent survey by *Meetings and Convention Magazine* are shown in Figure 4.10-6 and Figure 4.10-7. These data are from a survey of 1,025 corporate and 802 association planners in the USA. The results are reported for three types of meetings: corporate meetings (such as internal training, stockholders meetings, etc.), conventions, and association meetings.

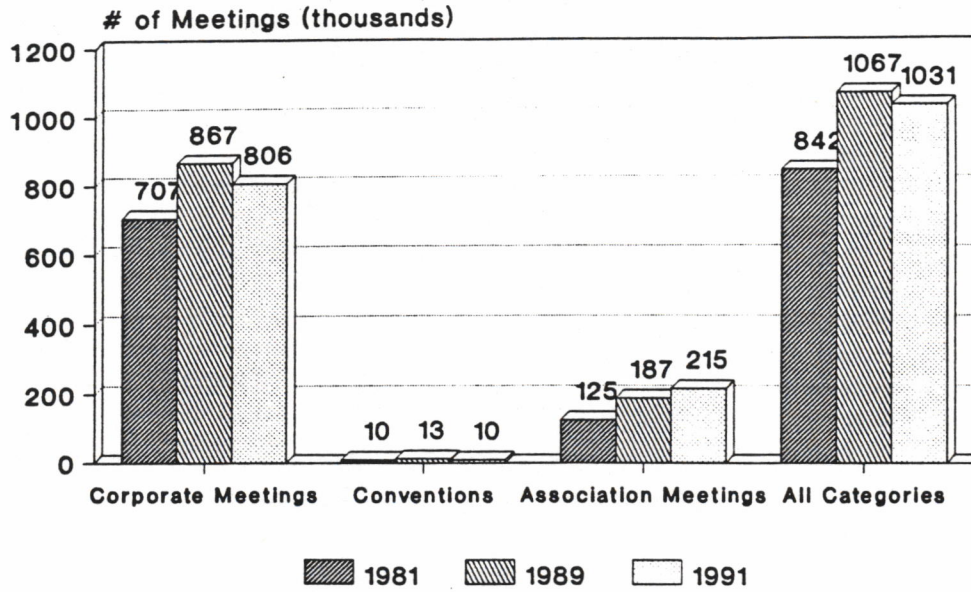
### **Attitudes, Opinions, and Lifestyles**

The City of Madison is located on an isthmus, which separates Lake Mendota from Lake Monona. As a result, the appearance of the City and its environmental setting is heavily influenced by these lakes. The undeveloped and park areas of shoreline attract numerous seasonal recreational uses, such as walking, jogging, biking, and sunbathing. Popular aquatic activities, such as rowing, fishing, and waterskiing are also enjoyed by local area residents. Hiking and cross-country skiing and other winter sports are enjoyed near or on the lakes during the colder months (see Recreation, Section 4.8).

A survey of Madison residents in the fall of 1988 showed the following responses (Myers, 1989):

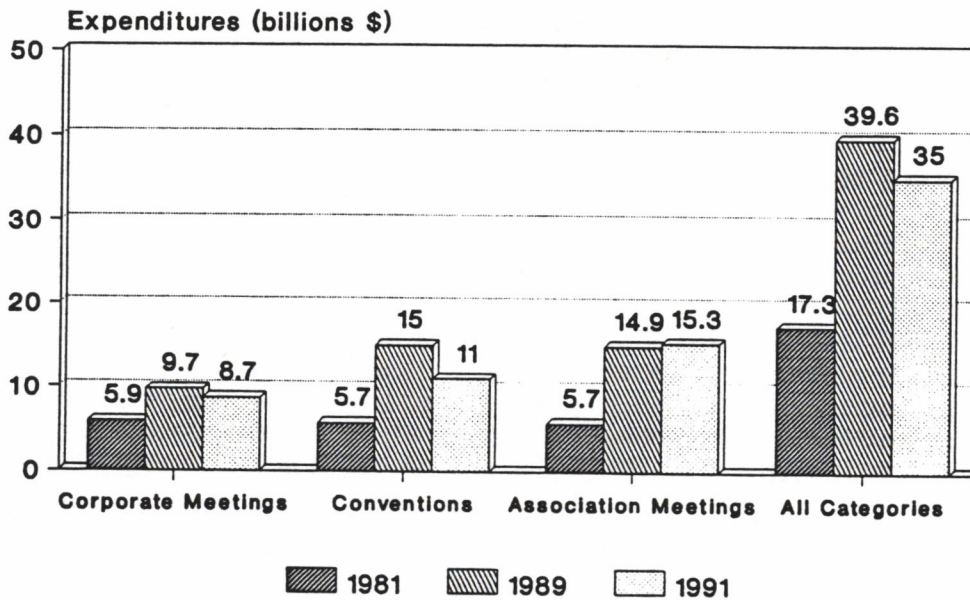
- Over 94 percent agree that Madison's lakes are a key to the high quality of life.
- Only about 6 percent thought that there were other areas of the U.S. with less pollution.
- More than two thirds (68 percent) believe the quality of life is what keeps them in Madison.
- Nearly 85 percent ranked public schools good to excellent, and higher education received a 95 percent favorable rating.
- About 60 percent rated parks and recreation opportunities very good or excellent.
- Almost 65 percent gave area restaurants and shopping excellent to very good ratings.
- Nearly 59 percent believe the Wisconsin climate is not a drawback; in fact, nearly 66 percent of the respondents feel the four-season climate is an attraction.

Figure 4.10-6: National Trends in Meeting Numbers 1981 - 1991



Source: Duarte 1992

Figure 4.10-7: National Trends in Meeting Expenditures 1981 - 1991



Source: Duarte 1992

## POTENTIAL IMPACTS OF THE PROPOSED ACTION ON THE ENVIRONMENT AND POTENTIAL MITIGATION MEASURES

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This section discusses the potential adverse and beneficial impacts from the proposed action on the various aspects of the environment. The potential short- and long-term impacts are analyzed for each topic. Potential mitigation measures for identified adverse impacts are also presented.

### 5.1 AIR QUALITY

#### Short-term Impacts

Construction activities pose potential short-term adverse air quality impacts caused by the movement of soil and vehicular emissions from the operation of heavy construction equipment. Earth moving activities may result in the suspension of particulate matter (PM), resulting in locally increased levels of total suspended particulates (TSP) and Inhalable Particulate Matter (PM<sub>10</sub>).

Adverse air quality impacts from construction equipment vehicular emissions are projected to be minor, due to the relatively small number of vehicles necessary for this project. It is anticipated that not more than a dozen vehicles will be on-site at one time during construction of the proposed Convention Center. The emissions from this number of vehicles will not cause detectable increases in ambient off-site air quality pollutants.

Particulate Matter (PM) from earth moving activities are projected to pose only minor adverse impacts on the ambient air quality. Under normal operating and climatic conditions, PM is unlikely to result in a violation of the National Ambient Air Quality Standards (NAAQS) off the construction site. However, if dry and/or windy conditions persist for more than several days and no mitigation measures are implemented, the possibility of off-site PM reaching nuisance levels or of violating the NAAQS increases.

## Long-term Impacts

### Vehicular Traffic

The determination of potential air quality impacts from traffic was analyzed using a USEPA screening level model MOBILE4 to calculate vehicle emission rates for carbon monoxide and the CALINE3 model for the dispersion of carbon monoxide (CO) to specific receptor sites. The modeling was conducted by the consulting firm of Howard, Needles, Tammen and Bergendoff (HNTB, 8/29/91) for the City of Madison as part of the John Nolen Drive expansion project. The modeling was conducted for the intersections of John Nolen Drive with South Broom Street, and South Broom Street with West Wilson Street. These intersections were selected in consultation with WDNR because of the proximity of receptor sites and because these intersections had the highest potential for local air quality standards violations. The modeling predicted CO impacts on nine specific receptor sites near these intersections. Mobile source screening models used in this analysis are conservative and produce "worst-case" values.

The maximum carbon monoxide concentrations predicted for the John Nolen Drive expansion are presented in Table 5.1-1. These values are based on projected traffic volumes on John Nolen Drive for 1994 and 2004 during peak one hour and eight hour periods. The results indicate that CO concentrations would not exceed 75 percent of the NAAQS for CO. The NAAQS standards for CO are 35 ppm for a one-hour average, and 9 ppm for an eight-hour average. The environmental assessment concluded that the expansion of John Nolen Drive and the increased traffic that would result from the expansion would, therefore, not result in a substantial adverse impact on air quality.

HNTB also evaluated the impacts that may be caused as the result of the additional vehicles associated with the use of the proposed Convention Center parking ramp over an eight hour peak period (2 p.m. to 10 p.m.). This eight hour period of time was selected as the most likely period when a large number of cars may leave an afternoon or evening event at the Convention Center. Specifically, the report analyzed the impacts on air quality of a "cold start" scenario in the proposed parking garage. A "cold start" is a worst case period when a large number of automobiles start their engines in a short period of time and these vehicles are added to the traffic. The study added a pro-rated number of cars from the Convention Center parking garage to the intersections studied. It was determined that this eight hour

period would carry less traffic than the highest eight hour daily peak traffic level (10:00 a.m. to 6:00 p.m.) already modeled (results shown on Table 5.1-1). The report concludes:

"Thus, if the Monona Terrace Convention Center is built, the additional traffic generated by special events will not exacerbate eight hour CO concentrations at the two intersections studied in this report."

**TABLE 5.1-1  
MAXIMUM PROJECTED CARBON MONOXIDE CONCENTRATIONS  
JOHN NOLEN DRIVE/BROOM STREET AND VICINITY  
Madison, Wisconsin**

Receptor Location	Wind Direction (a)	1994 CO (PPM) (b)		2004 CO (PPM) (b)	
		1 Hour	8 Hour	1 Hour	8 Hour
R1 Office Building	115°	13.0	5.0	9.2	3.7
R2 Residence	155°	14.3	6.2	10.0	4.4
R3 Residence	125°	15.1	5.4	10.4	3.9
R4 Residence	125°	15.5	5.5	10.3	3.9
R6 Residence	115°-125°	12.7	4.8	8.9	3.7
R6 Residence	125°	12.2	5.0	8.6	3.7
R7 Residence	115°-125°	11.9	4.8	8.6	3.6
R8 Public Building	155°	14.9	5.8	10.0	4.1
R9 Public Building	155°	16.4	6.3	10.9	4.5

PPM = Parts per million by volume at 25°C.

National Ambient Air Quality Standards for CO are 35 ppm for one hour and 9 ppm for eight hours.

(a) Degrees from North, direction wind is coming from.

(b) Includes background concentrations of 5.4 ppm for 1 hour and 2.5 ppm for 8 hours.

Source: Wisconsin Department of Transportation John Nolen Drive Expansion Environmental Assessment



### John Nolen Drive Passageway Air Quality

Approximately 900 feet of John Nolen Drive will be covered by the proposed parking ramp. The covered roadway will be open to the Lake Monona side for approximately half of this distance. Toward the land side (northeast) the roadway cover will be open to the buildings, Olin Terrace Wall, or the escarpment. For purposes of fire protection ventilation requirements, engineering standards treat covered roadways, such as the proposed passageway, as a tunnel condition. The discussion below uses the terms "tunnel" and "covered roadway" interchangeably.

A study was conducted by HNTB (1993) to analyze ventilation requirements to meet air quality standards within the tunnel. The need for mechanical ventilation was studied for 1) air quality, 2) visibility, and 3) fire control needs.

HNTB concluded that for air quality (as measured by CO concentrations) and visibility, the tunnel will not require mechanical ventilation to meet applicable air quality standards. Natural air movements from outside wind conditions and traffic flow will provide adequate ventilation for all but the most extreme conditions. The single condition where CO levels may be of concern would be a scenario where three lanes of traffic in one direction are totally blocked for the entire length of the roadway, and there is no wind movement. Under predicted 1996 traffic levels, CO concentration standards would be exceeded only if these circumstances persisted for fifteen minutes. The report estimated that the combination of these conditions might occur once in ten years. Although by itself, this air quality concern does not require mechanical ventilation for mitigation, as discussed below, mechanical ventilation will be required in the covered roadway for fire control. Therefore, if the unusual condition required to raise CO levels were to occur, the mechanical ventilation in the tunnel could be activated.

Although the CO concentrations are rarely at a level to cause concerns, the odors from the traffic potentially could impact the offices and buildings which face the Convention Center. According to the current design, One West Wilson (the State Office Building) is the building with the least clearance from the decks of the parking ramp. Based on local meteorological data, calm wind conditions (wind speed less than one mph) occur about 7.6 percent of the time. When these conditions occur, and traffic is stopped in three lanes for over fifteen

minutes, mechanical ventilation may be desired to mitigate undesirable air odor as perceived from the buildings along the northwest side of the tunnel.

For fire safety purposes, a mechanical ventilation system for the covered roadway was recommended in the HNTB study. The mechanical ventilation would exhaust smoke and heat from a potential fire in the covered roadway and would also aid fire department personnel to reach the fire site. The potential for a large fire from a flammable cargo truck accident was predicted to be small. Assuming that all trucks using John Nolen Drive carry flammable cargo, the predicted occurrence rate was one cargo fire every 435 years. As quoted from the report, "On a broader scale, approximately 0.8 percent of all vehicle accidents in Wisconsin involved fire." The potential for a fire-related accident of any type under the covered roadway area was predicted to be once every 12.2 years.

#### The Convention Center

The heating system for the proposed building will not utilize on-site furnaces or boilers. The building will be heated from the Capitol Heating Plant facility.

#### **Noise Impacts**

##### Short-term

Potential noise receptors include the people living, working, and visiting the buildings along the south side of the Isthmus between Henry Street and Blair Street. There are about 26 buildings in the area closest to the project site (the south side of Wilson Street between Henry Street and Blair Street). A list of these buildings and information on their occupancy is given in Table 5.1-3. The construction equipment used on the site is the noise source of most concern during the construction phase. The equipment will include end loaders, dump trucks, pile drivers, and bulldozers. Table 5.1-2 shows noise levels that can be expected from construction equipment and some common urban levels of noise for comparison. Based on experience at other construction sites of this nature, the most significant noise impacts would be caused by the pile driving operation during the construction phase. The pile driving activity is anticipated to last about 60 to 80 working days. The entire construction phase may take from 2 to 2½ years. Figure 5.1-1 shows the area of most significant impact from construction noise.

**TABLE 5.1-2  
NOISE LEVELS FROM CONSTRUCTION SOURCES**

<b>Noise Source</b>	<b>Sound Level dB(A) at 50 ft</b>	<b>Sound Level dB(A) at 100 ft</b>	<b>Sound Level dB(A) at 200 ft</b>	<b>Sound Level dB(A) at 400 ft</b>
Pile Driver	101	95	89	83
Dump Truck	88	82	76	70
Jackhammer	88	82	76	70
Dozer	87	81	75	69
Concrete Mixer (truck)	85	79	73	67
Backhoe	85	79	73	67
Power Lawn Mower	92	86	80	74
Busy Downtown Area	60	54	49	43

\* Decibel levels in A-scale numbers  
Source: Handbook of Noise Assessment, 1978.

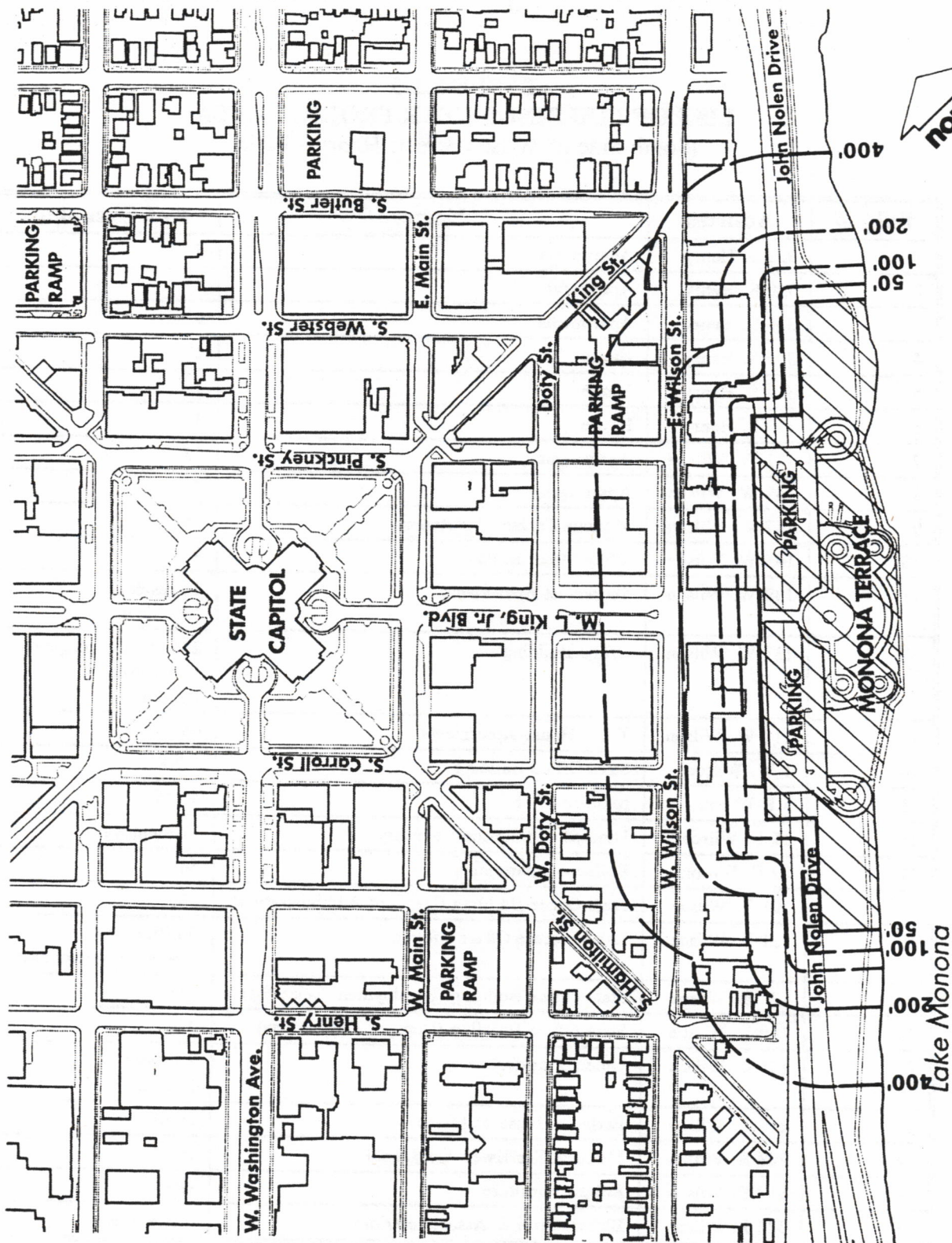


FIGURE 5.1-1

**AREAS OF MOST SIGNIFICANT NOISE IMPACTS DURING CONSTRUCTION PHASE  
STATE OF WI, D.O.A./MONONA TERRACE CONVENTION CENTER EIS**

DRAWN BY: MAS	CHECKED BY: JAB	PROJECT NUMBER: 93C6683	DATE: 4-9-93	DWG NO: A1
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**TABLE 5.1-3**  
**LIST OF BUILDINGS NEAR PROJECT AREA**  
(South Side of Wilson Street: Henry - Blair)

Bldg. #	Address	Name	# of Occupants
1	321 S. Henry	Apartments	5
2	320 S. Henry	Apartments	7
3	316 S. Henry	Apartments	9
4	315 S. Henry	House	2
5	314 S. Henry	House	3
6	313 S. Henry	House	3
7	151 W. Wilson	Apartments	13
8	149 W. Wilson	Apartments	6
9	147 W. Wilson	Monona Terrace Apartments	26
10	145 W. Wilson	Office/Apartments	9
11	139 W. Wilson	Shorecrest Apartments	28 residents 13 offices
12	131 W. Wilson	Office Building	236 (state employees) 1 restaurant 1 retail
13	111 W. Wilson	Town House Apartments	66
14	1 W. Wilson	State Office Building	2,200
15	5 E Wilson	Madison Club	40-45
16	15 E. Wilson	Diocese of Madison Chancery	11 employees
17	29 E. Wilson	Bellevue Apartments	56
18	101 E. Wilson	State Office Building (Dept. of Administration)	760
19	121 E. Wilson	Lake Terrace Office Building	9 offices 199 (state employees)
20	137 E. Wilson	State Office Building (Employment Relations)	118
21	149 E. Wilson	State Office Building (Dept. of Corrections)	250
22	155 E. Wilson	Union Transfer	2 offices 1 retail
23	157 E. Wilson	Farley's House of Music	retail
24	303 E. Wilson	Madison Tae Kwon Do School	retail
25	317 E. Wilson	Rubins Furniture	retail
26	323 E. Wilson	Bluhm Carol & Assoc. Interiors	office/retail

\* Source: 1992 Madison City Directory; State Office Building employee estimates: J. Mitchell, Bureau of Maintenance, personal communication 1993.

### Long-term

The magnitude of the long-term noise impact is determined from noise modeling, which generates predicted noise levels at specific receptor locations. Noise impact modeling was performed as part of an environmental assessment for the widening of John Nolen Drive, from Blair Street to North Shore Drive, from a four-lane undivided road to a six-lane divided road. Maximum projected sound impact levels predicted for the John Nolen Drive expansion are presented in Table 5.1-4. The receptor sites for this analysis are located on Broom Street between John Nolen Drive and West Doty Street and at the south end of Henry Street. The results indicate that noise levels at 13 designated receptor locations would increase by 0.9 - 1.1 decibels (dBA). The significance of impact at all receptor locations was classified as "moderate" as defined by the Wisconsin Department of Transportation Facilities Development Manual. This analysis is based upon the traffic noise generated on John Nolen Drive, rather than as a result of the Convention Center activities.

The type of noise generated from the Convention Center will include air ventilation systems, exhaust fans, and noise generated directly by the center activities and public roof top events. None of these noise sources are expected to exceed the noise generated from the traffic on John Nolen Drive during the day and early evening hours. During evening hours, noise generated at the Convention Center will be enhanced over the lake.

**TABLE 5.1-4  
NOISE ANALYSIS FOR JOHN NOLEN DRIVE EXPANSION**

Receptor location or site identification	Distance from CL of near lane to receptor (ft)	Sound Levels LEQ (dBA)			Impact Evaluation			
		Number of families typical of this receptor	Noise abatement criteria (NAC)	Future noise level	Existing noise level	Difference in future and existing noise levels (Col. e-Col. f)	Difference in future and NAC (Col. e-Col. d)	Degree of impact (*)
R1	53'	60 people	72	62.1	61.0	1.1	-9.9	MO
R2	42'	2 families	67	61.6	70.7	0.9	-5.4	MO
R3	39'	2 families	67	66.8	65.8	1.0	-0.2	MO
R4	41'	1 family	67	66.7	65.7	1.0	-0.3	MO
R5	52'	2 families	67	65.4	64.4	1.0	-1.6	MO
R6	47'	3 families	67	66.2	65.2	1.0	-0.8	MO
R7	52'	1 family	67	66.3	65.3	1.0	-0.7	MO
R8	42'	17 families	67	63.6	62.6	1.0	-3.4	MO
R9	30'	17 families	67	64.9	63.9	1.0	-2.1	MO
R10	91'	33 families	67	66.5	65.6	1.0	-0.5	MO
R11	24'	5 families	67	63.4	62.4	1.0	-3.6	MO
R12	28'	3 families	67	62.6	61.6	1.0	-4.4	MO
R13	30'	2 families	67	61.9	60.8	1.1	-5.1	MO

(\*) Degree of impact - from WisDOT Facilities Development Manual procedure 23-30-1, Fig. 1.  
 N = no impact MI = minor impact MO = moderate impact S = severe impact

NOTE: All sound levels determined using Stamina software.  
 Source: Wisconsin Department of Transportation John Nolen Drive Expansion Environmental Assessment.

## **Potential Mitigation Measures**

Construction site particulate matter emissions can be controlled by the application of water or other wetting agents to unprotected surfaces. The amount of water applied must be controlled to avoid construction erosion runoff.

A mechanical tunnel ventilation system installed for fire safety could also be activated in the rare events when CO concentrations exceed the fifteen minute exposure standard of 120 ppm.

Traffic control lights at the entrance to the tunnel from each direction could be used to prevent traffic from entering the area during accidents or other blocked conditions.

Mitigation measures for short-term noise includes the use of mufflers on construction equipment and limiting hours of construction activity to daytime hours.

## **5.2 WATER QUALITY**

Potential impacts on Lake Monona's water quality as a result of the proposed action would come from direct runoff from the site, from changes in traffic volumes, from other indirect activities due to the actions associated with operating a Convention Center, and from construction phase activities. Based on the analysis below (Pollution Sources), there will not be a measurable long-term impact on the lake's trophic status, sediment quality, chloride/sodium concentrations, or bacteria levels due to the proposed action. This determination is based on the comparison of the expected nonpoint source pollutant loads from the site compared to Lake Monona's over-all pollutant load. Tables 4.2-6 and 5.2-1 show the comparison of the nonpoint source pollution that will be caused by the proposed Convention Center with the existing nonpoint source pollutant load of the entire Lake Monona watershed.

The water quality of the area immediately off-shore from the project area may be impacted from construction activities and potential runoff from the parking garage and other newly paved areas. These impacts are discussed in detail below.



Along with these potentially adverse impacts, it is expected that the Convention Center will attract additional public usage of the Monona Terrace area, causing an increase in the public awareness of the water quality of Lake Monona.

### **Short-term Impacts**

#### Construction Erosion

Construction erosion presents a potential source of increased sediment to the lake. Although the Convention Center is to be supported entirely by pilings, construction will require some surface grading and excavation at the building site for footings and utilities. Generally, it is assumed that if no erosion control practices are implemented, a typical construction site will cause about 30 tons/acre/year of sediment runoff. (Dane County RPC, personal communication, 1992). This rate was used in the Dane County RPC's report: "Yahara Monona Priority Watershed Project Plan." For conservatively estimating the potential construction sediment load, it was assumed that the construction activities will expose about seven acres of soil for the entire two-year construction period, i.e., the railroad corridor and part of John Nolen Drive will not be disturbed. It is unlikely that such a condition will be encountered, since the main support for the proposed building will be pilings, rather than excavated foundation. The total estimated sediment load from the site under this scenario and with no erosion control or management practices could be as high as 420 tons (210 tons annually).

However, the Convention Center construction project cannot proceed without compliance to the City's construction erosion control ordinance. The ordinance requires management practices such as filter fences, mulching, and control of mud tracking on streets. These practices typically reduce construction sediment runoff by 60-75 percent. Assuming the control measures are 66 percent effective at the Monona Terrace site, the estimated volume of sediment runoff to the lake during the two year construction period is estimated at approximately 140 tons (or 100 cubic yards) of soil.

It is estimated that Lake Monona currently receives about 11,700 tons of sediment per year as the result of runoff from its watershed and from the Yahara River (Table 4.2-6). The potential increase in soil runoff to Lake Monona as the result of construction of the

Convention Center, therefore, is about 0.6 percent of the entire annual sediment load to Lake Monona.

While the runoff may have only a negligible impact on the entire lake, the soil runoff will likely have greater short-term localized impacts on the near-shore lake bed off of Law Park during the construction phase. Short-term increases in turbidity in the near-shore waters will be the most noticeable impact. Impacts of increased turbidity on local fish populations are discussed in the next section (Section 5.3).

#### Sediment Re-suspension from Pile Driving

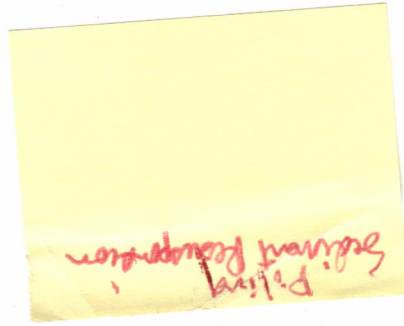
The action of driving pilings into the lake bed will disturb and re-suspend sediments on the lake bed. During the process of pile driving from a floating barge, the barge is held in place with smaller piles or "spuds" attached to the barge. When the barge is moved, the spuds are pulled up. The action of pulling up the spuds will likely cause the most sediment re-suspension. Measurements of the lake bed sediment quality in the proposed construction area have shown relatively low levels of heavy metals and PCBs. However, elevated levels of petroleum product have been found in the sediment within the proposed construction area. Pile driving activity and the removal of the spuds will likely release some of this petroleum and cause the lighter petroleum to rise to the lake surface. The quantity of petroleum released in this manner will be very small and is not expected to cause direct harm to fish or plant life. This released petroleum could cause negative aesthetic impacts.

#### Construction Phase Spills

During the construction activities, if no mitigative resources are implemented, there is a potential for fuel or other substances to be spilled onto the ground and possibly migrate into the lake. Such problems may occur as the result of washings from concrete mixers and/or the use of fuel oil, adhesives, and paints during construction.

## Long-term

### Nonpoint Source Pollution



The change in nonpoint source pollution from the site after construction is shown on Table 5.2-1. Comparing this table with Table 4.2-7 shows the estimated change in the pollutant load compared to the existing condition of the project area. Although the estimated changes are large, the actual numbers are small relative to the lake's annual pollutant load. For example, the "before" condition for phosphorus runoff from the site is 11.3 pounds per year and the "after" condition may be 16.1 pounds per year. This is compared with a total phosphorus load to Lake Monona from all sources of over 27,400 pounds per year (Table 4.2-6). The change in phosphorus represents an increase of less than 0.02 percent of the lake's over-all phosphorus loading. This change would not result in a measurable impact on the overall condition of Lake Monona or on the downstream water resources.

Cumulative effects of continuing development, if any, around Lake Monona may impact the nonpoint source pollutant conditions to the lake. Whenever an area is converted from a vegetated landcover to an impervious landcover, an incremental amount of runoff and associated pollutants will be added to the water resource. Most of Lake Monona's shoreline is privately owned residential housing and public parks. Therefore, significant large-scale development around the lake is not expected.

The parameters of sediment, phosphorus, and metals were selected for the analysis of potential long-term water quality impacts, because these parameters have historically been the pollutants of most concern, and because these pollutants have been the most extensively studied. However, other potential nonpoint source pollutants, not listed on Table 5.2-1, may locally impact the water quality of Lake Monona. Runoff from urban areas and parking areas are known to contain petroleum products (polynuclear aromatic hydrocarbons - PAH), antifreeze, and other materials. Although no pollutant loading figures for PAHs have been calculated for the entire Lake Monona watershed, monitoring in the City of Madison has shown PAH levels occasionally exceed water quality standards in the storm sewers (Bannerman, 1990).

**TABLE 5.2-1  
PREDICTED ANNUAL NONPOINT SOURCE POLLUTANT LOAD FROM  
COMPLETED MONONA TERRACE CONVENTION CENTER\***

Land Cover	Acres	Total Phosphorus (lbs/yr)	Sediment (tons/yr)	Total Lead (lbs/yr)
Parking Garage; & access roads	4.19	6.8	0.77	4.2
J. Nolen Dr.	1.50	2.4	0.28	1.5
R.R. Track	1.42	2.3	0.26	1.4
Grass "Islands"	0.93	0.3	0.02	0.0
Convention Center Structure	2.59	4.2	0.48	2.6
<b>Total</b>	<b>10.63</b>	<b>16.1 (+43%)**</b>	<b>1.81 (+46%)</b>	<b>9.7 (+56%)</b>
<b>Pollutant Load to Lake Monona from Entire Watershed</b>		<b>27,464</b>	<b>11,706</b>	<b>8,290</b>

\* Based on unit area loads from Source Load and Management Model (SLAMM) (WDNR April 1989).

\*\* % = increase over current condition (Table 4.2-7); Assumes no nonpoint source control measures used.

### Aesthetic Concerns

Lake Monona commonly experiences nuisance levels of algae blooms during the summer months. Algae and other floating debris in the lake accumulate on the shore opposite the wind direction. Both algae and other floating debris may accumulate along the outer wall of the proposed Convention Center during certain weather patterns. This situation may become unsightly and have an offensive odor. The frequency of such conditions will vary with the climate. For example, the UW-Madison Memorial Union Terrace on the shore of Lake Mendota occasionally experiences these problems. It should be noted, however, that construction of the proposed Convention Center will not increase the frequency or magnitude of these conditions along the shore of Lake Monona. The change caused by the proposed project is that the problem, when it does occur, would occur along the outer wall of the

Convention Center. Without the Convention Center the same problem would exist along the present shore of Law Park. In other words, the proposed project will displace this aesthetically unpleasing circumstance from the shoreline to the Convention Center's outer seawall.

### Lake Circulation

Because the structure is piling supported and the outer wall depth is about 1 to 2 feet below the normal lake level, the project is not expected to affect the lake's circulation and currents. The circulation within the lake is mainly governed by thermal currents and wind direction. The interference to lake circulation presented by the piles will not prevent water circulation below the building. The lake area below the building will not stagnate or experience depletion of oxygen as the result of the proposed action.

### Lake Bottom Scouring

Wave erosion and scour of bottom sediments underneath the overhang of the Convention Center will increase as a result of the project. Analyses were conducted to estimate the forces of waves under the building and the resulting scour of the lake bed. The degree to which the lake bed may scour is dependent on three variables:

- distance from lake surface to lake bed (this varies by lake levels and distance from shore),
- wave height, and
- distance between the bottom of the structure and the lake surface.

Figure 5.2-1 is a schematic showing the general lake depths found at the central portion of the Convention Center (based on the current design). Figure 5.2-2 shows the historic variation of Lake Monona's water levels and the frequency of lake level occurrences. The lake elevation is controlled at the outlet of Lake Waubesa. State rules governing the lake levels have established a maximum lake level of 845.2 feet (above mean sea level - msl). This level is -0.4 feet City Datum. However, lake levels will temporarily exceed this elevation during spring runoff or during intense rainfall times. The "normal" lake level is about 844.8 feet.

Figure 5.2-3 shows the frequency of occurrences of various wave heights on Lake Monona at the Convention Center site.

The potential for lake bed scour increases as three things happen:

- the distance from lake surface to lake bed decreases (closer to shore),
- the wave height increases, and
- the distance between the structure's bottom and lake surface decreases.

During periods when the lake level is below the ten year high (846.8 feet msl) and the wave heights are below the 10-year high (3.75 feet) the scour conditions would remain unchanged over the current situation. The probability of lake levels and wave heights exceeding their respective ten-year highs simultaneously in any one year is about 1 percent. Under such conditions, and only under such conditions, is it expected that scouring of the lake bed sediments will increase over natural conditions.

The depth of scour under such conditions is estimated using two approaches. Using the Army Corps of Engineers "rule of thumb" (Shore Projection Manual, Volume I, 1984), the scour depth may equal 4-6 feet. Estimates made using methods described by Hughs and Fowler (1991) result in predicted scour depths of 4-8 feet. This second method is used to estimate wave pressure forces at a vertical wall. Since the shore of the lake is sloped (thus dissipating the wave energy more significantly than in the estimate's "vertical wall" condition), the results of this analysis may be considered a worst-case scenario. In any case, the potential impacts of scouring will need to be considered in the final design of the Monona Terrace structure. More specifically, scouring impacts may determine the lengths of the pilings that will support the structure and, perhaps, the clearance designed between the lake's surface and the bottom of the structure.

In terms of potential environmental impacts, the increased scour (over natural conditions) that may occur during the unusual condition of a ten-year high lake level combining with a ten-year high wave height will cause increased turbidity in the immediate area of the Convention Center.

FIGURE 5.2-1

Lake Bed at Monona Terrace

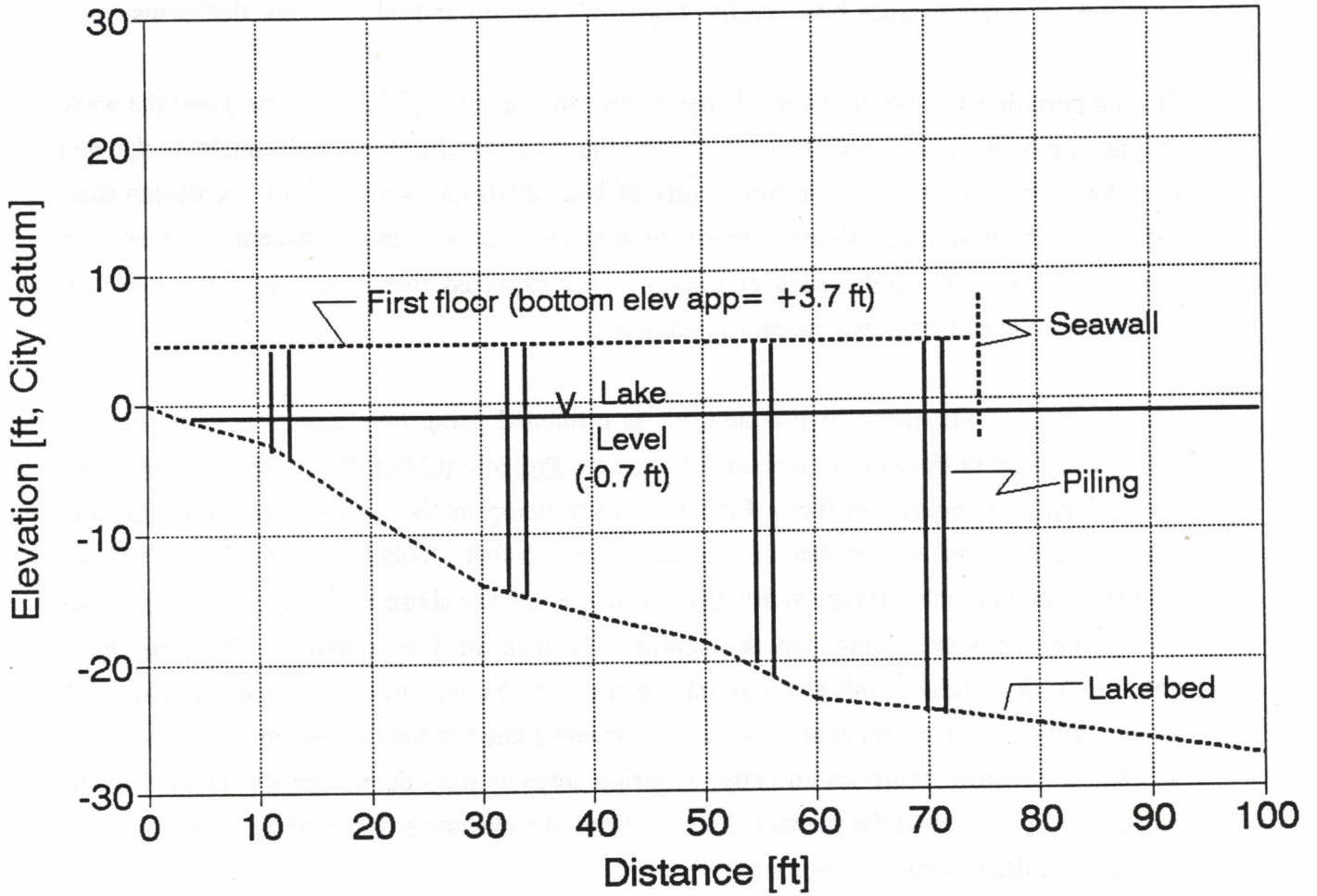


FIGURE 5.2-2

LAKE LEVEL FREQUENCY  
LAKE MONONA HIGHWATER

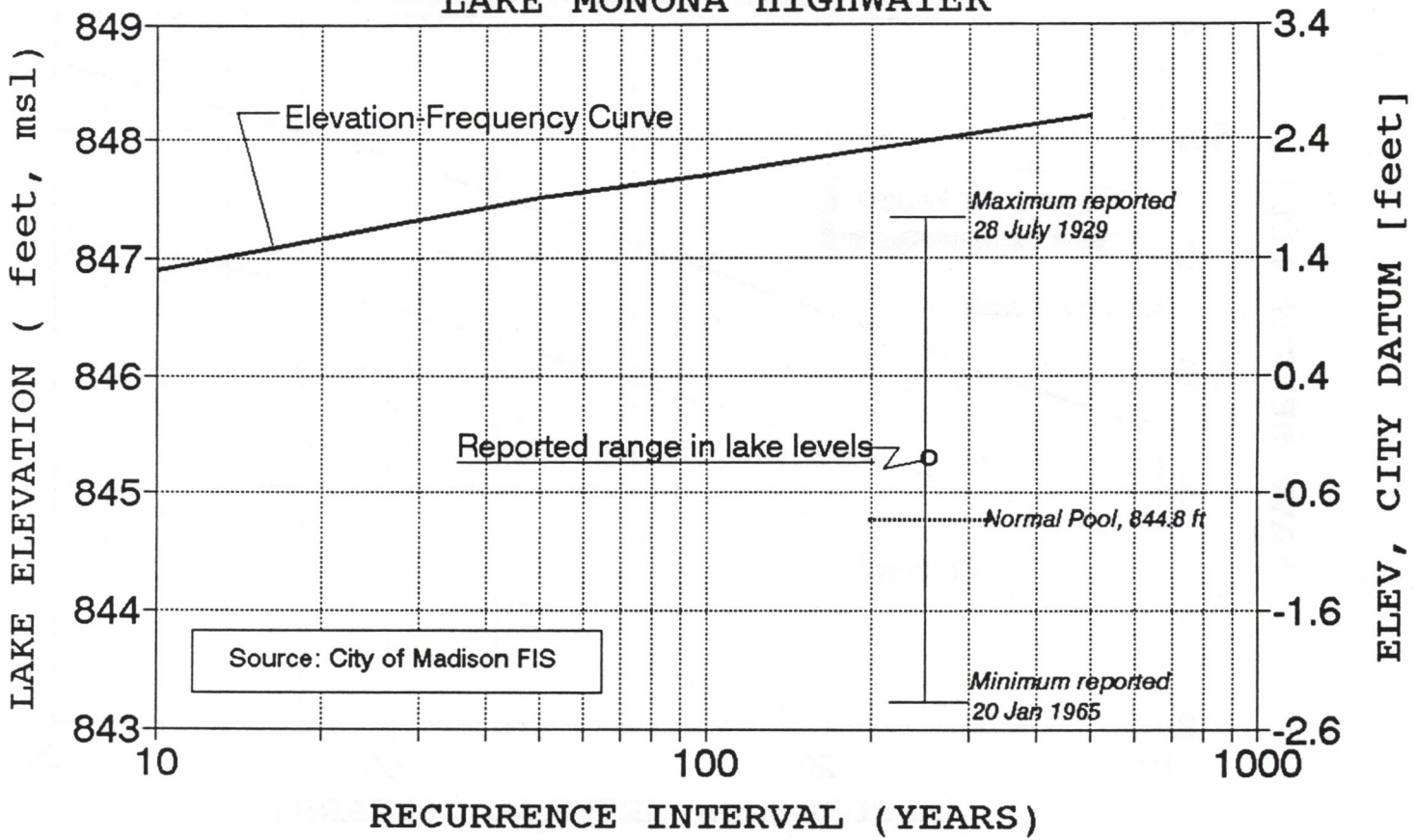
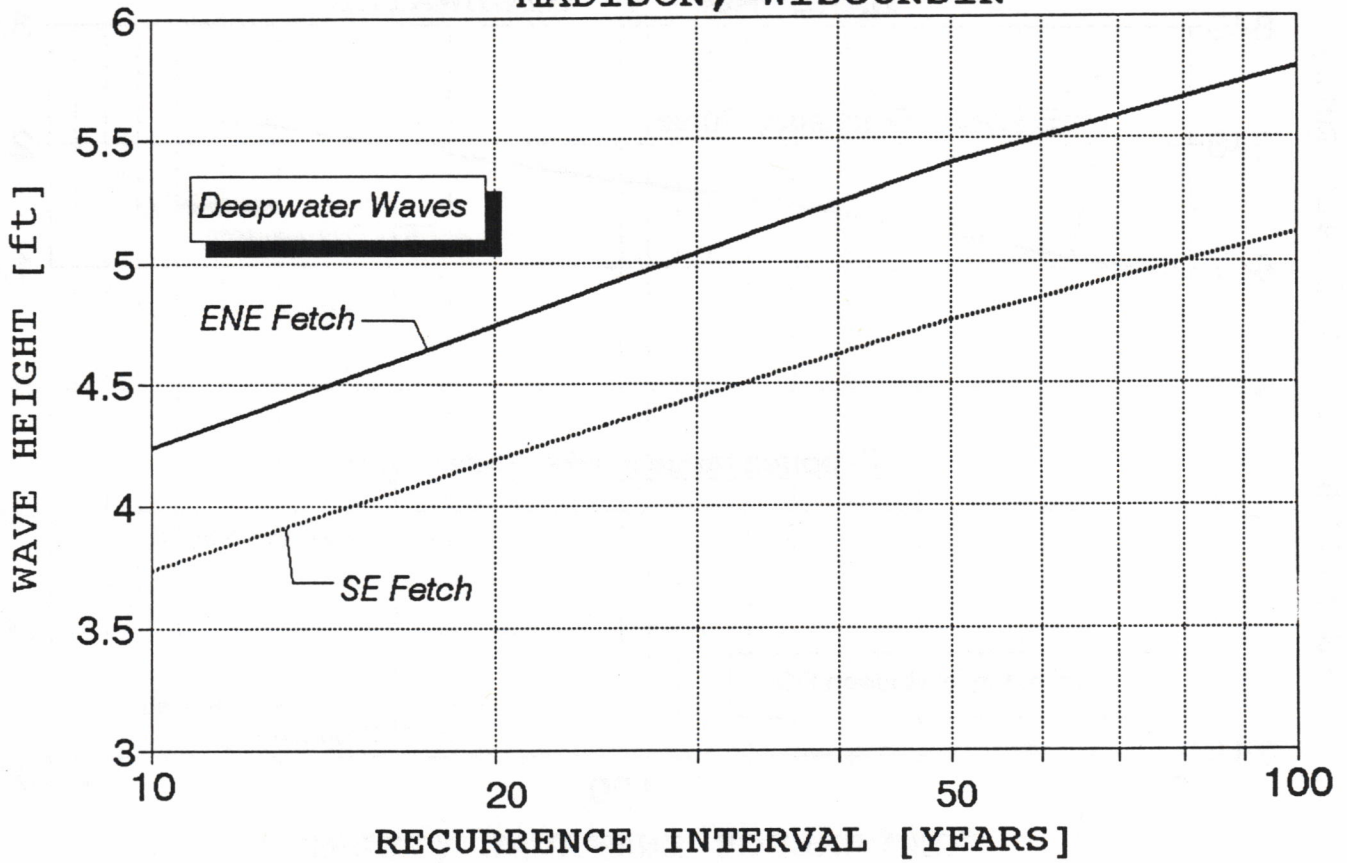




FIGURE 5.2-3

DESIGN WAVE FREQUENCY  
MADISON, WISCONSIN



With the steep lake bottom that occurs along the shoreline where the Convention Center will be located, sediment that is scoured would be expected to settle in deeper portions of the lake. This scouring would continue under these extreme conditions until enough sediment had been scoured and redeposited in deeper portions of the lake, and a steady state or equilibrium condition was established with respect to the ten-year lake level and the ten-year wave height conditions.

The scouring will have two potential impacts on the lake. The first, a short-term impact, is increased turbidity in the area under, and off-shore from, the proposed Convention Center, as scoured sediments are re-suspended and transported to other parts of the lake. This short-term impact may also result in the release of lighter petroleum products that will float to the surface of the lake and dissipate with time.

This short-term impact is not expected to have any measurable long-term impact on the lake water quality or biologic activity in the lake. The impact, if any, will be a brief aesthetic impact.

The second impact will occur when the re-suspended sediments are transported and deposited in deeper areas of the lake. Since the near-shore sediments are, by most measures, less contaminated than the sediments in the deeper areas of the lake (see Section 4.2), it is not expected that the new deposits that may occur as the result of the possible scouring events would have any measurable impact on the lake or its biologic communities.

### **Potential Mitigation Measures**

Nonpoint source runoff from the completed project can be minimized through the use of best management practices. "Best management practices" include structural and nonstructural methods to reduce the pollutants in runoff water before the runoff water reaches a water resource. Independent of the Monona Terrace project, the City of Madison will be required to implement a nonpoint source management plan under the Federal EPA Stormwater Management Program. This program applies to the entire city, not just the Monona Terrace site. If nonpoint source control practices are incorporated at the Convention Center, post-construction nonpoint source pollution can be reduced by 80 to 90 percent for sediment and metals and 40 - 60 percent for phosphorus (Dane County RPC, 1992), as compared to

expected levels without such measures. Oil and petroleum removal efficiencies can be up to 80-90 percent with a properly designed "best management practice" (R. Pitt personal communication, 1993).

Construction site erosion can be minimized through strict adherence to Madison's erosion control ordinance as well as additional practices if necessary. These erosion control measures could reduce the sediment runoff by as much as 75 percent.

Driving pilings into the lake bed will re-suspend sediments in the vicinity of the pile driving. While this short-term re-suspension is not expected to have any measurable impact on Lake Monona's overall water quality or negatively impact the lake's biotic communities, such re-suspension could be contained with industry-standard silt curtains. Silt curtains are a membrane material which hang in the water from surface to lake bottom. The curtain is attached to floats on the water surface and is anchored to the lake bed and completely surrounds the pile driving area. The membrane allows water to pass but will trap any re-suspended sediment.

The re-suspension of lake bed sediments may also result in short-term release of lighter petroleum product, which will appear as a sheen on the lake surface. This re-suspension will be short-term and is not expected to have any measurable impact on the lake's water quality or biotic communities. Nevertheless, even this impact can be contained by the use of sorptive booms around the pile driving area. These booms would contain and adsorb any petroleum product that may be released from the sediment during the pile driving activity.

During construction, the areas where fuel and other materials are handled and used could be bermed, lined, and strictly managed to minimize the potential for spills onto the ground and potential migration into the lake.

A maintenance program requiring regular inspection and weed removal from the Convention Center's outer wall will minimize the potential for excess weed growth and other debris to become offensive.

Finally, long-term lake bed scouring could be minimized, if desired, with any of the following measures:

- Design the building to maintain the maximum feasible clearance from the bottom of the building to the lake's surface;
- Design the sea wall to minimize the wave spray and reflect the waves. (A "recurve" design may be most beneficial.);
- Maintain the current rock rip-rap at the shoreline edge and into the lake; and
- The Convention Center's design and pile driving depths should account for the potential scouring effects as described in this section.

### **5.3 FISHERY AND FISH HABITAT**

Potential impacts to the fishery of Lake Monona associated with the proposed action include physical disturbance of shallow water, localized increase in sedimentation and water turbidity during the construction phase, alteration of fish habitat associated with the portion of the Convention Center that will be constructed over the lake, and possible increased wave erosion of the lake bottom under the overhang of the Convention Center.

Based upon the available data and the analysis discussed below, it appears that the proposed project will have no measurable impact upon Lake Monona's overall sport fish population, year class size, or reproduction capability. The project will cause the permanent displacement of much of the fish use of the immediate area of the proposed building both during construction and post construction.

#### **Short-term Impacts**

While the pilings are being installed, it is expected that the localized area near the construction will experience elevated turbidity levels. These elevated turbidity levels will interfere with the ability of sight feeding fish to forage for food.

The noise and vibration of the pile driving activity is expected to drive fish away from the construction zone during this activity.

Construction runoff (sediment) from the site could impact the local, near shore area. This area already has a layer of sediment, but new sediment from construction runoff may cover up existing weed beds. However, most sediment deposition will occur in the portion of the lake which will ultimately be covered by the Convention Center building and will, in any case, no longer be a productive fishery habitat.

### **Long-term**

#### Open Water

The portion of the Convention Center that will extend out over Lake Monona will cover about 1.5 acres of open water. Lake Monona has about 3,275 acres of open water. The Convention Center will, therefore, cover about 0.05 percent of Lake Monona's open water. The localized impacts on fish populations caused by the portion of the building that extends out over Lake Monona will not have measurable long-term effects on the fishery in the lake as a whole.

The lake area under the Convention Center, except for the areas around the perimeter, will for the most part cease to be utilized by fish. The area will be void of light. The lack of light will have several negative impacts. First, the abundance of food items will be substantially reduced, especially at points under the building that are the furthest from the perimeter. Second, the ability of most fish species to forage on food items will also be reduced. Third, the lack of sunlight will preclude the growth of aquatic macrophytes and their associated spawning and rearing value.

#### Near Shore Spawning Habitat

As discussed elsewhere in the EIS, as a part of WDNR's Aquatic Plant Management Program, WDNR has defined most (93%) of Lake Monona's shoreline as areas that may support fish spawning. To protect spawning in these areas, WDNR prohibits herbicide spraying for weed control during the early spring fish spawning season. The shore off Law

Park is part of this protected area. The lakebed under the building, after construction, will no longer be suitable for fish spawning. This loss of spawning habitat by itself will not have a measurable impact to the lake's overall fish populations or ability to propagate since it will affect less than 2.5% of the spawning habitat protected by WDNR's Aquatic Plant Management Program. Moreover, any fish that now use the Law Park area for spawning will utilize other available areas.

It should be noted, however, that numerous projects that cause the removal of small areas of critical fish spawning habitat could eventually have a measurable adverse effect on the ability of fish populations to reproduce in Lake Monona, if enough spawning habitat were lost.

#### Lake Scour Impacts

The potential of lake bed scouring is discussed in 5.2 (Water Quality). Since the fish habitat under the building will be eliminated, the potential scouring of lake bed sediment will not further impact the area under the building in relation to habitat use. The sediments that are scoured will likely move down slope into the deeper areas of the lake. Since the most important fish spawning habitat in Lake Monona is located along the shoreline in areas where the water depth is generally less than ten feet, movement of bottom sediment from underneath the Convention Center to deeper portions of the lake will not impact the shallow spawning habitat areas.

#### Cathodic Protection of the Pilings

The pilings supporting the Convention Center may be cathodically protected to prevent corrosion of the steel. The type of cathodic protection, if any, that might be used for the project has not been selected. There are two available types of cathodic protection systems: "passive" and "impressed" current. The "passive" system uses a sacrificial anode and a very low voltage (1.5 volts) to protect the steel. The "impressed" current system also uses a sacrificial anode with a voltage level of 5-20 volts and about 0.1 amps through the pilings for protection (C. McWhirter, personal communication, 1993).

The voltage used for either method will not shock or "stun" fish or other aquatic life in the area. Fish shocking equipment typically used by fish managers use voltages in the range of 100 to 600 volts and about 10 amps to stun the fish (J. Sharper, personal communication, 1993). Cathodically protected structures are already in place in the Milwaukee River near Milwaukee, Wisconsin, and no impacts on the fish or other aquatic life from the cathodic protection have been reported from these areas.

### **Potential Mitigation Measures**

The Monona Terrace project is not expected to have any measurable impact on Lake Monona's overall fishery resource. If it was desirable to mitigate the short-term, local impact on the fish in the project area, the following measures could be used:

- Time certain construction activities (especially pile driving) to avoid the prime spawning periods of fish species.
- Implement extra construction erosion control measures to further minimize runoff, such as silt curtains to contain the re-suspended sediment.

## **5.4 TERRESTRIAL VEGETATION/WILDLIFE**

### **Short-term Impacts**

If the construction takes place during waterfowl migration periods, the activity will likely cause the migrating waterfowl to avoid this area. Common urban wildlife are also expected to avoid the construction area during the construction period.

### **Long-term Impacts**

The vegetation included on the inventory by the City of Madison (within the 3.7 vegetated acres of the building site) would be removed as a result of the construction of the Convention Center and parking garage. No trees of a unique age or species will be impacted by the proposed action.

The common urban wildlife (described in Section 4.4) in the affected area would be displaced. No unique wildlife or habitats will be affected by the proposed action.

Shore access by migrating waterfowl and mammals would be displaced to other locations within Law Park or around Lake Monona.

### **Potential Mitigation Measures**

The completed Convention Center would be landscaped both on the Law Park level and on the public roof area. The trees and shrubs used in the Convention Center's landscaping and on the rooftop park may mitigate some of the lost vegetation and habitat; however, these efforts will not completely replace the vegetation and greenspace that will be lost as the result of the proposed action.

## **5.5 SUBSURFACE CONDITIONS**

For the most part, except as described below, the structure itself will not appreciably change the subsurface conditions at the site. However, the proposed construction of the Convention Center must take into account the subsurface conditions at the site. The following discussion summarizes the interaction between the construction and operation of the proposed Convention Center and the existing subsurface conditions.

### **Impacts and Related Mitigation**

Contaminated materials that may be encountered during construction would have to be removed and/or treated insitu as required by state and federal law. The clean-up and/or removal of these materials will reduce the amount of contaminated materials buried in the area and reduce the risk of migration of these contaminants to the lake and/or groundwater.

Releases of soil gases during construction would not have any measurable impact on the ambient air quality, but precautions should be taken to avoid methane build-up in confined areas during the construction process.



Fill materials excavated as part of the construction (for pile footings, utility trenches, etc.), if contaminated, would need to be tested and disposed in accordance with state and federal regulations.

If groundwater is pumped during the construction phase, and contaminant levels in the groundwater exceed Wisconsin groundwater standards, proper treatment and disposal methods will need to be implemented.

The proposed Convention Center will provide an impervious cover of approximately 3.7 acres to land composed of municipal fill. Precipitation to the areas beneath the buildings will thus be eliminated, in turn reducing infiltration and potential leaching of contaminated deposits that exist in that area.

Soil gases encountered at the site will need to be properly vented to avoid buildup under or in the proposed structure.

\* Although fill in the project area exists above natural soils (the original lake bed), the fill and the natural soils are likely hydraulically interconnected. Thus, foundation pilings which penetrate the fill soils into natural soils will not alter the existing groundwater flow regime and will not increase the likelihood that contaminants that may be present in the fill will migrate into the lake. Trenching for utility lines and other services could have a local impact on the groundwater flow patterns. If the trenches are filled with gravel or other coarse material, the groundwater flow will follow the path of least resistance. This means that, in some cases, groundwater flow toward Lake Monona in Law Park will occur along the utility trench lines rather than as part of the current groundwater flow pattern.

#### **Additional Mitigation Measures**

The construction contractor should develop a contingency plan for the excavation and off-site disposal or insitu treatment of toxic or hazardous materials which might be encountered.

For long-term mitigation, a properly constructed soil gas ventilation system is required to ensure that methane and other soil gases do not build up under the building or migrate into the building.

## 5.6 CULTURAL RESOURCES

The primary impacts on cultural resources caused by the Monona Terrace project will occur within the railroad corridor, John Nolen Drive, and Law Park, between the extensions of South Pinckney Street and South Carroll Street. Secondary physical impacts would occur along Law Park as far north as Hancock Street and as far south as a line extending from South Henry Street to the Lake Monona shoreline.

### Impacts

The proposed building itself can be considered of artistic and architectural importance. The unique nature of the site, the building, and the notoriety of the architect will likely benefit the community's artistic resources. The proposed action also may indirectly lead to additional art work being placed inside and outside of the facility.

### Archaeological Resources

Because of the age of the surface material at the site, the proposed action would have no effect on prehistoric or historic archaeological resources.

The area of direct impact from the proposed project, Law Park, is composed of fill accumulated from circa 1935 to 1950. The lack of intact, native deposition precludes the potential for this area to contain prehistoric or historic archaeological resources.

### Historic Architectural Resources

Impacts on buildings of historic or architectural importance can be defined in two categories:

- 1) Physical impacts, where an action will structurally change or remove a building, and

- 2) Visual impacts, where an action will change the setting in which a building is viewed. It is generally accepted that buildings of a similar architectural style or era present more continuity to a setting than buildings of different styles and designs.

### Physical Impacts

No buildings are required to be demolished as a result of this project. The potential for physical impacts comes from the action of the pile driving near the present buildings. There are several examples in Madison where pile-supported buildings were constructed near existing structures (St. Mary's Hospital addition, MG&E expansion, and the LaCiel Apartments) without damaging the adjacent buildings. Damage to nearby buildings from the Monona Terrace construction is not expected to occur. However, mitigation measures are listed at the end of this section to address potential concerns.

### Visual Impacts

The buildings listed below would be most affected visually because of their proximity to the proposed building. These impacts are described but not classified as "adverse" or "beneficial" because: 1) the proposed Convention Center was designed in the 1940 -1950's era, the same time period in which many of the buildings listed below were designed and constructed; 2) a public building on the Monona Terrace site has been a part of the Capitol-Lake Monona "mall" concept since the early part of this century; and 3) the Frank Lloyd Wright design will be considered by many people to be an architecturally significant structure and a beneficial change to the view from the existing structures. The reference numbers listed with each building are from Figure 4.6-1.

**State Office Building (#9):** This 1931 (modified in 1939 and 1956) property, listed on the National Register of Historic Places and Wisconsin State Inventory, currently has an unobstructed view to Lake Monona. The proposed project would not physically impact the structure, but it would be situated adjacent to the southeast side of the State Office Building. Views to the lake from the lower floors of the building would be obscured by the structure.

Madison Club (#11): This 1916-1918 structure, listed on the Wisconsin State Inventory, is situated north and east of the proposed project area. While not physically impacted by the project, the Monona Terrace facility will cause some loss of integrity of setting and will introduce new intrusions to the view from the Club.

Madison Catholic Center (#12): This 1938 structure, listed on the Wisconsin State Inventory, is situated northeast of the Madison Club. It also would not be physically impacted by the project.

Because of the distance separating the buildings listed below from the proposed Convention Center, the visual impacts to the setting of the following buildings would be relatively minor:

Joseph Stoner House (#4): This 1858 property is a Designated City Landmark and is listed on the National Register of Historic Places and Wisconsin State Inventory. It is situated more than one city block from the core of the proposed project area. Numerous post-1858 intrusions including John Nolen Drive already occur in close proximity to the Joseph Stoner House.

Dwelling/Apartment (#5): This 1911 structure, listed on the Wisconsin State Inventory, is situated approximately one city block from the core of the proposed project area. While adjacent to two other pre-1942 structures, the building faces other more recent structures.

Dwelling (#6): This 1890's period structure, listed on the Wisconsin State Inventory, is immediately adjacent to structure #5. Its contextual setting is essentially identical to structure #5.

Dwelling (#7): This 1905-06 structure, listed on the Wisconsin State Inventory, is situated immediately north and adjacent to structure #6 facing West Wilson Street.

Dwelling (#8): This apartment building, built in 1940, is listed on the Wisconsin State Inventory. It is situated at the intersection of S. Carroll Street and W. Wilson Street and faces the City-County Building to the north (built in 1955), the State Office

Building (1931, 1939, and 1956) to the east, and other post-1942 structures to the south and west.

Bellevue Apartments (#13): This 1914 property, which is on the National Register of Historic Places and Wisconsin State Inventory and is a Designated City Landmark, gains its significance more for its representation of a type of residential unit that was new in 1914, rather than for its architectural qualities.

Munz Corporation Building (formally General Casualty Insurance Company) (#14): This structure was erected in 1940 and is listed on the Wisconsin State Inventory. Subsequent additions have occurred as recently as 1972.

Overland-Madison Company (Department of Corrections) (#15): This 1916 structure, listed on the Wisconsin State Inventory, has undergone extensive modification with the addition of stucco cladding.

Union Transfer and Fireproof Storage (#16): This 1916 commercial structure, listed on the Wisconsin State Inventory, remains essentially unaltered from its original appearance. However, structures to the north and south have been extensively modified from their original appearance.

Madison Saddlery Company (#17): This 1907 structure, listed on the Wisconsin State Inventory, has been altered by a large, post-1942 addition along its east side.

### Public Art Resources

Olin Terrace Mural: This 1987 Richard Haas mural will be virtually obscured as a result of the proposed project. While still partially visible from John Nolen Drive (under the parking ramp), the mural will be in a greatly altered setting and will not be visible from Law Park or Lake Monona.

"Timekeeper" Sculpture: This 1983 piece is currently situated in Law Park. It is southwest of the area directly affected by the proposed project. Construction likely would not disturb the sculpture although the visual setting would be changed.

Otis Redding Benches: These 1987 commemorative benches situated in Law Park are within the building site of the proposed project. These benches will need to be moved.

The proposed building itself can be considered of artistic and architectural importance. The unique nature of the site, the building, and the notoriety of the architect may benefit the community's artistic resources. The proposed action also may indirectly lead to additional art work being placed inside and outside of the facility.

### **Potential Mitigation Measures**

Although construction of the Monona Terrace project is not expected to have any physical impacts to the structure of the buildings discussed above, if additional protection were desired, the following measures could be implemented:

- Pre-construction inspections of nearby building foundations could be conducted to inventory the current condition. This inspection will provide a baseline condition of each building before construction has begun.
- For the nearest buildings, vibration monitoring could be conducted during the pile driving phase. This monitoring will measure any potentially damaging vibrations from the pile driving.

To partially mitigate the impacts to the settings of the buildings previously listed, a photo record of each structure and its surrounding setting prior to project implementation could be compiled.

Adverse effects to the Olin Terrace wall mural are mitigated somewhat by the housing of the original design at the Elvehjem Art Center along with photographic documentation. These measures do not offset the loss of the mural in its current setting. Another partial mitigation measure would be to provide artificial lighting to the mural to enhance visibility of the mural under the parking structure.

Since the "Timekeeper" Sculpture is movable, impacts could be mitigated by moving the object to another location with an attempt to retain the feel of its original setting.

The Otis Redding benches are portable and impacts could be mitigated by moving them to another location which retains the feel of the original setting.

## **5.7 TRANSPORTATION**

### **Short-term Impacts**

#### Automobile

The construction phase for the John Nolen Drive expansion and the Monona Terrace Convention Center is expected to last about two and one-half years. During a portion of this period there will likely be some lane closures and delays in traffic along John Nolen Drive. The exact length of time and amount of traffic delays have not been determined at this point.

#### Bicycle/Pedestrian

As described in Section 4.7 and 4.8, the path in Law Park is a commuter route for downtown employees walking and bicycling to work. During the construction phase, the temporary construction closing or re-routing will inconvenience the bike path users. An average of 900 (April-October) bicycle trips a day will be re-routed during the construction phase.

#### Parking

Machinery equipment used during the construction phase may interfere with current parking space in the northeast area (near the boat ramps) of Law Park.

#### Railroad and Mass Transit

Construction of the parking garage over the rail corridor may interfere with railroad traffic at times during the construction period.

## **Long-term Impacts**

### Automobile

Predicted impacts on traffic volumes from the proposed Convention Center have been summarized on Tables 5.7-1 through 5.7-5. Impacts have been estimated for both the peak hour traffic and the average daily traffic for two sections of John Nolen Drive. The two sections analyzed were: (1) John Nolen Drive between Blair and Broom Streets, and (2) John Nolen Drive between Broom and Lakeside Streets. The procedure for estimating impacts is described below.

A large single event at the Convention Center may have as many as 1,500 delegates. Under a worst case scenario, calculations have been made assuming that each delegate arrives in a single car and that no offsite parking is used. The resulting average daily traffic (ADT) under a worst case scenario is 3,000 vehicles per day (two trips per vehicle) for those days in which the Convention Center is being fully used. For purposes of this evaluation the Convention Center traffic was distributed at 75 percent using John Nolen Drive toward the Broom-Northshore-Lakeside area and 25 percent using John Nolen Drive to Blair Street.

Assuming all the worst case conditions (i.e., maximum meeting size of 1,500, one delegate per automobile, and zero percent of the delegates use off-site parking), the largest impacts on traffic volume would occur along John Nolen Drive between Broom and Lakeside Streets. Automobile traffic impacts would be a 32 percent increase in the peak hour traffic volume and a 6 percent increase in the average daily traffic volume on John Nolen Drive between Northshore Drive and Lakeside Street (Tables 5.7-2 and 5.7-3). A more likely impact scenario considering less than the worst case conditions may cause a peak hourly increase of 11 - 15 percent and an average daily increase of 2 - 4 percent.

Although City traffic planners have attempted to plan the traffic flow that will result from the use of the Convention Center onto the major roads (John Nolen Drive, Blair Street, and East Washington Avenue), occasional traffic impacts to secondary streets are likely to occur. During congested traffic periods, it is expected that some drivers will use secondary roads in an attempt to avoid congested traffic. This will cause additional traffic to secondary streets and roads. These impacts are not quantified.



**TABLE 5.7-1**  
**Vehicle Trip Generation from Monona Terrace Convention Center**  
 Maximum of 1,500 Delegates = 3,000 trips/day \*

Vehicle Occupancy Rate (#/car)	# of Vehicle Trips Generated/Day Based on					
	% of Delegates Using Off-Site Parking **					
	0%	10%	20%	30%	40%	50%
1.0	3,000	2,700	2,400	2,100	1,800	1,500
1.5	2,000	1,800	1,600	1,400	1,200	1,000
2.0	1,500	1,350	1,200	1,050	900	750
2.5	1,200	1,080	960	840	720	600
3.0	1,000	900	800	700	600	500

\* assumes two trips/vehicle/day

\*\* Includes parking at Dane County Coliseum, hotel shuttle bus, or mass transit

**TABLE 5.7-2**  
**Percent Increase in Peak Hour Traffic Volume on John Nolen Drive**  
**From Convention Center Users \*** (Northshore Dr. to Lakeside)  
 1994 Peak Hour Traffic Volume = 3,467 vehicles

Vehicle Occupancy Rate (#/car)	% of Peak Traffic Volume Increase Based on					
	% of Delegates Using Off-Site Parking **					
	0%	10%	20%	30%	40%	50%
1.0	32%	29%	26%	23%	19%	16%
1.5	22%	19%	17%	15%	13%	11%
2.0	16%	15%	13%	11%	10%	8%
2.5	13%	12%	10%	9%	8%	6%
3.0	11%	10%	9%	8%	6%	5%

\* Assumes 75% of Convention Center users travel John Nolen Drive (between Broom St. and Northshore Drive); single trip/car; all delegates arrive in the typical commuter peak hour

\*\* Includes parking at Dane County Coliseum, hotel shuttle bus, or mass transit

**TABLE 5.7-3**  
**Percent Increase in Average Daily Traffic Volume on John Nolen Drive**  
**From Convention Center Users \*** (Northshore Dr. to Lakeside)  
 1994 Average Daily Traffic Volume = 36,500 vehicles

Vehicle Occupancy Rate (#/car)	% of Average Daily Traffic Volume Increase Based on					
	% of Delegates Using Off-Site Parking **					
	0%	10%	20%	30%	40%	50%
1.0	6%	6%	5%	4%	4%	3%
1.5	4%	4%	3%	3%	2%	2%
2.0	3%	3%	2%	2%	2%	2%
2.5	2%	2%	2%	2%	1%	1%
3.0	2%	2%	2%	1%	1%	1%

\* Assumes 75% of Convention Center users travel John Nolen Drive (between Broom St. and Northshore Drive) two trips/car/day

\*\* Includes parking at Dane County Coliseum, hotel shuttle bus, or mass transit

**TABLE 5.7-4**  
**Percent Increase in Peak Hour Traffic Volume on John Nolen Drive**  
**From Convention Center Users \* (Blair St. - Broom St.)**  
 1994 Peak Hour Traffic Volume = 3,467 vehicles

Vehicle Occupancy Rate (#/car)	% of Peak Traffic Volume Increase Based on					
	% of Delegates Using Off-Site Parking **					
	0%	10%	20%	30%	40%	50%
1.0	11%	10%	9%	8%	6%	5%
1.5	7%	6%	6%	5%	4%	4%
2.0	5%	5%	4%	4%	3%	3%
2.5	4%	4%	3%	3%	3%	2%
3.0	4%	3%	3%	3%	2%	2%

\* Assumes 25% of Convention Center users travel John Nolen Drive (between Broom St. and Blair St.; single trip/car; all delegates arrive in the typical commuter peak hour

\*\* Includes parking at Dane County Coliseum, hotel shuttle bus, or mass transit

**TABLE 5.7-5**  
**Percent Increase in Average Daily Traffic Volume on John Nolen Drive**  
**From Convention Center Users \* (Blair St. - Broom St.)**  
 1994 Average Daily Traffic Volume = 36,500 vehicles

Vehicle Occupancy Rate (#/car)	% of Average Daily Traffic Volume Increase Based on					
	% of Delegates Using Off-Site Parking *					
	0%	10%	20%	30%	40%	50%
1.0	6%	6%	5%	4%	4%	3%
1.5	4%	4%	3%	3%	2%	2%
2.0	3%	3%	2%	2%	2%	2%
2.5	2%	2%	2%	2%	1%	1%
3.0	2%	2%	2%	1%	1%	1%

\* Assumes 25% of Convention Center users travel John Nolen Drive (between Northshore Dr. and Lakeside St.) two trips/car/day

\*\* Includes parking at Dane County Coliseum, hotel shuttle bus, or mass transit

The Convention Center itself is expected to employ about 24 full time equivalent employees. This number will not appreciably add to the traffic figures.

The entrance and access ramps near Pinckney and Carroll Streets may add to the traffic on Wilson Street. This also may cause additional conflict with pedestrian traffic in this area.

### Bicycle/Pedestrian

As currently designed, the Convention Center will provide a ramp on the east and west side of the building for pedestrian and bicycle use around the perimeter of the building. This ramp is about 12 feet wide and about 630 feet long on the west side, and the same width and about 560 feet long on the east side of the Convention Center. Within the 440 feet along the central portion of the building the path may widen to dimensions varying from a maximum of about 64 feet to a minimum of about 24 feet. This minimum width occurs at the very center where the curve of the outer wall of the building is at it's farthest point from shore.

Congestion along the ramps and in front of the building are likely to be most critical during the late afternoon to early evening commuting times. Under the current conditions, pedestrians, joggers, and other Law Park path users can move off the path to the grass areas to avoid bicycles. This will no longer be possible along the ramp areas.

### Parking

The state anticipates that the Monona Terrace Convention Center parking facility will be used for state employee parking. The details of the state's use of the parking facility have not been formalized. The facility is designed as a 558 stall parking garage. This facility, even if it was not used for state employee parking, would likely be insufficient for the parking needs of Convention Center users for capacity events. If many parking spaces are used on a daily basis by state employees, the parking provided at the Convention Center may not be adequate for Convention Center users during weekday business hours. Moreover, since weekday parking is already at about 90 to 100 percent of capacity in downtown Madison, large events will likely strain the downtown area's parking resources. On the other hand, it is expected that the state employees who may regularly park in the Convention Center's garage will free up parking at other ramps in downtown Madison. That is, the

state's proposed use of the parking garage is to accommodate existing employees who currently park elsewhere in the downtown area.

Moreover, as a practical matter, it is expected that some conventioners will leave their cars parked at local hotels. It is also expected that some conventioners will use public transportation or taxi service from the Dane County Regional Airport and their hotels. This suggests that even if the Convention Center is being used during weekday business hours to full capacity, every conventioner will not be seeking parking in the Convention Center.

The City has initiated discussions with Dane County and is expecting to direct convention parking to the Dane County Coliseum and Exposition Center, with shuttle buses providing transportation from the Coliseum to the Convention Center.

The parking structure itself, and the ramps or helixes leading to the structure, are currently designed with a divider wall to separate the direction of traffic. Also heating elements are designed into the ramps' road surface to minimize slippery ice conditions.

#### Railroad and Mass Transit

The project, as designed, will maintain a minimum rail corridor of about 54.6 feet (see Figure 5.7-1). Although this is a reduction by a maximum of about 11.5 feet from the present rail corridor, the dimension is adequate to maintain the current freight railroad traffic plus accommodate a passenger train and a light rail or a bus lane at some future date.

Figure 5.7-1 includes a clearance diagram for freight cars in unrestricted interchange service (Association of American Railroads). The Chicago Northwestern railway has identified a minimum of 9 feet of horizontal clearance from the track centerline. The standard gauge for light-rail transit (LRT) systems in the United States is 4 feet 8½ inches, with an additional 2 feet for an electrified third rail (if used on one side). A typical light-rail car width is 8 feet 8 inches, resulting in an estimated 10 foot wide clearance envelope depending on the actual car and train configuration.

Even with the loss of rail corridor caused by construction of the Convention Center, there will remain approximately 36 feet of the rail corridor in service for the two existing rail lines

(the Soo Line and the Chicago Northwestern Railroad). This leaves enough unused space to allow for alternate uses such as a light rail transit system or a bus lane adjacent to John Nolen Drive. The design of the Convention Center would allow for future transit options depending on the final use and layout of the existing rail corridor and John Nolen Drive.

The City is currently investigating the potential for developing an Amtrak station at the proposed Convention Center site. The architect for the Convention Center has developed several alternative conceptual plans to accommodate the space requirements of such a station and for the rail space requirements. Negotiations with Amtrak and the City are ongoing at the time of this writing.

The design of the Convention Center structure will improve the access from the existing Capitol Concourse public transportation hub to Law Park. Currently, limited access is available through a set of stairs on the west side of the One West Wilson Street State Office Building. Pedestrians using these stairs must cross two rail lines plus the four lane John Nolen Drive to get to Law Park. Moreover, if commuter rail service is developed in Madison, the proposed structure would allow rail commuters improved access to Wilson Street and the Capitol Concourse level.

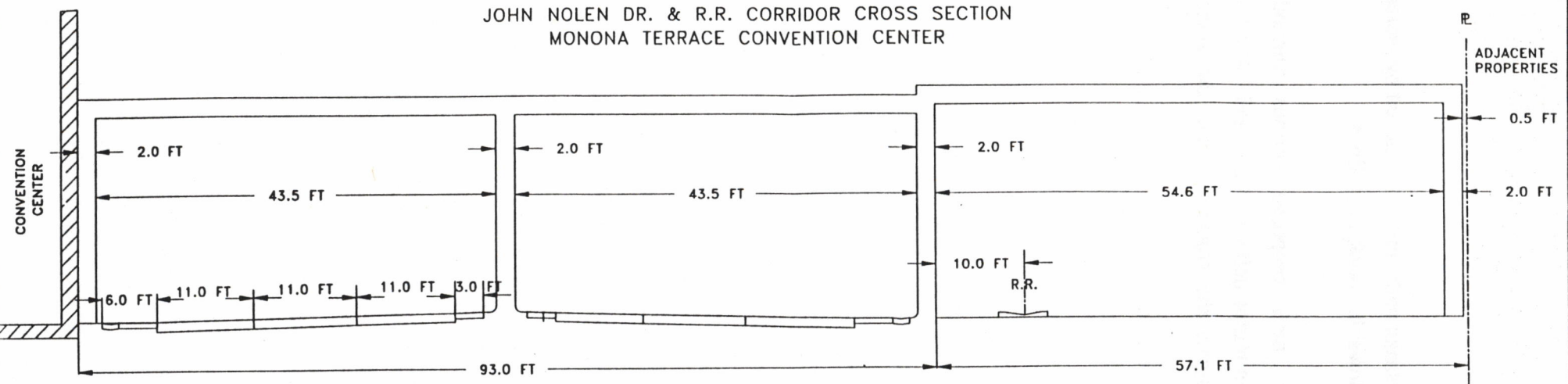
### **Potential Mitigation Measures**

Beneficial impacts can be enhanced and adverse impacts mitigated for the transportation impacts associated with the Convention Center development by the following actions:

- Provide for special (large) event traffic management (additional traffic police, etc.).
- To the extent possible, develop improved mass transit service, off-site parking, and shuttle bus service to the Convention Center.
- The City should plan and clearly mark an alternate bicycle route during the construction phase of the project to minimize the inconvenience to bicycle traffic.

- Traffic congestion on the bike/pedestrian path could be relieved by increasing the width of the path within the allowable "dock line" limit.
- Preliminary design considerations have proposed various methods of separating use of the bike/pedestrian ramps between "fast" and "slow" users. These proposals may help to mitigate the congestion and the associated potential for accidents.

JOHN NOLEN DR. & R.R. CORRIDOR CROSS SECTION  
MONONA TERRACE CONVENTION CENTER



5-42

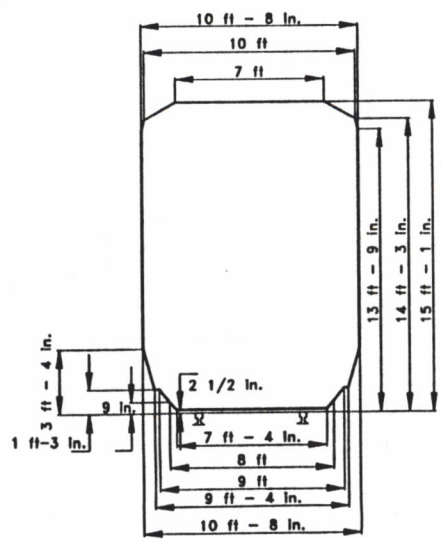
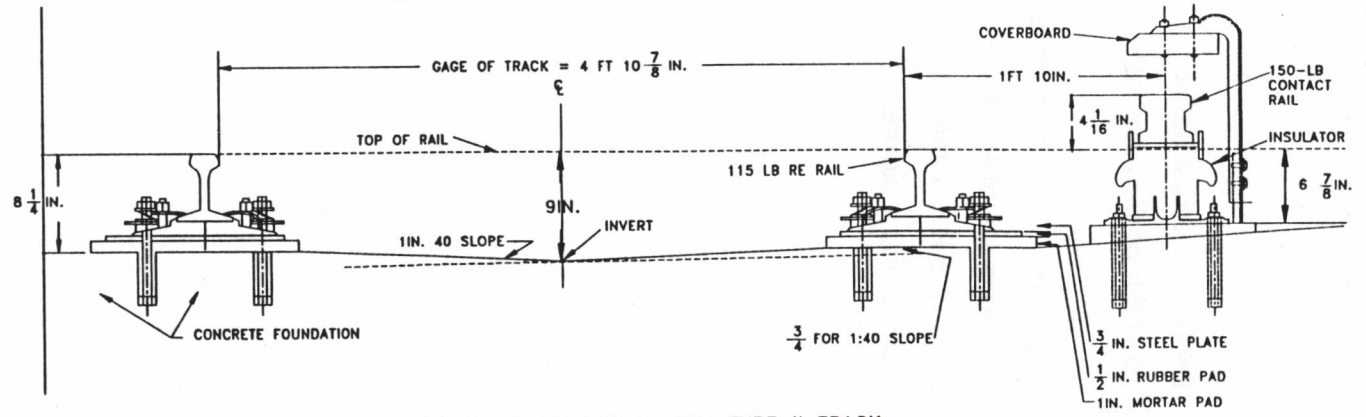


PLATE B CLEARANCE DIAGRAM FOR FREIGHT CARS  
FOR UNRESTRICTED INTERCHANGE SERVICE

NOT TO SCALE



TYPICAL CROSS SECTION OF TRANSIT SYSTEM TYPE II TRACK

NOT TO SCALE

<b>Woodward-Clyde Consultants</b> ENGINEERS, GEOLOGISTS, AND ENVIRONMENTAL SCIENTISTS			
<b>TRANSPORTATION CROSS-SECTION MONONA TERRACE CONVENTION CENTER</b>			
DESIGNER: ...	CHK'D: LB	PROJECT NO. 92C6683A-30	FIG. NO. 5.7-1
DRAWN: LD	DATE: 4/26/93		

## **5.8 RECREATION**

For this section the short- and long-term impacts are described within each recreational use heading.

### **General Park Use**

Use of Law Park will be negatively impacted during construction of the proposed facility due to noise level increases, potential temporary minor reductions in ambient air quality (Section 4.1 and 5.1), and displacement of existing recreational activities due to construction staging requirements. It is projected that this disruption will last for about two to two and one-half years.

The proposed building will completely and permanently cover 3.7 acres of greenspace and about 0.9 acres of parking lot within Law Park (including about 1,600 feet of shoreline). The total of 4.6 acres represents 63 percent of the current Law Park and about two percent of the public park space around Lake Monona. The 1,600 feet of shoreline represents about 38 percent of the shoreline in Law Park and about 4 percent of the public shoreline on Lake Monona. In addition to Law Park, Olin Terrace Park (about 0.58 acres) will be slightly altered because of the construction of pedestrian access ramps from Wilson Street to the rooftop of the Monona Terrace. Moreover, the current view of Lake Monona from Olin Terrace Park will be replaced by a view of the Convention Center.

The proposed Convention Center will provide improved access to Law Park and the Lake Monona shoreline from the Capitol Square area. The external and internal stairways and elevators will improve handicap access to the lake shore and public access in general.

### **Wind Surfing**

The construction phase of the project will interfere with the use of portions of Law Park as a "set up" area for wind surfing activities. The pile driving will eliminate that portion of Lake Monona from use by wind surfers.



The proposed structure would permanently eliminate approximately 1,600 linear feet of potential wind surfing take-off areas. Approximately 2,700 linear feet (about 1,350 feet each, on the east and west side of the building) of area will remain available in the remainder of the park. Access to the area southwest of the proposed building will be reduced because of the elimination of the surface parking lot in this area of the park.

A wind shadow on Lake Monona will be created by the new structure during north-westerly wind conditions. In certain areas, wind surfers may be required to paddle further out into the lake to reach optimum wind conditions.

### **Shore Fishing**

During the building phase shore fishing will likely be eliminated from the area where construction of the Convention Center is taking place.

The proposed Convention Center will permanently affect about 1,600 feet of shoreline out of a total of about 4,300 feet of shoreline (excluding the John Nolen Causeway area) in the Law Park area. This shoreline of Lake Monona in Law Park is a popular fishing area because "deeper" (greater than ten feet) water is accessible from the shore. Although the current design of the Convention Center will not reduce the access for fishing in this area, the policies regarding the bicycle/pedestrian ramp in front of the Convention Center for fishing have not been determined at this time. If fishing is prohibited from this walkway, then the 1600 feet of shoreline fishing will be eliminated for this use.

The existing handicapped fishing platform would be displaced by the proposed development. The platform could be moved elsewhere along the Monona shoreline in Law Park. Comments on the Draft EIS have pointed out that this pier is particularly accessible to handicapped anglers because of the level surface between the parking lot and the pier. Also, the pier provides particularly good fishing because of the relatively deep water near the Law Park shore.

Extended periods of open water and/or thin ice conditions along the structures outer edge in the winter may present a hazard to ice fishing.

Heat leakage from the facility may cause extended periods of open water along the structure's edge and may permit fishing during times when the area would otherwise be frozen.

#### **Path Users (Bikers, Joggers, Pedestrians, and Rollerbladers)**

Bicycling impacts are also discussed under the "Transportation" section. During the construction phase, construction closing or re-routing will displace users of the path.

Despite the proposed separation of bicycle and pedestrian traffic, it is expected that pedestrians would naturally gravitate to the railing edge on the Convention Center deck, crossing bicycle traffic. This will create safety and congestion problems during peak use times.

Other potential negative impacts to user safety along the bike path would include winter ice build-up, and the possibility of wave spray during specific wind and lake level conditions. Both conditions would be disruptive to path users. A wave analysis was conducted to estimate the frequency of occurrence for waves to interfere with recreational activities on the two paths. Analyses were conducted using the 100 year wind/100 year high lake level; and for the 10 year wind/100 year high lake level (wind velocities for these two occurrence intervals are shown on Table 5.8-1). A 100 year high lake level is about three feet above normal pool level. Under either of the two scenarios analyzed, the waves will not exceed the height of the walkway wall. The waves will not "crash" over the wall or onto the paths. Run-up of the waves and "sloshing" over the wall will likely occur only under the 100 year wind/100 year high lake level primarily along those portions of the wall nearest the present lake shore (where water depths are shallower). Wind blown spray will likely wet the walkway during less severe events. Ice conditions may still be a concern because cold air underneath the walkways may freeze the wave spray.

**TABLE 5.8-1**  
**MADISON 10 YEAR AND 100 YEAR WIND VELOCITIES**

Recurrence Interval (Years)	Peak Wind Speed (mph)	30-Minute Average Wind Speed (mph)
10 Year Frequency	68	56
100 Year Frequency	87	71

Source: American National Standards Institute, 1993.

Separation of bicycles from slower moving pedestrian traffic may provide some long-term beneficial impact. This separation will partially, as proposed in the current design of the structure, mitigate some of the negative safety impacts created by narrowing the usable width of the bike/pedestrian pathway in Law Park.

The convenience of pedestrian access from the Capital Concourse to Law Park will be improved if the project is constructed.

**Boating/Boat Launching**

The construction of the Convention Center would not impact the boat launch ramp or car/trailer parking areas at Law Park. The expansion of John Nolen Drive will affect these areas. The proposed widening of John Nolen Drive will use about 18 feet of the parking lot that currently exists at the southwestern edge of Law Park. This amount of loss tapers down to zero about 350 feet east of the parking lot's western edge where the new John Nolen Drive will approximately align with the present road. If the bike path is continued through this area, an additional 10 feet (assuming the current width is maintained) of parking lot will also be lost. Thus, the total area lost is approximately 4,900 square feet. The current boat trailer and car parking lot is approximately 34,500 square feet. The loss due to John Nolen Drive expansion and the bike path represents about a 14 percent loss to the existing parking area.

The proposed structure will cover about 1.5 acres of open water. This area will no longer be available to boating, water skiing, or other water craft. This is about 0.05 percent of open water on Lake Monona.

It is anticipated that the Convention Center would be attractive to boaters as a place to anchor in the waters nearby. Proper navigational lighting will be required. The increase in boat traffic to the area may also create a local increase in litter and/or fuel odors. However, no seasonal mooring sites are planned for the Monona Terrace lake front area.

### **Water Skiing**

Construction staging, and other construction activity will likely displace ski team practices and performances from the current location off of Law Park to other sections of Law Park or Lake Monona during construction of the Convention Center. The proposed Convention Center structure would permanently eliminate approximately 4.6 acres of water ski staging and viewing areas in the central section of Law Park. The ski clubs will need to revise or obtain a new permit from the WDNR to relocate the existing ski ramp during the summer months.

The Convention Center would provide viewing of ski events from the lake level "plaza" area in front of the building. This area is approximately 19,120 square feet (0.43 acres), not excluding the bicycle/pedestrian ramp areas. Congestion in this area may obscure some viewing from the plaza. Viewing of the shows would also be partially obscured from the public roof space, depending upon where in the lake the actual ski show were to take place.

### **Other Passive Activities**

Approximately 1,600 linear feet of greenspace directly adjacent to Lake Monona would be lost in the central section of Law Park. The Convention Center structure would cover a total of 5.4 acres. About 4.6 acres will be within Law Park (3.7 acres of greenspace and 0.9 acres of parking lot) and 0.8 acres on the John Nolen Drive right of way.

The proposed facility is expected to increase foot traffic through Olin Terrace Park. Although there is not a final design for the Olin Terrace Park area, the current grass areas of Olin Terrace Park are planned to remain unchanged.

The Convention Center may increase Law Park's draw as a local recreational destination increasing the user load on the park.

The proposed structure would bisect the Law Park shoreline limiting panoramic lake viewing from the lake level.

The use of the Convention Center roof top as a public space will add 26,000 square feet (.60 acres) of urban park space. This area would provide partial mitigation of lost park space in Law Park.

Panoramic views of the lake and the lake shore will be improved with construction of the Convention Center's public roof space.

### Support Facilities

According to Convention Center plans, the facility will eliminate the two "central" surface parking lots (total of 60 car spaces). The boat launch parking lot would be reduced by about 14 percent, but the remaining area would still be available for parking and boat launching. The land between the lake and the boat launch parking lot will be available as a staging area for wind surfers. Access to a relocated handicapped fishing platform will be negatively impacted especially if surface parking was not available nearby.

### **Potential Mitigation Measures**

Impacts from the construction phase on the current Law Park recreational activities are temporary and can be mitigated to some degree. Construction equipment can be muffled, and dust can be minimized with water applications. Displaced activities can be temporarily relocated to other sections of Law Park or other lake front parks.

If fishing is not allowed from the walkway, shore fishing access could be provided through floating piers or other access areas being added to Law Park. The handicap fishing platform can be moved to an accessible location within Law Park. Signs and/or fences could be used to warn of hazardous ice conditions.

Placing the pedestrian walkway closest to the water, placing use restrictions on the deck section, or providing a wider "shoulder" area for pedestrians at the railing may reduce conflicts with bicycle, pedestrian, and rollerblade users of the path. Also ice and/or water problems on the path can be mitigated in final design through increased maintenance, special surface water drainage systems, heated walkways, or other design measures.

Congestion on the bike/pedestrian path could be relieved by increasing the width of the path within the allowable "dock line" limit.

## **5.9 AESTHETICS/VISUAL**

### **Introduction**

Three specific views were assessed for visual impacts. Figures 5.9-1 through 5.9-3 illustrate the existing viewshed conditions and the projected change in these views. (A "viewshed" is simply the area visible from a specific location and direction.) A fourth view shown in the Draft EIS is not presented here because the drawing upon which the view was based was shown to be inaccurate during the DEIS process. This fourth view is discussed below. The three renderings of the Convention Center are based upon conceptual designs and photographs of the area. The final design of the center may vary slightly from these renderings; however, these depictions are the most accurate views of the proposed project currently available.

The discussion below describes the aesthetics and visual impacts upon and from three major features: land/water, vegetation/greenspace, and other structures. Aesthetic impacts are by their very nature highly subjective.

## Impacts

If the Monona Terrace Convention Center is built, Law Park as it is known today will be permanently altered. Law Park is currently a large, open, undeveloped, urban shoreline greenspace with unobstructed views of Lake Monona, downtown Madison, and the other portions of Law Park. The proposed project will permanently change this. The size, shape, and location of the project will obstruct existing views of Lake Monona, downtown Madison, and other greenspace portions of the park, from within the park, and from other areas. If the Monona Terrace project is constructed, Law Park will, in effect, become the setting for the Frank Lloyd Wright Convention Center. The entrance to Madison from John Nolen Drive, now characterized by a long, undeveloped shoreline with wide-open views of Lake Monona, will instead be characterized by the approach to and drive through a large building.

On the other hand, this project will provide a connection from the Capitol Square area to Lake Monona. Downtown Madison, which from an aesthetic perspective now extends only to the Monona Terrace escarpment, will extend right to and over the shores of Lake Monona.

Another aesthetic impact associated with the project includes the creation of a building with a historically important design created by the renown architect Frank Lloyd Wright. The design was originally developed in 1938 and was modified up until the architect's death in 1959. The modifications to the design are to accommodate the needs of the Convention Center and have not changed the basic integrity of the design. The structure would have historical, architectural, and aesthetic importance.

While the aesthetic impact associated with the loss of Law Park should not be underemphasized, it should also be noted that the beneficial impact associated with the construction of a significant Frank Lloyd Wright building and the connection of Lake Monona to the Capitol square should, likewise, not be underemphasized. The complete change of character of the Law Park area that would be caused by the proposed project is one of the most significant impacts associated with the Monona Terrace project. This impact will be viewed by many as a beneficial impact, given the nature of the facility that is planned. The EIS cannot and need not balance the competing values of open, undeveloped green space and an architecturally significant landmark building. It is important, for the

purposes of this EIS, that the reader understand the change that will occur. The EIS does not purport to pass judgment on this aesthetic change.

#### Land/Water

The building will visually dominate Law Park, impacting views from within the park. The building will be about 72 feet above grade at Law Park. The Olin Terrace wall is currently about 45 feet high. Instead of viewing 1,600 feet of grass, vegetation, parking lots, and bike paths, with an unobstructed view of the lake from almost every point in the park (including pedestrians, bicyclists, and other park users), the post-construction view will now consist of a large Convention Center based on a design by Frank Lloyd Wright.

The building will cover approximately 1.5 acres of water space, removing that water area from view. Lake views from the present Olin Terrace Park would be eliminated by the elevation of the Convention Center's roof, its landscaping, and its access ramps. As discussed under the "Cultural" section, views of Lake Monona from buildings adjacent to the Convention Center along Wilson Street will be partially or totally obstructed.

Views from John Nolen Drive to Lake Monona in the project area will be partially obstructed by the columns supporting the parking garage (for about 280 feet on each side of the building) and totally obstructed along the central 500 foot section of the building itself.

The structure will partially obstruct views of Lake Monona from Martin Luther King, Jr. Boulevard. Currently, Lake Monona is visible from Martin Luther King, Jr. Boulevard between the Capitol and approximately the intersection with Wilson Street. The Convention Center will block the view of Lake Monona on Martin Luther King, Jr. Boulevard between Wilson Street and approximately Doty Street (a one block distance). This view will be replaced by a view of the Convention Center's roof top urban park and the access ramp along each side of Olin Terrace Park.

Visual contrast would be high between the unstructured, naturalized vegetation and greenspaces which now exists on the proposed site and the new landscape characterized by pavement and narrow bands of vegetative screening.



As previously mentioned, the project would extend two pedestrian access ramps through Olin Terrace Park. This will change the current setting of Olin Terrace from its present condition to more of a "mall" condition.

The structure's large windows will reflect the water, helping to visually blend it with the surrounding lake landscape. Improved lake views from a higher vantage point would be provided from the public roof space.

Current views of the transportation corridor (John Nolen Drive and the railroad corridor) would be partially changed or eliminated by the Convention Center's public roof space and parking garage.

### Structures

The building will change the view of downtown Madison from the John Nolen Drive causeway. This route is one of the main entrances to the downtown area. The proposed building's relative low height will not change the sky line of downtown from this view.

Views of existing rail and auto transportation corridors would be improved by the proposed project. The negative visual impact ordinarily posed by the four lane roadway and the rail corridor would be reduced. A portion of the corridor would be screened by the proposed structure. The proposed structure would provide an architectural focal point drawing attention away from unattractive features of the transportation corridor.

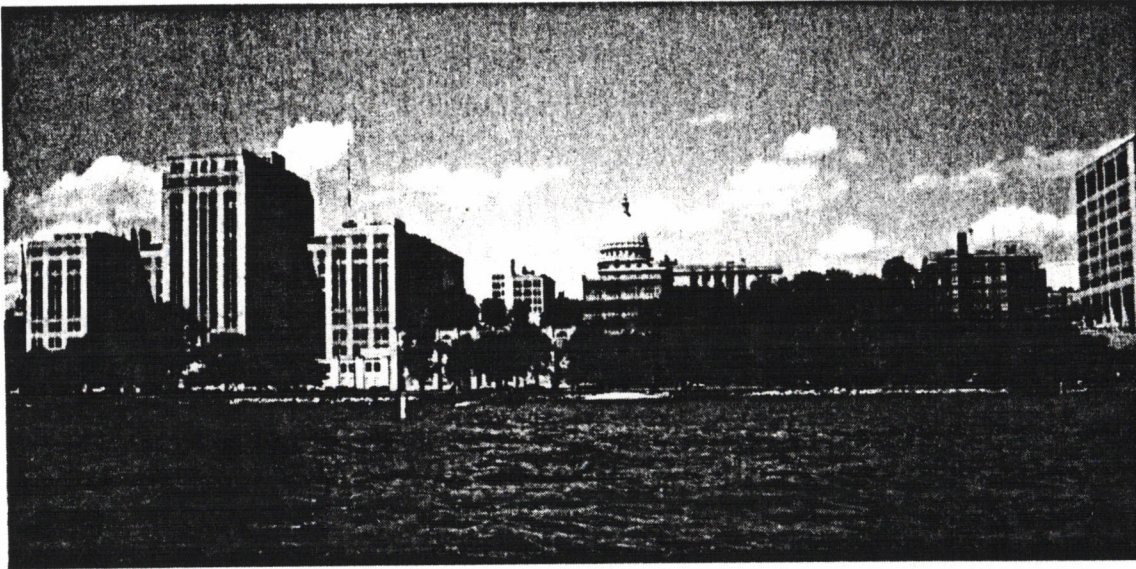
Views of the State Capitol building will be obstructed from viewers in what is currently Law Park and from the near shore waters of Lake Monona. Figures 5.9-4 and 5.9-5 graphically show the change in the sight lines to the Capitol from Law Park and Lake Monona. Currently, the "Wisconsin" statue and top of the dome is visible from pedestrians on the asphalt path in Law Park (from the area in front of the Olin Wall). If the Convention Center is built, this same view of the Capitol will be seen from a point approximately 500 feet out into the lake from the present shoreline. Figure 5.9-5 shows the zone of impact.

Because of the controversial nature of the proposed structure within the community, a potential for vandalism against the building does exist.

### **Potential Mitigation Measures**

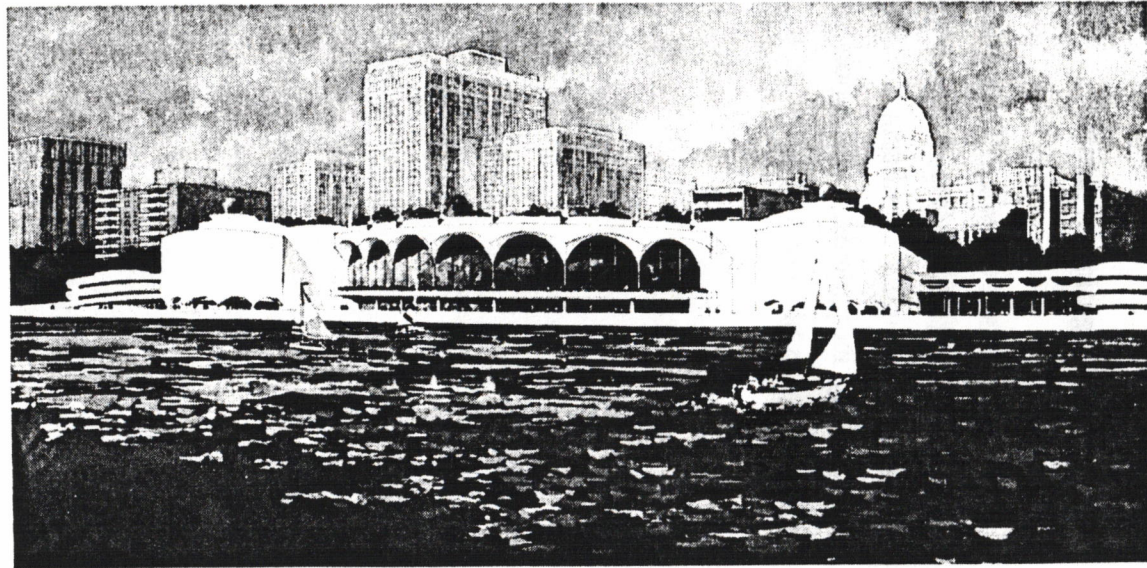
The impacts upon the visual setting is the change from a flat topography of Law Park and the associated parking lots, grass, trees, John Nolen Drive, and the railroad corridor to a large architecturally significant building. This change may be considered as beneficial or adverse by individuals. Mitigation measures may or may not be necessary or desirable depending on planner's opinions of the change resulting from the proposed action.

**BEFORE**



**Proposed  
MONONA TERRACE  
CONVENTION CENTER**

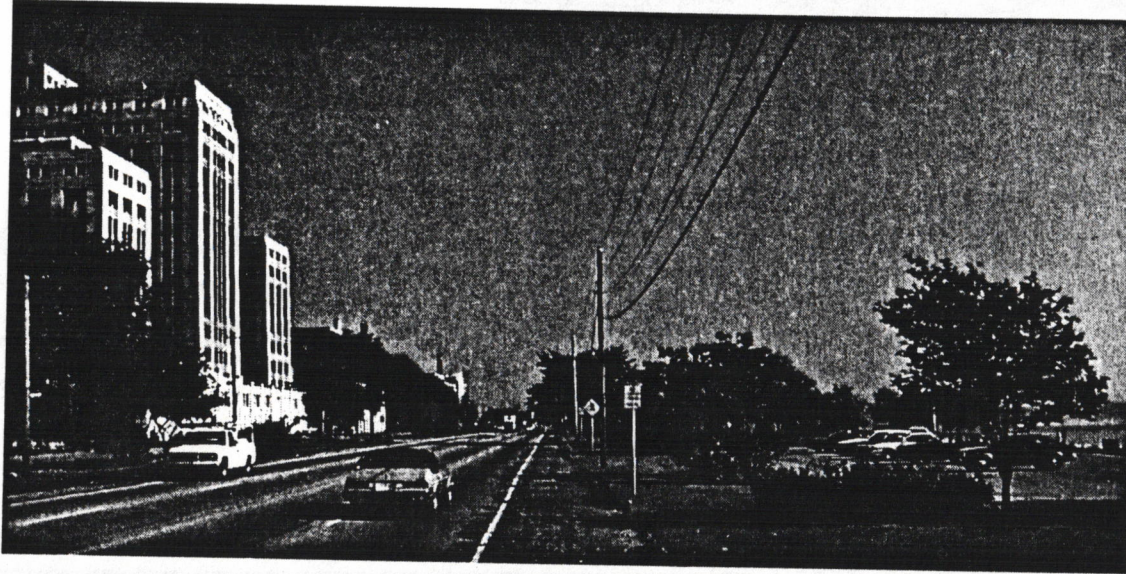
**AFTER**



**FIGURE 5.9-1  
VIEW FROM  
LAKE MONONA**

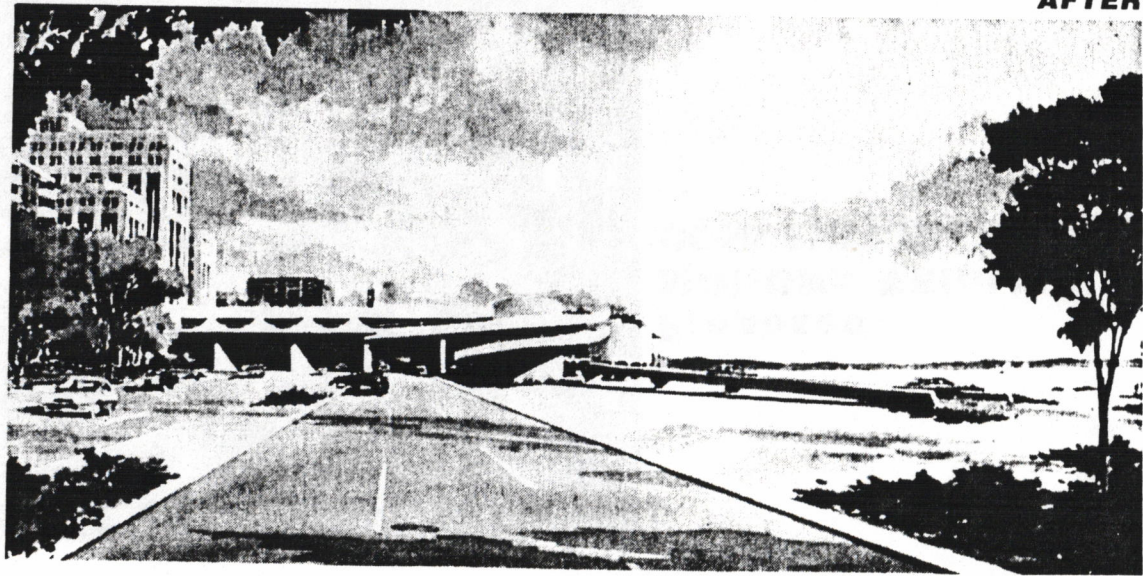
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**BEFORE**



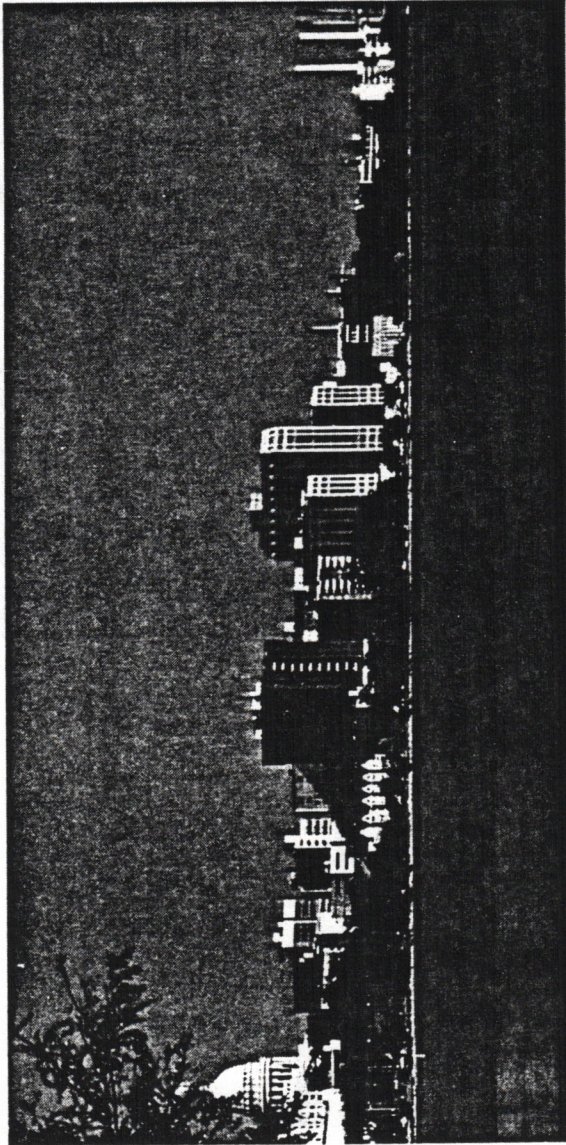
**Proposed  
MONONA TERRACE  
CONVENTION CENTER**

**AFTER**



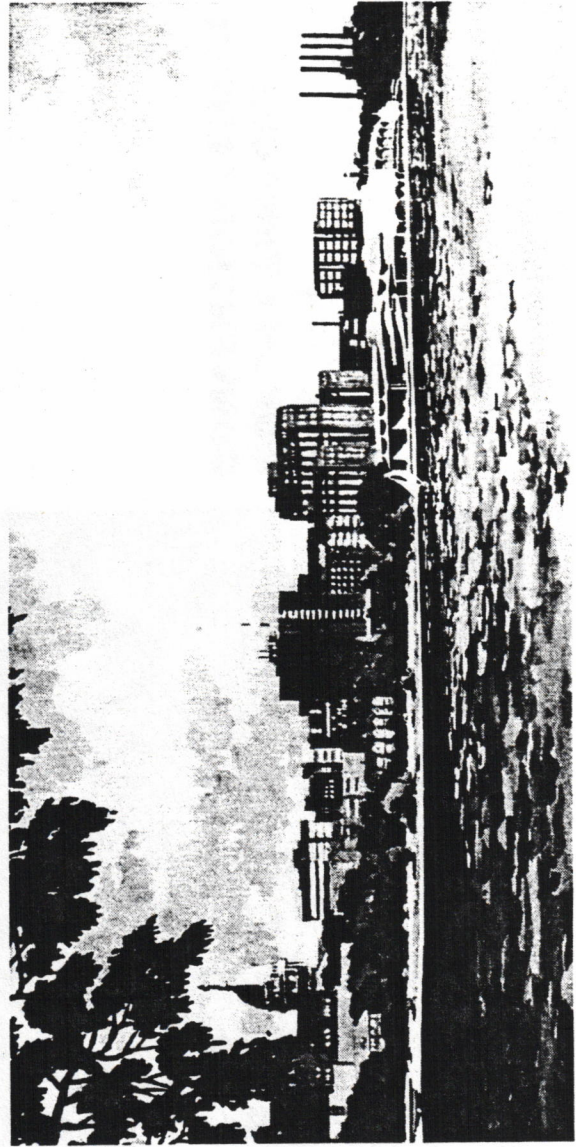
**FIGURE 5.9-2  
VIEW FROM JOHN  
NOLEN DRIVE**

**BEFORE**

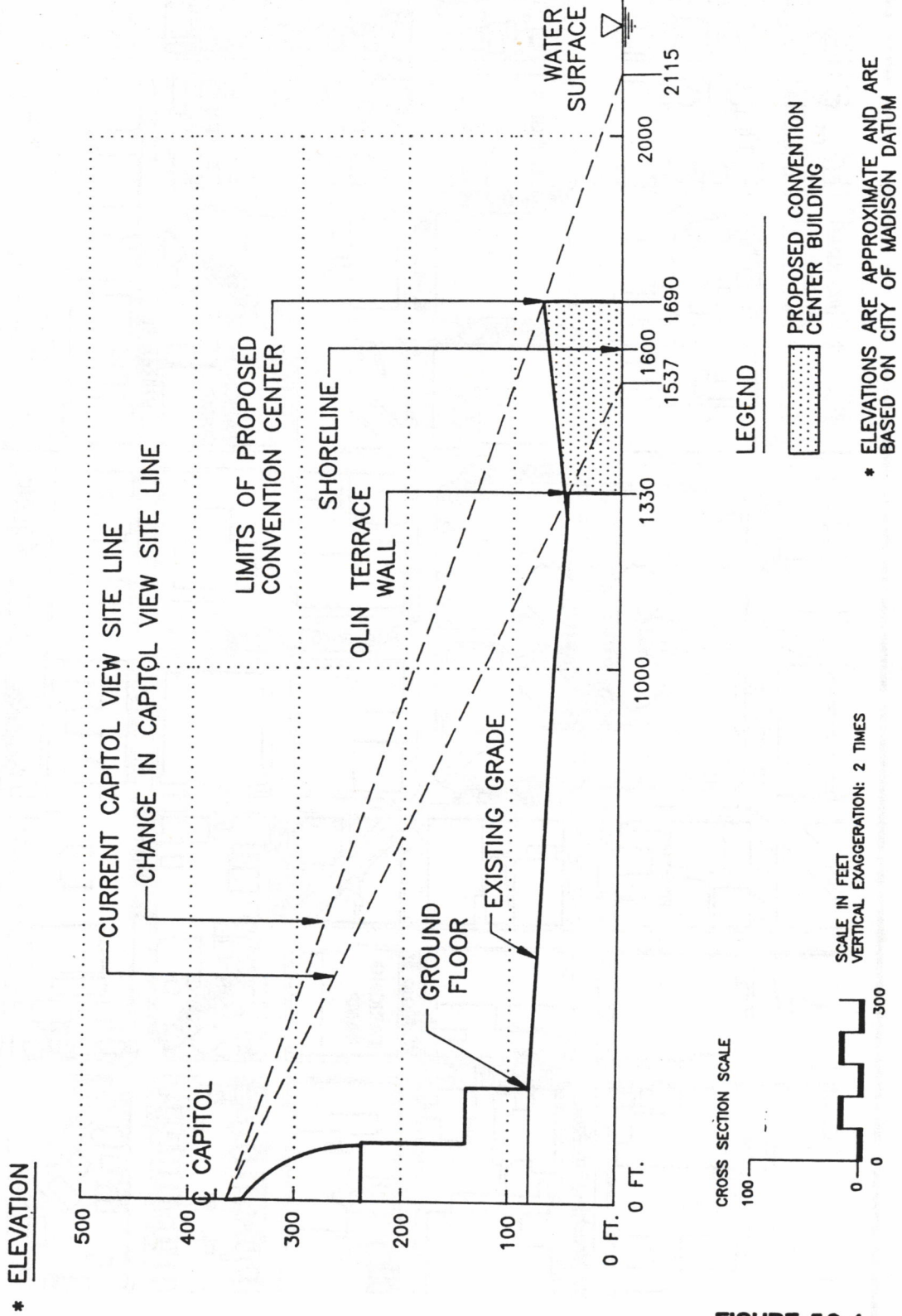


**Proposed  
MONONA TERRACE  
CONVENTION CENTER**

**AFTER**



**FIGURE 5.9-3  
VIEW FROM THE  
JOHN NOLEN DR.  
CAUSEWAY**



**FIGURE 5.9-4**

**PROFILE VIEW: IMPACT ON CAPITOL VIEW FROM LAKE MONONA  
STATE OF WI, D.O.A/MONOÑA TERRACE CONVENTION CENTER EIS**

DRAWN BY: MAS	CHECKED BY: JAB	PROJECT NUMBER: 93C6683	DATE: 4-9-93	DWG NO: A2
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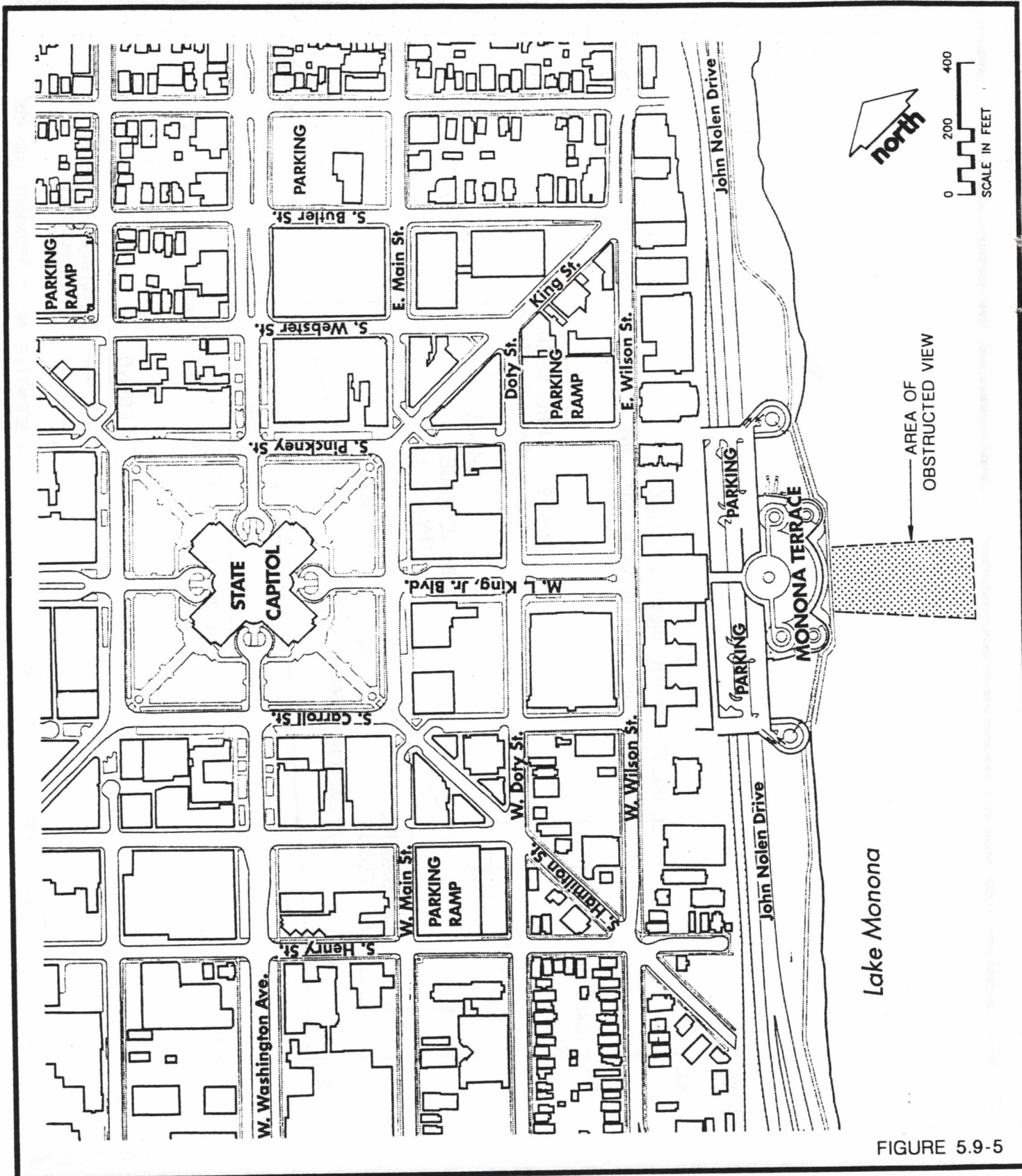


FIGURE 5.9-5

**PLAN VIEW: IMPACT ON CAPITOL VIEW FROM LAKE MONONA**  
**STATE OF WI, D.O.A./MONONA TERRACE CONVENTION CENTER EIS**

DRAWN BY: MAS	CHECKED BY: JAB	PROJECT NUMBER: 93C6683	DATE: 4-9-93	DWG NO: A3
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## 5.10 SOCIOECONOMIC IMPACTS

### Introduction

Socioeconomic impacts of the proposed project can be analyzed under three distinct phases: 1) construction phase, 2) short-term phase, and 3) long-term phase.

Construction Phase impacts refer to those which are caused during the period of physical construction and includes mainly income generated and other expansions that derive from the construction activities. The construction phase of the Monona Terrace Convention Center is planned to last about two to two and one-half years.

Short-term Phase impacts are caused as a result of the construction phase. New spending in the local economy leading to a change in some of the macro-economic parameters such as total income, employment, etc., could occur. The time period is insufficient to cause changes in the basic structure of the local economy. Typically, for a project that is the size of the Monona Terrace Convention Center, the time period of the short-term phase overlaps with the construction phase and may extend almost a year into the project operations/maintenance.

Long-term Phase impacts arise as a result of a fundamental structural change in the mix of amenities within the local economy in response to the project operations and maintenance. Long-term phase impacts extend to the operational and maintenance life of the project.

Construction, short- and long-term impacts anticipated for population, employment, local and regional economy, housing, property values, property taxes, neighborhood development, government services, City and County government fiscal conditions, and the lifestyles of local area residents are discussed in this section.

Much of the economic analysis data reported here was obtained from the "Finance and Operations Report of the Frank Lloyd Wright Monona Terrace Commission" (September, 1992). This document is available from the City of Madison, Department of Planning and Development. The analyses included in that report relied substantially on two reports by Professors K. D. Vandell and J. D. Shilling of the UW-Madison School of Business (May



1991 and July 1992). Both of these reports are listed in the reference section and are also available from the City of Madison, Department of Planning and Development.

In addition, during preparation of this final EIS, comments regarding potential social and economic impacts (submitted during the DEIS comment period) were considered. Financing plans and economic forecasts were reviewed to expand upon the socioeconomic impact presentation.

### Population

Based on historic population trends, the populations of Madison and Dane County are projected to grow at a modest rate in the future, regardless of whether or not the project is implemented. As Table 5.10-1 shows, Dane County is projected to grow from approximately 367,000 in 1990, to about 385,000 by the year 2010, or an average increase of about 0.25 percent per year (Wisconsin DOA, 1988). These projections are being updated at this time by the Demographic Services Center of the Wisconsin Department of Administration. It was estimated that the population as of January 1, 1992 in Dane County was actually 376,989. This represents a 1.5 percent annual growth rate for Dane County between the 1990 census and January 1, 1992. It is likely that the updated rate of growth for the county will be higher than those shown in Table 5.10-1 (J. Besl DOA personal communication, March 25, 1993).

**TABLE 5.10-1  
POPULATION GROWTH PROJECTIONS  
FOR MADISON AND DANE COUNTY**

	1980	1990	2000	2010
Madison	170,616	191,262	Not given	Not given
Dane County	323,545	367,085	369,209	384,642

Source: City of Madison 1992, State of Wisconsin Department of Administration, 1988.

The impact of the proposed project on population arises as a result of employment opportunities created during the construction, short- and long-term phases of the project. It is estimated that approximately 2,419 temporary new jobs will be created to meet the demands of the project construction, commercial, and other trade service sectors (Shilling and Vandell, 1992). The significance of this temporary upsurge in employment on local population depends on several factors such as: a) ratio of local construction workers to immigrants, a ratio which is unknown at this time and will likely be influenced by City/County hiring policies, and b) rate of local unemployment. Since the proposed project would be located in an existing urban area with a large population and work force already in place, it is doubtful that the construction and operation phases of the proposed project would cause a large influx of population (greater than one to two percent) to the project area as permanent residents.

Vandell and Shilling (1992) estimated that a total of about 697 new jobs in the local economy will be created by the Monona Terrace Convention Center during the operations/maintenance phase (long-term). Assuming that all 697 new jobs are filled by people from outside of Dane County, joined on average by two other family members, about 2,100 new residents would join the Madison population. This would represent an increase of 1.1 percent of the 1990 population. However, this scenario is not likely, since local, unemployed residents are likely to fill many of these service jobs. Thus, no significant long-term population impacts are predicted to occur, and no notable adverse or beneficial impacts from increased resident populations are predicted.

With respect to tourism and local area visitation, the proposed project would cause an increase in the number of tourists (those interested in Frank Lloyd Wright and his architectural legacy) and convention delegates that would come to Madison and Dane County as temporary visitors. This increase in the "floating population" is significant compared to growth in local population; however, this will have no bearing on the local permanent population.

### **Local Employment**

The proposed Convention Center would have primary and secondary impacts on local employment in Madison and Dane County. These impacts would occur during the

Convention Center construction phase and during the short- and long-term operation/maintenance phases.

During the construction phase there will be an estimated 2,419 workers employed directly and indirectly as a result of the construction. Direct (primary) employment in the construction industry is estimated to consist of about 40 percent (1,001), while the remaining 60 percent (1,418) constitute indirect (secondary) employment distributed in the wholesale trade, retail trade, business, and other service sectors of the local economy (Vandell and Shilling, 1992). These jobs are transitory, and for the most part will end with the completion of the construction.

Short-term impacts on employment will be characterized by a transition from temporary to permanent jobs constituting approximately 30 percent decrease in employment (from 2,419 to 721 including 24 full-time direct positions and 697 full-time indirect positions) (Vandell and Shilling, 1992). The significance of this decrease in employment will depend upon whether the temporary job demand during the construction phase was met through local or in-migrants labor force. This type of reduction in employment is to be expected for a major project such as the Convention Center.

Long-term impacts on employment are also expected to occur. There will be an estimated 24 full time equivalent positions directly employed by the Convention Center during the operations/maintenance phase (Monona Terrace Commission, 1992). In addition to this, the hospitality and service sectors of the economy are the most likely areas of employment increases from secondary impacts of the Convention Center's operation. The Vandell and Shilling 1992 report estimated that 697 full time equivalent positions will be created from the secondary impacts of the Convention Center. It was estimated in their report that 55 percent of these positions would be in the hotels, eating, drinking, and other service sectors of the local economy. Table 5.10-2 shows the predicted geographic distribution of these positions as reported in the Monona Terrace Commission report of 1992.

As such, employment opportunities created by the Monona Terrace Convention Center, both during the construction phase and operations/maintenance phase, likely will not cause a significant impact on the areas' relatively low unemployment rate. The part-time nature of

many of the jobs created could attract people from outside the Dane County area and lead to a marginal increase in urban congestion.

**TABLE 5.10-2**  
**GEOGRAPHIC DISTRIBUTION OF EMPLOYMENT AS AN INDIRECT RESULT**  
**OF THE MONONA TERRACE CONVENTION CENTER OPERATIONS**

Location	Number of Positions
City of Madison	452
Downtown	185
Outside of Downtown	267
Dane County (outside of Madison)	84
State of Wisconsin (outside of Dane County)	161
Total	697

Source: Monona Terrace Commission Report, 1992.

### **Economic Impacts**

Previous economic studies (Forester, 1987, Laventhol and Horwath, 1988, and Vandell and Shilling, 1991) have analyzed the economic impacts of the proposed Monona Terrace Convention Center in terms of total income (direct, indirect, and induced) generated in Madison and Dane County. *Direct income impacts* primarily constitute impacts on wages, salaries, and other payments to operators of the Convention Center. *Indirect income impacts* are comprised of wages, salaries, and other income payments of suppliers, hospitality and service sectors. *Induced income impacts* consist of the increase in wages, salaries, and other income payments of local consumer goods industries and their suppliers. Induced income impacts are brought about by consumption spending out of augmented incomes (i.e., a change in income level as a result of the Monona Terrace project induces a change in the consumption spending).

All three studies measured the economic impact using a multiplier approach. A multiplier analysis is used to estimate the impact of a project in which a dollar of new spending

increases the community's total income. The multiplier effect's magnitude is dependent upon the number of times a new dollar circulates within the local economy before it is spent on goods and services produced outside the community. Economic analyses of the Monona Terrace Convention Center have utilized a multiplier of 2.0, which according to Vandell and Shilling (1991) is conservative and likely to understate the economic impact (direct, indirect, and induced income effect) of the proposed project. Economic impacts analyzed for the three time periods (construction, short- and long-term phases) are presented below:

#### The Construction Phase Impact

The total development costs (covering materials, wages, salary, and other income payments) during the construction phase of the project was estimated to be \$50 million (Vandell and Shilling, 1991). The total direct and indirect income associated with this developmental cost was estimated to be \$60 million, while the leakages outside the economy are estimated to be \$15 million. Of this \$60 million direct and indirect income effect, approximately \$39 million (65 percent) was estimated to provide income to Dane County, while the remaining \$21 million (35 percent) would be income payments in the State of Wisconsin outside of Dane County.

The total direct and indirect expenditures on materials purchased in Wisconsin are estimated to be \$35 million. Of this \$35 million, about \$23 million would be spent on materials within Dane County and the remaining \$12 million will be used to purchase materials elsewhere in the State of Wisconsin (Vandell and Shilling, 1991). These costs and expenditures are based on 1991 estimates. Updated costs have been developed since that time; however, the percent distribution would not be expected to change drastically from the 1991 estimate.

#### The Short-term Phase Impact

The short-term economic impact measured in terms of the total income effect (direct, indirect, and induced) resulting from wages, salaries, benefits, annual operating expenditures, and indirect expenditures by delegates are estimated to be between \$30 and \$35 million annually or between \$366 and \$374 million in present value terms at 8.5 percent discount rate, which accounts for the opportunity cost of funds for the City of Madison (Vandell and Shilling, 1991).

### Long-term Phase Impact

The long-term economic effects of the proposed Convention Center are liable to cause a fundamental change in the Dane County area's economic growth. For instance, new industries may be established to produce goods and services, and others may be established to utilize new labor pools. Such effects have a cascading effect in the long-term increase to the State of Wisconsin's economic growth rate.

The long-term impact of the project which would cause a fundamental change in the local economic growth depends upon several factors such as: a) how the project interacts with other activities in the area, b) relationship with state government and their proposed activities, and c) its ability to gain support with the local university and other business sectors. In light of these factors of uncertainty, quantifying the long-term impacts of the Convention Center becomes a difficult proposition. Assuming that the long-term effects are at least as great as the short-term effect, then the total income effect (including both short- and long-term) may be \$732 million, rather than \$366 million. (Vandell and Shilling, 1991).

Vandell and Shilling (1991) have shown that the total economic effect stemming from the construction phase and the short-term phase will be \$426 million (\$60 million for the construction phase and \$366 million for the short-term phase). Considering the long-term effects are at least as great as short-term effects, then the total income effect of the project will be \$792 million.

### **Local and Regional Economic Benefits**

Vandell and Shilling (1991) have attempted to distribute the benefits of the project based upon the economic impacts estimated for the construction phase and short-term phase. These benefits are summarized in Table 5.10-3. Approximately two-thirds of the benefits derived from the project accrues to Dane County (including the City of Madison) businesses and residents. Approximately one-third of the total benefit accrues to state businesses and residents outside Dane County. The analysis showed that the ultimate beneficiaries of the project are residents and employees who are scattered throughout Dane County and not simply those concentrated in downtown Madison.

Vandell and Shilling point out several issues which must be considered when reviewing Table 5.10-3. Their estimate of economic benefits in the table should be considered conservative because these benefits do not include: a) the net new external investment from outside the state as a result of the project and associated operations; b) wealth effects (i.e., appreciation in property values which tend to be capitalized, especially near the Convention Center) in both short- and long-term; and c) long-term income and wealth effects as a result of increased rate of economic growth. The total benefits to Madison residents, Dane County residents outside Madison, and State residents outside of Dane County, is \$426 million (Table 5.10-3). These are the total discounted benefits calculated in the 1991 Vandell and Shilling report, and were updated in the 1992 Monona Terrace Commission report to \$479 million (given estimated increased construction costs one year later).

**TABLE 5.10-3**  
**SUMMARY OF BENEFIT DISTRIBUTION**  
 Dollar Amount in Millions  
 (Based on 20-Year Present Value Analysis)

Benefitting Entities	Benefits of Construction	Benefits of Operations	Benefits from Center Users	Total	%
Adjacent Businesses	1.1	1.34	73.0	75.4	10.2
Madison Businesses Outside Downtown	12.7	2.4	105.0	120.1	16.2
Dane County Businesses Outside Madison	9.2	2.0	32.0	43.2	5.8
State Businesses Outside Dane County	12.0	1.9	63.0	76.9	10.4
Madison Residents	23.4	8.2	158.0	192.2	25.9
Dane County Residents Outside Madison	15.6	2.8	52.0	71.3	9.6
State Residents Outside Dane County	21.0	0	140.0	162.5	21.9

Source: Vandell and Shilling, 1991; as printed in Frank Lloyd Wright Monona Terrace Commission Report, 1992.

## Project Annual Operating Expenses and Costs

Annual operating expenditures for the Convention Center are estimated to be about \$2 million (Monona Terrace Commission, 1992). As shown in Table 5.10-4, this figure takes into account staff salaries and benefits, materials, supplies, services, utilities, marketing, contracts, insurance, and miscellaneous expenses. Most of these expenses would remain within Dane County. It should be noted that these expenses would generally be incurred whether the Convention Center operated at capacity or not.

**TABLE 5.10-4**  
**ESTIMATED ANNUAL OPERATING RESULTS**  
**NORMALIZED YEAR (1991)**

Total Revenue		+ \$1,072,538
Operating Expenses:		
Salaries and Benefits		- 923,000
Materials, Supplies & Services		- 125,000
Utilities		- 450,000
Marketing/Advertising		- 200,000
All Other		
Contracts, hourly salaries, insurance, etc.	225,000	
Replacement reserves	100,000	
Miscellaneous	<u>30,000</u>	<u>- 355,000</u>
Total Operating Expenses		- 2,053,000
Operating Loss		- 980,462
Museum and Gift Shop Net Revenue		+ 330,475
Operating Loss with Museum		\$ - 649,987

Source: Monona Terrace Commission, 1992.

Vandell and Shilling (1991) note that in 1989 the Washington, D.C., Convention Center was 98 percent booked and turning away business, but still operated at a \$5.4 million annual deficit. Although the magnitude of the deficit does not compare to the predicted Monona Terrace situation, this fact does point out the importance of management and management



oversight to the financial success of this project. This was recognized in the recent report on feasibility of the center (Monona Terrace Commission, 1992).

Foreign visitation is also emphasized as a factor in the predicted success of the Frank Lloyd Wright attraction of the project. Overseas visitors to Wisconsin numbered about 127,300 in 1990, of which 74,500 were from Europe and 22,000 from the Far East (Travel and Tourism Government Affairs Council, 1993).

The various costs noted in Table 5.10-4 are estimated with the assumption the Monona Terrace Convention Center will operate at a loss in the normal year of up to \$980,500--that is, without the potential income from the planned museum and gift shop (Monona Terrace Commission, 1992). Table 5.10-4 shows that the factor of a museum and gift shop may offset such losses by over \$300,000 per year. Various assumptions are presented in the Monona Terrace Commission 1992 Report regarding admissions fees and potential business, based on other Frank Lloyd Wright attractions in Wisconsin, Illinois, and California. The Commission chose not to include three cost items in their calculations of annual operating expenses. These items and the reasons for non-inclusion are summarized as follows:

- Marketing of Monona Terrace Community-wide and in Dane County -- A budget of \$200,000 was included in the operating costs for part of this purpose. Costs for marketing above these expenses were not included in the Monona Terrace annual operating budget, since these costs would be shared by the private sector, particularly the hospitality industry.
- Cost of Rooftop Park Maintenance -- This cost was assumed to be borne by the City as a portion of its City Park's budget. The City currently maintains the Olin Terrace Park and Law Park. The net change in costs for the City to maintain the new rooftop public area and modified Olin Terrace Park area versus the current maintenance costs have not been determined at this time.
- Cost of Shuttle Bus Service -- The City's share of this service estimated to be \$30,000 per year was eliminated, since the Commission believed that this cost would be entirely handled by the private sector.

## **Economic Benefit/Cost Analysis**

Using an earlier estimation of \$50-55 million for construction costs, Vandell and Shilling (1991) calculated the total gross economic benefits of the Monona Terrace to be \$426 million. Applying the updated estimate of \$63.5 million for the construction, and the present value of the operating costs over a 20-year period, the present value of the total economic benefits flowing from the project would be approximately \$479 million. This calculation was made in perpetuity (in a practical sense, using a term of 20 years), at an 8.5 percent discount rate. Table 5.10-5 illustrates the total benefits and costs with a calculated gross benefit cost ratio of 6.27 and net benefit/cost ratio of 3.57 for both earlier and recent estimates. These ratios are in contrast to those performed for an earlier study for a different proposed convention center (Pannell Kerr Foster, 1987) which did not include the Monona Terrace configuration, effects of the Frank Lloyd Wright connection, and other factors. These calculations showed a benefit/cost ratio of 0.10 to 0.91, when considering fiscal impacts only to the City of Madison and the State of Wisconsin, respectively, over a period of 10 years.

It should be noted that the ratio of 0.10 to 0.91 was estimated for a convention center not reflective of the current proposal in terms of size, capacity, or design. The Frank Lloyd Wright configuration, even with a \$63.5 million structure as compared to the \$20 million structure used in the 1987 study, appears to make prospects for success more favorable.

Intuitively, a benefit/cost ratio of greater than 1.0 (a dollar back for a dollar spent) is economically favorable. However, usually a ratio of greater than 2.0 is desirable for public projects, given alternative uses for public monies which may be promoted by other parties. Thus, the 3.57-6.27 range leads Vandell and Shilling (1991) to conclude that "ratios of this magnitude would be considered high as compared to most economic development projects."

**TABLE 5.10-5  
BENEFITS AND COSTS OF MONONA TERRACE**

	Gross Version	Net Version
Total Discounted Benefits	\$426 Million (\$ 479 Million)	\$243 Million (\$ 273 Million)
Total Discounted Costs	\$68 Million (\$ 76.5 Million)	\$68 Million (\$ 76.5 Million)
Benefit/Cost Ratio	6.27	3.57

Source: Vandell and Shilling, 1991.

Note: Figures for benefits and costs in ( ) were updated in the Frank Lloyd Wright Monona Terrace Commission Report (1992), calculated on increased constructions costs. The ratios remained the same.

### **Project Fiscal Impacts**

The fiscal impacts of the proposed project consist primarily of the following:

- Greater Wisconsin income taxes/revenue
- Increased sales and lodging tax revenues
- Higher property values

**Income Tax Revenues:** During construction and short-term phases, the proposed project is anticipated to generate a total income effect of \$426 million in present value terms. Assuming that all of this income is taxed at a six percent rate, Vandell and Shilling estimated the state income tax revenue would increase by approximately \$26 million in gross terms and \$13 million in net terms assuming 50 percent of the total income generated represents net new income (Vandell and Shilling, 1991).

**Sales and Lodging Tax Revenues:** It is estimated that the increase in sales tax revenues during the construction phase is about \$2 million, assuming five and one-half percent tax rate on direct and indirect expenditures on materials purchased (\$35 million). During the operation phase sales tax revenue is expected to be about \$1.3 million on \$23.3 million expenditures for materials (Monona Terrace Commission, 1991).

New expenditures on lodging by delegates are expected to be about \$4.3 million annually or \$49 million in present value terms. At a tax rate of seven percent, lodging tax revenues are expected to increase by approximately \$3.5 million annually in present value terms.

**Property Values:** Vandell and Shilling estimated that approximately \$0.8 million per year in additional property tax payments will be generated in the Dane County area. In present value terms this is equivalent to \$9.3 million over the life of the project.

Vandell and Shilling (1991 and 1992) have estimated the total fiscal impacts of the proposed project from the three sources of revenues to be about \$66.1 million. Of this \$66.1 million, \$6.0 million (9.1 percent) emerges from the construction phase, while the remaining \$60.1 million (90.9 percent) is generated from the operation phase of the project.

### **Project Financing Impacts**

The City of Madison, Dane County, the State of Wisconsin, and the private sector are working together to provide funds to construct the Monona Terrace Convention Center. Table 5.10-6 summarizes the Monona Terrace Convention Center's financing plan as recommended by the Monona Terrace Commission. Approximately \$8 million of private contributions are targeted.

The City will finance its share of the initial construction costs, including allowances for possible increases prior to letting construction bids, primarily through the three sources shown on Table 5.10-6 (Frank Lloyd Wright Monona Terrace Commission, 1992). These sources are summarized as follows:

- **Tax Incremental Financing (TIF)** The City believes increases in property taxes in the existing South Square Tax Increment District can support up to \$2 million in financing. Creation of a second TIF to include Monona Terrace may also be possible, but Vandell and Shilling (1991) suggest that changing the boundaries of existing TIF #15, near Law Park, to include the Convention Center is not financially feasible without the construction of a new hotel.

- **Room Tax Revenue Bond** A 20-year room tax-supported revenue bond totaling \$15 million is recommended as a key part of the financing package. Feasibility here is based on a 7.5 percent interest rate, 4 percent increase per year in room tax revenue and room rates, and room demand increasing 3 percent after 1996.
- **General Obligation Debt** General obligation financing of \$12 million is recommended by the Commission to handle possible inflation increases as noted above. Vandell and Shilling (1991) note that some previous studies have suggested that the City issue no more than \$7.5 million in 20-year revenue bonds at 6.7 percent and supported by general obligation funding through property taxes.

**TABLE 5.10-6  
MONONA TERRACE FINANCING PLAN**

<b>Funding Source</b>	<b>Amount</b>
State of Wisconsin	\$18,100,000
City TIF	\$2,000,000
City Room Tax	\$15,000,000
Private Contributions	\$8,000,000
City Contribution	\$12,000,000
County Contribution	\$12,000,000
<b>TOTAL FINANCING SOURCES</b>	<b>\$67,100,000</b>

Source: Monona Terrace Commission, 1992.

Much of the general obligation debt is repaid by City residents through property tax increases. Currently, the City of Madison has a bond rating of AAA, the highest rating that can be obtained for a municipality's financing. If the Convention Center should fail in a financial sense after being underwritten primarily by the City, the desirable AAA bond rating the City currently maintains could be jeopardized. This rating affects the City's costs to finance all projects, not just the Monona Terrace (Vandell and Shilling, 1991). The 20-year

room tax revenue bond has property tax implications, as discussed in the later section under Housing, Property Taxes, and Property Values.

It is apparent that favorable economic conditions are necessary to provide the various sources of Monona Terrace financing described above. It appears reasonable that the cost of local government expenditures on construction and operation of the proposed project would be offset to some extent by revenue increases associated with the project. An increase in economic activity generated by the proposed project would result in an increase in sales tax, property tax, and room tax revenue. The creation of new jobs and the incomes and profits due to construction and operation of the proposed project will increase income tax revenue.

With increased tourism and convention attendance affecting the local economy, hotel room tax revenues would also increase. Finally, with increased property values, there would be an increase in property tax revenue. New property tax revenue generated by the project has been estimated to be \$0.8 million annually (Monona Terrace Commission, 1991).

### **Housing, Property Taxes, and Property Values**

As was discussed previously, the proposed project would create new jobs but probably would not attract a significant number of permanent residents to the Madison metropolitan area. As a result, no significant increase in the demand for housing is expected to arise from project implementation.

The increase in business activity generated by the proposed project could increase the pressure to redevelop parcels of land adjacent to the project site as hotels, restaurants, and other businesses that would accommodate the needs of new Convention Center users and tourists. Housing vacancy rates (rental and owner occupied) in downtown Madison are about 4.5 percent (1990 census data). This indicates a high demand for housing in the area. Much of this housing is occupied by college students. The increased pressure to redevelop the local area could result in a reduction of available student and lower-income housing near the project site. Also, if traffic congestion and crime were to increase as a result of the proposed project's implementation, property values might decrease as the attractiveness of living near the project site was diminished.

A number of other scenarios could occur regarding housing, property values, and property taxes with the new Convention Center. One scenario suggests that if property taxes rise, residents will be driven out because of higher costs, and the area will be redeveloped as noted above causing losses to the historical character of local neighborhoods. Another scenario suggests that if property values and taxes go down, residents will also leave the area as their real estate investment proves unwise. A third scenario implies that without continued investment in the City center in the form of a convention center and other improvements (e.g., see City of Madison, 1989) private investment and investment in older housing could decline. The approval of the Convention Center referendum by Madison voters, and the recent decision by the Dane County Board of Supervisors to assist in supporting convention center construction costs, both suggest that, on balance, Madison and Dane County believe the center will have overall benefits to property values and the character of the City center.

A detailed study, employing an incremental gross income multiplier to estimate the potential impact of the Monona Terrace Convention Center on downtown revitalization and property values, showed that the project would cause a redistribution of property values toward downtown. This result should shift a greater portion of the property tax base to the downtown and reverse a decade long lag in valuation increases in the downtown. A 32.98 million dollar increase in new residential and commercial construction and a 34.32 million increase in property value appreciation are predicted to result from the project (Vandell and Shilling, 1992). The effect of Monona Terrace would be significant, redistributing the property tax burden to commercial properties and simulating growth in commercial property values.

The 1992 report by Vandell and Shilling also found that not constructing the Convention Center would result in an annual increase in property tax of a \$100,000 home by \$7 - \$12. This increase would occur because of lost property tax revenue as downtown Madison properties continue to lag in property value increases (Vandell and Shilling, 1992). On the other hand, property tax increases predicted on the average house in Madison due to convention center operations ranged from \$24-36 annually (Vandell and Shilling, 1992). This range depended on whether no appreciation in total taxable property occurred downtown (\$36), or all appreciation occurred downtown (\$24). Along with increased taxes, however, are increases in property values due to new construction and operations. From the 1991 pre-

existing equalized property value base in Dane County of \$12.076 billion, new construction is predicted to add another \$32.97 million in value. Property appreciation, either all downtown or distributed throughout the county, may add another \$35.72 million. Total property values are therefore predicted to increase about \$68 million to \$12.144 billion, a 0.55 percent increase (Vandell and Shilling, 1992).

Under the "no action" alternative it is likely that the past trends in property value would continue. As shown in Figure 4-10.5, the rate of commercial property value growth in the downtown area has lagged behind the other areas of the City. This means an increasing property tax burden for those areas outside the downtown area.

### **Convention and Meetings Market**

The national meetings market declined from 1989-91 (Duarte, 1992). This statement is in contrast to the reports, using data from the early to mid-1980's, which showed a growing meetings market (Pannell Kerr Foster, 1987; Laventhol and Horwath, 1988). According to *Meetings and Conventions Magazine* (Duarte, 1992), the total number of meetings nationally, in all the categories combined, dropped by three percent from 1989 to 1991 (Figure 4.10-6). During the same period, meeting expenditures (for all categories combined) decreased by 12 percent. These trends were a reflection of the sluggish United States economy and the Persian Gulf War, among other factors (Duarte, 1992).

Conversely, the number of small association meetings hit an all-time high in 1991 with a 15 percent increase over 1989 but resulting in only a 2.9 percent increase in spending. More delegates brought their spouses to corporate and association meetings in 1991 than in 1989 (Duarte, 1992).

Data from the meetings market for late 1992 and early 1993 is not available at this time. However, the Trade Show Bureau (1992) notes a 72 percent growth in the number of trade shows/expositions/conventions nationally between 1981-1990. This same source predicts a 50 percent growth in net square feet of exhibit space, exhibit firms, and delegates during the next decade, given an expanding number of convention centers and a stable economy. Regional offshoots of established events (cities such as Madison are implied) are expected to generate nearly half of the new expositions in the years ahead. The proposed Monona



Terrace configuration of 51,000 square feet of total exhibit space (Table 4.10-6) puts it in the category to handle all but the largest 13 percent of conventions held in the United States, according to Trade Show Bureau figures.

It is difficult to factor in the influence of the unique architecture and notoriety of the architect when predicting the ability of the Convention Center to attract future meetings, shows, and conventions in a competitive market. It is the opinion of the Monona Terrace Commission that the architecture of the facility will help to attract domestic and international tourists (Monona Terrace Commission, 1991 and 1992).

### **The Hotel Issue**

No proposal for a hotel that accompanies the Monona Terrace project has been made at the time of this writing. However, the hotel issue has been debated extensively over the past several years in many of the reports cited in this socioeconomic impact analysis. To summarize recent analyses, most agree that a new hotel within walking distance (or with excellent shuttle connections) is likely essential to the long-term success of the Convention Center and should be built within three to four years of convention center completion. In fact, Vandell and Shilling (1991) state that "integration of a hotel with the convention center design is critical in this regard as is privatization of various convention center operations." These authors further estimate the annual operating losses to be 50 to 75 percent greater (up to \$2,097,000 per year) without a new hotel. This figure includes the three items noted above under the annual operating costs (marketing, park maintenance, and shuttle buses) in their estimate of basic annual losses of \$1,398,000 per year. Their calculations show marketing to cost \$400,000, park maintenance at \$250,000, and net operation of a shuttle service at \$150,000.

Alternately, existing hotels in the Capitol Square area are being and will be refurbished with private funds to address convention delegates and guests, although these hotels are estimated to have inadequate room space to service an active conventions and meetings business at a new center.

## **Government Services**

If the Convention Center is built, police, fire, and other City services would be provided to the facility. Impacts to water, sewer, traffic, and other City services and facilities would occur if the Convention Center promoted growth of the local economy and infrastructure improvements did not keep pace. It follows that police, fire, and other services would likely need to be increased. It is estimated that the costs for these additional municipal services will be \$218,000 per year (Vandell and Shilling, 1992).

As part of the Convention Center design process, building plans are reviewed by the City of Madison Fire Department for fire and safety needs. Modifications to the building design will be implemented to meet the fire protection and safety requirements as determined by the Fire Department.

## **No Project Alternative**

Under the "no project alternative", the project area, given its diverse economy, could continue to have a relatively low unemployment rate. With respect to the convention and hospitality industries, (under this scenario) more business will likely be diverted out of downtown Madison to the surrounding suburban areas, as the larger conventions would probably be held at privately owned facilities such as the Holiday Inn - West. Such has been a recent trend (Dane County Convention Task Force, 1991).

Under another "no project" scenario, if the proposed action is not carried out, the fiscal status of the local governments, notably the City, would likely remain similar to historic conditions. These fiscal conditions have been stable and desirable as evidenced by the AAA bond rating. However, other financial activities of the City, aside from the proposed project, could cause this exemplary rating to be downgraded. Under another scenario, if no project goes forward, the City's center could deteriorate and its financial rating could decline as well.

## **Potential Mitigation Measures**

Potential traffic congestion impact mitigation measures are discussed in Section 5.7.

The City is prepared to address any potential increase in crime that could result from the proposed action and has proposed devoting special resources to the control of crime in the area if the project were developed (City of Madison, 1991).

Mitigation for potential traffic, noise, and parking impacts to the adjacent neighborhoods are discussed in Section 5.1 (Air Quality) and Section 5.7 (Transportation).

Mitigation for potential recreational impacts are discussed in Section 5.8 (Recreation).

**PROBABLE ADVERSE ENVIRONMENTAL EFFECTS  
WHICH CANNOT BE AVOIDED**


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Section 5.0 (Probable Impacts) discusses in detail, for each topic, the potential adverse and beneficial results of the proposed action. This section summarizes the potentially adverse impacts which cannot be practically or cost effectively eliminated.

**Aesthetic/Visual**

One of the more significant impacts that will result from the construction and operation of the proposed project is the impact on aesthetic and visual resources in the downtown area. Whether these impacts are seen as adverse or beneficial is largely a matter of personal taste and reflects personal preferences. If the Monona Terrace Convention Center is built, Law Park, as it is known today, will be permanently altered. Law Park is currently a large, open, undeveloped, urban, shoreline greenspace, with unobstructed views of Lake Monona, downtown Madison, and the other portions of Law Park. The size, shape, and location of the project will change views of Lake Monona, downtown Madison, and other greenspace portions of the park, from within the park, and from other areas. Law Park is presently an urban shoreline park. If the Monona Terrace project is constructed, Law Park will become the setting for the Frank Lloyd Wright Convention Center. The entrance to Madison from John Nolen Drive, now characterized by a long, undeveloped shoreline with wide-open views of Lake Monona, and views of buildings, a railroad corridor and the Olin Terrace escarpment will instead be characterized by the approach to, and drive through, a large architecturally significant urban building. Downtown Madison, which from an aesthetic perspective now extends only to the Monona Terrace escarpment, will extend, if this structure is built, right to and over the shores of Lake Monona.

The aesthetic impact associated with the project includes the creation of a building with a historically important design created by the renown architect Frank Lloyd Wright. The design was originally developed in 1938 and was modified up until the architect's death in 1959. The modifications to the design to accommodate the needs of the Convention Center



use have not changed the basic integrity of the design. The structure would have immediate historical, architectural, and aesthetic significance.

The aesthetic change associated with the changes to Law Park and the construction of the Convention Center should not be underemphasized. Law Park will be significantly changed. Also, one of the most significant impacts of the proposed project will be the connecting of the State Capitol square area with the Lake Monona shoreline. The connection has been a goal of Madison's City planners since the early 1900s. As designed, the Monona Terrace facility will provide workers, shoppers, and other visitors to the Capitol square area a convenient and architecturally dramatic connection to Lake Monona and to Law Park.

### **Noise**

Machinery and pile driving noise is not avoidable during the construction period.

### **X Water Quality**

During the construction phase there will likely be unavoidable sediment contributions and short-term water turbidity to the local area of the Lake along the proposed site. The pile driving activity will cause turbid conditions and some release of petroleum product contained within the lake bed sediments.

### **Fishery/Fish Habitat**

The spawning habitat below the structure (approximately 1.5 acres) will be lost for fish spawning use.

### **Terrestrial Vegetation/Wildlife**

The mature trees and vegetation at the proposed site will be removed as a result of the proposed action. Common urban wildlife present on the proposed site will be displaced. The greenspace lost includes Law Park (3.7 acres), John Nolen Drive right of way (0.8 acres), and possibly Olin Terrace Park (0.58 acres).

## **Cultural Resources**

The proposed action will have some visual impacts upon selected designated or potentially historical buildings. Whether these impacts are adverse or beneficial, however, is highly subjective. Some will consider a view of the Frank Lloyd Wright building as a positive benefit, others will object to any "new" development in view corridors of, and from, historic properties.

The Olin Terrace mural will be covered by the parking garage and will only be partially visible from within the "tunnel."

## **Transportation**

The proposed action (along with the expansion of John Nolen Drive) will decrease the present railroad corridor by about 11.5 feet near the center of the Convention Center. This is the maximum reduction in railroad right-of-way, and this distance becomes less at other points along John Nolen Drive.

Also, the additional traffic that will be generated, particularly by the full capacity use of the Convention Center, will have a noticeable impact on traffic congestion in downtown Madison during peak hours.

## **Parking**

When the Monona Terrace Convention Center is being used to full capacity, and if the State of Wisconsin is permitted to use the Center's parking facility for daily state employee parking, parking resources in downtown Madison will be noticeably strained. Although proposals to direct Convention Center parking to the Dane County Coliseum area and provide shuttle service from there to the Convention Center will help alleviate this strain on parking resources, it is anticipated that parking in downtown Madison will be near, or will exceed, capacity when the Convention Center is being used at full capacity.

## Recreation

Law Park will lose about 63 percent of its usable recreational space to the Convention Center and the expansion of John Nolen Drive. The remaining space will be divided into two smaller parcels on either side of the building. The recreational space lost as a result of the Convention Center and the John Nolen Drive expansion includes 3.7 acres of greenspace within Law Park, 1.1 acres of parking lot within Law Park, and 0.8 acres of grassy area along the south side of the John Nolen Drive right-of-way.

In addition, the 0.58 acres of Olin Terrace Park will be changed from a small park to a "pedestrian mall" type area with two pedestrian ramps constructed over each side of the park.

Boating use of the 1.5 acres of open water covered by the Convention Center will be lost.

Conflicts due to crowding and congestion along the bicycle/pedestrian path will increase over the current situation.

A permanent "wind shadow" will exist for sail boats and sail board users in the vicinity of the Convention Center.

**THE RELATIONSHIP BETWEEN SHORT-TERM USES  
OF THE ENVIRONMENT AND THE MAINTENANCE AND  
ENHANCEMENT OF LONG-TERM PRODUCTIVITY**

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Productivity for this project is defined as biological propagation and growth (both terrestrial and aquatic life forms).

As discussed in detail in the previous sections of this document, the proposed action will have no measurable impacts on long term productivity of fish species within Lake Monona. There will be a permanent loss of about 1.5 acres of open water and fish spawning habitat.

The vegetative productivity of the greenspace area within Law Park (3.7 acres of park plus 0.8 acres of right-of-way) will be lost as a result of this project.



**IRREVERSIBLE OR IRRETRIEVABLE COMMITMENT OF  
RESOURCES WHICH WOULD BE INVOLVED IN THE  
PROPOSED ACTION IF IT IS IMPLEMENTED**

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Several types of resources would be consumed, irretrievably committed, or lost as a result of project construction. The use of these resources is required to carry out the proposed action. Some of the commitments listed below can be mitigated to various degrees (the mitigation potentials are discussed in section 5.0).

- Fuel and energy consumption during the construction phase and on a continuous basis during the operation of the facility.
- Permanent loss of 1600 feet of greenspace at the shore of Lake Monona.
- Loss of current vegetation at the building site (3.7 acres at Law Park, 0.58 acres at Olin Terrace Park, and 0.8 acres of John Nolen right of way).
- Loss of fish habitat under the proposed building (1.5 acres of open water).
- Loss of boating space on Lake Monona (1.5 acres).
- Loss of a maximum of 11.5 feet of railroad corridor (resulting from John Nolen Drive expansion).

**ALTERNATIVES TO THE PROPOSED ACTION**

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As clarified in the scoping process, the proposed action is unique in that there is only one design being considered, and the design was developed specifically for the unique physical features of the site. During the development of the proposed design, the architect was requested to produce a design that met the space requirements for a convention center, fit within the physical constraints of the Monona Terrace site, and maintained the architectural criteria of the original Frank Lloyd Wright design. Several modifications were studied and proposed to meet these needs. The current proposed design was determined to be the best fit to meet all of the criteria.

The only reasonable alternative to the proposed project is "no action." The City is not considering any other locations for a convention center and because of the uniqueness and attraction of the Frank Lloyd Wright design, no other design is under consideration.

Over the past several decades the City has considered various alternatives for the establishment of a convention center in downtown Madison. Each alternative was rejected for various economic, environmental, and other reasons. An outline of the most recent alternative sites that have been considered include:

June 1986

City contracts with Bowen, Williamson, Zimmerman to analyze a half-block convention center in the MATC site.

February 1987

City Contracts with Brooks, Borg, and Skiles of Des Moines to develop a building program for Blocks 88 and 89 (70,000 square feet of exhibit space).

September 1988

City selects the Munz-Mullins Development Team to design lake front convention center with a hotel adjacent to the Lake Terrace office building.

April 1989

Voters reject a referendum to construct the Nolen Terrace Convention Center Complex.

May 1989

Mayor appoints a Convention Center Task Force to evaluate available data and site alternatives for developing a downtown convention center.

August 1990

Mayor appoints a Convention Center Commission to coordinate the planning and development of the Convention Center. Commission recommendation is known as the Monona Terrace Convention Center Project.

November 1992

The current proposal, the Monona Terrace Project, is endorsed by a City-wide referendum.

The Wisconsin legislature, in 1991 Senate Bill 483, approved financing for the parking garage portion of the Monona Terrace Project. The Senate Bill specifically states that if the City does not irrevocably provide for the construction of the Frank Lloyd Wright Monona Terrace Project, the appropriation for the project, identified as the parking ramp at the state office building located at 1 West Wilson Street, is of no effect. The Senate Bill, in its specific language, selects the City's Frank Lloyd Wright Monona Terrace Project as the only alternative that must be studied in this EIS.

In any case, the potentially adverse impacts that are unique to the Frank Lloyd Wright design and the Law Park setting are the impacts on Law Park and Lake Monona. A convention center located anywhere else in downtown Madison would not impact Law Park and the recreational use of that area. A convention center that was not tied to a lake would not impact water quality, navigation, fish habitat, water skiing, or recreational fishing.

On the other hand, a convention center constructed anywhere in downtown Madison would have similar potentially adverse impacts on air quality, noise, subsurface conditions (much of downtown Madison is built on fill material), historic properties, view corridors, transportation, parking, and socioeconomics.

"Document numbers" refer to an indexing system used by the consultants.

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- 1/10/74, Preliminary Environmental Report: Law Park Auditorium, Madison, WI; report from City Planning Department (Doc #41)
- 6/86, "Capitol Square Southeast"; report prepared as part of the City's Downtown Master Plan (Doc #13)
- 4/89, "Downtown 2000"; a master plan for downtown Madison prepared by City of Madison (Doc #21)
- 7/31/89, Letter & Report from G. Nelson (Convention Center Task Force) to P. Soglin on Convention Center Decision Making Process (Doc #5)
- 1/8/91, Interim Report from the Frank Lloyd Wright Monona Terrace Commission (Doc #2)
- 10/1/91, "Monona Terrace, A Public Place by Frank Lloyd Wright"; report prepared by Frank Lloyd Wright Monona Terrace Commission for City of Madison (Doc #20)
- 2/25/92, Intergovernmental Agreement between City of Madison & Dane County for Monona Terrace Project (Doc #66)
- 5/8/92, Environmental Assessment for John Nolen Expansion Project; Wisconsin Department of Transportation (Doc #11)
- 2/25/93, Proposed Intergovernmental Agreement Between the City of Madison and Dane County for the Monona Terrace Project; memo to the Common Council from the City of Madison Monona Terrace Negotiating Team (Doc #66)

### **2. Aquatic Resources**

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- 1984, Shore Protection Manual, Volume I; U.S. Army Corps of Engineers, Waterways Experiment Station, Coastal Engineering Research Center, Vicksburg, Mississippi, pp 3-30 to 3-49 (Doc #82)
- 3/8/91, Letter from G. Hofmeister (WCC) to L. Nelson (City) on Results of Regulatory Agency Coordination Meeting on Convention Center (Doc #8)
- 1992, Automated Coastal Engineering System, User's Guide; U.S. Army Corps of Engineers, 1992, Waterways Experiment Station, Coastal Engineering Research Center, Vicksburg, Mississippi, Version 1.06. (Doc #83)
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- 4/90, Sensitive Areas in Lake Mendota, Lake Monona, and Lake Waubesa; WDNR Aquatic Plant Management report for fish habitat (Doc #23)
- 7/9/90, Law Park Aquatic Facility, memos, permits, & reports (Doc #12)
- 1/92, Water Quality in Dane County: Conditions and Problems; report by Dane County Regional Planning Commission (Doc #34)
- 1/92, Dane County Water Quality Plan, Appendix B Update: Surface Water Quality Conditions; report by Dane County Regional Planning Commission (Doc #32)

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- 4/88, "Findings: Phosphorus Trends in the Yahara Lakes Since the Mid 1960's"; Wisconsin Department of Natural Resources, Bureau of Research newsletter by R. Lathrop (Doc #26)
- 5/88, "Vertical Distribution of Mercury in Sediments from Devils Lake, Sauk County; Lake Monona and Lake Waubesa, Dane County; and Rock Lake, Jefferson County"; unpublished report from Wisconsin Department of Natural Resources (Southern District) (Doc # 42)
- 6/88, "Findings: Chloride and Sodium Trends in the Yahara Lakes"; Wisconsin Department of Natural Resources, Bureau of Research newsletter by R. Lathrop (Doc #27)
- 12/88, "Findings: Trends in Summer Phosphorus, Chlorophyll, and Water Clarity in the Yahara Lakes, 1976-1988"; Wisconsin Department of Natural Resources, Bureau of Research newsletter by R. Lathrop (Doc #28)
- 4/89, "Findings: The Abundance of Aquatic Macrophytes in the Yahara Lakes"; Wisconsin Department of Natural Resources, Bureau of Research newsletter by R. Lathrop (Doc #24)
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- 1989, "Mercury Levels in Walleye from Wisconsin Lakes of Different Water and Sediment Chemistry Characteristics; Lathrop R.C. et al; Wisconsin Department of Natural Resources, Technical Bulletin No. 163 (Doc #55)
- 9/90, "Response of Lake Mendota to decreased phosphorus loadings and the effect on downstream lakes"; reprint from Intern. Limnol. Journal.; R. Lathrop (Doc #25)
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### 3. Air Quality/Noise

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1978 Handbook of Noise Assessment, Daryln May, Ed; Van Nostrand (Doc #70)

5/88 Expanding Industry in Wisconsin: A Guide to Meeting Air Quality Requirements; Wisconsin Department of Natural Resources publication PUBL-AM-055 (Doc #36)

11/15/89, Madison Ordinance Chapter 24, Offenses Against Peace and Quiet (Doc #62)

6/90, Pocket Guide to Chemical Hazards; U.S. Department of Health and Human Services; Public Health Service; Centers for Disease Control; National Institute for Occupational Safety and Health (Doc #77)

1990 Air Quality Data Report; WDNR, Bureau of Air Management; Vol 16; PUBL-AM-077 (Doc #86)

6/11/91 Letter to Rob Phillips (City of Madison) from Laurence Nicholl (Howard, Needles, Tammen and Bergendoff); (Doc #68)

8/29/91, "Application for Exemption from Construction or Modification and New Operation Permit for the Reconstruction of John Nolen Drive, Madison, Wisconsin," prepared by Howard, Needles, Tammen & Bergendoff for the City of Madison (Doc #56)

10/10/91, "Tunnel Ventilation Requirements for John Nolen Drive at the Monona Terrace Convention Center, Madison, Wisconsin"; prepared by Howard, Needles, Tammen and Bergendoff (consulting firm) for City of Madison (Doc #30)

5/8/92, Environmental Assessment for John Nolen Expansion Project; Wisconsin Department of Transportation (Doc #11)

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8/24/92, Letter from J. Meier (Wisconsin Department of Natural Resources) to Dean Kaiser (WCC) (Doc #56)

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#### **4. Transportation**

11/78 "Summary: Isthmus Area Traffic Redirection Study"; City of Madison, Department of Transportation (Doc #50)

12/86, "Central Madison Area Parking Study Plan Report"; The Dane County Regional Planning Commission; prepared for City of Madison, Department of Transportation (Doc #61)

2/19/91, City of Madison Interdepartmental Correspondence; From: G. Austin & J. Urich; To: Monona Terrace Physical Development Subcommittee (Doc #1)

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1/29/92, Meeting minutes from Members of City Ped-Bike Committee on John Nolen Drive Law Park Convention Center Bike Path; summary of meeting with City discussion on alternatives for bike/pedestrian paths (Doc #32)

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- 6/9/86, "Convention Center Downtown Madison"; report prepared by Bowen, Williamson, Zimmermann Architects for City (Doc #16)
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- 7/87, "Report of Potential Market Demand, Statement of Estimated Annual Operating Results, & Economic Impact for a Proposed Convention Center Facility in Madison, Wis."; report prepared by Pannel, Kerr Forster for the City (Doc #14)
- 8/18/87, Resolution creating TIF District No. 15 in City of Madison (Doc #9)
- 10/87, "Report on Impact of the Development of a Hotel on the Periphery of Madison on the Proposed Downtown Convention Center and Downtown Hotel Market"; report prepared by Pannel, Kerr Forster for the City as an addendum to 7/87 report (Doc #15)
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- 10/88, "Market Evaluation and Economic Impact Assessment for a Proposed Convention Center in Downtown Madison"; report prepared by Laventhol & Horwath, CPA's for City of Madison (Doc #18)
- 3/89, "The Quality of Life in Madison and Dane County, Wisconsin"; Myers, Dowell; School of Urban and Regional Planning, University of Southern California (Doc #90)
- 1990 Fact Sheet: Wisconsin Economic Impact of Travel and Tourism; Travel and Tourism Governmental Affairs Council, Washington, D.C. (Doc #73)
- 5/2/91, "Monona Terrace Food and Beverage Operations Program"; Cini-Little International, Inc. (Doc #3)
- 5/7/91, Letter from PY Development to City on Update Market Overview (Doc #7)
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- 5/22/91, Approval of 1st Amendment TIF District No. 15; resolution by the City to amend the TIF District language to include improvements associated with a convention center (Doc # 10)
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- 7/12/91, Wisconsin Department of Natural Resources letter from R. Roden to J. Rothschild (City) commenting on Cini-Little Report (Doc #4)
- 1992, "The Projected Growth of the Exposition Industry: a 10-Year Forecast" reprinted from Tradeshow Week by Trade Show Bureau, Denver, Colorado. IT 12(Doc #74)
- 3/1/92, "Hanging in There"; Duarte, A.; Meetings and Conventions - Meeting Market Report (Doc #73)
- 4/20/92, "Monona Terrace, Survey of Local Meeting Use"; report by RM Enterprises for City of Madison (Doc #19)
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- 1992, "Madison, Wisconsin Community Profile"; City of Madison (Doc #48)
- 9/92, "Monona Terrace, A Public Place by Frank Lloyd Wright - Financing and Operations Report by the Frank Lloyd Wright Monona Terrace Commission" report to the City of Madison by the Monona Terrace Commission (Doc #57)
- 4/23/93, "Wisconsin Employment Picture"; Wis. Department of Industry, Labor, and Human Relations; Volume 5, Number 3 (Doc #89)

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- 12/12/91, "Design Concept for A Capital City State Trail"; Dane County RPC (Doc #88)
- 2/19/92, unpublished file data on bicycle traffic at Law Park - 1987-1992; Traffic Engineering, City of Madison (Doc #64)
- 3/11/92, Park Commission Letter No. 197, RE: Consideration of Park Designation For Turville Point; City of Madison, Parks Division letter from Daniel Stapay (Doc #58)

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## **8. Subsurface**

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3/91, "Subsurface Investigation: John Nolen Drive Reconstruction", Madison, WI; report prepared by EWI Engineering for City of Madison (Doc #37)

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4/92, "Phase III Environmental Site Assessment, John Nolen Drive Extension, Madison Wisconsin"; EA prepared by Warzyn Inc. for City of Madison (Doc #31)

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### **PERSONAL COMMUNICATIONS**

Bannerman, Roger; Wisconsin Department of Natural Resources, Bureau of Water Resources Management; Nonpoint Source and Land Management Section

Baumann, James; Wisconsin Department of Natural Resources, Bureau of Water Resources Management; Nonpoint Source and Land Management Section

Bengry Diana; Director of Sales, Holiday Inn - West, 3/3/93

Gempler, Paul; Dane County Regional Planning Commission

Hastings, Kurt; Findorf Construction; 5/27/93

Hoopes, John; UW-Madison School of Engineering

Lathrop, Richard; Wisconsin Department of Natural Resources; Bureau of Research

Marshall, Dave; Wisconsin Department of Natural Resources; Southern District

McWhirter, Clyde; Cathodic Protection Associates, Tipp City, Ohio; 5/12/93, 6/4/93

Millner, Regina; 4/23/93

Nagey, Mike; City of Madison; Department of Transportation

Neujar, Tom; Urban Land Interest, Madison; 4/23/93

Novotny, Donald; Professor, University of Wisconsin-Madison; Electrical Engineering Department; 6/21/93

Pitt, Robert; Professor, University of Alabama School of Engineering, 3/18/93

Sharper, John; Coffelt Electronic Company, Flagstaff, Arizona; 5/12/93

Stewart, Scott; Wisconsin Department of Natural Resources; Southern District, Madison Area Fish Manager

Ross, Arthur; City of Madison Traffic Engineering; Pedestrian-Bike Safety Coordinator

Woodward, Samuel; Executive Director Wisconsin Chamber Orchestra

Zirbel, Richard; Gillen Construction, Milwaukee, 4/21/93

### **CONTACT LIST FOR LAW PARK RECREATIONAL USE ESTIMATES**

Braund, Dean; President Yahara Fishing Club

Coltharp, Kim; City of Madison - Parks Department

Gunther, Dean; president, Capitol City Ski Team

Imhoff, Benny; manager, Flying Fish Sailboards

Kunelius, Linda; president, Madison Water Ski Inc.

Peterson, Reed; owner, Out of Line Skates

Riley, Eleanor; special events coordinator, City of Madison - Parks Department

Ross, Arthur; Ped-Bike Safety Coordinator, City of Madison - Dept. of Transportation

Stone, Dave; Isthmus Sail Boards/Wind Surf Association of Madison

Sunbby, John; City of Madison - Parks Department (Maintenance)

Will, Marty; City of Madison - Parks Department

**APPENDIX A**  
**LAW PARK PLANT INVENTORY**

APPENDIX A

PLANT INVENTORY

LAW PARK  
 "Timekeeper" Sculpture and Easterly

<u>Location</u>	<u>Plant Name</u>	<u>Size</u>	<u>Quantity</u>
0+00-0+50	Emerald Queen Maple	8"	1
	"Majestic" Honeylocust	10"	1
	Buttonbush	6'-8'	3
	Clavey's Honeysuckle	4'-5'	3
	Zabel Honeysuckle	6'-8'	11
0+50-1+00	Clavey's Honeysuckle	4'-5'	7
	Black Willow (Clump)	6"-14"	6
1+00-1+50	"Majestic" Honeylocust	4"	1
1+50-2+00	"Majestic" Honeylocust	4"	1
	Washington Hawthorne	10'-12'	1
	Buttonbush	6'-8'	5
	Prunus Triloba	4'	5
	Clavey's Honeysuckle	4'	2
2+00-2+50	Buttonbush	6'-8'	2
2+50-3+00	"Majestic" Honeylocust	4"	1
	Prunus Triloba	4'	1
	Red Maple	8"	1
	Buttonbush	4'-5'	2
3+00-3+50	Red Maple	2"-3½"	2
	Siberian Elm (Weed)	8"-10"	1
3+50-4+00	Gray Dogwood	6'-8'	20
	Zabel Honeysuckle	6'-8'	2
4+00-4+50	Skyline Honeylocust	4"	1
	Gray Dogwood	6'-8'	22
4+50-5+00	Gray Dogwood	6'-8'	4
	Skyline Honeylocust		1
	Elm Var.	12"-14"	1
	River Birch (Double Clump)	4'-6'	2
5+00-5+50	Cockspur Hawthorne	2'-3'	3
	River Birch (Double Clump)	3"-6"	3
	River Birch (Triple Clump)	4"-6"	2

Source: City of Madison; Parks Dept.



5+50-6+00	Green Ash	3"	1
	White Ash	6'-8'	1
	Glossy Buckthorn (Weed)	6'-8'	3
	River Birch (Triple Clump)	4"-6"	1
6+00-6+50	Arrowwood Viburnum	3'-4'	5
	Green Ash	3"	1
	White Ash	6"	1
	Prunus Triloba	18"-24"	2
	Elm (Weed)	10'-12'	2
6+50-7+00	Cockspur Hawthorne	5'-6'	2
	Green Ash (Weed)	6'-12'	4
	Arrowwood Viburnum	6'-7'	11
	Red Dogwood	3'-4'	4
	Elm (Weed)	2"-6"	7
	Mulberry (Weed)	5'-6'	1
	"Majestic" Honeylocust	4"	1
7+00-7+50	Red Dogwood		1
	Washington Hawthorne	8'-15'	5
	Skyline Honeylocust	6"-8"	2
	Privet	5'-6'	6
	White Oak	4"-6"	2
	Clavey's Honeysuckle	2'-4'	4
	Forsythia Var.	5'-6'	2
7+50-8+00	Washington Hawthorne	8'-10'	2
	Marshall Ash	6"-12"	4
	River Birch (Double Clump)	2"-4"	5
8+00-8+50	Marshall Ash	10"-12"	1
	River Birch (Double Clump)	3"-4"	1
	Peking Cotoneaster	5'-6'	6
	Zabel Honeysuckle	3'	1
	Red Dogwood	3'-4'	4
	Black Willow	8"-10"	7
8+50-9+00	Peking Cotoneaster	5'-6'	2
	Washington Hawthorne	10'-12'	2
	River Birch	4"-6"	4
	River Birch (Double Clump)	4"-6"	1
	Cottonwood (5 Clump)	6"-14"	1
	Emerald Queen Maple	6"	1
	"Majestic" Honeylocust	12"	1
	White Birch	2"-6"	2
	Green Ash	4"	1

9+00-9+50	Malus Var. (Clump)	8'	1
	Elm (Weed) (Triple Clump)	3"-6"	1
	Box Elder (Weed) (6 Clump)	2"-6"	1
	Hackberry	8"-10"	1
	Emerald Queen Maple	10"-12"	1
9+50-10+00			
10+00-10+50	Black Willow (2 Clump)	6"-10"	1
	Cottonwood	10"-12"	1
	American Elm	14"-16"	1
NOTE: 10+15 = Center Line--Olin Terrace			
10+50-11+00	Black Willow (Double Clump)	8"-10"	1
	Green Ash	6"	2
	Malus Var.	6'-10'	3
	White Birch	6"	1
11+00-11+50	White Ash	6"-8"	2
	Emerald Queen Maple	6"	1
	Cottonwood (2 of 3 Clump)	18"	1
11+50-12+00	Cottonwood (1 of 3 Clump)	8"	1
	Green Ash	10"-12"	2
12+00-12+50	Sugar Maple	6"-8"	2
	White Birch	8"	2
	River Birch (Double Clump)	6"-8"	1
	River Birch (Triple Clump)	4"	1
	Red Dogwood	2'-3'	1
	Hackberry	10"-12"	1
	Pin Oak	10"	1
	Austrian Pine	16'-20'	2
12+50-13+00	Austrian Pine	16'-20'	1
	White Oak	10"	2
	Thornless Honeylocust	10"-12"	2
	Cockspur Hawthorne	12'-15'	1
	Red Dogwood	3'	3
	European Alder	10'-12'	1
13+00-13+50	Red Dogwood	4'-5'	4
	European Alder (Clump)	10'-12'	8
	European Alder	6"	1
	Red Maple	6"-8"	1
	"Majestic" Honeylocust	4"-6"	2
	Cockspur Hawthorne	6'-8'	2
	Washington Hawthorne	12'-15'	1

13+50-14+00	Green Ash		1
	Red Maple	4"-6"	1
	European Alder	6"	1
	Amur Maple	15'-20'	7
	Malus Var.	15'	1
	European Alder (Clump)	3'-8'	6
14+00-14+50	River Birch	8"	1
	Washington Hawthorne	8'-10'	2
	European Alder	4"-8"	4
	Green Ash	6"	1
	White Ash	8"-10"	1
14+50-15+00	White Ash	8"	2
	Amur Maple	10'-12'	5
	Zabel Honeysuckle	3'-4'	1
	Anthony Waterer Spirea	2'	11
15+00-15+50	Zabel Honeysuckle	4'	1
	Anthony Waterer Spirea	2'	15
	Black Willow		1
	White Ash	6"	1
	Box Elder (Weed) (Clump)	6'-8'	1
	Black Willow (3 Clump)	14"-18"	1
	Redmond Linden	2"	1
15+50-16+00	White Ash	3"-6"	2
	Red Maple	2"	1
	White Ash	10"	1
	Arrowwood Viburnum	6'	2
	Fragrant Sumac	3'-4'	4
	Siberian Elm (Weed)	6'	3
16+00-16+50	Fragrant Sumac	3'-4'	5
	Zabel Honeysuckle	4'-6'	6
	Skyline Honeylocust	4"-6"	1
	Arrowwood Viburnum	6'	6
	Siberian Elm (Weed) (Clump)	8'	1
	Gray Dogwood	6'	6
	White Ash		1
	Red Maple	4"-6"	1
	Malus Var.	2"	1
	Red Dogwood	3'	5
	Viburnum Trilobum	5'-6'	1
16+50-17+00	White Ash	6"-8"	1
	Gray Dogwood	6'	15

17+00-17+50	Anthony Waterer Spirea	2'	16
	White Ash	4"-6"	1
	"Majestic" Honeylocust	6"	1
	Elm (Weed)	6'	1
	Zabel Honeysuckle	2'	1
17+50-18+00	Viburnum Lantana	4'-6'	3
	River Birch (Clump)	6"-10"	2
18+00-18+50	Malus Var.	8'	2
	Silver Maple	6"-8"	1
	Red Maple	2"	1
	Malus Var.	8'	3
	Amur Maple	10'-12'	2
	"Majestic" Honeylocust	4"	1
	Hackberry	6"	1
	Viburnum Lantana	6'-8'	12
	Malus Var.	12'	2
	Fragrant Sumac	6'	3
18+50-19+00	Amur Maple	10'-12'	7
	Viburnum Lantana	6'-8'	4
	Fragrant Sumac	6'	6
	Malus Var.	10'-12'	1
	Sugar Maple	4"	2
	Peking Cotoneaster	6'	8
	Black Willow (5 Clump)	6"-18"	1
	Buttonbush	6'-8'	5
19+00-19+50	Austrian Pine	10'-12'	2
	Malus Var.	3"-4"	5
	White Ash	6"-10"	2
	Black Willow (3 Clump)	4"-8"	1
	"Majestic" Honeylocust	4"-6"	1
	Peking Cotoneaster	4'-6'	17
	Sugar Maple	4"-6"	1
19+50-20+00	Austrian Pine	8'-12'	2
	"Majestic" Honeylocust	4"-6"	1
	White Ash	3"	
	Black Willow (3 Clump)	12"-18"	2

PLANT INVENTORY

JOHN NOLEN DRIVE/RAILROAD RIGHT-OF-WAY  
 Across Roadway from "Timekeeper" Sculpture and Easterly

<u>Location</u>	<u>Plant Name</u>	<u>Size</u>	<u>Quantity</u>
0+00-1+00	Gray Dogwood	4'-6'	2
	Pin Oak	10"	1
	Arrowwood Viburnum	6'	1
	Emerald Queen Maple	14"-16"	1
	Malus Var. (Double Clump)	4"-6"	1
1+00-2+00	Malus Var.	6"-10"	2
	Mulberry (Weed) (7 Clump)	2"-6"	1
2+00-3+00	Malus Var.	8"	1
	Malus Var. (4 Clump)	4"-6"	1
3+00-4+00	Arrowwood Viburnum	4'-6'	3
4+00-5+00	Thornless Honeylocust	18"	1
	Elm (Weed) (5 Clump)	2"-6"	1
6+00-7+00	Washington Hawthorne	10'-12'	1
7+00-8+00	Gray Dogwood	2'	5
	Green Ash (Double Clump)	3"-4"	1
	Amur Maple	12'-15'	2
8+00-9+00	Malus Var. (Suckering)	2'-3'	1
9+00-12+00	Void (Olin Terrace Wall)		
12+00-13+00	Box Elder	2"-3"	3
	Viburnum Lantana	6'	3
	Malus Var. (Suckering)	8'-10'	1
	Viburnum Dentatum	6'-8'	5
13+00-14+00	Staghorn Sumac	10'-12'	3
	Box Elder	2"-6"	7
14+00-15+00	Box Elder	2"-6"	10
	Zabel Honeysuckle	6'-8'	1
15+00-16+00	Malus Var.	10'-12'	3
	Box Elder	2"-6"	12
	Siberian Elm (Weed)	2"-6"	8
16+00-17+00	Malus Var.	15'-20'	3
	Gray Dogwood	6'-8'	6
	Staghorn Sumac	6'-10'	3

17+00-18+00	Staghorn Sumac	6'-10'	17
	Tree of Heaven (Weed)	3"	1
18+00-19+00	Amur Maple	12'-15'	5
	Washington Hawthorne	10'-12'	1
	Viburnum Lantana	4'-6'	2
	Mulberry (4 clump)	12'-15'	1
	Box Elder (6 clump)	12'-15'	1
19+00-20+00	Gray Dogwood	4'-6'	2
	Malus Var. (Suckering)	4'-8'	2
	Arrowwood Viburnum	4'	1
	Cockspur Hawthorne	8'	1
	Viburnum Trilobum	8'-10'	2

**APPENDIX B**

**SUMMARY OF COMMENTS ON THE**

**MONONA TERRACE CONVENTION CENTER**

**DRAFT ENVIRONMENTAL IMPACT STATEMENT**

**SUMMARY OF WRITTEN COMMENTS ON THE MONONA TERRACE  
CONVENTION CENTER  
DRAFT ENVIRONMENTAL IMPACT STATEMENT**

This section summarizes the written comments received on the Draft EIS and the responses. The comments are organized chronologically.

**COMMENT:**

8/5/92; Joyce Glassrud: letter in support of the proposed action; states that the Convention Center is "long overdue."

**RESPONSE:**

The comment is acknowledged.

**COMMENT:**

8/6/92; Thomas Miller, Miller Assoc. Inc.: letter opposed to the project as currently defined; proposes that private sector be given the opportunity to build the center; center needs a hotel immediately to be viable.

**RESPONSE:**

The socioeconomics impact Section 5.10 in the FEIS summarizes the hotel issue.

**COMMENT:**

8/7/92; Philip Haberman: letter expressing concerns with vibration and noise resulting from pile driving, damage to nearby buildings, impact on nearby office workers productivity, disruption of traffic on John Nolen Drive.

**RESPONSE:**

The potential for pile driving impacts on nearby buildings and noise from the construction activity has been addressed in the FEIS under Sections 5.1 and 5.6.

**COMMENT:**

8/8/92; Thomas Garver: letter in support of the project; believes that the project will improve the aesthetics of the shoreline, help keep the downtown active and vital.



**RESPONSE:**

The comment is acknowledged.

**COMMENT:**

8/10/92; Bernard Aipp: letter in opposition to project; believes it is not economically viable, private sector should build and fund the project; will degrade the shoreline aesthetics, the building will be costly to maintain and build because of the design.

**RESPONSE:**

Economic viability of the project, as determined by the City's studies, are described in Section 5.10. Aesthetic impacts are discussed in Section 5.9.

**COMMENT:**

8/18/92; Ann E. Fleischli: letter commenting on the scope of work for the DEIS; objected to the use of economic studies conducted in 1986-1987 because the material is outdated; believes that the 1987 PKF report is inaccurate; the 1992 Vandell report exaggerated job creation; City borrowing will jeopardize current AAA bond rating.

**RESPONSE:**

The FEIS has been clarified in Section 5.10, socioeconomic impacts, to address the background and nature of the reports used in the analysis and updating performed by the researchers; the reports in question have been re-examined and found to be credible; the nature of created jobs has been clarified; bond rating effects were addressed in Section 5.10 in the DEIS, and remain in the FEIS.

**COMMENT:**

8/19/92; Thomas J. Dawson, Wisconsin Public Intervenor: letter stating that the Convention Center must be in compliance with the state's Public Trust Doctrine.

**RESPONSE:**

Mr. Dawson is correct. However, a comprehensive legal analysis of the Public Trust Doctrine, and the WDNR's changing interpretation of that Doctrine, is beyond the scope of this EIS.

In any case, the state legislature has approved the project based upon the original legislation creating the "dock line" and its more recent funding of the project. Also, in 1956 the Wisconsin Supreme Court determined that a predecessor proposal (a much more ambitious proposal than the Monona Terrace Project) was consistent with the public trust. Madison v. State, 1 Wis. 2d 252 (1956).

**COMMENT:**

8/21/92; Ron Shutvet: letter listed detailed issues that should be addressed in the DEIS including water quality, fish habitat, air quality, noise, transportation, recreation, economic, cultural resources, and subsurface conditions.

**RESPONSE:**

The sections mentioned have been expanded in the FEIS to address these comments.

**COMMENT:**

8/25/92; Phil Emming, Yahara Fishing Club Inc.: letter generally supporting project with these concerns: shoreline fishing access should be provided to make up for loss; if lake levels are controlled this may negatively impact fish spawning potential.

**RESPONSE:**

The comments are acknowledged. There are currently no known plans to change the lake level control policy already in place for Lake Monona as a result of this project. The shore fishing access policy will be determined by the City and/or the Monona Terrace Commission. However, the FEIS does describe the potential impacts on shore fishing if this activity is not allowed from the structure.

**COMMENT:**

9/8/92; Orville E. Arnold: letter from project engineer clarifying current structural aspects of the Convention Center and the environmental impacts.

**RESPONSE:**

The comments are acknowledged. The comments pertaining to the shape and size of the "sea wall," construction erosion control, parking ramp runoff control, and ventilation system were used in the analyses for the EIS.

**COMMENT:**

9/9/92; C. William Jordahl, Wisconsin Department of Transportation: the EA conducted for the John Nolen Drive expansion does not need to be redone for the Monona Terrace Project. Terms should be clarified ("transit" vs "mass transit"); service truck impacts on transportation should be elaborated; transportation safety and "tunnel" emissions may have to be addressed.

**RESPONSE:**

Additional work on the air quality on John Nolen Drive under the parking structure have been conducted and are included in the FEIS in the Air Quality section (Section 5.1). Also the recommended clarification of the terms "transit" and "mass transit" have been made. Transportation safety concerns are discussed in the FEIS under the transportation section (Section 5.7).

**COMMENT:**

9/16/92; Jeff Dean, State Historical Society of Wisconsin: requested clarification on if the project will require a federal permit from the U.S. Army Corps of Engineers; and will the project have any affect on historically and/or architecturally significant structures.

**RESPONSE:**

Due to recent changes in Army Corps' regulations, it now appears possible that the project will require a permit from the Corps. Permitting is underway. The potential impacts on historically and/or architecturally significant structures is discussed under Cultural Resources (Section 5.6) in the FEIS.

**COMMENT:**

9/24/92; Ron Shutvet: letter commenting on concerns with the structural questions of the building and how it will withstand ice conditions on the lake; also concerned with wave spray/ice on the bike path, air quality, and boating restrictions near the building.

**RESPONSE:**

An analysis of ice and wave action on the proposed structure has been conducted along with the secondary impacts of water and ice on the walkway around the building. These issues are discussed under Section 5.8 (Recreational Impacts). The air quality impacts both from vehicular traffic generated by the building and the "tunnel" over John Nolen Drive are discussed in Sections 5.1. Boating use near the building is discussed under Section 5.8 (Recreational Impacts); however no decisions have been made concerning boating restrictions near the building.

**COMMENT:**

10/1/92; Ron Shutvet: comments on the Preliminary DEIS submitted to the Scoping Committee.

**Air Quality:** No mention of tunnel air quality or tunnel ventilation, no mention of potential vehicle accidents in the "tunnel", why are CO concentrations lower in year 2004 vs 1994.

**Water Quality:** There will be an increase of petroleum products and salt from runoff; reductions in nonpoint source pollution should be credited to Federal Stormwater Program, not Convention Center.

**Fishery:** Loss of lake habitat will result in reduction of Lake Monona fish reproductive capability.

**Terrestrial Vegetation:** Should state that 3.7 acres of greenspace will be lost.

**Subsurface Conditions:** Pilings will be subject to corrosion, high repair costs.

**Cultural:** Loss of lake view from state office building and other buildings.

**Transportation:** John Nolen Drive expansion will result in loss of 16 feet of rail corridor; project limits potential for mass transit center at Law Park, bicycle and pedestrian impacts should be mentioned here, helix design of ramps will cause traffic to back up.

**Recreation:** Adverse impacts on Law Park access from Olin Terrace, path usage, fishing, water safety from unsafe ice conditions, loss of convenient parking.

**Economic:** Document is overly optimistic about benefits and adverse impacts are downplayed.

#### **RESPONSE:**

The issues included in this letter, concerning the Preliminary DEIS, have been expanded and discussed in more detail in the FEIS.

**Air quality** within the "tunnel" and "tunnel" ventilation are discussed in Section 5.1. CO concentrations are lower in the year 2004 vs. 1994 because of stricter vehicle emission standards and because of reformulated gasoline requirements that will be in effect at that time. These changes are as a result of the Clean Air Act Amendments of 1990. These decreased emissions will more than offset the CO from increased traffic volumes.

**Water Quality** impacts from nonpoint source pollution include discussions of petroleum products and salts in the FEIS (Section 5.2).

The **Fishery** impacts are discussed in Section 5.3 of the FEIS. Although the loss of the habitat at Law Park will eliminate fish spawning at this site, the loss is not expected to have a measurable impact on Lake Monona's overall sport or non-sport fish populations.

The loss of **Terrestrial Vegetation** is discussed very explicitly in several sections of the FEIS including Sections 2.0, 5.8, 6.0 and 7.0.

The piling conditions are discussed under **Subsurface Condition** (Section 5.5). Cathodic protection measures can be used to protect the pilings from corrosion. Groundwater measurements at the proposed building site found pH's to be neutral to slightly alkaline (7.0 - 8.0 S.U.).

Under the **Transportation Impacts** section (Section 5.7), the loss of railroad right of way, as well as impacts on bicycle and pedestrian traffic, are discussed in the FEIS. Traffic impacts and potential for mass transportation center are also discussed in this section.

The **Recreational Impacts** section (Section 5.8) has been revised in the FEIS to address the concerns raised in the letter.

Regarding **Socioeconomics**, the format of the impacts section has been changed to compare and contrast adverse and beneficial impacts under the same topical section (e.g., Housing). Information has been added in the FEIS to substantiate the predicted economic impacts.

**COMMENT:**

10/12/92; D.J. Helfrecht, Monona Terrace Commission: comments on Preliminary DEIS document: involvement of the Monona Terrace Commission during the scoping process should be noted, MG&E cooling water should not be referred to as "hot".

**RESPONSE:**

The involvement of the Monona Terrace Commission during the scoping process is discussed in Section 3.0 of the FEIS. Also the description of the cooling water from MG&E outfall has been revised.

**COMMENT:**

11/13/92; Thomas Favour, Dane County RPC: generally found the DEIS to be complete and accurate; nonpoint pollutant loading tables should state the figures are for "Yahara/Monona" watershed project area, not necessarily for Lake Monona. Phosphorus loads from construction sites have not been estimated by the RPC at this time.

**RESPONSE:**

The tables depicting nonpoint pollution loads have been revised to reflect only the portion of the "Yahara/Monona Watershed" that actually are in the Lake Monona watershed.

**COMMENT:**

11/17/92; Paul R. Soglin, Mayor, City of Madison: Convention Center design must include access for wheelchairs and persons with disabilities; the assumption of current trends continuing (page 5-51) without the Convention Center project is faulty. Public investment is necessary to continue the private investment.

**RESPONSE:**

The comments regarding Convention Center needs and public investment in the central city are acknowledged and have been incorporated into the FEIS.

**COMMENT:**

11/24/92; Larry Nelson, Madison City Engineer: Minutes and written comments from public information meeting held by City of Madison Commission on the Environment on 10/19/92.

**Verbal Comments Made at City Meeting on 10/19/92**

**COMMENT:**

Unidentified speaker: Olin Terrace Mural could be lighted to improve view from within passageway.

**RESPONSE:**

The comment is acknowledged and the potential for this suggestion is added to the "mitigation" section under Section 5.6 - Cultural Resources.

**COMMENT:**

Unidentified speaker: Handicap fishing pier will be moved because of the project.

**RESPONSE:**

This impact is stated in Section 5.8 (Recreation) of the FEIS.

**COMMENT:**

Bud Arnold: believes the DEIS is accurate and sound.

**RESPONSE:**

Comment is acknowledged.

**COMMENT:**

Ron Shutvet: concerned with narrowing of rail corridor, loss of greenspace, bike/walking path congestion, water safety at "seawall" edge, fish impacts.

**RESPONSE:**

The impacts presented are discussed in detail in Section 5.0 of the FEIS under topical headings.

**COMMENT:**

Alan Schwoegler, Yahara Fishing Club: concerned about loss of public fishing access, handicap fishing access, lake level impacts on fish spawning; adverse impacts on loon use of lake.

**RESPONSE:**

Although no decision has been made on the activities to be allowed along the outer perimeter of the structure, the potential loss of fishing access along this area is discussed in Section 5.8 (Recreation) of the FEIS. Also, the impact from the change in the handicap fishing pier location is discussed in this section. There are no known changes in the regulation of the Lake Monona lake levels that will result from this project. Impacts on migratory waterfowl use of Lake Monona along Law Park during the construction phase is discussed in the FEIS.

**COMMENT:**

Ken Opin: supports Convention Center, all the concerns voiced are not as serious as may be implied.

**RESPONSE:**

The comment is acknowledged.

**COMMENT:**

Caryl Terrell: supports the Convention Center, to reduce urban sprawl, support mass transit, improve use of Law Park.

**RESPONSE:**

The comment is acknowledged.

**COMMENT:**

Bill Geist: supports the Convention Center, minor impacts need to be addressed.

**RESPONSE:**

The comment is acknowledged.

**COMMENT:**

Bill Roark: concerned with process, Scoping Committee did not have adequate time to review DEIS.

**RESPONSE:**

The DEIS was available for public review and a public hearing to receive comments was held on December 15, 1992. Written public comments were accepted up to two weeks after the hearing date.

**COMMENT:**

Donald Hammes, Yahara Fisherman's Club: opposes project; lake and shore impacts have not been adequately addressed, more sampling needed; project will lead to more shoreline development.

**RESPONSE:**

Since the issuance of the DEIS, additional lake bed sediment, Law Park soil, groundwater, and soil gas sampling has been conducted. These results are included in the FEIS. The cumulative impacts of shoreline development on Lake Monona as a result of the Convention Center are discussed in the FEIS under several sections of the impacts section (Section 5.0).

**COMMENT:**

Dave Phillips: supports project, DEIS adequately addresses environmental concerns, tunnel effects are exaggerated.

**RESPONSE:**

The comments are acknowledged.



**COMMENT:**

Judy Bowser: member of Monona Terrace Commission, the City is not required to conduct an EIS, but they decided to do it anyway; the Cultural Affairs Commission support moving "Timekeeper" sculpture and lighting the mural; growth downtown needs public assistance.

**RESPONSE:**

The comments are acknowledged.

**COMMENT:**

Ann Fleischli: project does not comply with John Nolen's 1909 plan for the Lake Monona shore; building will effectively destroy Law Park.

**RESPONSE:**

The discussion in the FEIS related to John Nolen's original concept of the "mall" from the Capitol to Lake Monona has been revised to reflect these comments. (Section 4.6, Cultural Resources). The significant impact that the project will have on Law Park is discussed in Sections 5.8, 5.9, and 6.0.

**COMMENT:**

Ricardo Gonzalez: DEIS shows no major environmental impacts; building of historical significance will be built, jobs will be created, will help revitalize downtown.

**RESPONSE:**

The comments are acknowledged.

**COMMENT:**

Ray Nashold: Law Park was not created in 1900's as had been remarked at the hearing; pollution is a concern but lots of pollution is entering the lake now.

**RESPONSE:**

According to the City of Madison, Parks Department, Law Park was officially established in 1943. Other comments are acknowledged.

**COMMENT:**

Mike Wyatt: Socioeconomic analysis is inadequate, no market study has been done, 1985 data is too old, too many assumptions.

**RESPONSE:**

The socioeconomic impact analysis has been revised to clarify many of these points; references previously used in the DEIS have been re-examined and found to be credible; varying points of view raised during the DEIS comment process have been considered as the FEIS was prepared and are reflected in the document.

**COMMENT:**

Nan Cheney: supports project, will make Lake Monona more accessible from Capitol Square.

**RESPONSE:**

The comment regarding lake access is acknowledged and is consistent with the findings of the FEIS.

**COMMENT:**

Bill White: supports project, DEIS shows no major environmental impacts; lakes are inaccessible, this project will help.

**RESPONSE:**

The comment regarding lake access is acknowledged.

**COMMENT:**

Rob Zache: supports project, project will enhance shoreline and make under-utilized open space along the shore more accessible.

**RESPONSE:**

The comments are acknowledged.

**COMMENT:**

Jim Carley: supports project.

**RESPONSE:**

The comments are acknowledged.

**COMMENT:**

Mary Sara: requests DOA contract with additional firm to complete Final DEIS.

**RESPONSE:**

The Department of Administration and the City of Madison have found no reason to change consultants on this project.

**COMMENT:**

Jennifer Nelson: believes DEIS is accurate and credible.

**RESPONSE:**

The comments are acknowledged.

**COMMENT:**

Wayne Bigelow: current DEIS inadequately develops the beneficial impacts on quality of life from project.

**RESPONSE:**

The beneficial and adverse impacts on socioeconomic issues and quality of life are believed to be fairly represented, compared, and contrasted in the revised socioeconomic section (5.10) of the FEIS.

**COMMENT:**

Karin Van Vlack (Dane County Lakes & Watershed Commission): announced that another public presentation by Woodward-Clyde Consultants will occur at a Lake's & Watershed Commission meeting on October 22, 1992.

**RESPONSE:**

None

## Written Comments Submitted at City of Madison Meeting of 10/19/92

### COMMENT:

Ron Shutvet:

**Air Quality:** Only two intersections studied for air quality impacts, DEIS does not adequately address air quality impacts in vicinity of the project.

**Water Quality:** There will be an increase of petroleum products and salt from runoff; reductions in nonpoint source pollution should be credited to Federal Stormwater Program, not Convention Center.

**Fishery:** Loss of lake habitat will result in reduction of Lake Monona fish reproductive capability.

**Terrestrial Vegetation:** Should state that 3.7 acres of greenspace will be lost.

**Subsurface Conditions:** Piles will be subject to corrosion, high repair costs.

**Cultural:** Loss of lake view from state office building and other buildings.

**Transportation:** John Nolen Drive expansion will result in loss of 16 feet of rail corridor; project limits potential for mass transit center at Law Park, bicycle and pedestrian impacts should be mentioned here, helix design of ramps will cause traffic to back up.

**Recreation:** Adverse impacts on Law Park access from Olin Terrace, path usage, fishing, water safety from unsafe ice conditions, loss of convenient parking; DEIS description of 28-foot wide path is inaccurate.

**Economic:** Document is overly optimistic about benefits and adverse impacts are down played.

### RESPONSE:

**Air Quality:** The intersections studied for the John Nolen Drive expansion were selected based upon these areas having the highest potential for traffic congestion and the resultant air quality impacts. Potential for air quality impacts were more probable at the intersections studied than at other places along John Nolen Drive.

**Water Quality:** The FEIS includes discussions on nonpoint pollutants such as petroleum products and salts along with the previously discussed pollutants. Also, the FEIS (in Section 5.2) clarifies the role of the Federal Stormwater Program in the future control of nonpoint source pollution.

**Fishery:** The fishery impacts are discussed in Section 5.3 of the FEIS. Although the loss of the habitat at Law Park will eliminate fish spawning at this site, the loss is not expected to have a measurable impact on Lake Monona's overall sport or non-sport fish populations.

**Terrestrial Vegetation:** This loss is stated explicitly in several sections of the DEIS and FEIS including Sections 2.0, 5.8, 6.0 and 7.0.

**Subsurface Conditions:** The piling conditions are discussion under Sections 5.3 and 5.5 of the FEIS. Cathodic protection measures can be used to protect the pilings from corrosion. Groundwater measurements at the proposed building site found pH's to be neutral to slightly alkaline (7.0 - 8.0 S.U.).

**Cultural:** The loss of view from the lower floors of the One West Wilson State Office Building have been added to Section 5.6 of the FEIS.

**Transportation:** Under Section 5.7, the loss of railroad right of way, as well as impacts on bicycle and pedestrian traffic, are discussed in the FEIS. Traffic impacts and potential for a mass transportation center are also discussed in this section.

**Recreational Impacts:** Section 5.8 has been revised in the FEIS to address the concerns raised in the letter. The 28-foot dimension for the bicycle/walking path mentioned in the DEIS was inaccurate. The current proposal for the bicycle/walking path dimensions, which are still subject to design changes, are discussed in the FEIS.

**Socioeconomics:** The format of the impacts section (Section 5.10) has been changed to compare and contrast adverse and beneficial impacts under the same topical section (e.g., Housing). Information has been added in the FEIS to substantiate the predicted economic impacts.

#### **COMMENT:**

Mike Wyatt: 7-page detailed comment document submitted; comments focused on economic impacts and basis for conclusions; believes that DEIS does not adequately address the economic advantages and disadvantages of the project; no adequate market study has been done, no discussion of negative impacts on other state convention centers; no evaluation of the methodology and assumptions used in the past studies.

#### **RESPONSE:**

The revised Socioeconomics Impacts Section 5.10 addresses or clarifies many of these issues. An updated market study was not deemed necessary given continual study and re-evaluation by the City of the marketability and financing for the Center. The negative impacts on other convention centers in the state is a programmatic issue and beyond the scope of this EIS. The studies and methodologies used to evaluate the socioeconomic impacts were re-visited and re-examined for purposes of FEIS preparation.

## Written Comments Received after 10/19/93 City of Madison Meeting

### COMMENT:

12/8/92; Karen Van Vlack, Dane Lakes & Watershed Commission: The Commission accepts the findings of the DEIS; the DEIS is consistent with the "Water Quality Implementation Plan" Drafted by the Commission; requests that WDOA review recommendations in the Plan relevant to construction erosion control, shoreland zoning, and stormwater management.

### RESPONSE:

The comments are acknowledged.

### COMMENT:

12/8/92; Harold Meier, WDNR-SD Environmental Impact Coordinator:

**Physical Description:** Final construction plans should show extent of building over lake in relation to defined dockline.

**Air Quality:** The mitigation measure of adding water during construction to minimize dust will add runoff to the lake.

**Water Quality:** Nitrogen (ammonium) is the primary limiting nutrient for macrophytes, not phosphorus.

**Subsurface Conditions:** In 1979 divers believed to report leachate from the Law Park fill site below water level. If this is the case, will project affect movement into lake?

**Transportation:** Traffic flow from and to the beltline should be considered. Will project constrict future expansion of John Nolen Drive? Are there traffic projections for forty years from now?

**Socioeconomics:** Table 4.10-5 is missing. No hotel with project is a negative impact. A more detailed analysis should be given to the no-build option. Table 4.10-6 is missing.

**Fishery & Fish Habitat:** The benefits to the fishery by the cover at the edge of the building should not be equated with the loss of 1.5 acres of habitat. Is there any information to support the statement that the heat from the building may extend the open water fishing period?

**Transportation:** What limits will be placed on the parking ramp to provide for Convention Center usage? What other parking options are available for Convention Center events. EIS should provide distances to other parking ramps from Convention Center.

**Recreation:** The issue on fishing access from the building must be decided one way or the other. If this issue cannot be resolved before the EIS is completed, then it should be assumed that no fishing will be allowed. If mitigation is provided (floating piers), then these costs, plus the cost of moving the handicap pier, should be included in the economic analysis. DNR's position is that fishing access to the lake is essential and must be continued after completion of the project. The area is heavily used for fishing - especially by "less fortunate" citizens.

**Section 7.0 The Relationship Between Short-term Uses:** This project will have an impact in the permanent loss of 1.5 acres of fish habitat.

**Appendix A: Lake Circulation:** What long term effects will potential scouring have on the structure? What type of preventative action will be needed, and what are the costs?

**General:** The EIS should explain the Public Trust Doctrine and how it relates to the project.

#### **RESPONSE:**

**Physical Description:** Section 2.0 of the FEIS describes the extent of the proposed structure over Lake Monona in relation to the established dockline.

**Air Quality:** The FEIS has been revised to point out this concern, and that the contractor must take measures to add only enough water to control dust without exacerbating a potential construction runoff problem.

**Water Quality:** Revisions in the FEIS have been made to reflect this comment. Phosphorus is analyzed because it is the nutrient with the most information available and because of its importance in supporting algae growth in Lake Monona.

**Subsurface Conditions:** Additional subsurface sampling has been done in Law Park and in the lake sediments along Law Park. Impacts from the project based on these results have been added to the FEIS in Sections 5.2 and 5.5.

**Transportation:** Traffic projections have been conducted up to a "design year" of 2014 as part of the John Nolen Drive Expansion Environmental Assessment. Impacts on the average daily and peak daily traffic volumes from the Convention Center are included in the FEIS (Section 5.7). These changes are measured on John Nolen Drive between Northshore Drive and Lakeside. The project will constrict any future expansion of John Nolen Drive in the area of the Convention Center itself. Information on parking alternatives and distances to other ramps has been added to the FEIS in Section 5.7.

**Socioeconomic:** Tables 4.10-5 and 4.10-6 have been re-inserted and explained in the FEIS. The hotel issue has been briefly addressed, although it is not a part of the action proposed by the state and the City. Further discussion of the impacts of the no-build, "no action" alternative has been added to Socioeconomics Impacts Section 5.10 and 9.0 in the FEIS.

**Fishery & Fish Habitat:** The benefits to fish habitat along the perimeter of the building are put into perspective with the loss of the 1.5 acres of habitat in the FEIS (Section 5.3). The basis for the statement concerning heat leakage from the building extending the open water period near the building is based on the assumptions that normal heat leakage from the structure, and absorption of sunlight by the structure, will warm the immediate area under and around the Convention Center to some degree. This affect may delay the freezing of the lake under and immediately adjacent to the Convention Center for a period of time relative to the rest of the lake.

**Recreation:** Although no decision has been made by the City, the FEIS discusses the impacts from a policy which would prevent fishing from the building's walkway (Section 5.8). Mitigation measures are listed in the FEIS; however, since the managing agencies have not decided on mitigation measures to be used, these costs have not been added to the total project costs.

**Section 7.0:** This comment has been added to the section.

**Appendix A: Lake Circulation:** The long term effects on lake bed scouring were analyzed as part of the FEIS process. The results on this analysis are included in the FEIS, Sections 5.2 and 5.3.

**COMMENT:**

Scott Stewart, DNR Area Fish Manager: The Law Park shoreline is not high quality spawning habitat for walleye (as stated in the DEIS); however, this shoreline is suitable for various sunfish species including largemouth bass, bluegill, pumpkinseed, and white crappie. The area has a high catch per effort for largemouth bass compared to other Wisconsin lakes. The EIS should point out that although the lake wide impacts on the fish populations will not be measurable, the loss of 1.5 acres of habitat is significant. Mitigation measures for fisheries should be included in the EIS. The loss of fishing from the shoreline with this project would be a significant impact. This loss should be mitigated.

**RESPONSE:**

The comments have been incorporated into the FEIS in Sections 4.3 and 5.3. Specifically, the FEIS recognizes the near shore area along Law Park as suitable spawning habitat for various sunfish species. Also, the significance of the loss of 1.5 acres of habitat is discussed in more detail in Section 5.3 of the FEIS. Mitigation measures are described in Sections 5.3 and 5.8.

**COMMENT:**

12/11/92; Karin Van Vlack, Dane County Lakes & Watershed Commission: Page 3-3: the "bullets" at the bottom of the page should include concerns raised from nonpoint source pollution by the Scoping Committee.



Page 4-5: Reference to Figure 4.2-1 is correct, but Figure is mislabeled. Also, water clarity was in good range in 1989 and poor-fair during 1990-91.

Page 4-7: The lines on the graph are not labeled.

Page 4-8: "Badfish" Creek is one word.

Page 4-9: Discussion of mercury and PCB's in the sediment is confusing. Statement is made that highest concentrations are in deepest part of lake, yet high values were found in Monona Bay. A map would help.

Page 4-12: Values in tables include some sub-watershed areas that drain downstream from Lake Monona. Also, table does not include loading from Yahara River to Lake Monona.

Page 5-8: Tables referred to at the bottom are incorrect.

Page 5-9: Comparison of construction erosion to Lake Monona should only include those areas draining to the lake. The calculation for sediment loading from the construction site is in error.

**RESPONSE:**

These comments have been acknowledged and corrections have been made in the FEIS.

**COMMENT:**

1/7/93; Jeff Dean, State Historical Society of Wisconsin: The review assumes that no federal permits will be required for this project. A search of records for sites of archeological, architectural, and historical significance found no such sites listed either in the National Register of Historic Places or in the State Register of Historic Places within the proposed project area. Sites which are located in close proximity to the proposed project area, based on the DEIS, will not be affected adversely by this project.

**RESPONSE:**

The comments are acknowledged.

Recent changes in Army Corps of Engineers' regulations indicate that a permit from that agency, along with the required review by the State Historical Preservation Office, may be required.

**RESPONSE TO COMMENTS FROM  
MONONA TERRACE DRAFT EIS HEARING TESTIMONY  
December 15, 1992**

The comments and responses below have been organized by general topical areas. The source of the comment and the page the comment appeared on in the official transcript of the Draft EIS Hearing is referenced at the end of each comment. Where more than one witness made substantially identical comments, all sources are listed after the comment.

**COMMENT:**

General: Scope and size of the project is so much larger than John Nolen Drive Expansion that the Environmental Assessment (EA) done for the John Nolen Drive Expansion should not be used for this document. (A. Fleischli; pp 31-33).

**RESPONSE:**

The EA and other studies conducted for the John Nolen Drive Expansion included the assumed presence of the Convention Center and parking garage for the traffic and air quality issues. The EA thus was applied to the Convention Center situation for these specific issues. Other impacts from the Convention Center (such as water quality, recreation, etc.) were not analyzed based on the EA for John Nolen Drive.

**COMMENT:**

General: Alternative sites, structures, and locations should have been analyzed as part of the DEIS. The alternatives analysis within the DEIS does not meet the requirements of Wisconsin Statutes 1.11 (1) or Administrative Code Administrative Chapter 60. (M. Sara pp 83-84, 111; W. Roark p 85; R. Shutvet pp 92-93; 155, 188; G. Gates, p 195, 203-204, 210, 279).

**RESPONSE:**

The limited alternatives analysis included in the EIS is justified since the Department of Administration's involvement in this project was based upon site-specific legislation. See Milwaukee Brewers v. DH&SS, 130 Wis. 2d 56 (1986).

Alternatives analysis are discussed in more detail in Section 9.0 of the FEIS.

**COMMENT:**

General: The DEIS is biased and flawed and does not meet the minimum requirements (G. Gates pp 196-197).

**RESPONSE:**

Each specific comment from the DEIS public comment period has been noted and responded to in this document. Revisions have been made to the FEIS where factual information has warranted changes.

**COMMENT:**

General: The DEIS is organized in a manner that is impossible to follow for the general public (G. Gates p 197).

**RESPONSE:**

The format for the EIS closely follows the headings listed DOA's Administrative Rule, Administrative Chapter 60.

**COMMENT:**

General: The DNR and the County Lakes and Watershed Commission should have been involved in this process earlier. Also, the DNR's regulatory authority should be explained in the FEIS (M. Sara p 116).

**RESPONSE:**

Numerous phone calls, meetings, and information were exchanged with the WDNR and the Dane County Lakes and Watershed Commission. These included obtaining file data on fisheries conditions, water quality, lake sediment, and nonpoint source conditions. The DNR was formally involved in the scoping process and a presentation was given to the County Lakes and Watershed Commission. This involvement was summarized in the scoping section of the EIS. If permitting by the Army Corps of Engineers is required, WDNR will also be involved in that a "water quality certification" or waiver thereof will be required.

**COMMENT:**

General: Many of the studies used in the DEIS are not specific to the project area itself (eg: the soil borings done for John Nolen Drive)(A. Fleischli; pp 31-33, 324; D. Hammes p 131).

**RESPONSE:**

Although many of the studies referenced in the FEIS were not conducted specifically for the Monona Terrace Convention Center proposal, much of the information, such as soil borings and traffic studies, were conducted for conditions within the project area. Also, additional studies have been conducted for the FEIS including wave action impacts, vegetation surveys, recreational uses, additional Law Park soil quality sampling, and lake bed sediment sampling at the site.

**COMMENT:**

General: The effects of the Convention Center upon further development of lake frontage by hotels or other buildings is not addressed. The DEIS should consider the cumulative impacts from subsequent lake shore developments, not just the proposed Convention Center (W. Roark, p 306).

**RESPONSE:**

Information has been added to several impact sections (such as Water Quality and Fishery) concerning the potential for the Convention Center to result in additional lake front development and the impacts of these secondary actions. Other future activities along the lake shore as influenced by Convention Center construction are limited by planning, zoning, and other ordinances.

**COMMENTS:**

General: Reference to "restaurant" or "dining area" in the EIS must be clarified along with all the food services that are proposed to be provided (R. Shutvet p 156; A. Fleischli p 322).

**RESPONSE:**

Permanent food service facilities are included in the proposed action to serve users of the Convention Center. Movable food service stations are available throughout the center to meet the needs of the Convention Center users. In addition, "food carts" are proposed to be available outside, at the roof garden and lake plaza level.

**COMMENT:**

General: Access between Olin Terrace level (Wilson Street) and Law Park level is not clear from the current drawings. Handicap access is not evident between elevation 56 and elevation 40 (only an escalator system is indicated) (R. Shutvet, p 177-178; G. Gates p 205, p 244).

**RESPONSE:**

The Convention Center, as designed, includes two exterior stairs at either end of the parking structure which will allow 24 hour a day access between the lake level and Wilson Street level. In addition, there is one exterior elevator designed to allow transport of bikes and people between the lake level and Wilson Street. This elevator is also expected to be operational 24 hours a day. Pedestrian walks connect the upper parking deck to Carroll and Pinckney Streets. Inside the building, elevators, escalators, and stairs connect all levels with the levels at Wilson Street and the lake front. The building design will comply with all local, state, and national regulations (including the 1990 American's with Disabilities Act) standards. Levels +56' connects to the main entry level (+40') by a central elevator as well as escalators. This information has been added to the FEIS under Section 2.0.

**COMMENT:**

General: Access for disabled people is not clearly described in the DEIS (P. McGuire p 70, 294).

**RESPONSE:**

The DEIS presumed, but did not explicitly state, that the proposed building would comply with federal, state, and local regulations related to handicap access. In fact, the building will fully comply with the 1990 American's with Disabilities Act (ADA). An explicit statement has been added to Section 2.3 of the FEIS concerning this issue.

**COMMENT:**

General: DEIS states that there is no direct access between Law Park and Wilson Street. This is incorrect as there is a set of stairs on the west side of One West Wilson office building (G. Gates p 244).

**RESPONSE:**

WCC does not agree that the set of stairs at One West Wilson Street office building constitutes direct access between Law Park and Wilson Street. The access that is provided from these stairs to the Law Park lake level merely places pedestrians on the north side of the railroad corridor and the heavily-used John Nolen Drive. There is no convenient or direct pedestrian crossing of these two obstructions. There is a crosswalk on John Nolen Drive but no traffic control measures at this point. Also, this access is not handicap usable unless the elevators inside One West Wilson Street Building are used. The FEIS does contain references to the access provided by the stairways. See Section 4.8.

**COMMENT:**

General: The DEIS should discuss and clarify the responsible governments for the operations and management of the Convention Center and parking garage (G. Gates pp 198-199).

**RESPONSE:**

Such a discussion is not a required component of the EIS. However, the EIS notes that an agreement between the county and City for the operation of the Convention Center has been negotiated in February of 1993. An explanation of this agreement is included in the FEIS in Section 2.4. Parking lot usage policy has not been finalized by the City and state at the time of the FEIS writing.

**COMMENT:**

General: The DEIS should be more explicit on the extent of the building over the lake (witness estimates that the building may extent 95-100 feet out over the lake at some points) (G. Gates p 201).

**RESPONSE:**

The distance of the structure over the lake was measured from 1" = 60' scale site drawings. Because of the irregular shape of the present shoreline, and the curved design of the building and ramps, the extent of the building and ramps over the water varies from 0-93'. The average distance from shore to the building itself along its central 420-foot waterfront length is about 87 feet. This information is added to the FEIS in Section 2.2.

**COMMENT:**

General: The DEIS states that the City of Madison has had a major role in the scoping process - the state DOA cannot delegate this responsibility to the City (G. Gates P 207).

**RESPONSE:**

WCC questions the legal basis for the assertion that DOA cannot delegate "scoping" responsibilities. In any case, the DOA did not delegate its responsibilities related to the scoping process to the City. See Section 3.0.

**COMMENT:**

General: Witness believes that the project will drive waterfowl usage of the area off the lake or to other areas of the lake (especially seasonal usage by loons) (G. Gates p 213, p 238-239).

**RESPONSE:**

The FEIS (Section 5.4) has been revised to state that during construction times, the portion of the lake near the Convention Center will likely not be used by migrating waterfowl. Seasonal usage by loons and other migrating waterfowl may be displaced to other areas of Law Park or other parts of Lake Monona where the shoreline is accessible.

**COMMENT:**

General: John Nolen's plans for the Lake Monona to Capitol mall area did not include a public building at the Law Park site (G. Gates p 214).

**RESPONSE:**

The original designs by John Nolen included a developed pedestrian access to the lake shore from the Olin Terrace level. The FEIS has been revised to reflect this comment.

**COMMENT:**

General: Noise of pile driving should be included as an adverse impact under Section 6.0 (G. Gates p 277).

**RESPONSE:**

This impact has been added to Section 6.0 of the FEIS.

**COMMENT:**

General: Partial loss of rail corridor should be included as an adverse impact under Section 6.0 and Section 8.0 (R. Shutvet p 187-188; G. Gates p 277, 278).

**RESPONSE:**

This impact has been added to Section 6.0 and Section 8.0 of the FEIS.

**COMMENT:**

General: Loss of greenspace, bike trail impacts, and loss of spawning habitat should be included in Section 7.0 (loss of long-term productivity) and Section 8.0 (R. Shutvet p 188; G. Gates p 278).

**RESPONSE:**

This impact has been added to Section 7.0 and Section 8.0 of the FEIS.

**COMMENT:**

General: Loss of Olin Terrace Park greenspace and greenspace in rail corridor should be included in Section 6.0 (G. Gates p 278).

**RESPONSE:**

The current design proposal does not contemplate any significant loss of greenspace in Olin Terrace Park. The greenspace along the railroad corridor is highway and railroad right of way and provides limited public use.

**COMMENT:**

General: The DEIS does not conduct a rigorous evaluation of the no-action alternative (W. Roark p 85; G. Gates p 283).

**RESPONSE:**

The "no action" alternative impacts are, for the most part, self-evident. Regarding socioeconomics, the implications of the no action alternative are briefly addressed in Section 5.10. Some public comments, including the Mayor of Madison in his written comments, have predicted adverse socioeconomic impacts if the Monona Terrace Convention Center is not built; others, opposing construction of the project, believe maintenance of current conditions and trends is more desirable. Details on these various "no action" scenarios are somewhat speculative. The various verbal and written comments on the DEIS present a range of predictions.

**COMMENT:**

General: The Public Trust Doctrine, and how it relates to this project should be clearly described in the EIS (W. Roark p 86, p 305; A. Fleischli, p 320).

**RESPONSE:**

The legal basis for the assertion that the EIS must include a legal analysis of the Public Trust Doctrine is questionable. The EIS is intended to discuss environmental, not legal, impacts. Moreover, the original legislative creation of the "dock-line" and the Wisconsin Supreme Court's approval of the proposed use of the lake bed behind that dockline, coupled with the recent legislative approval of funding for the project, satisfies any concerns related to the projects' impacts on lands subject to the Public Trust Doctrine.

**COMMENT:**

General: There is a conflict of interest with the consultant in this project because of the identification of EWI Engineering on a contract between the City of Madison and Taliesin Architecture to provide soil testing services (A. Fleischli, pp 315-319).

**RESPONSE:**

EWI Engineering (acquired by Woodward-Clyde Consultants in April of 1992) is not under a written or verbal agreement with the Architectural firm (Taliesin) for work related to this project. WCC has not performed any work related to this project for the Architect. Thus, no conflict of interest exists.



**COMMENT:**

General: The proposed project is illegal under the federal flood plain requirements (A. Fleischli, p 321).

**RESPONSE:**

WCC does not agree and questions the legal basis for the assertion that the project is "illegal."

**COMMENT:**

General: The bike/pedestrian path does not allow for access by ambulance or fire trucks (P. McGuire p 293).

**RESPONSE:**

Discussions with the architect on this issue have been held, and, in fact, the design does provide for access for emergency vehicles to appropriate points around the building, including the front lake level plaza area. See Section 2.3.

**COMMENT:**

Water Quality: Does not believe that lake sediment sampling was adequate to define the quality of the sediment at the construction site (A. Fleischli p 323).

**RESPONSE:**

Additional lake bed sediment monitoring has been conducted at the proposed building site. This data has been added to the FEIS in Section 4.2.

**COMMENT:**

Water Quality: Impacts on post-construction nonpoint source runoff from the Convention Center site is confused with the federally mandated stormwater control program that the City will be implementing (A. Heidt p 78, G. Gates p 234).

**RESPONSE:**

The FEIS clarifies the nonpoint source conditions and the potential impacts of the federally mandated stormwater management program (FEIS Sections 4.2 and 5.2)

**COMMENT:**

Water Quality: The DEIS says that the Convention Center with the nonpoint source reduction program would have a positive impact on the lake, and it makes no mention at all of just the nonpoint source reduction program separately (A. Heidt p 118).

**RESPONSE:**

The DEIS states that the Convention Center itself (with or without nonpoint source control measures) will have no measurable impact on lake-wide water quality related to nutrients, sediment or bacteria. Local impacts will occur during the construction phase and during post-construction from nonpoint source runoff. Implementing nonpoint source control structures with the proposed Convention Center will minimize the pollutants from nonpoint runoff; however, these practices will not eliminate all nonpoint pollution from the structure. This information is clarified in the FEIS Section 5.2, Water Quality.

**COMMENT:**

Water Quality: Impacts from nonpoint source runoff did not include potential impacts from contaminants such as brake fluid, antifreeze, or other pollutants in the runoff from a parking garage and/or road (R. Shutvet p 39, 163-164).

**RESPONSE:**

Monitoring data on some parameters (such as anti-freeze) are not available; however, additional information recognizing the presence of these pollutants are added to the FEIS (Section 5.2).

**COMMENT:**

Water Quality: Construction site erosion runoff was compared to the impacts on the whole lake but not described in sufficient detail for localized impacts. Also calculations shown on page 5-9 are incorrect (D. Hammes p 54, p 131; G. Gates p 72, p 231; A. Heidt p 119).

**RESPONSE:**

Calculations on sediment loading to Lake Monona from construction site runoff are corrected in the FEIS. Localized adverse impacts are described in more detail in the FEIS, Section 5, including the impacts of fish spawning at the Law Park area in Section 5.3 and water quality impacts in Section 5.2 of the FEIS.

**COMMENT:**

Water Quality: Law Park acts as a "wetland" and filters runoff waters to Lake Monona (G. Gates p 211).

**RESPONSE:**

While the vegetated areas of Law Park do allow for runoff waters from the park's parking lots to infiltrate into the soil before entering Lake Monona, much of the runoff from John Nolen Drive enters directly into Lake Monona through storm sewers which do not allow for infiltration of stormwater. To the contrary, if Harold Meier, WDNR Southern District-Environmental Impact Coordinator (see written comment on page B-16), states that the refuse and other fill material that composes Law Park, and the leaching of materials in that fill, may contribute to the pollution of Lake Monona.

**COMMENT:**

Water Quality: The affects of algae and debris floating along the Convention Center wall are more adverse because of the aesthetic impacts to the convention users (G. Gates p 233).

**RESPONSE:**

The comment is acknowledged.

**COMMENT:**

Water Quality: Impacts on lake circulation should be more clearly explained in the body of the EIS, not just the appendix (G. Gates pp 233-234).

**RESPONSE:**

Additional explanation of the lake circulation impacts from the proposed action is added to Section 5 of the FEIS under Water Quality (Section 5.2) and Fishery (Section 5.3).

**COMMENT:**

Water Quality: Will the continued scouring at the Convention Center site result in long-term turbidity at the site? (G. Gates p 235).

**RESPONSE:**

This issue is discussed in detail in the FEIS, Sections 5.2 and 5.3. Scouring of the near shore lake bottom sediments is a potential impact and is described in the FEIS, but scouring will not cause long-term turbidity at the site.

**COMMENT:**

Water Quality: The effect of the pile driving into the lake bed and land surface has not been adequately described as it relates to lake water quality (G. Gates p 232).

**RESPONSE:**

WCC disagrees that these impacts were not adequately described in the DEIS. Additional information is added to the FEIS on these effects in Section 5.2 and 5.3. This information includes additional descriptions of the local impacts from the pile driving and the impacts on fish usage of the area.

**COMMENT:**

Water Quality: No basis for the statement that project could lead to "increased public awareness of the lake's water quality and the need for management programs" (G. Gates p 230; A. Fleischli p 327).

**RESPONSE:**

WCC disagrees. One purpose of the proposed Convention Center is to attract the public to use its roof-top park, the meeting rooms, and the lake level plaza area. If this function is met, there is good reason to conclude that an increase in public usage of the area will occur. This increase in usage would result in an increase in the number of people aware of the water quality condition of Lake Monona.

**COMMENT:**

Pilings: Impacts on other buildings in the area from the pile driving should be discussed (D. Hammes p 59; 132; G. Gates p 206, 241, 281).

**RESPONSE:**

Potential impacts on nearby buildings from pile driving has been added to Section 5.6 (Cultural Resources) of the FEIS. Based on pile driving activities in other areas of the Isthmus in Madison, impacts on other buildings are not expected.

**COMMENT:**

Pilings: The potential for removal of earth and other debris to set the piles should be discussed. This soil may be contaminated (R. Shutvet, p 169).

**RESPONSE:**

The quality of the subsurface conditions are discussed in Section 5.5 of the FEIS. Additional sampling has been done in Law Park to more accurately evaluate the current conditions.

**COMMENT:**

Pilings: The potential future costs for piling replacement if cathodic protection fails should be considered (R. Shutvet, p 168).

**RESPONSE:**

Cathodic protection of steel to prevent corrosion is a proven technology on many structures such as bridges, parking ramps, and steel pile supports. A properly maintained cathodic protection system will protect the pilings from corrosion indefinitely.

**COMMENT:**

Air Quality: What steps will have to be taken to insure that the air quality in the tunnel over John Nolen Drive will meet air quality standards? Additional comments concern air quality from stopped traffic in the tunnel (G. Gates p 227-228).

**RESPONSE:**

Current designs call for carbon monoxide (CO) monitoring and recording to be conducted to develop a record of air quality in the tunnel. If CO standards are not met, then additional ventilation must be provided. Moreover, for fire protection purposes, mechanical ventilation of the tunnel will be a required part of the project.

**COMMENT:**

Air Quality: Air quality measurements mentioned in baseline conditions are not at the project site. These are not reflective of project conditions (G. Gates p 211).

**RESPONSE:**

The air quality measurements are from ambient air quality stations established by the WDNR. The WDNR uses meteorological models to locate the monitoring stations in what is predicted to be a "worst case" situation for the air quality parameter of interest. The air quality along the present John Nolen Drive corridor is likely better than the stations because of the exposure to the large open area (Lake Monona) and the enhanced air circulation.

**COMMENT:**

Air Quality: Indoor air quality is not addressed on page 5-1 (G. Gates p 226).

**RESPONSE:**

Indoor air quality is generally not considered in this EIS. This is a building design issue. Careful design considerations must be made to insure that the indoor air quality of the building meets standards.

**COMMENT:**

Air Quality: The DEIS did not include the study done by HNTB dated 10/10/91 on tunnel ventilation requirements for the parking garage at the Convention Center. That study stated (on page 7) to the effect that there would be lethal levels of carbon monoxide the entire length of the tunnel (A. Fleischli p 325-326).

**RESPONSE:**

The report cited was used in the Draft EIS. The reference to lethal levels of CO is related to a condition of the tunnel full of idling vehicles and no replacement of tunnel air (by either passive or mechanical means). Under these conditions the USEPA CO standard of 120 ppm would be reached in 4 minutes. Exposure to this level cannot exceed 15 minutes to meet USEPA standards. Additional analysis of tunnel ventilation needs was conducted by HNTB in April 1993. An expanded discussion on this issue is included in the FEIS, Section 5.1.

**COMMENT:**

Recreation: There is not adequate emphasis on the importance of the Law Park shoreline as a fishing area (G. Gates p 237).

**RESPONSE:**

WCC disagrees with the comment. Both the FEIS and the DEIS stated that the entire Law Park shoreline provides deep water fishing and is used by local anglers.

**COMMENT:**

Recreation: The baseline conditions should mention the usable width of the current pedestrian/bike corridor (30-50 feet) (R. Shutvet p 162).

**RESPONSE:**

This information was included under Section 5.0 in the DEIS. The FEIS also includes this information in Section 4.8 - Recreation.

**COMMENT:**

Recreation: The walking/jogging and bike path referred to on page 5-34 is listed as having a total width of 28 ft. Is this accurate? If not, what is the actual design and dimensions? (M. Sara p 74; R. Shutvet p 75; G. Gates p 255).

**RESPONSE:**

The final design of the path have not been precisely determined. The current proposed design is described in section 5.0 of the FEIS. The current design calls for the access ramps (to the west and east of the central building area) to be 12 feet wide. The lake level plaza itself (in front of the Convention Center) has a width ranging from 24 feet to 64 feet wide. The walking/jogging and bike path is described in Section 5.7, Transportation, and in Section 5.8, Recreation, in the FEIS.

**COMMENT:**

Recreation: Will there be fishing access along the perimeter of the building? This issue must be clarified (J. Eiseley p 96; R. Shutvet p 181).

**RESPONSE:**

The policy on use of the path along the outer perimeter of the building has not been determined by the City at this point in time. The FEIS describes the impacts to shore fishing if fishing is not allowed from this path.

**COMMENT:**

Recreation: There are three ski clubs using the Law Park area (not two); also they will be using the park 7 days a week not 6 - page 4-37 of DEIS (R. Shutvet, p 163).

**RESPONSE:**

According to the Madison Parks Department, two ski teams currently have permits to use the Law Park frontage for practice and ski shows. A third ski club has a permit to use the area of Lake Monona to the southwest (nearer to the John Nolen Causeway and Turville Park).

**COMMENT:**

Recreation: In Section 5.4, the FEIS should quantify the amount of vegetation lost to the project (3.7 acres) (R. Shutvet, p 167-168).

**RESPONSE:**

This was included in the DEIS (p 2-3, 5-31) and is also explained in the FEIS. The quantity of vegetation and greenspace lost from the Convention Center is described in Sections 5.8, Section 6.0 and Section 8.0 of the FEIS.

**COMMENT:**

Recreation: The loss of 1,600 feet of shoreline to the project should be put into perspective to the whole of Law Park (G. Gates pp 204-205).

**RESPONSE:**

This comparison was included in the DEIS in several places and is also discussed in the FEIS at Section 5.8.

**COMMENT:**

Recreation: The wave spray will impact the usage and safety of the bike/pedestrian path along the Convention Center (G. Gates 254).

**RESPONSE:**

This impact is recognized in Section 5.8 of the FEIS.

**COMMENT:**

Recreation: Disagreement with statement in DEIS that spectators' viewing of ski shows will be enhanced with the rooftop garden. The view, looking downward, will be more obscured from the height of the building (R. Shutvet p 178-179; G. Gates p 250).

**RESPONSE:**

The FEIS clarifies this situation. Views from the rooftop to the area of the lake nearest the building where much of the ski shows now takes place will be obscured. However, it is likely that the location of the water ski shows would be moved to accommodate the Convention Center. Moreover, lake views from lower levels within the building will be less impacted. Views from the walkway perimeter of the building will not be obscured.

**COMMENT:**

Recreation: No evidence to support any increase in water ski show attendance (R. Shutvet p 178-179; G. Gates p 249).



**RESPONSE:**

This statement was based on discussions with ski club officers and their perception of how the proposed Convention Center may affect ski show attendance.

**COMMENT:**

Recreation: The loss of the boat launch trailer parking area should be described in the FEIS even though the loss may occur from the John Nolen Drive Expansion (R. Shutvet p 181-182, G. Gates p 249; A. Fleischli, p 327-329).

**RESPONSE:**

The partial loss of the boat launch parking space is discussed in detail in Section 5.8 of the FEIS.

**COMMENT:**

Recreation: Loss of greenspace at Olin Terrace should be quantified (R. Shutvet p 182; G. Gates p 239).

**RESPONSE:**

According to City planners, no greenspace at Olin Terrace will be lost.

**COMMENT:**

Recreation: There should be a discussion of the general greenspace available in downtown Madison compared to population (M. Sara p 113).

**RESPONSE:**

Information on greenspace availability in downtown Madison related to population figures have been added to the FEIS under Section 4.8, Recreation.

**COMMENT:**

Recreation: The project's bike/walk path will result in a net decrease in safety because of the increase in congestion. The path will also be dangerous to handicap users (M. Sara p 112; R. Shutvet p 173, G. Gates p 247; P. McGuire p 293).

**RESPONSE:**

These issues are discussed in Sections 5.7 and 5.8.

**COMMENT:**

Recreation: Future bicycle usage of the path should be projected based on past levels of usage. Also this usage may change because of potential future linkage with two state bicycle trails (G. Gates p 216-217).

**RESPONSE:**

A chart has been added to the FEIS to show past levels of bike path usage (Section 4.8). According to Tom Walsh of the Madison Department of Traffic Engineering, there has not been a clear trend in bicycle usage of the Law Park path over the past 5-8 years. Usage levels are more directly related to weather.

**COMMENT:**

Recreation: The removal of the handicap fishing pier is especially significant because of the deep water fishing at the site and the level land between the parking lot and the pier (P. McGuire p 295).

**RESPONSE:**

This impact has been acknowledged and added to the FEIS under Section 5.8.

**COMMENT:**

Socioeconomic: No market study has been conducted for the project and this should be done (M. Wyatt p 138).

**RESPONSE:**

An updated market survey was not deemed necessary given the continual study and re-evaluation by the City of the marketability and financing for the Convention Center.

**COMMENT:**

Socioeconomic: The explanation on page 5-44, which describes criteria for determining socioeconomic impacts, is unclear (J. Eiseley pp 101-105).

**RESPONSE:**

This introductory section to the socioeconomic impacts discussion has been re-written in the FEIS to clarify the intent of the section and the limit of its scope.

**COMMENT:**

Socioeconomic: Why is it projected that property taxes will increase if it is also projected that there will be an increase in crime, traffic, and noise? (J. Eiseley p 105).

**RESPONSE:**

The increase in property taxes (and property values) are among the potential impacts, along with increases in crime, traffic, and noise, that may accompany a new convention center. These may be viewed as adverse impacts and will be compared and contrasted in the FEIS format with related beneficial impacts of the project.

**COMMENT:**

Socioeconomic: What documentation was used to make the statement on page 5-51 concerning the predicted trends in housing, quality, and property taxes if the Convention Center were not built? How have things changed in the past 10 years in regard to housing, property tax, etc? (J. Eiseley p 107).

**RESPONSE:**

These statements were based on professional judgment; as noted above, varying opinions exist as to the implications of the no action scenario on housing and other socioeconomic indicators in the downtown area near the proposed project. Additional details are added in the FEIS regarding trends for the past 10 years in housing, property taxes, population growth, and other factors in the area.

**COMMENT:**

Socioeconomic: Were alternative ways of stimulating economic growth in downtown analyzed in the DEIS? (alternatives to the Convention Center) (J. Eiseley p 109) DEIS should consider alternate ways and benefits of the City spending the funds (M. Wyatt p 141).

**RESPONSE:**

Alternative ways of stimulating growth in downtown Madison are beyond the scope of this EIS for a site-specific proposal. The Madison Downtown 2000 report presents the City's plans for stimulation of growth for various parts of downtown. The proposed Convention Center is a component of this report.

**COMMENT:**

Socioeconomic: Have other "ameliorations" brought up in the DEIS (shuttle bus, traffic re-routing, etc.) been considered in the total cost of the project? (J. Eiseley p 128).

**RESPONSE:**

Additional services, such as police and fire protection, were estimated by Vandell and Shilling to be \$218,000 annually. Other "ameliorations," such as a shuttle bus, were not included in the project's costs because it was determined that private hotels and/or other industry would provide these services.

**COMMENT:**

Socioeconomic: Vandell and Shilling report and other data used in the analysis is outdated for this purpose (M. Wyatt p 139; G. Gates p 210).

**RESPONSE:**

The report authors noted used previous reports which relied on data from the early 1980's; however, their analyses were updated by current discount rates, relevant multipliers for Madison, and other updated information available at the time. The studies continue to be relevant to the Convention Center proposal.

**COMMENT:**

Socioeconomic: Employment figures used for UW-Madison are incorrect (G. Gates p 73, p 219).

**RESPONSE:**

The figures are corrected on the table in Section 4.10 of the FEIS.

**COMMENT:**

Socioeconomic: Support for building the Convention Center should not be based on providing jobs since Dane County's unemployment rate is low relative to the state (M. Wyatt p 142, G.Gates p 220).

**RESPONSE:**

The EIS does not support or oppose the project; it simply describes potential impacts.

**COMMENT:**

Socioeconomic: The discussion should include the City's financial problems as reflected in reduction in library hours, police protection, fire protection, and other City services. Funding of the Convention Center may result in reduction of other City services (M. Wyatt p 148, G. Gates p 221, 223, 277).

**RESPONSE:**

The City's and county's desires to commit funds for this project has been made. Expenditure of City and county funds for other purposes and priorities is beyond the scope of this FEIS. Potential impacts on the City's bond rating are discussed in Section 5.10.

**COMMENT:**

Socioeconomic: There is no discussion on the adequacy of the fire equipment and service for this proposed building, tunnel, and access system (G. Gates p 222).

**RESPONSE:**

The adequacy of City fire protection services for the tunnel and other specialized features of this project have been added to Section 5.10 of the FEIS.

**COMMENT:**

Socioeconomic: There is no mention of the proposed County Coliseum expansion planned. Also no mention of Holiday Inn West or its expansion, or potential Convention Center development at American Family (G. Gates pp 223-224; W. Roark p 304).

**RESPONSE:**

Alternative Convention Center sites, plans, and expansions have been addressed in other reports referenced in the FEIS. The planned Holiday Inn - West expansion has been added to the FEIS. The potential for expansion at the Dane County Coliseum grounds also has been described in the FEIS.

**COMMENT:**

Socioeconomic: Statistics referenced on page 4-51 (related to convention meetings growth and delegated expenditures between 1981-1985) are not clear as to the area of the country these changes are occurring in (G. Gates p 225).

**RESPONSE:**

These data are for national averages. Updated meeting and Convention Center attendance figures through 1991 have been added to the FEIS, Section 5.10.

**COMMENT:**

Socioeconomic: If the statistics referenced at the bottom of page 4-51 were compared to the Consumer Price Index of that period (1981-1985), it would show that the expenditures for

conventions barely kept up with the index and that expenditures per delegate decreased (G. Gates p 225).

**RESPONSE:**

This assertion is correct. The effects of the economic recession in the U.S. on meetings and travel business in the early 1990's are recognized and discussed in the FEIS, Section 5.10.

**COMMENT:**

Socioeconomic: The DEIS should clarify that the 697 jobs predicted from the project are full time equivalents and also result from direct and secondary impacts. These part time positions result in a over estimation of benefits from the positions (M. Wyatt p 143; G. Gates p 270).

**RESPONSE:**

The nature of the various predicted jobs and salary ranges are fully explained and clarified in the FEIS, Section 5.10.

**COMMENT:**

Socioeconomic: The pile driving noise will drive residents out of downtown and then they will not return (G. Gates p 269).

**RESPONSE:**

The impacts of noise during the construction phase are fully explained in the FEIS Section 5.1. The assertion that the noise will permanently drive residents out of downtown is speculative.

**COMMENT:**

Socioeconomic: It is not clear that the benefits of economic growth outweigh costs or that economic growth itself is desirable (M. Wyatt p 145).

**RESPONSE:**

It is not within the scope of the EIS to evaluate whether economic growth as a general matter is desirable.

**COMMENT:**

Socioeconomic: The Springsted consultation report on the financial feasibility of the center is not discussed. The effects of borrowing requirements may be detrimental in context of City's other future borrowing requirements (M. Wyatt p 146).

**RESPONSE:**

The Springsted report is not discussed in the EIS. Potential effects of borrowing by the City and on the future fiscal conditions are discussed in Section 5.10.

**COMMENT:**

Socioeconomic: Appendix E was not attached to the document (G. Gates p 270).

**RESPONSE:**

Appendix E, "Financing and Operations Report" by the Frank Lloyd Wright Monona Terrace Commission, is not included in the FEIS. Information from this source is used in several sections of the FEIS and is cited as a source.

**COMMENT:**

Socioeconomic: A multiplier of 2.0 for estimating spending impacts is too low (G. Gates p 270).

**RESPONSE:**

The multiplier of 2.0 is a conservative one, and was chosen to err on the low side in predicting economic benefits of the Convention Center proposal. An actual multiplier closer to 2.47 (proposed as a break-even point in some comments) or higher, could actually be realized after operation of the Convention Center. Even with a 2.0 multiplier, the distribution of benefits to the various economic and population segments (see Table 5.10-3) is still predicted.

**COMMENT:**

Socioeconomic: The resulting increase property taxes and increase in crime in the area will drive residences out of downtown and accelerate urban sprawl (G. Gates 269-270).

**RESPONSE:**

WCC notes that many City officials, including the mayor, disagree with the commentor's opinion and believe that urban sprawl and downtown flight will be accelerated if development in downtown Madison stops.

**COMMENT:**

Socioeconomic: If nearby property values go up, the residences will be driven out and the area redeveloped; if property values go down, residences will also leave the area. (G. Gates p 274).

**RESPONSE:**

Property values rarely remain static. Potential impacts regarding property values are presented in Section 5.10 of the FEIS.

**COMMENT:**

Socioeconomic: DEIS does not discuss the potential that gentrification may occur downtown and raise property values (M. Wyatt p 147).

**RESPONSE:**

Impacts on property values are discussed in the FEIS, Section 5.10. The most likely impact will be an increase in downtown property values.

**COMMENT:**

Socioeconomic: The operating costs (p 5-48 and p 5-54) based on Monona Terrace Commission Report do not include all the costs used by Vandell & Shilling report. There is no explanation for why some costs were left out. (G. Gates p 210, 271-272, 274).

**RESPONSE:**

The operating costs are clarified in the revised Section 5.10 of the FEIS.

**COMMENT:**

Socioeconomic: The DEIS did not note the need for a hotel for the long-term success of the project (G. Gates p 272-273).

**RESPONSE:**

The hotel is discussed to the degree possible in the FEIS (Section 5.10), although no current, detailed hotel proposal is available to reference in the FEIS document.

**COMMENT:**

Socioeconomic: Impacts on other downtown hotels are not discussed (G. Gates p 273).

**RESPONSE:**

Impacts on other downtown hotels have been addressed in a previous report (Pannell Kerr Foster, 1987a). Current projections state that existing hotels could service the Convention Center for the first 2-3 years of operation, but that a major new hotel nearby or with excellent



shuttle connections would be necessary for continuing success of the Center. The refurbishment of existing hotels in the Capitol Square area is briefly addressed in the FEIS.

**COMMENT:**

Socioeconomic: The costs of City services should be mentioned on page 5-51 (G. Gates p 274).

**RESPONSE:**

The costs of additional City services are discussed under adverse impacts on p 5-54 of the DEIS, and are repeated in the FEIS under the revised format.

**COMMENT:**

Socioeconomic: Clarify terms used: revenue bonds, and general obligation bonds (p 5-54) (G. Gates p 275).

**RESPONSE:**

These terms are defined and clarified in the FEIS in Section 5.10 along with the proposed bonding situation.

**COMMENT:**

Socioeconomic: Monona Terrace Commission proposed \$15 million in revenue bonds, \$12 million of general obligation bonds - not \$12 million of revenue bonds as stated on page 5-54 (G. Gates p 276).

**RESPONSE:**

The recommended funding sources for the proposed project (including state, county, City, and private funds) are described and clarified in the FEIS, Section 5.10. The bond types and amounts have been corrected.

**COMMENT:**

Socioeconomic: Impacts on other state convention centers should be described (M. Wyatt p 141).

**RESPONSE:**

It is assumed that the success of the Monona Terrace Convention will reduce business that would otherwise use other state and/or regional centers. The exact nature of this impact upon other state or regional convention centers is speculative and difficult to quantify. Attempts to obtain information on past occupancy levels of regional convention centers were unsuccessful. Convention center managers refused to provide this data.

**COMMENT:**

Fish: Impacts of proposed silt curtains on fish trapped within the curtained area are not described (D. Hammes p 131; G. Gates p 234).

**RESPONSE:**

Potential impacts from this action have been added to the FEIS under Section 5.3.

**COMMENT:**

Fish: Potential impacts from cathodic protection on fish have not been addressed (D. Hammes p 132).

**RESPONSE:**

Potential impacts from this action have been added to the FEIS under Section 5.3. Cathodic protection is routinely used on highway bridges without impacts on fish species.

**COMMENT:**

Fish: Benefits of fish usage along perimeter of building in the lake should be compared to the adverse impacts of loss of 1.5 acres of habitat under the building (R. Shutvet, p 165; G. Gates 246-247).

**RESPONSE:**

The fishery impacts section includes a discussion of the net loss of fish habitat and fish usage within the project zone of the lake.

**COMMENT:**

Fish: Impacts of project on spawning habitat should not be limited to walleye; other species such as smallmouth bass and pan fish do use the type of habitat currently along the near shore area of Law Park for spawning (A. Heidt p 120; R. Shutvet, p 165-166; G. Gates p 213, 238).

**RESPONSE:**

The fish spawning habitat conditions have been revised to include this information under Section 4.3 of the FEIS.

**COMMENT:**

Fish: The elimination of 2.5 percent of the fish spawning habitat will have a significant impact on the fish populations (G. Gates p 212, 235, 238, 278).

**RESPONSE:**

The loss of 2.5 percent of the lake's fish spawning habitat for sunfish species will have no measurable impact on the lake's overall species populations. Fish reproduction will continue to occur in other suitable parts of the lake. Spawning habitat in Lake Monona is not the limiting factor on the lake's sunfish populations.

**COMMENT:**

Transportation: Partial loss of railroad corridor must be more clearly defined and must define what the remaining corridor could accommodate in terms of freight, passenger, and light rail. Also, current discussions involving potential for Amtrak service to Madison should be included in the FEIS. Also, loss of air space over railroad corridor may have impacts on elevated mass transit (R. Shutvet p 153; 157, 171; G. Gates, p 206, pp 214-215).

**RESPONSE:**

Additional description of this impact is defined in the FEIS under "General Description" and "Section 5.7, Transportation Impacts." The potential impacts on future mass transportation usage of the reduced rail corridor are addressed in the FEIS in Section 5.7.

**COMMENT:**

Transportation: There is no discussion of the Federal ISTEA fund for development of multi-model transportation systems and how this project may affect Madison's eligibility for these funds (R. Shutvet pp 160 - 161, 176-177, 189).

**RESPONSE:**

The Federal Intermodal Surface Transportation Efficiency Act (ISTEA) is discussed as it relates to the proposed project in Section 4.7, Transportation, in the FEIS.

**COMMENT:**

Transportation: Page 5-27 states that access for potential future mass transit from Law Park level to Wilson Street level will be provided. The current design provides for no such access from the railroad level to Wilson Street (R. Shutvet p 171).

**RESPONSE:**

The project's current design does provide for exterior elevator and stairs to provide access from the lake level to the Wilson Street level. There are also several sets of elevators, escalators, and stairwells within the structure to provide access from the lake level to the Wilson Street level. This issue is discussed in the FEIS in Section 2.3.

**COMMENT:**

Transportation: Impacts of pedestrian and bicycle usage should be discussed in the transportation section as well as under recreation (R. Shutvet, p 171; G. Gates p 207, p 215).

**RESPONSE:**

Baseline conditions and impacts on pedestrian and bicycle usage at Law Park are fully discussed under both the Transportation and Recreation sections of the FEIS (Sections 4.7, 4.8 and 5.7, 5.8).

**COMMENT:**

Transportation: The construction of the Convention Center would limit possibilities for a mass transit hub at this location (R. Shutvet, p 172, G. Gates p 244).

**RESPONSE:**

In the intergovernmental agreement between the City of Madison and Dane County, the City agreed to investigate the potential for an Amtrak station in the vicinity of the proposed Convention Center. This effort along with the potential for a bus or light rail corridor and station are being explored by the City. This information has been added to the FEIS under Section 2.4.

**COMMENT:**

Transportation: The safety considerations of the parking ramp helixes (ice and visibility) should be discussed. Also safety considerations of the "tunnel" itself should be discussed (R. Shutvet p 174, p 192-193).

**RESPONSE:**

Additional information on the safety considerations of the parking ramp helixes and tunnel are added to the FEIS. The helixes have a divider between traffic lanes. Also, heating elements have been designed into the helix surface to reduce the potential for icing of the road surface.

**COMMENT:**

Transportation: DEIS should reference compliance of the proposed action with the Dane County 2020 Land Use and Transportation Plan. (R. Shutvet, p 161, p 189).

**RESPONSE:**

The Dane 2020 Report generally recommends every consideration be given to multi-modal transportation systems and "infilling" of urban centers for developments. The relationship of the proposed project with the Dane 2020 Report is discussed in Section 4.7 of the FEIS.

**COMMENT:**

Transportation: The expansion of John Nolen Drive is contingent upon the building of the Convention Center - it is not a separate issue as stated in the DEIS (G. Gates p 202).

**RESPONSE:**

The relationship between the approved John Nolen Drive expansion and the Convention Center is explained in the FEIS. Madison's City Council will reconsider its decision to expand John Nolen Drive if the Convention Center is not built.

**COMMENT:**

Transportation: Witness does not believe that there is any support for the statement that the project may help support an expanded mass transit system (G. Gates p 227-228, p 243; A. Fleischli p 324).

**RESPONSE:**

The Convention Center by itself may not support an expanded mass transit system. However, it is reasonable to conclude that additional developments (such as the Convention Center) will help focus business and commerce in the downtown area and help to make mass transit a more viable transportation alternative.

**COMMENT:**

Transportation: Questions the statistic that "82 percent of the delegates will arrive by car at an average of 2.4 persons per vehicle" (G. Gates p 242).

**RESPONSE:**

The analysis conducted in the FEIS has been revised to reflect traffic impacts using a variety of automobile occupancy rates (Section 5.1).

**COMMENT:**

Transportation: Impacts on traffic volumes should be based on peak traffic, not average daily traffic (G. Gates p 229).

**RESPONSE:**

The impacts section (Section 5.7 - Transportation) of the FEIS has been revised to include traffic impacts for both average daily and peak traffic conditions.

**COMMENT:**

Transportation: Clarification is needed on the use of the parking ramp - state employees vs Convention Center delegates. (G. Gates p 243).

**RESPONSE:**

Specific policies on the use of the parking ramp by state employees and Convention Center users have not been developed at this time. Regardless of the policy that is developed, the proposed parking ramp will likely not be adequate in size to handle capacity use of the Convention Center for larger events. The impacts of this situation are discussed in Section 5.1, Transportation, of the FEIS.

**COMMENT:**

Aesthetics/Views: A discussion of additional view impacts should be included in the DEIS-such as view of Lake Monona from John Nolen Drive under the structure, views from the pedestrian/bike path, view from Capitol grounds to lake (R. Shutvet p 184).

**RESPONSE:**

Additional views and graphics depicting impacts on views have been added to Section 5.9 of the FEIS.

**COMMENT:**

Aesthetics/Views: Figure 5.9-3 (view from Wilson Street) is inaccurate. Lake would not be visible from this vantage point (R. Shutvet, p 185-186; G. Gates p 267).

**RESPONSE:**

Additional analysis of Figure 5.9-3 by the City of Madison has concluded that the view is in error. The lake would not be visible from the vantage point of the figure. The figure has been removed from the FEIS with a discussion of how the view from Martin Luther King Jr. Boulevard will be changed as a result of the proposed project.

**COMMENT:**

Aesthetics/Views: The views would be adversely impacted for pedestrians, motor vehicles, and bicycle traffic in the path areas (M. Sara p 115).

**RESPONSE:**

A discussion of the change in views from the path in Law Park is included in Section 5.9 of the FEIS.

**COMMENT:**

Aesthetics/Views: The DEIS should discuss the potential for vandalism of the building because of the strong reaction to the project by some of the public and the notoriety of the architect (G. Gates p 241).

**RESPONSE:**

This potential impact is included in the FEIS under Section 5.9.

**COMMENT:**

Aesthetics/Views: Blocking of the view of the Capitol will occur from a good portion of the lake near the Convention Center, not just "adjacent to the Convention Center" (G. Gates p 264).

**RESPONSE:**

This impact has been analyzed and discussed in the FEIS, Section 5.9.

**COMMENT:**

Aesthetics/Views: Lake views from Olin Terrace Park will be destroyed, not just "limited" (G. Gates p 265).

**RESPONSE:**

Views that were available from the Olin Terrace Park will now be available from the newly created rooftop public area. This impact on views is noted in the FEIS, Section 5.9.

**COMMENT:**

Aesthetics/Views: The photographs of the present condition are darker and not the same angles as the artist renderings, the renderings are unnaturally light and the picture is larger in size (G. Gates p 266).

**RESPONSE:**

The photographs used to depict the current views have been lightened to the extent possible to better compare the "before" and "after" conditions. Also, both representations have been made the same size. The color and light conditions of the renderings could not be modified. The

FEIS recognizes that these renderings are the best available representations of the proposed building. A 100 percent accurate representation of the final structure is not possible because the final design of the building has not been completed at the time of the FEIS preparation.

**COMMENT:**

Aesthetics/Views: The views of the lake from the Wilson Street State Office Building will be blocked and this is not mentioned (G. Gates p 263).

**RESPONSE:**

This impact has been added to Sections 5.6 and 5.9 of the FEIS.

**COMMENT:**

Subsurface: Soil gas testing from previous studies was inadequate to determine the site conditions, including potential for methane at the project site (D. Hammes p 131; A. Fleischli p 324).

**RESPONSE:**

Additional soil testing has been conducted at the proposed site. Testing included Total Recoverable Petroleum Hydrocarbons (TRPH) and soil gases. The results of this additional testing is included in the FEIS, Section 5.5.