

## Executive Summary

This report documents recent efforts to examine the vessel traffic conditions on the Chicago River and to develop recommendations to the City of Chicago, Department of Transportation for establishing a River Management Plan. Interviews were held with numerous stakeholders from city, state and federal governmental personnel as well as individuals representing commercial, private and environmental concerns. Historical data on river usage by industrial and commercial interests as well as private recreational craft (power and human-powered) were examined. There are two general issue areas and four more specific issues that are discussed in this paper. The general issues refer to overall data collection, storage, and analysis and the potential terrorist threats in a post-9/11 era. The specific issue categories are Operations, River Banks, Capital Projects, and Programming.

In order for a river management plan to be effective it is essential that there be a centralized site for the collation, analysis, and dissemination of river-related data and information. With the numerous agencies currently involved in construction, permitting, safety, licensing, and special events it is often the case that important information required by someone gets lost and the process can be confusing. By establishing a central analysis repository for all such data, total river operations can be managed much more efficiently. It is recommended that this office be located within the Chicago Department of Transportation.

Operations. This category is subdivided into two sub-groups: River Operation Issues and Waterway Zones. The former deals largely with issues related to safe operation on the river in terms of licensing, regulations and education. The latter is concerned with a system of classifying various sections of the river according to their current and predicted future major use. The four zones are (1) Commercial Waterfront Zone, (2) Industrial Waterfront Zone, (3) River Recreation Zone, and (4) Riverine and Storm Water Protection Zone.

River Banks. In order to improve the overall quality of the river, both as an economical and an ecological asset to the community, improvement of the riverbanks is essential. Mandating a 30-foot setback for all new construction along the river and restoring as much of the banks to a more natural state are essential to achieving this end.

Capital Projects. A major category of issues involves the establishment of new laws and regulations that codify and streamline the development of facilities within the 30-foot setback along the river, including standardized policies for the construction, modification, and maintenance of docks. These new regulations should work in consort with the “Zone” policy. Another side of this issue is simplifying the permit process for any river or riverside development. There needs to be a single point for a potential developer to receive all the necessary information and regulations and permits for their project or activity.

Programming. Again, a central location should be established to encourage, regulate, and issue permits for river-oriented events. This office would make sure all other relevant groups would be aware of events (e.g., Coast Guard and Marine Police) and could work to help publicize events.

# **Recommendations for a Chicago River Traffic Plan**

## **1. INTRODUCTION**

The Bureau of Bridges and Transit of the Chicago Department of Transportation (CDOT) is currently involved in a proactive effort to manage vessel traffic on the Chicago River. As efforts are underway to improve the quality of the river and shoreline, to create an environment that is both suitable and pleasurable to the public, CDOT has determined that development and use of the river must be organized. To this end, CDOT has initiated a program to assure the continued orderly management of the river, specifically in terms of traffic safety and development along its banks. Management of the development along the banks is essential to achieving adequate traffic analysis because certain types of development may become destinations for recreational, commercial or industrial vessels. The primary goal of the report is to address vessel traffic of all varieties that travel the Chicago River and to insure appropriate plans for future uses along its banks. This report offers recommendations toward achieving these goals.

There are several basic issues of concern to CDOT regarding the river and its use:

- 1) Total traffic volume and mix.
- 2) Maintaining the river as a mixed-use waterway.
- 3) The increasing demand for docks and piers and other access points to the river. -
- 4) Enhancing the environmental and ecological quality of the riverbanks.
- 5) Developing the river as a resource for residents and tourists, alike.
- 6) Maintaining public safety along the river.

In addition, CDOT has proposed four specific program areas to which a total river plan should be addressed. These areas are as follows:

- **Operations**
- **Banks**
- **Capital Projects**
- **Programming**

The mission of the project is to describe the various activities that are currently occurring as well as those proposed for the future, in order to develop a consistent vision of Chicago's Second Shore that addresses public safety for all river users.

## **2. PROJECT AREA**

Whereas the previous Volpe study<sup>1</sup> concentrated on vessel transits on the Main Branch of the Chicago River from the Michigan Avenue Bridge to the river's confluence at Wolf Point, this study has an expanded area of concern including the entire Main Branch; the North Branch up to the city Limits, including the Lower North Shore Channel up to Touhy Avenue; and the South Branch, including the South Fork (Bubbly Creek) and the Sanitary and ship Canal down to Cicero Avenue. Figure 1 contains a map of the Chicago River Project Area.

## **3. RIVER TRAFFIC**

The amount of traffic transiting the Chicago Lock from 1986 thru 2003 is graphically represented in Figure 2. Examination of this figure reveals that traffic volumes gradually increased from a low of about 35,000 annual trips in 1986, to a little over 55,000 in the early 1990s. Other than a spike in transits in 1994 and 1995, the traffic volume has been fairly stable at around 50,000 transits through 2003<sup>2</sup>. From the figure it can be seen that the yearly differences between inbound and outbound traffic are

Fig. 1. Map of Chicago River Project Area.

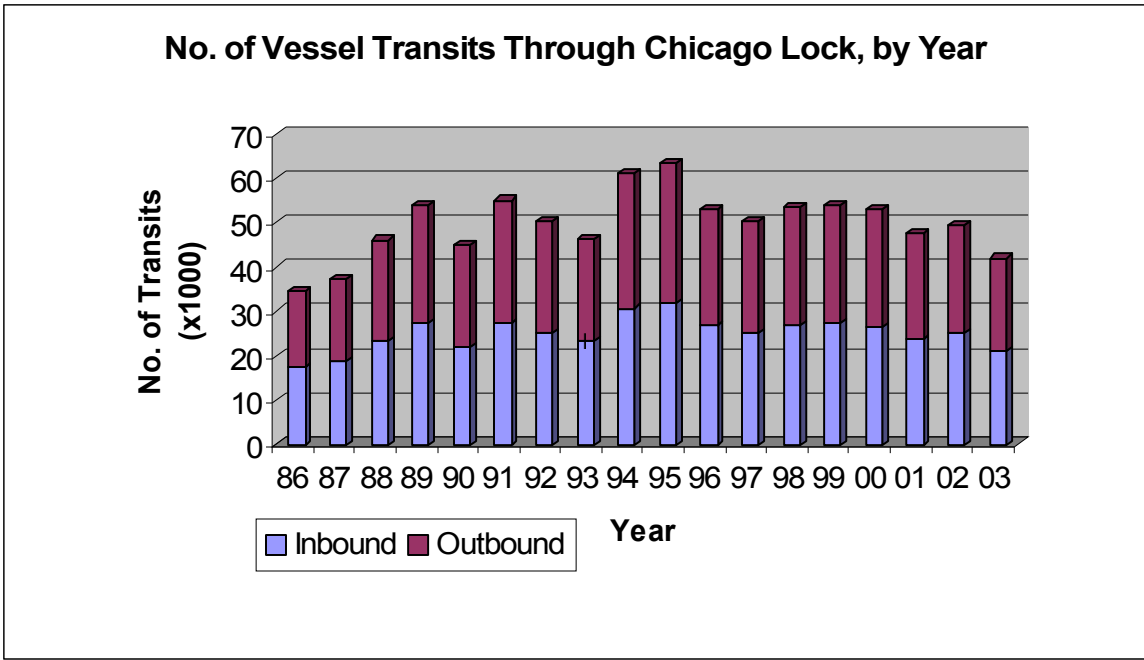


Fig. 2. Number of Transits Through the Chicago Lock from 1986 Through 2003. (ACOE Data)

quite small. Lacking further data it is logical to assume that traffic volume through the Chicago Lock, and hence into and out of the Chicago River will not change significantly in the future. However, with the city’s increased attention to the river and the interest that has accumulated around Chicago’s Second Shore, along with continuing water quality improvements, the river could become a more popular venue for recreation boats. And further, as commercial operations continue to grow along the river, many will become destinations for people via water taxis.

There is one issue that is likely to cause a temporary but significant increase in traffic through the Chicago Lock in the near future, particularly commercial barge traffic. That issue is the repair and construction project on the O’Brien Lock. Although most of the work on the lock will be done during the slack period (fall through early spring) there will be an increase in commercial barge traffic into the river system through the Chicago Lock. This project could take as long as two years for construction, making the Chicago Lock the primary access point for the barges in the Calumet River system. For example, in 2003, 4,376 loaded and 2,419

empty barges and a total of 8,348 other vessels passed through the O'Brien Lock. Obviously, if the O'Brien Lock is completely closed for a full two years this will cause considerable congestion in the Chicago River system. But, as this will be a temporary situation, it does not have a significant impact on the recommendations contained in this report.

The total traffic count passing through the Chicago Lock in 2003 was 41,937 transits. As shown in Figure 3, Recreational, Commercial (mostly tour boats), and Other made up the vast majority of those transits (74, 23, and 3 percent, respectively).

Tow/barge combinations made up less than one percent. With the eventual construction of the Riverwalk, it is expected that total commercial and recreational traffic will increase while tow/barge traffic should remain fairly constant.

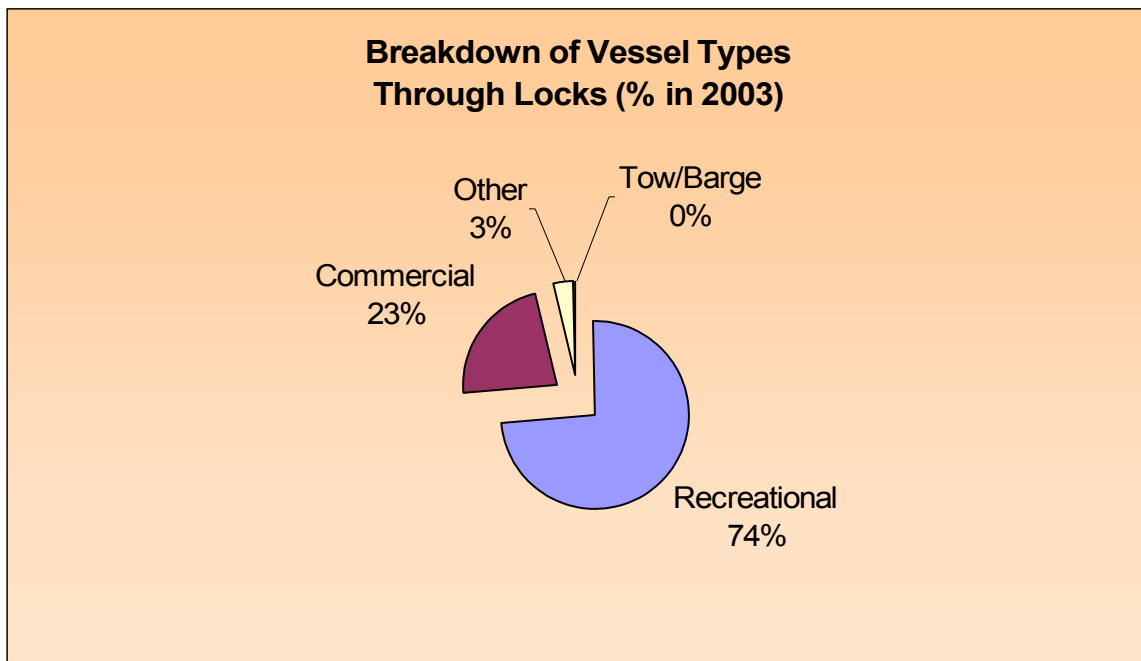


Fig. 3. Percentage of Vessel Traffic by Category Through Chicago Lock in 2003. (ACOE Data)

### 3.1 Commercial Traffic

There are currently four tour-boat and two water-taxi operations in the Chicago River area. These services to tourists and residents, alike, create a significant presence on the river, with more than 25 tours daily during week-days and around 100 on Saturday and Sunday from late spring through early fall. Lock data do not accurately report total commercial operations, since not all of the tours and almost none of the water taxis transit the lock. The tour boats generally travel through the Main Branch and a short way up the North and South Branches. The water taxis tend to run between the Amtrak station and Michigan Avenue and Navy Pier. According to Coast Guard records there were over 20,000 passenger vessel trips on the Chicago River in 1999, with over 500,000 passengers. Figure 4 contains data for total passengers as well as barge and recreational boat traffic through the Chicago Lock from 1994 through 2003. (The passenger data includes passengers on recreational craft as well as commercial tour boats). As the tour

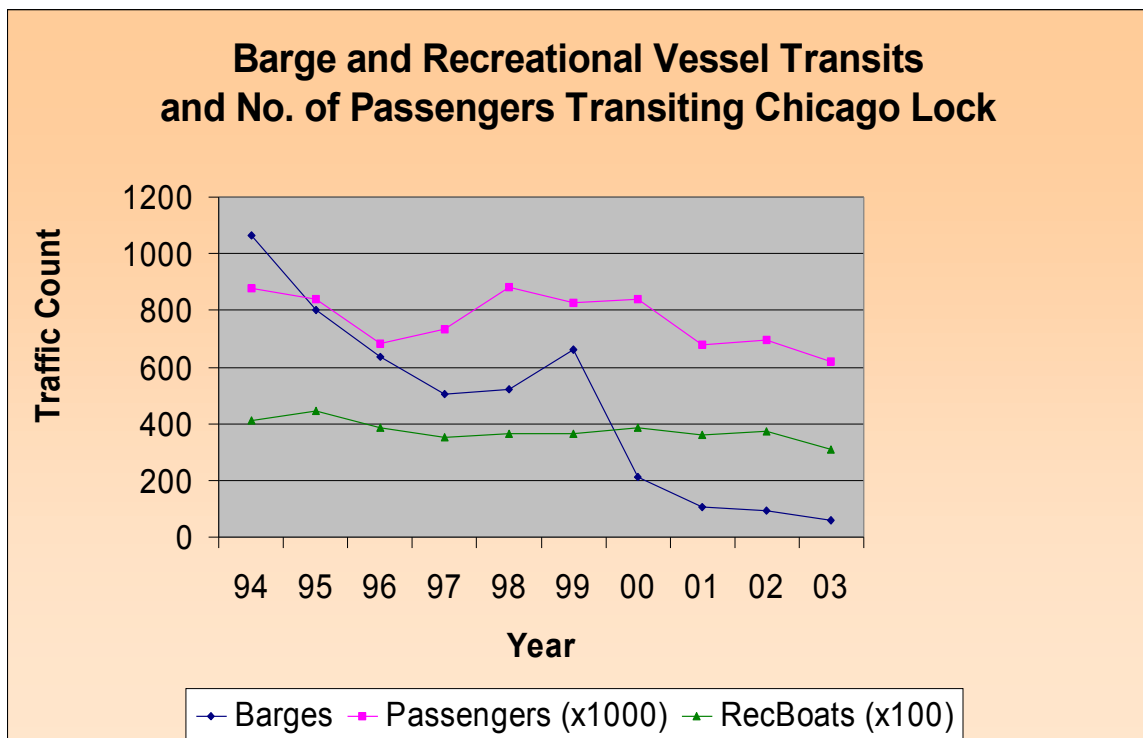


Fig. 4. Number of Barges, Recreational Vessels, and Total Passengers Transiting Chicago Lock from 1994 through 2003 (ACOE Data).

boat industry continues to grow in the Chicago area, it becomes obvious that this is a vital service to the tourist industry of the city.

### **3.2 Barge Traffic**

The majority of the barge traffic entering or exiting the Chicago area transits through the O'Brien Lock and the Calumet-Sag Channel. The data shown in Figure 4 taken from the Army Corps of Engineers (ACOE) website, indicate a significant trend toward a decrease in the number of barges passing through the Chicago Lock and Main Branch from over 1000 in 1994 to less than 60 in 2003. Taking these data at face value, it is evident that tow/barge traffic through the Main Branch of the Chicago River does not pose the significant safety concerns voiced in the 90s, other than the temporary problem caused by the repair work scheduled for the O'Brien Lock mentioned above. This trend is not necessarily the case for the South and North Branches of the river, however. Additional data from the ACOE indicate that from 1996 through 2002 (the latest available data) there has been a fairly steady increase in the total quantity of commodity shipments along the South and North Branches (See Figure 5).

The following conclusions for tow/barge traffic can be drawn from these data:

- All traffic in the Main Branch is through traffic; that is, continuing to either the North or South Branches. Chicago Lock data indicate that inbound and outbound traffic are approximately the same. Most tows involve single barges, although statistics indicate that tows with double barges also transit the Main Branch.
- All laden barges in the North Branch are headed upriver. None originates in the Main Branch or from points further north. It appears that all traffic into and out of the North Branch passes Wolf Point without making the turn into or out of the Main Branch.



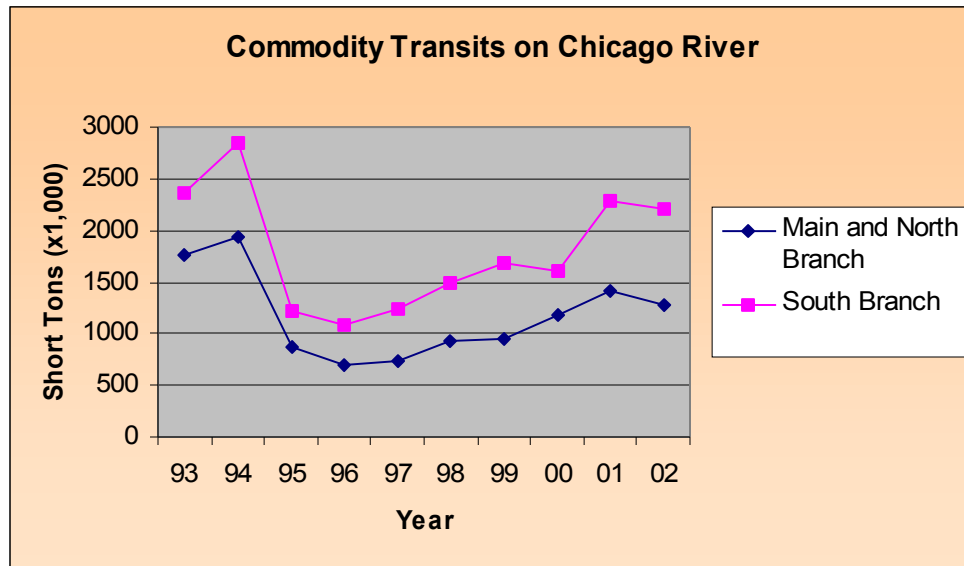


Figure 5. Changes in Total Commodity flow through the Chicago River, 1993 to 2002

- There are significant numbers of empty barges moving through the project area. For empty barge traffic from the North Branch to the South Branch, it is assumed that all loaded tows return empty and pass Wolf Point southbound.
- There is no indication from any of the data that self-propelled cargo vessels transited the Lock between 1997-1999; it is assumed that current and future traffic patterns will continue this pattern.

### 3.3 Recreational Traffic

Recreational boating is largely the activity of local residents in the greater Chicago area. The majority of the recreational, as well as commercial traffic occurs during the time between May and October (See Figure 6) and most of this traffic transits through the lock. Human-powered craft, canoes, kayaks, and sculls, almost exclusively remain within the river system.

### 3.4 Traffic Sample

During the months from June through early October of 2003, the Illinois Environmental Protection Agency (IEPA) along with several governmental organizations and contractors undertook a sampling of the river to obtain a “snapshot” of the types of activity going on during “normal” days. There were a number of samples taken over the

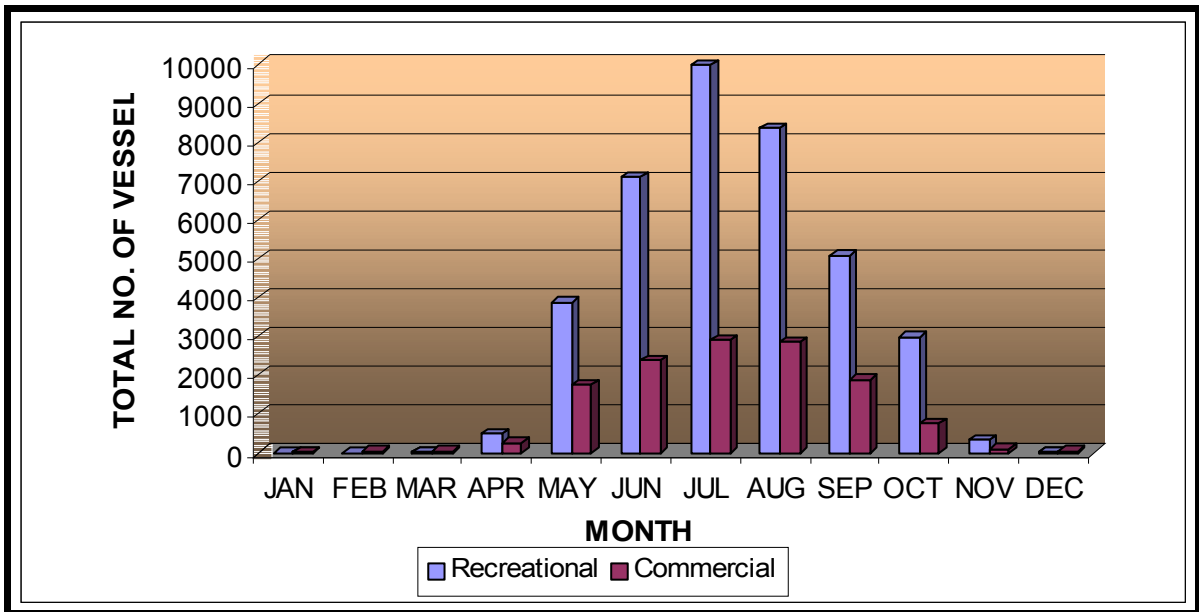


Fig. 6. Distribution of Recreational and Commercial Vessel Traffic Through Chicago Lock, by Month. ACOE Data)

summer by these agencies as they traveled the river system between the North Shore Channel above the Water Reclamation Project to Lawrence Avenue and Lake Calumet (See Figure 1). Not every waterway segment was sampled on each day. Their observations of the activities observed are summarized in Table 1.

RIVER SEGMENT	Number of Sample Days	Water Skiing or Tubing	Wading	Canoeing, sculling or kayaking	Fishing	Pleasure Boating	TOTAL BY RIVER SEGMENT
North Shore Channel below WRP	15	0.00	0.07	0.73	3.67	0.13	<b>4.60</b>
Upper North Branch of the Chicago River	15	0.13	0.53	8.47	4.93	4.60	<b>18.67</b>
Lower North Branch of the Chicago River	2	0.00	0.00	0.00	0.50	18.50	<b>19.00</b>
Main Branch, Chicago River	3	0.00	0.00	0.00	0.67	16.00	<b>16.67</b>
South Branch of the Chicago River	11	0.18	0.00	0.91	4.73	8.09	<b>13.91</b>
Bubbly Creek	1	0.00	0.00	0.00	0.00	5.00	<b>5.00</b>
Chicago Sanitary and Ship Channel	19	0.00	0.00	0.05	0.84	1.95	<b>2.84</b>
<b>TOTAL BY EVENT</b>		<b>0.32</b>	<b>0.60</b>	<b>10.16</b>	<b>15.34</b>	<b>54.27</b>	

Table 1. Mean Number of Event Observations on Chicago River System – Summer, 2003. (Data from CDM).

These results represent snapshots of river activity, only. These data represent only what was observed as the monitoring boat passed a given area. One can assume that these observations were typical of occurrences on the waterway during summer, weekday, daylight hours. None of the observations were made on Saturday, and only one set of observations was made on a Sunday. The data in this table represent the average event observations (Number of a particular event divided by the number of days that observations were taken).

The best interpretation of this table would be to assume that during mid-morning to mid-afternoon hours, during weekdays, in the summer, one could expect to observe the number and type of waterway activities represented in the table. For example, one would most likely not observe anyone water skiing, tubing or wading on any single trip anywhere on the waterway. However, one is likely to see more than 10 human-powered boats and over 50 pleasure craft on a trip from the North Side Water Reclamation Plant on the Lower North shore Channel down the Chicago Sanitary and Ship Channel. Each cell within the table represents the number of events by category that can be expected in each waterway segment.

The significance of these data must not be overly emphasized, however. For example, the greatest amount of canoeing, kayaking, and rowing was noted in the Upper North Branch (An average of 8.47 observations) while there were no observations in the Main Branch. Had the observations been made in the early morning hours, rowers would have likely been observed there. The most common event observed throughout the river system was pleasure boating (i.e., on any given day one is likely to observe about 55 pleasure boats on the river). Drawing conclusions from these data must be approached with caution, however. Had observations been made on weekends, the numbers reflected would be greatly increased because the majority of river vessel traffic is recreational and recreational vessel use is location, weather, day and time

driven, (i.e., much greater recreational activity on the weekends). Nevertheless, these data do provide a rough picture of activities on the Chicago waterways system.

#### 4. ISSUES

The above discussion on current and expected vessel traffic on the Chicago River has direct bearing on the traffic management issues that are the concern of CDOT. The important issues associated with making the Chicago River a more accessible waterway for public and commercial use are not new. A report by Khisty and George of the Illinois Institute of Technology in 1994<sup>3</sup> and another by MRA International, Inc<sup>4</sup>, although specifically studying other aspects of river enhancement, brought out issues that were and are concerns for proper waterway utilization. A major point made in the MRA report was to “focus on the enhancement of this area for commercial, recreational, and leisure activities, and the addition of public amenities which support broader use of the river.” (MRA, p.3). Some of the recommendations made in the Khisty report included the following:

- Demarcating no-wake zones,
- Licensing of recreational boat operators,
- Enforcing navigational rules, particularly the ‘boating while intoxicated law’ and ‘laws against negligent operations’,
- Making available the rules of the Chicago River and Lock to all operators of vessels, e.g., safety rules, rules regarding no-wake zones, order of precedence [in the lock]. Operating procedures, and
- Displaying adequate and proper signing at crucial locations along the river and lock.

Ten years later these issues are still being discussed and are still considered important for safe operation on the river. It is hoped that this report will add to this discussion and provide impetus for developing new rules and guidelines for safe and environmentally appropriate operation and development along the Chicago River system.

There are two basic issues that underlie the management of the Chicago River system: that of information management and physical security.

A major issue facing the City of Chicago in relation to the river is that of collecting and maintaining information on existing and forecast activity and development on and along the river's shores. Right now, what information and data are collected is done so by various agencies that have particular concerns with the river. For example, the Coast Guard and the Marine Police collect information on certain safety issues, such as accidents and safety violations. The Corps of Engineers, through Chicago Lock data keeping, maintain information of vessel type and quantity (along with passenger data) passing through the Lock. Various agencies within the city government collect information on and issue permits for construction along the river, and the Chicago Parks District deals with park construction and maintenance along the banks.

It is essential that a centralized agency or organization within the City of Chicago be responsible for identifying, collecting, and collating all the relevant information concerning the river and riverbank activity.

The second basic issue facing the city is that of maintaining vigilance in the light of post-9/11 terrorist attacks. An explosives laden vessel entering the Main Branch could do catastrophic damage at several locations along the river. An extensive terrorist act in the Main Branch could easily destroy one or more of the bascule bridges (with rebuilding costs in excess of \$25 million each) and one or more of the high-rise buildings along the river, in addition to the untold number of deaths to people. High profile properties and historic landmarks abut the Chicago River in a number of locations and could be vulnerable from the river. Efforts are underway, under the Department of Homeland Security to develop countermeasures for preventing such an attack but whatever is done there must be close coordination between the city and local and federal law enforcement officials to insure against such terrorist actions.

## 5. SPECIFIC ISSUE AREAS

### **5.1 Operations.** *Daily uses of the river by barge, commercial, water taxis, recreational vehicles.*

The Chicago River is an open waterway that can be used and enjoyed by everyone, whether it is commercial and industrial enterprises that use the waterway to make a living, or individuals and families that wish to enjoy the many benefits that the river has to offer. It is incumbent on the government, whether local, state, or federal to assure that these diverse interests have access and can expect to use the river under personal and environmentally safe conditions. The Mayor of Chicago has expressed his sincere desire to increase public enjoyment and usage of the river while maintaining the river's historical status as a route for industrial/commercial traffic. In order to accomplish this the city has put a strong emphasis on assuring safe travel on the river. Many existing regulations on boating have proved valuable in achieving this end. However, enforcement of these regulations is considered by many to be inadequate, and additional regulations may be called for.

Professional captains and operators comprise the tug/tow industry on the river. These individuals tend to have many years of experience on the Chicago River and other waterways and are licensed by state and/or federal agencies. These professionals and the industries they work for are an integral part of the Chicago River traffic and the economy of the area. Existing regulations are in place to provide for their safe transit on the river. And although there is always the possibility of an accident, no one interviewed mentioned any careless operations by this group of mariners.

Basically the same can be said for tour boat operators. As noted above, the tour industry (including water taxis) maintains a significant presence on the river and will only become more prevalent in the near future. As with tug/tow operators, these professionals are licensed to

operate. But unlike a tug pushing one or two loaded barges that has to maintain a specific speed for control, the tour boats/water taxis have schedules to keep and, according to reports from several interviewees, are known to violate no-wake zone restrictions, “slightly”, in order to meet schedule. Although this occasionally happens, this “minor infraction”, according to one tour boat representative, never occurs when there is a potential safety issue.

Many suggestions have been offered by individuals, private and public organizations, and various governmental representatives to improve operational safety for the private small power boat operator. These suggestions range from limiting their access to the river, either to specific times of the day or to particular sections of the river, to licensing boat operators. There are several issues that have been voiced concerning these boaters including speeding (creating wakes in the no-wake zones), boating while intoxicated, and lack of knowledge of the rules of navigation. Each of these problem areas can be greatly ameliorated through education, but the first two will require more enforcement to have any real effect.

5.1.1 River Operation Issues. There are several issues that relate to vessels transiting the river system that can be addressed through regulation, education, signage, and/or enforcement. The major issues are stated below.

1. Speeding/No-Wake Zones. Currently the Main Branch and areas near specific marinas and a few other facilities are designated as “No-Wake” zones. However, the No-Wake zone signs have come into disrepair or are missing entirely. What is needed is a re-examination of the areas that should be designated as no-wake zones and new, highly visible signs that indicate no-wake zones that state the fine for violation.
2. Boating and Alcohol. The major concern voiced by all of the interviewed river users was the potential danger related to powerboat operators on the river while intoxicated. The problem is compounded by the fact that most incidents of drunk boating occur during the summer and on weekends, when river traffic is at its most dense.
3. Rules of the Road. The professional, licensed, vessel operators are aware of and responsible for operating under the general rules of navigation on the river. Many, if not

most of the small boat operators have, at best, only a perfunctory knowledge of these rules. Education is essential to improve this situation.

4. Licensing or Certification. Each of the above issues can be dealt with and rendered much less severe through a mandatory licensing or certification program. If all power boat operators were required to have an operator's license or certificate, the vast majority of the boating population would then be specifically aware of the laws, regulations, and rules associated with operating on the Chicago River, as well as the penalties for violations. As part of a certification program, the specific issues related to operating on the Chicago River could be discussed and coordinated in conjunction with state statutes.

5.1.2 Waterway Zones. Activities along the river, as stated earlier, involve many different types of watercraft with diverse origins and destinations.

- Virtually all the barges that enter the Main branch from the lock are destined to a facility on the North Branch.
- The majority of the barge traffic, however travels between the North and South Branches and do not enter the Main Branch.
- Tour Boats originate on the Main Branch or near Navy Pier and cruise both the North and south Branches.
- The power boat operator tends to travel the entire river, whether it be for fishing or simply pleasure boating,
- Human powered craft also can be expected virtually anywhere on the river but tend to concentrate at specific areas and, particularly with rowing shells, at specific times of the day.

Through evolutionary development, the river, like the city itself, has gradually developed into a “zones” or major use areas according to the prevalence of the majority of development along the river. Several taxonomies have been used to describe this development. The Chicago Department of Planning and Development, in conjunction with CDOT is developing a plan to divide up the river into river zones identified as 1) Commercial Waterfront, 2) Industrial Waterfront Urban Waterfront, 3) River Recreation, and 4) Riverine and Storm Water Protection Zones. This classification scheme has considerable merit but the question is what these zones will mean.

1. Commercial Waterfront Zone. The Commercial Waterfront Zone has been designated (approximately) as the North Branch, south from Goose Island; the entire Main Branch; and the South Branch down to Cermak Road. This area is already heavily



commercialized. Several significant parks and the proposed Riverwalk are currently under development.

2. Industrial Waterfront Zone. The Industrial Waterfront Zone is actually designed as two sections of the river, part on the North and part on the South Branches. The North Branch section is designed to run from the west side of Goose Island to Fullerton Avenue. The South Branch section runs from Cermak Road to about Cicero Avenue (not including Bubbly Creek). These areas contain the majority of the industrial facilities in Chicago that use the river. This zone is the closest to the down town area of Chicago and the lock for Lake Michigan.
3. River Recreation Zone. The River Recreation Zone is so designated because it is the area of the river along which most of the housing is located. On the South Branch only Bubbly Creek is designated as a River Recreation Zone. On the North Branch, this zone runs from Fullerton Avenue up the lower North Shore Channel as far as Devon Avenue. The land adjacent to Bubbly Creek is currently being developed with high-end housing. The North Branch River Recreation Zone has been developed as housing and other urban construction for many years. A considerable number of docks, piers, and the majority of the recreational facilities are located in this zone.
4. Riverine and Storm Water Protection Zone. The Riverine and Storm Water Protection Zone is composed of two areas of the North Branch: a small section on the east side of Goose Island, the section of the North Branch to the west of the juncture with the North Shore Channel out to the city limits, and the South Fork of the South Branch, known as Bubbly Creek. The land along this latter section is primarily owned by the Cook County Forest Preserve and, therefore contains little development.

Establishing these zones is basically a good idea, but the issue then becomes one of what the zones mean. Some of the interviewees suggested that the zones be established as exclusionary zones. That is, allowing only certain types of boating activity in particular areas. However, this approach is impractical for several reasons. First, restrictions on the river might be extremely difficult to support from a legal standpoint. And second, the waterway is a transportation route and vessels would have to transit one area to get to another. The exception to this could be the Riverine and Storm Water Protection Zones because the waters in these areas are shallow and somewhat separated from the rest of the major thoroughfare of the river. These areas neither encourage nor support transits by larger craft.

The proper use of such a zoning concept would be to limit or encourage particular types of development along the riverbanks and to encourage certain type of vessels in these areas. For

example, the Riverine and Storm Water Protection Zone could be designated as a primary location for human powered craft with no-wake signs in the entire area. Development in this zone should be limited to nature and ecology oriented facilities (e.g., parks, trails, and public access points). In any case, the establishment of zones for the river necessarily entails obvious signage and an extensive public education program, defining the nature of the zones.

**Recommendations.** The establishment of “River Use Zones” is within the control of the City of Chicago. What these zones represent must be carefully considered. Implementation of other operational considerations will require close coordination within city, state and federal agencies, as well as with the public (e.g., Friends of the River).

1. The four zones should be established on the Chicago River.
2. Overall operations should be encouraged on the river with particular emphasis on increasing public recreational use.
3. Public educational programs should be established to make all boaters, public, commercial and industrial, aware of the zones and their prevalent nature.
4. Public launches for human-powered craft should be established mainly in the River Recreation and Riverine and Storm Water Protection Zones, avoiding locations with limited visibility (e.g., at outside bends in the river) and at sewer-outfall locations.
5. Appropriate signage should be installed (e.g., zone demarcations, No-Wake areas with penalties for violation, geographic location markers, etc.)
6. Increase staff and equipment for the Chicago police marine unit to address increases in traffic on river systems along with continuing lakefront duties. Speeding and alcohol abuse violations should be more strictly enforced.
7. Licensing or certification of powerboat operators should be examined to help alleviate boat operators’ lack of knowledge of the rules of the road and safe boating practices.
8. The construction of facilities should be encouraged both for city agencies such as the Chicago Parks District and private enterprise in order to create desirable destination locations for boaters.

**5.2 Banks.** *Improving the riverbanks either by replacing unsightly and crumbling dock walls or expanding natural edge, adding green infrastructure, and curbing the effects of bank erosion.*

Improving the banks along the waterway is already underway by various public and private entities in the Chicago area. As a contributory aspect of improving the ecology of the river, returning as much of the banks to a more natural state goes a long way. Much of the

steel sheeting and existing dock walls are decaying and create both an unsightly and, in some cases, unsafe river buffer. In addition, a considerable portion of the riverbank has been fenced off and is overgrown with trees and shrubs that limit access to the river. A significant change in local ordinances provides for a setback of thirty (30) feet from the river for any new construction. This buffer will provide for the establishment of more indigenous trees and shrubs to be planted and for expansion of public access to the river through the continued development of a pedestrian/bike path along the extent of its banks.

One example of the cooperation between private and public efforts to improve the banks is represented by the *National Model Riverbank Restoration Project* organized by the Von Steuben Horticulture and Garden Club of Chicago. Working with the city's Department of Environment, this project got local high school students involved in riverbank improvement.

Students recently participated in a federally funded National Model Riverbank Restoration Project funded by the US Army Corp of Engineers. This was the first USACE grant to include work by students, which involved science-based service learning. Students participated in beautifying the riverbank near our school by planting 3500 gallon-sized containered plants, including three native-species plants. The purpose of this project was two-fold—to provide a science-based service learning project for high school students and to benefit the community by testing out several types of riverbank stabilization techniques. This is also a sister-project to a similar project occurring at nearby Northside College Prep HS.<sup>5</sup>

One of the strongest advocates of riverbank improvements has been the Chicago Park District. In *Chicago River Master Plan: Connecting People to the River*, a report published in 2002<sup>6</sup>. The Park District describes twenty-four (24) current and proposed sites along the river that serve a dual purpose of providing access to the river by the public and improving the riverbank, itself. Some of the more salient points made in this report are:

- Expanding public ownership of the river corridor;
- Improving public and universal access to the river with trails, canoe launches, landings, and fishing stations;

- Providing linkages between parks and adjacent public spaces to create a unified riverfront trail system;
- Improve water quality by restoring adjacent riverbanks and uplands ultimately reducing erosion and sedimentation

Another issue related to bank improvement entails the elimination or modification of areas along the banks where debris and garbage collect. These can only be achieved by modifying the water flow dynamics in these areas by either changing the bank profile or installing some sort of device such as rip-rap. Either of these techniques can be effective in preventing garbage accumulation.

**Recommendations.** Bank reclamation is an expressed desire of the Mayor and the Commissioner of Transportation. Riverfront property that is owned by governmental entities should provide an example for the private sector by restoring the banks to its natural setting and habitat and by repairing failing dock walls. The City of Chicago, in particular, should follow its own guidelines and be the leading force for such environmentally sound development. Currently, CDOT is working with DPD to finalize a dock policy that can be used as a tool for private developers. Assurances must be made that development along the river fit the surrounding area while maintaining an awareness of existing waterway traffic safety. For example, the construction or modification of canoe launches should consider barge traffic and water taxi stops in the vicinity.

For private property with existing structures along the river, there is little that can be easily done. And for private property that will be developing structures along the river, the 30-foot setback proposal will have to be incorporated into the permitting process.

1. City work with the Chicago Park District to establish parks, trails, and public access sites along the river. This included clearing existing overgrown areas and landscaping with indigenous plants and shrubs.
2. Enforce the 30-foot setback provisions.
3. Modify bank structure and/or install devices (e.g., rip-rap) to eliminate garbage collection points along the river.

4. Inspect existing docks and piers along the river to assure that they are up to code. (Issuance of new permits is discussed below).
5. Where feasible, return bank profile to a more natural state; repair or replace existing hard-wall construction; and landscape riverbanks.
6. Work with ACOE, MWRD, IDNR, DOE, and DPD and other effected city and governmental agencies on all levels of these issues.

### **5.3 Capital Projects.**

A major category of issues involves the establishment of new laws and regulations that codify and streamline the development of facilities within the 30-foot setback along the river, including standardized policies for the construction, modification, and maintenance of docks and the permitting process itself.

*5.3.1 Dock Policy. Establishing a docking policy at the different “zones” along the river allowing various uses.* One of the major benefits of developing a River Use Zone System is that it will provide a basis for establishing a unified dock policy. The idea is that only certain types and sizes of docks or piers will be allowed in each zone. The city needs to establish a new dock policy that, among other things, defines construction parameters and limits intrusion into the river. As homes are being built or remodeled along the river, many of these residents expect to have full access to the river, including the development of their land up to the river and construction of a dock on the river. While this practice is understandable, permits and regulations must be established to assure that the riverbank’s integrity is maintained and the proliferation of docks is controlled. By improving public education on the city’s view of the river and making the permit process accessible and more user friendly, DPD can work with developers in the earliest stages of planning to insure that the permitting and development process moves efficiently and correctly.

In order to come up with specific regulations and permits (this latter issue is discussed below) close liaison between several city agencies must be organized. In addition, regular inspection for compliance must be organized and carried out.

The Main Branch of the Chicago River poses particular problems. Although the Main Branch (from the Lake Shore Drive Bridge to Wolf Point) is relatively short (approximately 1¼ mile in length and 200 to 300 feet wide) the effects of an accident in this section could result in catastrophe. The numerous bascule bridges combined with the narrow channel, steep solid walls, seasonal sail boat flotillas transiting to and from the lake, and the future increase in traffic due to the Riverwalk create a potentially hazardous situation. The river from the Michigan Avenue Bridge to Wolf Point is narrow and is the major tourist section of the river. Several tour boat companies load and unload passengers in this section. The shoreline is almost exclusively made of concrete and steel walls, particularly on the north side, with dolphins restricting traffic at each of the bridge abutments. The south side of this branch currently has somewhat lower concrete walls along the existing pedestrian walkway. When the Riverwalk is completed the overall width of the river in the Main Branch will be slightly diminished by the build-outs along the south shore. The main channel however, will not be greatly affected.

Docks and tie-ups along the Main Branch pose particular problems. This is an area that is most desirable as a destination for tourists and locals, alike but at present there are only a limited number of such spaces available, and these are almost exclusively reserved for commercial vessels. (There is a private marina on the north side that is built under the landside structure that does not impinge on river traffic). Several Main Branch locations are now being use for tour boats and water taxis and more are in the planning stage.

An issue that has been brought up several times concerns what is called “touch-and-go” sites. The question is what is meant by touch-and-go. This is a difficult question to answer.

Touch-and-go for a water taxi may be less than five minutes, while for tour boats that load and unload many passengers, it may be about one-half hour. If touch-and-go sites are eventually allowed for private boats along the to-be-developed Riverwalk on the Main Branch, other time definitions may be required.

The question of whether or not to allow any touch-and-go tie-ups for private craft along the proposed Riverwalk should be reexamined when the Riverwalk is finished. There will be a natural tendency and desire for small craft to stop here for various reasons. If touch-and-go parking is eventually allowed strict enforcement of parking regulations will have to be assured. Certain issues will be critical; for example, 1) no long-term parking, 2) no parking during mass sail-boat transits to and from the lock or during other known congested periods, 3) no double parking, and 4) a requirement that the operator remain near the boat.

**Recommendations.** It is evident that the city needs to establish a uniform dock policy that is adhered to and enforced. The proliferation of commercial and private docks, as well as the establishment of public temporary docking facilities needs to be carefully controlled. The specific recommendations for a citywide dock policy are as follows:

1. Develop a dock construction and maintenance policy that coincides with the desired development in the zone system.
2. Revisit all existing docks to assure that they comply with existing code and develop a timeline for existing docks to meet newly developed dock policy. (Existing docks will have to be dealt with on an individual basis).
3. With the eventual development of the Riverwalk on the south side of the Main Branch, it would pose too great a hazard to navigation to allow docking on the north side, opposite the Riverwalk. Therefore, it is recommended that no dock or touch-and-go tie-ups be allowed on the north side, opposite the Riverwalk. The North side, east of the Michigan Avenue Bridge could be developed as touch-and-go docking for water taxis and tour boats.
4. Since there will be a great demand for temporary docking along the proposed Riverwalk, consideration for specific limitations on such docking should be considered after the Riverwalk is completed.

5.3.2 Permit Process. *Develop an efficient method of permitting construction and riverside development.* Anyone in the City of Chicago desiring to construct any type of facility on or within 100 feet of the river must acquire a series of permits. Plans must be approved and permits applied for from a number of local, state and federal agencies. Depending on what is being constructed; permits may be required from the U.S. Coast Guard, the Army Corps of Engineers, the Illinois Department of Natural Resources, and several different agencies within the city (e.g., the Departments of Buildings, Construction and Permits, Planning and Development, Environment, and Transportation).

Individuals or businesses that want to build along the river often face a confusing series of permit application and approval procedures. And this confusion is not limited to the applicant. Within the purview of each permitting agency there is often little known about the entire process of getting a project approved. What is needed, for the prospective developer and for the city in general, is a centralized site to perform an initial evaluation of each proposal, determine what permits are necessary, and deliver a detailed check list of the required permits, the contacts in each agency to obtain the permits, and the appropriate order in which to obtain and comply with the permits. An alternative to this approach would be to have this central office be the single point of permit application. This office would determine the necessary permits, obtain appropriate documentation from the developer, and act as liaison with all other involved agencies. This latter approach would streamline the development process and would make everything much simpler for the developer. While this latter approach would perhaps require the establishment of another layer of bureaucracy, it would relieve much of the processing now employed by other offices.



**Recommendations.** The permit application, processing, and issuance system must be streamlined to make the process simpler and more user-friendly for the customer and more efficient for the issuing agencies. The recommendations for achieving this are as follows:

1. Consolidate, simplify, and computerize permits and permit applications. Combine redundant, and eliminate out-dated permit requirements.
2. Consolidate the permit processing system into a single point of contact.
3. Develop a project evaluation system that determines the necessary permits for any river-oriented project.
4. Provide a checklist with necessary permits and requirements for those permits to the developer.
5. Since the city's Department of Transportation has the knowledge base and expertise available to administer and monitor a consolidated permitting system this would be an appropriate center for such activity. Such a CDOT function would require close liaison with the department of construction and Permits and the Department of Planning.

#### **5.4 Programming**

*Bringing events and activities to the river to encourage Chicagoans to enjoy this great natural resource.* As a major component of the city's plan to make the river more accessible to the public and to emphasize the importance of the river as a commercial and recreational asset to the city, encouraging public events on the river will achieve significant results in appreciation. As the public becomes more aware of what the river has to offer through participation in and viewing of river events, public and private interest in further improving the river will be a likely collateral benefit. The success of such events as the "Chicago River Day", "Flatwater Classic Canoe and Kayak Race", "Tall Ships Regatta" the July 3<sup>rd</sup> fireworks event, and "Venetian Night" demonstrate this result. One of the most effective ways to increase river-oriented events is through public awareness. Often through casual contact with the public, interest is discovered for holding some type of river event. If it were known that the city was interested in pursuing these events, ideas and sponsorships will be revealed. Through the united efforts of the City of Chicago to improve water quality and shoreline cleanliness, the river will continue to attract more and more visitors. Numerous government agencies are conducting

water quality studies and researching various ways to improve the condition of the river. As the water quality increases more organizations will want to hold river events resulting in an increase in the demand for activities programming.

**Recommendations.** The city should encourage public and private input concerning the desire to hold river events.

1. Assign the responsibility for river event coordination to a single department/bureau within the city government (e.g., the Mayor's Office of Special Events).
2. Encourage proposals for river events from potentially interested parties.
3. Enhance efforts to obtain private sponsorship of events.
4. Expand public awareness of events through education and advertising.
5. Encourage participation by relevant parties in events.
6. Emphasize (i.e., advertise) public viewing of events.

## **6. SUMMARY**

The Chicago River is a unique and valuable asset to the City of Chicago, running from Lake Michigan, through the canyon of the heart of the city to both the north and south extremes of the city limits. It is incumbent on the city to assure that this asset be developed in a manner that is consistent with greater public access and appreciation. A central office or bureau should be charged with coordinating and/or collecting and disseminating data and statistics on river usage, development and planning. This mandate takes the form of the five classifications discussed in this report: Operations, Banks, Capital Projects, and Programming. There are major components of each of these categories that bear repeating.

- **Operations.** Safe access to the river by public and private entities must be maintained and encouraged. As river usage increases steps must be taken to insure that all users are aware of the rules and regulations accorded to operating on the river and that all are responsible for safe access to the waterway.
- **Banks.** Through city land purchases and leases, riverside parks and trails should be established wherever possible. Public and private concerns should be encouraged to

develop riverbanks in accord with ecological, environmental and esthetic guidelines. It is essential to take control of the river to assure that water quality and riparian flora and fauna have an opportunity to flourish.

- Capital Projects. In order to control the proliferation of docks, piers, and other construction projects along the river, strict permitting and inspections processes must be established. The permitting procedures should be condensed and centralized in order to simplify and clarify the requirements for the developer and to avoid confusion for the customer and the city.
- Programming. The various offices within city government should work together to encourage river-oriented events in order to exploit the unique value that the river has for the City of Chicago. A centralized river events office, working in consort with other offices could, with appropriate advertising, involve the marine community as well as the general public in taking a more active interest in preserving and improving the Chicago River.

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