

discussed above, whether a recreational vessel's transit originates on or terminates on either the North or South branch, and involves some or all of the bridges on either branch, the transit invariably involves opening all of the bridges on the Chicago River. If a beneficial and balanced approach is to be taken in modifying the existing regulations, the changes must address these bridges. In addition, it is the position of the Coast Guard that if a regulation can be developed that provides a reasonable balance between the needs of land and vessel traffic for the bridges on the Chicago River, a logical extension of those rules to the North and South branches would be appropriate.

The second step was to ascertain whether there was a demonstrable need to change the existing regulations. The traffic data presented by the City were based on directional traffic counts, taken at fifteen minute intervals, 24 hours per day, at certain bridges. Normal traffic flow counters and methodologies were used to record traffic activity for one week in the fall of 1994 and two weeks in the spring of 1995. The data showed that downtown Chicago traffic does not follow a typical urban traffic pattern. Rather than traffic levels increasing during the morning rush hour, decreasing during midday, and increasing again during the evening rush hour, the traffic increased in the morning, then declined slightly, but remained high until early evening. There was no significant variation in the traffic patterns or volumes between the two periods.

Although the traffic counts do not cover the full boating season, the Coast Guard has no reason to believe that there is substantially more or less vehicle traffic during the summer months. Chicago traffic does not appear to vary appreciably on a seasonal basis.

The study counted traffic during 1994 on the Lake Shore Drive, Michigan Avenue, Wells Street and LaSalle Street bridges. In 1995 the study counted traffic on the Lake Shore Drive, Michigan Avenue, Clark Street and Dearborn Street Bridges. It was determined that the location of the traffic counter on Lake Shore Drive was not in the best location to provide accurate traffic data for the bridge, since a substantial amount of traffic could exit before crossing the bridge, and some traffic may have been counted that did not cross the bridge. In lieu of disregarding the traffic on this major artery entirely, the volumes recorded for Lake Shore Drive were reduced by half for purposes of this proposed rule. The City has been requested to provide an

accurate traffic count for this bridge prior to the public hearing. While the Coast Guard has received additional data from the City, the Coast Guard has not yet analyzed this new information in light of the entire record. The Coast Guard will consider these newly submitted data, any revised data, and any comments on the accuracy of those data, before action on a final rule. The 1994 and 1995 data were extrapolated to the other downtown bridges. Based on this analysis, it is conservatively estimated that in excess of 3,000 vehicles are potentially affected by each sequence of bridge openings on weekdays between the hours of 10:15 a.m. to 3:15 p.m.

The average opening cycle for a bridge takes 8 minutes for a single vessel transit and 10 minutes for a flotilla of 10 or more vessels. There was no significant variation in the opening time associated with the number of vessels in a flotilla. The average time for vehicle traffic to return to normal after an opening was 4 minutes, although there was substantial variation between bridges which appears related to the volume of traffic on a particular bridge.

From these data the Coast Guard concluded that the existing permanent rule does not strike a reasonable balance between the needs of vehicular traffic and the needs of recreational boaters. The existing rule requires the drawbridges to be opened, on demand, as many times as recreational boaters want, within specified times. Other than the rush hour restrictions, the rule does not provide for regularly scheduled openings and the data indicate that openings have the potential for affecting a large number of vehicles during periods of heavy traffic.

There is no set formula for balancing the burden on vehicular traffic against the burden on marine traffic. The Bridge Administration Manual indicates that the length of delay caused by a bridge opening, by itself, does not justify restricting bridge openings. There is sound reason for this, since the amount of delay caused by a bridge opening can be the result of many factors, including some within the control of the bridge owner, from initial design of the bridge through current maintenance and operational practices. On heavenly traveled roads the delay to people in vehicles will invariably exceed the delay to people on recreational vessels, unless the time between required openings is extremely long. Any attempt to measure and weigh the value of waiting time to persons in vehicles and compare it to the value of unrestricted scheduling to boaters is misleading. As noted previously, the statute requires

the regulation to provide for scheduled openings to reduce motor vehicle traffic delays and congestion, where practical and feasible. The Coast Guard construes the statute as requiring only a common sense evaluation, on a broad level, of the impact of bridge openings on vehicular traffic and the reasonable expectations of the owners and operators of vessels to be able to use the navigable waters of the United States. In this instance the Coast Guard believes that an appropriate balance requires some restriction, beyond the current rush hour limitations, on the right of vessel owners and operators to request openings. The balance must reflect vehicular traffic needs and the peculiarities of the Chicago Loop and Must also accommodate the needs of boaters. A proper balance is not one that continues on demand openings except during rush hours. The voluntary restraint and scheduling efforts practiced by the boatyards and boaters do not cure the defects in the existing permanent rule. Since there are no market forces that are operable to limit or control exercise of the right to demand bridge openings, the Coast Guard concluded that revision of the existing rule was appropriate if a practical and feasible method of scheduling could be devised.

The third step was to analyze the available data to determine if there is a practical and feasible way to schedule or limit openings that would help reduce vehicle traffic delays and congestion on the roads and highways served by the bridges on the Chicago River. To do this, the Coast Guard analyzed available data from 1990 through July 5, 1995 concerning vessel transits of the Chicago River, concentrating on those transits that took place on weekdays. Data on several years of vessel traffic levels were provided by the City of Chicago, contained in their Drawbridge Study or previously furnished to the Coast Guard.

The number of vessels requesting transit each year ranged from a low of 461, in the spring of 1992, to a high of 662 in the fall of 1991. Of these, the number of vessels transiting on weekdays ranged from a high of 207 in the spring of 1990 to a low of 78 in the spring of 1993. Prior to 1993, approximately one-third of the vessel transits occurred on weekdays. In 1994 and 1995 the percentage of weekday transits decreased to 25% or less. It is noted that the data were influenced by the various restrictions in place since 1993, including the temporary deviation in effect from April 15, 1995 to May 18, 1995, and by the voluntary cooperative scheduling arranged between the