

HISTORIC PORTLAND
an interim report



INTERIM REPORT

A STUDY OF THE FEASIBILITY AND IMPLEMENTATION
OF DEVELOPING THE HISTORIC AND RELATED RESOURCES
OF THE PORTAGE AREA
AS A PART OF THE SOUTH CENTRAL WISCONSIN REGION

FOR

THE GOVERNOR'S PORTAGE CANAL IMPLEMENTATION COMMITTEE
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Introduction

The South Central Region of the State of Wisconsin, with a focus on the Portage Area, contains a number of undeveloped resources, both historic and natural, which could be attractive to tourists and add to the present picture of tourism and recreation in this area. If a development of these resources is to be considered, historic, practical, and economic features must be comprehensively studied to initially determine if such a development is logical and feasible. Without the positive assurance of feasibility, the grandest of development concepts is unrealistic.

To that end, this *INTERIM REPORT* provides a pause in the deliberations toward the final intent of this study to look primarily at practicality and economics. If these aspects appear promising, realization of a successful development of some combination of the available historical components is virtually assured.

This *INTERIM REPORT* describes a concept for development and evolves economics generated by it. This is a necessary device to establish ground rules for feasibility. It must be emphasized that this report is interim in nature and portions of the concept may be revised or deleted in further development of the study. Hopefully, if it is well conceived, a majority of its concepts and features will prove to be valid.

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A brief look beyond the history already documented by the Committee in its 15 November 1964 Report, proves that there is sufficient local, state, and national historic significance present to assure historic feasibility. It is therefore an assumption of this report that there is no need to relate the history herein to further establish this as fact.

Background

On 30 October 1964, Governor John W. Reynolds of Wisconsin announced that he was appointing a special study committee composed of representatives of a number of interested state agencies and the City of Portage to "*Carefully Assess the Overall and Long-Range View of the Canal's Future.*" The potential of the Canal area as a recreational and historical asset was to be a particular concern of the Committee's deliberations. The Committee was formally appointed on 21 December 1964. It was organized with two sub-committees to (1) evaluate the Portage Lock problem, and to (2) investigate further possibilities of historic development of the Portage Area. The recommendations of the Committee were presented in a report to Governor Warren P. Knowles on 15 November 1965. As a result of this, a budget was established and the Board of Government Operations transferred \$20,000 from the Governor's Executive Budget to the Committee for their use in furthering this work. To validate each of the Committee's recommendations, to expand them or to discover new considerations, it was determined that an in-depth study should be initiated by professionals experienced in the development of historic resources.

From the middle of December 1966 to March 1967, negotiations were carried on with Frank and Stein Associates Incorporated of Lansing, Michigan, culminating in the acceptance of their proposal by the Committee at their meeting on 21 March 1967. Approval of a contract with

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the Bureau of Engineering was finalized on 17 April 1967. The Board in charge was changed from the Bureau to the Committee by amendment on 5 July 1967.

Early in July a tragic incident occurred which brought the need for swift action on the Canal into sharp focus. A young lad, while playing near the Wisconsin Lock, fell in and was drowned. To avoid the reoccurrence of this unfortunate accident, safety measures to eliminate this hazardous situation should be initiated immediately.

One of the main purposes of this Report is to acknowledge the inherent danger of the Wisconsin Lock. However, a plea is made that wise consideration be given as to the type of safety devices incorporated so that its historic value is not eradicated or that its inclusion as a necessary part of the Canal story is not obviated. In spite of this unfortunate occurrence, the Lock structure is important to the people of Portage. This fact was emphasized by Governor Reynold's instructions to the Committee in 1964 - *"The City maintains that to remove the Lock and replace it with a permanent levee would disrupt the Fox-Wisconsin Waterway, thus removing a potential recreational asset, and at the same time, diminish the historic value of the area."* It was further emphasized by the very existence of the Committee itself, and its inclusion in their deliberations.

In order to maintain the Wisconsin Lock in its present condition, safety measures taken now should alter its composition as little as possible. Any alteration which would make it appear as less than an operable lock should be avoided until final decisions are made which will provide for its being a dominant part of the total interpretive story of the Canal. Contrary to statements recently made, it is felt that an 8' high woven wire fence, with a protective barbed wire barrier at the top, would sufficiently discourage any mischievous, overly-interested youth. This temporary measure could be easily removed for permanent safety provisions, without any irreparable damage to any portion of the Lock. Later in this Report, positive suggestions for permanent safety measures will be made which provide for preservation of the Lock in a completely safe, yet authentic manner.

Existing Situation and Potential

All of the existing aspects in and around Portage which provide the basis for the potential to develop the area to an exciting and authentic tourist attraction have been identified in different combinations. The Committee Report of 15 November 1964 identified them in "Summary of the Committee's Recommendations" and "A Plan to Implement the Recommendations." Frank and Stein Associates Incorporated also listed them in their proposal submitted 3 March 1967. Later in this Report, the total development area is broken down into nine sub-areas. To avoid confusion, the existing situation, as it is made up of its many parts, will be discussed, categorized in the following manner:

- A. The Portage Canal and Recreation
- B. The Portage Canal and Historic Features
- C. Related Considerations

As the basic intent of this *INTERIM REPORT* is to define the practicality of development as it is embodied in the Canal, and the economic feasibility of development, this section will deal with the practicality. The hydraulic aspects will be reported and detailed to establish the feasibility of the continuation of this study. Due to the fact that the other features are not a determining factor in the continuation, they will receive only brief attention to validate their inclusion in the concept for development.

A. THE PORTAGE CANAL AND RECREATION

The scope of Canal restoration will be determined by the resolution of a complexity of factors.

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How the Canal can be utilized will be determined by the relative feasibility of each. These factors include:

1. The Wisconsin River - feasibility as a recreational boating asset
2. The Portage Canal - utilization for boating
3. The Fox River - utilization as a recreational waterway

1. The Wisconsin River

Hydraulic - Hydrological Aspects:

At Portage, the Wisconsin River drains some 7,900 square miles of watershed. This great River has been extensively developed for hydroelectric power, with the construction of numerous dams. To illustrate the tremendous power potential, it may be noted that the River descends 740 feet from its origin at Lac Vieux Desert Lake on the Wisconsin-Michigan border to Nekoosa in Central Wisconsin. Thereafter the River descends an additional 310 feet to its confluence with the Mississippi River.

Based on available records, the average flow of the Wisconsin River at Portage is about 3,000 cubic feet per second, although this figure is influenced by diurnal operation of power dams. The minimum flow is perhaps 1,000 CFS (probably in 1936) and the maximum flow is about 75,000 CFS in 1938. During the dry months, flow in the reaches of the River adjoining Portage is restricted by power interests. At other times of the year, much water has to be wasted downstream

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X due to lack of sufficient reservoir storage volume.

About 20 miles upstream from Portage at the Wisconsin Dells, the River is channeled through picturesque sandstone just before it enters a rather flat sandy bed.

X A unique topographical situation occurs at Portage, where the Wisconsin and the Fox Rivers flow within one and one-half miles of each other - the former tributary to the Mississippi and the latter tributary to the Great Lakes St. Lawrence System. At normal River stages, the Fox is 6 feet lower than the Wisconsin and at flood stage it is 21 feet lower. The Wisconsin State Planning Board Bulletin Number 6, May 1938 states that *"Before man-made obstructions intervened, every flood that topped the banks of the Wisconsin discharged some of its water down the Fox. During extreme floods the amount of water going down the Fox must have been very large."*

Adjacent to Portage, a system of protective levees has been developed and improved over the years. These extend for several miles along either side of the River above and below Portage. The crest of these levees at Portage is about EL 798.00 (USGS) which is about 14.5 feet above the standard low water level of 783.50 (at stage of 8.41 feet). Zero on the gauge is elevation 775.09, and flood stage is considered to occur at 17 feet above zero. Historically the maximum flood stages have occurred in April-May or September.

In the River channel opposite Portage there is a large, State owned Island which is inundated at flood stage. For many years the River's main channel flowed along the north side of the Island and there was apparently a continual problem to maintain the east levee. One protective measure

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was to construct some rock fill wing dams. These have evidently contributed in some measure since the main channel of the River is now on the south side of the aforementioned Island. The north channel is now almost completely filled with sand.

Recreational Usage:

Except for extensive commercial activity in the Wisconsin Dells Region and the recreational activity generated by the large body of Lake Wisconsin, there is not an exceptional recreation potential on the Wisconsin River between these two locations. There are several reasons for this.

✕ One factor is that the River bed is continually shifting and is essentially blocked at numerous locations by sand bars which continuously shift. At many points it is difficult to navigate a medium size river boat across the bars,

Another detracting factor is the water itself. It has a characteristic reddist-brown hue and it is reputed to convey waste by-products which can be tasted in fish caught in the River. Discussion with the State agency involved indicates that while there are problems on the Wisconsin, it cannot be classified as grossly polluted. In a Report on an Investigation of the Pollution in the Lower Wisconsin River Drainage Basin made during 1965, the results of a pollutional survey on the Lower Wisconsin are presented. While no extensive sampling of the Wisconsin was undertaken, it is obvious that considerable residual pollutants are discharged through the River. In a Report entitled Surface Water Resources of Columbia County prepared by the Wisconsin Conservation Department in 1965, some data on recreational activity in this area is provided. For example, about 10,000 residents, plus an equal number of non-residents buy a fishing license each year in Columbia County.

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Good fishing is available on Lake Wisconsin and other parts of the River which are accessible by boat.

There are only two supervised beaches in Columbia County and the main stream of the Wisconsin River does not afford a safe place for swimming. Recreational boating and water skiing are also limited to those stretches of the River not obstructed by sand bars.

2. The Portage Canal

General:

The Canal at Portage is a remnant of a by-gone era which envisioned dreams of flourishing Canal activity between the Mississippi River and the Great Lakes. The entire Fox-Wolf Waterway traversed a distance of some 156 miles from Green Bay to Portage, with 26 lockages required. Originally conceived and developed by private interests, the waterway was later acquired, improved and operated by the Federal Government. In 1961, after certain maintenance and safety provisions were accomplished, the Canal properties were transferred to the State of Wisconsin.

The Canal itself is about one ^{2 1/2 miles} and one-half miles in length. Within the Portage Area two locks were involved to equalize the elevation difference between the Fox and the Wisconsin Rivers. The Wisconsin Lock is situated at the Wisconsin River end of the Canal and is a fairly modern structure with a net length of 146 feet and a net width of 35.2 feet. At normal water level in the Wisconsin, this Lock served as a guard lock only.

Proceeding downstream, the Canal was originally spanned by swing bridges or lift bridges, all of which have been replaced or are now fixed structures. The Canal proper was originally designed to be 75 feet wide and 4 feet in depth with wood side revetments.

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Adjacent to Fort Winnebago, the Winnebago Lock site is situated slightly upstream from the Canal juncture with the Fox River. Today it is a virtual ruin, having essentially been demolished to act as a fixed level spillway for the Canal. This Lock was originally 137 feet long by 34.7 feet wide.

Hydraulics:

From the standpoint of hydraulics, the Canal is in relatively good condition. Water is presently passed through the Canal from the River through two partially opened ports in the upper gate of the Wisconsin Lock.

On the Wisconsin River side of the Wisconsin Lock, the River bed and Canal entrance channel are almost completely silted up, with only a small stream open to supply Canal water. During an inspection visit in July, the River to Canal flow was estimated at 8-10 cubic feet per second.

The only changes in the original Canal bed today result from the replacement of old bridges and the effects of aging. The Canal bed itself, while not sounded for depth, is very well defined and certainly useable from a hydraulic standpoint.

The present Canal water level is estimated to be about 783.00 or slightly lower than when originally used. This level is presently controlled by the relatively fixed ruins of the Winnebago Locks which will be discussed later.

In many of the discussions with State agencies, the question of quantity of water to be allowed through the Canal has never received a definite answer. Apparently there is no legally sanctioned quantity or even a legal stipulation for diversion. Figures mentioned have varied from 5 to 105 CFS as "allowable."

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Technically the minimum quantity of water required is that amount necessary to replace loss from lockages, seepage, and evaporation. It is likely that a minimum of 10-15 CFS would suffice to operate the Canal. However, this aspect warrants additional study.

An additional influence on the Canal is the fact that a number of the City of Portage storm sewers outlet into the Canal. They apparently function properly with the now existent Canal level.

Wisconsin Lock:

This Lock is in an excellent state of repair considering its age. Subject to a more detailed inspection, it appears that a fairly modest expenditure would put this Lock back into operating condition; including such items as gate hinge or pivot reseating, replacement of gate operators, some cleaning and painting, and concrete and masonry wall repair. At this point in the study, it is estimated that this could be accomplished for approximately \$8,000.

Canal Bridges:

Of four original swing or lift type bridges over the Old Canal; two have been replaced by culvert-fill structures; the railroad lift bridge, while basically intact, has been welded into a fixed rail level position; and the fourth bridge has been removed entirely. Also a relatively new bridge carries State Route 33 over the Canal.

Any considerations of complete usage of the entire Canal length (for other than canoe traffic) involves the replacement of certain structures. It is estimated that replacement costs would run in the vicinity of \$250,000 for each bridge.

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Canal Bed and Banks:

Originally the Canal banks were defined by wood revetments, but most of these have undergone serious deterioration. Aside from this, the Canal bed and banks are in fair condition, and it is believed that a nominal amount of clean-up and brush trimming would result in a useable Canal.

In the downtown area of Portage, there are structures immediately on the banks of the Canal and it seems to be common knowledge that many, if not all of these are encroaching upon the original right-of-way. Where it would be legally possible to instigate action with respect to these encroachments, it is not at this time deemed advisable to do so.

The Winnebago Lock:

This Lock is located slightly upstream from where the Canal joins the Fox River. Today it is a ruin. Before the Corps of Engineers turned the Canal properties over to the State of Wisconsin the Lock was apparently demolished to some extent and some of the stones used form a fixed level spillway. This is fairly effective, with some leakages through the stone.

The restoration of this Lock is quite feasible and could be accomplished as a restoration. It is estimated that this would cost approximately \$250,000.

The Waste Weir:

A waste weir located just upstream from the Winnebago Lock was necessary to provide a spill-over for excess water from the Canal. With some minor effort and subject to closer field investigation, this device can be rebuilt and made operable. At the present time it does not function since all

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flow is over the fixed crest at the Winnebago Lock. It is estimated that this restoration could be accomplished for approximately \$10,000.

Sanitary Problems:

Insofar as any sewage or waste discharges to the Canal, all known discharge sources will be terminated as a result of sewer construction now in progress. Storm water as previously mentioned does pass into the Canal, but it does not appear that this would pose any particular problem.

X The Canal water itself naturally has an amber hue relating to its Wisconsin River origin. In warm months, this is overlaying by a less appealing algae formation. While it would be possible to pass sufficient water through the Canal to negate the algae problem, it can possibly be more easily controlled by chemical means available for such purposes.

Aesthetic Considerations:

X The downtown section of the Canal has rather negative aesthetic qualities. The fact that the City has "turned its back" on the Canal has resulted in a deteriorated appearance. Certain encroachments only add to this feeling.

As will be discussed later in this Report, considerable effort would be needed to have the City turn its face back to the Canal and greatly improve its aesthetic qualities. It is however not beyond the realm of possibility. A concerted effort should be made to encourage the rehabilitation or removal of marginal buildings.

As the Canal winds travel from the downtown area toward the Winnebago Lock, there is a vast and dramatic change in its aesthetic appearance. The rural section of the Canal at the present has a rather

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pastoral quality which should be maintained and improved. Much less effort would be required to accomplish this.

3. The Fox River

General:

The Fox-Wolf River System was the integrated waterway from Green Bay to Portage with the Portage Canal providing the link between the Fox and the Wisconsin Rivers.

This waterway has been visibly altered since the days when only Indians traversed it in their canoes. As has been previously mentioned, there were some 26 lockages required between Green Bay and Portage. While some of the Canal works have been abandoned, most of the Canal or hydropower oriented structures are still intact and thus there are still many man-made pools or lakes in the River system. Lake Buffalo and Puckaway Lake are cases in point, originally being marsh areas along the Fox River. Lake Winnebago itself is a part of the Fox-Wolf System.

The upper Fox has a rather flat gradient, which is basically why it was so adaptable for Canal waterway purposes and also why there are really no large deep reservoirs on it. It was originally navigable to a four foot depth, but likely has less depth now due to sediment, weeds etc.

Hydraulic:


Apparently there have been periodic considerations of diversions of Wisconsin River water into the Fox-Wolf System for hydroelectric power benefits. This is discussed in the 1938 State Planning Board Study. The legal authority for such diversions is discussed on Page 42 of this Report.

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The same Report hints that the last meaningful commercial use of the waterway probably occurred between 1885 and 1900. Today it is not possible for commercial craft or even a medium size pleasure boat to traverse the entire waterway. The Locks are in various states of repair or they are presently demolished. Hand operated boat haulovers have apparently been installed at several of the abandoned Locks.

Due to the relatively shallow depth of most of the impoundments, the waters may not match the sparkling quality of some of the more northern or deeper waters elsewhere available. Also, apparently some of the soil conditions were not conducive to the formation of sandy beaches.

The comprehensive report relative to the resources and conservation assets of the upper Fox was compiled by the Wisconsin Conservation Department with the cooperation of other State and Federal agencies. This report emphasized flooding problems on the upper Fox, which coupled with severe drought conditions, had resulted in great vegetative changes in some of the pool areas of the stream. Pollution apparently has not been too detrimental to wild life or recreational use. In this same report, several recommendations were made as to modifications to be made to various structures on the Fox-Wolf System.

 Recreational Usage:

The upper Fox has a conservation-recreation potential. Insofar as boating is concerned, the activity must presently be limited to small boats such as canoes. There should be no doubt that recreational use has been made of the waterway, as development has taken place along the impoundments created originally.

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4. Development Potential

Wisconsin River:

To develop the Wisconsin River in the Portage Area extensively as a recreational asset to the total development at Portage does not seem to be reasonable during the early stages of this development. As with all matters which man desires strongly to accomplish, it would not be impossible to create a broader, deeper River front at Portage. Depending on the extent of such economic improvement desired, the accomplished result would not appear to offer compensating economic benefits.

The possibility of a relocation of State Route 33 over the Wisconsin River connecting with Wauona Trail has been proposed which would form a low level dam, theoretically increasing recreational potential. Due to the fact that a new bridge replacing the one now existent has been authorized, the State Highway Department does not look favorably upon this suggestion. If a low level dam were to be constructed downstream of Portage, it would be necessary to raise and extend the upstream levees. Such a dam would have to be substantially founded and constructed to withstand extreme floods. There would additionally eventually be a dredging maintenance problem to remove sediment due to the shifting sand problem.

The possibility of re-diverting the main channel of the River back to the north side of the Island has been investigated. While not inexpensive, this would probably not be too difficult to accomplish. If done over a period of two or three years, with nature's assistance, the least cost would likely be involved. It would, however, be the former problem of constant maintenance of the east levee adjacent to Wisconsin Avenue in Portage.

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Lastly, the subject of dredging the Wisconsin has been discussed and investigated. Many experts have been consulted and the opinions have not been optimistic. It is the unanimous opinion that it would have to be a continuous operation even to maintain a channel navigable for recreational boats. It is estimated that such a dredging would cost approximately \$90,000 per mile on an initial basis. On a continual basis, a dredge would have to be purchased costing approximately \$250,000 and \$25,000 would have to be appropriated for operating and maintenance.

It can be derived from these factors that while improving the recreational potential of the Wisconsin River at Portage is possible, it is not feasible at this time. The creation of a water transportation route between Portage and the Wisconsin Dells is completely out of the question from a cost standpoint.

The Portage Canal:

* If the Wisconsin River is impractical to utilize for boating, the restoration of the Wisconsin Lock to operating condition would be completely impractical. However due to the fact that the Lock itself is of historic importance and a dominant part of the story of the Canal, it should be retained to be integrated into the total development.

To develop the Lock as a tourist attraction and yet assure the complete safety at all times, it is recommended that the upper and lower gate be connected with a continuous pipe with an adjustable valve to maintain a regulated flow into the Canal. The Lock structure itself could then be filled with gravel and sand maintaining a water depth of 12 to 16 inches to maintain authenticity. This water could be continually moved so as not to become stagnant. Additionally, guard rails should be installed to keep people back from the lip of the Lock a sufficient distance to maintain safety. If this were accomplished, the Lock itself would pose no hazard and the temporary cyclone fence

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recommended earlier in this Report could be removed for a better visual appearance.

The Canal from the Wisconsin Lock to the Winnebago Lock is limited in the potential for utilization by the bridges that have been constructed over it. The expense of replacing the two culvert-fill structures to allow free water travel would appear to be too great to consider their reconstruction during the initial phases. However, the railroad lift bridge and the bridge carrying State Route 33 over the Canal have sufficient clearance under them to permit the use of small boat traffic. It would appear that in initial phases, the utilization of the Canal as a transportation waterway should be limited to a location below the main downtown bridges to the Winnebago Lock. The use of only this portion of the Canal offers a great development potential as will be described in the Concept for Development. After the first phase is economically secure, additional income could be utilized to further develop the Canal by reconstruction of the bridges so that its entire length could be restored as a water transportation route. Coordination with City government could also assure that this eventually could become a reality.

The Fox River:

* There appears to be no direct relationship between a further recreation development of the Fox River with any of the major development phases of this project. Suffice it to say that due to the nature of the River itself it could be developed extensively for canoe transportation. The very existence of a prominent development at Portage would provide additional impetus to the utilization of the River with Portage, and its associated features, as a reward at the end of several day's travel. If the Winnebago Lock were to be eventually reconstructed, canoes could be permitted to be locked through with tour boats, permitting canoe travel eventually all of the way to the Wisconsin Lock.

Further development of the Fox River will not be considered as a part of this Report.

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B. PORTAGE CANAL AND HISTORIC FEATURES

1. The Canal

The Canal thoroughly discussed in the above section is a dominant historic feature of the development, and can eventually be restored to its original appearance. However, economics dictate that in the initial phase, restoration be limited to bank clearance and cleaning. Even with this minimum amount of work, the Canal could be extensively utilized even though the complete water transportation route would not be available during the first years of development.

2. Fort Winnebago

The most dominant historical feature of the entire Portage development lies dormant almost crying for reconstruction. Its potential cannot be questioned as it will be the mainstay of the economics of the entire development. The foundations of the Fort are estimated to lie largely intact under the existing farm now located adjacent to the juncture of State Route 33 and the Old Military Road. Investigative archeology will be instigated in the fall of 1967 to verify location of the Fort proper. Initial discussions have been held with the owner of the farm regarding purchase.

3. The Surgeon's Quarters

This structure presently owned and operated as a museum by the DAR is the only remaining building in existence of the Fort. This structure is one of the several out-buildings which provided service for the Fort. There is no question that this historic structure must be maintained and coordinated as an integrated part of the total Fort Winnebago site development. Its potential cannot be questioned.

4. The Federal Cemetery

This cemetery, completely intact, was the cemetery for Fort Winnebago. Presently under government control, the burials therein are limited. Discussions have been held with federal authorities and

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it is assured that it can be integrated into the concept for development of Fort Winnebago.

5. The Indian Agency House

This House restored by the Colonial Dames, holds a prominent position on the west bank of the Canal near the Winnebago Lock. There is no doubt as to the necessity of including this structure into the total Portage development. Its very location and its historical background so dictate. It is also completely feasible to allow this structure to remain in private hands and yet have it be an integrated part of the whole.

6. Wauona Trail

This historic Portage Trail exists today in the form of a sparsely populated road. It is without a doubt desirable to include this as part of the Portage development. Its utilization as a vehicular transportation route will be described later under the Concept for Development.

7. Secondary Historic Features

Consideration will be given to all aspects of the history of Portage and the Canal, and any existing structures which add significant quality to the area of development are being investigated.

C. RELATED CONSIDERATIONS

1. Canal Safety

The need for immediate temporary safety provisions for the Wisconsin Lock and the proposed solution have been discussed earlier in this Report. Additionally, the permanent safety aspect of this feature has been proposed. It is understood that recommendations have been made providing either for filling in the Canal or for extending the levee across the mouth of the Canal above the Wisconsin Lock. It is

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felt that the historic importance of the Canal and Lock and their inclusion as discussed in this Report in the total Portage development would obviate the need for either of these proposals. Although the levee proposal would not significantly alter the inclusion of the Portage Lock in the development, it is felt that the temporary measure would be less expensive and just as positive a solution until the permanent solution recommended can be realized.

The Canal itself, however, is not the only "attractive nuisance" in the area. The Wisconsin River certainly offers an equal appeal to adventuresome children. The fishing pond adjacent to the Portage Waterworks, Silver Lake and the Fox River fall in the same category. The remainder of the Canal is no more dangerous than any of these and it would seem as though only minimum protective measures need to be incorporated.

2. State Route 33

At the present time this Highway cuts directly through the Fort Winnebago Area, dividing the Surgeon's Quarters and other out-buildings to be reconstructed from the Fort itself. There is no doubt that to provide for a proper historic reconstruction, this Highway will have to be relocated.

This matter has been discussed with the State Highway Department and they have stated that there should not be too much difficulty in providing for this relocation if a need can be presented as a proven fact.

3. Zoning

There is no question that zoning of both historic areas and land needed to protect historic areas must be considered for rezoning. The best planned development can be seriously affected without

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such a consideration. As the City of Portage and Columbia County are both involved, further consideration must be given to this in the preparation of the final study.

4. Urban Renewal

A Comprehensive Plan for the City of Portage by Green Engineering Company Incorporated of Middleton, Wisconsin, prepared under the provisions of Section 701 of the Housing Act of 1954, has been prepared and was presented to the City in November of 1965. Little consideration to the historic qualities of the Portage area and the impact of possible development was given in this Report. Certain conflicts exist which will need to be resolved with the City and Federal authorities prior to completion of the final study.

With the full cooperation of the citizens of Portage, the integration of its urban characteristics with the historic development can be to the benefit of both. [The City which has, for so many years, turned its back on the Canal should turn around and refocus its attentions. A recognition of this can contribute significantly.] An attempt to sow the seeds for this is contained in the Concept for Development.

5. Theater Historique

The operation of the Theater in the context of the total development of the Portage Historic Complex can and must be a supportive development. All effort must be applied to provide that this be the case with this private organization. Conflicts in site utilization appear to be possible. There is no reason without a spirit of cooperation among all parties concerned that resolutions cannot be achieved to the benefit of the total development.

6. Marsh Land

A significant area of marsh land has been identified to the north of the Fort Winnebago Site. It

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has been discussed as desirable that an undetermined amount of this area be tightly controlled as a natural resource and as protection to the historic development. Preliminary discussions have been held with the Conservation Department who state that it is entirely possible that this area can be included in the acquisition program of the State.

7. Organization

The Committee's Report of 15 November 1965, recommended that overall supervision of the public development should be vested in the State Historical Society. An identification of the interest of the various City and State organizations are to be made as a part of the final study. It can be noted at this point, however, that strong organizational control is an absolute necessity to provide for proper development. If this item could be resolved prior to the submission of the final study, a significant step would be taken towards assuring that its preliminary design concepts were carried through in the most expeditious manner.

A Concept for Development

A preliminary concept for development is presented below. All of the multitude of factors both historic and non-historic, listed in Section II, are design criteria. However the concept is preliminary in nature and has been considered in its broadest aspects. No attempt has been made to define the problems relating to areas or details, at this point, which do not affect the total design of an economically feasible development. Not until a concept is accepted can the role of the various parts be properly defined.

The Committee Report of 15 November 1965 made a number of suggestions for financing a total complex at Portage. For complete development, funds from many sources may have to be supplied. To establish economic feasibility, however, a development such as this must be able to basically support itself. The capital outlay required to create revenue producing facilities can most logically be obtained from revenue bonds. Therefore the economic considerations of this concept for development centers around this method of financing. In addition to successful revenue bonding, other public and private funds can and perhaps should be applied to assure a complete and a comprehensively coordinated development. Some of the basic areas of possible responsibility are defined herein.

If the work is to be accomplished under a revenue bonding program, certain limitations are necessarily a part of the development:

1. The tourist, and the satisfaction of that tourist, is the key to success.

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2. The various elements of the development must be linked physically and interpretively for a number of reasons:
 - a. To present a complete and entertaining interpretation of the area without "educating" the visitor.
 - b. To retain the tourist within the development area and promote full utilization of the revenue producing facilities.
 - c. To offer a facility which will compete on equal terms with the other attractions in the State and within the potential market area for tourists' interest and tourists' dollars.
3. A major development must be staged in such a way that:
 - a. At the beginning of any tourist season, the development offers a complete and satisfying experience.
 - b. The revenue producing facilities are operational during the early years of development in order to make the sale of bonds possible.
 - c. The less expensive elements of the development are developed first, thus presenting an image of a major attraction during the early years.
4. The community must profit from the development or lack of support will follow. Some areas for consideration are:
 - a. Economic growth through new tourist-service facilities.
 - b. Economic growth through established businesses which derive part of their income from tourists.
 - c. Increased valuation of land in areas enhanced through the development.

INTERIM REPORT

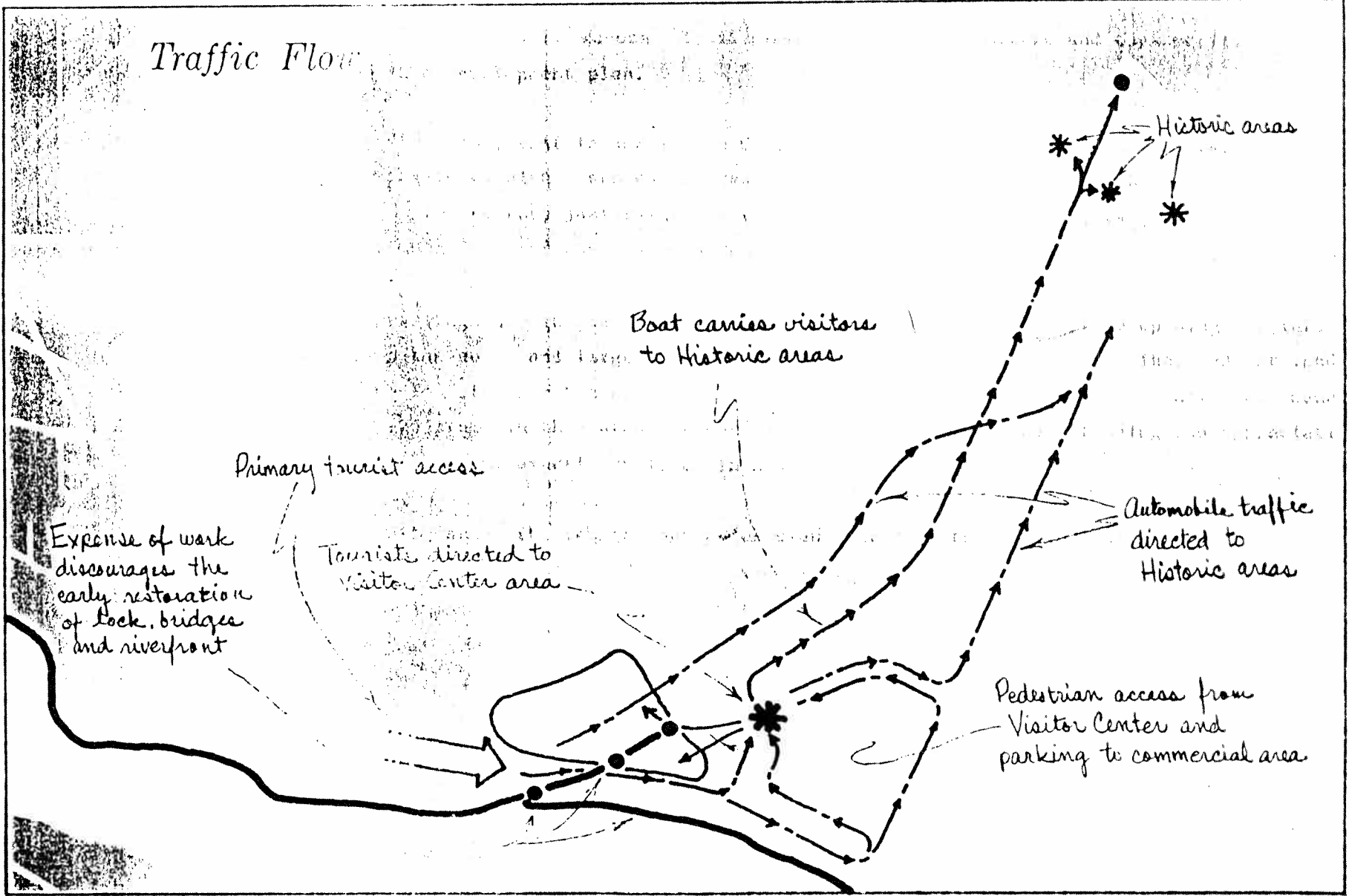
- d. The aesthetic qualities of a major landscaping effort which will influence the entire City.
 - e. Economic prosperity to the community through the influx of tourist dollars and new employment created by the development
5. The historic values of the various elements must be analyzed as they affect the total development and those values must be protected by purchase or zoning and through the establishment of high standards in research, preservation and restoration by the developing organization.
6. It must be recognized that the tourist industry is an industry. Its product is satisfied tourists. It can contribute to the economy of an area, but only if every effort is made to make a product which competes with the attractions offered by neighboring states. The visitor from Southern Illinois can reach Western Florida or the Great Smokey Mountains in the same amount of driving time it takes him to reach Portage, Wisconsin.

THE CONCEPT

Traffic Flow

Current traffic flow in Portage does not give a true picture of the tourist flow which would be generated by a major development. The primary influx of visitors after development would enter the town from the west via Wisconsin, Cook or Edgewater Streets, converging at the junction of Wisconsin Avenue and Edgewater Street. This important juncture is in the downtown area. The visitor could proceed on Cook Street through the Central Business District to the historic site to the east. It is herein proposed, that the major portion of tourist traffic be directed, by proper signing, to proceed eastward on Wisconsin Avenue, crossing the Canal, and

Traffic Flow



INTERIM REPORT

follow the levee to Wauona Trail. Wauona Trail marks the historic Portage and thus merits high consideration in a development plan.

At present, two bridges carry traffic across the Canal in the commercial area. The expense of replacing the existing tubes with restored bridges and the expense of developing the recreational aspects of the Wisconsin, thereby justifying the restoration of the Wisconsin Locks, discourages their use as a functional part of the restored Canal during the initial phases of the development. The present proposal, therefore, considers the Canal restoration as beginning east of the Adams Street Bridge, progressing through the commercial area for a short distance before opening out into residential areas on the north and largely vacant, industrial lands on the south. These vacant lands are suggested as the location for the main Visitor Center where adequate parking is available. General orientation would take place in this area, preparing the visitor for an understanding and appreciation of the things he will see and experience later in his visit.

From the Visitor Center area, the tourist has pedestrian access to the Business District and three alternate methods of travelling to the Historic Areas to the east. (1) He may drive his automobile along Wauona Trail; (2) he may take an Historic Tour Bus; or (3) he may travel by boat and return by bus or boat. Two of these alternates can result in revenues to the development.

Following the Canal, the aspect changes gradually from urban to rural. This transition should be enhanced. Further opportunity for orientation is provided to those travelling on the Canal.

It is proposed that, at a later date, the Winnebago Lock be restored and passengers be debarked on the Fox River at the base of the Fort grounds. For the early stages, however, the landing place

INTERIM REPORT

is proposed below the Agency House with access provided for pedestrian traffic to the Agency House and to Fort Winnebago. The landing area becomes then a primary focal point for development. Such development lies within a protected zone and should not detract, in anyway from the view, from or toward Fort Winnebago.

Fort Winnebago is, or will be, the primary attraction and the high point of a tourist's visit. Research and reconstruction necessarily delay the full utilization of the Fort as a revenue producing facility but the research and construction phases of Fort reconstruction are fascinating and can effectively be used until reconstruction is complete.

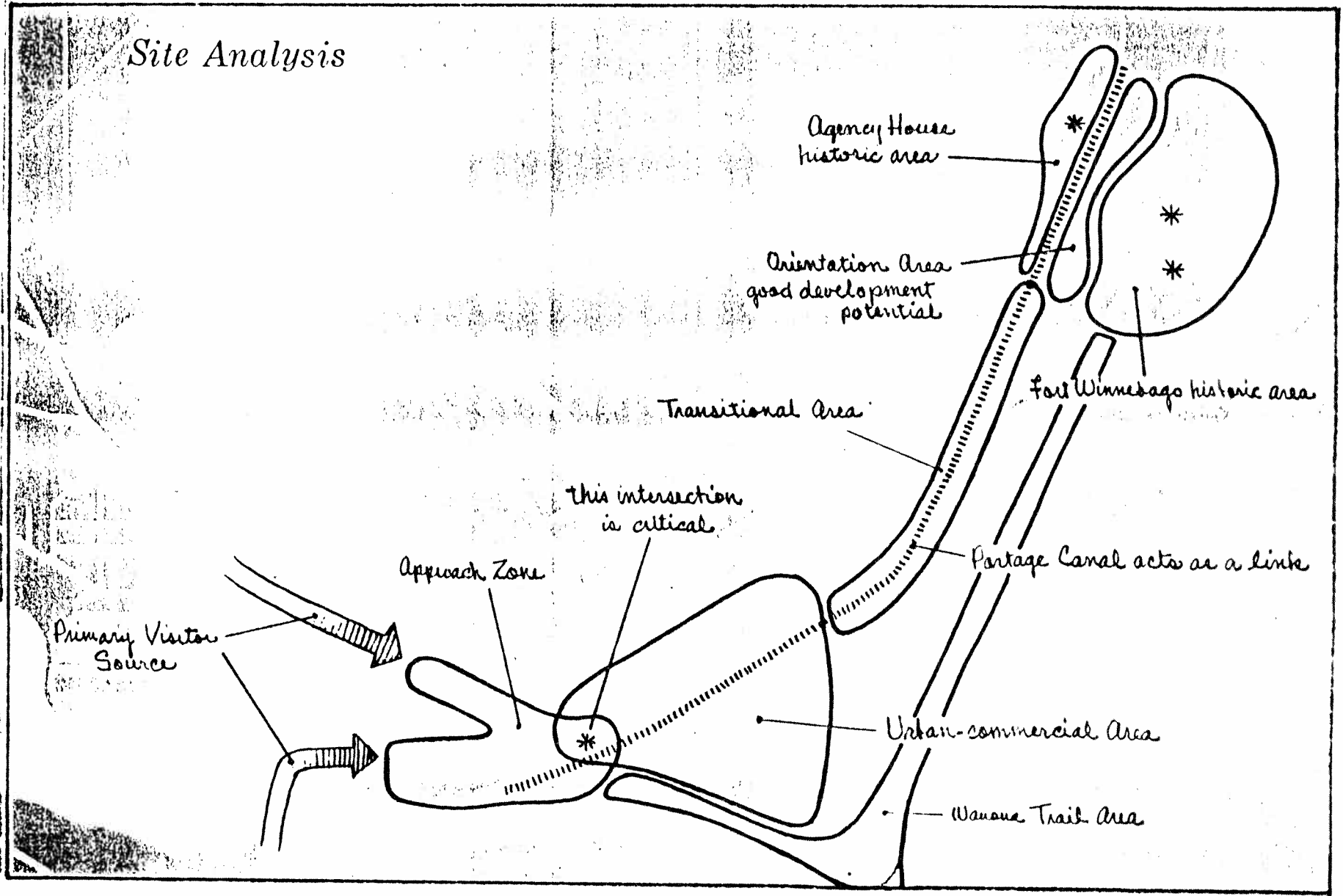
Gateways

First impressions are lasting impressions. The visual aspects of Portage, to the visitor first entering the town, are extremely important, whether urban, forested or riverfront. The gateways must be enhanced by design consideration to heighten certain effects and to conceal certain detractions.

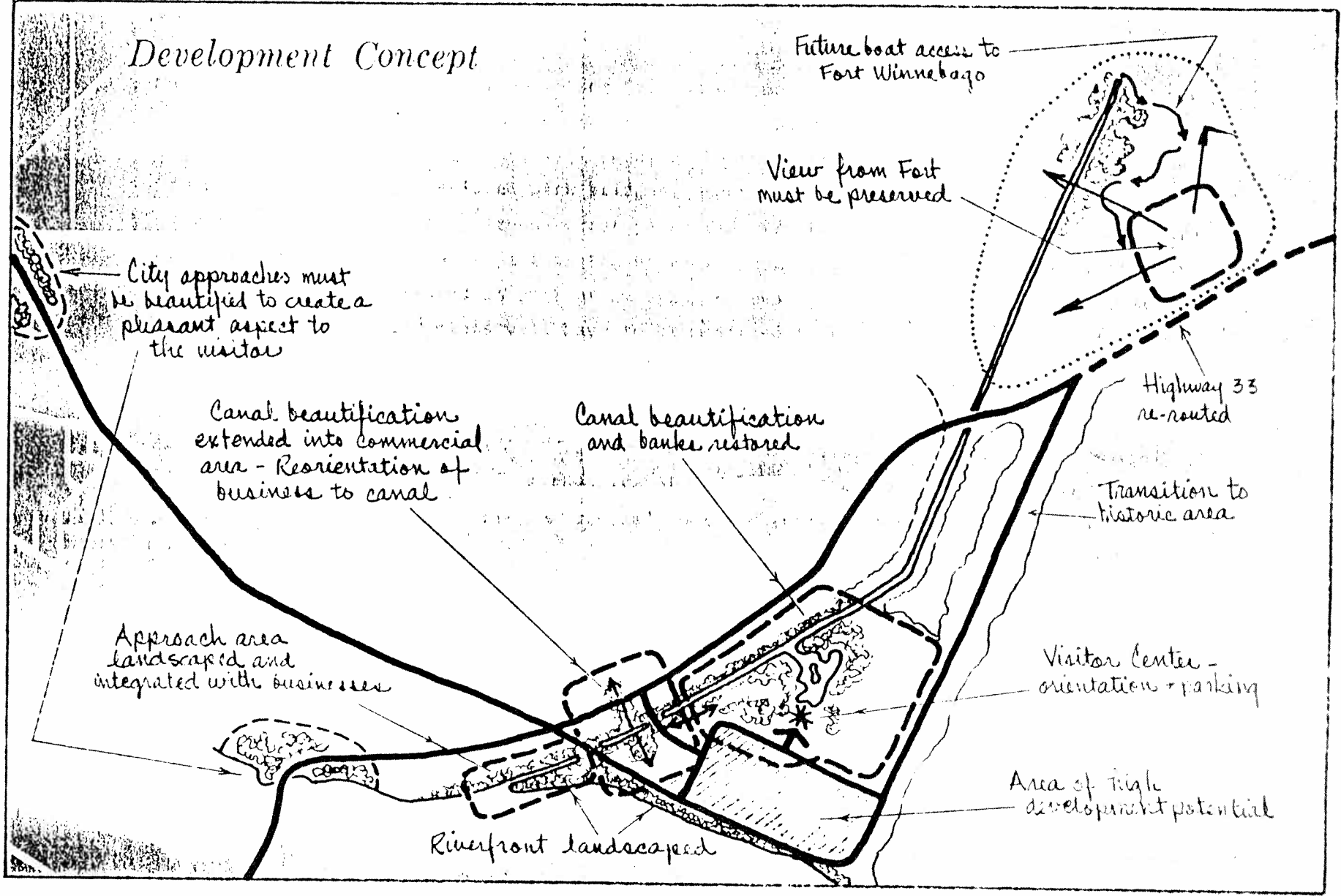
Approach Area

The first developed area seen by the major portion of visitors to Portage will be the area of the Wisconsin Lock and its neighboring commercial establishments. It is proposed that the land south of Edgewater Street be converted to a park atmosphere which is extended into commercial areas along Cook Street. Design of renewed buildings along Cook Street should be integrated with the shoreline and Lock beautification. Pedestrian access through the commercial district should provide visual links with the Park. If the Locks are not to function, it is comparatively easy to provide pedestrian walkways to and from the south side of the Canal.

Site Analysis



Development Concept



INTERIM REPORT

Central Business District

The Canal was once the focal point for City development. The passing years have seen the deterioration of the area as businesses turned their backs on the Canal. A successful program to renew and beautify the Canal will require the reorientation to the Canal. If, in the future, the tubes are replaced with bridges, pedestrian access could be provided at Canal level, thereby eliminating cross-street pedestrian traffic. The banks of the Canal would be renewed and cleaned as a part of the historic development but further work in this area could best be accomplished as part of an Urban Renewal project. If this is to become a reality, existing City plans will have to be modified to parallel the historic development.

Visitor Center Area

A large, rather unsightly, industrial area within easy walking distance of the Central Business District is proposed as the site of the Visitor Center. The functions of the Visitor Center and the facilities provided could be integrated with the fair grounds to the benefit of both.

It is further proposed that an embayment be cut through the area to enhance the landscape potential and to function as a Canal terminus. Boat rides to the historic Fort would start here. Parking for the bulk of visitors could easily be provided on the existing vacant lands.

Expanded Tourist Commercial Area

The area between the proposed Visitor Center and the Wisconsin River levee would be greatly enhanced as desirable development lands. Private development should be controlled to achieve a desirable effect. A thematic design, an "Old Town" could be achieved through design review ordinances to control the development. Early control of such highly desirable lands is important

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to prevent detrimental construction which is expensive and difficult to replace.

Wauona Trail

As an alternate vehicular route to Fort Winnebago, and as an historic landmark in itself, this Trail deserves special consideration. It is sparsely settled and zoning restrictions should be applied to restrict undesirable development. Proper landscaping can then provide a green belt as a transition from the urban to the rural-historic atmosphere.

Portage Canal

From the Visitor Center to the Winnebago Lock, the Canal passes under two bridges, through what could be very scenic, rural atmosphere to the wooded terminus near the destroyed Winnebago Lock. It is proposed that, as a later stage in the development, these Locks be replaced and function to transport tour boats from the Canal to the Fox River and thence to the landing below the Fort hill. Such expensive work should wait initial success, however, as the revenues produced by this added feature are not sufficient to support such work on its own merit. It is proposed that the waste weir be reconstructed, providing level control for the Canal and providing for the diversion of water as required to improve the landscaping potential of the Orientation Area between the Winnebago Lock and Fort Winnebago.

Orientation Area

This area has tremendous development potential from a site development point of view. It is important to note, however, that all of the area falls within the visual range of Fort Winnebago. In order to protect that view and to enhance the Fort reconstruction, no non-historic structures should be visible from the Fort. If it is necessary to utilize a portion of this area for parking automobiles, extreme care should be taken to prevent their presence from detracting from the feeling of the living

INTERIM REPORT

past it is desired to achieve at Fort Winnebago.

A commercial enterprise "Theatre Historique" has been proposed for this area. If such a development is to become a reality, its role as part of the total interpretive concept should be carefully examined and defined.

Agency House Area

The function of the Agency House in its non-military aspects may be separated from the functions of the Fort. Its interpretive role, therefore, does not conflict with the role of the Fort. The Agency House and its interpretive program can function as a separate entity, but the interpretation offered there should support rather than compete with the interpretation and the quality and accuracy of that interpretation should equal that offered at Fort Winnebago.

Fort Winnebago

This Fort and the way in which it is developed will determine the success or failure of the entire project. Extreme accuracy in every aspect of recreating this historic landmark is essential. The protection of the Fort and its visual impact will require the purchase of a large tract of land and assurance that future development will not detract from the carefully planned site. The removal of existing non-historic buildings and the re-routing of Highway 33 are essential in the eventual plans for the Fort area. Careful attention to details and adequate protection of the site can result in one of the finest restored historic sites in the nation. The interpretation which takes place here should be of the highest quality while preserving the entertainment values which make a lasting impression on the visitor.

Economic Feasibility

The economic feasibility of a major unified development of the historic resources of a community is determined by a number of factors:

- A. COST OF THE DEVELOPMENT
- B. NUMBER OF VISITORS
- C. REVENUES
- D. OPERATIONAL COSTS
- E. BONDING COSTS

At this interim point, it is impossible to determine any costs or revenues with any degree of accuracy. In some instances the figures to be supplied in the final report will be no better. Revenues and attendance are largely determined by wise and creative administrators. Operational costs are also determined by the degree of economy exercised by the administrator in achieving the desired end.

It is possible to place broad estimates on the proposed project and to apply estimates of revenues and costs based on analogous data and experience in the field. Therefore, the following figures do not attempt to define the results, but rather should be viewed in the light of "if these figures are right, the result will be . . ."

A. COST OF THE DEVELOPMENT

To accomplish all the things which have been suggested at one time under a program of revenue bonding

INTERIM REPORT

is not economically feasible. Some elements are necessary; some must be deferred and some must await action by other groups. Without defining a yearly schedule for development at this time, we can apply basic estimated costs for three phases of development using the three classifications mentioned above. This cost allotment can be simplified by defining development areas as follows:

- Area I Gateways Area
- Area II Approach and Riverfront Area
- Area III Business District Area
- Area IV Visitor Center Area
- Area V Portage Canal Area
- Area VI Transitional Area
- Area VII Agency House Area
- Area VIII Orientation Area
- Area IX Fort Winnebago Area

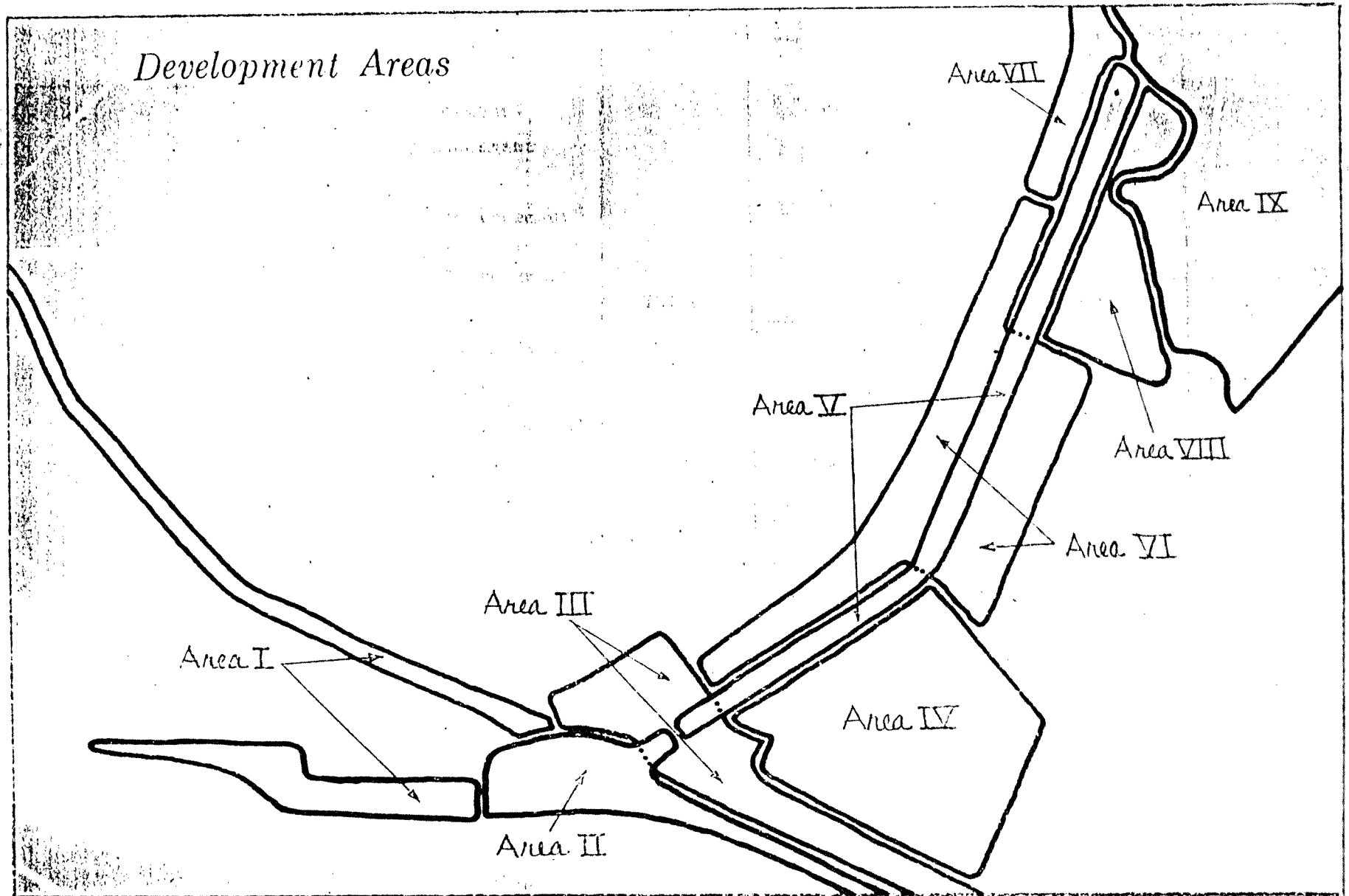
Costs of land acquisition are not considered in this Report.

COST BREAKDOWN

The following abbreviations are utilized in the cost breakdown to indicate the responsibilities for development which lie with groups other than the development authority or for future projects of the authority which are too indefinite to include at this time:

- | | |
|---|----------------------|
| D - Historic Portage Development Agency | U - Urban Renewal |
| E - Private Enterprise | S - State Government |
| P - City of Portage | I - Institutional |

Development Areas



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COST BY PHASES

AREA I - Gateways

Phase I Site Development
Bridge Replacement

Phase II Continued Improvement

Phase III Continued Improvement

TOTALS

AREA II - Approach and Riverfront

Phase I Wisconsin Lock Safety
Wisconsin Lock Hydraulic
Park Development

Phase II Commercial Area Development
Park Improvement

Phase III Continued Development -
Replacement of two Bridges -
Restoration of Wisconsin Lock

TOTALS

AREA III - Business District

Phase I Site Development

Phase II Continued Development

Phase III Continued Development

TOTALS

	<u>PHASE I</u>	<u>PHASE II</u>	<u>PHASE III</u>
	\$50,000/PE S	\$50,000/PE	
			DEP -0-
	\$50,000	\$50,000	-0-
	\$ 2,000 8,000 50,000		
		EPU \$50,000	
			DEPU
	\$60,000	\$50,000	-0-
	EPU		
		EPU	
			EPU
	-0-	-0-	-0-

INTERIM REPORT

COST BY PHASES

		<u>PHASE I</u>	<u>PHASE II</u>	<u>PHASE III</u>
<u>AREA IV Visitor Center</u>				
Phase I	Lagoon Construction	\$ 60,000		
	Visitor Center Construction	175,000		
	Parking Construction	25,000		
	Site Development	75,000		
	Street Improvement and Maintenance	P		
	Boat Purchase	100,000		
Phase II	Continued Improvement "Old Town" Commercial Development		\$100,000 PE	
Phase III	Continued Development			DEP
TOTALS		\$435,000	\$100,000	-0-
<u>AREA V Portage Canal</u>				
Phase I	Canal Bank Clean-up	\$ 15,000		
	Canal Bed Clean-up	20,000		
	Necessary Revetment	15,000		
	Waste Weir Restoration	10,000		
	Winnebago Foot Bridge <i>done & one</i>	10,000 X		
Phase II	Continued Revetment		\$110,000	
	Winnebago Lock Restoration		250,000	

INTERIM REPORT

COST BY PHASES

AREA V Portage Canal (continued)

Phase II (continued)

Fox River Dam

Phase III Fox River Improvement

TOTALS

AREA VI Transition Area

Phase I

Phase II

Phase III

TOTALS

AREA VII Agency House

Phase I

Phase II

Phase III

TOTALS

AREA VIII Orientation

Phase I Site Development

Orientation Center

Other Developments

	<u>PHASE I</u>	<u>PHASE II</u>	<u>PHASE III</u>
		\$ 30,000	S
	\$ 70,000	\$390,000	-0-
	EP	EP	EP
	-0-	-0-	-0-
	I	I	I
	-0-	-0-	-0-
	\$ 50,000		
	60,000		
	I		

INTERIM REPORT

AREA VIII Orientation (continued)

Phase II Mill Restoration
Combined Development

Phase III Continued Development

TOTALS

AREA IX Fort Winnebago

Phase I Research (5 years)
Fort Winnebago Reconstruction
Fort Winnebago Interpretation

Phase II Continued Development

Phase III Continued Development

TOTALS

TOTAL FOR PHASE I

COST BY PHASES

<u>PHASE I</u>	<u>PHASE II</u>	<u>PHASE III</u>
	\$ 50,000 50,000	DI
\$ 110,000	\$100,000	-0-
\$ 50,000 1,600,000 150,000	\$100,000	D
\$1,800,000	\$100,000	-0-
\$2,525,000		

INTERIM REPORT

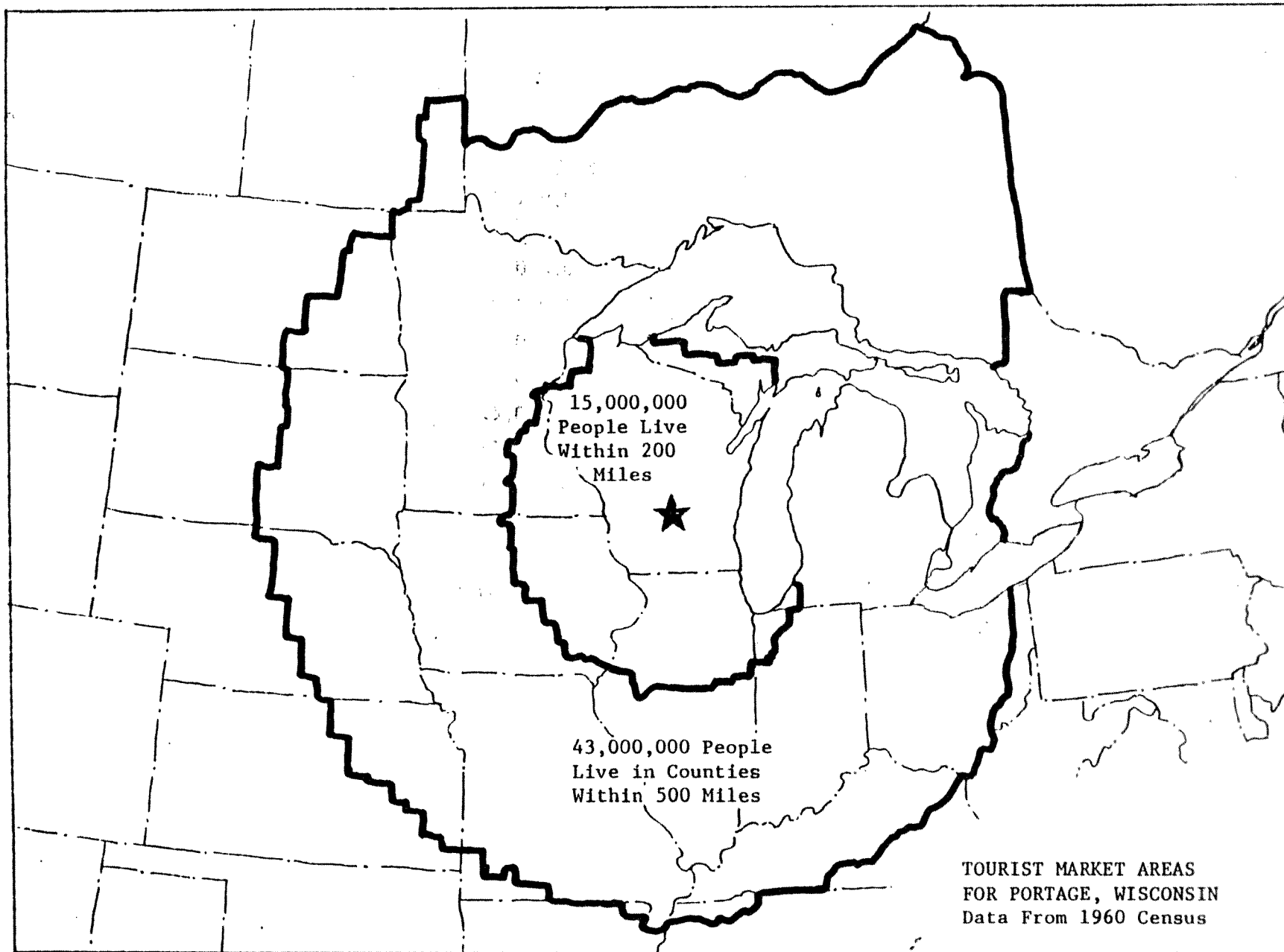
B. NUMBER OF VISITORS

We will determine an estimated attendance rate by three methods:

1. Market Potential - The market potential is defined as a measure of the market available within a geographic area. Its presence does not insure attraction of a specified level of business. How this potential is divided depends upon the relative efforts spent on development, promotion, visitor appeal etc.

Portage is ideally situated to function as a tourist attraction. We should not think of Portage as being near Chicago, but rather that Chicago is near Portage. In computing potential market areas, Portage is the center. Population figures are available for all counties, all or part of which lie within 200 and 500 miles of Portage. These distances primarily determine the bulk of weekend and longer vacation travelers. Fifteen million people live within 200 miles and 43,000,000 people live within 500 miles of Portage according to the 1960 census. For purposes of this Report, we will be concerned with the smaller area, those people living within three and one-half to four hours driving time from Portage. This area is called the Primary Market Area.

It is not possible to compare the development of Portage with other developments, but analogous data is helpful in determining an estimated penetration rate, that percentage of the market potential which utilizes the facility.



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Primary Market Area

	<u>PRIMARY MARKET AREA POPULATION</u>	<u>ATTENDANCE 1965</u>	<u>PENETRATION RATE</u>
Fort Necessity	8,750,000	500,000	2.9%
Henry Ford Museum	10,000,000		
Greenfield Museum	25,000,000	1,500,000	6.0%
Harper's Ferry	8,500,000	790,000	9.3%
Castillo de San Marcos	3,000,000	575,000	19.0%
Fort Dells	15,000,000	210,000	1.4%
Wisconsin Dells Complex	15,000,000	1,700,000	11.3%
Devil's Lake State Park	15,000,000	1,372,000	9.1%
Circus World Museum	15,000,000	120,000 (1964)	.8%
Historic Portage Complex	15,000,000	250,000*	1.7%*

*Assumed penetration rate for Portage.

It should be noted that, in the above table, those developments which are complexes or "town museums", and those which lie along major traffic routes have high penetration rates. Portage meets both these requirements and should attract a three or four percent penetration rate.

2. Highway Potential - Portage is ideally situated to utilize the tourist market in Wisconsin. It is located near a juncture of the State Freeway System and several State Trunk Routes. The traffic use of the State Trunk System indicates that 8,210,650 cars travel one-way in the vicinity of Portage each year. If we assume that the average daily traffic in March is indicative of normal, non-tourist usage, we can then determine that 1,976,670 cars representing 6,918,345 tourists

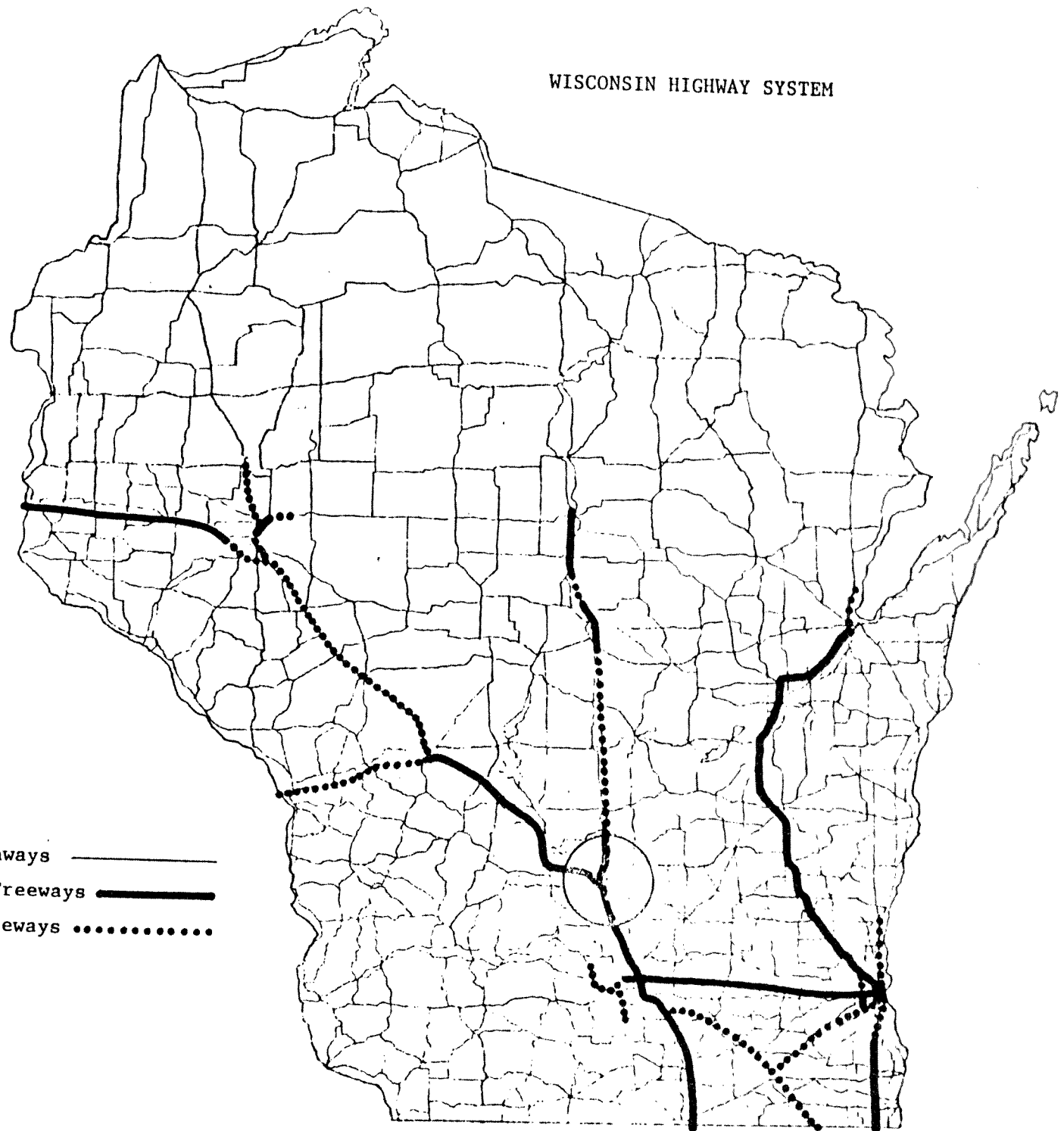
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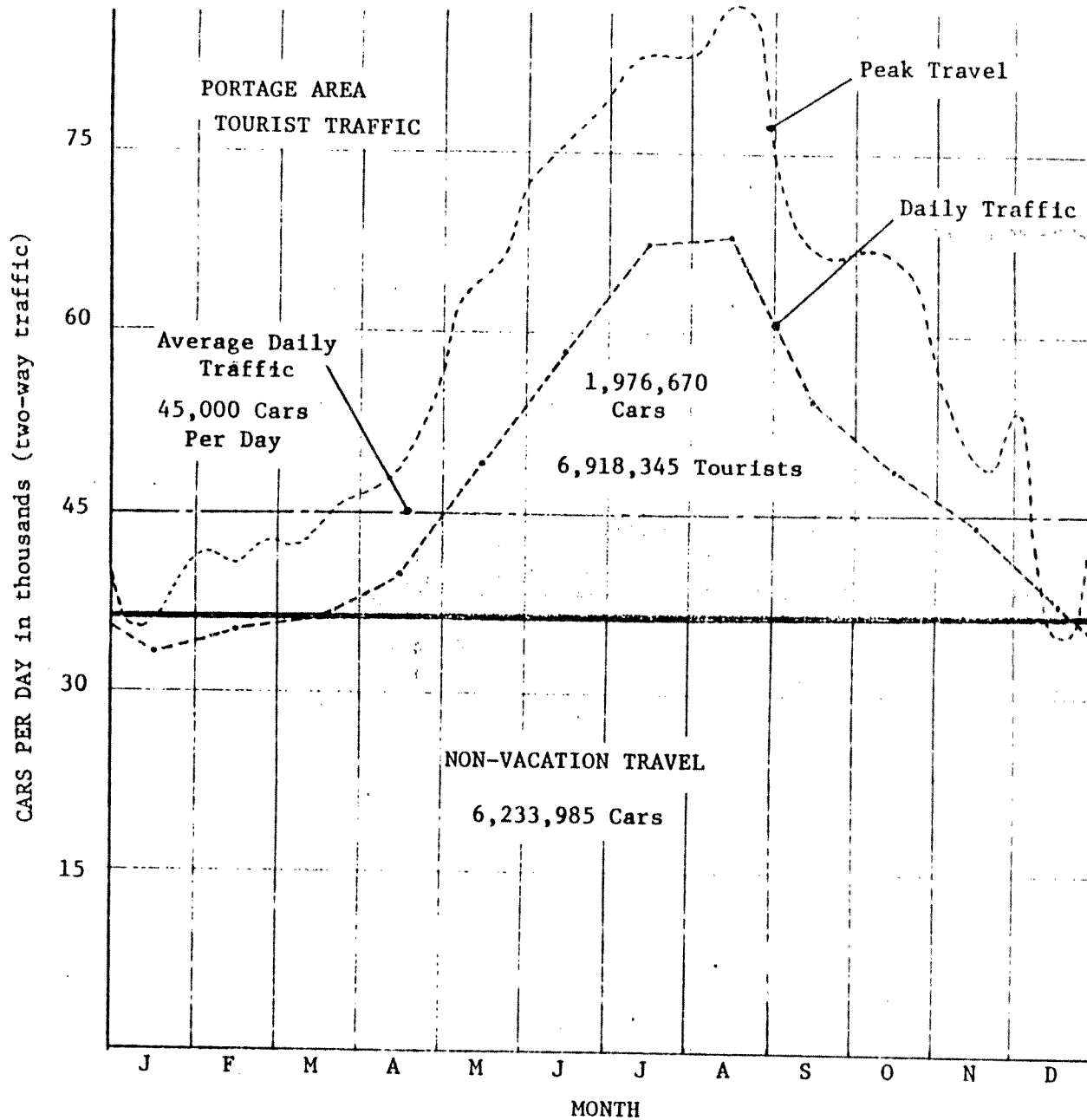
are in the area each year. Rounding this figure to 7,000,000 tourists, we can table the attendance at other area attractions and determine the penetration rates for those attractions.

	<u>NUMBER OF TOURISTS</u>	<u>SITE</u>	<u>1965 ATTENDANCE</u>	<u>PENETRATION RATE</u>	
Washington, D.C.	15,000,000	Lincoln Memorial	4,000,000	26.6%	
		Smithsonian Inst.	2,700,000	18.0%	
		Washington Mon.	2,000,000	13.3%	
		White House	1,700,000	11.3%	
		Jefferson Memorial	1,700,000	11.3%	
Niagara Falls, New York	4,500,000	Fort Niagara	292,000	6.5%	
Mackinac Bridge and Mackinaw City, Michigan	4,000,000	Fort Michilimackinac	267,000	6.7%	
		Fort Mackinac	252,000	6.3%	
Lake George, New York	1,000,000	Fort Ticonderoga	197,000	19.7%	
Routes 104 and 57, New York	800,000	Fort Ontario	100,000	12.5%	
State Trunk System Portage Wisconsin Area	7,000,000	Dells Boat Trips	260,000	3.7%	
		Fort Dells	210,000	3.0%	
		Circus World Museum			
		Devil's Lake	1,372,000	19.6%	
		Wisconsin Dells Complex	1,700,000	24.3%	
		Portage Historic Complex	250,000	3.6%	

WISCONSIN HIGHWAY SYSTEM

State Highways —————
Existing Freeways —————
Future Freeways ······





Tourist Market Potential as Derived From
State Highway Auto Counts in the Portage Area

INTERIM REPORT

3. Attendance at Other Historic Sites - The following table indicates the 1964 attendance at several selected historic sites:

Fort Mackinac, Michigan	219,000
Fort Michilimackinac, Michigan	252,000
Fort Niagara, New York	260,000
Fort Ticonderoga, New York	194,000
Fort McHenry, Maryland	597,000
Castillo de San Marcos, Florida	322,000
Fort Necessity, Pennsylvania	227,000
Fort Pulaski, Georgia	252,000
Abraham Lincoln Birthplace, Kentucky	284,000
Chalmette Historical Park, Louisiana	555,000
Guilford Courthouse, North Carolina	485,000
Harper's Ferry, Maryland - West Virginia	754,000
Jefferson National Historical Site, Missouri	282,000
Kings Mountain Military Park, New Jersey	294,000
Minuteman Historical Park, Massachusetts	509,000
Plymouth Plantation, Massachusetts	380,000
Colonial Williamsburg, Virginia	298,000
Old Sturbridge Village, Massachusetts	575,000
Montezuma Castle, Arizona	222,000

(All figures rounded downward.)

8 Forts

7 Multiple Attractions (No Fort)

3 Parks

2 Single Buildings

Average Attendance 1964 - - - - - 365,000

An admission charge is made at all forts and multiple attractions.

Source: National Park Service and E.R.A.

INTERIM REPORT

In summary, a historic complex at Portage should have a minimum attendance of 250,000 visitors. The maximum will depend upon the creativity of the administrators and could equal the number of visitors to the Wisconsin Dells - over a million and one-half tourists each year.

C. REVENUES

Estimated revenues can only be based on conjecture. The primary revenue producing facilities would be the boat trips on the Canal and admissions to Fort Winnebago. These two are the only ones considered as functioning by 1970 in this Report. A creative administrator can find dozens of minor sources of revenues which do not detract from local businesses, but which can mean thousands of dollars in additional revenues to finance new development and improvement of services. A small, per-visitor increase in revenues is applied as a growth factor in anticipation of this increased revenue.

We will assume an admission fee of \$1.00 for adults with children under 12 free for admission to Fort Winnebago and a fee of \$.50 for adults and \$.25 for children as one-way boat fares. These are minimum rates. If necessary, but only if necessary, they could be raised by 50%.

Revenues From:

Admissions to Fort Winnebago	\$166,700*
Boat Fares	<u>80,200</u>
	\$246,900
Per Visitor Revenue	\$.98

*Experience demonstrates that the ratio of adult visitors (over 12) is about two-thirds of the total admissions, thus 166,666 of the 250,000 visitors would pay admissions to Fort Winnebago.

INTERIM REPORT

It is assumed that the equivalent of four boats are operating on the Canal at capacity. This system of transportation is very flexible; boats and operators can economically be added to meet demand. It is further assumed that the boats in an eight hour day require one hour for a round trip with a capacity of 50 people. The season is assumed to be 120 days

Growth

The minimum attendance and revenues herein presented are expected to increase because of a number of factors:*

1. The Potential Market Area's population is increasing.
2. Improved transportation system is expanding the Market Area.

The growth of the PMA from these two factors is estimated to range from 8% to 66% within the next ten years, an average estimate of growth of 37%.

3. Increased discretionary funds through increased incomes.

A 45% increase in discretionary funds is predicted for the next decade. These excess funds, over and above the cost for basic necessities go toward recreation and vacations.

4. Increased leisure time.

Currently 52% of questioned tourists cite lack of time as the reason barring them from greater anticipation in available attractions.

*Lodge, The Development of Outdoor Recreation in the Upper Midwest, Upper Midwest Research and Development Council, University of Minnesota, Minneapolis: 1964

INTERIM REPORT

The average work week from 1960 to 1976 will decrease from 38.6 to 35.5 hours. This increase in leisure time is not a major factor in growth as shorter days do not markedly increase sightseeing trips.

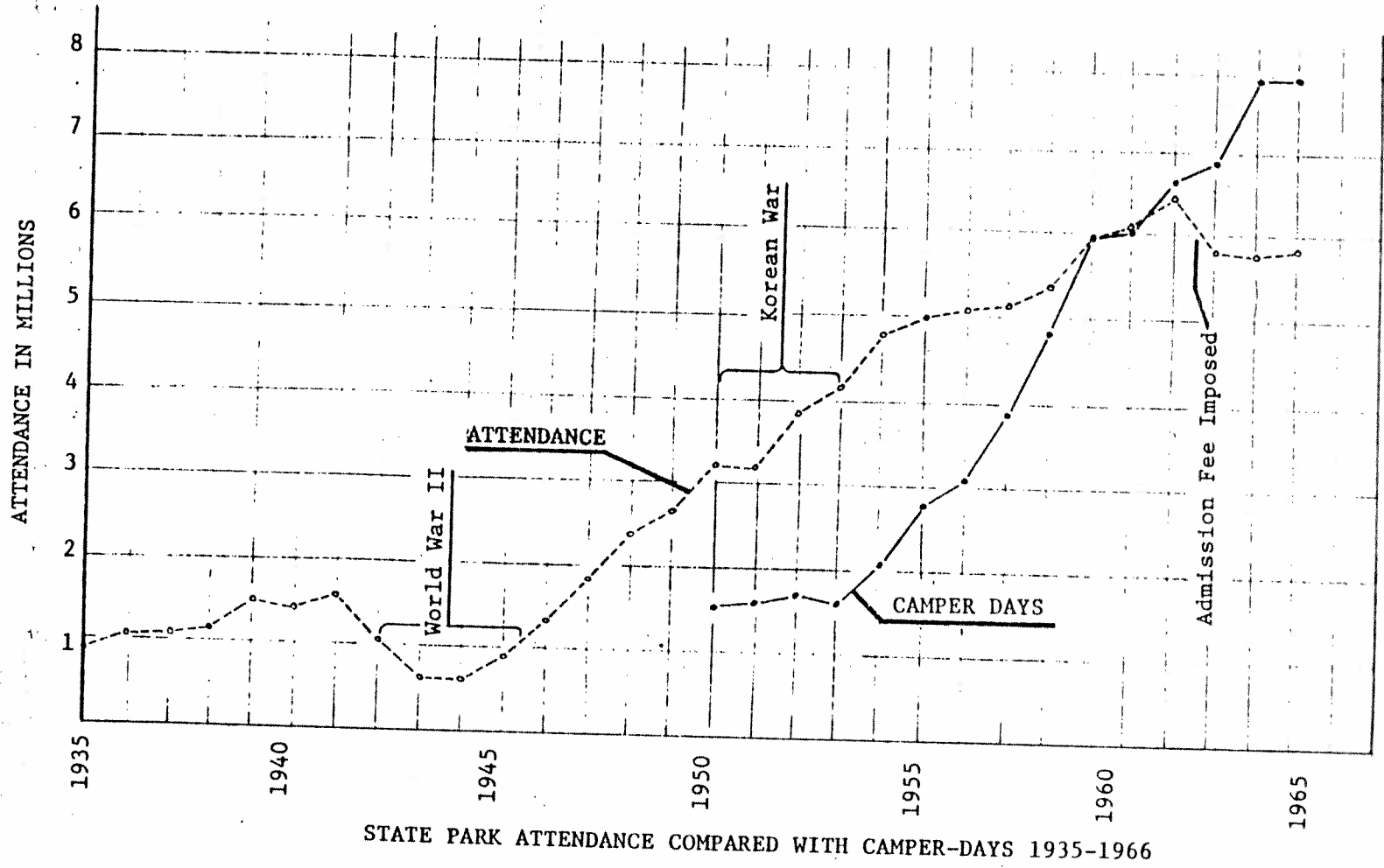
The length of paid vacations in the same period will increase from 2 to 2.8 weeks and paid holidays will increase from 6.3 to 8.5 days per year. These factors coupled with increased funds available for recreation do have a major effect on growth. Portage will be influenced by longer weekends due to its proximity to major urban areas and longer vacations will influence all vacation areas.

5. Availability of things to see.

Currently 57% of the tourists complain that there are not enough things to see. This demand will cause an increase in the number of attractions and quality of development and price will determine the success of individual attractions.

INTERIM REPORT

This accompanying chart indicates the past growth in attendance at State Parks in Wisconsin.



INTERIM REPORT

ESTIMATED GROWTH IN ATTENDANCE AND REVENUES AT HISTORIC PORTAGE COMPLEX

	<u>ATTENDANCE*</u>	<u>PER-VISITOR REVENUES**</u>	<u>TOTAL REVENUES</u>
1968	50,000	\$ -0-	\$ -0-
1969	100,000	.50	50,000
1970	288,000	1.00	288,000
1971	300,000	1.10	330,000
1972	311,000	1.20	373,000
1973	325,000	1.30	422,000
1974	337,000	1.40	472,000
1975	350,000	1.50	525,000
1976	362,000	1.60	579,000
1977	375,000	1.70	638,000
1978	387,000	1.80	697,000
1979	400,000	1.90	760,000
1980	412,000	2.00	824,000

*Applying a growth factor of 50% between 1967 and 1977 with a potential of 250,000 in 1967

**Applying a \$.10 per visitor increase in revenues after 1970 until 1980.

OPERATING COSTS:

Estimates for operational costs are also difficult to make. We can derive at a per-visitor cost for operation, administration and maintenance by using data from the following analogous attractions:

OPERATING AND MAINTENANCE COST PER VISITOR
AT FIFTEEN SELECTED HISTORIC SITES

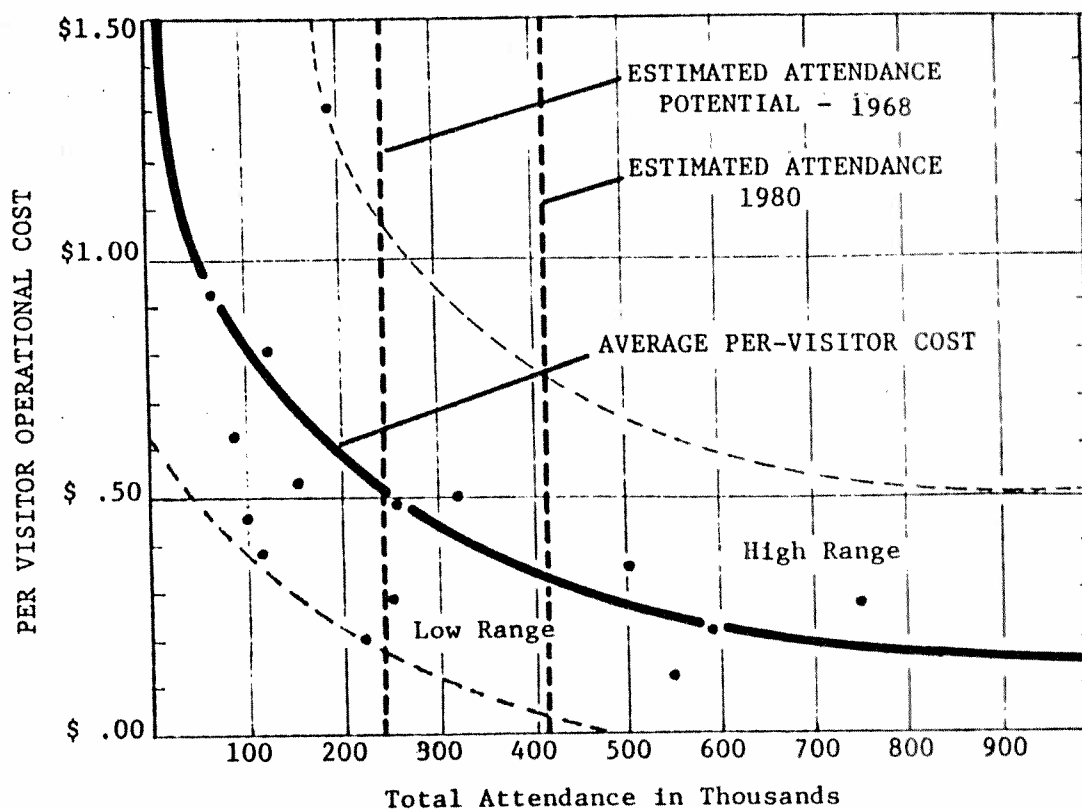
	<u>ATTENDANCE</u>	<u>BUDGET</u>	<u>COST PER VISITOR</u>
Salem National Historical Park	70,000	\$ 64,680	\$.92
Fort William Henry	82,000	51,000	.62
Fort Caroline	100,000	46,000	.46
Fort Ontario	115,000	43,500	.38
Hopewell Village	125,000	107,980	.80
Fort Sumter	158,000	84,560	.53
Fort Ticonderoga	194,000	256,000	1.31
Fort Necessity	227,000	44,680	.20
Fort Michilimackinac	252,000	70,000	.28
Fort Niagara	260,000	125,000	.48
Castillo de San Marcos	322,000	160,630	.50
Morristown Historical Park	509,000	180,040	.35
Chalmette Historical Park	555,000	67,150	.12
Fort McHenry	597,000	125,450	.21
Harpers Ferry	754,000	200,600	.27

Note: Major attractions with attendance over 1 million have been eliminated from this list.

INTERIM REPORT

If per-visitor costs are arranged on a graph it is apparent that, for an estimated attendance of 250,000, the per-visitor cost could range from \$.16 to \$1.00 with an average cost of \$.50 per visitor. For this study, therefore, operational costs for the estimated number of visitors is as follows:

YEAR	PER VISITOR COST	OPERATIONAL COST
1968	\$.50	\$ 25,000
1969	.50	50,000
1970	.46	172,000
1971	.45	135,000
1972	.44	139,000
1973	.42	137,000
1974	.41	138,000
1975	.40	140,000
1976	.39	141,000
1977	.38	143,000
1978	.36	139,000
1979	.35	140,000
1980	.34	141,000



PER VISTIOR OPERATIONAL COSTS FOR FIFTEEN ANALOGOUS SITES

INTERIM REPORT

BONDING COSTS

Without definite scheduling of construction it is difficult to establish the size of revenue bond issues. We can assume that once the basic core of revenue producing facilities are established, further development can proceed out of surplus revenues to complete the project. Let us assume therefore that two issues of \$750,000 will be required to get the project underway, one issued in 1968 and the other in 1969.

BOND AMORTIZATION SCHEDULE

The following amortization schedule is based on \$750,000 principal amount of bonds.

<u>YEAR</u>	<u>MANDATORY SINKING FUND</u>		<u>INTEREST</u>		<u>TOTAL</u>
	<u>ISSUE #1</u> 1968	<u>ISSUE #2</u> 1969	<u>ISSUE #1</u>	<u>ISSUE #2</u>	
1968			\$43,125*		
1969			43,125*		
1970			43,125*	\$43,125*	
1971			43,125	43,125*	
1972	\$25,000		43,125	43,125*	\$ 43,125
1973	25,000	\$25,000	41,688	43,125	111,250
1974	30,000	25,000	40,250	41,688	134,813
1975	30,000	30,000	38,525	40,250	136,938
1976	30,000	30,000	36,800	38,525	138,775
1977	35,000	30,000	35,075	36,800	135,325
1978	35,000	35,000	33,063	35,075	136,875
1979	35,000	35,000	31,050	33,063	138,138
1980	40,000	35,000	29,038	31,050	134,113
					135,088

*Paid from proceeds of issue.

INTERIM REPORT

SUMMARY OF ECONOMIC FEASIBILITY

	<u>REVENUES</u>	<u>OPERATIONAL COSTS</u>	<u>BONDING COSTS</u>	<u>PROFIT OR LOSS</u>
1968	\$ -0-	\$ 25,000		(\$ 25,000)
1969	50,000	50,000		-0-
1970	288,000	172,000		116,000
1971	330,000	135,000	\$ 43,125	151,875
1972	373,000	137,000	11,250	125,750
1973	422,000	137,000	135,813	150,187
1974	472,000	138,000	136,938	197,062
1975	525,000	140,000	138,775	246,225
1976	579,000	141,000	135,325	302,675
1977	638,000	143,000	136,875	358,125
1978	697,000	139,000	138,138	419,862
1979	760,000	140,000	135,113	485,887
1980	824,000	141,000	135,088*	547,912

*Bonds will continue to be retired from future revenues at approximately the same annual cost.
Total issues will be retired in 1989 and 1990.

Stifel, Nicolaus & Company

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MEMBER
NEW YORK STOCK EXCHANGE
MIDWEST STOCK EXCHANGE
AMERICAN STOCK EXCHANGE

Chicago

August 29, 1967

Mr. Victor H. Hogg
Frank and Stein Associates, Inc.
American Bank and Trust Building
Lansing, Michigan 48933

Dear Mr. Hogg:

Thank you for contacting us concerning the salability of bond issues, the proceeds of which would be used for the purpose of creating historic developments in Wisconsin with said bonds to be payable from fees charged for admission to the restored areas.

It is our opinion that financing for authentically restored historic sites is feasible when based upon economic feasibility studies prepared by recognized architects and engineers.

In Michigan we have acted as financial consultants to the Mackinac Island State Park Commission in proceedings leading to the authorization and sale of several bond issues for this specific purpose at interest rates ranging from under 4% to 5 1/2% under varying economic and market conditions. This Commission has restored two Forts and attendance has increased from 108,000 during the initial operating season in 1958 to over 400,000 in 1966. The operation has been an outstanding financial success.

Municipal revenue bond financing of this type is now in progress for certain other restoration projects and with the present magnitude of the tourists trade in Wisconsin, I am sure qualified engineers could develop fully the financial feasibility of an extensive historic development in Wisconsin.

Very best wishes.

Sincerely,


Vice President

JLJeffers/sa

The investment banking firm of Stifel, Nicolaus and Company of Chicago probably have more experience in revenue bond issues for historic development than any organization in the nation. Their opinion of the feasibility of this type of financing in Wisconsin is stated in the accompanying letter.

INTERIM REPORT

Summary

The study accomplished to date, and included in this *INTERIM REPORT*, supports two dominant conclusions:

1. A major development at Portage is feasible from hydraulic, construction, planning, traffic flow, and historic standpoints.
2. Using minimum estimates for revenues, average estimates for operating costs, and rather accurate estimates for bonding costs, there is an adequate surplus to finance additional bonding, increased operational costs, or further development. From an economic standpoint, the Historic Portage complex is very feasible.

The development concept, as presented herein, is preliminary in nature and should be reviewed as such. However, if possible, the general concept should be formally accepted by the Committee as establishing the general approved direction of development. Not until this is done can a definition be made of the role of the various interests, both private and public, which will be affected by or will affect the development. After the problems are defined, solutions and implementation can be recommended as a part of the Final Study.

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Interim Recommendations

Safety

Without regard to the disposition of the Study as a result of, this *INTERIM REPORT*, some measures must be enacted immediately to safeguard against further accidents at the Wisconsin Lock. If it is determined that planning is to continue, the recommendation to install a temporary fence to prohibit access to the Lock should be implemented.

If this *INTERIM REPORT* is approved and the Final Study is authorized, the following recommendations are offered for prompt consideration:

Land Acquisition

Initial implementation of the Concept for Development will require the purchase of a considerable amount of land now privately owned. Prior to the release of extensive publicity on the development (which will tend to increase land values), serious attempts should be made to option or purchase primary sites as soon as it is feasible. As this may entail the expenditure of quite a sum of money, discussions should be initiated as to the possible sources of funds for this purpose.

Zoning

Additional property lying in both the City and County will be contiguous and adjacent to Development land. Proper zoning will be an absolute necessity to assure protection of historic sites and to allow

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commercial development, which will inevitably occur, to do so in a tasteful and coordinated manner. Grass commercialism which can so easily occur must be avoided. The proper development of these areas is a must for full visitor satisfaction. City and County governmental bodies should begin consideration of this as soon as possible.

Marsh Land

To preserve the natural characteristics of the marsh land to the north of the Fort Winnebago site, and to protect the historic qualities of the Fort itself, the control of this area is of prime importance. The Conservation Department has indicated that they could include this area in their program of wet land purchase as soon as the area desired is defined. As it would take a period of several years to conclude purchase, the limits of land felt necessary should be defined as soon as possible and submitted to the Department for their consideration.

Organizational Control

An identification of interests and responsibilities of the various organizations concerned with the development has not been completed at this point. However until further study proves otherwise, the recommendations of the Committee Report of 15 November 1965 appear to be the most logical course of action. A more concentrated consideration of this should be applied in the near future.

Archeology

The Recommendations for the Development of an Archeological Program at Fort Winnebago, Wisconsin was submitted on 3 August 1967. It was approved by the Committee on 15 August 1967. The provisions contained in this program should be implemented with as little delay as possible.