RURAL REST AREA PRIVATIZATION CONDITIONS

MBTC FR 1071

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In an attempt to continue offering services to the traveling public in a time of funding constraints, some state transportation agencies have considered privatizing rest areas. The privately operated rest areas that currently exist are almost all confined to turnpikes that were exempt from the federal restrictions against privately operated rest areas.

The focus of this project was to learn from others' experiences. The researchers contacted representatives of fast-food chains, gasoline companies, and state turnpike agencies having experience with private concessionaires. Their knowledge and experience was synthesized to assist others in determining what rest area site attributes and conditions make a site attractive for privatization, and what contractual terms seem to produce successful partnerships. The issue of whether a state agency should privatize rest areas was outside the project scope.

The reviewed literature reported that there was strong public support for rest area privatization, but strong trade group opposition. Food and fuel service providers were the most common businesses at existing privatized rest areas. To avoid conflicts among operators at a given site, the contract should specify who can sell what products. Problems with leaking underground fuel storage tanks were not uncommon. State agencies have had some less than desirable experiences with private operators, but have learned how to contract for desirable operators over the years. Inadequacies with the design of rest area sites, especially short exit/entry ramp lengths, were observed. The states did not report problems with their left-side ramps.

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TABLE OF CONTENTS

NOTE: References for each chapter are listed at the end of that chapter.

LIST OF FIGURES

LIST OF TABLES

RURAL REST AREA PRIVATIZATION CONDITIONS

by J. L. Gattis, Ph.D., P.E. and Melissa S. Tooley, Ph.D., P.E.

CHAPTER 1
INTRODUCTION

State transportation agencies are experiencing both funding limitations and increasing demands for transportation services. In response, agencies have had to either discontinue some services or consider alternative means to provide these services. One auxiliary service that has received considerable scrutiny is the roadside rest area. Finding suitable alternatives to the current method of rest area operation would allow a state transportation agency to control rest area costs, yet provide the same or perhaps improved service and safety to the motoring public.

There has been a discussion of privatizing some roadside rest areas as a means of providing services at less cost. A typical privatized rest area would offer a gasoline service station and a fast food outlet, but would still be public property, and as such open to travelers who were not making any purchases. The businesses occupying the public site would pay the state fees for the right to be there. So, instead of the state spending money to provide a rest area of perhaps marginal quality, the state would receive money while offering a greatly enhanced service to the public. Converting to private operation could save public agencies money and enhance public relations.

With a few exceptions, federal law currently prohibits private operations at Interstate highway rest areas where the right-of-way was purchased with federal dollars. (By virtue of having state turnpike systems that predate or are not a part of the Interstate system, a few states have turnpike systems with privately-operated rest areas.) The practical effect is that American motorists do not find private rest areas except along certain toll roads. Privately-owned businesses cluster on the roads near freeway interchanges.

This prohibition against privately-operated rest areas is supported by owners and operators of businesses serving motorists along the nation's roadways, such as fuel and fast food vendor trade groups. States have made a few attempts to privatize rest areas, but almost all attempts so far have not succeeded, either due to trade group opposition or economic factors. Yet, it is obvious that many privatized rest area operations along turnpikes are highly successful, as measured by both their profits, revenue sent to public coffers, and their reception by the traveling public.

Benefits of Roadside Rest Areas

By offering motorists a break from the tedium of driving, roadside rest areas allow or even, by their convenience, encourage drivers to pull off the roadway and stop. This period of refreshment is not just a respite for motorists, but it also promotes safety.

Problems with Roadside Rest Areas

While providing rest areas along major highways may be a worthwhile service, it is a costly service. The costs associated with constructing and maintaining the buildings, water and wastewater services, cleaning, and other operations associated with rest areas may limit the ability of a transportation agency to provide the rest areas, and also may lead to closure of existing rest areas.

In addition to cost considerations, responsible state officials are concerned about crime and personal safety at rest areas. Rest areas are at times deserted, offering opportunity for criminals to prey on tired travelers. Serious violent offenses committed at rest areas have made headlines in recent years.

Purpose and Scope of This Research Project

Funding or providing roadside rest areas through private sector companies that offer food and fuel along with a respite for the tired driver is one alternative that may enable agencies to provide services while constraining costs. A knowledge of the site factors perceived as desirable by potential private operators could enhance the ability of state transportation agencies to develop successful private rest areas.

The scope of this project was to contact various entities whose knowledge or experience could assist others in determining what rest area site attributes and conditions make the site attractive for privatization. To accomplish this, the following were contacted and interviewed:

1. major fast food and gasoline company representatives; and
2. state turnpike agencies that have private concessionaires.

Evaluation of the current federal prohibitions against privatized rest areas or other legal issues was outside the scope of this project.

To accomplish the work, the following activities were performed.

Literature Review

The "turnpike" states have privatized rest areas. In addition, a few states have considered rest area privatization, although there has been much more talk than action. Available literature that presented facets of such operations was reviewed and summarized.

Contact State Turnpike Agencies

Three state turnpike agencies were contacted to assess factors contributing to the success of a privately operated site. The present contractual methods, hours of operation, utility service needs, environmental concerns, and security problems with existing sites were documented.

Contact Private Companies

Major fast food and gasoline company representatives were contacted and interviewed. Private company representatives were queried about site desirability as related to minimum highway traffic volumes, proximity of nearby competition, proximity of population centers, utility needs (power, water, and sanitary sewer demand), environmental limitations (e.g., site runoff), and preferred method of financial arrangement.

Contact Utility Companies

The researchers contacted utility companies within the state of Arkansas to estimate costs to extend electric and telephone services to an unserved area.

Synthesize Environmental Requirements

State and Federal Highway Administration environmental personnel were asked about environmental regulations that would be likely to affect a rest area site.

Based on the findings from these contacts, the research team presented

1. site factors needed to enhance attractiveness to potential private food and fuel vendors, and
2. a generic private rest area plan schematic.

This report will provide state transportation agencies that currently have no experience with private concessionaires with information with which they can better evaluate the potential for converting existing rest areas to private operation, and identify constraints when selecting a new site for private operation.

CHAPTER 2
LITERATURE REVIEW

INTRODUCTION

The objective of this study was to identify site attributes and conditions that would potentially attract private operators of rest areas. The research performed for the project will provide state transportation agencies that currently have no experience with private concessionaires with the information they need to evaluate the potential for converting existing rest areas to private operation. Potential constraints to be considered in the selection of a new site for operation are identified.

Although the scope of the research was limited to a survey of experiences with rest area privatization, the collected literature encompassed a wider range of issues. One such additional issue mentioned in the following literature review is the opposition from private interests. The bulk of experience with existing privatized rest area operations was found on turnpikes, not "free" roads. In the turnpike environment, rest areas may be called "service plazas".

A number of states have investigated various aspects of rest area commercialization. The following review refers to reports from California, Illinois, Michigan, Texas, Virginia, Wisconsin, Florida, Maryland, and Ohio, as well as Great Britain and Ontario, Canada.

CURRENT RELEVANCE OF REST AREA PRIVATIZATION

The movement toward commercialization or privatization of rest areas is well-documented. Several states have studied the concept, with a few actually testing the development of commercialized rest areas on state-owned land outside the federal right-of-way. The debate goes back at least to 1981, when Transportation Research Circular No. 238 gave a research problem statement entitled "Incorporating Commercial Services into Highway Rest Areas" its highest ranking of the group *(1)*. Coincidentally, the California legislature placed rest areas in the lowest priority for public transportation funding that same year *(2)*.

State fiscal crises and the growing revolt against new taxes are combining to create a more favorable environment towards the concept of privatization of government services. Citizen disillusionment with government and grassroots resistance to higher taxes is growing. In recent years, measures calling for tax increases have been defeated in several states. In addition, a "grassroots revolt" against tax increases may have led to the Republican turnover in the state senate and house in New Jersey in 1991 (*3*).

Privatization allows policymakers to avoid tax increases without eliminating essential services (*3*). The study of this issue was prompted in Virginia by "the escalating costs of

constructing, operating, and maintaining interstate rest facilities; deficit reduction measures that have limited the availability of federal and states funds for such facilities; growing interest at the federal and state levels in the privatization of public functions; and pleas from motorists for more roadside services" (*4*). A 1992 survey of state agencies conducted by Apogee Research and sponsored by the National Association of Comptrollers revealed that interest in privatization is gaining rapidly in the states (*3*).

In Illinois, 68% of respondents reacted favorably to the idea of commercial services at rest areas (*5*). In Texas, 72% of the respondents indicated that they were in favor of commercialized rest areas, with two-thirds of the respondents stating a preference for restaurant, fuel, and convenience store services (*6*). In Wisconsin, 60% of both rest area users and state residents favored the commercialization of rest areas; moreover, prior to stopping at a rest area, many of those rest area users surveyed had purchased fuel (31%), food (26%), or vending machine items (6%) off the highway (*7*). When asked why they would choose to stop at a rest facility rather than exit the interstate, 69% of rest area users surveyed in Virginia stated that rest areas are more convenient and save time (*4*).

According to a survey conducted by the American Association of State Highway and Transportation Officials' (AASHTO) task force, interest in commercialization of rest areas is strong, with a majority of state Departments of Transportation interested in commercialization (*4*).

It should be noted that commercialized rest facilities are the norm in Great Britain. Rest areas are let on a long lease to operating companies who develop and operate them. The British Department of Transport may offer sites with outline planning permission for development under a long lease by competitive bidding, and will also consider those proposals made by private initiative. It is felt that "this policy of encouraging private initiative, whilst still maintaining an overall control on siting and design, is probably the fairest way of ensuring that both the taxpayer and the private developer have the maximum benefit"(*8*).

Commercialization is consistent with federal transportation policy, as stated in the February 1990 Statement of National Transportation Policy of the US DOT entitled "Moving America - New Directions, New Opportunities":

1. "Minimize legal and regulatory barriers to private participation in owning, planning, financing, building, maintaining, and managing transportation facilities and services;
2. Encourage state and local governments to remove barriers to private investment in transportation;
3. Continue efforts to increase private sector involvement in transportation where practical and in the public interest; and
4. Encourage joint public/private initiatives for financing transportation facilities/operations" (*7*).

REASONS FOR AND AGAINST REST AREA PRIVATIZATION

The reviewed literature presented advantages and disadvantages of privatizing rest areas. The reasons mentioned for promoting privatization of rest areas include reducing costs, increasing service, and providing safety. The nature of cumbersome government procedures and the inappropriateness of government privatization were offered as potential disadvantages.

Advantages

Advocates state that privatization can inject competition into the delivery of government services in order to provide services to citizens in a more efficient and cost-effective manner (*3*). The advantages are (*3*):

1. Save taxpayers' money (*5*);
2. Increase flexibility;
3. Improve service quality (*4,5*);
4. Increase efficiency and innovation (*4,5*) (this is consistent with the federal policy of innovative approaches to public services (*6*));
5. Allow policymakers to "steer, rather than row";
6. Streamline and downsize government; and
7. Improve maintenance.

The Final Report of the AASHTO Standing Committee on Highways - Task Force on Commercialization of Interstate Highway Rest Areas states that not only can rest areas services be provided by the private sector at less cost to the public, the leasing and royalty agreement with the vendor can provide a source of revenue for the highway improvement and/or maintenance fund (*9*). As stated in the Texas study (*6*):

> "The financial and economic analysis strongly supports the idea of commercialization. There exists a real opportunity to change the provision of rest area services from a cost item to a source of new revenue to the State Highway Fund. Finally, based on an analysis of public attitudes, there is support for commercial rest area services."

The Virginia report stated:

> "If the revenues generated at toll plazas are indicative of the success that can result from privatized rest areas and welcome centers, then commercial services at interstate facilities can potentially rescue a number of state budgets while enhancing the comfort and safety of motorists" (*4*).

Although rest area commercialization can potentially create a source of revenue for state DOTs, it is important that the concept be sold to the public as a means of providing better service (*5*).

In addition to the utilization of private resources for building and maintenance, and the

provision of revenues from operations, Caltrans would like to commercialize rest areas because of safety concerns (*10*). Crime has become a significant and growing problem in many areas. The WisDOT study also noted that improved security was of primary interest to those supporting commercialization of rest area facilities (*7*). Also, food and beverages are being sold illegally or quasi-legally at some rest areas, and commercialization would eliminate this problem (*10*).

The study for the feasibility of commercialization of rest areas in Texas stated that one of the main reasons for privatization is to achieve full-cost pricing, stating:

> "In a competitive environment, this means that the cost of provision and production of a good or service is reflected in its price. This suggests that government services may be underpriced, resulting in taxpayer subsidization of the difference."

Also mentioned was that the competition created by privatization would be beneficial, along with the fact that the private sector is more likely to take into account the customer's (in this case the traveling public) desires. The lack of ownership of a public service can result in a lack of personal responsibility on the part of the rest area manager, which leads to little incentive to improve or adequately maintain the facility (*6*).

A study conducted for the Texas DOT stated the following argument for the public sector providing goods and services (*6*) :

> "Public provision of a good or service seems to go against the theory of market-driven economies. In a sense, this is true. Often, the public provision of a good or service costs more than it would if it came from the private sector, because the provider is sheltered from market forces which would presumably drive costs down."

The study conducted for the Illinois DOT termed the use of the private sector to provide rest area services (on tollways) as a "three-win" situation whereby:

1. The motorist gets clean, safe, and high-quality eating and fueling facilities;
2. The tollway authority gets significantly increased revenue, and improved image, and reduced capital and maintenance expenditures; and
3. The service area operator gets profits, expansion potential, and improved market share (*5*).

Competition with nearby business is the most difficult issue for the state to deal with (*4*). However, a consultant concluded that with appropriate efforts to promote local attractions, distributors, craftsmen, etc., at the rest area, local businesses may profit from privatized rest area operation.

Disadvantages

Federal legislation must be modified to permit commercialized rest area services on the right-of-way of the interstate system (*9*). In addition, "each state considering commercialized interstate

safety rest areas will be required to perform a similar review of their state statutes and rules to determine appropriate legislative changes which would be needed to enable rest area commercialization (*9*)."

Arguments against privatization recognized in the Virginia study included (*4*):

1. Government entities may have difficulties overseeing and regulating a venture when it is handed over to the private sector (this was stated in the Texas study as a concern for the provision of the "public good" (*6*)).
2. Government may be left unprotected against monopolistic contractors who can manipulate price (this was also recognized in the Texas study (*6*)).
3. Social considerations, such as environmental issues and equal employment opportunity, may not receive adequate consideration from private enterprise.
4. Public services are the responsibility of public agencies, and therefore should not be turned over to private providers.

The Illinois study found that the commercialization of rest areas may be perceived as having a negative effect on existing local businesses at nearby interchanges. The study states (*11*):

> "Whether or not such an effect occurs will depend, in part, on the extent to which the services offered at the rest area are viewed by consumers as being materially different from the services currently offered at adjacent interchanges. The real trade-off is that the on-road facility is restricted to a single small market (i.e. system traffic) while the off-road facility can serve both system and non-system traffic. This is a larger and arguably more stable market than the on-road facility has access to."

In addition to the above, it should be noted that the rest area provider will be subject to lease payments that the off-road facility will not have. If mitigation becomes necessary to ease adverse effects on area businesses, the following options are presented:

1. The operator of the rest area may compensate the local businesses for their losses.
2. Preference may be given to local businesses in considering contracts for the rest area.
3. The rest area operator may buy competing businesses (*5*).

In the WisDOT study, it was found that opposition from local interests would be minimized in areas where nearby commercial service do not exist, or where the private sector is "entirely responsible" for its development. It was also noted that "virtually all opposition disappears when the concept was suggested of allowing a rest area to be developed and operated entirely by the private sector without the state owning the land" (*7*).

An argument against the assumption that local businesses would be adversely affected was presented in the WisDOT study (*7*):

"Different Types of Businesses - Businesses which offer goods and services which are different from those offered in the rest area, and which are located at the same interchange as a P/C (privatized/commercialized) rest area, may be expected to benefit from the additional traffic that will be drawn by the attraction of the rest area. Businesses offering different goods and services from those located in the rest area, but which themselves are located at nearby interchanges, would not be expected to be impacted either way unless a tourist information center is located in the P/C rest area. In that case, the information center would be expected to generate a significant amount of additional sales for those businesses, even if those businesses are located a significant distance from the rest area.

Similar types of Businesses - Even businesses which offer goods and services that are similar to those located in the P/C rest area, and which are located at the same interchange as the rest area, would be expected to benefit. Evidence of this expectation is the clustering of fast food and fuel service enterprises at the same interchange. While it may seem that the competition would be undesirable, the more sophisticated organizations understand that clusters of similar operations tend to act as a greater attraction to passing traffic, and if the traffic volumes are great enough, a number of similar enterprises can coexist very well."

EXPERIENCE ON TOLL AND FREE ROADS

Private operators have offered travelers food and fuel at turnpike service plazas in the United States for decades. One source noted (*4*)

"Maryland, Ohio, Florida, Illinois, and other states have entered into agreements with large vendors to establish toll road plazas that provide a variety of goods and services to travelers. Each operation had generated considerable revenue for the roadway authority while also serving the public's need for safety, nourishment, and comfort .The successes at toll road service plazas signal that similar ventures between state DOTs and the private sector at non-toll interstate rest areas could be profitable and serviceable to both the states and the public."

The following synopses of toll road plaza experiences in certain states and provinces are from Reference 4.

Maryland

After noting that 60% of the traffic on a proposed Interstate would originate out-of-state, and completion would take a considerable amount of time, Maryland and Delaware opted to return committed Federal funds and construct a turnpike. The road was opened in 1963. Private operators offered fuel, a cafeteria, and a snack bar. In the 1980s a different operator developed

the service plazas into their current form; these have been lucrative for both the operator and the state. One plaza features a market offering local Maryland products.

Ohio

The contract for services contains specific clauses to protect the interests of the state and the public. These include:

1. prohibitions against selling alcoholic beverages;
2. prohibitions against one vendor selling those items allotted to another on the site; and
3. a requirement for the fuel vendor to maintain shower facilities for truckers and recreational vehicle (RV) utility hook-ups.

The state earns millions from the privatized operations.

Florida

Toll roads comprise about 5% of the total highway mileage in the state. The longest turnpike has 8 privatized service plazas. They were renovated in 1989 at a cost of $28,000,000. A number of private brands are offered at these areas. An interesting provision is that operators must accept credit cards from any other operator located in a turnpike service plaza at no extra charge.

Illinois

Private operators at turnpike "oases" in Illinois date back to the 1950s. The restaurant operation changed management in 1985. The state now has short term fuel contracts. Prior to 1985, the profit to the state was less than a million dollars; now it is many millions.

Ontario

Ontario operates 23 service plazas at 50 mile intervals on controlled access highways. Competitive bids are accepted for 10 year contracts, with two optional 5 year extensions.

California

The literature review indicated that California was in the process of implementing off-Right-of-Way (ROW) rest areas in the early 1990s. Follow-up contact with the California DOT revealed that, although these privately owned rest areas were bid and contracted, none were built due to funding problems. California legislation does not allow on-ROW development of private rest areas on interstate highways at this time. When an attempt was made to develop privately-operated rest areas on state highways, organized opposition from Blind Enterprises, a program for the blind that operates concessions at state rest areas, effectively shut it down. Blind Enterprises'

opposition was supported by the Sheltered Workshop, a program for the mentally impaired that performs maintenance and upkeep at rest areas.

HOW TO GO ABOUT COMMERCIALIZATION

Before the state can proceed with rest area privatization, the public must be involved and concerns of the opposition must be addressed. If concerns from either the public or from interest groups do not derail the effort, the rest area privatization process may continue through contracting and implementation.

Public Involvement

The AASHTO Task Force stressed the importance of public involvement from the beginning of the commercialization process, stating "The introduction of commercial activities into new or existing rest areas should be preceded by a well organized public involvement process that addresses not only the establishment of the facility, but also the increased level of motorist services that will be offered, business opportunities that will be created, increased jobs and revenue for each area, and an overall reduction in costs to the public." The state DOT should provide, own, and hold rights to the land. Start-up costs should be minimized to assure public support. The land will be leased to the developer in return for established rates of return and fee structures for a set utilization period. Competitive bidding is the recommended method for contractor selection (*9*). The inclusion of sheltered workshops or minority/female-owned businesses (such as janitorial service contractors) could help gain public support for the privatization of rest areas (*9*).

Local involvement is key to the success of a public/private venture. Local businesses must be kept informed, convinced of the positive intentions and potential outcomes of such development, and provided with the opportunity for input (*4*). In California, the most significant opposition was found where the local economy was weaker and more dependent on interstate traffic, with less opposition in communities where the traffic counts were greater, where the local economy was more broadly based, and where significant commercial services exist already (*10*). In Prosser, Washington, a public/private partnership built and operates a rest area facility. The City of Prosser operates a shuttle to their downtown from the rest area to encourage tourism in the area. This is a good example of how a local community can benefit from a commercial rest area operation (*6*).

Caltrans developed a methodology for working with local concerns, based on the idea that maintaining the lines of communication open from early on in the project is of paramount importance (*10*).

1. Keep local interests informed, including justification, scope of the project, and potential benefits to the community. Include opportunities for community input.
2. Gather information concerning local and regional planning and economic goals, and incorporate the project's impact on these goals.
3. Solicit the community's ideas regarding services offered at the site.
4. Identify potential sources of opposition and attempt to build consensus. Support local groups who are in favor of the project.
5. Consider including local interests as participant in the project.

Opposition

When a proposal to develop commercialized rest areas on state-owned land adjacent to federal right-of-way was introduced to the Michigan legislature, opposition successfully lobbied to block the enabling legislation. The opposition consisted of a coalition of representatives from the petroleum industry, truck stop industry, local businesses, and the state Chamber of Commerce (*4*). Concerns of the opposition included:

1. the operator receiving the initial contract would have a monopoly on future contracts;
2. local businesses would be adversely affected by the competition; and
3. an unfair competitive situation in petroleum sales would result.

Contract Options

After consideration of several options, Caltrans opted to solicit only turnkey arrangements for future commercialized rest area proposals. Under a turnkey operation, "the private sector would be responsible for the entire project, including land assembly (if necessary), development planning, design, environmental documentation and permits, construction, operation, and maintenance" (*10*).

Under the Illinois DOT plan, the privatized rest area project would be administered as a "joint public landlord/private sector tenant" arrangement. IDOT would be responsible for providing a suitable site, establish levels of service, and monitor operator performance. The private sector would provide day to day management of the facility and commercial operations. Either entity could design, develop, and construct the commercialized rest facility. The benefits for the involved parties include lease payments for IDOT, and profit from sales and services and a return on their investment for the private operator (*5*).

The study prepared for the Illinois DOT had the following recommendations (*5*).

1. IDOT should maintain land ownership, with operations and maintenance performed by the private developer (to provide the best way of enforcing compliance with established standards). IDOT should be directly involved in testing and supply of potable water, sewage

facilities, grass mowing where it could affect traffic, and snow plowing of ramps and site parking.

2. The length of the contract was recommended to be 20 years with appropriate renewal options.
3. Developers should be selected by the competitive bidding process.
4. Local businesses should be encouraged to participate in the rest area as developers, operators, or suppliers.

The consultants preparing the Illinois study recommended that contractual obligations be clearly defined, with areas within the site, duties, and responsibilities designated. In addition, they recommend that management-level personnel be assigned to the site at all times and that one person from the corporate office be designated as an IDOT rest area coordinator. Because of the public involvement in the site, certain activities were deemed inappropriate, such as the sale of alcoholic beverages, pornography (including a wide variety of adult-oriented magazines), adult-oriented greeting cards and novelties, and betting or gaming activities unless a state sponsored lottery or similar activity (*5*).

Implementation Plan

Caltrans had formulated the following implementation plan to carry out their project (*6*).

1. Project planning
   a. Select candidate sites.
   b. Determine policies and explore possibilities for solving key problems.
2. Site and Joint Development Business Partner Selection
   a. Invite statements of interest through an aggressive marketing effort to encourage interest.
   b. Screen prospective business partners considered qualified to participate in a commercial services rest area and receive request for proposals.
   c. Invite and evaluate proposals.
   d. Negotiate with at least three prospective business partner candidates.
3. Development, design, and engineering
   a. Acquire land.
   b. Apply for rezoning, if necessary.
   c. Prepare detailed site plan, including soils engineering report, geology report, hydrology report, grading and landscape plans, street and utility improvements and specifications.
   d. Meet review and permit applications.
   e. Arrange financing.

4. Construction
5. Maintenance Plan
6. Monitoring plan addressing business selection; development, design, and engineering; construction and public use, financial returns to private businesses, and Caltrans' operation and maintenance costs.

Caltrans had the financial goal that the state not contribute more than 50% of the cost to improve the existing rest area to serve the design year demand. An additional goal was the state should receive an annual rate-of-return on its investment of at least 10 percent (*6*).

The Illinois study recommended some changes in DOT levels of involvement in rest areas if commercialization is implemented (*5*).

1. The Engineering Department will have to update design criteria relating to design and signing of rest areas.
2. The Maintenance Department will be more of a supervisory function than a responsible party.
3. The State Highway Patrol may be less involved with current security issues, but may become involved with new ones due to the nature of commercialized enterprise.
4. The Capital Development Board will coordinate their activities with restaurant and service station companies. Procedures would need to be established to collect, record, control, and distribute funds from a new revenue operating source.
5. The Legal Department will review and develop lease and other agreements, and oversee correspondence.
6. Public Affairs will be responsible for public relations and education, and dealing with complaints and/or compliments.

Types of Services

The study conducted for the Illinois DOT found that key factors influencing the choice of whether travelers decide to use a commercialized facility included (*5*):

1. brand name products (customers prefer them);
2. reasonable prices;
3. access;
4. visibility; and
5. quality of products.

It was noted "A number of private companies, including McDonald's, Mobil, Howard Johnson's, and Marriott, are poised to work with states in developing these programs" (*6*).

The study conducted for the Wisconsin DOT found that all three types of commercialized

rest area development considered for the study (on-line retrofit, new on-line, and new off-line) were feasible for development, with the most lucrative opportunities for full service sites, which include a fast food restaurant, fuel service, and a convenience store.

DEVELOPING A SITE

To actually develop a privatized rest area site, the state should determine what services and facilities need to be offered. Then a site layout design must be developed.

Site Requirements

The AASHTO Task force recommended that a joint development rest area facility should include rest area services, motorist information services, food services and fuel services. In addition, utilities such as water, sewage, electrical power, gas and communications services should be provided. Regarding accommodations for trucks, it was recommended that long term parking, truck inspection and weighing facilities not be routinely provided (although the task force recognized that some states may elect to provide these services) (*9*).

When Marriott is contacted about a potential commercialized rest area site, the corporation conducts a feasibility study, considering location (25 acres are necessary for development), and volume and type of traffic (*4*). Distance to other properties owned by the developer were also cited as a significant factor affecting their interest (*5*).

The first planned commercialized rest area in California had an average traffic flow past the site of 68,000 vpd. The proposed services included the usual rest rooms, parking, and areas for walking with picnic tables, and also a restaurant, fuel service facility, and a convenience store. A total of 250 parking spaces were planned, with 68% dedicated to automobiles, and separate large-vehicle parking (5). The operator of the site was to be responsible for the engineering and architectural design, and for obtaining the necessary permits and environmental approval. Caltrans initiated the project, performed the feasibility study, and designated the site (*10*). Although the project reached the contract stage, opposition and funding problems stopped the project before construction began.

The issues considered in evaluating feasibility for the commercialization of California rest areas, and the information analyzed to determine commercial development potential can be found on page 3 of reference 10 (*10*).

The Texas study stated that a commercialized site may require 580,000 SF, as opposed to 572,000 SF for a traditional rest area facility. Other issues that must be addressed when considering a site for commercialization include (*6*):

1. availability of additional land area beyond (but contiguous to) the existing ROW;

2. expansion potential of the sanitary sewer;
3. expansion potential of the water supply;
4. expansion potential of other utilities;
5. ability to use or reuse existing facilities including buildings, pavement and parking lots; and
6. environmental impact statement on the potential increase in usage of the area and its resources.

The Texas study determined that a minimum ADT of 2750 was necessary for sales to take place. The estimated annual revenue per commercialized rest area location was $66,658. Another financial, yet intangible, benefit would be the positive impact of commercialized rest areas on the state's tourism industry. Also, rather than spending $17 million in rest area upkeep and renovation, the rest areas could be privatized and bring in $28.4 million in revenue (*6*).

In the Illinois study, an eight-step screening process was used to evaluate potential sites, based on the following requirements (*5*):

1. Requirements for physical design - need for right-of-way (from 10 to 30 acres depending on the type of development), and water and sewer needs;
2. Economic requirements - based on a model which evaluates profitability and feasibility;
3. Operational requirements - investigates factors influencing day-to-day operations, such as available labor and support services;
4. Design requirements - assesses the ability to use existing facilities and infrastructure;
5. Service needs - evaluates level of traveler services within close proximity to the rest area site;
6. Local impacts - addressed need for community involvement and coordination;
7. Environmental issues - reevaluates sites for their impacts on the surrounding environment and closeness to sensitive areas such as wetlands or historical sites; and
8. IDOT requirements - focuses on the contract terms which are likely to be considered by a developer or operator.

Parking requirements for the three rest area concepts developed for the WisDOT study are given in Table 2.1.

Proposed Site Layouts and Designs

Site layout information from Texas, Illinois, and Wisconsin was reviewed. Appendices to this chapter present additional information.

Table 2.1 Estimated Parking Concepts by Rest Area Concept (Year 2010)

Commercial Services	Vehicle Class: Passenger Cars	RVs	Heavy Trucks	TOTAL
Fast-Food Restaurant	169	4	57	230
Fuel and Convenience Store	184	4	62	250
Fast-Food Restaurant, Fuel and Convenience Store	212	5	73	290

Texas

A typical rest area layout, proposed site plans for commercialized rest areas, and a comparison of land requirements, is found in Appendix A (*6*).

Illinois

The Illinois study identified three development and service concepts for consideration in Illinois. These were structured to serve the markets identified by the motorist survey and to correspond to passing traffic ADTs. These are as follows:

Table 2.2 Financial Return for Types of Rest Area Development

Type of Development	Services Offered	*Net revenues	** Rate of Return
Limited-Range Facility	fuel, snack shop	$1.2 million	15%
Mid-Range Facility	fuel, fast food	$2.6 million	16%
Full-Service Facility	fuel, a food court	$7.5 million	not available

* net revenues to IDOT over a 20-year lease

** to the developer

Capital costs and site plans were developed as well as a methodology to identify candidate

sites and which development type was most appropriate for each site (*5*). Financial feasibility, defined as profitability to the developer and IDOT, was found to be a function of the level and composition of passing traffic, as it was in other studies (*5*).

Appendix B contains typical rest area and proposed commercialized rest area site plans, A flowchart illustrating the commercial rest area screening process, and tables showing preferences for new services, a summary of commercial development concept services, commercial development concept features, a summary of facility development costs, and the benefits and costs of the privatization process (*5*).

Wisconsin

Appendix C contains a description of the recommended types of Safety Rest Areas, site plans and cost estimates for the different types of commercialized rest area facilities, and a table illustrating expected revenues and return on investment (*7*).

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CHAPTER 3
SURVEY OF STATE AGENCIES

In order to learn from state government agencies having experience in highway rest area privatization, the researchers interviewed administrative personnel with three turnpike agencies. Each of the following agencies has for over two decades contracted with private operators to provide fuel and food services at turnpike "service plazas". Motorists stop at these areas to obtain food and fuel, to use restroom facilities, and to take a break from driving. These service plazas function in the way a privatized rest area would function. The researchers interviewed staff at three agencies: Florida's Turnpike, Kansas Turnpike Authority, and Maryland Transportation Authority. Beside conducting on-site interviews at the turnpike administrative offices, the researchers also observed the operations of a rest area (e.g., service plaza) in each of the three states. In particular, the nature of the services provided and the vehicular traffic flow conflicts associated with the site layout pattern were noted.

GENERAL

Most private operators offered food and fuel services 24 hours a day. Some operations were scaled back during the late night, but food and fuel were almost always available.

Area utility companies (water, sanitary sewer, electric, telephone) had extended services to some sites, while other sites had their own water and sewer systems. The feasibility of connecting to existing utility systems has to be evaluated on a case by case basis. Private rest areas seem to fare well without having natural gas pipeline connections; propane gas may be a suitable substitute. Given the nature of the telephone market, the transportation agency should insure the telephone provider supplies access to all of the major long distance carriers. Existing state telephone-provider contracts may provide a way to obtain competitive telephone service.

All three of the agencies had experienced underground fuel storage tank leaks at their sites. If a state transportation officials contract for fuel operations at a rest area, they should realize that fuel tank leaks may not be a matter of "if", but rather a matter of "when". Qualified environmental specialists should be consulted to prepare a containment and cleanup plan that is ready to implement when the time arises. Federal environmental protection rules regarding underground fuel storage tanks are becoming progressively more restrictive.

It would seem that the increased activity at a privatized rest area would be a deterrent to many types of crime. Since a privatized rest area can produce income, officials may want to provide an added measure of security and allocate a portion of the rest area budget to providing on-site security services which are present the majority of the time.

CONTRACTS AND FINANCIAL ARRANGEMENTS

One agency had what seemed to be a very good practice, convening potential bidders to critique a preliminary request-for-proposal (RFP) and contract details. This gives the state an opportunity to "work some of the bugs" out of a contract before entering into it.

If only food and fuel are offered at a privatized rest area, an agency may be missing opportunities to both generate revenue and promote local tourism. Additional contracts for travel literature, advertising panels, or a gift shop may benefit both the state and the public. On the other hand, the contract should specify and limit what a particular operator can sell, so one operator will not be duplicating the product offerings of another at the same site.

If any operator does not perform well, the agency may lose a percentage of sales and the traveling public certainly loses service. From two perspectives, it is desirable that the operator do well. The interview responses indicate that a transportation agency will want operators to offer only brands that will be recognized by travelers, not unheard-of local brands. Including a public brand-recognition requirement in the request for proposal may help achieve this.

The contract duration needs to be long enough to allow the operator to amortize sunk costs, or have the agency buy them out. With the agency owning the fuel tanks and service station building, five years seemed to be adequate for fuel providers. Food operators seemed to need longer periods, 15 to 20 years.

If private rest area operators charge prices for food and fuel that are significantly higher than prices for comparable items off of the roadway, public resentment may arise. The state needs a contractual mechanism to keep operator prices reasonable. With fuel retail prices, a bid that establishes a maximum allowable markup over a benchmark price can accomplish this. With food prices, the state may want to require permission to raise prices, or limit prices to a range defined by those of nearby competition.

It seems imperative that the private operators have a strong incentive to offer quality services to the motoring public. All three agencies had experiences with operator underperformance to report. The contract should give the state agency strong authority in these matters. Strict bathroom maintenance and cleanliness is important.

Upon entering the building housing the food and restroom areas, it is desirable that the patron immediately see the choices available in a single panorama. Therefore, if the building houses more than a single restaurant with restroom facilities, some type of entry lobby about which the various services are connected is desirable.

SITE DESIRABILITY

There are always things one would do differently if they could be done over again, and privatized

rest area operations are no exception. In hindsight, agencies expressed regret that they had not obtained larger sites for their facilities. Two agencies mentioned areas of up to 100 acres. A site should be designed to facilitate easy expansion of both buildings and parking.

There was no clear consensus, but some expressed a preference for sites spaced no less than 40 miles apart. Proximity to nearby highway business was not reported as having generated problems.

Information about the minimum traffic volumes needed for a successful privatized rest area was very limited. This may be in part due to variables: proximity of competition, the nature of the traffic, the quality of the facilities, prices, etc. It seems that more customers will come from a stream of through traffic than from local traffic. At one actual marginal operation in the 1980s, daily traffic was about 4000 vehicles per day (vpd). Volumes have now grown to 5800 vpd. If the site were to go in new today, it was speculated that it still might be marginal.

It is desirable to locate the food building close to the fuel building, and perhaps connect them. In addition to selling fuel, the service station building could also function as a limited convenience store, offering beverages and a limited range of pre-prepared food items (such as snack foods, candy, etc.). A food court concept could be employed at the food building, housing one or more fast food restaurants, restrooms, and any other services.

The building design must accommodate vehicular and pedestrian traffic flow patterns. It is desirable for the site to offer visual cues to clue drivers and help avoid confusion about which direction they came from and are headed toward.

Passenger car, bus, and truck traffic should be segregated to minimize conflicts, and especially to reduce the exposure of pedestrians to vehicles. It is desirable to permit buses to discharge passengers close to the front door. There were some hints that the exclusion of large trucks from the site altogether might be in order.

Although all of the turnpike service plazas were situated in the median, none of the officials reported accident problems related to left side exit and entry lanes. Perhaps the relatively uncongested rural environments were a mitigating factor. Even so, officials wished that longer ramps had been built.

SITE PHOTOGRAPHS

The following figures show successful private rest areas in operation. In Figure 3.1, note the canopies covering both the fueling area (in the middle) and the walkway (right). Figure 3.2 illustrates interior signing that helps direct the visitor. Figure 3.3 depicts the expanse of a well-developed commercial area, and the variety of services offered.

Figure 3.1 Canopies over fuel and pedestrian area

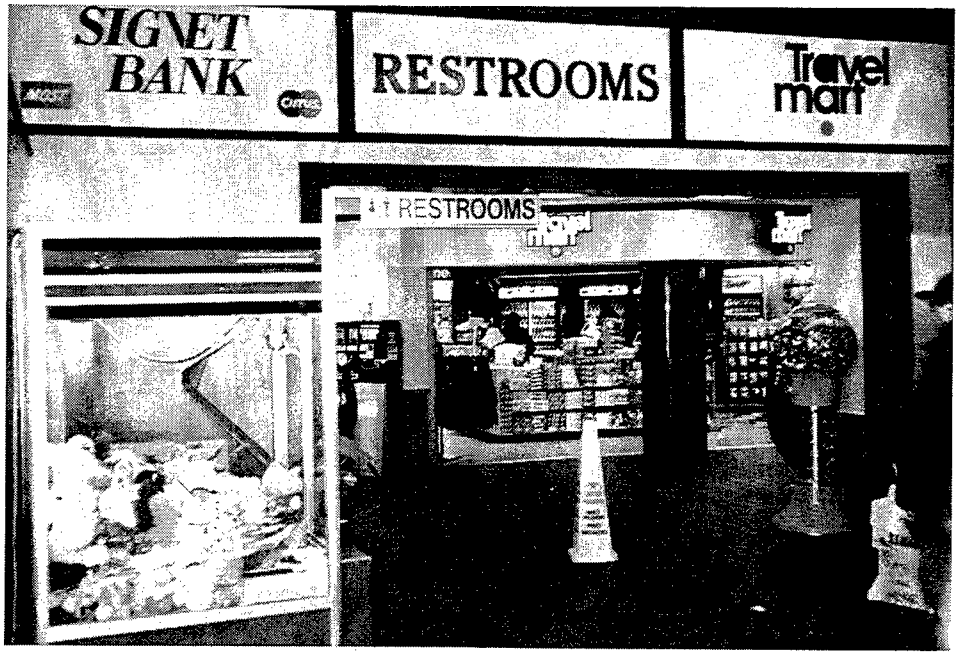


Figure 3.2 Interior signing helps direct

Figure 3.3 Variety of services offered

DETAILED SURVEY RESPONSES

A presentation of the state agency responses to the survey questions follows. The responses are shown in three side-by-side columns. Responses to each query are placed approximately parallel to each other. To provide some anonymity for each responder, the responses from a given state are not all in a single column, but rather are shuffled among columns.

STATE SURVEY RESPONSES

GENERAL

HOURS OF OPERATION:

1. All gasoline services are operated 24 hours per day.
2. At least one food outlet or convenience store at each site is open 24 hours a day.

UTILITY SERVICE:

Providing utility services in rural areas is an ongoing problem.

1. Because it is not always feasible to connect to city water and sewer systems, we operate our own water and sewer plants.

HOURS OF OPERATION:

All operate 24 hours per day, except one food outlet at a lower-volume location is closed from midnight to 6am.

UTILITY SERVICE:

In earlier days, some utility companies were unwilling to extend lines to service areas. You can get service to any location; but can you amortize the cost to provide service with the revenue from the site?

1. Some sites have had wells. A water line was recently extended from a city to a service plaza.

HOURS OF OPERATION:

1. All gasoline services are operated 24 hours per day.
2. The major concept at the food outlets is open 24 hours per day; hours of the other food concepts are set by the operator.

UTILITY SERVICE:

1. Decades ago, we had to fund and build water and sewer connections to a town.

2. The electric lines were close

2. Most sites are "all electric," except the hamburger franchises use tanked propane.

3. Natural gas is not available.

4. The minimal telephone service competition in remote sites resulted in a provider that did not furnish access to some of the long distance companies, and charged higher long distance rates.

ENVIRONMENT CONCERNS:

Various types of environmental problems have arisen.

1. Sewage effluent quality has been unacceptable because a food operator was not cleaning the grease traps.
2. We have had a wastewater treatment line blow, which

3. In the past they had to build their own natural gas lines.

ENVIRONMENT CONCERNS:

when the service plazas were built, so extensions were not a problem.

3. Natural gas is available at one site, and will soon be available at the other; but not sure if natural gas or propane is used by the service plaza operators.
4. Telephone service is provided through the state contract for telephone service.

ENVIRONMENT CONCERNS:

The service plaza sites were developed before wetlands were a concern.

required a clean up.

3. Have had underground gasoline storage tank leaks; have had to clean up some sites.
4. Have to be concerned with site runoff. Future regulations will require us to have troughs under the fueling areas to collect any spills.
5. Although sites initially may have been in rural areas, creeping urbanization up to the edge of sites has started to generate complaints about site floodlights, noise, and air pollution. Semi-trucks parked overnight with engines running are one identifiable source of such pollution.

3. We have had underground gasoline tank ruptures; one ruptured at a service plaza last year. The operator and the state each paid part of the cleanup cost.
4. Not aware of having any site runoff problems.

3. There have been minor fuel storage tank leaks. We have to be "constantly diligent" regarding leaks.
4. Have not had site runoff problems.

SECURITY PROBLEMS:

We have not had a major crime problem, but have had purse snatchings, vehicle break-ins. We improved our security in

SECURITY PROBLEMS:

By being a toll facility with limited access, a turnpike is a discouragement to people hanging out at a service area.

SECURITY PROBLEMS:

Have had relative few problems, such as pickpockets, theft. Often these can be traced to an employee or

response to well-publicized killings at non-turnpike rest areas. A full-time security person patrols the grounds and building the majority of the time.

We always have security problems, but they are not as critical as on the state highways.

former employee.
We contract with the state police to patrol the service areas.

CONTRACTS AND FINANCIAL ARRANGEMENTS

ADVERTISING, SELECTING OPERATORS:

ADVERTISING, SELECTING OPERATORS:

We suggest writing a draft that conveys what you want in a contract, then have an industry forum to critique the draft. Our operators have liked this opportunity. [If they were to meet by themselves, it could be considered collusion or restraint of trade.] Also, some operators may be aware of trends on the horizon. Revise the draft before issuing the formal request-for-proposal. Explaining your perspective in a such a meeting may help eliminate some potentially

ADVERTISING, SELECTING OPERATORS:

2. We send requests-for-proposal (RFPs) to as many operators as we know of, and advertise in the paper. The responsiveness of fuel providers depends on the market: how much profit there is in the fuel business.
3. In the 1980s, the food contractor lost market share because it did not feature national brands ("mystery" food). A national company will have higher standards. When undesirable operators. We also have preproposal meetings to clear up misunderstandings.
   1. At one time we had a rule that no operator could have more than 1/2 of the sites; we now have a single operator. With a single fuel operator for all sites, the aggregate volume is large enough for the operator to get a better wholesale price. Now they bid off of "rack price" instead of "dealer tank" price.
   2. Although we advertise in statewide newspapers and national trade publications (*Wall Street Journal, National Restaurant News, Travel Weekly*), the best way to get interest is telephone calls.
   3. Avoid "local" food items; stick with national brands. "Bubba's Ribs" do not work at a service plaza.

1. By law, each of the 6 sites has to be bid separately. The idea was to engender competition; cannot be sure that competition is enhanced by splitting them. Having to prepare and administer 12 contracts (two at each of six sites) is not a burden.

2. By law, we are required to advertise. We advertise in industry publications.

an operator loses market share, then we lose rent.

4. The high bidder is required to present a staffing plan, and demonstrate sufficient capital before the contract is finally awarded.
5. Be aware of the possibility of a previously expelled operator trying to get a new contract under the guise of a different business name.

4. You might ask proposers to define what services or product mixes they would offer at a site, and their rationale for such services.
5. We have 3 contracts: for food, fuel, and travel-tourist advertising brochures. In the future, we are considering illuminated advertising panels, and video walls (no sound, since a plaza already has enough noise).
6. The state can provide traffic volumes, origin-and-destination survey data.

5. The fast food industry is more mature today, so we are receiving more interest from potential operators, whereas years ago, they had only one bidder, resulting a contract favorable for the operator.

6. People are going to come to you, if they are interested in a contract.

CONTRACT DURATION:

1. The food operator contract is for 20 years; they need a way to amortize the capital spent on renovations.
2. Because of volatility in the fuel market, the fuel contract is

CONTRACT DURATION:

1. The food operator has a 15 year contract. The contract duration has to be long enough for the operator to capitalize expenses. We like 15 years, with the agency having the

CONTRACT DURATION:

1. The food operator has a 20 year contract, renewable every five years at the option of the operator.
2. The gasoline operator has a 5 year contract.

awarded every 5 years. If the bottom drops out of the fuel market, an operator may not make any money and therefore cannot provide service.

option for a 5 year renewal.

2. The fuel contract is for 8 years.

3. We think 5 year terms are reasonable, with an option for the operator to give reasonable notice and cancel without penalty. Also, the Turnpike can cancel the operator without penalty, with a provision to acquire undepreciated equipment which have been funded by the operator (the contract will have to specify the life of equipment items).

OWNERSHIP (EQUIPMENT, FIXTURES, ETC.):

1. The state owns the buildings, fuel tanks, HVAC systems, service station lifts, etc., what is fixed.

OWNERSHIP (EQUIPMENT, FIXTURES, ETC.):

1. The buildings, underground tanks, and other facilities are owned by the state. The operators own the equipment: stoves, fuel pumps.
2. You want the operator to own some kitchen equipment, because kitchen equipment will

OWNERSHIP (EQUIPMENT, FIXTURES, ETC.):

1. The state owns the gasoline tanks. Things that are very portable are operator owned.
2. It is best for gasoline operators to own all of their gas equipment. Food operators will probably want to own their own kitchen equipment.

change as food concepts change.

3. Even though the state owns the seating, the operator can replace seating. The seating stays if/when the operator leaves.

Display racks, cash registers, etc., are operator owned.

REVENUE:

1. The fuel contract is awarded to the high bidder. There is no building rent, per se. Our portion is based on gallons sold: it ranges from
   5.6c to 10c per gallon;
   10% of tires, batteries, accessories;
   24% of vending items.
   Fuel price comment -- in the past, we conducted a local fuel price survey, and allowed a fuel price only so much above

REVENUE:

1. The fuel is bid as an average markup per gallon over rack price, figured weekly. The markup for a given grade can vary, but the average markup (weighted by proportion of fuel sales in different grades) must not exceed that specified in the bid.
   [rack price + 0.05 state + taxes + operator markup]
   The state share is bid at $0.05 per gallon. The national

REVENUE:

If the revenue is shared, then perhaps the lessee/lessor should share in any needed replacements

1. In the past, fuel on the turnpike cost more because it was bid on a "gross royalty" basis (how much will you pay me to operate that station? -- the operator paid the state a flat fee.) We have changed to a "gross markup" basis (a fixed lease payment is specified, then the bid is based on who will charge the least gross markup over the going wholesale "rack price").

that, but this was cumbersome. Now we use the [Lundberg letter price + tax + allowable margin] so the price will not be too out of line with off-road fuel prices. Margins are:

regular: 0.055
mid-grade: 0.105
premium: 0.155
full serve 0.25

As a result, our fuel prices are 3c to 4c more per gallon that those of close-by off-road stations. We have not had one price complaint since we went to this system.

2. Food operator revenue starts at 23.5% of gross, and is graduated downward with increasing sales to 16% of gross (excluding taxes), depending on volume.

average is $0.06-0.065 per gallon. With older facilities, may get $0.045-0.05 per gallon.

2. The food operator overbid the current contract; the state is currently getting about 18% of the gross. The state also gets a fixed minimum, which figures out to be 18% of gross. They tell us the national average is about 12% of gross. Another state attempted to get bids

[rack price + fixed lease price to state + operator markup] The rack price is adjusted every Friday, and the posted prices are changed every Monday.

This resulted in lower prices, more fuel sales, and better customer feelings toward the agency. Given that gas stations have converted to convenience stores, the current lease price may be too low.

they same way we did, and got no responses because they asked too much.

3. The fuel industry does not like our "cost plus" method, because they believe it benchmarks the price of fuel elsewhere.
4. The operator has to spend a certain percentage of revenues, up to $3,000,000, to upgrade the operation.

RESPONSIVENESS TO CUSTOMERS:

If we get too many complaints, we take action. Commuters are not a big part of our business.

RESPONSIVENESS TO CUSTOMERS:

1. The different service plaza sites have differing demographics. Those with heavier commuter components draw a lower overall percentage, while those in rural areas with predominately through travelers draw the highest proportions of all traffic. The service plaza with the highest traffic volume has the lowest dollar volume of

RESPONSIVENESS TO CUSTOMERS:

any of our sites. You need a different product mix for different customer mixes; what services are really needed for the particular type of user? Commuters may want banking, cleaners.

2. If most customers will only pass by only once, and the potential for repeat customers is low, then the operator has more incentive to maximize profit and less incentive to improve service in order to attract repeat customers.
3. Before we had the current contract, we had a fuel operator making over $1,000,000 a year profit, with high prices and terrible service. He knew we did not want to expel him, because it would take a while before a new operator could be in place.
4. People will tell you in a survey they want a sit-down

restaurant, but they will not use it. We have had sit-down restaurants in the past, but they were not successful. Looking at what works in other states is more reliable than customer surveys.

5. Many food concepts have a short life.

OPERATOR CONFLICTS:

The contract limits items the fuel provider can sell; the fuel provider can sell only vending items, and cannot sell prepared foods. The gasoline station has wanted to sell things which the food provider has exclusive contract rights to. The operators will seize any opportunity to make a buck, and if you don't have anything in writing, you have a real problem.

OPERATOR CONFLICTS:

To avoid conflicts, the contract restricts the fuel service operator to providing a very limited amount of food items, and these are specified. The contract also gives the state final authority to resolve any disputes.

OPERATOR CONFLICTS:

The food operator does not like the gas station selling sandwiches and soft drinks. As merchandising practices and product mixes evolve, operators may try new things which other operators on the site object to.

DETAILS:

1. When we began, we examined others' procedures, and we took the best from other contracts.
2. The contract requires maintenance as necessary; you often need to repaint. The contract requires the food operator to allocate 2% of the gross every year to remodeling: carpet, tables, chairs, etc. It's a good policy to constantly change interior aesthetics.
3. Everything inside the building is maintained by the operator, while outside is maintained by the state (such as lighting), except for the immediate gasoline island area.
4. The state is responsible for capital improvements to the fuel tanks, while the operator maintains the fuel distribution system. The operator is required to notify the state of a

DETAILS:

1. If the need for repair arises due to something that was not a preexisting condition, the operator is responsible for fixing it.
2. If new state or federal rules are promulgated, the operator bears the cost of compliance.
3. Restrooms are the number one source of complaints. We now have attendants to clean both bathrooms at least two shifts of the day. Be prepared to be in the bathroom business.
4. We restrict what types of brochures may be placed on the racks. Only attractions within the state or products made in the state are allowed to be advertised.
5. We are anticipating that about 1/3 of the video wall time could be sold for advertising, with the rest being public service. The cycle time for

DETAILS:

1. The contract needs to state who pays for environmental cleanup costs.
2. The contract needs to state who is responsible for repair/replacing a failed gas tank.

fuel leak within 24 hours; if the state is not immediately informed, then the operator is responsible. When the state is notified, they make a determination of the cause, and help with the mitigation. If the state becomes aware of a leak and they have not been notified, then the state will hold the operator responsible -- this option has not actually been tested.

5. The state controls the price of items, but the operator can request an increase, such as by demonstrating that nearby outlets are getting more for an item. The operator can adjust downward without any approval.
6. Have the right to approve another company assuming the contract of an operator.

such a display should be about 20 minutes.

6. The operators inspect the fuel tanks before they sign a contract. Once a fuel operator signs a contract, then the operator is responsible for cleaning up fuel spills, or tank leaks.

PENALTIES AND EXPULSION:

1. In the 1980s, we had a food operator that was not keeping their facility the way we wanted them to -- they were not giving the kind of customer service or housekeeping the we wanted. We put some pressure on the company, they became uncomfortable being here, and they sold out to another, more suitable operator.

   We have had 2 or 3 incidents in 3 decades when the state had to terminate a contract and expel.

2. A contract needs to have a "hammer" over operators, so the state can force them to clean up their act or get rid of them.

PENALTIES AND EXPULSION:

1. Contracts now contain a "compliance account", which is a balance in escrow the operator has to maintain at $50,000. Certain mistakes or violations of contract terms (including specific performance measures) allow the State to "fine" the operator. An operator knows that State would like to avoid the effort and the temporary loss of service that accompanies expulsion, so the operator can push the limits. The compliance account allows the State to make it undesirable for the operator to violate contract provisions without threatening expulsion. It may take some time for the operator to realize that the State means business about enforcing the compliance account, and that compliance is less costly than the fine.

PENALTIES AND EXPULSION:

1. We have expelled a previous operator (named a well known national company); it was a painful and expensive process. With the current contract, we can only expel for cause.

The presence of this term discourages marginal contractors from even bidding on the contract.

2. One state has a contract that allows them to hire an outside firm to clean the premises if the operator is not doing the job, and bill the operator.
3. The contract has default clauses, based on poor performance and violation of specific terms of the contract.
4. We did have to evict a operator who would not leave about 10 years ago. The county sheriff was needed to escort people off the premises.
5. The contract should allow the state to evict a operator.
6. The contract allows us to use a operator's equipment after expulsion, to give us time to get another operator in operation.

SITE DESIRABILITY as related to ...

MINIMUM HIGHWAY VOLUMES:

Do not know what are minimum necessary traffic volumes. However, we have had less interest in our lowest volume site, which had 4000 vehicles per day (vpd) in the 1980s. It is now up to almost 6000 vpd.

SITE SIZE:

PROXIMITY TO POPULATION CENTERS:

Do not recall getting complaints from private

MINIMUM HIGHWAY VOLUME:

Low traffic volumes will reap lower rent.

SITE SIZE:

The sites are currently about 60 acres; if we could do it over again, would like 100+ acres. Parking is the big problem.

PROXIMITY TO POPULATION CENTERS:

Doesn't matter; the draw for a freeway rest area is you don't have

MINIMUM HIGHWAY VOLUMES:

1. Minimum traffic volumes are needed, but we are not sure what they are.
2. We have sites with food-operator sales of up to $4,000,000 per year. A fast-food operator needs at least $2,500,000 per year sales.

SITE SIZE:

1. If we were building a new facility, we would like not less than 100 acres for a site.
2. Over time, there are increasing demands for space at service plaza sites. This ranges from DOT facilities to microwave towers.

PROXIMITY TO POPULATION CENTERS:

We have not had any complaints from private operators about the turnpike

operators in nearby towns about competition on the turnpike being unfair.

PROXIMITY TO COMPETITION:

1. The operators are use to intense competition, so the turnpike provides less than they normally may have.

UTILITY NEEDS:

no opinion

ENVIRONMENTAL LIMITATIONS:

no opinion

BUILDING AND SITE ARRANGEMENT:

If we were beginning again, would prefer to have both

to leave the road to do your business.

PROXIMITY TO COMPETITION:

1. Need a minimum separation of 20 miles between sites. Later said "people would rather travel 30 to 40 miles before they stop".
2. There is enough business on our highway for both in-median and off road businesses.

UTILITY NEEDS:

If distances are reasonable, utilities will extend, but it may cost.

ENVIRONMENTAL LIMITATIONS:

Avoid wetlands.

BUILDING AND SITE ARRANGEMENT:

1. Each plaza has a service station at each end with a food

service plazas being unfair competition.

PROXIMITY TO COMPETITION:

1. The farther apart the stores, the better.
2. Probably do not want service plazas closer than 40 miles apart.
3. Spacing is influenced by wrecker response time.

UTILITY NEEDS:

no opinion

ENVIRONMENTAL LIMITATIONS:

no opinion

BUILDING AND SITE ARRANGEMENT:

1. We like the efficiencies of having one building. If

buildings together instead of split apart. This offers more convenience for the customer. The downside of a single building is conflicts between operators. The contract should spell out rules for multiple parties to share one building.

outlet in the middle.

2. Prefer to separate the service station from the food outlet for ease of maintenance and service.

inclement weather is an issue, would suggest a canopy connecting a convenience store/gas with a different building for sit-down fast food.

2. In the future, we suggest using a food court concept to reduce the amount of seating needed, and to increase overall sales (if people within a group want food from different sources, but think they have to buy from a certain operator to sit there, they may not buy anything).
3. Plan a site so you can expand both the buildings (seating, bathrooms) and the parking.
4. The site needs to have visual cues so drivers can determine which way is northbound and which way is southbound. When the building looks the same on both sides, it confuses the drivers as they try to leave the site.

AGE OF FACILITY:

1. Need to keep records of the age of the facility, especially the gasoline tanks.

TRAFFIC SAFETY:

1. We do have minor accidents, and occasionally some not so minor.

AGE OF FACILITY:

1. How often you have to rebuild is a function of how well you originally plan for the future; we have not had to rebuild in over 3 decades. Rebuild perhaps every 30-50 years. It's always cheaper to do it right the first time than to come back and redo it every 5 to 10 years.
2. You have to remodel the bathrooms every 5-9 years.
3. You need to change food concepts -- when it [the concept, not the actual food] gets stale, when "check averages" decline.

TRAFFIC SAFETY:

5. Sometimes, traffic engineers do not lay out parking lots well.

AGE OF FACILITY:

1. Traffic volume affects how often you need to remodel. Remodel every 5 years; rebuild every 20-25 years.
2. Porcelain and faucets are particularly vulnerable. The fewer exposed knobs, protrusions, the better. Suggest using the infrared sensors to turn faucets on/off.

TRAFFIC SAFETY:

1. Separate auto and truck traffic, perhaps even have a separate truck stop.
2. Allow a way for buses to drop-off at the door, so you do not

2. If we could do something new, we would try to learn from our experiences.
3. ENTRY/EXIT RAMPS (service plazas are in the median) --
   a. Our ramps are too short.

   b. Do not know if we have had any accident problem with our left side entry and exit ramps. Do not know of any studies.
   I do not have a sense that there is a major problem with left side entry/exits in wide open areas, but they were mentioned in our consultant's report.

3. ENTRY/EXIT RAMPS (service plazas are in the median) --
   a. We have long deceleration and acceleration ramps with good sight distance. If you give people a long enough transition, there is not going to be a problem.
   b. Have not seen any problem with left-side ramps; we have looked at the accident numbers in the past, and they are no greater than at any other portion of the turnpike.
   Most accidents occur where people start and stop: the toll plaza.

have a flow of people through parked cars.

3. ENTRY/EXIT RAMPS (service plazas are in the median) --
   a. Need to have adequate acceleration and deceleration lane lengths; our ramps are too short.
   b. We have not compared safety between Interstate rest areas with right side exit/entry ramps and Turnpike service plazas with left side ramps, because the Interstates have higher volumes.
   We have not performed any safety studies of the left side ramps.
   When you have a left-side exit, you need plenty of advance notice. Do not have a left-side exit near something that will distract drivers' attention.

CHAPTER 4
SURVEY OF PRIVATE OPERATORS

In addition to learning from the experiences of state government agencies, the researchers contacted private service providers. Representatives from two fuel companies and from two food service companies agreed to be interviewed. Some of these currently operate on turnpikes, others did not. These interviews were conducted over the telephone.

During the course of the interviews, two of the private operators expressed their opposition to privatized rest area operations. An oil company representative said the industry has made a huge investment in their facilities based on the concept that interstates deny access to private development, and to change that policy now would be bad faith on the part of the government. A service plaza developer opposed efforts to change the legislation in order to allow privatization of rest areas. If the free enterprise system is to be the basis of the economy, then providing interstate highway services should be left to the private sector. He felt the infrastructure development required to implement privatization would be too much for the public sector to handle. Because private industry has already invested in development near interchanges under longstanding rules, and this development has fulfilled the need, the privatization of rest areas would be an act of bad faith.

The following comments by the private operators have been divided into three categories: general, contracts and financial arrangements, and site desirability factors.

GENERAL

Hours of Operation

All of those interviewed said their facilities were open 24 hours a day. Some are required to be open 24 hours a day by their contracts, others because the traveling public expects it.

Utilities (sewer, water, electricity, telephone, natural gas or propane)

Both oil companies require sewer, water, electricity, and telephone services, but do not require natural gas or propane. One stated that some of their sites heat with electricity and the others with fuel oil. If municipal facilities are available, they use city sewer and water, but will construct on-site sewage facilities and water wells if municipal utilities are not available.

The food vendor uses sewer, water, electricity, telephone, natural gas and propane, depending on the facility. The service plaza developer has a policy to only locate where municipal sewer and water are available, to "stay out of the sewage treatment business". They also require electricity and telephone, and usually use gas, but can also use propane.

Environmental Problems (effluent, USTs, wetlands, cultural resources, site runoff problems)
One oil company stated that, by the terms of their contract, they are to monitor their underground storage tanks (USTs), but the state is liable for any leakage. They also provide detention facilities for stormwater runoff.

The second oil company upgraded their USTs in 1986, and therefore have no leaks. Their new contract stipulates that they are responsible for the maintenance of the tanks.

The service area developer says that USTs are a continuing problem and they have been required to remediate in some cases. They have not yet encountered runoff problems.

The food provider said that any environmental problems are connected with the gas providers on site, and do not pertain to them.

No one interviewed had encountered any cultural resources issues on their sites.

Security
One oil company stated that because they are located on very busy turnpikes (130,000+vpd) they do not really have any significant security problems. They do, however, make frequent cash drops to limit the amount of cash on-site.

The second oil company stated that because they are located on turnpikes, the limited access nature of the road makes security problems rare. They have 3 to 7 people on site at all times, and the state DOT provides state troopers to patrol the turnpike and service plazas.

The service plaza developer said that being open 24 hours a day helps, as does the presence of several employees on-site. They do not use security guards, and their security problems are generally limited to theft and vandalism.

The food vendor stated that being open 24 hours a day deters crime and the state police help a lot. They report no major problems with security.

Have sit down restaurants worked for them? Are there conditions where one kind of food service may be better than others?
The service plaza developer stated that it seems to vary from site to site, but fast food facilities work best. They only subcontract to "name" fast food providers, such as Taco Bell, Subway, etc. Sit-down restaurants are generally not successful.

The food vendor generally provides fast food service, and sit down restaurants are being phased out. Sit-down restaurants are not as profitable, but are contractually required in some older contracts.

This question did not pertain to the oil companies.

CONTRACTS AND FINANCIAL ARRANGEMENTS

Contract (duration, ownership of land and assets, operator conflicts)

The first oil company's contract is with the turnpike authority, and is let on a competitive bid basis. It is for a period of 5 years, and the turnpike owns all the facilities, with the company organizing and managing the facility. They do offer food in the convenience stores but are not in conflict with the on-site food vendors.

The second oil company's contract is with the state DOT, which is the turnpike authority. They have a nine-year initial contract with a 5 year option, based on the amount of investment required. A new station would require a contract length of 20 years minimum to justify the expense of development. The DOT owns the land and buildings, and the company owns any improvements such as dispensers, etc., but these will eventually revert back to the DOT. Also, by joint agreement, the vending machines and phones are in the gas facility, and they and the food vendor profit.

Because the service plaza developer owns their facilities on private property, this question does not pertain to them.

The food vendor's contract is with the state. The state owns the land and facilities, which are leased to the vendor. There are a few conflicts occasionally with others on-site, such as how to split utility bills and how to decide responsibility for accidents.

Revenue - what do they look for?

The first oil company considered this information proprietary. The second oil company conducts an economic analysis and bases their decision on that. The service plaza developer stated that this does not apply to them. The food vendor looks for $4,000,000 in revenues yearly, on the existing site.

How is maintenance scheduled? What about upkeep/renovation of facilities?

The first oil company stated they do routine maintenance every day, while the state does major maintenance. The type and scheduling of maintenance is specified in their contract.

The second oil company stated that maintenance is specified in their contract, depending on the contract's duration.

The service plaza developer renovates the rest area facilities about every five years, generally.

The food vendor is contractually required to maintain their building. The contract specifies that a certain percentage of revenue be spent on maintenance/renovations at specified intervals.

SITE DESIRABILITY FACTORS

Is there a certain ADT or traffic composition that makes a site more desirable to them?

One oil company contacted stated that the sites on which they are located have counts of 130,000 vpd or more. The other oil company located their facilities on existing sites so this question was not applicable.

A service plaza developer stated that the selection of a site is based on more than ADT numbers. Also taken into account are the proximity of competition, because with a high ADT competition can be closer than with a lower ADT. He could not provide numbers.

A food provider stated that their facilities have all been located in rest areas that have been in service for decades. They also could not give a particular number.

How much land do they need?

The only provider interviewed that had not located facilities on existing rest area sites stated that for a complete facility they require 4 acres total [note: this developer's sites would be fronting a road at an interchange, and space for ramps is not a factor]. All the others were constrained by the existing condition.

Proximity to Population Centers and other Competition

The first oil company stated that the proximity to population centers and competition was not as important as the ratio of ADT to available services. For example, more cars mean that there is more business, and therefore they could be closer to competing services.

The second oil provider stated that the proximity to population centers is a give and take situation, because if they are close, they will get more commuters but more competition, and if they are remote they will get more captured business but less repeat (commuter) business. They generally locate their facilities 40 miles apart.

The service plaza developer purposely locates in population centers for the availability of utilities. As for competition, they can be as far as 60 miles away and impact their business, depending on where other services (McDonald's, Texaco, other service plazas, etc.) are located.

The food vendor stated that they need to be located every 40 miles or so, primarily for restroom services. Because they are located on tollways, this question does not really pertain to them, as they have a "captive audience".

Building and site arrangement - buildings together or separate?

All the companies contacted, with the exception of the service plaza developer, who places his facilities in one building, have separate buildings for gas and food vendors.

Traffic Safety? Does arrangement affect safety in any way? What about ramp length? The first oil company had no opinion. The second oil company stated that ramp length was a factor in the safety of the facility.

The service plaza developer locates at interchanges, so this question did not pertain to them. The food vendor stated that a good layout has the most effect on safety.

CHAPTER 5
UTILITY SERVICE AND ENVIRONMENTAL ISSUES

UTILITY SERVICES

Both the state agencies and the private operators interviewed expresses a need for water, sanitary sewer, electric, and telephone service at private rest areas. If gas was needed, then propane was suitable in lieu of natural gas. There were different opinions as to whether water and sanitary sewer had to be from an established utility provider, or if wells and on-site treatment were suitable.

Establishing a unit rate from which to estimate the cost of extending utilities to a rest area site is difficult, because there are so many variables involved. However, the research team did contact area utility companies in order to obtain a general idea of the magnitude of such costs.

One local electric provider stated that a single-phase service should be adequate for a rest area. The cost to extend, including poles, wires, construction labor and equipment, would be about $25,000-$30,000 per mile. If there were a lot of trees to cope with, it could cost $2000 more per work day for trimming. The terrain will not really have an impact on cost.

Another electric utility had a different approach. They do not bill by the mile, but base their bill for extending service on the revenue the facility will generate; namely, the amount of the facility's monthly electric bill. They would do a certain amount of the work at no cost to the customer, and that amount is calculated as follows: The yearly electric costs multiplied by 12, and divided by 0.15. If construction costs exceed that amount, they do a "monthly minimum", where the customer is billed monthly an amount equal to the yearly revenue multiplied by 0.15, and divided by 12. This monthly amount is charged until the bill is paid in full, and is adjusted every three years.

A major telephone provider was reluctant to give a quote, because of the many variables involved in the cost of putting in phone lines (i.e. distance, number of lines, terrain, whether bored crossings are necessary, whether or not they can go underground, which they prefer). An estimate for planning purposes is $20,000 per mile.

One state agency reported that a sewage treatment lagoon suitable for a rest area with a fast food outlet and a service station cost about $100,000 to construct. Piping from the buildings to the lagoon was not included in this figure.

ENVIRONMENTAL REQUIREMENTS

The extent of the environmental investigations that may be necessary for the privatization of rest areas depends upon the scope of the project being undertaken. For example, whether the privatized rest area involves the renovation of an existing rest area or the development of a new site.

The Federal-Aid Policy Guide (23 CFR 771) (*1*), hereinafter referred to as The Guide, defines two levels of environmental documentation necessary for rest area projects. The Guide outlines all FHWA (Federal Highway Administration), UMTA (Urban Mass Transit Act of 1964), and DOT (Department of Transportation) requirements under NEPA (National Environmental Policy Act of 1969) for the processing of highway and urban mass transportation projects. Environmental studies are defined as

> "The investigations of potential impacts to determine the environmental process to be followed and to assist in the preparation of the environmental document." (*1*)

The level of documentation required by the NEPA process as outlined in The Guide is determined by the class of action of the activity. Improvements to existing rest areas are defined as being a Class II, or Categorical Exclusion (CE), and therefore will normally not require extensive NEPA documentation. Construction of new rest areas is considered a Class II activity, but may be designated a CE only after FHWA approval. The applicant must submit documentation

> "which demonstrates that the specific conditions or criteria for these CEs are satisfied and that significant environmental effects will not result."(*1*)

If FHWA approval is obtained to designate the new rest area a CE, no additional NEPA documentation is required.

On September 22, 1993, a Memorandum of Agreement was signed between the AHTD and the FHWA defining categorical exclusions and the levels of documentation required. (*3*) The construction of new rest areas is included as a CE, Tier 2, meaning that the CE requires documentation prepared by the Environmental Division and approved by the Assistant Chief Engineer for Planning. A project involving work in a wetland not covered by a Nationwide Permit or an expected significant floodplain encroachment must include a wetland or floodplain finding with the CE. Approval of the CE indicates approval of the finding. (*2*) If approval is not obtained, the new rest area may be designated as a Class III activity, requiring an Environmental Assessment (EA). The issues that must be addressed for the CE and EA levels of documentation are the same; however, the amount of information required will vary.

An EA is required for any action that does not require the preparation of an EIS (Environmental Impact Statement), and is not a CE. An EA may be required to assist the FHWA in determining the need for an EIS. An EA must achieve the following objectives: (*1*)

1. Determine which aspects of the proposed action have potential for social, economic, or environmental impact,
2. identify alternatives and measures which might mitigate adverse environmental impacts, and
3. identify other environmental review and consultation requirements which should be performed concurrently with the EA.

The Arkansas Division Environmental Monitoring Plan includes the following requirements for an EA: *(2)*

> "Two copies of an EA will be submitted for each action not classified as a CE and for which environmental studies and early coordination indicate that the proposed action will not have significant impact on the human environment.
>
> A site inspection should be made to assess the social, environmental and economic issues and should be documented by a design review report. A multi-disciplinary review will be made of the EA. If the EA is satisfactory, the Environmental Specialist will grant approval for public dissemination by signing the title page and returning one copy to AHTD by letter. If the EA is not acceptable, the Environmental Specialist and the Area Engineer will consult with AHTD to achieve an acceptable assessment for public dissemination."

After the EA has gone through the public participation process, the EA will be submitted with a summary of comments received and responses. If the revised EA or EA with supplemental information establish the project will not cause significant environmental impacts, a Finding of No Significant Impact (FONSI) will be determined by the Environmental Specialist. The FONSI must include any wetland or floodplain finding and any proposed mitigation measures, and will be documented by letter. *(2)*

When a Corps of Engineer 404 permit is necessary, the AHTD will submit a permit application and project description to the Corps and ask for concurrence in a nationwide permit. The Corps will approve the Nationwide Permit based on the CE until it has received notice that the CE is approved by FHWA. In these cases the FHWA must first approve the CE, and return it to the AHTD, which then forwards notice to the Corps so that the 404 permit may be issued.

A copy of an Arkansas "environmental concerns" checklist, Figure 5.1, follows. This list presents the myriad of environmental concerns that need to be considered.

REFERENCES

1. Federal-Aid Policy Guide, 23 CFR 771, December 9, 1991, Transmittal 1
2. Arkansas Division Environmental Monitoring Plan, September 27, 1996
3. Memorandum of Agreement between the AHTD and the FHWA, September 22, 1993

ENVIRONMENTAL IMPACTS

	None	Minor	Significant	Comments
Fish and Wildlife				
Endangered Species				
Wildlife Refuges				
Wetlands				
Water Quality				
Water Body Modification				
Public Water Supply				
Floodplains				
Navigation/Coast Guard				
Atmospheric Quality				
Noise Levels				
Educational/Scientific				
Archeological				
Historical/Architectural				
Recreation				
Public Parks/4(f)/6(f)				
Visual Impacts				
Land Use Impacts				
Hazardous Waste/Landfills				
Prime Farmland				
Energy Resources				
Social				
Economic				
Relocatees				
Construction Impacts				
Underground Storage Tanks				

Figure 5.1 -- Environmental concerns checklist

CHAPTER 6
CONSIDERATIONS FOR A NEW SITE LAYOUT

One objective of this project was to devise a schematic privatized rest area layout. A discussion of design principles precedes the presentation of the suggested layout schematics.

DESIGN PRINCIPLES

From observations made at existing turnpike service plazas and from a knowledge of traffic safety principles, attributes that could enhance the layout of a privatized rest area were derived. The following photographs capture some of the concepts.

Define Intended Paths

Figure 6.1 shows an expansive paved area with minimal demarcation. The arrangement does not clearly tell drivers which path to take. In addition, the exposed pedestrian crossing such an area appears as little more than a speck in the oncoming driver's field of view (Figure 6.2). Pavement markings and island should be placed to better define the proper paths of travel.

Separate Passenger Cars from Buses

It is desirable to permit buses to load and unload passengers close to the door, since a relatively large number of people may be involved. Since buses and other oversized vehicles occupy more space and weigh more than passenger cars, it may be desirable to separate buses from passenger cars at a site. Figure 6.3 suggests such an arrangement.

Through Vehicles Routing

The designer should exercise care to reduce vehicle conflicts with other vehicles and with pedestrians. When through vehicles are routed directly into a parking area, unexpected conflicts can occur. Figure 6.4 illustrates the basic incompatibility of routing vehicle straight off an exit ramp (vehicle on the left) into a parking area (vehicle in middle backing out). Figure 6.5 shows conflicts between vehicles off the ramp and pedestrians weaving through lines of parked cars.

Clear Signing

It is easy for a motorists to become disoriented at a rest area with many service areas. A confused motorist may have trouble finding a particular service at a rest area site, or even reenter the highway in an unintended direction. Separation of decision points, and clear roadway directional signing (Figure 6.6) are a must at a privatized rest area.

Figure 6.1 Expansive paved area

Figure 6.2 Exposed pedestrian crossing expanse

Figure 6.3 Signing to separate passenger cars from buses

Figure 6.4 Through vehicle conflict with parking vehicle

Figure 6.5 Through vehicle conflict with pedestrians

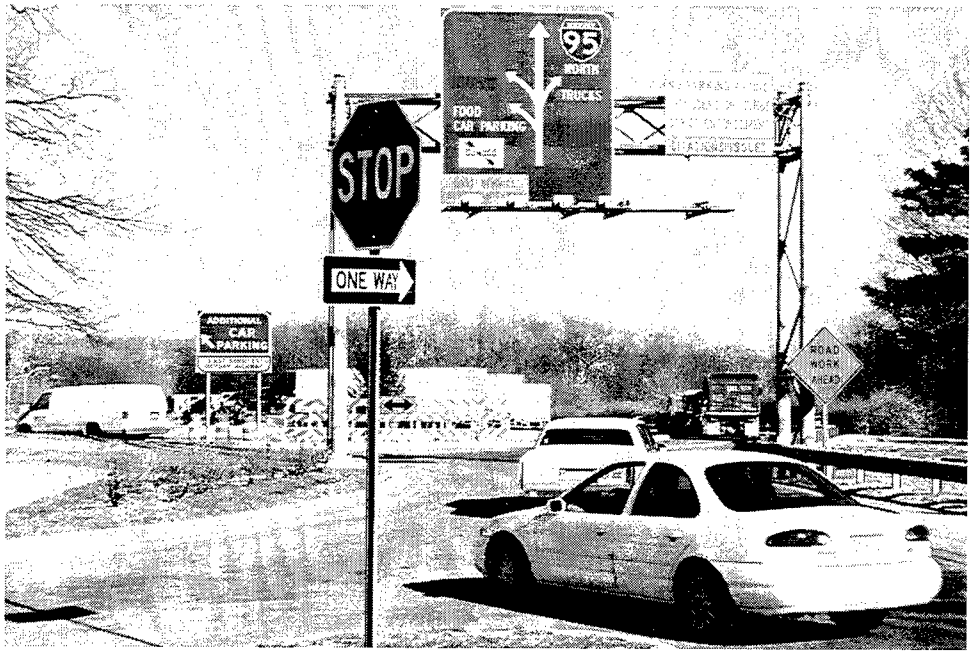


Figure 6.6 Detailed roadway directional signing

SITE SCHEMATICS

The alternative site schematic drawings (Figures 6.7--6.10) incorporate the following concepts.

1. The sites include space for a fuel/convenience store and a fast food outlet, connected by an entry hall with restrooms. It may be desirable to upgrade a higher traffic volume site by developing a food court with multiple fast food outlets, and perhaps other types of vendors.
2. The designs should reduce conflicts between vehicles, and between vehicles and pedestrians. Adherence to the functional design concept, where the ramps function as collector roads and the parking aisles as local roads (as opposed to allowing parking along the ramp road) helps achieve this.
3. The food outlet may be closed late at night, so the gas station-convenience store should not be inaccessible from the fast-food side of the parking lot.
4. To allow buses to park and discharge passengers close to the buildings, the bus parking area is separated from the passenger car parking area.
5. Undesignated areas can be used for pet-walking and picnic tables.
6. The rest area design schematics are for cars, recreational vehicles, and buses. The sites would need to be modified and expanded if large trucks were to be served.

The schematics do not show the ramp design. Comments received during the interviews highlight the need to include adequate ramp length for deceleration upon entering the rest area.

Median Location

Based on past freeway traffic operations experiences, roadway designers try to avoid left-side exit and entry ramps. When applied to rest areas, this practice of right-side only ramps results in a duplication of rest area facilities, one on either side of the freeway. If only one privatized rest area were sited on the right side, motorists traveling in the far lanes would have to cross over both sets of travel lanes, either on a pedestrian or vehicle bridge. Duplicating the facilities on both sides of a freeway would increase costs. It would also cut in half the number of people present at any given time, and thus counteract the objective of "not being nearly deserted" during off hours.

In many states, the turnpike service plazas are located in the median, allowing easy access to motorists traveling in either direction. The turnpike agencies interviewed did not report accident problems associated with left-side ramps. It should be noted that the service plazas were for the most part situated in wide open rural areas, where it was easier to inform drivers of an upcoming left exit than it would be in a congested urban area.

The schematic privatized rest area layouts are intended for a median location. More study of the safety issues particular to rural, left-side ramps is needed before an informed decision can

be made as to the desirability of making an exception to the common "no left-side ramps" practice.

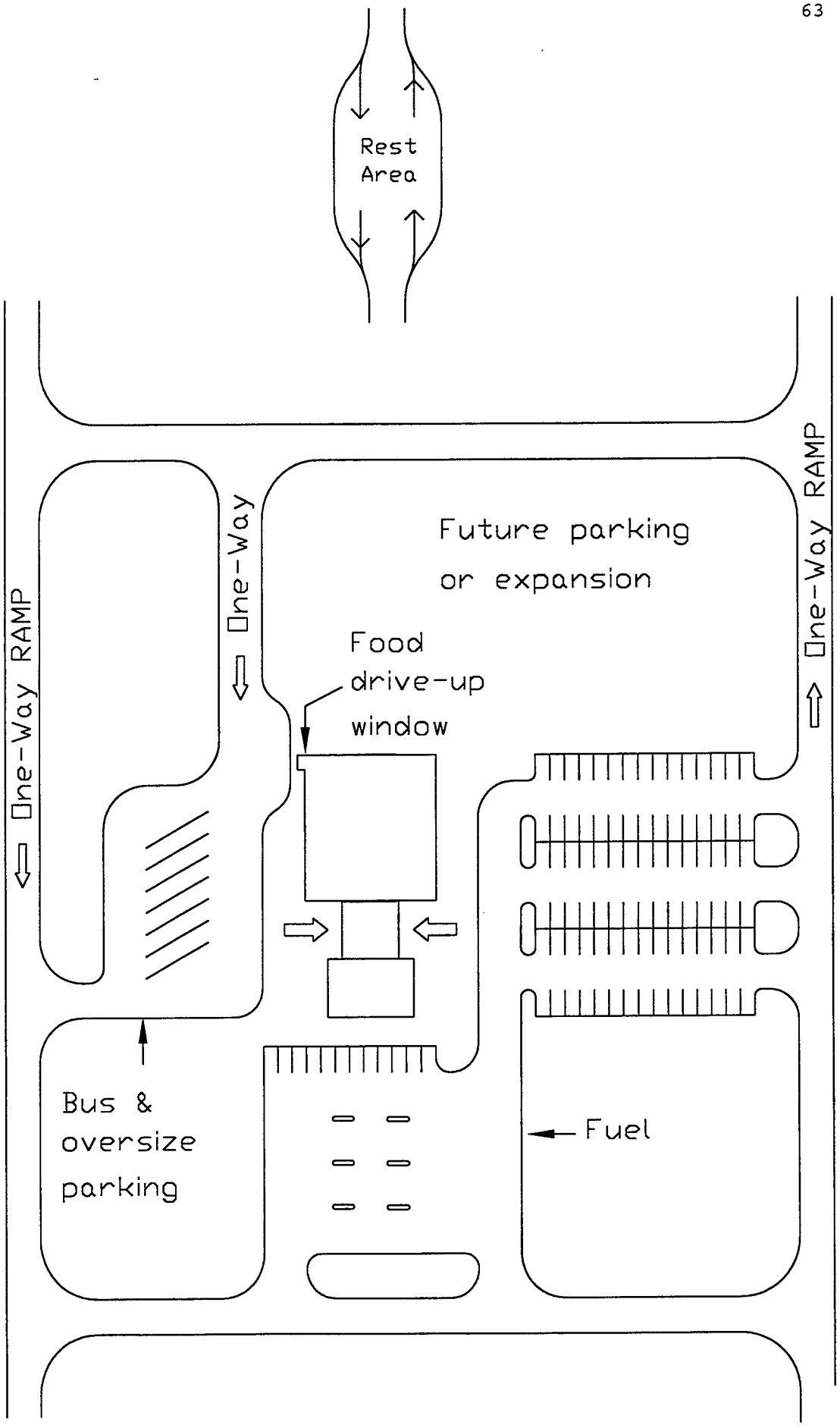


Figure 6.7 Privatized rest area site schematic 1

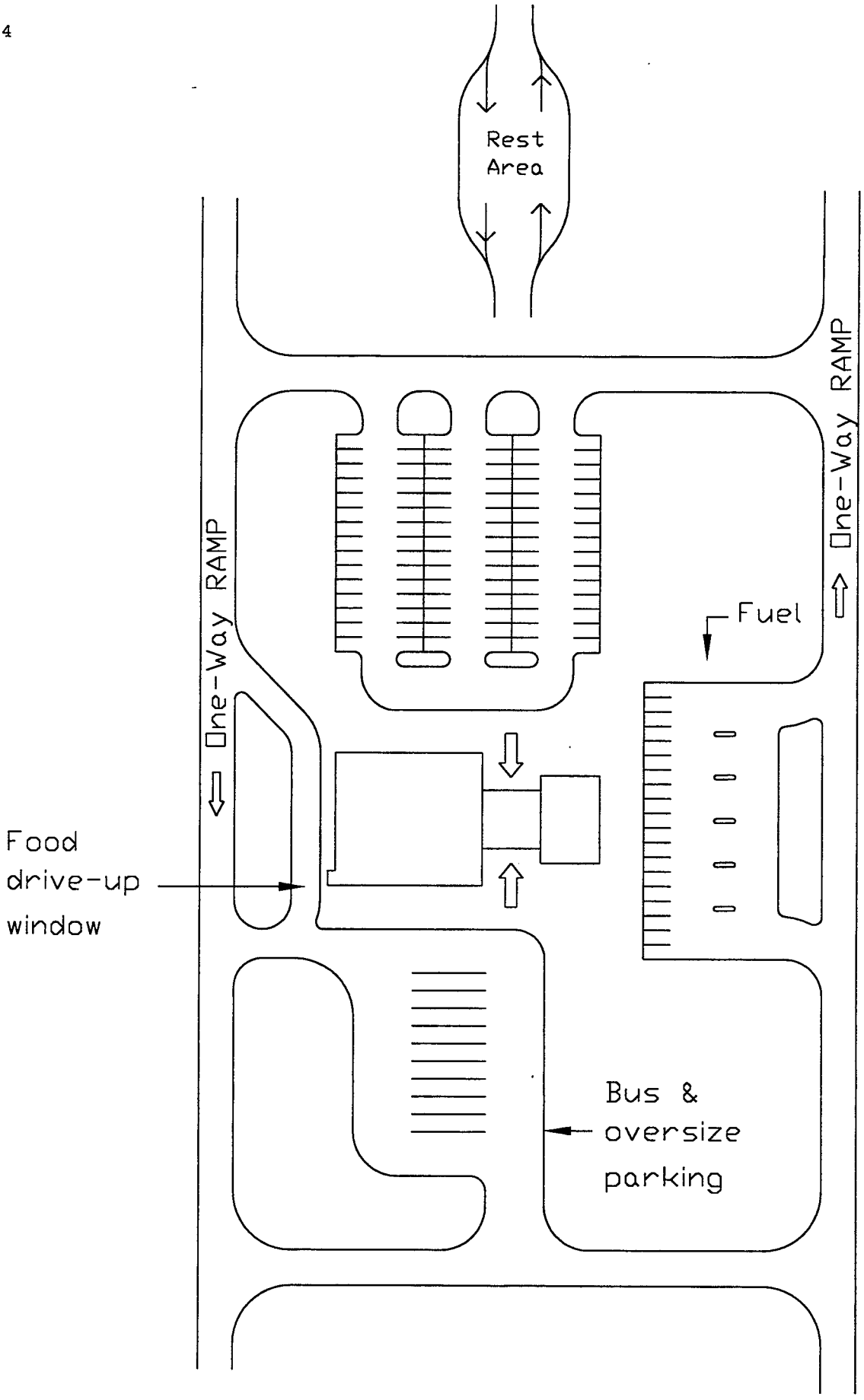


Figure 6.8 Privatized rest area site schematic 2 Rest2

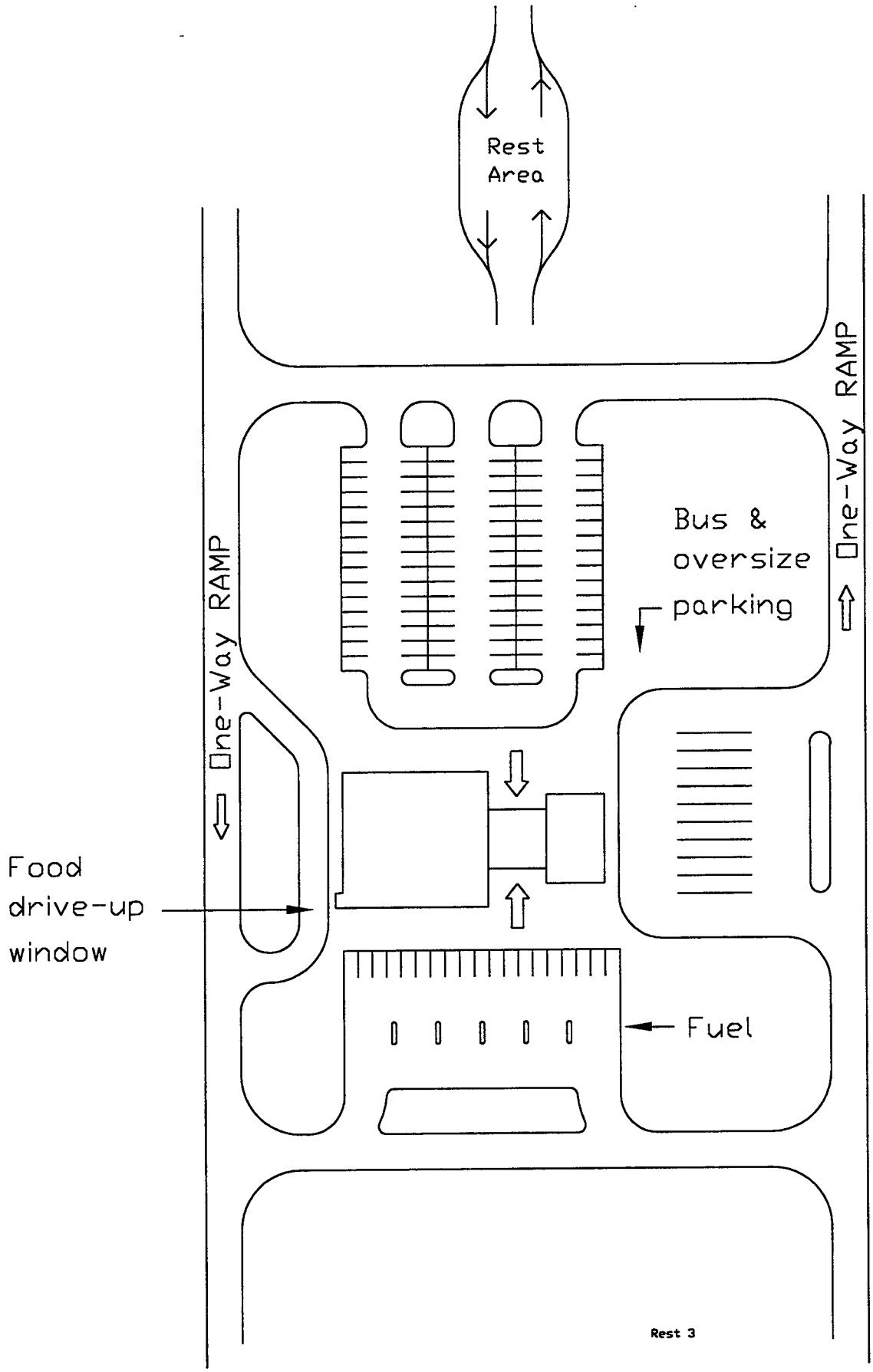


Figure 6.9 Privatized rest area site schematic 3

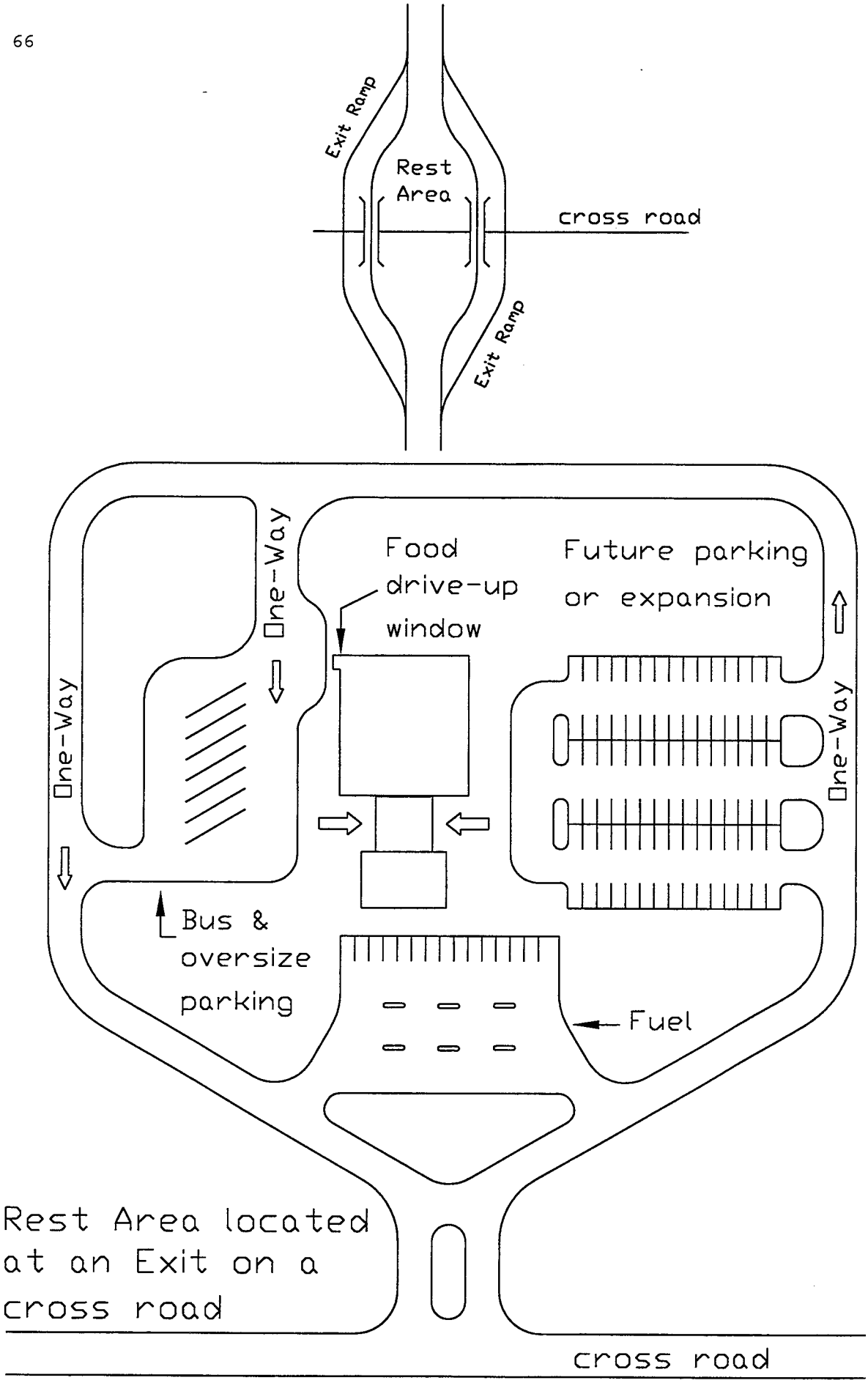


Figure 6.10 Privatized rest area site schematic 4

CHAPTER 7
CONCLUSION

In an attempt to continue offering rest area services to the traveling public, some state transportation agencies have considered or attempted rest area privatization. A privatized rest area would offer privately operated fuel and food vendors, not just the restrooms and picnic tables currently found at most rest areas. These private companies would pay the state for the opportunity to locate on a rest area site, as opposed to the current situation of the state bearing the cost of building and maintaining rest area facilities. Proponents contend that converting rest areas to private operation would not only eliminate a public expenditure, it would result in offering an improved service.

Federal law currently prohibits private operations at Interstate highway rest areas where the right-of-way was purchased with federal dollars. (Some states with turnpikes that predate or are not a part of the Interstate system have privately-operated rest areas.) The practical effect is that motorists do not encounter private rest areas except along certain toll roads. This prohibition is strongly supported by fuel and fast food vendor trade groups representing businesses serving motorists along the nations roadways. Some states have attempted to privatize rest areas, but almost all attempts so far have not succeeded, either due to trade group opposition or economic factors. Yet, it is obvious that many privatized rest area operations along turnpikes are highly successful, as measured by both their profits, revenue sent to public coffers, and their reception by the traveling public.

PURPOSE AND SCOPE OF THIS RESEARCH PROJECT

The scope of this project was to contact fast food and gasoline company representatives, and state turnpike agencies that have private concessionaires. From the knowledge and experience of these companies and agencies, the researchers prepared this report to assist others in determining what rest area site attributes and conditions make a site attractive for privatization, and what contractual terms seem to produce successful partnerships. In addition to the interviews, the researchers performed a literature review, contacted utility companies within the state of Arkansas to estimate costs to extend electric and telephone services to an unserved area, and synthesized relevant environmental requirements. Evaluation of the current federal prohibitions against privatized rest areas was outside the scope of this project.

FINDINGS SUMMARIZED

The reviewed literature reported that there was strong public support for rest area privatization,

but strong trade group opposition. The existing privately operated rest areas (service plazas) on turnpikes seem to be profitable, and they provide quality services to the public in a safe environment.

From the interviews with both state agency and private company representatives, the researchers concluded that the usual practice is for at least one business at a rest area to be open 24 hours per day. Food and fuel service providers were most often found occupying rest areas, but other businesses are also present. To avoid conflicts among operators at a given site, the contract should specify who can sell what products. The contract should give the state an adequate share of the revenue from the operator without asking so much that potential operators are turned away. The contract should also address possible environmental issues: in the past, problems with leaking underground fuel storage tanks were a common experience.

There was no clear consensus, but some expressed a preference for sites spaced no less than 40 miles apart. The minimum traffic volumes needed to have a viable privatized rest area may vary with proximity of competition, nature of the traffic (local or through), quality of the facilities, prices, etc. At one actual marginal operation, daily traffic was about 4000 vehicles per day (vpd) in the 1980s, and is now 5800 vpd. If the site were to go in new today, it was speculated that it still might be marginal.

All three state agencies (Florida, Kansas, Maryland) have had some less than desirable experiences with private operators, but have learned how to contract for desirable operators over the years. A good deal of attention to contractual details is needed in order to avoid unpleasant surprises.

Site design inadequacies, especially short exit/entry ramp lengths, were observed. The states did not report problems with their left-side ramps. Further study of the left-side ramp issue as it specifically relates to rest areas is needed, in order to determine if the potential problems associated with left-side ramps actually occur at left-side rest area ramps. A determination that left-side ramps were acceptable in certain situations could save millions of dollars in facility costs.

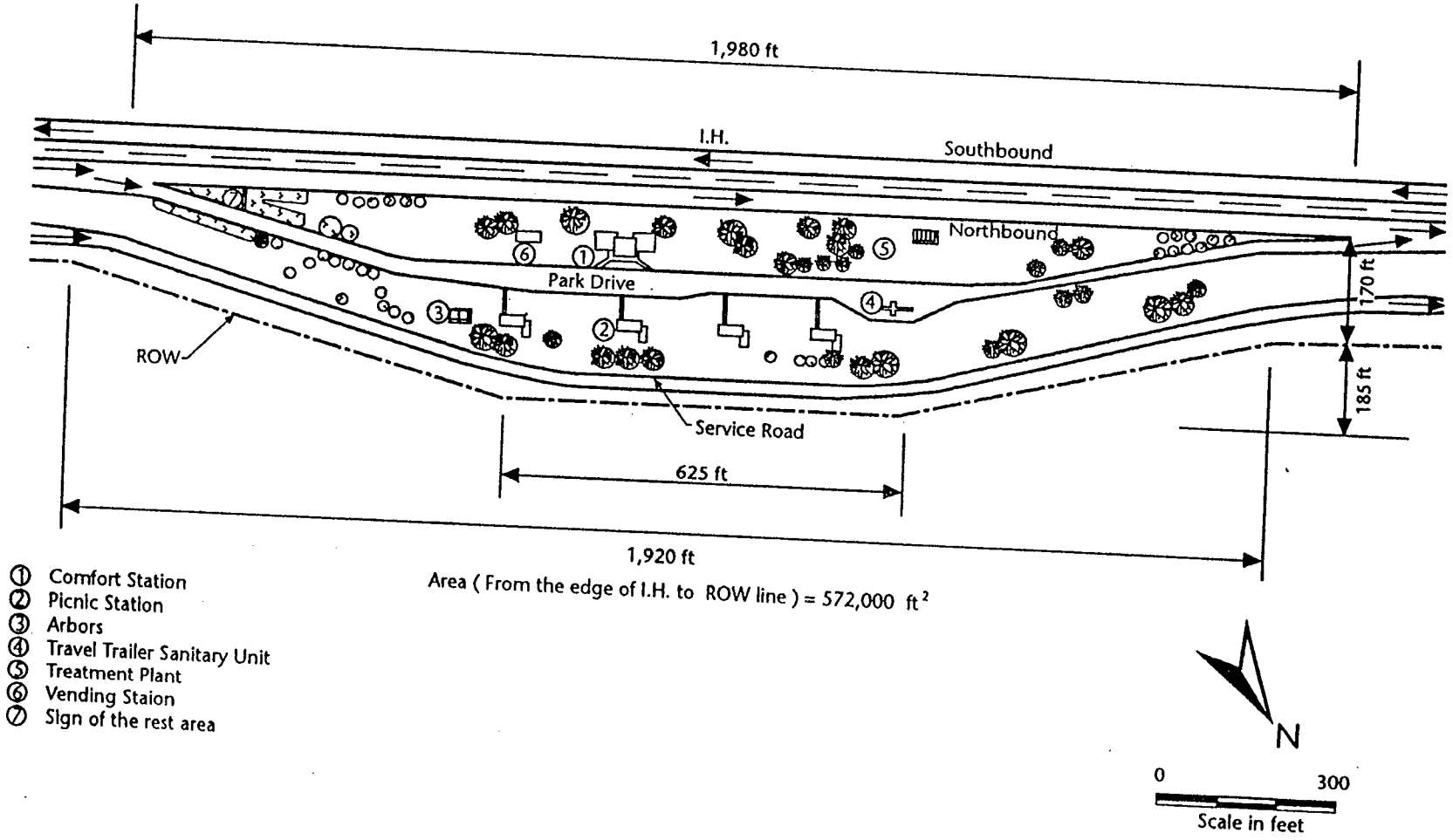
CLOSING

This report will provide state transportation agencies that currently have no experience with private concessionaires with information with which they can better evaluate the potential for converting existing rest areas to private operation, and identify constraints when selecting a new site for private operation. Some of the information reported herein is specific to Arkansas conditions, and may not be applicable elsewhere.

APPENDIX A

TYPICAL REST AREA LAYOUT AND PROPOSED REST AREA LAYOUT

(Ref. 6 -- from Texas)



*Referring to the rest area of North Interstate 45, District 17, North of Huntsville in Walker County.

Figure 4.3 Typical Texas rest area layout

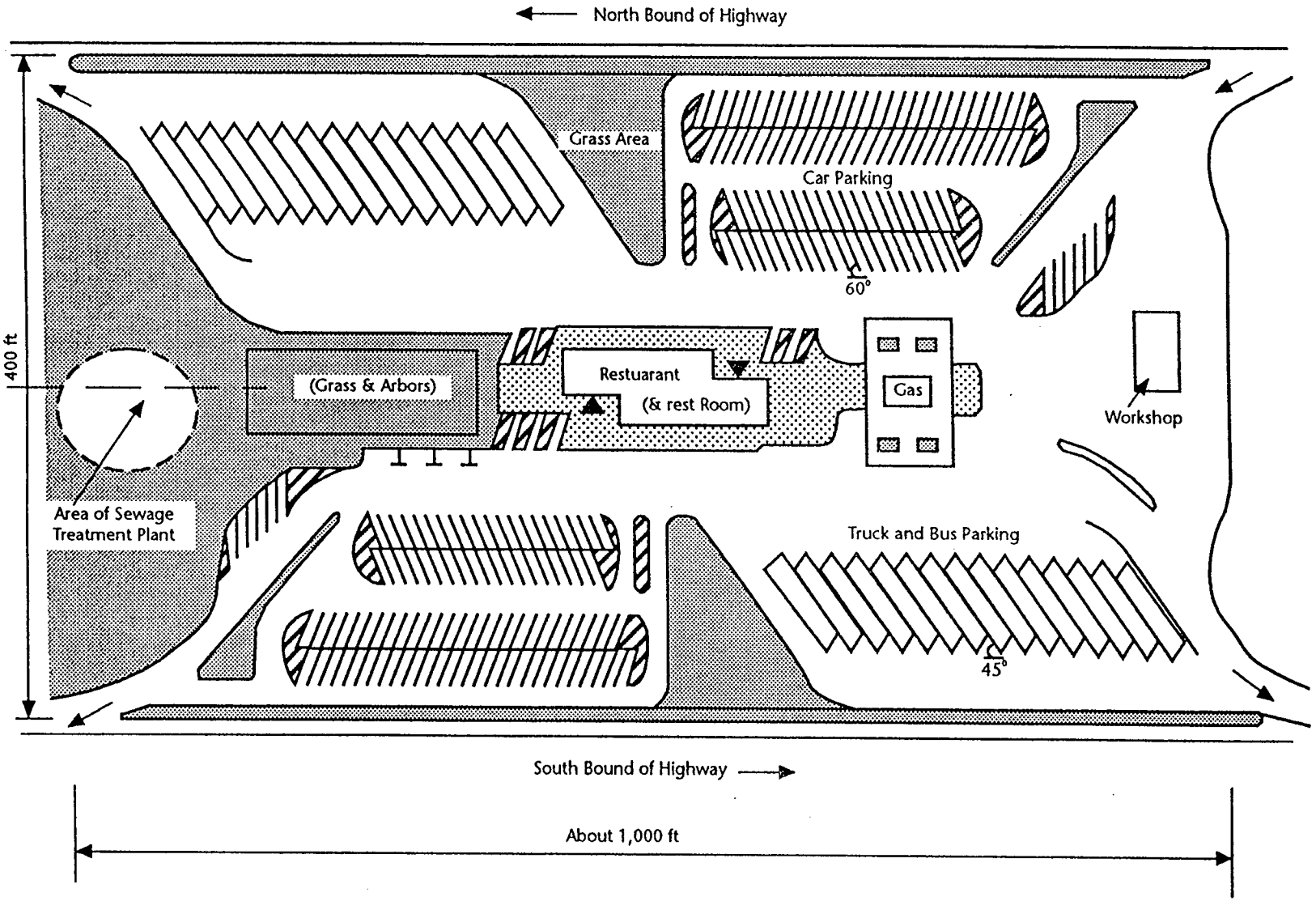
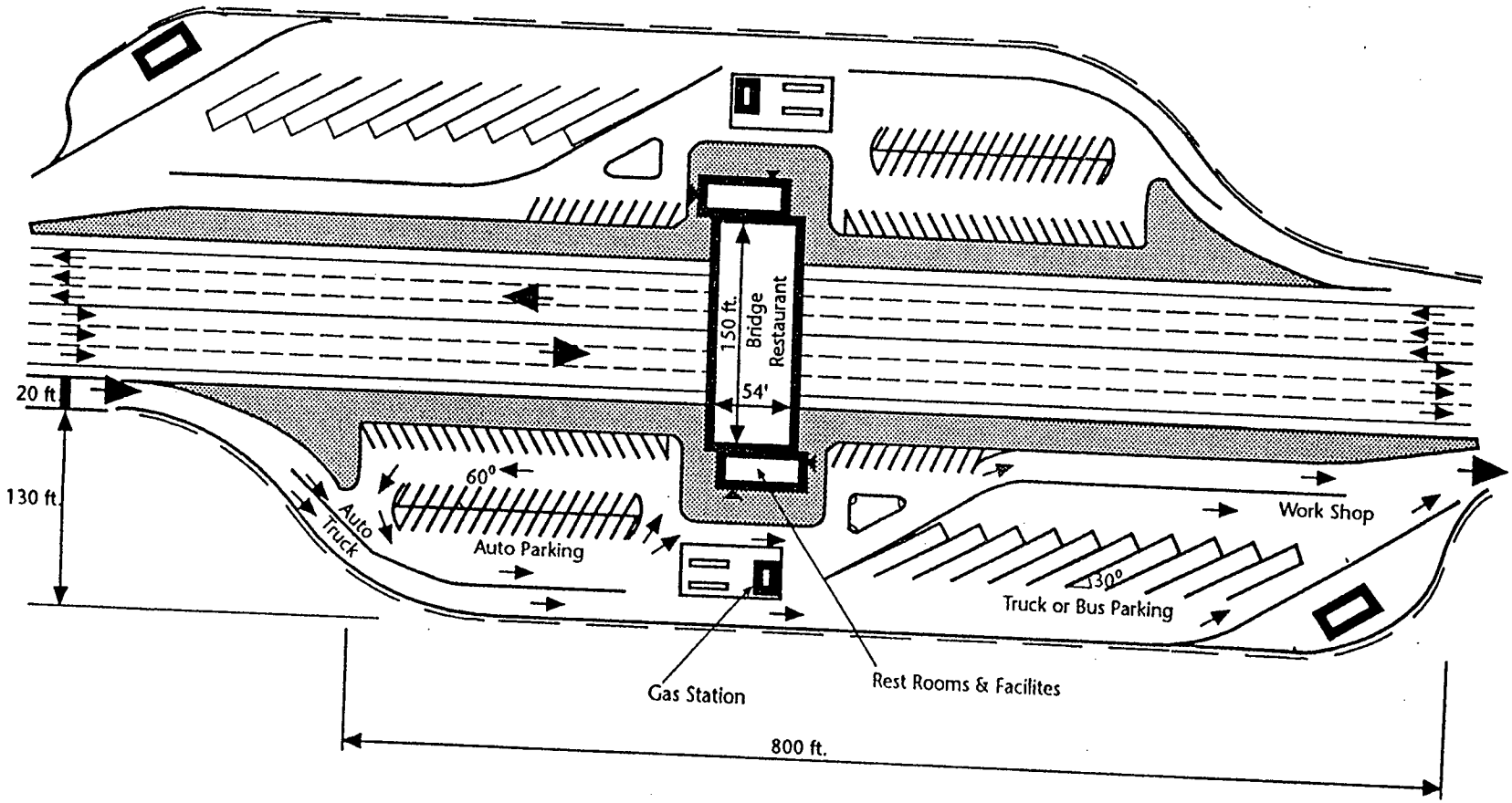


Figure 4.4 Rest area in a Wide Median



Notice:

1. Capacity of the bridge restaurant: contains four different restaurants, each having 75 seats.
2. Parking area on one side: contains 63 auto parking paces and 10 truck (or bus) parking spaces.
3. Other facilities include: gas station and work shop on each side.

Figure 4.5 Two-sided rest area sharing a bridge restaurant

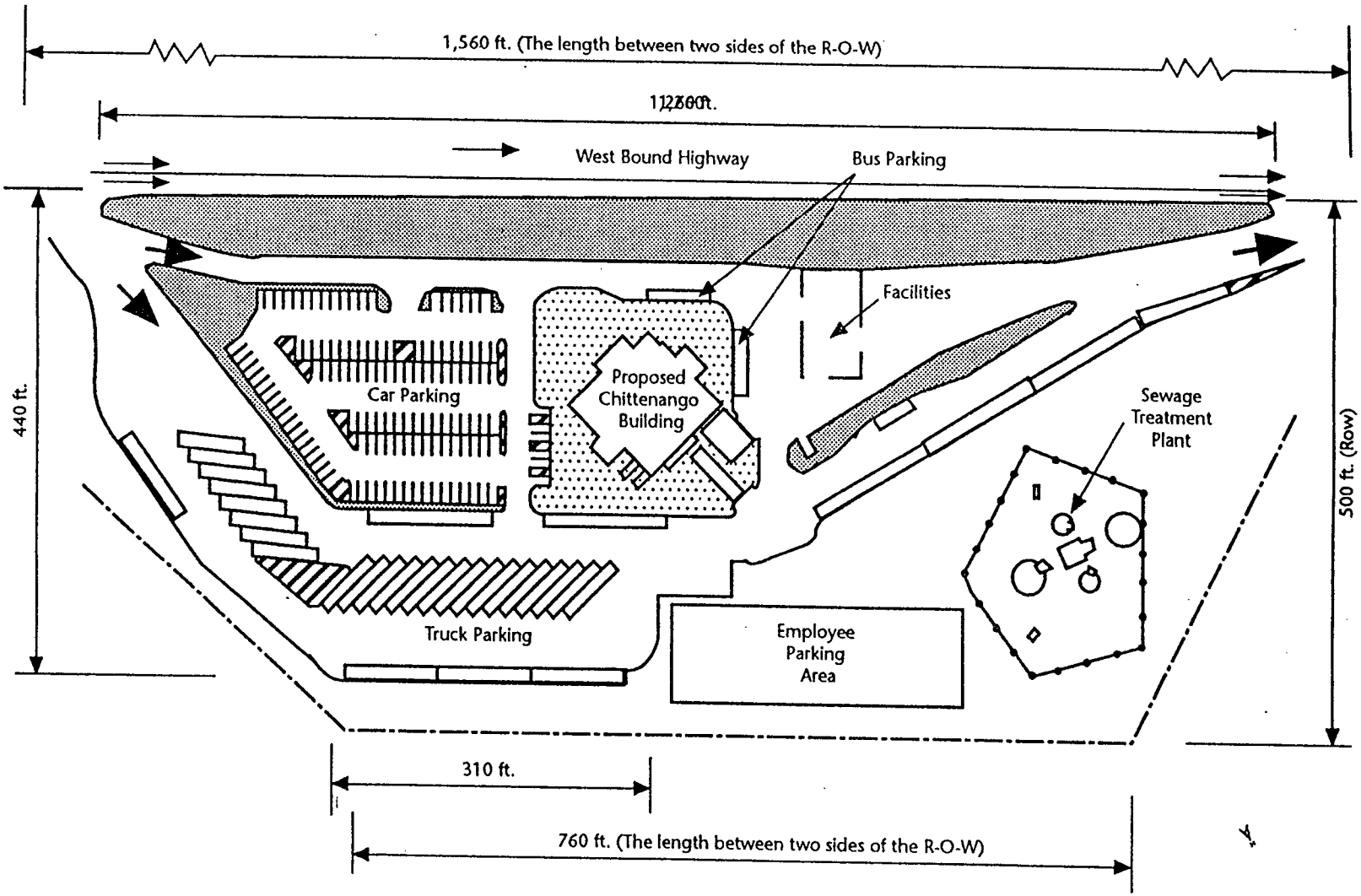
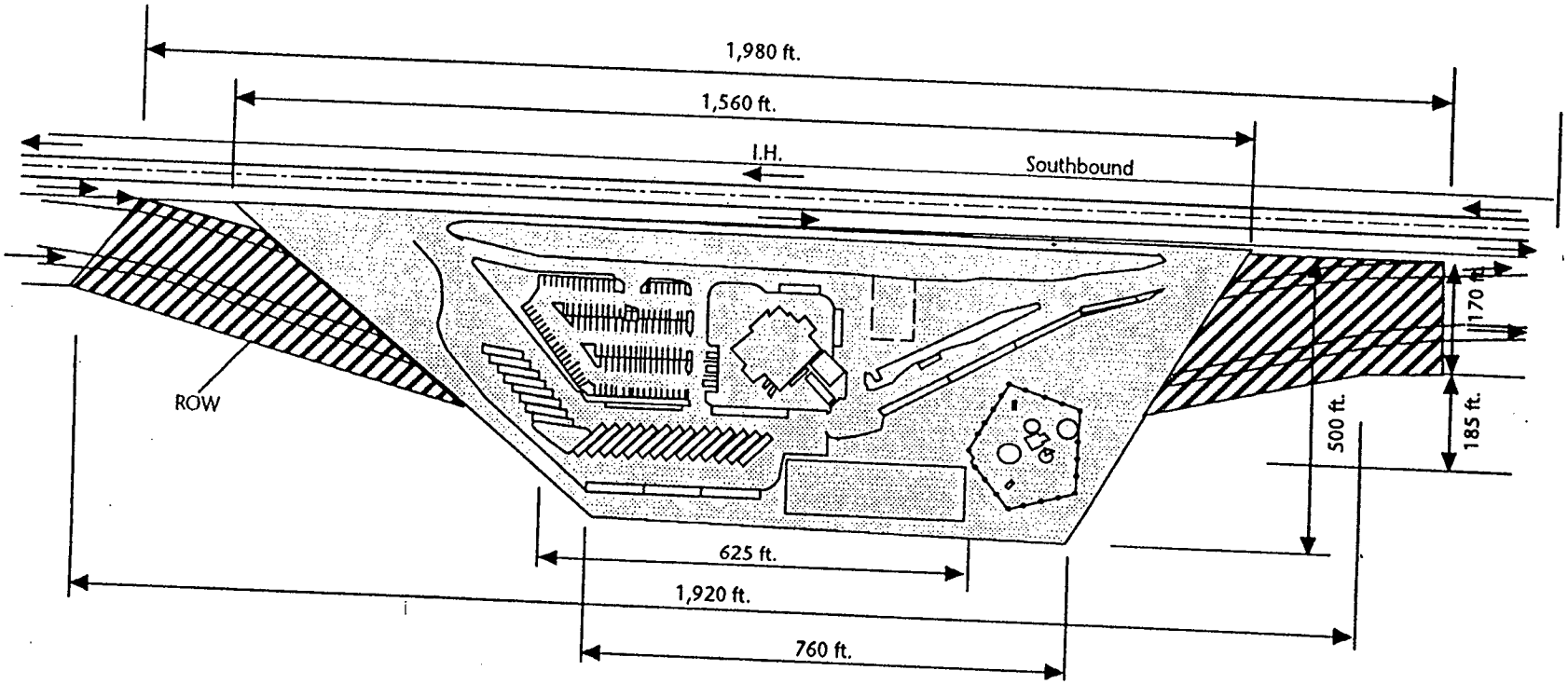


Figure 4.6 Chittenango travel plaza (New York state thruway)



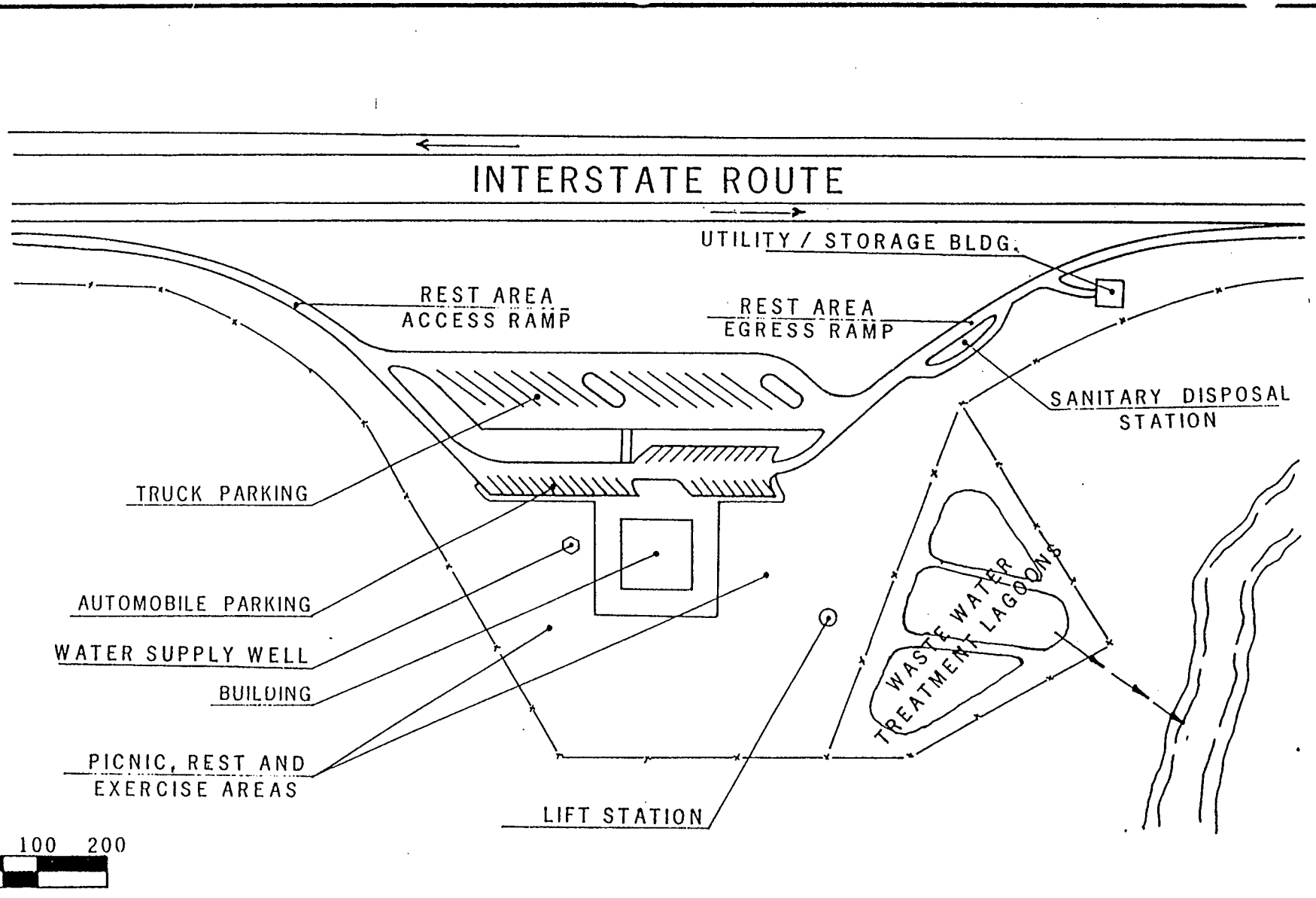
The area of the typical Texas rest area layout is about 572,000 square feet.

The area of the Chittenango travel plaza is about: 58,000 square feet.

Figure 4.7 Size comparison of commercial and public owned rest areas

APPENDIX B

REST AREA LAYOUTS
AND
FINANCIAL/SURVEY INFORMATION
(Ref. 5 -- from Illinois)

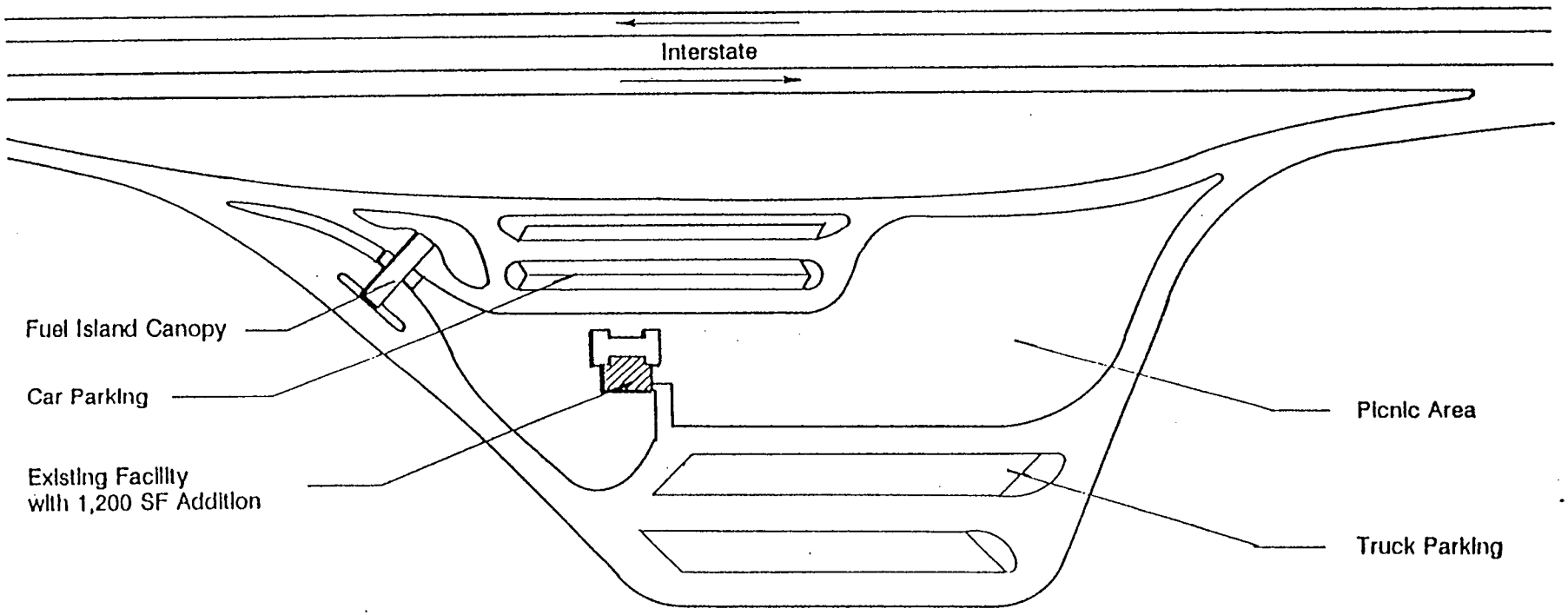


TYPICAL FACILITY SITE PLAN

Illinois Department of Transportation

Beling Consultants, Inc.

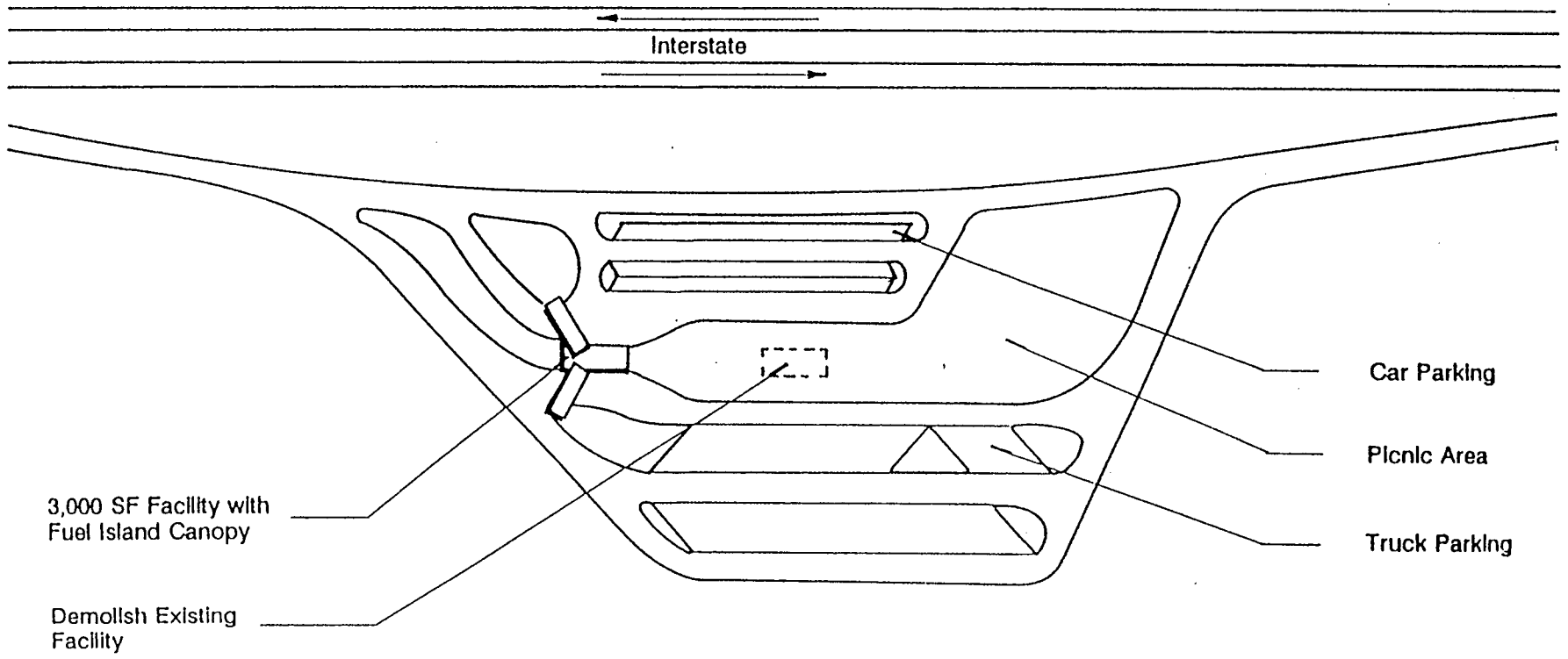
EXHIBIT 2



Illinois Department of Transportation

Limited Range Service Area
Using Existing Building

Beling Consultants



Proposed Parking

Cars	70
Trucks	40

Illinois Department of Transportation

Limited Range Service Area
New Building

Beling Consultants

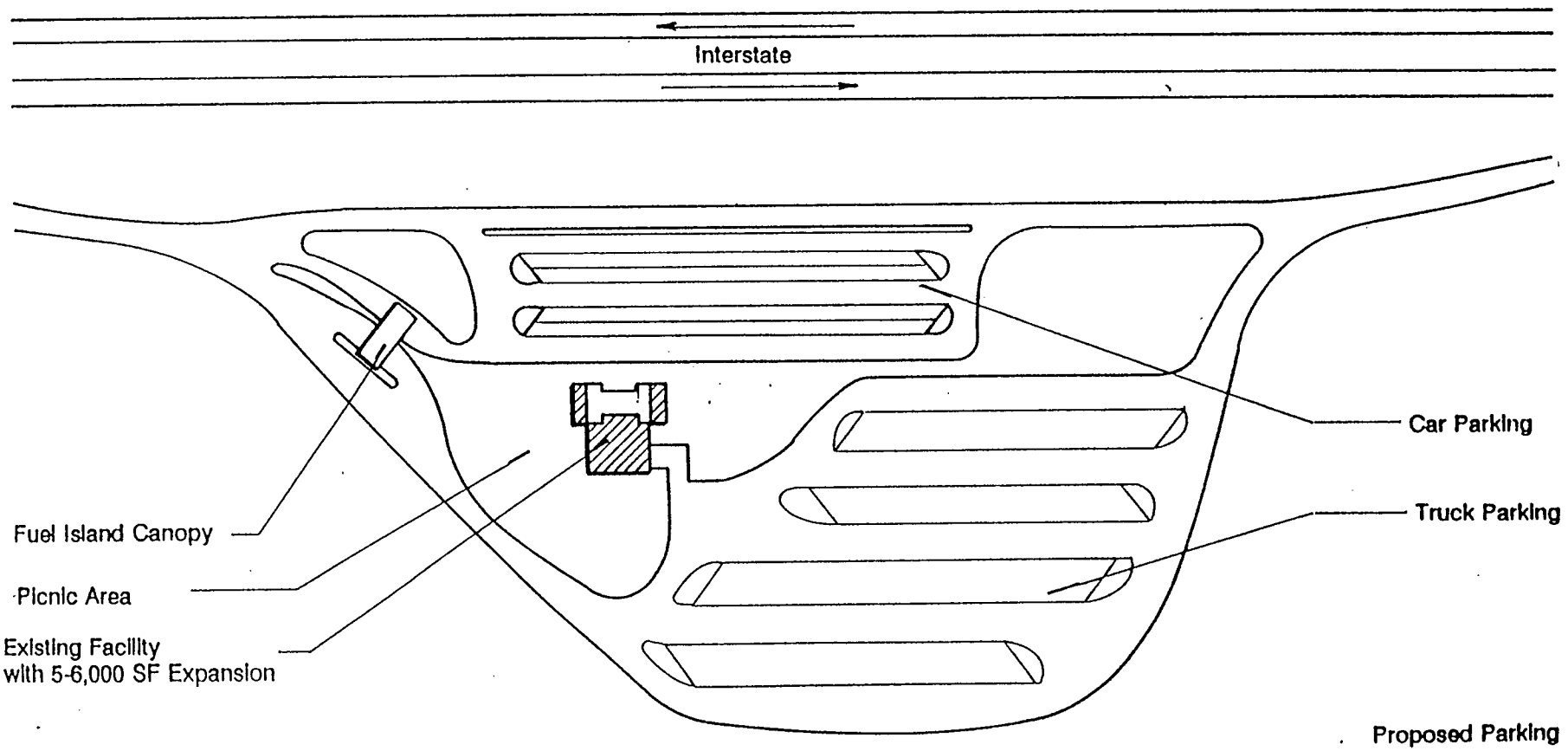
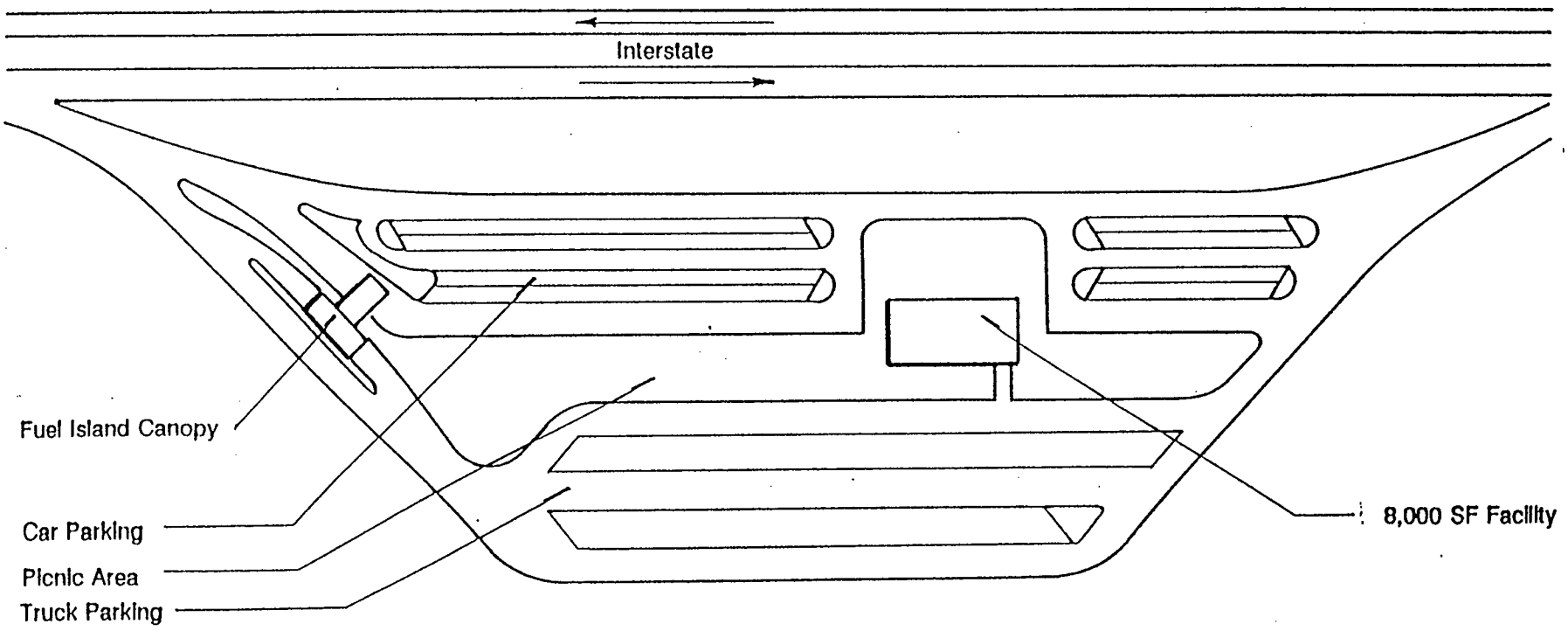


EXHIBIT 17

Mid-Range Service Area
Using Existing Building

Illinois Department of Transportation

Beling Consultants



Proposed Parking

Cars	150
Trucks	80

0 100 200

EXHIBIT 18

Mid-Range Service Area
New Buildings

Illinois Department of Transportation

Beling Consultants

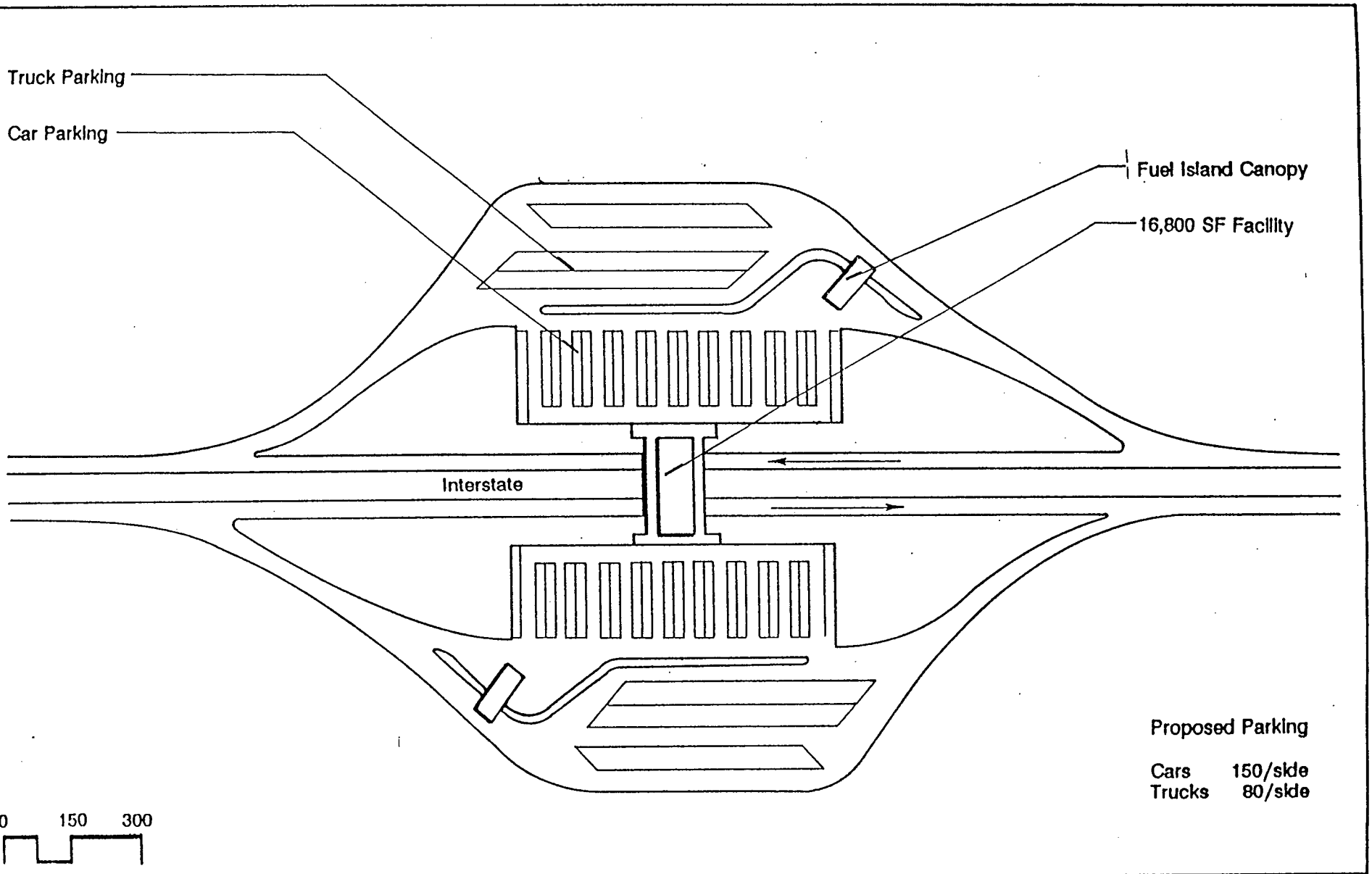


EXHIBIT 19

Full-Service Area
Center Meridian Bridge

Illinois Department of Transportation

Beling Consultants

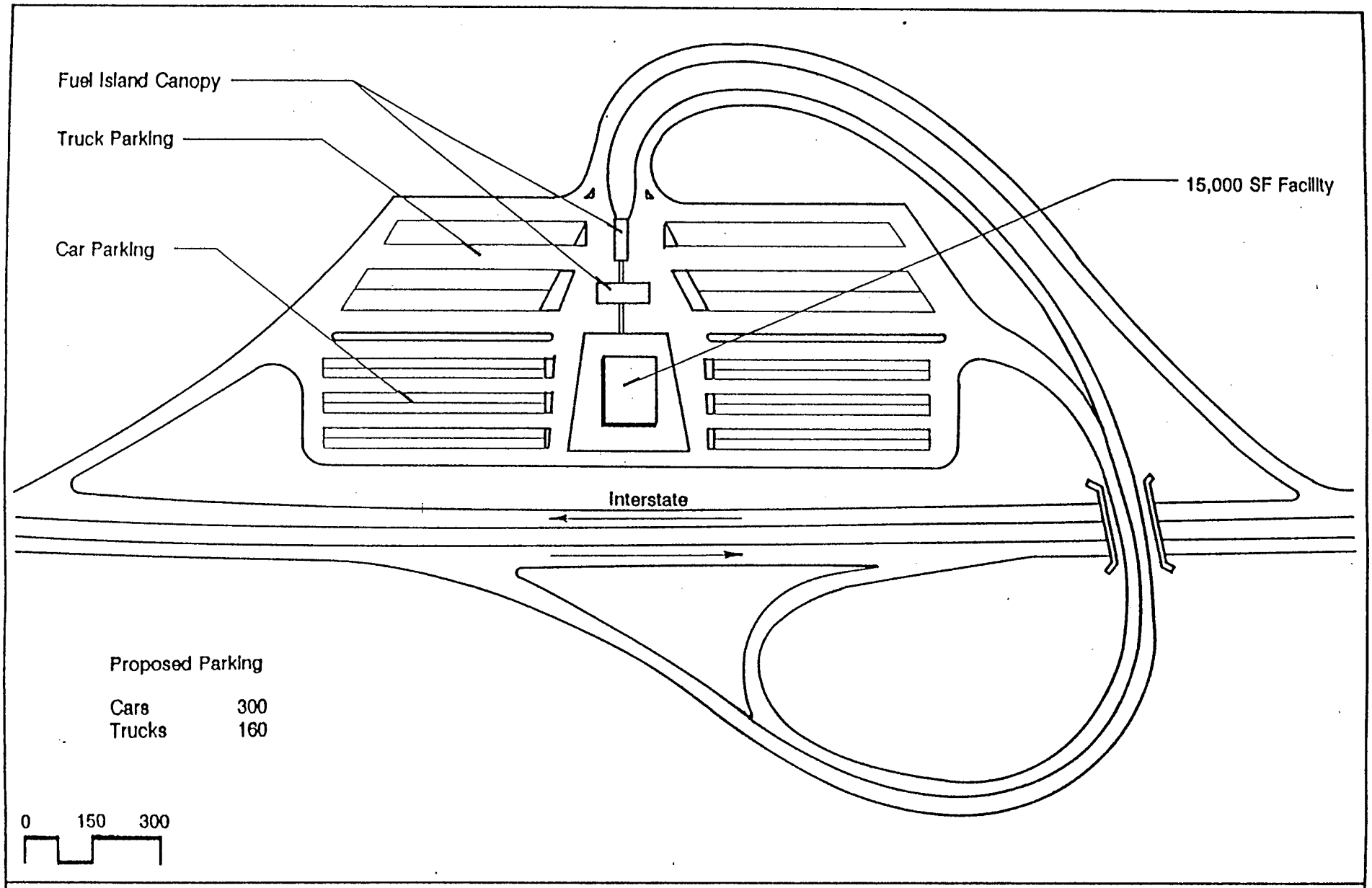


EXHIBIT 20

Full-Service Area
Single-Sided
Dual Direction

Illinois Department of Transportation

Boling Consultants

Table 18
QUESTION 5 : PREFERENCES FOR NEW SERVICES

Rank	Type of New Service	Percent Selecting This Service
1	Restaurant	66.1
2	Fuel	58.0
3	Convenience Store	44.3
4	Weather Report	43.4
5	Traffic Report	31.3
6	Postal Service	29.8
7	Hotel Reservations	19.2
8	Lodging	17.4
9	Automated Bank Teller	15.1
10	Gift Shop	14.8

Table 55
SUMMARY OF COMMERCIAL DEVELOPMENT CONCEPT SERVICES

Services Offered	Service Area Concept		
	Limited Range	Mid Range	Full Service
Existing Services			
Parking	Yes	Expanded	Expanded
Restrooms	Yes	Expanded	Expanded
Potable Water	Yes	Yes	Yes
Telephones	Yes	Expanded	Expanded
State Information	Yes	Yes	Yes
Rest/Exercise Area	Yes	Yes	Yes
Picnic Area	Yes	Yes	Yes
Vending	Expanded	Expanded	Expanded
Expanded Commercial Services			
Basic Services :			
Fuel	Yes	Yes	Yes
QuickMart/Snack Shop	Yes	Yes	Yes
Vending	Add-If None	Add-If None	Add-If None
Market Driven Services :			
Restaurant	No	Fast Food	Food Court
Convenience Shop	No	Possible	Yes
Gift Shop	No	No	Possible
Tourist Information	Possible	Yes	Yes
ATM	Possible	Yes	Yes
Lottery	Possible	Yes	Yes
Newsstand	No	Possible	Yes
Fax	No	Yes	Yes
Business Services	No	Yes	Possible
Postal Services	No	Possible	Yes
Weather Report	No	Possible	Yes
Traffic Report	No	Possible	Yes
Reservation Services	No	No	Possible
Farmers Market	No	No	Possible
Local Vendors Cart	No	No	Possible
Off-Track Betting	No	No	Possible
Truck Dispatch/Information	No	No	Possible
Vehicle Repair/Equipment	No	No	Possible
R.V. Services	No	Possible	Possible

Table 56
COMMERCIAL DEVELOPMENT CONCEPT FEATURES

Item	Service Area Concept		
	Limited Range	Mid Range	Full Service
Land Use Requirements	10 – 15 Acres	15 – 20 Acres	20 – 30 Acres
Minimum Passing Traffic Requirements	3,500 ADT	6,000 ADT	Over 15,000 ADT
Market Appeal	Narrow	Focused	Broad
Retail Draw	Service Orientated	Brand Name	Critical Mass
Development Cost	$1 – 2 M	$2 – 7 M	$7 – 12 M
Infrastructure Requirements	Upgraded	Upgraded	Install New
Potential Revenue	Low – Moderate	Moderate	High
Distinctiveness	Little	Traditional	Innovative
Local Participation Opportunities	Low	Limited	Good
Logistical Support Requirements	Moderate	Moderate	High
Project Complexity	Low	Moderate	High
Induced Traffic Congestion	Low	Moderate	Moderate – High

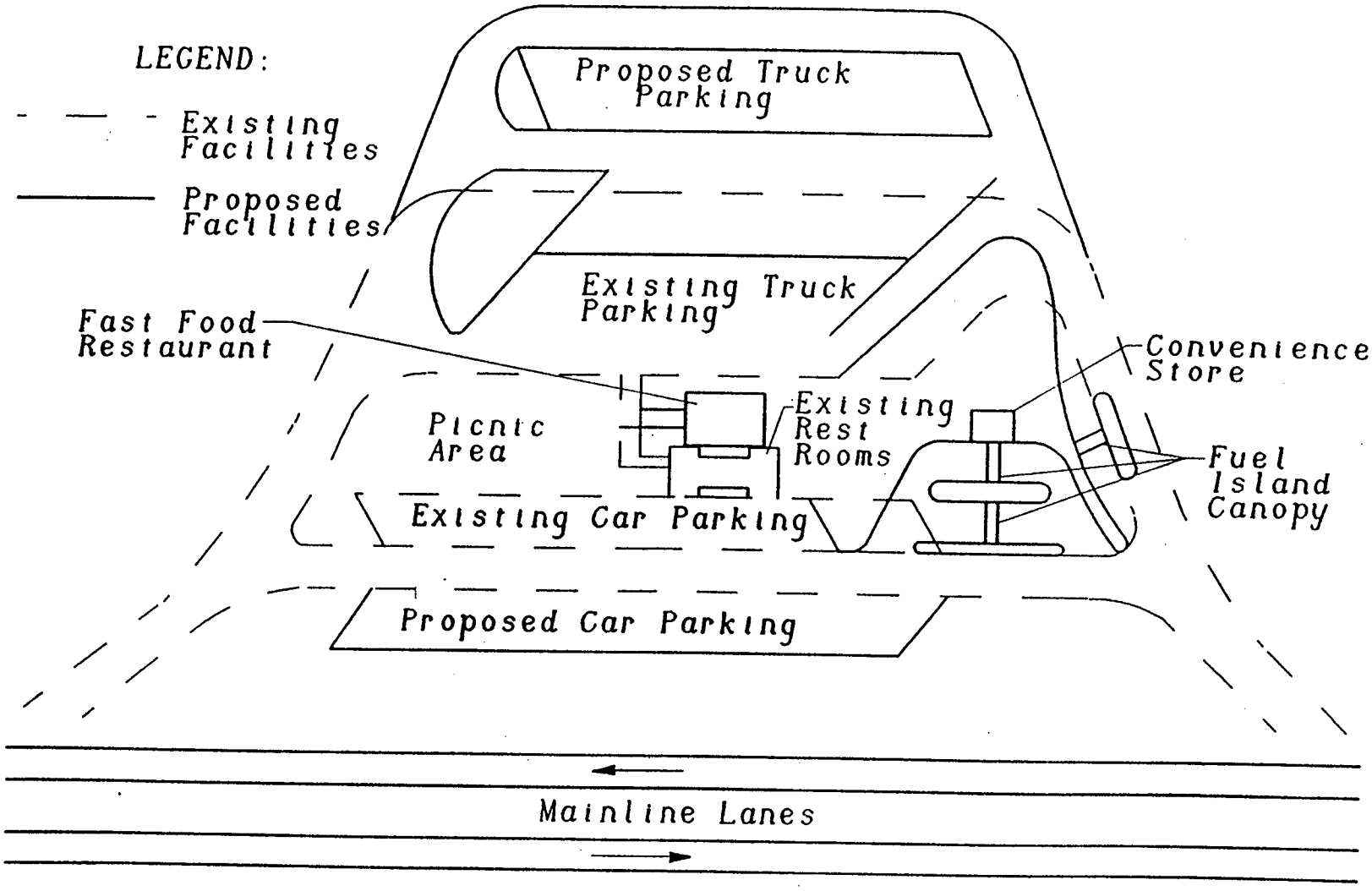
Table 57
SUMMARY OF FACILITY DEVELOPMENT COSTS

Development Concept	Prototypical Site Plan	Building Size (Sq. Feet)	Total Cost ($000)
Limited- Range Service Area	Single Side Existing Building	3,000	$1,453 each $2,906 pair
	Single Side New Building	3,000	$1,847 each $3,694 pair
Mid-Range Service Area	Single Side Existing Building	8,000	$3,560 each $7,120 pair
	Single Side New Building	8,000	$3,954 each $7,908 pair
Full Service Area	Center Median Bridge - Existing	16,800	$9,034
	Center Median Bridge - New	16,800	$10,455
	Single Side Serve Dual	15,000	$9,047

APPENDIX C

SITES PLANS AND FINANCIAL INFORMATION FOR COMMERCIALIZED REST FACILITIES

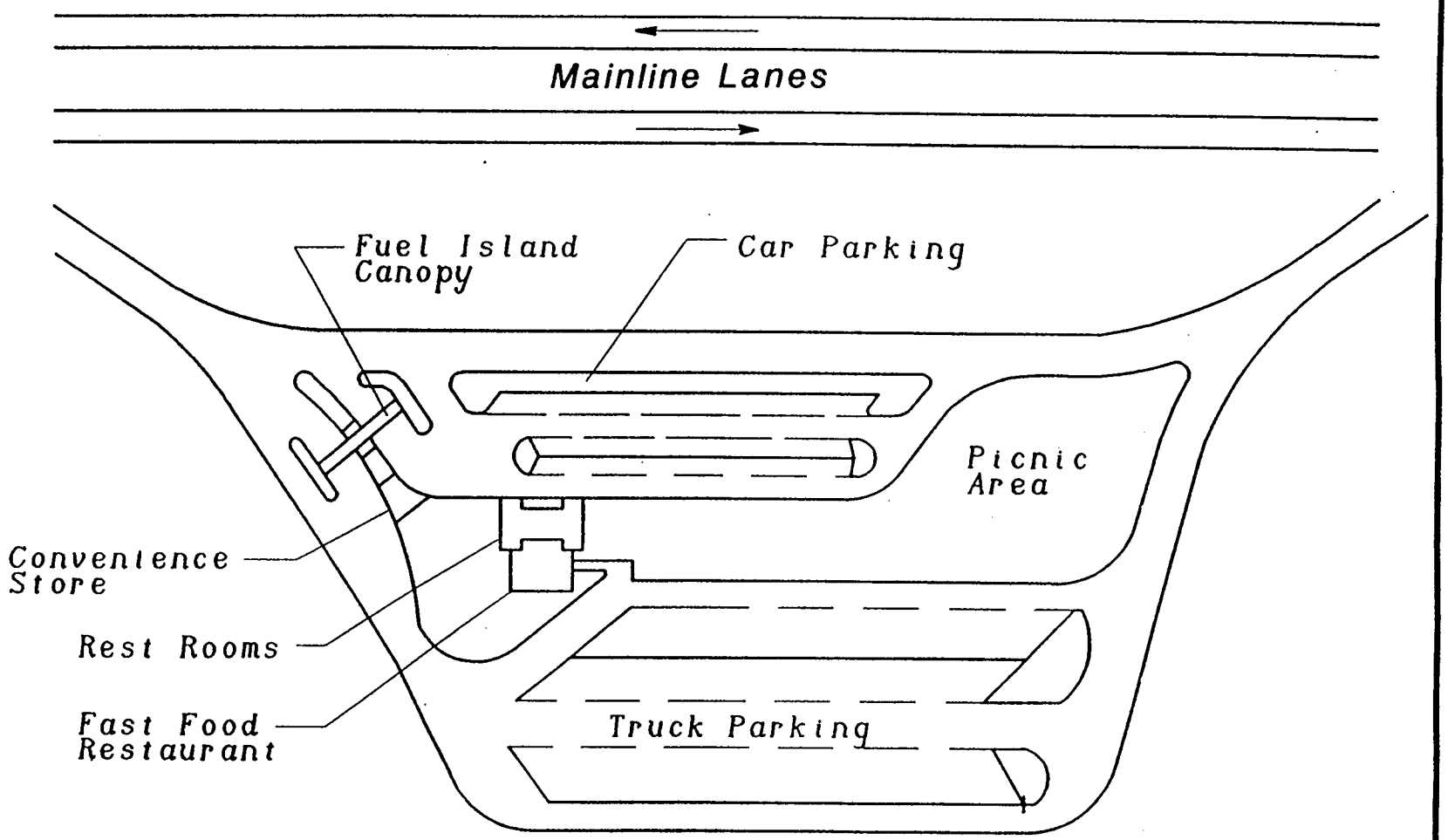
(Ref. 7 -- from Wisconsin)



Wisconsin Rest Area

On-Line Retrofit With Fast Food Restaurant. Fuel And Convenience Store
WILBUR SMITH ASSOCIATES.

FIGURE 18



Wisconsin Rest Area

New On-Line With Fast Food Restaurant Fuel And Convenience Store

WILBUR SMITH ASSOCIATES

FIGURE 21

Table 24

CONCEPTUAL ESTIMATE OF COST
On-Line Retrofit Safety Rest Area
Fast Food Restaurant, Fuel Service and Convenience Store

ITEM	UNIT COST	UNIT	QUANTITY	COST EXTENDED	COST ESTIMATED
Site Preparation					
Clearing and Grubbing	$2,000	Acre	1.9	$3,800	
Unclassified Excavation (1)	$6,500	Acre	1.9	12,400	
Borrow (1)	$8,000	Acre	1.9	15,200	
Pavement Removal	$1.50	Sq. Yd.	1,300	2,000	
Subtotal					$33,400
Pavements					
Concrete Pavement (2)	$20	Sq. Yd.	7,600	$152,000	
Accel./Decel. Lane	$20	Sq. Yd.		0	
Concrete Sidewalk (3)	$25	Sq. Yd.	200	5,000	
Concrete Curb and Gutter	$8	Ft.	1,200	9,600	
Maintenance of Traffic	$10,000	Site	1	10,000	
Subtotal					$176,600
Storm Drainage					
Parking Area	$6,000	Acre	1.4	$8,400	
Non-Pavement Areas	$3,500	Acre	0.5	1,800	
Culverts, 30" R.C.P.	$35	Ft.	700	24,500	
End Sections for 30" R.C.P.	$250	Ea.	2	500	
Subtotal					$35,200
Site Utilities					
Lighting					
-parking areas	$20,000	Acre	1.4	$28,000	
-roadways	$7,500	Ea.	2.0	15,000	
-landscape areas	$1,250	Site	1.0	1,300	
Electric Service(power)(4)					
-upgrade existing	$5,000	Site	1.0	5,000	
-new mainline service	$70,000	Site		0	
-new off mainline service	$25,000	Site		0	
Water Service (5)					
-upgrade pumps	$6,000	Ea.	1.0	6,000	
-well to 250' depth with pump	$10,500	Ea.		0	
-storage tank	$20,000	Ea.	1.0	20,000	
-service lines	$30	Ft.	400	12,000	
Sanitary Service/Septic Field					
-upgrade existing	$225,000	Site	1.0	225,000	
-new pressure service and field	$300,000	Site		0	
-groundwater monitoring wells (6)	$2,000	Site	1.0	2,000	
Telephone Service	$1,500	Site	1.0	1,500	
Subtotal					$315,800
Architectural/Structures					
Upgrade Comfort Station	$75,000	Site	1.0	75,000	
New Comfort Station	$115,000	Site		0	
Fast-Food Restraunt (7)	$500,000	Site	1.0	500,000	
Convenience Store (7)	$190,000	Site	1.0	190,000	
Fuel Service	$250,000	Site	1.0	250,000	
Subtotal					$1,015,000
Construction Subtotal					$1,576,000
Misc. Construction Items @ 20% (8)					315,200
Contingencies @ 15% (9)					283,700
Construction Total					$2,174,900
A/E Fees @ 15% of Constr. Total (10)					326,200
Right-of-Way	$2,000	Acre	4.0		8,000
PROJECT TOTAL					$2,509,100

(1) Average depth of two feet.
(2) 8" unreinforced on 6" base.
(3) 5" without sub-base.
(4) 1,200 Amp, underground feed.
(5) Domestic service only.
(6) Excluding periodic testing.
(7) With basic furnishings but excluding inventories.
(8) Items include but are not limited to, guide rail, fencing, pavement markings, signs, landscaping, etc.
(9) Allowances for items such as rock excavation, over excavation, disposal of excavated material, permit fees, bonds, etc.
(10) Covers plan processing and bidding.

Table 36

EXPECTED REVENUES AND RETURN ON INVESTMENT

CONCEPT	WISDOT SHARE OF INVESTMENT (percent)	RENT		RETURN ON INVESTMENT (percent)
		Total	Net Present Value	
		(-------millions-------)		
ON-LINE RETROFIT SITE				
Fast-Food Restaurant	0	$ 5.1	$ 2.6	n.a.
Fuel, and Convenience Store	25	8.9	4.5	29
	50	12.7	6.4	21
	75	16.5	8.2	18
	100	20.5	10.2	16
Fuel and Convenience Store	14	Maintenance Cost Contribution Only		
	25	5.3	2.6	38
	50	7.3	3.8	25
	75	9.1	4.7	21
	100	11.1	5.6	18
Fast-Food Restaurant	45	Maintenance Cost Contribution Only		
	50	5.0	2.6	17
	75	7.5	3.7	15
	100	10.0	4.9	14
NEW ON-LINE SITE				
Fast-Food Restaurant	31	Maintenance Cost Contribution Only		
Fuel, and Convenience Store	50	8.9	4.5	11
	75	14.6	7.3	11
	100	20.5	10.2	11
Fuel and Convenience Store	62	Maintenance Cost Contribution Only		
	75	6.7	3.5	8
	100	11.1	5.6	8
Fast-Food Restaurant	75	Maintenance Cost Contribution Only		
	100	10.0	4.9	6

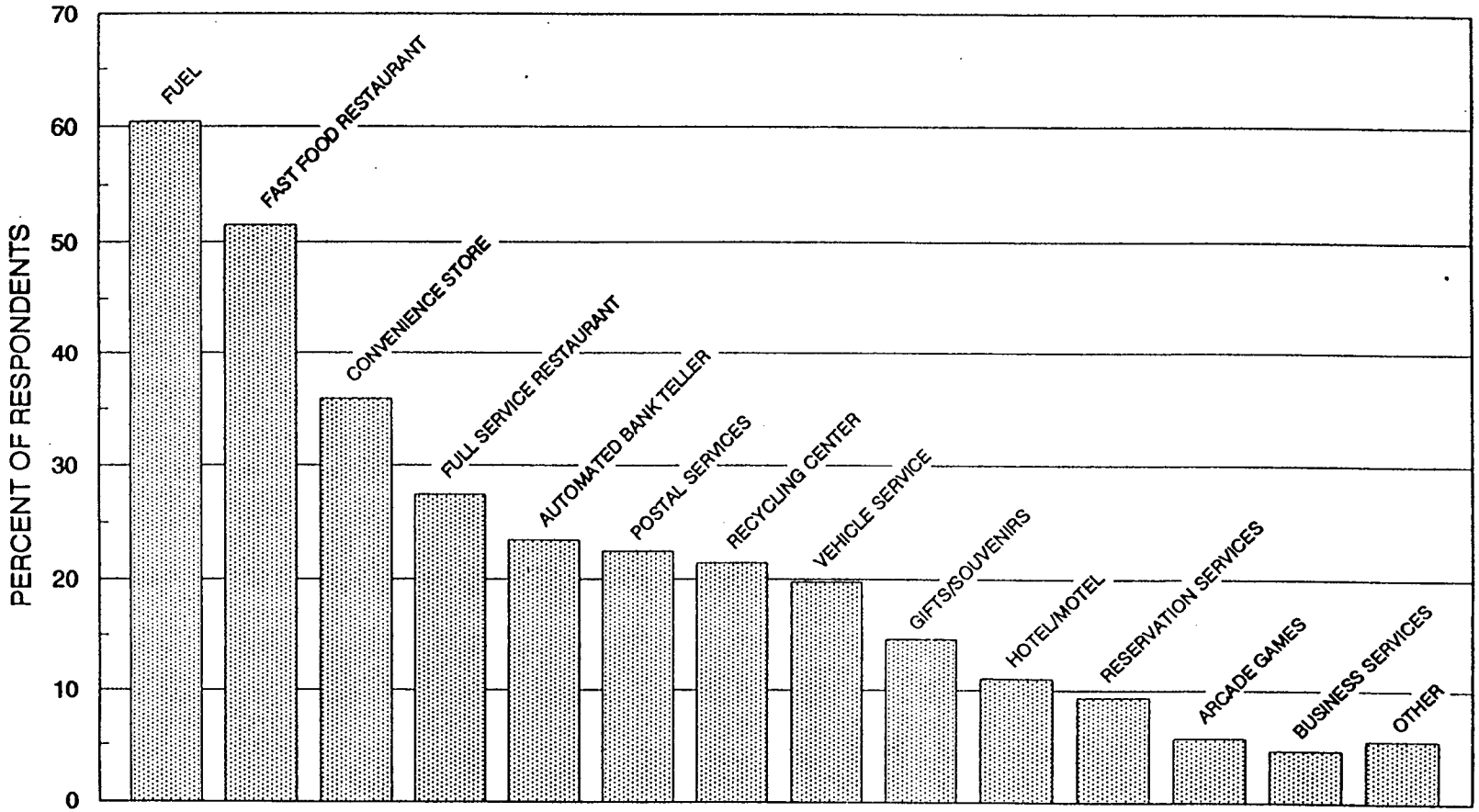
(Continued)

Table 36 (Cont'd)

EXPECTED REVENUES AND RETURN ON INVESTMENT

CONCEPT	WISDOT SHARE OF INVESTMENT (percent)	RENT (millions) Total	RENT (millions) Net Present Value	RETURN ON INVESTMENT (percent)
NEW OFF-LINE SITE				
Fast-Food Restaurant	0	$ 9.1	$ 4.6	n.a.
Fuel, and Convenience Store	25	15.0	7.5	30
	50	20.7	10.3	21
	75	27.0	13.2	18
	100	33.3	16.3	17
Fuel and Convenience Store	26	Maintenance Cost		Contribution Cost
	50	8.7	4.4	13
	75	13.1	6.6	13
	100	17.4	8.8	12
Fast-Food Restaurant	46	Maintenance Cost		Contribution Cost
	75	10.8	5.7	10
	100	16.1	7.8	10

SOURCE: David M. Dornbusch & Co.



NEW SERVICE PREFERENCES

SAFETY REST AREA USER SURVEYS

WILBUR SMITH ASSOCIATES

FIGURE 13

Table 1

RESTAURANT AND FUEL LEASE DATA

AGENCY	1990 LEASE CONDITIONS					
	Fixed Percent of Gross Sales	Sliding Scale Percent of Gross Sales	Minimum Royalty (million)	Per Gallon Royalty	Minimum Royalty	Price Markup Controls
Connecticut Department of Transportation	--	13.1 - 18.1	$3.80	$0.1100	$2.90	Yes
Illinois State Toll Highway Authority	9.0 - 10.0	--	0.10 - 0.50	0.1026	2.60	Yes
Indiana Toll Road	10.1 - 14.6	--	0.10 - 0.20	0.0400	--	Yes
Maine Turnpike Authority	--	12.0 - 18.0	1.20	0.0500	--	Yes
Massachusetts Turnpike Authority	--	10.0 - 14.0	0.15 - 0.20(1)	0.0952	1.50	Yes
New Jersey Turnpike Authority	--	14.0 - 18.0	3.85	0.1100	--	Yes
New York State Thruway Authority	5.0 - 14.0	13.0 - 16.0	7.50	0.0751(3)	--	Yes
Ohio Turnpike Commission	10.5 - 13.5	--	0.35 - 1.04(1)	0.0300	--	Yes
Oklahoma Turnpike Authority	5.0 - 6.0	2.0 - 12.0	0.09 - 0.10(1)(2)	0.0125	--(4)	Yes(5)
West Virginia Turnpike Commission	--	16.0 - 20.0	--	0.0450	--	Yes

(1) Minimum varies by location.
(2) Applies only to specified locations and when certain conditions are met.
(3) Varies by location. Ranges from a low of $0.0201 to $0.0751 per gallon.
(4) Varies by location. Due to low traffic volumes, some concessions are assessed monthly rental payments only. These range from $300 to $1,500. Others are assessed $0.01 per gallon plus minimum monthly rental payments up to $1,300.
(5) No formal controls exist, however, informal agreements are adhered to by the concessionaires.

Table 3

REVENUE PER PASSING VEHICLE

1990

AGENCY	1990 Concession Revenue	1990 Annual Passing Vehicles	1990 Revenue Per Passing Vehicle
	(-----thousands-----)		
Florida Turnpike Authority(1)	$7,190	60,831	$0.1182
Illinois State Toll Highway Authority	5,000	227,100	0.0220
Indiana Toll Road(2)	4,127	32,526	0.1269
Maine Turnpike Authority	1,928	23,072	0.0836
Massachusetts Turnpike Authority	4,646	78,867	0.0589
New Jersey Turnpike Authority	12,120	271,136	0.0447
Ohio Turnpike Commission	5,888	73,833	0.0797
Oklahoma Turnpike Authority(3)	1,038	30,248	0.0343
West Virginia Turnpike Commission(4)	566	12,045	0.0470
TOTAL	$42,503	809,658	
AVERAGE	$4,723	89,962	$0.0525

(1) Figures are for Fiscal Year 1991, ending June 30, 1991.
(2) Figures are for Fiscal Year 1991, ending June 30, 1991.
(3) Figures are for Calendar Year 1989.
(4) Renovations of two of the three concession areas were completed this summer, with renovations on the third, scheduled to begin later in 1991.

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APPENDIX D

IMPLEMENTATION

RURAL REST AREA PRIVATIZATION CONDITIONS IMPLEMENTATION REPORT

by J. L. Gattis, Ph.D., P.E. and Melissa S. Tooley, Ph.D., P.E.

INTRODUCTION

State transportation agencies are experiencing both funding limitations and increasing demands for transportation services. In response, agencies have had to either discontinue some services or consider alternative means to provide these services. One auxiliary service that has received considerable scrutiny is the roadside rest area. Finding suitable alternatives to the current method of rest area operation would allow a state transportation agency to control rest area costs, yet provide the same or perhaps improved service and safety to the motoring public.

There have been discussions of privatizing some roadside rest areas so services could continue to be provided, but at less cost. A typical privatized rest area would include a fast food outlet and a gasoline service station/convenience store; a high-volume site might have a food court and tourist information. It would remain public property, and as such be open to travelers who were not making any purchases. The businesses occupying the public site would pay fees for the right to be there to the state. So, instead of the state spending money to provide a rest area of perhaps marginal quality, the state would receive money while offering a greatly enhanced service to the public. Converting to private operation could save public agencies money and enhance public relations.

Federal law currently prohibits private operations at Interstate highway rest areas where the right-of-way was purchased with federal dollars. The practical effect is that American motorists do not find private rest areas except along certain toll roads. A report by Arkansas State Highway and Transportation Department (AHTD) legal counsel noted that "...Arkansas has both constitutional and statutory prohibitions..." that prohibit private operators from offering services to the traveling public. Telephone and vending services are allowed.

PURPOSE AND SCOPE OF THIS RESEARCH PROJECT

A research project was conducted to determine what rest area site attributes and conditions make a site attractive for privatization. To accomplish this, the following were contacted and interviewed:

1. major fast food and gasoline company representatives; and
2. state turnpike agencies that have private concessionaires.

Evaluation of the current federal prohibitions against privatized rest areas or other legal issues was

outside the scope of this project.

FINDINGS

The Arkansas State Highway and Transportation Department (AHTD) recently compiled rest area data. The following figures indicate the magnitude of the investment in and continuing costs of providing rest areas.

Estimated State Costs

	Interstate		Non-interstate	
	Tourist information center	Rest Area	Tourist information center	Rest Area
Fixed capital cost	$ 2,893,000	$10,659,000	$ 3,075,000	$ 1,575,000
Annual cost	$ 377,000	$ 1,422,000	$ 392,000	$ 676,000

Note: Annual cost is sum of annual salary, fringes, equipment rental, and materials

Crime at rest areas (including tourist information centers) has been in the headlines. The murder of European tourists at a Florida rest area made international news. In Arkansas, the state maintenance engineer compiled a list of acts at rest areas that included 4 murders, 1 attempted kidnapping, 12 robberies and numerous thefts, as well as assaults and harassment of employees. Vandalism was reported as occurring on a regular basis.

From both a review of recent related literature and discussions with others, it is apparent that officials from a number of states would like to see the current prohibitions against privately-operated rest areas along Interstate highways lifted. Not only do officials charged with oversight of public funds object to the costs providing the traditional rest areas, officials are increasingly concerned about public safety and crime at rest areas. The public also would support privatized rest areas; however, some private companies and trade groups oppose them.

Many examples of currently-privatized rest areas can be found across the United States, in the form of turnpike service plazas. A survey of Florida, Kansas, and Maryland turnpike authorities found that although rest area privatization was not problem-free, it had been successful. The states has learned to write contracts that gave the state the ability to expel the occasional

underperforming fast-food or service station operator, and to mediate disputes between competing operators at a given site. States should be aware of the potential problems with leaking underground fuel storage tanks. The money generated by a privatized rest area enabled states to fund a regular law enforcement presence at the sites.

SUGGESTIONS FOR A SUITABLE SITE

Given the rural nature of Arkansas, a number of guidelines for identifying desirable sites for privatized rest area can be developed. A site should be away from an urbanized area, and at least 40 miles from the nearest competing rest area. Sites at existing tourist information centers, scenic locations, or along new highways through lightly-developed areas may be appropriate. Although this project was not able to find a definitive answer to the question "what minimum highway traffic volume is needed?", it may take a daily volume of 5000-8000 vehicles to generate an adequate amount of business for a privatized rest area.

The research report presented four alternative site design schematics. The schematics incorporated principles to improve safety for both motorists and pedestrians. One principle was to route vehicles so as to minimize conflicts between vehicles, and between vehicles and pedestrians. Another was to allow buses to park and discharge passengers close to the buildings by separating the bus parking area from the passenger car parking area. The appropriateness of constructing one rest area in the median to serve both directions of traffic was not completely addressed; additional research about the safety of left-side freeway exit and entry ramps in rural areas is needed.