Final Summary Report
Research Project GC8286, Task 22
Park-and-Ride Lots — Private Development
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DEVELOPMENT OF PRIVATE SERVICES
AT PARK-AND-RIDE LOTS
IN CENTRAL PUGET SOUND

by

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## Abstract

Over 50 park-and-ride lots in the Puget Sound region were studied for their potential for private development at the sites to improve ridership, revenue, and lot security. A literature search and institutional analysis showed that the concept of private development at park-and-ride lots, although untested, shows promise.

Detailed market and site analyses were performed for three existing and two proposed sites. Sample site designs were created for each site.

The study concludes that private development of park-and-ride lots is both desirable and feasible, and that new lots are better candidates for development.
DISCLAIMER

The contents of this report reflect the views of the authors, who are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of the Washington State Transportation Commission, Washington State Department of Transportation, Seattle Metro, or the Urban Mass Transportation Administration. This report does not constitute a standard, specification, or regulation, and the specific sites are conceptual only and do not reflect transit agency policy or plans.
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SUMMARY

This project investigated the provision of a variety of private services, such as convenience markets, dry cleaners, video stores, and day care, at existing and proposed park-and-ride lots. Institutional and legal issues were studied and found not to pose insurmountable problems. However, they do make development of new sites more attractive than development at existing park-and-ride lots.

A process was created to assess development potential at nearly 100 sites in the Seattle area. An increasingly more detailed evaluation process resulted in the selection of five case study sites — two proposed sites and three existing park-and-ride lots. The steps in this process included the following:

• researching joint development, park-and-ride facilities, and the application of joint development to park-and-ride facilities;
• assessing institutional constraints;
• developing a methodology for selecting sites with high joint development potential;
• identifying compatible uses and their requirements;
• analyzing the opportunities and constraints presented by case study sites,
• proposing the most appropriate uses at each site in a concept diagram, and
• analyzing the issues involved in implementing joint development at park-and-ride facilities.

Implementation is the final and crucial step in the planning of private services at park-and-ride facilities. At this final phase in the planning/study process, responsibility shifts solely to the transit operator.

The study found that some existing park-and-ride lots may offer the potential for certain types of joint development if vacant land exists on or contiguous to the site. Mobile or concierge services and day-care centers are examples of developments that would be noncontroversial and enhance park-and-ride lot security. New lots offer the opportunity to locate and lay out a site to accommodate both park-and-ride and a wide variety of retail and other types of development. Planned joint use of the parking spaces with theaters or other night activities is desirable because it allows expenses to be shared. National and local policies should reflect the opportunities to help agencies provide security, enhance transit patronage, and spread the cost of lot development by shared use or lease of developable space.
CONCLUSIONS

LITERATURE REVIEW

The literature review focused on past joint development experiences and on park-and-ride lot development. Also reviewed were transit infrastructure financing techniques, private sector perspectives on joint development, surface transportation connections, land-use factors, site planning and design, and barriers to private activities. The literature review found the following:

- Little experience in the joint development of park-and-ride lots exists to date in the United States.
- Several obstacles minimize the attractiveness of joint development for both private and public sectors. For the private sector, the time frame for return on investment is much shorter than the public sector. The public sector is primarily discouraged by the risks associated with market failure of the private services and lack of knowledge of commercial operations.
- The location of services at facilities surrounded by office developments may result in a mixed-use effect, reducing mid-day trips. However, few park-and-ride lots are located near office complexes.

INSTITUTIONAL ANALYSIS

Federal, state, regional, and local agency regulations affecting the development of private services at park-and-ride facilities were reviewed. The following was concluded:

- Existing capacity in the form of parking stalls may not be transferred to private uses unless all funding agencies are first reimbursed. This restriction makes the location of land intensive private development at existing facilities largely unfeasible. Planning new sites with private uses and their requirements is a more viable alternative.
- Transit operators need to assess their own policies, which sometimes prohibit private development.

REGIONAL SITE SELECTION

All of the existing park-and-ride facilities in the three central Puget Sound counties involved in this study were reviewed for joint development potential. This analysis was based on site location, size, topographic conditions, access, adjacent land uses, and ownership of the sites. The results were as follows:

- Forty of the sites reviewed were controlled by lease agreements, e.g., church parking lots, and were thus eliminated.
- The sites with the highest potential for joint development were those with the best access, visibility, topography, the most supportive surrounding land uses, and the most available space for development.
SELECTION OF FIVE TARGET SITES

Five sites were selected for in-depth analysis. This selection process was based upon private sector commercial market feasibility. The three existing park-and-ride lots selected either had available space for development on the site or immediately adjacent to it. The two proposed park-and-ride sites selected had the characteristics necessary for retail development, such as high visibility and frontage with good access.

MARKET AND SITE ANALYSIS

A market analysis assessed the requirements of the particular uses found to be most compatible with transit service at park-and-ride lots. The analysis of these uses included identifying their required trade area size and demographic characteristics. Land and building requirements for several of the uses were also identified. A site analysis involved a detailed review of each of the five case study sites. The following important points were revealed:

- Almost all convenience retail services require arterial frontage.
- Day-care services do not require arterial frontage and in fact are better located in quieter areas in the rear of sites.
- Information from the site analysis enables evaluators to assess the ability of a particular site to meet the needs of specific uses.

CONCEPT DEVELOPMENT

Particular uses were matched to each case study site on the basis of findings from the market analysis of proposed uses and the site analysis of each target location. Concept diagrams were then developed on the basis of a program of development for each site. The following was found during this process:

- Where possible, provide services adjacent to the facilities.
- A lack of available frontage at existing facilities reduces the feasibility of several private uses.
- Existing facilities can be retrofitted to develop better visibility from surrounding developments, creating a deterrent to vandalism.
- Site selection for new facilities should include a market analysis to determine retail potential.
- Convenience retail centers should be designed to provide access from both the street and the park-and-ride lot.
- Wherever possible, link pedestrian circulation to the surrounding area.
IMPLEMENTATION

The application of the techniques described in this study may vary substantially by agency and state. However, several basic steps are always necessary to increase the likelihood of a successful project.

- Transit agencies need to confirm their authority to pursue joint development.
- Transit agencies should develop and publish their own policies on joint development activities.
- The transit agencies must identify their own joint development goals in addition to those of local jurisdictions and potential developers.
- Detailed site and market analyses must be done at each site.
- The transit agency needs to involve local jurisdictions early and often in the process.
- Risks can be minimized with proper site and market analysis.
INTRODUCTION

The transit industry must compete with a form of transportation that provides nearly ubiquitous mobility. Our society, with a great number of two-income households, demands timeliness and convenience in order to squeeze an increasing number of activities into what seems to be a shrinking day. Combining secondary trips with the morning and evening commute is necessary to drop off/pick up children, shop, and run other errands. These secondary trips occur at the worst possible time for traffic conditions, and ways to mitigate them are needed.

Transit is not currently a competitive service for most secondary trips unless they are made with an automobile as part of a park-and-ride trip. Again, these trips add to peak hour traffic problems. For low density suburban development, collection of transit patrons at park-and-ride lots has become an economic necessity. To reduce secondary trips, provide on-site convenience, and enhance security, numerous services could be jointly developed with park-and-ride lots to serve the lot patrons and general public alike. These services might include convenience stores, gas stations, video renters, carryout restaurants, cleaners, and day-care centers. Figure 1 shows a concept plan of a typical development.

![Diagram of typical park-and-ride development with retail center, pedestrian crosswalks, pedestrian walkways, major arterial, retail parking, and transit waiting area.]

Figure 1. Typical Park-and-Ride/Retail Development
To investigate the feasibility of retail and other services located at park-and-ride lots, a study was undertaken by the Washington State Transportation Center (TRAC) and the Municipality of Metropolitan Seattle (Metro). The study was funded by the Urban Mass Transportation Administration (UMTA), the Washington State Department of Transportation (WSDOT), and Metro. [1]

The study was divided into the following segments:

- a review of applicable literature and experiences,
- institutional analysis,
- regional assessment of park-and-ride lots,
- selection of five case study sites,
- market and site analysis of the case study sites,
- concept development, and
- implementation plan.

The structure and significance of each phase are discussed below and presented graphically in Figure 2.

REVIEW OF LITERATURE, EXPERIENCES, AND INSTITUTIONAL/LEGAL ANALYSIS

Literature Review

This initial phase of the study involved an analysis of several associated bodies of knowledge. For the purposes of this study, they were divided into the following subject areas:

- park-and-ride lots,
- joint development,
- transit patron distribution and collection,
- land-use opportunities and constraints,
- site planning, circulation, and design, and
- barriers to private activities.

Focus was placed on past joint development experiences and on park-and-ride lot development. Also reviewed were transit infrastructure financing techniques, private sector perspectives on joint development, surface transportation connections, land-use factors, site planning and design, and barriers to private activities. The general findings from the literature search included the following:
### A Review of Literature and Experiences
- Park and Ride Lots
- Joint Development
- Transit Patron Distribution and Collection
- Land Use Concepts
- Site Design Issues
- Barriers to Private Activities

### Institutional Analysis
- Statutory Authority
- Common Law Prohibitions
- Funding Sources
- Individual Park and Ride Contracts

### Regional Assessment of Park and Ride Lots
- Location
- Size
- Topography
- Access
- Land Use Context
- Community Input

### The Selection of Five Target Sites
- Institutional Constraints
- Land Availability
- Public Agency Perspective
- Retailer Location Criteria

### Market and Site Analysis of Selected Sites
- Market Area Demographics
- Spatial Requirements
  - Design Opportunities and Constraints
- Capacity and Utilization
- Traffic Circulation
- Zoning and Comprehensive Plan Designations

### Concept Development of Selected Sites
- Site Specific Program Development
- Application of Site Engineering Standards
- Application of Architectural Standards
- Application of Codes and Covenants

### Implementation
- Procedures
- Changes in Regulations

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**Figure 2. Research Design**

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• Little experience in the joint development of park-and-ride lots exists in the United States.

• Several obstacles minimize the attractiveness of joint development for both the private and public sectors. For the private sector, the time frame for return on investment is much shorter than for the public sector. The public sector is primarily discouraged by the risks associated with market failure of the private services and lack of knowledge about commercial operations.

• The location of services at facilities surrounded by office developments may result in a mixed-use effect, reducing mid-day trips. However, few park-and-ride lots are located near office complexes.

Concurrent with the literature review, the institutional and legal issues involved in joint development of park-and-ride lots were investigated.

**Institutional/Legal Analysis**

Private development at park-and-ride lots can present some difficult institutional issues because of the participation of several agencies in funding various aspects of the lot. This study found that potential restrictions on private development may arise from the following legal sources:

• statutory authority;
• common law prohibitions;
• federal or state funding source statutes, regulations, and guidelines; and
• individual park-and-ride contracts with funding agencies.

Transit agencies will find joint development difficult without title to park-and-ride land. Each affected funding organization has its own restrictions and rules regarding the secondary use of land it has funded for park-and-ride development, but each appears to allow private development as long as its policies are followed.

**Transit Ownership**

If transit agencies hold the title to a park-and-ride lot, they have a great deal more latitude concerning joint development on the property because they are subject only to their own statutory requirements and to common law constraints. Transit agencies in the Seattle area are allowed to lease their park-and-ride property for private commercial uses. However, the use must be consistent with the public transportation purposes for which the property was acquired, and the property must be surplus and must not be needed for public transit purposes over the life of the joint development project.

Transit agencies usually do not own park-and-ride property. The vast majority of park-and-ride lots in the central Puget Sound area have been funded with either federal or state funds, or a combination of the two. This situation is also true for a majority of park-and-ride lots at transit agencies across the country, and it makes the process of pursuing joint development more difficult.
Transit agencies may also regulate certain activities at park-and-ride lots, and the prohibition of these activities may inhibit development. Examples of some prohibited uses include food and beverage services, vehicle maintenance, and recycling.

**UMTA Funding**

The key to a successful joint development project from UMTA's perspective is that the secondary use is beneficial yet "incidental" to the facility's transportation function. For UMTA to consider the use "incidental," it must be compatible with the approved purposes of the park-and-ride and not interfere with the intended function of the facility. UMTA encourages incidental uses of real property that can raise additional revenues for the transit system or, at a reasonable marginal cost, enhance system ridership. According to UMTA officials, important factors in getting a private sector development project approved as an incidental use include the following: (1) the length of time the private development will occupy park-and-ride property; (2) the amount of space occupied by the private development project relative to the amount of space available to park-and-ride parking; (3) the nature of any interference with the primary transit benefits of the park-and-ride lot; and (4) the transit benefits of the private development project, either in terms of additional revenues for the transit system or enhanced system ridership.

Representatives from UMTA stressed that joint development proposals are reviewed on a case-by-case basis and that no clear line can be drawn between proposals that are approved and those that are rejected. Therefore, transit agencies need to carefully prepare their joint development proposals by giving special attention to the "incidental use" requirement and by clearly describing the benefits to transit users. UMTA regulations specifically preclude the use of Section 3 (Capital Grant) funds for construction of commercial revenue-producing facilities, whether publicly or privately owned.

If a proposal for a joint development project is not approved, the transit agency has several options. The proposal may be revised, if possible, to meet UMTA objections and then resubmitted. If the transit agency wants to pursue the project as planned, it can determine that the property under consideration is excess and no longer needed for a transit purpose and surplus the property. The property has to be sold at fair market value, and UMTA has to be reimbursed for the percentage of the property it owns. This alternative allows the project to proceed, but it eliminates any monetary benefit to the transit agency. However, it provides some benefit to transit users because of the retail services to be provided at the park-and-ride, and it also increases the attractiveness of the park-and-ride.

**FHWA Funding**

If funds from FHWA were used to purchase park-and-ride property, then its policies regarding the use of the property and associated revenue must be followed. The FHWA dispenses its funds through the state departments of transportation for highway projects. Transit agencies must first apply for approval for a joint development project through their state department of transportation, which will forward the proposal to the FHWA. FHWA considers park-and-ride lots to be highway projects, and the lots are covered by the same policies.

The FHWA must approve a transit agency's proposal for joint development before any property rights are conveyed to the developer. If a joint development proposal is approved, the transit agency must charge at least fair market value for the sale, use, or
Site Inventory

A preliminary assessment of development potential began with a complete list of park-and-ride lots in the Seattle area. This list was reviewed with the goal of eliminating sites that would be inappropriate for joint development. As a result, leased lots and lots under 50 stalls were eliminated from further consideration. The locations of regional lots are shown in Figure 3.

The very characteristics that make a site attractive as a park-and-ride lot, such as good location, visibility, size and access, also make the site an attractive candidate for private commercial development. Table 1 illustrates some of the locational criteria for park-and-ride lots and retail space. There is a significant degree of overlap in the criteria for both uses. However, while a site may be an attractive candidate for development, the transit function remains the paramount purpose of the park-and-ride system. This study analyzed ways to supplement the supply of park-and-ride spaces through a variety of joint development methods such as potential land trades, shared parking with adjacent businesses, on-site retail development, and commercial development at sites adjacent to the facilities. While some park-and-ride lots may have been ideal for joint development, if they were at or near capacity, spaces could not be eliminated to allow for joint development. In these cases, air rights development (if feasible) or land trades for larger, more suitable nearby sites were considered.

Evaluation Process

On the basis of the data gathered on the park-and-ride sites, pictures and videotapes, and the research staff's impressions, the joint development potential of the lots was assessed. To narrow the list of park-and-ride sites to be considered for joint development, the sites were categorized into those with high, moderate, and limited potential for joint development.

Sites with high potential met the criteria of adequate space for surface or air right development, good visibility, good access from major arterials or freeways, and desirable locations. Additionally, these sites were attractive because of the caliber of adjacent development or the character of the surrounding area.

Table 1. Criteria for the Location of Park-and-Ride Lots or Retail Service Development

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<th>Criteria</th>
<th>Park-and-Ride</th>
<th>Retail Space</th>
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<td>Access to Freeway</td>
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<td>Local Demographics</td>
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<td>Freeway Congestion</td>
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<td>HOV Lanes</td>
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<td>Arterial Volume</td>
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<td>Other P&amp;R Lots</td>
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<td>Other Retail Space</td>
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<td>Visibility from Freeway and Arterial</td>
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<td>Land Use and Zoning</td>
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<td>Catchment Area for Arterial Traffic</td>
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<td>Development Interest</td>
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Sites with moderate potential offered a mix of the characteristics of the high potential sites but not to the same degree. Moderate potential sites presented more challenges to joint development than did the high potential sites.

Sites with limited potential either were fully utilized with no possibility of expansion or lacked many of the characteristics necessary for consideration of joint development. However, some of the low potential sites were possible locations for mobile services such as espresso stands or pick-up/drop-off dry cleaning service.

This initial evaluation placed 50 lots within the categories of high, moderate, and limited potential for joint development. The other 40 sites were mostly leased space, which greatly reduced or eliminated their potential for joint development. This initial information was used for a more detailed analysis of these sites' market potential for joint development at the sites.

Retail Market Feasibility

The assessment of the high potential candidates from the regional evaluation was based on retail market feasibility analysis considerations from a developer's perspective. The following methodology was developed and used as a guideline for assessing the potential development sites. The primary question was whether a retail developer could be attracted to a high potential location. From a developer's perspective, the key factor encouraging development is the ability to profitably attract tenants. To attract them, both developer and tenant must believe that sufficient surrounding trade area demand exists to support the risk of achieving profitability. Retail market analysis gauges trade area demand and thus profitability.

Typically, retail market analysis methodology encompasses the following steps.

1. Evaluate the site as a retail location — frontage on a major arterial is of primary importance.

2. Establish an effective trade area — the transit patrons will not provide the primary demand; therefore, relationship to available retail outlets is important.

3. Analyze trade area population and buying power — age and income of the population in the trade area determines buying power.

4. Determine retail customer expenditure potentials within the trade area — projections of expenditures by type of good or service help assess the market for particular stores.

5. Assess trade area retail competition — the ability of the market to sustain more retail must be determined.

6. Forecast market penetration and retail sales volume at the subject site — given the information above, plus information about future development, the market share for a given retail outlet is forecast.

7. Determine the mix and square feet of retail space market supportable at the subject site — this is used in discussions with possible tenants.
Each of these seven steps was used to develop a short list of existing and proposed park-
and-ride lots that would be good development candidates.

**Retail Compatibility — Physical Design Criteria**

In addition to the perspective of the retailer, other site specific information was
used in the analysis. This information included available space, land-use and political
constraints, institutional constraints, and circulation.

**Available space.** Most of the existing park-and-ride sites were designed to
maximize the capacity of the site. For this reason, they often contained little or no
undeveloped land (at grade) suitable for the development of retail space. Exceptions to
this constraint included air space development where economically and institutionally
feasible, topographic opportunities such as slopes, and sites in the planning phases of
development.

**Land-use and political constraints.** Some sites were located in areas that had
incompatible adjacent land uses for certain joint development purposes. An example of
this constraint is the location of a park-and-ride facility in an area of single family
housing. Inhabitants of such an area may be opposed to certain retail uses at the park-
and-ride facility and may be organized well enough to have the political means to block
development. Environmental sensitivity and issues of zoning conformance were also
analyzed at the high potential sites.

**Institutional constraints.** Several institutional constraints governed the use of
park-and-ride lots owned or funded by UMTA, FHWA, and in this case study, WSDOT.
The regulation most restrictive to the development of a non-transit public benefit use such
as joint development was the restriction against reducing the number of parking spaces.

**Circulation.** Access to the site from a variety of modes was analyzed. Turning
movements onto sites, levels of service of adjacent intersections, and congestion levels of
roads around the sites were analyzed. Pedestrian and other non-vehicular linkages to the
site were viewed favorably.

**THE FIVE CASE STUDY SITES**

The selection of the following five sites for a more detailed analysis of joint
development potential was based on the criteria presented above. The retail market
potential, in conjunction with the physical constraints of each potential site, was
analyzed. The three existing sites selected were Woodinville, South Bellevue, and
Eastgate. The two proposed sites selected were the northwest quadrant of 164th and I-5
in Snohomish County and the southwest quadrant of 54th Avenue and 20th Street in Fife,
Pierce County (see Figure 4). These sites are discussed in greater detail below.

**Woodinville — Woodinville/Duvall Road/140th N.E.**

This location was chosen because space was available for development without
the need for taking parking spaces away from the lot. Adjacent land-uses were also
supportive of joint development.
Figure 4. Location of Five Target Sites
South Bellevue — Bellevue Way/112 S.E.

Reasons for selection included compatibility with day-care requirements, easy access to the rapidly developing I-90 corridor, adjacent land use (Mercer Slough Park), conduciveness to day care, and minimal vehicle/pedestrian conflicts.

Eastgate — S.W. Eastgate Way/136th S.E.

The proximity and ease of access this site had to major retail and service concentrations made it an excellent candidate for a mobile services vendor. Adjacent land-use, which was office and commercial, offered market potential for any services located on this site.

Snohomish County — NW Quadrant of 164th and I-5

During the study, this project was in the preliminary planning phases. It was selected on the basis of these criteria: visibility from 164th, frontage along 164th Street, market potential from the trade area to the west, limited convenience competition in the trade area (west of I-5), and the benefits of the ability to properly plan the site to incorporate retail requirements.

Fife — S.W. Corner 54th Ave. and 20th Street. Paralleling I-5

The reasons for selection of this undeveloped site included the benefits associated with planning for joint development in the development phases, reasonable access to I-5, projected demand, supportive adjacent land uses, visibility onto the site, excellent frontage, and sufficient space.

MARKET AND SITE ANALYSIS OF THE FIVE CASE STUDY SITES

Once the study sites had been selected, the specifics of their potential to support joint development could be determined.

The analysis of convenience and retail services focused on site selection criteria for certain convenience retail/service store types from the perspectives of developers and private store operators. The intent was to demonstrate to transit decision makers the specific locational, market, and financial criteria the private sector requires to develop retail outlets or offer off-site services from a park-and-ride lot.

The analysis of each specific site included a physical survey of on-site features such as topography/slope and off-site features such as adjacent land uses. Institutional and political constraints were analyzed in addition to the physical characteristics of each site. The site analysis and land-use study for each site was presented in graphic form on a scaled plan of the site that included adjacent land uses. By conducting these two analyses in tandem, the study team was in a better position to match services to sites.

Analysis of Selected Convenience and Retail Services

The selection of the services presented in the analysis was based on community input and recommendations made by a real estate development consultant. These services included day care, convenience stores, automotive service centers, automotive lube centers, mobile services, and concierge services.
On-Site Day-Care Centers

Proprietary day care is a business in which demand greatly outpaces supply nationwide. Key social trends underpin this condition.

Proprietary child care facilities privately operated for profit were the focus of this project. Such facilities are normally designed for infants, toddlers, preschoolers, kindergarteners, and year-round (before-/after-school and during the summer) elementary school children. Services offered include exercise, supervised play, reading, introduction to computers, field trips, evening care, drop-in hourly care, and transportation to and from elementary schools.

Proprietary day-care centers do not necessarily require direct frontage exposure on major arterials. Exposure is not as critical as it is for most other retail and service businesses. Area parents quickly find day-care centers. Thus, day care could be placed toward the rear of park-and-ride lots, where land costs are relatively less expensive, noise and air pollution are low, and site exposure is already high because of the lot.

The maximum trade area radius for a proprietary day-care site is normally about 3 miles. Nationally, research indicates that most parents reside within a 2-mile radius of the day-care center they patronize. Preschool children typically are drawn from further distances than elementary school children. (2) The dual purpose accomplished by locating day care at park-and-ride lots would probably result in increasing the trade area size above these national norms.

Exploring the concept of locating day-care centers on certain Seattle area park- and-ride lots would be of definite interest to center developers. This conclusion is based on positive responses from interviews with multistate day-care center developers. The idea fits their current pursuit of new market segments requiring day-care services.

Proprietary day-care developers usually seek a trade area (approximate 3-mile radius) containing 25,000 to 30,000 people. However, a 50,000-person trade area population is preferable. Exceptions to this site selection criterion are often made if an area is growing extremely quickly. In certain rapidly growing areas, an existing population of only 15,000 within a 3-mile radius has been acceptable. (2)

The minimum estimated land requirement for siting a day-care center at a park-and-ride lot is 18,000 square feet. This conclusion is based on interviews with multistate day-care developers. Typically, a 30,000 square foot site is required once setback, landscaping, parking, play area, and building site requirements have been met. (2)

Day-care center prototype buildings run about 6,200 to 6,700 square feet. A typical dimension is 110' x 61'. These buildings usually accommodate from 100 to 125 children. Play areas are often about 10,000 square feet. Parking requirements usually are one stall per employee, or about four or five stalls. (2) Extensive parking facilities are not necessary because parents usually only quickly park and pick up their children.

The typical cost of a proprietary day-care building is about $325,000, or approximately $48 per square foot. Typically, site costs run between $100,000 and $150,000, including site work. (2) Day-care center developers at park-and-ride lots could mitigate such land costs if they were willing to sign ground leases with the transit authority.
Convenience Stores

The convenience store concept focuses on satisfying the majority of food and non-food purchase requirements of consumers who desire quick nearby service any time of day, every day of the year. Typically, two-thirds of the customers of a convenience store have been patronizing it for over one year. In descending order of importance, customer reasons for shopping at convenience stores are (1) fast service, (2) near home or work, (3) early and late hours, (4) friendliness of staff, (5) gas prices, and (6) other.

Gasoline sales, which typically comprise about 60 percent of total sales, usually accompany merchandise sales at convenience stores. Offering gasoline is a key way to attract customers into the store. Obviously, the acceptability of gasoline sales on park-and-ride sites could be an important issue for transit authority decision makers.

Economic success depends on locating a clean, neat, and bright store building on a well-traveled street. Excellent exposure and site egress and ingress are critical to economic success. A high-traffic corner location offering unobstructed turning movements is preferred. Similarly, highly visible signage is a must. Convenience store sites must be surrounded by a residential trade area with sufficient buying power to achieve a profitable sales per square foot performance level, roughly $250 per square foot annually. The trade area radius for convenience stores is typically 2 to 3 miles. However, over half of total sales volume usually comes from residents living within 1 mile of the store. Usually 85 percent of customers travel to convenience stores by automobile. (2)

Typical lot size requirements for a convenience store range from 12,000 to 18,000 square feet. The accompanying asphalt parking area needs to be large enough to accommodate 10 to 13 cars. Convenience store buildings usually are about 2,400 square feet. (2)

Security is a major issue associated with the private development of park-and-ride sites. The presence of services on and adjacent to park-and-ride facilities may well provide a strong deterrent to vandalism. The selection of quality private services is essential to the achievement of this objective.

Automotive Lube Centers

Competition is very keen for the automotive lube customer. New car dealers are aggressively marketing to the oil change customer. Dealerships are encouraging lube and oil service when customers return their vehicles for warranty and repair work. Repeat customer business is cultivated at auto lube centers. Follow-up service reminders are often sent to customers, and coupon specials are an added incentive to return.

High traffic counts and a highly visible location are an absolute must in this business. Any site that has even moderate real or perceived access impediments will be rejected. A key reason for this site location sensitivity is that many oil changes occur because of "driver impulse." Lube center services must therefore appear quick, convenient, and not out of the way.

The surrounding trade area goal for lube centers is 75,000 motor vehicle registrations within a 3-mile radius. Although lube stores do open in 3-mile radius trade areas of 50,000 vehicle registrations, the competition that rapidly follows probably means that someone will not survive. (2) Also, CBD periphery locations adjacent to high concentrations of daytime employees are very desirable.
The motor vehicle registrations count is critically important. Profitability typically depends on attracting from 30 to 50 lube/oil change customers per day to break even. The market target is 55. (2) The number of lubes per day required to break even mainly depends on land/building costs and on variable real estate tax and insurance expenses.

An automotive lube center absorbs about one-half acre of land. The minimum land area requirement is 18,000 square feet, including a stacking and turning area for at least 12 cars. A typical automotive lube center building is 5,000 square feet (50' x 100'). (2)

Mobile Services

The key idea behind this concept is for a vendor to sell coffee, juices, soft drinks, pastries, tickets, books, or papers from a mobile vehicle that services park-and-ride users during peak morning hours. Market support for this concept at park-and-ride lots is unproven in the Seattle area. However, the level of services could range from a mobile food van that makes a target park-and-ride site one of several stops on its daily route to development of a coffee and pastry kiosk on particular sites.

Concierge Services

The location of concierge services at selected park-and-ride sites might satisfy key public and private goals. Transit authorities could increase ridership and create public goodwill by offering convenient services for commuters at target park-and-ride locations. Private sector profit potentials exist for a skillfully managed concierge service at target park-and-ride lots.

A park-and-ride lot concierge service would operate as follows. A menu of services would be offered to commuters at an on-site concierge facility. Usually these services could be accomplished during the business day, perhaps by the concierge during the "off" hours of transit, e.g., 10 a.m. to 3 p.m. The bundle of services could include drycleaning/alterations, shoe repair, car detailing, auto servicing, shoe repair, flower/balloon sales, entertainment ticket sales, travel services, video, film/processing, personalized shopping, gift wrapping/shipping, company party arrangements, reminder services, search and quote services, house/yard cleaning, goods returned to retail stores, and courier services. No market precedent exists for developing the concierge concept at selected park-and-ride lots in the Seattle area. Moreover, little joint development experience of similar concepts exists nationwide, except for one unsatisfactory experience in Houston.

The concierge service business is a personal relationship business. Operations at a particular location are not likely to stabilize until the service has operated for about three years. Experience reveals that the business builds slowly. Customers must become both familiar with the services and learn to trust the concierge operator. Repeat customer patronage patterns must be established.

The park-and-ride lot concierge facility could be integrated into an enclosed waiting area for riders. This conclusion is based on field interviews with concierge service operators. The option of utilizing a movable unit that could be towed to the site was found to be less ideal. The enclosed waiting area and concierge facility should be built and owned by the transit authority, and the concierge space should be leased to the private operator. Quality signage should be permitted to clearly communicate to riders the various convenience concierge services available. The concierge service should be
high profile for two key reasons: (1) to attract transit riders to patronize the concierge service, and (2) to facilitate security of the operation and the park-and-ride lot.

The concierge operator would develop contractual agreements with various vendors in the trade area surrounding the park-and-ride site. Payment would be collected for the particular service by the concierge who, in turn, would directly pay the various service providers, minus a percentage of the gross sale. The concierge operator would be required to carry appropriate insurance coverage. An arbitrator for disputes might also be appointed.

The concierge service concept appears workable. Transit ridership should be enhanced because of time saving services that would make life easier for commuters and would be offered at the park-and-ride lots. The risk of failure could be mitigated because the enclosed transit waiting area containing the concierge service could easily revert back to a rider waiting area.

Other Users

Table 2 summarizes the information above and provides requirements for other services.

Site and Market Analysis

Because of space limitations, only two of the project's five case studies will be presented here. While it would be difficult to identify either of these as "typical," they do represent a range of possibilities. The sites presented are South Bellevue and 164th and I-5 (see Figure 4). Site design criteria drew heavily on other sources. (3, 4, 5, 6, 7, 8, 9, 10, 11)

South Bellevue

The site and its characteristics can be seen in Figure 5. The site's key issues are listed below.

- The site is surrounded by a planned regional park.
- The site is partially located in a designated sensitive area.
- An interpretive center and farmers' market are being proposed south of the site as part of the park development planned by the city of Bellevue.
- Utilization is over 100 percent.
- Need for more parking exists on the site.
- Adjacent land use suggests that day care is the most suitable development for this site.
Table 2. Potential Services at Park-and-Ride Lots — Minimum Space Needs

<table>
<thead>
<tr>
<th>Use</th>
<th>Minimum Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day care</td>
<td>PR-5 stalls, 18,000 sq. ft. lot, 6,200 sq. ft. facility</td>
</tr>
<tr>
<td>Convenience store/Mini-mart</td>
<td>PR-10 stalls, 12,000 sq. ft. lot, 2,400 sq. ft. facility, FR</td>
</tr>
<tr>
<td>General auto service</td>
<td>FR-100', PR, 14,000 sq. ft. lot, 5,100 sq. ft. facility</td>
</tr>
<tr>
<td>Auto lube center</td>
<td>FR, PR-12 stalls, 18,000 sq. ft. lot, 5,000 sq. ft. Facility</td>
</tr>
<tr>
<td>Auto parts center</td>
<td>4,000 sq.ft., FR, PR</td>
</tr>
<tr>
<td>Florist Stand</td>
<td>200 sq. ft., MS, FR, PR</td>
</tr>
<tr>
<td>Dry cleaner/tailor</td>
<td>400 sq. ft., FR, PR</td>
</tr>
<tr>
<td>Video rental</td>
<td>200 sq. ft., MS, FR, PR</td>
</tr>
<tr>
<td>Newspaper/magazine vendor</td>
<td>800 sq. ft., MS, FR, PR</td>
</tr>
<tr>
<td>Take-out food</td>
<td>1,200 sq. ft., FR,PR</td>
</tr>
<tr>
<td>Coffee/pastry vendor</td>
<td>400 sq. ft., MS</td>
</tr>
<tr>
<td>Bagel/donut shop</td>
<td>600 sq. ft., MS, FR, PR</td>
</tr>
<tr>
<td>Fax/copy center</td>
<td>1,200 sq. ft., FR, PR</td>
</tr>
<tr>
<td>Shoe repair</td>
<td>400 sq. ft., FR, PR</td>
</tr>
<tr>
<td>Pharmacy</td>
<td>1,200 sq. ft., FR, PR</td>
</tr>
<tr>
<td>Film processing</td>
<td>200 sq. ft., MS, FR, PR</td>
</tr>
<tr>
<td>Package delivery</td>
<td>1,200 sq. ft., FR, PR</td>
</tr>
<tr>
<td>Mobile library</td>
<td>200 sq. ft., MS</td>
</tr>
<tr>
<td>Postal contract station</td>
<td>200 sq. ft., FR, PR</td>
</tr>
</tbody>
</table>

Key:  
FR    Symbol    Description  
FR    frontage requirement  
MS    potentially a mobile service  
PR    parking needs to be provided
Day care is an excellent option for development adjacent to this site. The proposal for day care was based on the following factors:

- Additional parking capacity is needed at the facility.
- The City of Bellevue owns all of the land surrounding the site and intends to build an interpretive center adjacent to the southern border of the site. A day-care center could be incorporated into park buildings.
- "High-end," single family housing has been developed across south Bellevue Way from the site.
- Market demographics indicate that day care would be viable in this location.
- Day care is not dependent on arterial frontage, which is not an option at this location.
- Sufficient space on Bellevue's site exists to support the development of day care at this location.
- The development of a park by the city of Bellevue around the site with interpretive nature trails would make this location an excellent one for children.

The development of day care with the city of Bellevue would present several institutional issues and design challenges. The following objectives are intended to address these factors:

- create a shared parking agreement between the operators of the interpretive center and the transit operator (METRO);
- provide a drop-off area for the day-care facility;
- provide five parking spaces for day-care workers and visiting parents;
- adhere to all applicable codes of the City of Bellevue;
- provide a 10,000-square foot play area for children;
- maintain a 50-foot setback from the established sensitive area line for all structures;
- provide a 7,000-square foot pad for the day-care facility;
- increase the attractiveness of the park-and-ride facility by introducing additional professionally designed and installed plant materials.

The Washington State Department of Transportation (WSDOT) is interested in developing additional capacity at this site. An analysis of the as-built grading plans and several site visits indicate that approximately 113 additional parking spaces can be developed in a previously graded overflow area. If the interpretive center were
constructed, approximately 50 additional spaces could be obtained through the development of a shared parking agreement.

Figure 6 shows the proposed layout of a day-care center, farmers' market, and interpretive center. A key implementation issue is the development of additional park-and-ride spaces near a sensitive area. This issue may require additional mitigation for the existing and proposed parking.

164th and I-5 (Proposed Park-and-Ride Facility)

Figure 7 shows the site and characteristics. The key issues for this future facility include the following:

- Severe traffic congestion exists along 164th Street.
- Plans to realign Ash Way will create sufficient space for a park-and-ride lot at this location (see site analysis).
- Channelization and access management are currently being developed for 164th Street.
- The interchange of 164th and I-5 has been designated as a possible interim terminus for a high capacity transit line currently under study.
- Potential for on-site retail exists at this site.

Convenience retail was selected as the most appropriate use at this site on the basis of the market and site analysis findings. The most important of these findings are as follows:

- sufficient average daily trips along 164th Street to support retail;
- lack of convenience services to the west of I-5 along 164th Street;
- a high exposure corner at the interchange of 164th Street and I-5;
- planned reconfiguration of the intersection of Ash Way and 164th Street; and
- the opportunity to integrate on-site services in the planning phases of the facility.

The development of a jointly used facility would depend upon meeting the needs of both the transit and retail functions. The following design objectives were tailored to meet these requirements:

- provide sufficient parking for retail patrons;
- provide landscape areas around the retail center to create an attractive image of the facility;
- provide pedestrian linkages across the site from north to south and from east to west;
Figure 7. Site Analysis and Land-Use Study: Snohomish County 164th and I-5
cover the pedestrian walkways wherever possible;
link the facility to adjacent areas with sidewalks;
provide a pedestrian waiting area that is near the convenience services;
provide designated crosswalks in any location where pedestrians would cross vehicular traffic;
select convenience services that are quick to use;
provide a freeway flier stop along the southbound off-ramp to 164th Street;
design a circulation system that has minimal left-turn movements;
use transit-only lanes to ease access for transit to and from I-5;
use transit-only lanes to ease access for transit to and from site;
incorporate shelters into the retail building structure;
provide additional shelters at the freeway flier stop;
provide maximum exposure for retail operations from both 164th Street and the park-and-ride facility; and
divide the development of the site into two phases to spread capital costs and judge actual demand.

The concept for the proposed facility at 164th and I-5 is shown in Figure 8. This site closely approximates the concept of retail integration that provided the initial impetus for the study.

TECHNIQUES NECESSARY FOR IMPLEMENTATION OF JOINT DEVELOPMENT BY A TRANSIT OPERATOR

The analysis process described above revealed that the application of techniques for joint development at transit agencies may vary by agency and by state. However, certain techniques were found to be necessary to provide the most chance of success to proposed joint development projects at park-and-rides. They include the following:

- confirm authority,
- develop joint development policy,
- identify goals,
- evaluate sites, existing and future,
- work closely with local jurisdictions,
Figure 8. Park-and-Ride Development Concept with Retail: Snohomish County 164th and I-5
• identify project needs,
• identify constraints,
• perform market analysis, and
• request proposals.

Confirming Authority

Transit agencies need to confirm their authority to pursue joint developments by reviewing their enabling legislation and by determining the ownership and funding of park-and-ride land. This is the most critical component in the determination of whether joint development can be pursued. In addition, transit agencies need to develop their own policies on joint development and gain the approval of their governing bodies to proceed with joint development.

Developing a Joint Development Policy

After the transit agency has confirmed its authority to pursue joint development at its park-and-ride facilities, the next critical step is to develop an agency policy on joint development. This policy will form the framework for all joint development efforts. It should include all the issues involved in the pursuit of joint development projects, particularly the following:

• goals and objectives,
• identification of the range of possible activities/improvements,
• changes to existing policies,
• development of a framework or plan,
• proactive versus reactive approaches,
• consideration of new projects and/or existing facilities, and
• development of criteria to evaluate joint development proposals, including a methodology for determining costs and benefits.

Identifying Goals

The transit agency needs to identify its goals in pursuing joint development in general and at specific sites, as well as the goals of the respective local jurisdictions and potential developers. Once the transit agency has identified the goals and benefits to the affected parties, projects become much easier to "sell." For example, if the amount of surface parking associated with the development of a movie theater can be reduced because some of the required parking can be provided through a joint-use arrangement with an adjacent park-and-ride, the development will be more attractive, which is a bonus to the local jurisdiction. Also, the developer will benefit because she or he can minimize the amount of property purchased for parking, and the transit agency will benefit because it can use additional parking during weekdays in trade for parking in the evening and on
weekends. The transit agency needs to be aware of the benefits to all the participants and to use this knowledge to draw these groups into the process.

Evaluating Sites, Existing and Future

Potential joint development sites should be evaluated to determine joint development opportunities. The very characteristics that make a site attractive for a park-and-ride lot, such as good location, visibility, size and access, also make the site an attractive candidate for joint development. But while a site may be an attractive candidate for joint development, the transit function must remain the paramount purpose of the park-and-ride system. While some park-and-ride sites may be ideal for joint development, if they are at or near capacity, spaces should not be eliminated to allow for joint development. In this case, land trades for larger, more suitable sites may be considered to provide more spaces for park-and-ride users.

Working Closely with Local Jurisdictions

Building strong relationships with local jurisdictions can be very advantageous to successful joint development projects. Once authority to pursue joint development has been confirmed and a preliminary analysis of potential sites has been completed, then the transit agency should meet with local jurisdiction planning staff to explain joint development concepts to them. Planning staffs can update the transit agency about their plans for the areas in which the park-and-rides are located. If the local jurisdictions recognize the benefits to them of incorporating joint development at park-and-ride sites, they will be much more likely to issue permits for such projects. The local jurisdiction staffs should be kept informed on the status of joint development throughout the planning of a particular project.

Identifying Project Needs

Because the transit function is the paramount purpose of the facility, transit needs drive the joint development project. Whether joint development is being considered at an existing or planned facility, transit access, visibility, circulation, and vehicle and pedestrian safety should be maintained. Guidelines for ensuring their maintenance would be very helpful. They should specify the size and location of bus zones, crosswalks and pedestrian areas, and the location of necessary transit signage. Both retail businesses and transit rely on visibility to attract customers, so joint development efforts must balance these needs. An ideal situation might include a retail shop or mini-mall across the frontage of a park-and-ride, with a bus stop nearby so that transit would retain a strong presence at the site while allowing the business or businesses to use the prime property for retail. Access to the park-and-ride would best occur on one side of the development, leaving the frontage for high turnover parking. The development would require two points of access, one from the street and one from the park-and-ride to promote patronage by park-and-ride users.

Identifying Constraints

The land use for and around the site needs to be identified so that any potential constraints to pursuing joint development can be determined. Height restrictions should be identified if office development is being considered. Careful consideration should be given to environmental concerns, especially if wetlands are adjacent to the site. If concerns are identified, the transit agency staff should meet with the respective local jurisdiction’s planning staff to explain joint development and solicit suggestions regarding specific sites and issues.
Performing Market Analyses

Knowledge of the local development market is a critical component to the success of park-and-ride joint development projects. Most transit agencies do not have this type of expertise in-house. Therefore, it is highly recommended that an independent real estate consultant be hired to assist in the market analysis phase required for each project. This analysis will determine the appropriate types of development opportunities for particular sites and whether adequate revenue can be generated from the surrounding market area.

Requesting Proposals

When a transit agency has reached this phase of a project, several steps need to be completed. A consultant skilled in this type of work is highly recommended to coordinate this phase if sufficient expertise is not available in-house. To prepare for the request for proposals (RFP), an assessment of the property is needed to determine the land value and the highest and best use of the property, as well as the potential lease rates that the agency could expect to receive. A financial analysis is needed to show the cash flow needed by the developer to build the joint development facility and make payments to the transit agency.

The consultants would act as the transit agency's representative in promoting joint development projects with developers and in evaluating proposals and negotiating a joint development agreement.

CONCLUSION

In conclusion, many benefits are associated with joint development of park-and-rides. They include attracting new riders; providing lot security; increasing rider satisfaction and reducing auto trips through the provision of retail services; and obtaining additional park-and-ride spaces through joint use agreements, land trades, or with revenue generated by joint developments. By following the recommended techniques for pursuing joint development, transit agencies can ensure that their projects have every chance of success.
REFERENCES


