Master Plan
Foothills Linear Park/Trail Segment
Nisqually Delta/Mount Rainier Trail

Adopted by Pierce County Council 28 November 1989
Pierce County Department of Parks, Recreation and Community Services

Jan Wolcott, Director
Jon Cording, Park Planner/Project Manager
Skip Ferrucci, Superintendent of Parks
Mike Dobb, Superintendent of Recreation

Consultant Team
Bruce Dees ASLA, Bruce Dees & Associates
Peter Hummel, Bruce Dees & Associates
Tom Beckwith AICP, the Beckwith Consulting Group
Jim Justus PE, Justus/Fisher Engineers
Peter Lagerwey, Bicycle Planning Consultant
Fred Wert, Facility Planning Associates
Keith McGowan, Shapiro & Associates
Dick Anderson, GMA Research Corporation
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Executive Summary

This master plan proposal involves the potential development of an approximate 25 mile section of former Burlington Northern Railroad right-of-way for a multipurpose, nonmotorized linear park/trail in east Pierce County between Orting, South Prairie, Buckley, Wilkeson and Carbonado. The proposed linear park/trail development will provide a safe, recreational and utilitarian trail oriented activity that will access historic, scenic and environmental features, and possibly link with local residential areas, public facilities, downtowns and other major local community areas.

This segment of trail, to be called the Foothills Trail, will eventually be connected to other proposed trail segments in Puyallup, Tacoma, Steilacoom and DuPont to form a continuous trail system that will extend from the National Wildlife Refuge in the Nisqually Delta to the Wonderland Trail around Mount Rainier in the Mount Rainier National Park. This Foothills Trail segment of the proposed Nisqually Delta/Mount Rainier Trail will also access other proposed regional trail systems which could extend north to Seattle within the Green River Valley, north and east to Enumclaw in the Green River Gorge and White River Valley, north to Renton in the Cedar River Valley, north to North Bend on portions of surplused Chicago Milwaukee Saint Paul & Pacific Railroad (CMSP&P) rights-of-way, south and east to the National Park Service's Ipsut Campground below the Carbon Glacier, and then south or east on the Wonderland Trail around Mount Rainier to Chinook Pass and a possible link with the Pacific Crest Trail to Canada and Mexico.

The proposed multipurpose trail will be used by walkers, joggers, hikers, bicyclists, wheelchair occupants and horseback riders of all skills and physical capabilities. The trail will be used by individuals, families and other groups possibly in an occasional or seasonally organized trail activity or event.

Justification

This proposal was a result of the Pierce County Council's Ordinance 87-124 of 25 August 1987 requesting the Department of Parks, Recreation & Community Services accomplish a feasibility assessment of the former railroad right-of-way for the reasons described in the Ordinance and because a significant number of owners of adjacent property indicated an interest in donating their portions for the development of a multipurpose trail. However, this proposal recommends the trail be developed on the former railroad corridor because:

1: The railroad alignment has precedence as a public access route. Adjacent property owners have long since adapted land use activities, development patterns and other expectations for such an activity.

2: The right-of-way is continuous and can wholly accommodate a trail development without requiring significant purchases of other private properties.
3: The rail alignment is separated and safe from major motorized vehicular traffic corridors and major intersection crossings.

4: The railroad alignment has grades and structures across most physical obstacles within the corridor which are most suitable for use by bicyclists, hikers, equestrians and other trail users of all skill levels and physical capabilities.

5: The present right-of-way has not been significantly altered and can easily and most economically be adapted to a trail activity.

6: The railroad is an historic feature which may be specially designated by the State and County, and is worth of preserving for historical reasons.

7: The railroad alignment directly accesses significant historical, cultural, environmental and public facility destinations of most interest to area and county residents.

8: The railroad alignment can be easily linked with major arterial roads, downtown commercial districts, residential neighborhoods, parks, schools and other local facilities to create an integrated park and trail system with local and regional significance and benefits.

9: The railroad alignment passes through local urban service centers and facilities which can provide trailhead services and conveniences, and which can also most easily respond with police, fire and other emergency services if required.

10: Most importantly, a significant percentage of all county residents have indicated they will use and are willing to pay for the development of a multipurpose trail on the railroad alignment. This assumption is based on a household telephone survey that was conducted during the first week of February 1987 for the recently completed Pierce County comprehensive park and recreation planning process.

Concerning overall facility priorities, the 402 sample survey households indicated all park and recreation agencies in the County most need to develop more bicycle trails by 83 percent, walking trails in parks by 80 percent, picnicking areas by 80 percent, nature trails in conservation areas by 78 percent, and then all other types of park and recreation facilities in descending priority order.

The telephone survey specifically asked ... "Should the Pierce County Department of Parks, Recreation & Community Services develop a multipurpose hike and bike trail on the former Burlington Northern Railroad right-of-way from McMillin to Buckley to Carbonado?" Approximately 70 percent of the responding households answered yes, 18 percent answered no and 13 percent had no opinion.

A following question asked ... "Would you support a bond issue to complete the development of a trail between McMillin, Buckley and Carbonado if this were a part of a countywide multipurpose trail system?" Approximately 69 percent of the responding households answered yes, 24 percent answered no and 8 percent had no opinion.

The results indicate an overwhelming demand for and, thereby, a high volume use of multipurpose trails within the County in general and along the former Burlington Northern Railroad alignment in particular. (Survey results were accurate of countywide household opinions within a 4-5 percent accuracy range. A complete copy of the survey results is
provided in the text and appendix of the recently adopted Pierce County Comprehensive Park & Recreation Plan.

**Acquisitions**

Under this proposal, the County will acquire a minimum 40 foot corridor of the original railroad right-of-way for trail use. Under some conditions, the right-of-way could be expanded to include adjacent steep slopes, wetlands or other lands which may be sensitive, undevelopable or unusable by the property owners where this is jointly agreeable to the property owner and the County.

In addition, the County will acquire properties or obtain use agreements for lands adjacent to the railroad right-of-way to allow for the development of trailheads containing parking areas, restrooms, informational signage, picnic tables and possibly some concessionaire uses in McMillin, Orting, South Prairie, Buckley, Wilkeson and Carbonado.

**Trail Improvements**

The pedestrian-bicyclist portion of the trail may be constructed to a width between 10-12 feet of natural materials, crushed rock or asphalt material with an adjacent 2 foot shoulder of crushed rock or other base material on each side. The horseback portion of the trail will be located within a 2 foot designated trail of natural materials in an alignment that parallels, but is separate from the pedestrian-bicyclist portion of the corridor. Occasionally, the horseback riding trail may be located directly adjacent to the pedestrian-bicyclist portion of the trail where the trail corridor crosses roads, streams and other water bodies, steep slopes and other obstacles or natural hazards.

Under the proposal, the trail will reconfigure and use 9 existing railroad bridges across the Puyallup River, Voights Creek, State Highway 162 (Pioneer Way) east of Orting and South Prairie, the Carbon River, South Prairie Creek, Gale Creek, minor drainage culverts and other obstacles within the 25 mile alignment. In addition, the proposal will reconstruct 3 missing railroad bridges across South Prairie Creek, lower Burnett Road and a drainage culvert possibly using original alignments, piers and other constructions.

Trailhead improvements will include access roads and entrances, improved surface parking areas, unimproved grassy-field type overflow parking areas, restroom buildings with on or off-site utilities depending on the location, telephones possibly with a 911 or other direct emergency connection, picnic tables, directional and informational signage and exhibits, traffic control systems or signage, and buffering earthworks and/or landscaping. The trail will be accessible to handicapped persons and wheelchair occupants although the more remote sections of the trail between Wilkeson and Carbonado may require special recreational wheelchairs due to the steeper grades.

Other improvements within the trail corridor may include the special installation of trees, landscaping, benches and other park-like improvements where the trail goes through developed downtown areas in Orting, South Prairie, Buckley, Wilkeson and Carbonado. The trail may also be marginally widened at places to provide resting areas, historical or natural area exhibit signage or scenic overlooks.

The County may also plant landscape screens of natural plantings, such as high grasses, bushes and trees, and build structures including fences, where necessary to maintain security, traffic control and visual privacy between the trail and adjacent properties.
Maintenance

Under this proposal, the Pierce County Department of Parks, Recreation & Community Services will maintain the trail corridor as a linear park. At times, the Department may access portions of the trail improvement with special vehicles including modified maintenance bicycle carts, ATV's (all-terrain vehicles) and pick-up trucks. The Department may also accomplish other cyclical landscape maintenance activities including seasonal pruning, grubbing and the possible use of herbicides to control grass and weed growth within the trail's improved surface.

Operation

Trail security measures will be provided by a number of agencies including a normal trail patrol activity to be organized and operated by the Pierce County Department of Parks, Recreation & Community Services, and special trail corridor and trailhead patrols by the Pierce County Sheriff and local police departments under possible interlocal service agreement. In addition, the trail may also be patrolled by agents of the US Fish & Wildlife Service, Intercounty Flood Control District, Washington State Department of Fisheries, Washington State Department of Wildlife, volunteer trail user organizations and others. Depending on patrol requirements or emergency needs, the trail could be accessed by horseback, mountain bikes, motorcycles, patrol cars and pickup trucks, emergency aid vehicles and fire trucks, and other 2 or 4-wheel drive vehicles when an emergency situation requires.
Introduction
Introduction

Pierce County comprehensive park and recreation planning effort

The Pierce County Department of Parks, Recreation & Community Services recently completed development of a new comprehensive park and recreation plan. The comprehensive planning study analyzed the supply, demand and need for public and private park and recreation facilities within all of Pierce County on a countywide basis. The inventories included a comprehensive assessment of all public and private facilities and agencies within Pierce County and the development of a comprehensive approach to resolving park and recreation needs over the next 10-20 year period.

The countywide comprehensive planning effort determined public and private agency involvement varied significantly by agency and activity in Pierce County. In regards to multipurpose trails, the study found very little direct or indirect public or private agency support had been allocated for the development or maintenance of most kinds of trail uses, particularly for day hiking and bicycling activities within and between developed areas and within the unique environmental corridors and conservation areas of the County. The study also determined that only Pierce County has jurisdiction and authority to initiate and/or coordinate development of a system of countywide trails that could link other jurisdictions and resources of interest.

The results of the planning study’s telephone survey of resident households indicated county residents felt county agencies most needed to develop more bicycle trails, walking trails in parks and nature trails in conservation areas - or multipurpose trails between urban areas and environmental features - over almost all other types of park and recreational facilities.

As one result of the analysis, therefore, the comprehensive park and recreation planning effort determined the County should assume a primary responsibility for the acquisition and development of regional trails including systems for bike, hike, horse trail facilities within the County. To this end, it was also determined the County should work with other public and private agencies to create and help maintain a high quality system of interconnected countywide trail facilities. The system should access significant environmental areas and link with local historic and cultural landmarks, parks, schools and other public facilities. Where appropriate, the trails should accommodate local bike or walking routes to schools and downtown areas. However, the trails’ principal purpose should be for the recreational and utilitarian use of walkers, hikers, bikers and horseback riders of all skill levels and physical capabilities.

The resulting planning effort identified possible regional multipurpose trails which could satisfy these county resident interests. A principal proposal which emerged from the
Comprehensive park and recreation plan countywide trail network

- Trailhead
- Community/regional park
- Multipurpose trail
- Nisqually Delta/Mount Rainier Trail

1:50,000
Foothills Linear Park/Trail Segment study area

- former Burlington Northern Railroad right-of-way
- proposed countywide trail system
analysis was the identification of a possible countywide trail which could extend from the Nisqually Delta Wildlife Refuge in Thurston County through Fort Lewis wetlands and Steilacoom beaches to Point Defiance Park in Tacoma through Port of Tacoma wetlands and alongside the Puyallup River to Puyallup to the former Burlington Northern Railroad right-of-way at McMillin through Orting and South Prairie to Wilkeson and Carbonado and eventually through Fairfax to the Ipsut Campground in Mount Rainier National Park and then around Mount Rainier on the Wonderland Trail. This proposed Nisqually Delta/Mount Rainier Trail could also utilize former Burlington Northern right-of-way from South Prairie to Buckley eventually connecting to former Chicago Milwaukee Saint Paul & Pacific Railroad (CMSP&P) right-of-way through Enumclaw to North Bend to connect to the John Wayne Trail to Idaho. The Mount Rainier portion of this proposed regional trail could also eventually extend from the Wonderland Trail about Mount Rainier to the Pacific Crest Trail and thereby along the Cascade Mountains to Canada and Mexico.

This proposed Nisqually Delta/Mount Rainier Trail met all of the criteria established for an ideal multipurpose regional trail system in that it can access some of the County’s most significant environmental features, largest public parks, most populous urban areas and the largest number of local community facilities and public places into a single trail system.

County Council resolution

During the course of the comprehensive planning study, it was determined that the Burlington Northern Railroad was in the process of abandoning the original railroad right-of-way from McMillin through Orting, South Prairie, Buckley, Wilkeson and Carbonado. The former railroad right-of-way could provide a major impetus to the eventual development of the Nisqually Delta/Mount Rainier Trail since the right-of-way has precedence as a public access corridor; the railbed is continuous; is separated from vehicular traffic conflicts; has suitable grades and safe structures across obstacles; has not been significantly altered; is designated an historic feature; directly accesses significant historical, cultural and environmental features; can be easily linked with local communities, and can be easily serviced by local police, fire and business services.

For the reasons above, and because some property owners expressed a desire to transfer property interests along the right-of-way for trail development purposes, on 27 August 1987 the County Council passed Ordinance Number 87-124 which authorized the Pierce County Executive to accept the transfer of any titles which the railroad, the railroad’s salvage contractors or any other entity may offer as a gift or at a reasonable price. In addition, the Ordinance directed that the monies reserved in the Paths & Trails Fund according to Pierce County Ordinance 87-27 and RCW Chapter 47.30, could be expended for the purpose of developing a master plan for the possible acquisition and development of what has come to be designated the Foothills Linear Park/Trail Segment of the proposed Nisqually Delta/Mount Rainier Trail.

As a result of the County Council’s directive, the Pierce County Department of Parks, Recreation & Community Services issued a request for competitive proposals in February 1988 and selected a consulting team to prepare a master plan for the proposed 25 mile Foothills Trail segment.

The master planning effort was to include the planning, design and engineering of a possible multipurpose, nonmotorized public linear park and trail to include trailheads, restrooms, conservation measures, erosion controls and other environmental considerations. The resulting master planning effort was to incorporate the American
Association of State Highway & Transportation Officials (AASHTO) trail design and development standards and include an Environmental Impact Statement (EIS) and all related permit considerations. The scope of work was also to include all applicable research and data collection, on-site observation and analysis, site surveys, interviews of potential user groups, public meetings and presentations. Final products were to include master plan preliminary designs and sketch plans, construction cost estimates, an EIS and appropriate presentations to applicable County review and approval agencies.

This document is a result of the master planning request.

**Documentation**

The report is organized into 8 chapters describing countywide trail planning goals, existing railroad corridor conditions, public opinions, Foothills Trail design/development guidelines, the proposed development, operational and financial plans.

A separately published Technical Appendix contains detailed track and bridge inventory comments, a telephone survey of property owner comments, public workshop planning attendance and detailed development cost estimates. The Technical Appendix is available for review at Pierce County Rural Library District Branches, the main Tacoma Library and the office of the Pierce County Department of Planning & Natural Resource Management.

The Draft Environmental Impact Statement (DEIS) on the proposed plan has been published in a separate document and includes descriptions of alternative alignments and the recommended plan's environmental impacts and mitigation measures.
Countywide Trail Planning Goals

The following goals and objectives were originally developed by the planning process undertaken for the recently completed countywide comprehensive park and recreation planning process and are described in chapters 7 and 10 of the adopted Pierce County Comprehensive Park & Recreation Plan.

Scope
The proposed trail systems should provide a system of recreational corridors that can extend from the Nisqually Delta to Mount Rainier National Park, linking trails to Anderson Island and Gig Harbor within Pierce County, to trails through Auburn and Enumclaw to North Bend, Renton and Seattle within King County, and ultimately to John Wayne Trail that extends east to Idaho and the Wonderland Trail about Mount Rainier National Park that connects to the Pacific Crest Trail that extends between Canada and Mexico. The proposed system would access an unrivaled mixture of scenic features, environments and historical and cultural facilities that are within and adjacent to Pierce County.

Multipurpose trails
A comprehensive system of high quality multipurpose walking, hiking and bicycling trails should be developed throughout the County. The system should accommodate local bike or walking commuter routes to schools, shopping centers and downtown areas. However, the trail’s principal purpose should be for the recreational use of walkers, hikers and bikers of all skill levels and physical capabilities.

Horse trails
In general, horses should be allowed on most multipurpose trails where the volume of use will not damage the trail or interfere with biking or hiking activities. However, horse trails are primarily intended for horseback riding only excluding hiking, motorbikes or other uses which could damage the trail or cause accidents or noise.

Water trails
The water trail system should provide access to the more remote parks of Puget Sound and the Nisqually and Puyallup Rivers for boat, canoe or raft enthusiasts of various skill levels. The water trail system should be interconnected with multipurpose trails, where possible, using county ferry boats, river jitneys or taxis to provide for persons who may want to combine a boat trip experience with a hiking or biking outing.

Rail trails
A rail trail system should be planned which will increase public access and crosscounty routings to the privately owned and operated steam and historic railroad lines at Mount Rainier and Point Defiance Park. The rail trail system should be interconnected with multipurpose trails, where possible, to accommodate bike or hike excursionists and/or sightseers who may want to combine a rail trip experience with a hiking and biking outing.
**Off-road vehicle trails**
The trail system should also provide for off-road vehicles, snowmobiles and other motorized trail activities. However, motorized activities should be accommodated within separate trail corridors at locations which do not conflict with nonmotorized trail activities or adjacent land use activities.

**Accessibility**
Trail facilities must be accessible to individuals and organized groups of all physical capabilities, skill levels, age, income and activity interests. The trails should be useable by persons of all physical capabilities, particularly children and the elderly, and including wheelchair occupants. Specialized spur or loop trails may eventually be developed for users with specialized interests or capabilities, like cross-country hiking or biking. Generally, however, the trail system should be useable and available to all populations.

**Destinations**
The trail system should access significant environmental areas and link with local historic and cultural landmarks, parks, schools and other public facilities that provide interest and a balanced social experience, and that County residents want to visit and use.

**Corridor environments**
The trail system should extend through natural area corridors, particularly along shorelines, steep hillsides, wetlands, stream corridors, wooded areas and agricultural zones which will provide a high quality, diverse sampling of the County's environmental resources. The system should increase natural area and open space preservations within the urban areas, particularly those features which connect to urban neighborhoods and facilities.

**Community linkages**
For convenience, accessibility and value purposes; the trail system should be located within or linked to urban neighborhoods, local communities and other areas where county residents live or work. A purpose of a regional trail system is to provide a close-in, safe choice of routes to major destination points which are relatively free of motorized vehicle or other conflicts, and which may be accessed from the neighborhood or on an after-school or weekend basis by young local users.

**Precedence**
Ideally, trails should be located where there has previously been a recreational use, trail path, transportation or utility precedence, such as a railroad line, flood levy, pipeline or power line utility, or local road or other public access system. Generally, trail improvements should not be planned across private lands where there has not been a public access precedence and, therefore, an expectation by local private property owners of possible public access and recreational activity impacts.

**Alternatives**
Each trail project, in keeping with the objectives of the recently adopted Pierce County Comprehensive Parks & Recreation Plan, shall be subject to public input and discussion during the project planning process. The planning process should also consider viable alternatives when planning routes and land acquisitions during initial project implementation phases.
Cost/benefit considerations
Eventual trail master planning efforts should consider the short and long range value of alternative trail corridor proposals including each alternative’s attractiveness to potential users and any associated park, historic feature, community facility or environmental preservation objective the trail may further.

Services and standards
Trail developments should include a comprehensive system of trail service facilities providing informational signage, telephone, restroom, air and water facilities, and trailhead parking and loading areas. Service areas may be located at parks, schools or other public facility sites if acceptable to local communities, or in conjunction with commercial land uses in exchange for route advertisements or other services where appropriate.

Cooperative ventures
The regional trail system should be developed and maintained as a cooperative venture involving the County, local cities, the Port of Tacoma, McChord Air Force Base, Fort Lewis Army Post, the US Forest Service and Department of Interior, the Washington State Departments of Wildlife, Natural Resources and Ecology, among others. Local jurisdictions should help decide final routing locations within their influence areas, and should be encouraged to link proposed countywide trails with local community and neighborhood systems.

Coordinating task force
A regional trail coordinating task force or council should be created to ensure a consistent quality and accountability is achieved throughout the system. A coordinated approach should avoid duplication, improve trail quality and availability, reduce costs and represent county resident interests. The County should be the task force managing partner or coordinator since the County will probably assume responsibility for a major portion of the system.

Community/property owner representation
The coordinating task force should include a steering committee to be composed of elected officials and representatives of the park and recreation agencies that will be affected by the proposed system of countywide trails, and an advisory membership to include representatives of various trail user groups and adjacent property owner interests.

Safety and security
The trail system should be safe and secure from motorized vehicle traffic hazards and conflicts, physical obstacles, crime or vandalism, excessive noise or other unpleasant or noxious conditions which will reduce the value of the trail experience.

Maintenance
As much as practical, trail designs should incorporate low maintenance materials, settings or other value engineering considerations that reduce care requirements and retain natural conditions and experiences.

Funding
New, innovative methods should be investigated for financing trail development, maintenance and operating needs which reduce costs, retain financial flexibility, match user benefits and interests, and increase facility services. Joint ventures with other public and private agencies should be considered where feasible and desirable.
Railroad Corridor Condition
Existing Conditions

Present Ownership Status

The proposed trail corridor is approximately 25 miles long and involves approximately 642 acres of former railroad right-of-way of which 53 acres was within county or state road right-of-way at the start of the planning effort. There were 356 individual property parcels directly adjoining the right-of-way and another 108 parcels which were separated from the right-of-way by public road ownership.

Approximately 549 acres of the former railroad right-of-way were included within some form of deeded status including 57 acres in warranty deeds, 23 acres in quit claim deeds, 13 acres in right-of-way deeds, 13 acres in court decree status, 425 acres in railroad use by acts of Congress and 18 acres due to adverse possession. The warranty, quit claim, right-of-way and court decree lands were assumed to average between $2,268 and $3,238 in value per acre.

A significant number of owners of property adjacent to the right-of-way expressed an interest in transferring the property interests to their portions of the former railroad right-of-way for the development of a multipurpose trail when the Foothills Trail segment master planning study was initially contemplated by the Pierce County Council. As a result, on 27 August 1987 the Pierce County Council authorized by Ordinance Number 87-124 the Pierce County Executive to accept the transfer of any titles which the railroad, the railroad's salvage contractors or any other entity may offer as a gift or at a reasonable price.

Accordingly, the Department of Parks, Recreation & Community Services established a property donation function within the Department to deal with property owners who were interested in making a donation for trail development purposes. At the present time, a significant number of property owners with interests in property distributed throughout the Foothills Trail segment have donated or indicated a strong interest in donating portions of their property for trail development purposes once a project proposal is formally approved for implementation by the County Council.

Track bed conditions

The original track bed is essentially intact from McMillin to Buckley and Carbonado. Following is a brief description of the condition of the bed as it progresses from McMillin to Buckley and Carbonado:

McMillin-Orting
The segment of the railroad corridor beginning at McMillin is essentially flat. The railroad bed is approximately 12 feet wide and elevated slightly (in most cases) above the existing surrounding grade. In some locations, adjacent property owners have graded the track bed level with adjoining lands and/or incorporated the track bed into adjacent pasture lands and fenced grazing fields. However, the majority of the track bed is intact and outside of
## Railroad right-of-way status

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### Value of Ownership

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<tr>
<td><strong>Total deeded acres</strong></td>
<td><strong>$271,834</strong></td>
<td>na</td>
</tr>
</tbody>
</table>

Source:
Pierce County Real Property Management, 20 February 1987
existing fences and fields. The track bed is in relatively good condition and could easily be adapted for trail subgrade.

Orting-South Prairie
The railroad bed is generally at grade through Orting but elevates slightly upon leaving the city limits. The bed is in relatively good condition. Portions of this segment of the corridor also serve as a flood control dike protecting adjacent private properties from the Carbon River and South Prairie Creek. These segments have been riprapped and are maintained by the Intercounty River Improvement District. In a number of places the riprap areas are in poor condition. There are a few cases where serious erosion has occurred and remedial restoration measures are required to restore the bed and establish adequate riprap protection. The Intercounty River Improvement District has scheduled an improvement project in these areas over the next 5 year period.

South Prairie-Buckley
Beginning at Cascade Junction, the track bed is in relatively good condition. The alignment progressively cuts through a series of varying topographical features including deep ravines to steep hill slopes on either side of the bed. From Cascade Junction to the first two missing trestles at South Prairie Creek, the bed is raised above the surrounding terrain. From the second crossing over a drainage way, the bed alternates from fill areas to cuts into the terrain. Some of the adjacent cuts are sheer vertical slopes. The track bed is dry until approximately station 2+440 where the track bed collects water from an adjacent spring on the adjoining hillside. The wet area continues to approximately station 2+5120. From this point on, the track bed is slightly elevated above the adjacent grade and is dry and in good condition.

From the intersection of Ryan Road and SR-165 into Buckley, the track bed is at grade with adjacent lands. Consequently, a trail conversion may have to elevate some portions of the existing track bed in this segment to create a drainage away from the track bed onto adjacent right-of-way soils.

Cascade Junction-Wilkeson
Beginning at the divergence of the Wilkeson line and the corridor crossing of South Prairie Creek at Cascade Junction, the track bed is in good condition. There are a few places along this portion of the alignment where the track bed will require some remedial work on the edges. Some sections will also need to be elevated slightly to increase the corridors widths through the cuts into the ravines. There are portions abutting Wilkeson Creek, where riprap protection will also be required. At station 12+1080, the Creek has eroded the track bed and an approximate 80 foot section of riprapping improvement will be required.

Wilkeson-Carbonado
From the junction at Wilkeson to approximately station 16+1920, the track bed was cut into the side of the hillside. From station 16+2720 to 17+2480, the track bed runs through a timber clear cut area. There are portions of the track bed, especially at station 17+400 and 17+920 where the track bed has eroded or been removed. The soils in this segment also appear to be more clay-like and will require some build-up to stabilize the track bed for trail use purposes.

Bridges
There were 13 railroad bridges along the original right-of-way. Following is a brief description of existing conditions and/or replacement requirements of each one:
1: Puyallup River
This 150 foot, single-span thru truss bridge with concrete abutments crosses the Puyallup River at South Fork Road just below McMillin at station 0+3400. The bridge is in good condition but will require painting, cleaning, guard rails and a permanent deck walking surface to be used for trail purposes.

2: Voights Creek
This 135 foot nine span timber trestle bridge with steel wide flange pile caps and timber pile and timber plant abutments crosses Voights Creek just south of Orting at station 4+2600.

3: Rauch Creek
This bridge crosses Rauch Creek an a private access drive at station 5+2800. This wooden trestle bridge was removed by the private property owner and will have to be replaced. One option could be to reduce the original bridge approach fills to an 8 percent grade to accommodate an at-grade crossing of the private access drive with a short single span timber bridge or culvert over Rauch Creek.

4: Pioneer Way/SR-162 Overcrossing
This 210 foot three span steel thru plate girder bridge with concrete abutments and piers crosses over Pioneer Way/SR-162 at station 6+0160 or about 177th Street East (Alward County Road) in Crocker. The bridge crosses the highway at an elevation of 14 feet 4 inches above the roadway. The elevation is 1 foot 2 inches below the current highway bridge standard of 15 feet 6 inches and there is evidence that logging trucks have hit the underside of the bridge in the past. The bridge should be elevated, or a portion of the roadway could be reduced in grade to provide a sufficient clearance.

5: Carbon River
This 82 foot six span timber trestle, and 160 foot single span steel thru truss bridge with timber piles and plank abutments at the trestle with concrete piers and abutments at the end of the truss crosses over the Carbon River at station 6+1240 just north of the Pioneer Way Overcrossing in Crocker. The bridge is in fair condition and will require minor repairs and improvements to be used for trail purposes.

6: South Prairie-Carbon River Road
This 195 foot thirteen span timber trestle with timber piles and plant abutments, steel wide flange pile caps bridge spans a drainage area feeding into South Prairie Creek at station 6+4000 where the railroad right-of-way is bounded on the south side by the right-of-way for the South Prairie-Carbon River Road. The trestle is in good condition but will require guard rails and a new deck surface.

7: South Prairie Creek/Community Hall
This double track, 29 foot wide two span timber trestle with an 82 foot single span steel thru plate girder over the creek and a 29 foot wide two span timber trestle with timber piles and abutments spans the creek at station 10+3490 just north of the South Prairie Community Hall/Fire District Building on the property the City of South Prairie plans to develop a community park. The steel is moderately rusted and some deterioration in the piles supporting the pier cribbing is visible, but there are no signs of settlement or distress. The bridge is in fair condition but needs to be provided guard rails and a new deck surface.
Railroad bridges

- Existing bridge
- Former bridge location
8: South Prairie Creek
The original 150 foot three span wooden bridge crossed the South Prairie Creek at station 0+1550 just south of Carbonado-South Prairie Road. The creek should be spanned with a bridge construction similar to the original - particularly since the two bridge abutments are still in place and in good condition and the concrete piers at the edge of South Prairie Creek are also in place and in good condition.

One option would be to construct a new 150 foot three span bridge; another option could use glue-lam arch 90 foot at the main span with either option using existing abutments and pier foundations

9: Carbonado-South Prairie Road Overcrossing
This 290 foot timber trestle bridge crossed over the Carbonado-South Prairie (Burnett) Road at station 0+4720 at a grade of about 1 percent and an elevation of about 30-35 feet above the roadway. The trestle was removed by the railroad and except for a few pilings, there are no concrete abutments or other structural evidence of the bridge's original location at either end of the track bed.

One option would be to reduce the track bed grade to provide a new 275 foot timber trestle bridge with 20 foot typical spans, a 40 foot span over the creek and a 35 foot span over the bridge overcrossing of Carbonado-South Prairie Road. An alternative option could be to reduce the grade of the track bed and provide some trail switchbacks to allow for a surface crossing of the road.

10: Cascade Junction
A bridge or trestle may have spanned over a drainage way where the track bed begins climbing grade just before the switchback above the Carbonado-South Prairie Road at Cascade Junction at station 1+0320 at an elevation about 30 feet above the creekbed. There are some remnants of the bridge's old culverts and wood pilings. The existing slopes are unstable due to steepness and are being eroded by the creek.

An option could be to remove the remains of a culvert and regrade the slopes of the track bed, providing riprap where necessary to protect the slope from creek erosion. A new 150 foot three span timber trestle bridge could be constructed over the renovated drainage way.

11: South Prairie Creek
This 30 foot two span timber trestle with 75 foot single span steel thru plate girder over the creek, and 30 foot wide two span timber trestle with timber pile and plan abutments crosses over South Prairie Creek where the tracks diverge at the Cascade Junction at station 11+2320. The bridge is in fair condition and will require painting, new deck and guardrails.

12: Gale/Wilkeson Creek
This 30 foot wide two span timber trestle with 63 foot single span steel deck plate girder over the creek, and 15 foot wide single span timber trestle with timber piles and plant abutments crosses Gale/Wilkeson Creek at the entrance into Wilkeson just before the track is switchbacked for the line into Carbonado at station 15+0705. The trestles are in fair condition but need to be painted and provided new deck and guardrails.

13: Wilkeson Creek
This 15 foot wide single span timber trestle with 75 foot single span steel thru plate girder over the creek, and a 15 foot wide single span timber trestle with timber piles and
abutments crosses a minor drainage way that feeds into Gale/Wilkeson Creek at the very edge of downtown Wilkeson at station 15+3110. This bridge is one of the narrowest and was probably used by narrow gauge trains providing service to the Wilkeson Coke Ovens southeast of town. The bridge is in fair condition and requires painting, new deck and timber guardrails.

Public Road Crossings

There are 24 crossings of public roads and highways along the 25 mile study corridor. Following is a brief discussion of each crossing's existing conditions and design requirements:

1: 128th Street East
The track bed crosses over a right-of-way extension of 128th Street East (Coburn-McCutcheon Road) across from the old country store at McMillin. This road segment has not been improved and is presently used for local access by a small number of adjoining property owners. A safe crossing can be created with warning devices but without major constructions.

2: McMillin industrial subdivision
The track bed crosses over the new asphalt entrance road to the McMillin industrial subdivision just below McMillin. The crossing has excellent sight distance for potential trail users and park tenant traffic, which usually includes large trucking rigs. A safe crossing can be created with no major construction efforts, although warning signs will need to be posted in the industrial subdivision to alert occasional truck drivers of trail activities.

3: Old Pioneer Way at 150th Avenue East
The track bed crosses over the north end of Old Pioneer Way's junction with Pioneer Way/SR-162 north of Orting at 150th Avenue East. Old Pioneer Way and 150th Avenue East, a dead road, provide access to local properties and carry very little traffic. The crossing has excellent sight distance from the trail and from all joining roads. A safe crossing can be created with no major construction effort.

4: Old Pioneer Way at 159th Avenue East
The track bed crosses over the south end of Old Pioneer Way's junction with Pioneer Way/SR-162 north of Orting at 159th Avenue East. Old Pioneer Way and 159th Avenue East, a deadend road, provide access to local farm properties and carry very little traffic. The crossing has excellent sight distance from the trail and from all joining roads. A safe crossing can be created with no major construction effort.

5: Whitsell Street
This local access road crosses the track bed at the northern edge of downtown Orting. The street provides access to Corrin Avenue, a road fronting on the track bed in downtown Orting, and to older residential areas in the southwestern area of town. The trail and Whitsell Street traffic are provided excellent sight distances. Traffic is very low on Whitsell at the present time though volumes could increase if Corrin Avenue frontage properties are redeveloped into more intensive commercial or industrial uses.

6: Calistoga Avenue/Orting-Kapowsin Highway
This major north-south arterial road connects Orting, Thrift, Graham and Kapowsin. Traffic volumes are significant and cross the track bed at moderate speeds. The Avenue crosses the track bed at grade and is afforded excellent sight distances in all direction.
7: **Train Street**
This minor collector road connects the frontage commercial and industrial uses on each side of the railroad right-of-way in downtown Orting. The road crosses the track bed at grade and is afforded excellent visibility. Traffic volumes are very low and at low speeds.

8: **Pioneer Way/Bridge Street**
Pioneer Way/SR-162 crosses over the track bed at the southern edge of downtown Orting at Bridge Street. Pioneer Way/SR-162 is a significant county highway that carries traffic from Puyallup to Buckley and Mount Rainier. However, the highway makes a 90 degree turn just a block before the crossing and through traffic is moving at a very low speed at the crossing. The road crosses the track bed at grade and is afforded excellent visibility.

9: **South Pioneer Way**
This local access road crosses over the track bed just north of the Carbon River at Crocker. The road provides local farm and residential property access from Crocker to the southern edge of South Prairie. Traffic volumes are very low and at low speeds, since the road makes a 90 degree turn a block from the crossing.

10: **Arlene Road**
Arlene Road provides a connection between South Pioneer Way and Pioneer Way/SR-162 at station 8+2880. The road crosses the track bed at grade and is afforded a limited amount of sight distance. The road's sole use is as a connector for residential traffic on South Pioneer Way for access to Pioneer Way/SR-162. Consequently, traffic volumes and speeds are very low.

11: **Henry Street**
This collector road provides access to the residential properties on the south side of the railroad right-of-way. The road also connects to A.P.Tubbs and Johns Road, however, that provide access to farm and woodland properties between South Prairie, Wilkeson and Carbonado. The crossing is at grade and traffic volumes and speeds are very low.

12: **Cascade Junction Road**
This minor collector road services local residential properties on the south side of Pioneer Way/SR-162 and across the track bed between the track bed and South Prairie Creek. Traffic volumes are very low and at very low speeds. The crossing has excellent visibility from the track bed and the road. The trail project could create a crossing with no major construction requirements.

13: **Carbonado-South Prairie (Burnett)** Road
This minor collector road provides access to farm, timber and residential lands between South Prairie and Burnett. Originally, the railroad crossed over the road by way of a long wooden trestle - see Bridge 9. The trestle was removed by the Burlington Northern Railroad Company when the line was abandoned. The trail project will have to reconstruct an overcrossing of some kind, possibly shorter in length than the original trestle, or cross Carbonado-South Prairie Road at grade. The road carries a low volume of local access traffic. Traffic speeds at the present site of the overcrossing are somewhat high, however, and this should be considered when project designs are finalized.

14: **Ryan Road/SR-165**
This minor collector road provides local access to farm and residential properties at the southern edge of the City of Buckley. SR-165/River Avenue, however, is the major state
highway between South Prairie, Buckley and Wilkeson. The highway makes a sharp turn at Buckley, coinciding with Ryan Road to cross the track bed and intersect with SR-410/Pioneer Street which is located on the west side of the railroad right-of-way in Buckley. SR-410 is a major state, high speed highway between Buckley and Enumclaw. Traffic volumes at the intersection of SR-165/River Avenue and Ryan Road are heavy and traffic speeds are relatively high. Even though the road and track bed are provided excellent visibility, the intersection is extremely hazardous due to the higher speeds and short turning distances.

The trail improvement project could provide a trail undercrossing of SR-165/Ryan Road as the safest solution, or at least divert the trail from the track bed to cross at the western edge of SR-165/River Avenue to provide the maximum traveling distance from SR-410 and the most visibility to traffic bound north on SR-165/River Avenue.

The Washington Department of Highways has studied SR-410/Pioneer Street and will develop a traffic channelization concept for this portion of the highway with the City of Buckley in the coming year. The trail project should conform with the Department’s final design solution.

15: Jefferson Avenue
Jefferson Avenue provides local traffic access to some residential areas in the center of Buckley, and a connection across the track bed between SR-410/Pioneer Street and River Avenue. Traffic volumes and speeds are very low. The track bed has excellent visibility, but the view is very short for traffic turning onto Jefferson Avenue from SR-410/Pioneer Street.

The trail improvement should divert from the track bed to locate the crossing at the western edge of Jefferson Avenue and River Avenue to provide the maximum possible visibility for traffic turning onto Jefferson Avenue from SR-410/Pioneer Street.

16: Main Street
Main Street is the primary downtown commercial road in Buckley, providing access and parking to the developed commercial district located on the east side of the railroad right-of-way and SR-410/Pioneer Street. A traffic signal controls cross traffic at the intersection of Main Street and SR-410/Pioneer Street, slowing traffic across the track bed. Traffic volumes are heavy, particularly during prime shopping and working hours, though traffic speed is slow in anticipation of the traffic light at the SR-410/Pioneer Street intersection. The road and trail has excellent visibility on the track bed, but is somewhat blind for traffic turning onto Main Street from SR-410/Pioneer Street.

The trail project should divert from the track bed to locate the crossing of Main Street at the western most edge of River Avenue to lengthen the trail’s distance from turning lane traffic on SR-410/Pioneer Street.

17: Park Avenue
This minor collector road provides access to a residential area on the west side of SR-410/Pioneer Street and River Avenue. The avenue also provides local access to the Loggers Rodeo Grounds, which are located directly adjacent to the railroad right-of-way on River Avenue. The avenue crossing with the track bed has excellent visibility from the track bed but a short distance for traffic turning onto River Avenue. Traffic speeds are very low except during the Rodeo’s major events.
The trail improvement should divert from the track bed at the Park Avenue crossing to the western most edge of Park Avenue's intersection with River Avenue to provide maximum sight distance on Park Avenue, and reduce turning traffic conflicts from River Avenue.

18: White River Flume
Puget Sound Power & Light maintains a White River Flume diversion of the White River that extends across River Avenue, the railroad right-of-way and SR-410 between the White River and Wickersham Basin. Originally, the flume was encased in a wooden structure that Park Avenue crossed under and the railroad crossed over on a long wooden trestle that also spanned the White River for the railroad's approach into Enumclaw and King County. Burlington Northern Railroad Company removed the White River trestle when the line was abandoned. The concrete abutments on each side of the river are all that remain of the original structure. The crossing over the White River Flume was also removed when the trestle was dismantled.

Recently, Puget Sound Power & Light replaced the original wooden White River Flume structure with a concrete encased channel. The flume is no longer visible. The Company also removed a wooden bridge that crossed the flume on the north side of the Buckley Cemetery property.

The trail project could divert from the track bed at the White River Flume crossing and use River Avenue right-of-way as an access to a White River viewpoint. The trail could also use the northern edge of the Buckley Cemetery to access SR-410 and cross over the White River to reconnect with the railroad right-of-way on the King County side of the River. The SR-410 corridor is noisy, however, and could be dangerous even if the trail is separated from highway traffic on the White River bridge with concrete dividers. Ultimately, a safer, more scenic White River crossing should be planned with King County.

19: John's Road
This minor arterial provides access to farm, timber and residential properties between South Prairie and Wilkeson, and with Carbonado by a connection with Tubbs Road. Traffic volumes are low though speeds are typical for cross country travel. The track bed has excellent visibility of the crossing. Visibility from John's Road, however, is limited by a blind corner and has poor site distance, particularly for traffic traveling south.

The trail project will have to restore the track bed to realize a grade crossing of John's Road, and clear the trail right-of-way to improve sight distances. In addition, the trail project may also need to install special warning devices to alert traffic southbound on John's Road of the trail's approach.

20: Brierhill Boulevard
This minor collector road serves residential properties on both sides of Burnett-Fairfax Road/SR-165 and on the west side of the railroad right-of-way. Traffic volumes and speeds are very low and visibility is excellent from the track bed and road. The trail project can improve the crossing for trail use with no major construction requirement.

21: Church Street/SR-165
Church Street is the major road thoroughfare in downtown Wilkeson providing through traffic as SR-165 and on-street parking and access to Wilkeson storefront commercial activities. Through traffic on Church Street/SR-165 can be very heavy during summer season, particularly for parties traveling to Mount Rainier National Park's Ipsut Campground and similar destinations. Local traffic, particularly parking traffic in the
railroad right-of-way on the western edge of Church Street, can be equally heavy during peak shopping hours. Public events held at the City Hall or Library on the western side of the district and railroad right-of-way can also contribute crossing traffic and parking activities, especially when the events overflow the public parking area that adjoins City Hall. Sight distances are very good, except when blocked or obscured by parking traffic or parked cars during peak shopping hours and seasons, or major public events at City Hall.

The trail project should create a trail definition through downtown Wilkeson that distinguishes trail activities from on-street parking and access areas. The project could install street trees, curbs, special pavings and other improvements which would clarify traffic patterns and provide an identification of the Wilkeson downtown area, if city officials desire. The project could locate the Church Street trail crossing in the center of the downtown rather than on the southern edge of the district to improve crossing visibility and provide convenient access to both sides of the downtown district.

22: Quinnon Extension
This road provides access to the Wilkeson Coke Ovens, Sunset Lake and other timber and recreational properties or areas of interest east of Wilkeson. The road makes two sharp right angle turns to cross from the south to the north side of the railroad right-of-way. Traffic on Quinnon Extension is low except during the Wilkeson hand car races, and the speeds are slow due to the sharp turning radii. The trail project could be accomplished with warning signs and no major construction requirements.

23: Hillside Road/Wilkeson-Carbonado Road
This minor collector road provides access to the Carbonado Cemetery and the backside of Carbonado, and connects to Tubbs Road and thereby South Prairie. Traffic volumes are very low and consist primarily of local residential, farm and timber related vehicles. The crossing is provided very good visibility from the track bed and Hillside Road/Wilkeson-Carbonado Road. The trail project could be accomplished with warning devices but without major construction requirements.

24: Pershing Avenue
This minor arterial road provides the principal entry into Carbonado from Burnett-Fairfax Highway/SR-165. Traffic volumes are relatively high during all seasons for local residents of Carbonado. Sight visibility is excellent from the track bed and Pershing Avenue. The trail project could be accomplished with warning devices, particularly for turning traffic from Burnett-Fairfax Highway/SR-165, but without major construction.

Private Crossings

There are numerous private crossings of the track bed within the study area. Following is a brief description of existing conditions and design requirements of each:

McMillin-Orting
There are numerous private crossings along the segment between McMillin and Orting. All of the crossings serve single-family residents or small businesses and farms. Traffic volumes are very low on all of the crossings as are traveling speeds. Sight visibilities are also very good from the track bed and from all the private access roads and driveways. The trail project should be able to create a safe, convenient trail crossing with warning devices and a standard crossing improvement of a design similar to what was provided when the railroad operated on this segment.
Orting-South Prairie
There are three private residential crossings along this segment and one crossing of a gravel pit operation that involves truck access during operating hours. The residential crossings have excellent visibility, low traffic and speeds. The trail project should be able to create a safe, convenient trail crossing with warning devices and a standard crossing improvement of a design similar to what was provided when the railroad operated on this segment.

The gravel pit operator has indicated at trail planning workshops that the crossing is busy, particularly for load hauling trucks with trailer attachments. Given the type and probable amount of traffic, the crossing should probably be treated like a public crossing where the trail stops and yields to trucking operations.

South Prairie-Buckley
There are three private crossings all along the section of the track bed that parallels SR-165/River Avenue into Buckley. All three properties are residential uses with local traffic volumes and speeds. Sight visibility would be sufficient if the right-of-way were cleared of scrub growth trees and underbrush. The track bed is set back somewhat from SR-165/River Avenue and provides an adequate distance for traffic turning off this busy highway.

South Prairie-Wilkeson
There is a single private crossing of the track bed between Cascade Junction and the city limits of Wilkeson. Traffic volume is very low and sight visibility can be provided to accommodate an adequate trail crossing.

There are three private driveway crossings in downtown Wilkeson. All three properties have absorbed the original railroad right-of-way into a front yard treatment with plantings, grass and other landscaping improvements. All three residential properties have excellent visibility and could accommodate a trail crossing with no further improvements.

Wilkeson-Carbonado
There is a private property crossing of the track bed at station 16+2080. The crossing is at grade and can be provided adequate visibility with a minimum amount of clearing and signing.

There is a cattle crossing of the trail at station 19+250. The crossing is at grade and can be provided adequate visibility and signing. The project will need to resolve a design improvement with the property owner, however, that determines how often and under what methods the cattle crossing is conveniently accomplished.

Adjacent Land Use
McMillin-Orting
The majority of abutting land uses along the McMillin to Orting segment are farmlands for crops and grazing pasture areas. There are a few scattered residents close to the corridor, however, which may require screening and security fencing.

Orting-South Prairie
This segment of the trail has varied land uses adjacent ranging from open pastures to heavily modified gravel excavation areas. The section immediately south of Orting, from station 3+2480 to station 4+000, is close to an existing mobile home park and other residences, where screening and supplements to the existing fencing will likely be required.
Though not directly adjacent to the track bed, there are existing residences along Pioneer Way SR-162 and adjacent farms have line of sight to the trail from station 5+2160 to station 5+2800, and from station 5+4240 to station 5+4800 where one individual has located a mobile home on the track bed.

There are a few scattered residences that may require screening at station 6+4320 and again at station 9+2680 and station 9+3240.

**South Prairie-Buckley**

There are a couple of farms from Cascade Junction at station 13+1480 to the first bridge abutment at station 0+1550.

There are a few residential buildings near the trail from station 1+240 to station 1+1160, and from station 2+2400 to approximately station 3+1400. In most cases, the houses are either above the trail or well below the trail grade out of the line of sight. However, at station 3+2200 the track bed has a direct line of sight into the property and horse corral that may require screening.

There are adjacent commercial businesses along side the track corridor from the intersection of Ryan Road through Buckley including the Loggers Rodeo and a fast food drive-in. However, traffic access to the establishments is from Pearl Street or Pioneer Street/Highway 410 which does not cross or conflict with trail access. These activities do not need to be screened from the track bed proper.

**South Prairie-Wilkeson**

There are a number of residences and small farms adjacent to the trail from station 11+0 to station 11+1120 in the vicinity of Cascade Junction Road, at station 13+4400 and station 14+4600, and from station 15+980 to the City Hall in downtown Wilkeson that may require some landscape buffering.

**Wilkeson-Carbonado**

There are a few houses in the vicinity of station 18+3280 to station 18+3520 to may require some screening or landscape buffering. Most of the adjacent properties are timberlands or clear-cuts.
Public Opinion

Comprehensive planning telephone survey

During the development of the recently completed Pierce County Comprehensive Park & Recreation Plan, a household telephone survey was conducted by GMA Market Research Corporation during the first week of February 1987 to determine resident household opinions concerning park and recreation facility and program needs, behaviors, facility conditions, priorities and financing preferences. The survey sample was randomly derived from telephone number listings and was controlled to collect opinions from 201 households living in incorporated areas and 201 households living in unincorporated portions of Pierce County (survey results are accurate within a 4-5 percent accuracy range for the total 402 household sample).

Following is a brief summary of major findings related to demand factors. A printout of the complete questionnaire is provided in the text and a separate technical appendix to the Pierce County Comprehensive Park & Recreation Plan.

Existing recreational behavior
The respondents were asked (question 19) how often (never, some or often) members of their household participated in a list of activities of interest to the comprehensive planning effort.

The respondents indicated members of their household most often participated in picnicking (28.9 percent), swimming at beaches or waterfronts (25.9 percent), baseball or soccer (23.6 percent), playgrounds (19.2 percent), hiking/backpacking trails (17.4 percent) and tent camping (16.9 percent).

By comparison, the respondents indicated members of their household never participated in horseback riding trails (79.9 percent), off-road motorcycling (79.4 percent), crosscountry skiing (77.1 percent), boating at marinas (66.2 percent), golf (63.7 percent) and jogging at tracks (60.0 percent).

As an added comparison, the respondents indicated in the least percentages that members of their households never participated in picnicking (10.5 percent), swimming at beaches or waterfronts (17.7 percent) and walked on trails (25.9 percent).

The results reflect the availability of existing facilities, rather than the full scope of resident household desires (see results for question 1 following).

Facility needs
The respondents were asked (question 1) if park and recreation agencies in the County needed to develop more of a list of park and recreation activities.
Facility needs

1: Do you think park and recreation agencies in the county need to develop more of the following park and recreation facilities?

<table>
<thead>
<tr>
<th>Facility</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swimming beach and waterfront?</td>
<td>77.1%</td>
<td>22.9%</td>
</tr>
<tr>
<td>Swimming pool?</td>
<td>71.1%</td>
<td>28.9%</td>
</tr>
<tr>
<td>Boat access ramps and parking areas?</td>
<td>75.1%</td>
<td>24.9%</td>
</tr>
<tr>
<td>Boat marinas?</td>
<td>64.8%</td>
<td>35.2%</td>
</tr>
<tr>
<td>Natural trails in conservation areas?</td>
<td>28.9%</td>
<td>71.1%</td>
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<tr>
<td>Walking trails in a park?</td>
<td>80.1%</td>
<td>19.9%</td>
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<tr>
<td>Hiking/backpacking trails?</td>
<td>66.9%</td>
<td>33.1%</td>
</tr>
<tr>
<td>Bicycle trails?</td>
<td>82.8%</td>
<td>17.2%</td>
</tr>
<tr>
<td>Horseback riding trails?</td>
<td>57.7%</td>
<td>42.3%</td>
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<tr>
<td>Cross-country skiing trails?</td>
<td>49.3%</td>
<td>50.7%</td>
</tr>
<tr>
<td>Off-road motorcycle/4-wheel trails?</td>
<td>36.9%</td>
<td>63.1%</td>
</tr>
<tr>
<td>Tent camping?</td>
<td>69.4%</td>
<td>30.6%</td>
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<tr>
<td>Recreational vehicle camping?</td>
<td>57.0%</td>
<td>43.0%</td>
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<tr>
<td>Picnicking areas?</td>
<td>79.4%</td>
<td>20.6%</td>
</tr>
<tr>
<td>Athletic fields (football/soccer/baseball)?</td>
<td>64.4%</td>
<td>35.6%</td>
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<tr>
<td>Outdoor athletic courts (basketball/volleyball)?</td>
<td>70.9%</td>
<td>29.1%</td>
</tr>
<tr>
<td>Indoor athletic courts (basketball/volleyball)?</td>
<td>66.7%</td>
<td>33.3%</td>
</tr>
<tr>
<td>Tennis courts?</td>
<td>50.2%</td>
<td>49.8%</td>
</tr>
<tr>
<td>Jogging trails?</td>
<td>43.4%</td>
<td>56.6%</td>
</tr>
<tr>
<td>Golf courses?</td>
<td>30.4%</td>
<td>69.6%</td>
</tr>
<tr>
<td>Playgrounds?</td>
<td>77.1%</td>
<td>22.9%</td>
</tr>
<tr>
<td>Recreation/community center (multi-purpose space)?</td>
<td>76.8%</td>
<td>23.2%</td>
</tr>
</tbody>
</table>

2: Specifically, should the Pierce County Park and Recreation department develop a multi-purpose hike and bike trail on the abandoned Burlington Northern Railroad right-of-way from the communities of Hohiian to Buckley to Carbonado?

<table>
<thead>
<tr>
<th>Support</th>
<th>Yes</th>
<th>No</th>
<th>Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Would you support a bond issue to complete the development of a trail between Hohiian, Buckley and Carbonado if this were part of a county-wide multi-purpose trail system that extended from Puyallup River to Mount Rainier?</td>
<td>70.4%</td>
<td>16.9%</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

19: How often does your household use the following park and recreational facilities in general (never, some or often)?

<table>
<thead>
<tr>
<th>Facility</th>
<th>Never</th>
<th>Some</th>
<th>Often</th>
</tr>
</thead>
<tbody>
<tr>
<td>Swimming beach and waterfront?</td>
<td>17.7%</td>
<td>56.5%</td>
<td>25.9%</td>
</tr>
<tr>
<td>Swimming pool?</td>
<td>42.8%</td>
<td>45.5%</td>
<td>11.7%</td>
</tr>
<tr>
<td>Boat access ramps and parking areas?</td>
<td>46.3%</td>
<td>40.1%</td>
<td>13.6%</td>
</tr>
<tr>
<td>Boat marinas?</td>
<td>66.2%</td>
<td>26.4%</td>
<td>7.5%</td>
</tr>
<tr>
<td>Walking trails?</td>
<td>25.9%</td>
<td>59.7%</td>
<td>14.4%</td>
</tr>
<tr>
<td>Hiking/backpacking trails?</td>
<td>40.6%</td>
<td>42.0%</td>
<td>17.4%</td>
</tr>
<tr>
<td>Bike trail?</td>
<td>52.0%</td>
<td>40.3%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Horseback riding trails?</td>
<td>79.9%</td>
<td>17.2%</td>
<td>3.0%</td>
</tr>
<tr>
<td>Cross-country skiing trails?</td>
<td>77.1%</td>
<td>19.8%</td>
<td>3.1%</td>
</tr>
<tr>
<td>Off-road motorcycle/4-wheel trails?</td>
<td>79.4%</td>
<td>14.7%</td>
<td>6.0%</td>
</tr>
<tr>
<td>Tent camping?</td>
<td>60.3%</td>
<td>42.8%</td>
<td>16.9%</td>
</tr>
<tr>
<td>Recreational vehicle camping?</td>
<td>55.5%</td>
<td>31.1%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Picnicking areas?</td>
<td>10.5%</td>
<td>60.7%</td>
<td>28.9%</td>
</tr>
<tr>
<td>Athletic fields?</td>
<td>28.9%</td>
<td>47.5%</td>
<td>23.6%</td>
</tr>
<tr>
<td>Outdoor athletic courts?</td>
<td>38.3%</td>
<td>48.3%</td>
<td>13.4%</td>
</tr>
<tr>
<td>Indoor athletic courts?</td>
<td>45.0%</td>
<td>41.3%</td>
<td>13.7%</td>
</tr>
<tr>
<td>Tennis courts?</td>
<td>59.0%</td>
<td>35.1%</td>
<td>9.0%</td>
</tr>
<tr>
<td>Jogging trails?</td>
<td>60.0%</td>
<td>32.3%</td>
<td>7.7%</td>
</tr>
<tr>
<td>Golf courses?</td>
<td>63.7%</td>
<td>26.4%</td>
<td>10.0%</td>
</tr>
<tr>
<td>Playgrounds?</td>
<td>35.1%</td>
<td>47.8%</td>
<td>19.2%</td>
</tr>
<tr>
<td>Recreation/community center (general space)?</td>
<td>40.3%</td>
<td>51.0%</td>
<td>8.7%</td>
</tr>
</tbody>
</table>

by the Beckwith Consulting Group with GMA Market Research, February 1987
In rank order, the respondents indicated park and recreation agencies most need to develop more bicycle trails (82.8 percent), walking trails in parks (80.1 percent), picnicking areas (79.6 percent) and nature trails in conservation areas (78.1 percent).

By comparison, the respondents indicated park and recreation agencies least need to develop more golf courses (69.4 percent), off-road motorcycle/4-wheel drive trails (61.2 percent), boat marinas (55.2 percent) and crosscountry skiing trails (50.8 percent).

The results of the telephone survey support the statistical projections created by the comprehensive plan’s demand methodology. Generally, county residents indicated trails, park and open space facilities should be given the highest development priorities and that resident households would participate more in these activities were the facilities available to do so.

Foothills Trail segment
The respondents were specifically asked (question 2) if the Pierce County Department of Parks, Recreation & Community Services should develop a multipurpose hike and bike trail on the former Burlington Northern Railroad right-of-way from the communities of McMillin to Buckley and Carbonado.

Approximately 70.4 percent of the respondents indicated the trail should be developed, 16.9 percent indicated the County should not develop the trail and 12.7 percent had no opinion.

Foothills Trail financing
The respondents were also specifically asked (question 2) if they would support a bond issue to compete the development of a trail between McMillin, Buckley and Carbonado if this were a part of a countywide multipurpose trail system that extended from Puget Sound to Mount Rainier.

Approximately 69.4 percent of the respondents indicated they would support a bond issue for this purpose, 22.9 percent indicated they would not support a bond issue and 7.7 percent had no opinion. Consequently, the results indicate county residents would support the development of a trail through the Foothills Segment regardless of possible cost implications.

Foothills Trail telephone survey
A household telephone survey was conducted by CMA Market Research Corporation during the month of February 1988 of property owner households who owned land along the Burlington Northern Railroad right-of-way between McMillin, Buckley and Carbonado. The survey asked a household representative a series of questions concerning conditions when the railroad trains still ran, conditions since the tracks were removed from the right-of-way, trail planning knowledge, recreational behavior and the household’s interest in participating in the Foothills Trail planning process.

The consultant mailed an advance notice of the survey with an accompanying letter of explanation from the Pierce County Executive to all 199 property owners listed on Pierce County tax assessor rolls. All 199 households were contacted by telephone of which 146 or 73 percent indicated the household had received the letter of explanation, and 111 or 61 percent indicated the household was the current owner of record and was interested in responding to the survey where the questions were of interest or applied to the property
Summary Results of the Telephone Survey of Property Owners
Master Plan of the Foothills Trail Segment

Did you receive the County Executive's letter concerning the survey?

<table>
<thead>
<tr>
<th>of all respondents (190)</th>
<th>nmer</th>
<th>pct</th>
</tr>
</thead>
<tbody>
<tr>
<td>Received letter?</td>
<td>146</td>
<td>76</td>
</tr>
</tbody>
</table>

May I proceed with the questions on the survey?

<table>
<thead>
<tr>
<th>of all respondents (182)</th>
<th>nmer</th>
<th>pct</th>
</tr>
</thead>
<tbody>
<tr>
<td>May I proceed?</td>
<td>111</td>
<td>61</td>
</tr>
</tbody>
</table>

Trail planning knowledge

13: How much have each of the following sources of information provided you about the proposed Foothills Trail (most, some or not at all?)

<table>
<thead>
<tr>
<th>of all respondents (122)</th>
<th>most</th>
<th>some</th>
<th>not</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newspaper articles?</td>
<td>37</td>
<td>69</td>
<td>17</td>
</tr>
<tr>
<td>Radio news descriptions?</td>
<td>14</td>
<td>109</td>
<td></td>
</tr>
<tr>
<td>Television news descriptions?</td>
<td>21</td>
<td>101</td>
<td></td>
</tr>
<tr>
<td>Conversations with neighbors/residents?</td>
<td>37</td>
<td>71</td>
<td>15</td>
</tr>
<tr>
<td>Pierce County public meetings?</td>
<td>11</td>
<td>31</td>
<td>78</td>
</tr>
<tr>
<td>Information from organized groups?</td>
<td>50</td>
<td>55</td>
<td>18</td>
</tr>
<tr>
<td>Other sources?</td>
<td>33</td>
<td>87</td>
<td>3</td>
</tr>
</tbody>
</table>

14: Did you know the following about the proposed Foothills Trail master planning?

<table>
<thead>
<tr>
<th>of all respondents (121-122)</th>
<th>nmer</th>
<th>pct</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Burlington Northern Railroad right-of-way will be redeveloped for a multipurpose trail?</td>
<td>87</td>
<td>71</td>
</tr>
<tr>
<td>The trail will be part of a countywide trail system that will extend from Point Defiance Park in Tacoma to Mount Rainier and Snoqualmie Pass?</td>
<td>68</td>
<td>55</td>
</tr>
<tr>
<td>The trail may also connect to local schools, parks and other features if this is desired by local residents and communities?</td>
<td>56</td>
<td>44</td>
</tr>
<tr>
<td>Potential trail users might include walkers, joggers, bikers, bicyclists and horsecback riders?</td>
<td>102</td>
<td>83</td>
</tr>
<tr>
<td>The trail will not be used for motorbikes or other motorized vehicles?</td>
<td>87</td>
<td>71</td>
</tr>
<tr>
<td>The trail will be developed, maintained and policed by Pierce County?</td>
<td>81</td>
<td>68</td>
</tr>
<tr>
<td>Local property owners will be involved in developing use, design and operating policies for the trail?</td>
<td>42</td>
<td>34</td>
</tr>
<tr>
<td>Representatives of the affected communities will also be involved in making policies for the trail?</td>
<td>57</td>
<td>48</td>
</tr>
<tr>
<td>The Pierce County Executive and Council will make any ultimate decisions concerning trail acquisition and all other policy issues?</td>
<td>66</td>
<td>54</td>
</tr>
<tr>
<td>An Environmental Impact Statement will be compiled on the proposals that result from this master planning analysis?</td>
<td>63</td>
<td>52</td>
</tr>
<tr>
<td>A series of workshops will be planned with property owners and representatives of local communities during the master planning process to determine their concerns and obtain their comments?</td>
<td>66</td>
<td>55</td>
</tr>
</tbody>
</table>
A number of property owners have deeded a portion of their property for trail use...80 66%
Pierce County would investigate the use of eminent domain if necessary to obtain critical
remaining portions of property?..............72 60%
Property taxes on all the railroad right-of-way
been paid through the first half of 1989.....42 35%

15: What other comments or information have you heard or been told about the
trail proposal or this study?
Of all respondents (121) memb. perct
Comments?........................................37 31%

16: Did you know that there are over 150 projects being planned at the present
time throughout the United States that will convert surplus
railroad right-of-way for multipurpose trail users similar to that being
considered for this trail effort?
Of all respondents (121) memb. perct
Aware?.............................................62 51%

Recreational behavior

17: How often do the members of your household engage in the following
types of recreational activity (a lot, some or not at all)?
Of all respondents (121) memb. perct
Walking or hiking?..........................46 43 32
Jogging?.........................................14 25 82
Bicycling?.......................................22 38 61
Horseback riding?................................10 20 91

Of all respondents (121) memb. perct
Walking or hiking?..........................38 36 26%
Jogging?.........................................12 21 66%
Bicycling?.......................................18 31 50%
Horseback riding?................................6 17 77%

18: How will the members of your household use the trail if developed (a
lot, some or not at all)?
Of all respondents (121) memb. perct
Use the Foothills Trail?.....................24 37 60

Of all respondents (121) memb. perct
Use the Foothills Trail?.....................20 31 50%

19: What specific suggestions do you think should be studied concerning
possible trail planning and design?
Of all respondents (121) memb. perct
Comments?......................................125

20: What specific suggestions do you think should be studied concerning
trail operations and management?
Of all respondents (121) memb. perct
Comments?......................................125

Participation

21: Would you and members of your household be interested in participating
in a workshop to discuss design and operating issues concerning the trail?
Of all respondents (121) memb. perct
Participate in property owners workshop?...54 44%
Receive copy of summary trail proposals?....102 86%
Attend Council's public hearing on study completion?..66 56%
Other method?..................................18 15%
22: Do you have any other comments to make on this survey or the master
planning process?

<table>
<thead>
<tr>
<th>Of all respondents (116)</th>
<th>nbr</th>
<th>cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comments?</td>
<td>41</td>
<td>35%</td>
</tr>
</tbody>
</table>

Ownership characteristics

23: How many years have you lived in the McMillan, Buckley, Carbonado area?

<table>
<thead>
<tr>
<th>Of all respondents (117)</th>
<th>nbr</th>
<th>cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of years?</td>
<td>24.3</td>
<td>yrs/respondent</td>
</tr>
</tbody>
</table>

24: How many properties do you own within the McMillin, Buckley, Carbonado
areas?

<table>
<thead>
<tr>
<th>Of all respondents (117)</th>
<th>nbr</th>
<th>cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of total properties?</td>
<td>2.28</td>
<td>parcels/respondent</td>
</tr>
<tr>
<td>How many are adjacent to Burlington Northern Railroad right-of-way?</td>
<td>1.35</td>
<td>parcels/respondent</td>
</tr>
</tbody>
</table>

25: Which of the following statements describes how your property is
located in relation to the Burlington Northern Railroad right-of-way?

<table>
<thead>
<tr>
<th>Of all respondents (117)</th>
<th>nbr</th>
<th>cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runs through and separates property into parcels?</td>
<td>21</td>
<td>16%</td>
</tr>
<tr>
<td>Located adjacent and alongside property?</td>
<td>34</td>
<td>26%</td>
</tr>
<tr>
<td>Separated from property by a public access road?</td>
<td>40</td>
<td>30%</td>
</tr>
</tbody>
</table>

26: For which of the following is your property used for at the present
time?

<table>
<thead>
<tr>
<th>Of all respondents (164)</th>
<th>nbr</th>
<th>cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permanent residence?</td>
<td>177</td>
<td>47%</td>
</tr>
<tr>
<td>Summer or temporary residence?</td>
<td>1</td>
<td>5%</td>
</tr>
<tr>
<td>As a rental residential property?</td>
<td>1</td>
<td>1%</td>
</tr>
<tr>
<td>Farm, ranch or commercial timber?</td>
<td>34</td>
<td>21%</td>
</tr>
<tr>
<td>Industrial, commercial or business?</td>
<td>27</td>
<td>13%</td>
</tr>
<tr>
<td>Undeveloped, for speculative investment?</td>
<td>25</td>
<td>13%</td>
</tr>
<tr>
<td>Other?</td>
<td>13</td>
<td>8%</td>
</tr>
</tbody>
</table>

27: How many people are there in your household?

<table>
<thead>
<tr>
<th>Of all respondents (116)</th>
<th>nbr</th>
<th>cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of people in household?</td>
<td>3.38</td>
<td>persons/respondent</td>
</tr>
</tbody>
</table>

28: In which of the following general areas do you work?

<table>
<thead>
<tr>
<th>Of all respondents (116)</th>
<th>nbr</th>
<th>cent</th>
</tr>
</thead>
<tbody>
<tr>
<td>McMillan, Buckley, Carbonado area?</td>
<td>23</td>
<td>16%</td>
</tr>
<tr>
<td>Pierce County?</td>
<td>32</td>
<td>27%</td>
</tr>
<tr>
<td>Outside Pierce County?</td>
<td>27</td>
<td>22%</td>
</tr>
<tr>
<td>Retired?</td>
<td>25</td>
<td>21%</td>
</tr>
<tr>
<td>Unemployed?</td>
<td>3</td>
<td>3%</td>
</tr>
<tr>
<td>Student?</td>
<td>0</td>
<td>0%</td>
</tr>
<tr>
<td>Housewife?</td>
<td>8</td>
<td>7%</td>
</tr>
</tbody>
</table>

by the Beckwith Consulting Group with GMA Research Corporation
owner. The other 87 households or 37 percent were a) not interested, b) could not be contacted or c) in some cases no longer owned the property. The consultant made at least 5 attempts to reach each property owner during the week in which the survey was conducted including calls during day and night hours during week and weekend days. A detailed tabulation of the survey results is provided in the technical appendix to this report along with a transcript for each unsuccessful call.

Source of trail planning information
The respondents were asked (question 13) the source of most of their information on the Foothills Trail segment's planning process (this was at the beginning of the study).

The respondents indicated most of their information up to the start of this planning process, had come from organized groups including groups opposed to the trail's development (41 percent), conversations with neighbors and local residents (30 percent), local newspaper articles (30 percent) and other sources (27 percent).

By comparison, the respondents indicated very little information had been received up to the start of the study from public meetings hosted by Pierce County (9 percent), from television news descriptions (1 percent) or radio news accounts (0 percent).

Trail planning facts
The respondents were asked a series of questions concerning proposed aspects of this master planning process (question 14).

A significant majority of the respondents indicated they were correctly informed of the following facts (in descending order):

1) That potential trail users might include walkers, joggers, hikers, bicyclists and horseback riders (83 percent).

2) That the Burlington Northern Railroad right-of-way was being studied for redevelopment as a multipurpose trail (71 percent).

3) That the trail would not be used for motorbikes or other motorized vehicles (71 percent).

4) That the trail would be developed, maintained and policed by Pierce County (66 percent).

5) That a number of property owners had deeded a portion of their property for trail use (66 percent).

6) That Pierce County would investigate the use of eminent domain if necessary to obtain critical remaining portions of property (60 percent).

7) That the proposed trail would be a part of a countywide system that would extend from Point Defiance Park in Tacoma to Mount Rainier and Snoqualmie Pass (55 percent).

8) That a series of workshops were planned with property owners and representatives of local communities during the master planning process to determine their concerns and obtain their comments (55 percent).
9) That the Pierce County Executive and Council will make any ultimate decisions concerning trail acquisition and all other policy issues (54 percent).

10) That an environmental impact statement would be compiled on the proposals that result from this master planning analysis (52 percent).

By comparison, a less than majority percentage of all respondents were correctly informed of the following trail planning facts (in ascending order):

11) That local property owners would be involved in developing use, design and operating policies for the trail (34 percent).

12) That property taxes on all the railroad right-of-way had been paid through the first half of 1988 (35 percent).

13) That the trail may also connect to local schools, parks and other features if this is desired by local residents and communities (46 percent).

14) That representatives of the affected communities will also be involved in making policies for the trail (46 percent).

Railroad conversion awareness
The respondents were asked if they were aware that there were over 150 projects being planned at the present time throughout the United States that would convert surplus railroad right-of-way for multipurpose trail uses similar to that being considered by this master planning effort (question 16).

The respondents were almost evenly divided (51 percent aware) on their awareness of rail to trail conversion efforts throughout the nation.

Recreational behavior
The respondents were asked how often (a lot, some or not at all) members of their household engaged in trail related recreational activities (question 17).

The respondents indicated members of their households participated a lot in walking and hiking (38 percent), bicycling (18 percent) and jogging (12 percent). By comparison, less than 8 percent participated a lot in horseback riding.

By comparison, the respondents indicated members of their households never participated in horseback riding (75 percent), jogging (68 percent) and bicycling (50 percent).

When compared with the reported recreational behavior of all county residents in the survey undertaken for the comprehensive planning effort, trail study area households participate to a greater extent in all these activities than is common of a typical county resident household.

Potential trail use
The respondents were asked (question 18) how often (a lot, some or not at all) members of their household were likely to use the Foothills Trail segment if it were developed.
The respondents indicated that 20 percent of household members would likely use the trail a lot, 31 percent would likely use the trail some and 50 percent would not use the trail at all.

**Planning process participation**
The respondents were asked (question 21) whether household members would be interested in participating in a workshop to discuss design and operating issues concerning the trail.

Approximately 86 percent indicated household members would like to receive a copy of summary trail proposals, 56 percent would like to attend Council's public hearing upon the study's completion, 46 percent would like to participate in a property owners trail planning workshop and 15 percent would prefer some other method of participation.

**Ownership characteristics**
The respondents were asked about their household and ownership characteristics (questions 23-28).

On the average, property owners have resided within the McMillin, Buckley and Carbonado areas a significant number of years, averaging 24.3 years per respondent.

The average respondent owns 2.28 parcels of property within the study area, of which 1.35 parcels or 59 percent are directly adjacent to the Burlington Northern Railroad right-of-way.

Approximately 55 percent of the respondents properties are located adjacent and alongside the former railroad right-of-way, 30 percent are separated from the right-of-way by a public road and 16 percent of the respondents properties are divided by the former railroad right-of-way.

At the present time, 47 percent of the respondent’s railroad affected property is used as a permanent resident, 21 percent is used for farm, ranch or commercial timber, 13 percent is undeveloped and held as a speculative investment, 6 percent is in an industrial, commercial or business use, 5 percent is used as a summer or temporary vacation residence, 1 percent is used as a rental residential property and 8 percent is used for other purposes not specified.

The respondents indicated 18 percent were employed within the local McMillin, Buckley or Carbonado area, 27 percent were employed elsewhere in Pierce County, 23 percent were employed outside Pierce County, 7 percent were housewives, 3 percent were unemployed and 21 percent were retired.

The average respondent’s household size was 3.38 persons.

**Public workshops**
At the beginning of the study process, the consultant team conducted a separate workshop session with property owners and community representatives in each Buckley, South Prairie, Wilkeson/Carbonado and Orting community, a workshop session with the Foothills Rails-to-Trails Coalition and a workshop session with a collection of potential trail user organizations (a total of 6 sessions). (A session was also scheduled with Citizens Against the Trail (CAT), but the session was cancelled when the group decided not to participate.)
The initial sessions reviewed and discussed a detailed list of trail planning questions with each group.

A follow-up workshop was also conducted with the property owners and community representatives combined in each community and with the two organized groups. The follow-up sessions reviewed specific trail and trailhead proposals with each group and elicited the groups comments and preferences.

Following is a brief summary of the comments provided at the public workshops. A detailed accounting of the comments received in each session is provided in the technical appendix. The comments are not ranked and represent different and sometimes divergent opinions between participants. No effort was made to determine a "group opinion" since the workshop intent was to gather opinions, not decisions.

The comments reflect opinions of those individuals who chose to participate in the session. The motives of individual participants may vary markedly from persons who favor to persons who oppose the trail. The intent of the workshop was to focus on the practical questions which will arise "in the event the trail is developed". The discussions by no means are meant to commit a participant to a position favoring or opposing the trail.

Note: In some instances, participants were opposed to the trail and responded with a "no trail" comment to every question. The participant's opposition should be noted, even though the comment is not repeated in the following summary.

**What kind of activities should be allowed/not allowed on the trail?**

**Community representatives** - generally, workshop participants indicated permitted uses should include bicycles, joggers, wheelchairs (electric only), cross country skiing (on roller skates) and horses (on a separate trail).

Workshop participants indicated the trail should not accommodate or allow motorized vehicles of any kind or firearms.

Some participants were in disagreement concerning skateboarding, and some in the more rural portions were divided concerning the possible use of all-terrain vehicles.

**Property owners** - workshop participants indicated permitted uses should include walkers, hikers, joggers, bicyclists w/trailers, horses (possibly with carts) and wheelchairs (including electric).

Workshop participants indicated the trail should not allow gas powered vehicles including all-terrain vehicles, jeeps, or motorcycles, camping or parties.

Some participants were in disagreement concerning special provisions for wheelchairs and some favored the use of all-terrain vehicles in the more rural segments.

**Trail user groups** - workshop participants indicated permitted uses should include pets on a leash, roller skaters, bicycles, hikers, horses (donkeys, mules and llamas), wheelchairs and infirm electric carts, joggers, cross-country skiers, and access to adjacent water trails for canoeing and kayaking.

Workshop participants indicated the trail should not allow motorized vehicles or pets without leashes.
During what hours of day or night?
Community representatives - workshop participants were in disagreement indicating the trail should be open daylight hours only or dawn to dusk (1/2 hour before and after) versus 24 hours (horses and hikers only) on the trail and daylight hours for trailheads and other major activity areas that can cause noise.

Property owners - workshop participants were in disagreement indicating the trail should be open daylight hours only (1/2 hour before and after light) versus an 8am to 8pm versus no use during 12pm to 3am versus 24 hours.

Trail user groups - workshop participants were in disagreement indicating a dawn to dusk versus 24 hours versus all but extreme night time hours.

What about special events?
Community representatives - workshop participants indicated the trail must remain open during special events and no use should preclude or co-opt regular activities. Participants recommended organizers be required to obtain a trail permit which would specify advance scheduling and other requirements suited for each unique occasion. The participants opposed racing of any kind or an activity that created a volume use that could overpower other trail or adjacent activities or any activity during night time hours or any event involving parties or alcohol.

Property owners - workshop participants indicated special events were permissible provided there were no speed contests, concentrated volumes, the activity did not preclude trail use to others including wildlife, the event had been coordinated and approved by trail management and the organizers had insurance.

Trail user groups - workshop participants indicated the trail should accommodate volksmarches, trail rides including equestrian, wheelchair events and marathons including bike races subject to permit and coordinations that prevent high, concentrated volumes, or that shut-down trail from normal activities. Participants also indicated special events should be during off-peak hours to avoid conflicts.

What should be included within trail right-of-way?
Community representatives - workshop participants indicated the trail right-of-way or acquisition should include the trailbed proper and any adjoining slopes, drainage areas or other terrain which is affected by the original railroad bed’s construction for liability concerns or which is necessary for access by maintenance and emergency vehicles. Participants also indicated the acquisition should maybe include areas that buffer adjoining private properties, open space along water features, rest areas and natural vegetation areas; and possibly a median where there are parallel trails, roads or other improvements.

However, some participants indicated anything beyond the trail corridor proper (a 40 foot width) should depend on the terrain and be at the discretion of the private property owner. Others thought the acquisition should include the whole railroad right-of-way since in some cases, the trail may not leave any usable or practical property. Under such hardship conditions, some participants thought the County should be required to buy the complete right-of-way if trail development made the remaining property unusable.

Property owners - workshop participants indicated trail acquisitions should include the trail corridor (40 feet) plus slope for liability and maintenance, some buffer or separator space
for visual relief and rest areas along the trail. However, most participants thought this is a variable definition that depends on terrain and local property owner desires.

**Trail user groups** - workshop participants indicated the trail acquisition should include the trailbed, slopes, drainage, maintenance and buffer areas. Participants also indicated the acquisition may include adjacent natural areas, shorelines or special opportunity sites depending on terrain and property owner desires.

**Where should trailheads be located (in schools, parks, business districts)?**

*Community representatives* - workshop participant opinions varied somewhat by community but in general, all participants indicated trailheads should be located in each community, in good size parking lot particularly for overflow parking events, at schools during special events, and near downtowns - provided the sites could be adequately policed. Participants also indicated trailheads should not be located near residential areas, in local parks where trail activities could compete with local users, in wilderness away from established services or near fire stations or other emergency vehicle access points.

*Property owners* - workshop participants indicated trailheads should be located outside of developed areas away from residential neighborhoods. However, some participants were not sure whether trailheads should connect with schools, parks or downtown districts - depending on trail volume and type of users. Business connection should be determined by business owners in downtown. Some participants questioned whether it will be possible to restrict actual parking activities to trailheads along trail corridor when so many areas are easily accessible - i.e., users will park wherever they want anyway. All participants agreed trailheads should not be located between the towns or in isolated areas that can not be easily policed.

*Trail user groups* - workshop participants indicated trailheads should be located at schools, parks and other logical destinations provided the trail project increases the facility's parking capacity. Trailhead locations in downtown districts should depend on downtown business interests and the type of retail establishments already in area as some participants though trail activities may not always be compatible with other downtown uses.

**Where should access points be located?**

*Community representatives* - workshop participants indicated access points should not be established with every type of local community facility. Most participants favored trail access with local parks, especially where the local park and trail can share improvements or features. However, other participants opposed connections with local facilities if there is not enough parking or local user capacity at present time.

*Property owners* - workshop participants indicated access points should be located along a measured distance of the trail corridor using the access points which have been identified or accepted by the local community and property owners. Participants also indicated access should be provided at local street intersections for emergency and maintenance vehicles, where ever adjacent property owners wished and with local residential neighborhoods. However, participants also thought access points should be for local residents primarily and the trail should prohibit or discourage outside users by restricting parking or minimizing visibility. Some participants also thought the trail should not provide access to local schools for security reasons.

*Trail user groups* - workshop participants indicated trail access should be structured to serve local facilities and residents and should not allow parking or other outside users.
Participants also indicated trail access points should accommodate emergency and maintenance vehicles, any public property ownership and anywhere a local property owner may desire.

How should trail designs account for noise, privacy and access concerns - property owners only?

Property owners - workshop participants indicated the best noise control is to restrict trail operating hours. Participants indicated in some instances, the trail improvement should provide a fence or natural buffer for visual privacy although the solution should depend on a property owner's desires and present practices. Generally, participants thought trail access improvements should reflect existing land use patterns and trail signage should distinguish the trail from private property. Some participants also thought trail development would reduce motorbikes and firearms which are the main noise problems along the right-of-way at the present time.

Workshop participants thought privacy can be protected by providing a buffer zone with planting screens of natural materials, hedges or, in extreme cases, with solid wood or concrete fence that compliments the owner's present improvements. However, some participants thought the trail will create some invasion of privacy which can not be mitigated. Some participants also thought any trail use will increase, not control private property exposure and trail users will cut fences, let livestock loose and generally cause vandalism.

All participants thought the screening method should be consistent to avoid a hodge-podge appearance from or of the trail. Some participants also thought property owners should get a tax break that recognized the trail's impact on property values. Some participants also indicated commercial land owners may have special security needs and may require more extensive fencing solutions than typical of most properties.

What kind of activities need to be policed on the trail?

Community representatives - workshop participants indicated the trail should be policed for rowdy behavior, vandalism, speeding, trespassing, use of motorized vehicles, noise (especially radio boom boxes), violations of park rules, unleashed pets, parties, firearms, littering, lewd conduct, operating hours, speed limits, trail conduct (according to trail rules), loitering, fire hazard (no smoking), access and local parking conflicts.

Property owners - workshop participants indicated the trail should be policed for reckless behavior including bike speeds, disturbances such as noise and illegal behavior, traffic controls on the trail such as lane changes and other movements if there is a heavy volume of use, camping, pollution, litter, vandalism, civil disturbances, unauthorized access or trespassing, firearms, motor bikes, parties, pets, firearms, alcohol, fireworks, fires, motorized vehicles, trash dumping along right-of-way, smoking, talking and loud noises, and violation of trail user rules.

Trail user groups - workshop participants indicated trailheads should be policed for vandalism to vehicles and facilities, and unauthorized use of motorized vehicles. Participants also indicated trail users should be subject to normal array of civil and criminal laws, and specific offenses to be outlined in a set of trail rules.

Who should police the trail?

Community representatives - workshop participants indicated the trail should be policed by a combination of the County Sheriff and the Department of Parks, Recreation &
Community Service park rangers, a special trail patrol of trail users and volunteer organizations, city police in each local jurisdiction, adjacent property owners, police reserve officers, fire district personnel, USFS and National Park rangers using a special call box system.

Property owners - workshop participants indicated the trail should be policed by a combination of the County Sheriff (although some questioned the Sheriff Department's response time and equipment requirements), Pierce County Department of Parks, Recreation & Community Services park personnel, police in local jurisdictions, the state and federal fish and game departments, and trail user and property owner peer groups in a cooperative arrangement.

Trail user groups - workshop participants indicated the trail should be policed by the Pierce County Department of Parks, Recreation & Community Services park rangers, the County Sheriff, state patrol, police in local jurisdictions, landowners and trail users.

How should policing be accomplished?
Community representatives - workshop participants indicated trail policing activities should be accomplished with a special trail patrol using a combination of horseback patrols, mountain bikes, an emergency trail call box dispatch, from patrol cars at trailheads and other intersections with local roads and maybe emergency motorbikes during peak hours.

Property owners - workshop participants indicated trail policing activities should use an emergency response dispatching system interconnecting 911 with a call box system. Most participants thought a legitimate emergency would probably not be a problem, that the bigger concern would be with routine incursions on adjacent owners. Most participants thought the trail should be patrolled on horses, bikes or motorbikes or an electric golf cart if necessary, and trailheads should be patrolled by car. Most participants thought the primary objective should be to provide the trail visibility, not just police actions. Participants thought emergency or other assistance should be repaid by a user fee, and that local jurisdictions should be reimbursed for any local policing costs.

Trail user groups - workshop participants indicated the trail should be patrolled on a regular basis on horses, bikes, maybe motorbikes if necessary using a system of emergency trail call boxes.

What impact will the trail have?
Community representatives - some participants thought the trail would have positive impacts particularly on local recreational amenities, on local road safety conditions, tourist business sales opportunities and the long range value of properties. Some participants also thought the trail would have negative impacts on the present property owners' opinion of land value, on local attitudes and living conditions, on crime and vandalism, on the costs of police and security services and insurance, on the development of adjacent land uses, and possibly on traffic patterns about trailheads.

Property owners - some workshop participants thought the trail would have positive impacts on business opportunity, tourism, property values, recreational improvements and the long range preservation of the railroad corridor's historical legacy. Some participants also thought the trail would have negative impacts on the local rural quality of life, crime rates, property owners privacy, property values and governmental costs.
Trail user groups - some workshop participants thought the trail would have positive impacts on open space preservation, historical preservation, recreational opportunities, the quality of life and tourism. Some participants also thought the trail would have negative impacts on property owner use rights, vandalism and the rural quality of life or lifestyle.

Who should decide if the trail is to-be-developed?
Community representatives - workshop participants thought the decision to develop the trail should be decided by the County Council or by the public by a countywide referendum or by the eastern portion of the county only or by the Department of Parks, Recreation & Community Services using opinion surveys. Some participants thought the issue should be subject to a separate vote by adjacent property owners or elected officials from local jurisdictions with the property owners or jurisdictions having the right to veto any plans. Some participants preferred the issue be decided on a voluntary basis without the use of eminent domain.

Property owners - workshop participants thought the decision to develop the trail should be decided by a countywide referendum or by the County Council like any other public improvement question or by adjacent property owners for each type of land use issue or by property owners on an individual basis or by jurisdictions by separate referendums (advisory only).

Trail user groups - workshop participants thought the decision to develop the trail should be decided by a countywide public referendum (bonds for funding), by Council like any other public improvement. Some participants thought local jurisdictions should have comment, but not extra authority, and property owners should be consulted by the process.

Who should decide trail use, operating conditions and policies if the trail is developed?
Community representatives - workshop participants indicated trail policies should be decided by a combination of the Pierce County Department of Parks, Recreation & Community Services and a composite group of local representatives, city officials, adjacent property owners, user group representatives and technical planning and design professionals.

Property owners - workshop participants indicated trail policies should be decided by the Pierce County Department of Parks, Recreation & Community Services in conjunction with adjacent property owners, user groups, local jurisdiction officials and staff, state and federal agency representatives, police and fire agency staff in a cooperative trail coordinating group. Some participants thought trail issues should be resolved by an elected trail board (similar to a local school or park board). Some participants thought an advisory group should not include trail user organizations as this could represent a conflict of interest.

Trail user groups - workshop participants thought trail policies should be decided by the Pierce County Department of Parks, Recreation & Community Services with a community advisory board including trail users, local jurisdiction officials, staff, property owners and law enforcement personnel.

Other comments/questions?
Community representatives - workshop participants indicated trail stops should include water fountains and tie-ups for horses. Adjacent trail uses should be subject to special
zoning and development permit reviews. Historic points of interest should be included or at least signed along trail. The trail should also provide for waterfront and fishing access.

Property owners - workshop participants indicated a separate plan should eventually be accomplished for off-road vehicle users since there are a number of users within the local area, and most younger users are presently accessing the railroad right-of-way because of a lack of other facilities. Some participants questioned who would assume fire hazard liabilities and who would carry insurance for such an event on the trail?

Trail user groups - workshop participants offered no additional specifics.
Foothills Trail Design/Development Guidelines

The following objectives were developed from the results of research and field analysis, the telephone survey of railroad corridor property owners, and the workshop sessions with community representatives and with potential trail user groups.

Scope
The ultimate alignment of the Foothills Trail segment of the Nisqually Delta to Mount Rainier Trail must connect to the other proposed trail segments in the system in Puyallup, Buckley and Fairfax in order to complete the crosscounty trail system. Consequently, the Foothills Trail alignment must connect to the:

1) City of Puyallup’s proposed segment of the trail which will be located on the river levee on the south side of the Puyallup River under the Main Avenue East bridge across the Puyallup River,

2) City of Buckley’s proposed segment of the trail which will be located within the former Burlington Northern Railroad right-of-way which the city now owns within municipal limits between Pioneer Street/SR-410 and River Avenue/SR-165, and

3) the former Burlington Northern Railroad right-of-way that adjoins the Burnett-Fairfax Road/SR-165 right-of-way from Carbonado’s city limits to the High Arch Bridge across the Carbon River leading to Fairfax and Ipsut Campground in Mount Rainier National Park.

Trail activities
The Foothills Trail segment should accommodate bicyclists (including bike trailers), hikers (including llamas or other small pack animals), walkers, wheelchairs (including electric powered), cross-country skiers (on roller skate boards), pets on a leash and roller skaters on the main trail improvement.

Hiking or walking portions of the trail should provide from 3-6 feet of stabilized trail surface of compacted materials with 2 feet of stabilizing shoulder on each side and wood decking and 42 inch high railings on trestles and bridges.

Bicycle use portions of the trail should provide 8-12 feet of compacted trail surface of crushed rock or asphalt with 2 feet of stabilizing shoulder on each side with wood transverse mounted decking and 54 inch height rails on trestles and bridges.

Equestrians should be accommodated on a separate trail alignment directly adjoining the multipurpose trail improvement. The horse trail should provide 2 feet of natural, well drained trail surface materials with 3 foot shoulders or clear zones on each side. The trail surface should provide 8 feet of compacted materials where the horse will pull a rubber tired cart or wagon.
Pedestrian trail
Surface - require stabilized, compacted trail bed, prefer crushed rock or asphalt
Trestle deck - wood
Railings - 42 inches high

Low volume (0-500 riders/day)

Bicycle trail
Surface - require uniform, compacted trail bed, prefer asphalt for 10 speed english racing bikes or crushed rock or natural materials for mountain bike
Trestle deck - wood with boards transverse to trail
Railings - 54 inches high
Curves - 20 miles per hour design speed

Wheelchair access
Surface - require uniform, compacted trail bed, prefer asphalt
Trestle deck - wood with boards transverse to trail
Railings - 48 inches high
Horse trail
Surface - require clear, stabilized corridor, prefer ungraded dirt path, note - crushed rock and asphalt acceptable for short distances only
Trestle deck - prefer wood with 2x4's on edge

Emergency vehicle access
Surface - require uniform, compacted trailbed, prefer asphalt or crushed rock
Trestle deck - wood
Pedestrians/bicycles - moderate volume

Pedestrians/bicycles - heavy volume

Pedestrians/bicycles/horses - approach sequence
The Foothills Trail segment should also provide joint use trail access or trailhead sites at McMillin, Orting, Crocker and Buckley that can service the proposed countywide system of water trails on the Puyallup, Carbon and White Rivers.

**Accessibility**
The principal portion of the Foothills Trail segment should be useable by persons of all skill levels and physical capabilities, particularly children and the elderly, and including wheelchair occupants. To accommodate bicyclists of all skill levels and equipment types, the trail grade should not exceed 2 percent slope with curves designed for 20 mile per hour speeds.

Portions of the trail to be accessed by wheelchair occupants should provide 8 feet of compacted trail surface, crushed rock for special equipment and asphalt for all chair types with wood decking and 48 inch high railings on all trestles and bridges.

The Foothills Trail segment should also be available to groups with organized activity interests and special trail events and programs including volkswalks, ride-a-thons and long distance running on a special permit, advance scheduling basis. The trail should not be used by activities which involve racing of any kind or which preclude the trail from being used on a concurrent basis by other activities.

Specialized spur or loop trails may eventually be developed for users with specialized interests or capabilities, like cross-country hiking or biking. Possible loop systems could be investigated on the levy and former railroad alignments along the Carbon River or alongside the stream beds of the upper reaches of Prairie or Gale/Wilkeson Creeks or within the right-of-way of the Spiketon Road routing between Wilkeson and Buckley.

**Destinations**
The Foothills Trail segment must incorporate important community and historical lands, sites, artifacts and facilities that provide interest and a balanced social experience, and that local and other county area residents want to visit and use including:

1) the downtown districts in Orting, South Prairie, Buckley, Wilkeson and Carbonado;

2) local parks such as Orting Centennial Park, South Prairie Community Park and Center, Buckley's White River Park, Buckley Cemetery, Wilkeson Creek County Park, Wilkeson’s Hand Car Park and Carbonado Cemetery;

3) interesting facilities such as the Washington State Department of Fisheries hatchery on Rauch Creek, the Puget Power White River Flume at Buckley,

4) important historical or cultural buildings and sites such as the Puyallup River Highway Bridge west of Orting, the William Bisson House in South Prairie, Wilkeson Elementary School and the Pete Homestead on Alder Street in Wilkeson, the older trestles and bridges on the historic 1877 route of the Northern Pacific (Burlington Northern) Railroad to the upper reaches of the Carbon River and the 1887-1888 transcontinental railroad route through Buckley, and

5) if possible, the primary trail or spur elements from it, should try to access or provide views of other significant historical sites and buildings including the Woolery-Koehler Hop Kiln in Orting, the former sites of the Washington Territorial (Volunteers) Blockhouses at
Orting and South Prairie including the site of Fort McAllister in South Prairie, the Indian Wars skirmish site on Connells Prairie, the Naches Pass Wagon Road in Buckley, the Wilkeson Coke Ovens, the Wilkeson Cut Stone Company, the coal fields in Carbonado and, ultimately the High Arch Bridge across the Carbon River north of Carbonado on the road to Fairfax, Ipsut Campground and the Wonderland Trail about the Carbon River Glacier in Mount Rainier National Park.

Corridor environments
Ideally, portions of the Foothills Trail segment should be located within the more interesting and unique environmental areas of the study corridor, including some portions of the:

1) agricultural lands surrounding Orting between the Puyallup and Carbon Rivers,

2) waterfront levies alongside and overlooking the meandering routes and habitats of the Puyallup and Carbon Rivers,

3) stream banks and alignments with vistas of the wetland and habitat areas of South Prairie and Wilkeson Creeks, and

4) steep, woodland areas which Adjoin South Prairie and Wilkeson Creek between Cascade Junction and Wilkeson.

Community linkages
For convenience, accessibility and value purposes; the Foothills Trail segment should be convenient to the developed residential and community areas of Orting, South Prairie, Buckley, Wilkeson and Carbonado. The trail should be relatively accessible to the developed downtown or central areas and major public and private facilities in each community such as:

1) Orting Elementary, Middle and High Schools, Orting Library and Civic Center and the Eagles Lodge, among others,

2) the South Prairie Community Center,

3) White River High School and the Loggers Rodeo Grounds in Buckley,

4) Wilkeson Library and City Hall, and

5) Carbonado City Hall.

Trail use precedence and alternatives
Within the Foothills Trail segment, readily identifiable corridors of public trail use precedence are:

1) the former Burlington Northern Railroad alignment, followed by

2) the Intercounty River Improvement District river flood control dikes and levies where continuous and owned by the District along the Puyallup and lower reaches of the Carbon Rivers,
Trail destinations

- Fort Hayes site (1856)
- Quarry
- Coke ovens
- Wilkeson School
- Pete Homestead
- Coke ovens
- Bisson House
- Carbon River Scenic Area
- Fish Hatchery
- Mount Rainier
- State Soldiers Home
- Koehler Kiln
- McMillin School

Legend:
- Historic Northern Pacific Railroad (1890)
- Landmarks
- Points of interest
- Districts
- Vistas
Orting opportunities

- Historic Northern Pacific Railroad (1890)
- Side/loop trails
- Landmarks/Points of interest
- Vistas
South Prairie opportunities

Historic Northern Pacific Railroad (1890)
- Side/loop trails
- Landmarks/Points of interest
- Vistas

58
Buckley opportunities

- Historic Northern Pacific Railroad (1890)
- Side/loop trails
- Landmarks/Points of interest
- Vistas

1000'
Wilkeson opportunities

- Historic Northern Pacific Railroad (1890)
- Side/loop trails
- Landmarks/Points of interest
- Vistas
3) local water pipeline, power line easements or irrigation road improvements where shared or commonly accessed across a number of properties, and

4) local county roads such as the South Prairie-Carbon River Road, Tubbs Road, Johns Road and portions of the Wilkeson-Spiketon Road where right-of-way would allow the development of an adjoining multipurpose trail improvement.

Cost/benefit planning considerations
Within the Foothills Trail segment, alternative corridor evaluations should consider each alternative alignment’s potential for preserving historical railroad improvements, buffering sensitive wetlands and streams, and preserving the valley’s agricultural features in order to make an accurate assessment of the trail’s real cost/benefits to the County.

Where appropriate, trail corridor right-of-way acquisitions should include a minimum 40 foot right-of-way and any slopes, embankments, drainage features or other areas which are impacted by trail construction and for which the County may be held liable for maintenance. At the discretion of private property owners and the County, trail acquisitions may also include land fragments which the parties agree are rendered unusable, additional woodlands or buffer areas, sensitive environmental features, trail access sites, trail rest areas or viewing points, or other lands or improvements.

Services and standards
Foothills trailheads should be located at sites which are accessible to major arterial roads, local communities and historical areas or environmental features which rail users and local residents may wish to visit. Trailheads should not be located at schools, fire stations, city halls or within the downtown districts where trail oriented traffic and parking will conflict with local community activities, or at isolated sites between communities which local security forces can not readily police or provide emergency services.

Trailheads should be provided at:

1) McMillin at the Puyallup River Bridge to provide access to the Foothills Trail segment with Orting and to the proposed water trail on the Puyallup River,

2) each end of Orting’s municipal limits to provide access to the Foothills Trail segments with McMillin and Crocker, and to Orting attractions,

3) South Prairie close to the proposed park on South Prairie Creek,

4) each end of Buckley’s corporate limits to provide access to the Foothills Trail segments with Cascade Junction and eventually to the White River and Enumclaw, as well as to Buckley attractions,

5) the north edge of Wilkeson’s corporate limits to provide access to the Foothills Trail segments with Cascade Junction and Carbonado, and

6) the corporate limits of Carbonado to provide access to the Foothills Trail segments with Wilkeson and eventually with Fairfax.

Trailheads should be designed to accommodate between 25-50 cars on a permanently improved, paved surface with an additional 25-50 or larger semi-improved area for major event overflow parking or activities such as horse trailers. The trailhead should be planned
to provide a single access point which can be monitored and closed by local security personnel when necessary or during late night hours. The site should be buffered by landscaping, berming or other designs or improvements from adjacent properties and activities. Trailheads should be improved with permanent restrooms, emergency telephones, water and air, picnic tables, benches and bicycle storage racks. The site should blend into the trail corridor as a linear park feature.

Trailhead access points should be located where the trail directly adjoins a major arterial road (for emergency access) and a feature of interest to local trail users or residents. Possible sites may include fishing or boating locations along the Puyallup and Carbon Rivers, South Prairie and Wilkeson Creeks, rest areas or viewpoints at Buckley and Carbonado Cemeteries, waterfront access at the Pacific Railroad Spur/Kapowsin Cut-off, at or in downtown Orting and Wilkeson, and adjacent the Carbonado Recreation Hall (The Lone Wolf) among others.

Rest stops, benches, picnic tables, trash receptacles, informational and directional signage should be located alongside the trail at strategic points within the corridor. Emergency telephones or call boxes, and possibly sani-can restrooms may also be located alongside the trail should this prove to be required or desirable by trail users and adjacent property owners.

Community/property owner representation
The Pierce County Department of Parks, Recreation & Community Services should organize a Pierce County trails task force or council to include representation by:

1) local elected officials and representatives of the park and recreation agencies that will be affected by the Foothills Trail segment,

2) affected or participating technical personnel from local police, sheriff and other security agencies, fire and medical aid organizations,

3) planning or coordinating personnel such as King County Parks Department, US Forest Service, National Park Service, Washington Department of Wildlife, Natural Resources and Ecology, City of Tacoma and Puyallup Planning and Engineering Departments, Pierce County Public Works and Planning Departments,

4) representatives of various trail user groups and organizations, such as the Tacoma Wheelmens, Mountaineers, Volksport, Boy Scouts, and

5) adjacent property owners including representatives from adjacent business districts.

The task force or council should be organized on a countywide basis though initial participants or a subgroup may represent the Foothills Trail segment of the Nisqually Delta/Mount Rainier Trail system.

Safety and security
To the extent possible, the Foothills Trail segment should avoid crossings of Pioneer Way/SR-162, River Avenue/SR-165 and Burnett-Fairfax Road/SR-165 except where the speeds, sight distances and other characteristics are strictly controlled and vehicular traffic may expect pedestrian and bicycle crossings - as in or at the edges of the Orting, Buckley and Wilkeson downtown districts.
Likewise, corridor crossings with other local roads, private drives or accesses should be avoided where possible, and designed for safe, controlled encounters where provided.

For police, fire and other emergency aid services, the Foothills Trail segment should be accessible from major arterial roads like Pioneer Way/SR-162, River Avenue/SR-165 or Burnett-Fairfax Road/SR-165 and the local fire stations in Orting, South Prairie, Buckley, Wilkeson and Carbonado. Bollards or other trailhead or trail access control obstructions should be removable or of knockdown design to permit easy, quick emergency vehicle access onto the trail corridor.

The trail surface should allow access by police cars, ambulances, medic vans and fire pumper trucks equipment and other heavy 4-wheel drive tandem tired vehicles with a minimum 10 foot compacted trail surface and clear zone with heavy load decking on trestles and bridges.

Except for maintenance or emergency purposes, the Foothills Trail segment should not allow motorized vehicles of any kind; particularly All-Terrain Vehicles (ATVs), motor bikes, motorcycles and jeeps. In addition, the trail should not allow pets without leashes.

Trail use ordinances should also prohibit the carrying or use of firearms, alcohol or other items which have potentials for safety and security conflicts. Trail use ordinances should also prohibit camping, fires, barbecues, smoking or other activities which have potentials for fire hazards. Rowdy behavior, trespassing, speeding, excessive noise, littering, lewd behavior and other noxious or hazardous activities should be controlled by the enforcement of prevailing civil and criminal laws.

Generally, trail use will occur from dawn to dusk (1/2 hour before and after daylight) with occasional use in later or earlier hours. Trailheads, however, should be provided gates and other security equipment which allows for overnight closing to prevent rowdiness, vandalism, noise and other late night activities.

Natural landscaping, such as trees, bramble bushes and tall grasses, should be used to the maximum extent possible to provide visual screening where the trail abuts private residences. An occasional security or board fence may be necessary where the trail corridor directly abuts or is visible to or from a residence or business activity. The overall affect, however, should be harmonious with surrounding features and improvements.

Security enforcement
Trail activities should be monitored and policed by a combination of the Pierce County Department of Park, Recreation & Community Services Park Rangers and maintenance personnel, the Pierce County Sheriff, local Buckley and Orting Police Departments (possibly under an interagency agreement with the Pierce County Sheriff), US Forest Service and Department of Interior personnel, and Washington State Departments of Wildlife, Natural Resources and Ecology personnel, using civil and criminal authority presently authorized and a coordinated system of patrol bikes, horse patrols, other vehicles, call boxes and other emergency dispatch systems.

In addition, volunteer trail user and adjacent property owner organizations may help provide trail user information services, safety education programs, volunteer patrols and other supporting services.
Maintenance
Foothills Trail maintenance requirements should be held to a minimum using low maintenance materials, designs and settings. The trail surface will require constant maintenance and the probable use of herbicides to control weed and grass growth, particularly on natural material and crushed rock surfaces. Occasional, seasonal pruning of bramble bushes or overhanging branches may be required of trail shoulders without the need or use of herbicides. The remainder of the trail corridor should be allowed or initially planted with natural materials which blend with the surroundings.

The trail surface and major rest or access areas should be accessible for a variety of maintenance vehicles including small maintenance all-terrain vehicle tractors and wagons, small 4-wheel pickups and even full size, double tired 4-wheel drive pickups during major pruning efforts.

Ownership and funding
The portion of the Foothills Trail segment that is located in unincorporated Pierce County should be owned and operated by the Pierce County Department of Parks, Recreation & Community Services as a linear park/trail. Portions of the Foothills Trail which are located within incorporated communities may be owned by the local jurisdiction and operated by the Pierce County Department of Parks, Recreation & Community Services under an interagency agreement as an extension of the countywide system, or be owned and operated by the local jurisdiction as the local component of the countywide system, as local jurisdiction’s desire.

The Foothills Trail segment should be funded with a countywide financing technique like a general obligation bond or from a county trails or conservation fund since the trail will benefit and be used by Pierce County residents on a countywide rather than a local basis. Where appropriate, the financing plan may be supplemented by public and private grants, foundation monies, joint venture public/private developments or concessionaires.
Development Plan
Development Plan

Corridor location

This proposed master plan recommends the trail be developed on the former Burlington Northern Railroad alignment because:

1: The railroad alignment has precedence as a public access route. Adjacent property owners have long since adapted land use activities, development patterns and other expectations for such an activity.

2: The right-of-way is continuous and can wholly accommodate a trail development without requiring significant purchases of other private properties.

3: The rail alignment is separated and safe from major motorized vehicular traffic corridors and major intersection crossings.

4: The railroad alignment has grades and structures across most physical obstacles within the corridor which are most suitable for use by bicyclists, hikers, equestrians and other trail users of all skill levels and physical capabilities.

5: The present right-of-way has not been significantly altered and can easily and most economically be adapted to a trail activity.

6: The railroad is an historic feature which may be specially designated by the State and County, and is worth of preserving for historical reasons.

7: The railroad alignment directly accesses significant historical, cultural, environmental and public facility destinations of most interest to area and county residents.

8: The railroad alignment can be easily linked with major arterial roads, downtown commercial districts, residential neighborhoods, parks, schools and other local facilities to create an integrated park and trail system with local and regional significance and benefits.

9: The railroad alignment passes through local urban service centers and facilities which can provide trailhead services and conveniences, and which can also most easily respond with police, fire and other emergency services if required.

10: Most importantly, a significant percentage of all county residents have indicated they will use and are willing to pay for the development of a multipurpose trail on the railroad alignment. This assumption is based on a household telephone survey that was conducted during the first week of February 1987 for the recently completed Pierce County comprehensive park and recreation planning process.
Concerning overall facility priorities, the 402 sample survey households indicated all park and recreation agencies in the County most need to develop more bicycle trails by 83 percent, walking trails in parks by 80 percent, picnicking areas by 80 percent, nature trails in conservation areas by 78 percent, and then all other types of park and recreation facilities in descending priority order.

The telephone survey specifically asked... "Should the Pierce County Department of Parks, Recreation & Community Services develop a multipurpose hike and bike trail on the former Burlington Northern Railroad right-of-way from McMillin to Buckley to Carbonado?" Approximately 70 percent of the responding households answered yes, 18 percent answered no and 13 percent had no opinion.

A following question asked... "Would you support a bond issue to complete the development of a trail between McMillin, Buckley and Carbonado if this were a part of a countywide multipurpose trail system?" Approximately 69 percent of the responding households answered yes, 24 percent answered no and 8 percent had no opinion.

The results indicate an overwhelming demand for and, thereby, a high volume use of multipurpose trails within the County in general and along the former Burlington Northern Railroad alignment in particular. (Survey results were accurate of countywide household opinions within a 4-5 percent accuracy range. A complete copy of the survey results is provided in the text and appendix of the recently adopted Pierce County Comprehensive Park & Recreation Plan.)

**Trail alignment**

A minimum 40 foot corridor should be acquired of the original railroad right-of-way for trail use. Under some conditions, the right-of-way could be expanded to include adjacent steep slopes, wet areas or other lands which may be sensitive, undevelopable or unusable by the property owners where this is jointly agreeable to the property owner and the County.

Following is a brief description of the original Burlington Northern Railroad right-of-way ownership from McMillin to Buckley and Carbonado and the proposed trail alignment:

**McMillin-Orting**

The railroad right-of-way directly adjoins Pioneer Way/SR-162 right-of-way to the north with no intervening private property ownerships from the beginning of the study corridor at South Fork Road north of the Puyallup River all the way to the city limits of Orting. In one section of this portion of the corridor, the railroad right-of-way is joined on the south side by the road right-of-way for Old Pioneer Way. The railroad right-of-way serves as a median improvement between the two roads from about 149th Street Court East to 159th Avenue East.

The portion of the original Burlington Northern Railroad right-of-way which is directly adjacent to SR-162 right-of-way would be the most appropriate portion to use for trail purposes since the railroad and road right-of-ways could be used to create a combined trail median and buffer treatment without an intervening private property ownership. The portion of the railroad right-of-way which is adjoined on each side by road rights-of-way for Pioneer Way and Old Pioneer Way, however, could be used for a wider trail buffer treatment if Old Pioneer Way right-of-way is to be retained in public ownership.
Otherwise, the trail should use the portion of the right-of-way which directly adjoins Pioneer Way/SR-162.

Orting-South Prairie
The railroad right-of-way extends directly through downtown Orting, essentially dividing the town in half. The right-of-way is joined on the north side by Washington Street (SR-162), which diverges slightly increasing the road's setback from the railroad bed. The right-of-way is joined on the south side by Corrin and Van Scoyoc Avenues, the latter Avenue provides some commercial storefronts which face onto the right-of-way.

The right-of-way was approximately 100-300 feet wide through this segment to provide the Railroad Company some frontage property for possible commercial and industrial development. This portion of the right-of-way was retained by Burlington Northern for such a possibility when the line was abandoned, and some elements of the City of Orting have also expressed an interest in the possible development of additional downtown commercial activities within this area. Consequently, a possible corridor compromise could locate the trail on the northern portion of the right-of-way which abuts Washington Avenue (SR-162) through this section of the downtown. An extra wide portion of the right-of-way could be retained between the trail and Washington Avenue for a possible linear downtown park treatment. The right-of-way on the south side of the trail could be of a minimum width, and provided with a more passive linear park landscaping until such time as the City and Railroad Company have determined appropriate long range utilization plans.

At the southeast edge of downtown Orting, the highway alignment crosses over the railroad right-of-way and continues in a generally parallel alignment to the highway's intersection with Orville Road East (Kapowsin Highway) and then continues northeast to South Prairie. The railroad right-of-way is adjoined on each side by the rights-of-way for Washington Avenue on the north and Corrin Avenue on the south to the edge of the developed downtown district. An extra wide portion of the right-of-way could be retained between the trail and Washington and Corrin Avenues for a possible linear park treatment much like the treatment provided in the adjoining section within the downtown district in Orting.

At the eastern edge of the developed downtown district the right-of-way continues east within a separate alignment which gradually parallels the Carbon River. The railroad right-of-way splits private property holdings on the south side of the Carbon River and the north side of Pioneer Way/SR-162 through this segment. The trail corridor should be held to a minimum width through this sequence should private property owners want access to the property which is between the railroad right-of-way and the Carbon River. However, where the owner is not interested in using the remaining parcel segment and/or the owner would rather sell than attempt to maintain an active land utilization, the trail improvement project should permit acquisition or donation of these parcel segments.

At about Voights Creek, the railroad right-of-way and track bed improvement coincide with the flood control dike improvements which are maintained by the Intercounty (Pierce and King) River Improvement District. At approximately Section Three Road, the railroad right-of-way rejoins and abuts the Pioneer Way/SR-162 right-of-way on the south side across Rauch Creek to about 177th Street East (Alward County Road). The Intercounty River Improvement District owns most of the land between the railroad/flood control dikes and the river's edge. There are some private holdings, however, where the River meanders significantly from the railroad holdings. Generally, the trail project should acquire use rights
to allow the trail to be located on the dikes where the railroad bed coincided, or on the railroad bed where the bed is provided within a separate alignment. Like the earlier segment, however, the project should allow for additional acquisitions or donations of lands between the trail and the river where property owners are so inclined.

At about the intersection of Pioneer Way and 177th Street East (Alward County Road) the railroad right-of-way and track cross over the highway and Carbon River and parallel the highway on the south side to South Prairie. Just past the crossing of South Prairie Creek, the South Pioneer Way right-of-way and road improvement abuts the railroad right-of-way on the south side enclosing the railroad on both sides by road improvements and a portion of South Prairie Creek. There are no intervening private land ownerships between the two road rights-of-way, and the trail improvement project should acquire ownership for the original railroad right-of-way width in this section to maintain a linear park concept. There are some intervening private property holdings, however, where the South Prairie Creek intercedes between the railroad right-of-way and Pioneer Way/SR-162 on the north. The trail improvement project should consider acquiring the full right-of-way between the track bed and the Creek, and possibly across the Creek to Pioneer Way/SR-162 to preserve this segment for open space, and possibly creekside access, all the way to South Prairie.

South of the Orting city limits, a separate Burlington Northern Railroad track line diverged from the corridor to cross Pioneer Way and parallel Orville Road East (the Kapowsin Highway) to access logging activities located on the east side of Lake Kapowsin. The Kapowsin line was abandoned some years ago by Burlington Northern and the property rights have been acquired by adjacent property owners. Most of the original track bed, however, is still visible, particularly the junction from the study corridor to Pioneer Way/SR-162. The segment between the study corridor and Pioneer Way/SR-162 could be considered as a possible route which could loop back into Orting along the northern alignment of Pioneer Way.

South Prairie-Buckley

Through downtown South Prairie, the railroad right-of-way is adjoined on the north by Pioneer Way/SR-162 right-of-way and on the south by 1st Street right-of-way with no intervening private land holdings. The railroad right-of-way width was too narrow to permit commercial and industrial development, so the corridor has been retained primarily as open space which local groups have provided some park improvements. The trail should be located within the north portion of the right-of-way to create a linear park improvement through the downtown. The treatment, and trail acquisition, could be expanded in similar manner to the edge of 1st Street right-of-way if the City so desires.

At the eastern edge of downtown South Prairie, the railroad right-of-way adjoins the South Prairie Fire/Community Hall, just before crossing over South Prairie Creek. The intervening land is owned by the City and Pierce County Fire District Number 18, including the west bank of South Prairie Creek which the city plans to eventually develop into a local park. The trail acquisition should be centered on the railroad bed in this segment but should adjoin with South Prairie and Pierce County Fire District Number 18 holdings. In fact, the trail’s eventual improvements could be planned to help implement South Prairies’ proposals for a South Prairie Creek park development.

Upon leaving South Prairie, the railroad right-of-way parallels Gale/South Prairie Creek to the Cascade Junction crossing South Prairie Creek in two locations before crossing over Carbonado-South Prairie Creek Road. The railroad right-of-way splits private property holdings between the Creek and SR-165, and on both sides of the creek and Carbonado-
South Prairie Road under this alignment. Generally, trail acquisition should be centered on the trail bed except where private property owners are interested in selling or donating the segments between the trail bed and the Creek for additional linear park preservation.

After crossing Carbonado-South Prairie Creek Road, the right-of-way loops back upon itself to achieve grade before passing under Pioneer Way/SR-162. The alignment, particularly the looping segment, is located almost entirely within contiguous private property holdings. Some property holdings are divided into segments between the trail bed and Carbonado-South Prairie Road and Pioneer Way/SR-162. The trail acquisition should be centered on the trail bed except where the trail bed is so close to South Prairie-Carbonado Road and Pioneer Way rights-of-way that property owners would rather sell or donate than attempt use. The looping segment is located within a meadow which is landlocked by the railroad right-of-way. The project should consider acquiring the entire meadow, if the ownership is interested, as a means of resolving access problems.

From the under crossing of SR-162, the railroad right-of-way parallels SR-165 (River Avenue) on the west side of the highway right-of-way into Buckley to the intersection of SR-165 and Ryan Road. The railroad right-of-way directly adjoins SR-165 right-of-way with no intervening private property. The trail acquisition should be located on the east side of the right-of-way to create a buffer improvement with SR-165.

From Ryan Road, the railroad right-of-way is abutted on the west side by Pioneer Street (SR-410) and on the east by River Avenue all the way through the City of Buckley to the Loggers Rodeo Grounds and the Buckley Cemetery. Through town, the railroad right-of-way is directly abutted by road right-of-way with no intervening private property holdings. The portion of the right-of-way through Buckley has been purchased by the City of Buckley for park and trail development.

From the Loggers Rodeo Grounds north, the railroad right-of-way adjoins the public road right-of-way for River Avenue on the east all the way to the southern edge of the White River. The railroad right-of-way is adjoined on the west by the Buckley Cemetery to the right-of-way’s crossing of the White River Flume. The land between the right-of-way and SR-410 to the west, and the flume and the White River to the south and north is in private ownership. The trail acquisition should be located on the east side to create a consolidated treatment with River Avenue.

**South Prairie-Wilkeson**

At the point where the tracks separate between Buckley and Wilkeson (called Cascade Junction), the Wilkeson segment crosses South Prairie Creek then parallels Gale Creek on the west and south sides of the railroad right-of-way to the Crossing of Johns Road where the last portion is also adjoined on the north by the right-of-way for Johns Driver Road. The original railroad right-of-way created some private property segments between the track bed and Gale Creek, which the project should consider acquiring or accepting donation in order to create a linear preservation.

The portion of the right-of-way which begins the crossing of Johns Road is adjoined on the north by right-of-way for Johns Driver Road and across the creek by the County’s Wilkeson Creek Park. The project could acquire the segment between the railroad right-of-way and Wilkeson Creek Park to create an expanded creekside park treatment.

From the crossing of Johns Road, the railroad right-of-way is adjoined on the north side by John Drivers Road right-of-way to where the road and right-of-way coincides with Burnett-
Fairfax Highway (SR-165) into downtown Wilkeson. The trail acquisition should be located on the east side of the original right-of-way to create a buffer treatment between the track bed and the highway. The buffer could be provided a median or more urban landscaping treatment where the right-of-way enters downtown Wilkeson should this be desirable to the city.

At the south edge of downtown Wilkeson, the right-of-way crosses Burnett-Fairfax Highway (SR-165/Church Street) then parallels Quinnon Extension on the north for a short distance then is crossed by Quinnon Extension to adjoin the road right-of-way on the south as the road extends east towards Sunset Lake and the Wilkeson Coke Ovens. This portion of the original railroad right-of-way was abandoned some years earlier. The northern most portion of the Quinnon Extension still has the original tracks and is used every year for coke handcar races during the Wilkeson celebrations. There are no intervening private property holdings. The trail acquisition should be located on the sides of the railroad right-of-way which adjoin the roads to create a consolidated buffer treatment. If possible and if Wilkeson desires, the trail acquisition should consider acquiring the original Quinnon extension to make sure the right-of-way and track are preserved for future use.

Wilkeson-Carbonado
The railroad right-of-way to Carbonado begins at the north edge of Wilkeson, where the sequence climbs the hills behind Wilkeson to make the grade to Carbonado. The original railroad right-of-way splits a number of private property holdings until it reaches the west side of the Carbonado Cemetery. The trail acquisition should be centered on the track bed through this section.

The right-of-way curves about the back of Carbonado to a point where the right-of-way is adjoined by Hillside Road/Pershing Avenue - where a small spur track extended south to Tubbs Road. From this point, the railroad right-of-way crosses Hillside Road/Pershing Avenue and loops to the north of the town to achieve grade to a point where the railroad right-of-way adjoins the western side of Burnett-Fairfax Road (SR-165) north of the city limits of Carbonado. The right-of-way intersects private property holdings behind and to the north of town. The trail acquisition in this area should be centered on the track bed. The acquisition may include the spur track extension to Tubbs Road if the City of Carbonado desires to create a trail loop into the back of town.

The railroad right-of-way parallels Burnett-Fairfax Road (SR-165) eventually crossing Pershing Avenue, the east and main entrance into town. The trail acquisition along Burnett-Fairfax Road (SR-165) should be located on the east side to adjoin and consolidate a buffer treatment with the highway. If possible, the trail acquisition should extend some distance past the crossing of Pershing Avenue to allow the development of some formal entry into the town, and provide a possible trail loop about and through town for local use and identity.

From Carbonado, the original railroad line continued south within a right-of-way alignment adjoining Burnett-Fairfax Road (SR-165). Gradually, the railroad grade settled below the road elevation and was joined on the west by the high banks of the Carbon River. At High Arches Bridge, the railroad right-of-way passed under the bridge and continued on the north side of the river almost to the Fairfax settlement. Burlington Northern Railroad abandoned the line some years ago and removed all the original track. The track bed is still visible through this area and has generally been left in an original state. If possible, the trail acquisition should extend as far past Carbonado as present project funds will allow.
Eventually, the trail should be extended to at least High Arches Bridge, and possibly to the wooden bridge at Fairfax using as much of the original railroad alignment as possible.

**Trail Improvements**

**Width**
The pedestrian-bicyclist trail should be constructed with a lane to a width of 4 feet to provide for individual hiking, walking or running activities and a lane to a width of 6-8 feet to provide for bicyclists, wheelchair occupants and persons or volumes of people on group walks or hikes. The total trail should be between 10-12 feet with a 2 percent cross slope with an adjacent 2 foot shoulder of crushed rock or other base material on each side for a total improved width of 14-16 feet. The shoulders should also be sloped away from the crown of the trail at 2-3 percent grade. Outside of the shoulders, there should be either drainage ditches or a transition to the existing, natural terrain.

The horse portion of the trail should be located within a 2 foot designated trail of unimproved, natural materials in an alignment that parallels, but is separate from the pedestrian-bicyclist portion of the corridor. The trail should have a 3 foot cleared strip on either side of the 2 foot trail for a total improved width of 8 feet.

Occasionally, the horseback riding trail may be located directly adjacent to the pedestrian-bicyclist portion of the trail where the trail corridor crosses roads, streams and other water bodies, steep slopes and other obstacles or natural hazards. Where a combined-trail condition occurs, the horse trail should be 2 feet wide with a 2 foot cleared shoulder and the cleared portions of the trail should be combined for a total width of 21 feet.

**Surface**
The hiking/biking lanes of the trail surface may be improved under five options:

1: *Existing surface/ existing surface*
Under this option, the existing trail corridor would be cleared of overgrowing vegetation and the hike and bike lane surfaces would be compacted but not further improved with additional surfacing materials. Along most of the trail corridor, the existing surface should support hikers, walkers and bicyclists using mountain bikes. The existing surface would probably not, however, support narrow tire 10-speed bicycles, some children's bikes or most wheelchairs. The existing surface would require regular maintenance to prevent erosion from natural forces or heavy volume pedestrian and bicycle use.

This option could be considered for the Wilkeson to Carbonado segment if trail use is largely seasonal and initially of lower volume hiking users. Ultimately, however, increased user volumes, especially by bicycle users on this segment could create erosion problems if the existing material surface is not regularly maintained.

2: *Existing surface/ crushed rock*
Under this option, the hiking lane would be recompacted with existing trail materials but would not be further improved. The biking lane, however, would be covered with approximately 4 inches of 5/8 inch minus crushed rock materials to provide a finer, more durable surface material which would support all balloon-tired or mountain type bicycles and most 10-speed english racing bikes and wheel chairs. The existing material in the hiking lane and the crushed rock material in the biking lane would need to be replaced or resurfaced on a regular basis, particularly where the trail receives heavy use or exposure to heavy rains or other natural wearing activities.
Pedestrians/bicycles/horses - approach sequence

Pedestrians/bicycles/horses - heavy volume
This option could be considered for later use on the Wilkeson to Carbonado segment if the primary users are hikers, equestrians and mountain bikers in relatively low volumes.

3: Crushed rock/crushed rock
Under this option, the hiking and biking lanes would both be covered with approximately 4 inches of 5/8 inch minus crushed rock materials to provide a finer, more durable surface material, particularly if the hiking lane is heavily used to the point of rutting. The crushed rock material would need to be replaced or resurfaced on a regular basis, particularly where the trail receives heavy use or exposure to heavy rains or other natural wearing activities or is heavily used.

This option could be considered initially for the Buckley to South Prairie segment if initial use volumes are low, especially by bicyclists. Ultimately, however, increased user volumes, especially by bicycle users on this segment could create erosion problems if the crushed rock surface is not regularly maintained.

4: Crushed rock/asphalt
Under this option, the hiking lane would be covered with approximately 4 inches of 5/8 inch minus crushed rock to provide a more durable hiking surface, and the bike lane would be surfaced with 2 inches of Class G asphalt over a 4 inch crushed rock base to provide a surface which would support all kinds of bicycles and wheel chairs. The asphalt covering would be more expensive initially than crushed rock, but would withstand heavy use or exposure with less annual maintenance than crushed rock.

This option could be considered eventually for the Buckley to South Prairie segment as user volumes increase, particularly of bicycle users. This option may also be appropriate for the McMillin to Orting to South Prairie segments if user volumes are as high as assumed for these areas, particularly for frequent group rides and walks involving children, elderly and wheel chair users.

5: Asphalt/asphalt surfacing
Under this option, the hike and bike lane would both be surfaced with 2 inches of Class G asphalt laid over 4 inches of crushed rock to provide a durable surface material that would support all types of bicycles including thin-tire, 10 speed english racers, all types of childrens bicycles and heavy volumes of walking or hiking use.

This option may eventually be appropriate for the portions of trail segments that received heavy, concentrated volumes of use at trailheads or downtown areas in Orting, Buckley and Wilkeson.

Recommendations
The Foothills Trail segment will attract a variety of trail users with different interests and skills ranging from inexperienced or limited capability users, like families on bicycle or walking outings and wheelchair occupants, to very experienced and skilled users like bicycle touring groups, cross country hikers, volksport walkers, joggers on marathons and equestrians. All of these user groups will probably use all of the Foothills Trail segments including the portions located on easily navigated level terrain close to the downtown areas of Orting, South Prairie and Buckley, to the more steeply terrained sections in the more remote areas between Cascade Junction, Wilkeson and Carbonado.
Alternative trail surface improvements

Option 1
- 6-8' compacted soil
- 4" crushed rock
- Compacted soil

Option 2
- 4" crushed rock

Option 3
- 2" ac paving over 4" crushed rock
- 4" crushed rock

Option 4
- 2" ac paving over 4" crushed rock
Over time, however, certain types of users may tend to be attracted in disproportionate numbers to certain segments of the Foothills Trail. The less experienced, skilled and equipped trail users may tend to be attracted to those portions of the trail which are easier to travel, more accessible to trailhead and community services, and which may have rental concessions or other equipment suppliers who can assist this type of user. Traditionally, this is the family user group who constitutes a majority of all trail users, particularly of multipurpose trail facilities.

Consequently, the highest trail user volumes will likely occur on the segments which attract this user type, most likely the sections in or directly adjacent to Orting, South Prairie and Buckley trailheads. In addition, these segments are closest to local residential populations, who will create significant trail use volumes of their own.

As a result, the Orting, South Prairie and Buckley portions of the trail should be improved with the most durable, navigable materials, like option 4 (crushed rock/asphalt) initially or option 5 (asphalt/asphalt) should volumes or trail maintenance considerations ultimately require.

By comparison, the more experienced trail user, like bicycle touring groups and cross country hikers, will be attracted to the whole trail, but particularly those segments which are furthest removed from the high volume portions, which offer the most varied and least disturbed environments and which present the greatest skill challenges. Consequently, the lowest trail use volumes will likely be on the more steeply terrained sections in the more remote areas between Cascade Junction, Wilkeson and Carbonado.

As a result, the Cascade Junction, Wilkeson and Carbonado portions of the trail should be improved as much as possible with natural materials or with materials which represent the least finished appearance, like option 2 (existing surface/crushed rock) initially or option 3 (crushed rock/crushed rock) should trail use volumes or maintenance considerations ultimately require. Eventually, even these sections of the Foothills Trail may need to be upgraded to option 4 (crushed rock/asphalt) should trail use volumes increase when the Nisqually Delta/Mount Rainier Trail and King County trail system links are complete.

**Drainage**

There are three drainage conditions effecting the trail which require different prototype solutions (a summary description of the track bed drainage condition is provided in the water element impacts in following pages, a detailed description of drainage conditions along the alignment is provided in the technical appendix to the Foothills Trail Master Plan):

1: Ravine low area

In some portions of the trail corridor the trail is lower than the surrounding grade such that the trail corridor tends to collect storm water runoff causing sheet flooding and erosion on the trail surface. This condition should be alleviated by constructing drainage ditches on each side of the trail to collect storm runoff that collects from adjacent terrain. The ditches should be extended to a point where the storm runoff can be released into natural drainage areaways. Periodically, this solution may also require the construction of small trail culvert crossings.

2: Hillside

A storm drainage ditch should be constructed on the uphill side of the trail where the trail has been cut into the side of a hill to intercept storm water runoff before the water flows
onto the trail. The ditches should be drained into culverts that cross the trail and drain into adjacent natural drainage areaways at periodic intervals.

3: Dike/elevated area
There are no drainage problems on the trail proper where the trail has been elevated above the surrounding terrain. However, in some locations, old culverts and other drainways need to be cleared and/or reconstructed to allow natural drainage to flow unimpeded under or around the trail improvement.

Public Crossings
Where the trail corridor crosses an improved public road, street or other thoroughfare; the public thoroughfare will have the right-of-way. Trail users will stop and yield to vehicular traffic on the public road under the following possible design conditions:

Minor traffic crossing
Old Pioneer Way, Whitsel Court in Orting and Jefferson Avenue in Buckley are examples of minor traffic crossing which have very low traffic volumes and speeds.

The trail approach will be cleared of any vegetation or other material which could obstruct required sight distances. Standard AASHTO stop and yield signs will be installed on the trail to alert trail users of the pending crossing. A series of bollards or posts will be installed in the trail just before the intersection in a manner that will require trail users to slow bicycle and horse riding speeds, and eventually to stop at the edge of the road pavement. The bollards will be locked in place to prevent vandalism but will be provided with break-away releases or other key systems to allow access by emergency vehicles.

A white line and deflector buttons will be installed along the outside edges of the road pavement to define the meeting of the road and trail. The line will be brought into the roadway as the road approaches the trail to define a 12 foot standard traffic lane and force coming traffic into the center of the roadway, especially where the pavement includes an expanded lane or shoulder. A series of traffic buttons may also be installed across the roadway at the farthest approach from the trail to provide audio as well as visual alerting. Painted lines and deflector buttons will be installed at the crosswalk per AASHTO standards. Traffic alerting signs and trail identifications will be installed on the roadway approach.

Major traffic crossing
Pioneer Way/SR-162/Bridge Street in Orting and SR-165/River Avenue in Buckley are examples of major traffic crossings with heavy traffic volumes and moderate to high speeds. These crossings may require special traffic control signals and/or other remedies in addition to those described under the minor traffic crossing above.

For example, the trail approach to Pioneer Way/SR-162/Bridge Street in Orting may be provided a more elaborate series of bollards or mazes, if necessary, to ensure trail users slow and stop before entering the road crosswalk. The trail crossing could be diverted from the track bed to cross the road on the southern edge of Washington Street to provide more sight visibility and a longer approach from the 90 degree turn which Pioneer Way/SR-162 makes onto Bridge Street when entering downtown Orting. In addition, a trail activated crossing signal could be installed if traffic volumes create conflicts at the crossing.
The trail approach to SR-165/River Avenue could be diverted from the track bed to the western edge of River Avenue to increase the traveling distance traffic turning off SR-410. The trail approach could be provided a more elaborate series of bollards or mazes, and a trail activated signal could be installed on SR-165/Ryan Road as in the Orting example. As an alternative, however, the trail could be located within a tunnel under SR-165 at this point to provide complete traffic separation.

Generally, each public crossing will be treated as an individual case requiring a unique mixture of traffic control and alerting devices depending on traffic volumes and speeds, sight distances, roadway and trail approach patterns and like variables.

Private Crossings

Where the trail corridor crosses an improved private road, driveway or other crossing; the public trail thoroughfare will have the right-of-way as in any other type of public/private transportation intersection. Private drive or road users will stop and yield to trail traffic.

The trail approach will be cleared of any possible sight obstructions. Standard AASHTO alerting signs will be installed on the trail to alert trail users of the pending vehicular crossing. A series of bollards or posts will be installed in the trail just before the intersection in a manner that will require trail users to slow bicycle and horse riding speeds to provide for an alert crossing sequence. The bollards will be locked in place to prevent vandalism but will be provided with break-away releases or other key systems to allow access by emergency vehicles.

Standard AASHTO traffic stop and yield signs will be installed on the private road or driveway approaches, particularly on the side which enters onto a public road to alert traffic from visitors who may not be anticipating a trail crossing.

Minor Trail Crossing

The private residential and farm driveways along Pioneer Way north of Orting are examples of minor trail crossings with very low traffic and speeds usually by a single or small number of private property owners.

Cattle guards, gates or other fencing improvements may be added in association with the property owner, if necessary, to manage land use and traffic activities on the private property.

Major Crossing

The gravel pit operation east of Orting is an example of a major private crossing with heavy traffic volumes, speeds and vehicles by a commercial or industrial user.

Flashing traffic alerting signals may be added, if necessary, to manage land use and traffic activities between the private property and the trail.

Trailheads

All the trailheads will be developed under a prototype design to provide consistency for trail users. The prototype trailhead will be accessed from a single entrance that loops about an enclosed parking area with paved, double parking stalls for approximately 26 cars. The access road will loop in a figure 8 beyond the paved area to enclose an unpaved, specially surfaced grassy area to provide overflow parking during peak trail days and to
accommodate horse trailer parking. A security gate will be constructed across the single entrance to allow the trailhead to be shut down during late evening hours.

The parking area will be surrounded with a low-rise earth mound and planted with ground cover and trees to obscure views of the parked cars from the trail and adjacent properties. A trail will be built about the parking area inside the mounds to access the parking area and main trail. The access trail will be provided standard AASHTO alerting, stop and yield signs to control merges onto the main trail.

Trailhead services will include restroom buildings with on or off-site utilities depending on the location, telephones possibly with a 911 or other direct emergency connection, water and air pumps, and possibly volunteer-manned information or safety booths, bicycle or other concessionaire stands.

The sites will also be furnished with directional and informational signage and maps, historical and cultural exhibits which explain the significance of the railroad, early mining and lumbering activities and other features of significance. The sites will also be improved with picnic tables and shelters, benches and rest areas, natural and ornamental landscaping and other park-like improvements which will make the sites attractive additions to the local communities.

A number of alternative locations were identified and evaluated during the course of the study. Following is a brief accounting of major sites and recommendations:

**McMillin**

A major trailhead should be located at the north end of the trail near McMillin to accommodate an expected heavy volume of trail use from Puyallup, South Hill and other communities to the west and south. Ideally, the site should be able to accommodate a large parking volume during peak trail events.

The preferred site is adjacent to the Puyallup River Bridge and along the Puyallup River. The site is nicely wooded with direct, convenient access to the river’s edge for fishing and other waterfront activities. The property could easily accommodate the parking and loading activities necessary for a major trailhead development, and provide a convenient put-in site for rafting, canoe and other boating trips on the Puyallup River.

In addition, an old resort property located between South Fork Road and the north side of the Puyallup River just below the McMillin industrial subdivision could also provide a community or regional park which could eventually provide trailside camping support for long distance hiking and bicycling groups, and/or with concessionaire bicycle, horse and boating concessions. The property was originally used as a summer resort camping and picnicking facility. Considering the property’s close-in location to Puyallup and Tacoma, the site could also be provided transit service from Tacoma and other distant service areas to reduce on-site parking activities and requirements.

**Orting**

The preferred trailhead locations would be located at the west edge of the downtown district on Whitssel Court south of the track bed and east at the east edge of the downtown district on the north side of the track bed between Bridge and Hardefelt Streets.

The trailhead at Whitssel Court would likely be used by trail users wanting access to the portion of the trail between McMillin and Orting. The trailhead could provide a convenient
service which would collect trail activities before they enter the downtown district. The trailhead could also be used by the High School complex located north across Pioneer Way/SR-162 during special school activities or events. The trailhead improvement should conform to the prototype design and be extended along the track bed between the trail corridor and what would be the extension of Corbin Avenue to allow for overflow parking requirements during special trail or Orting community events.

The trailhead at the east edge of the downtown district between Bridge and Hardefelt Streets would likely be used by trail users wanting access to the portion of the trail between Orting and South Prairie. The trailhead could provide a convenient service location which would collect trail activities before they enter the downtown district. The trailhead could also be used by the Eagles Lodge located south across the track bed at the corner of Bridge Street and Pioneer Way/SR-162/Corbin Avenue when the Eagles sponsor special community oriented activities or events. The trailhead improvement should conform to the prototype design and be extended along the track bed between the trail corridor and the extension of Pioneer Way/SR-162/Washington Avenue to allow for overflow parking requirements during special trail or Orting community events.

South Prairie
Three alternative locations were considered including a location at the west end of town between the trail corridor and 1st Street west of Emery Street and two sites at the east end of town adjacent to the South Prairie Community Hall/Fire Station at the crossing of South Prairie Creek.

A trailhead at Emery Street would be accessed from Tacoma Street and would extend between the trail corridor and 1st Street's right-of-way between Emery and Tacoma Streets. The improved portion of the trailhead would be located adjacent to Emery to provide a landscaped definition to this edge of the downtown area. The west end of the trailhead would be improved with a special hardcover grassy surface and would extend down the corridor for overflow parking. The trailhead could be used by the town for overflow parking during special community events.

The trailhead at the South Prairie Fire/Community Hall could be developed under two different options. One option would site the trail parking lot directly west of the hall within it's own controlled area with a separate access off Pioneer Way/SR-162. This option would not infringe on the Fire/Community Hall. However, the option would create an additional access onto Pioneer Way/SR-162 that could congest traffic patterns to all three facilities.

The preferred option would site the trailhead directly adjacent to the existing hall parking lot between the lot and the proposed community park on South Prairie Creek. Ideally, the Fire/Community Hall lot and the trailhead would be merged into a single facility which could be accessed from the existing drive onto Pioneer Way/SR-162. The lot could be partitioned, if South Prairie desires, to separate trailhead and Hall parking areas, and allow the complex to be partially to wholly closed during overnight hours. The trailhead project could develop the land between the parking lots and South Prairie Creek for the proposed community park use. Possible community park improvements could include a separate nature trail, fishing or Creek overlook, picnic tables and cooking shelters and other furnishings as South Prairie desires.

Buckley
Six alternative sites were identified during one of the early workshop planning sessions in Buckley. Three sites were at the south end of town close to SR-165/Ryan Road and three
McMillin Trailheads
Oring Trailheads
sites were at the north end of town close to Park Avenue. During a second planning workshop, the preferred sites were identified to be locations south of SR-165/Ryan Road on the west side of the trail corridor and north of Park Avenue on the east side of the trail corridor.

The trailhead south of SR-165/Ryan Road was preferred because the site can be accessed off Buckley Boulevard which is a minor collector road rather than from a location off SR-165/River Avenue, which is a busy arterial, or from a location closer in-town where there could be trail/town traffic conflicts. In addition, the trailhead would not interfere with or obscure the critical sight distances needed for the trail's crossing of SR-165/River Avenue at this point. The improved portion of the trailhead would be located adjacent to SR-165/Ryan Road and the overflow grassy parking area would extend south down the right-of-way.

The trailhead location north of Park Avenue was preferred because this site had more expansion potential than the other alternatives and would also not interfere with the expansion plans for the Logging Rodeo Grounds. In addition, the location could be used during special occasions by the Logging Rodeo Grounds and/or by White River High School which is directly across River Avenue from the site. The improved portion of the trailhead would be located adjacent to Park Avenue and the grassy overflow parking area would extend north between the trail corridor and River Avenue. The trailhead would be accessed from a single entry/exit off River Avenue.

Wilkeson

Four alternative sites were identified during one of the planning workshops in Wilkeson. One alternative was directly adjacent to the sewage treatment plant at the north end of town, another was directly in front of City Hall, another was at the south end of town on the north side of Quinnon Extension's intersection with Burnett-Fairfax Road/SR-165 and the last alternative was south of town on Quinnon Extension directly across the road from where the hand car racing track is presently located. During a second planning workshop, the preferred site was identified to be the location north of town adjacent to the sewage treatment plant.

The sewage treatment plant alternative was preferred because this site could directly access the Carbonado or the South Prairie portion of the trail in a location which would not require travel into the downtown area. The trailhead would be developed directly south of the sewage treatment plant on the west side of the trail corridor north of Brierhill Boulevard. The trailhead would be provided a single traffic access off Brierhill Boulevard's intersection with Burnett-Fairfax Road/SR-165 which would, unfortunately, cross directly over the trail. Consequently, the trail may need to be diverted off the track bed at this point to provide sufficient sighting distance from traffic turning into the trailhead from Brierhill Boulevard and Burnett-Fairfax Road/SR-165. Special yield signs and other alerting devices may also be necessary. The improved portion of the trailhead would be located at the south end directly adjacent to the trail crossing to provide an attractive entrance and improvement to the town of Wilkeson. Overflow parking would be provided on the north end of the site and could extend about the sewage treatment plant if necessary during peak trail activity days.

The trail project could also acquire and improve the southern most alternative site on Quinnon Extension directly across from the hand car racing track if the Wilkeson so desired. This additional improvement could provide supplemental parking during peak trail activity days when Wilkeson merchants would like trail users to frequent the downtown.
South Prairie Trailheads
area. In addition, the improvement would help identify and promote the spur extension of the railroad corridor that could connect to the coke mines east of town.

**Carbonado**

Three alternative locations were identified including a site directly south of the cemetery which would be accessed off Wilkeson-Carbonado Road, the Washington Department of Transportation's gravel pit north of town which would be accessed off Burnett-Fairfax Road and a site south of Pershing Avenue which would be accessed off Farm Street. Each site has distinct advantages and disadvantages.

The cemetery location would be away from Carbonado proper and thereby could avoid creating traffic congestion in town or with local residential areas. However, the site is somewhat remote and could tend to encourage vandalism at the cemetery.

The gravel pit is also located away from Carbonado proper and would also avoid creating traffic congestion in town or with local residential areas. This location was preferred by the participants of the planning workshop. However, this location is not very visible from Burnett-Fairfax Road/SR-165, would require parking vehicles to drive across the trail creating a potential trail-traffic hazard and is also somewhat remote and secluded for trail security purposes.

The recommended location would be a site south of Pershing Avenue adjacent to the main entry into Carbonado but not within town. This location would be easier to provide security, is more visible than the other locations and would better access the trail corridor when it is extended on to Fairfax. In addition, if Carbonado desires, this location could incorporate some landscaping and special signing improvements within the trail right-of-way at the Pershing Avenue crossing to provide a major gateway definition to the town. The trailhead could even be expanded, if Carbonado desired, to incorporate picnic tables and shelters, playfields and other park-type improvements which could be of interest to community residents as well as trail users.

**Trail Service Sites**

Trail service areas are special stopping places which could be created along the trail corridor to provide scenic overlooks, resting areas, waterfront access, water or sanitary services, historical or environmental exhibits or other similar features. Following is a listing of the possible sites which should be investigated for special trail service during succeeding design phases of work:

**Mount Rainier Viewpoint**

An existing viewpoint is provided along the trail corridor between Pioneer Way and Old Pioneer Way north of Orting. The site should be retained and furnished with benches, picnic tables, informational signage and other appropriate improvements. Some short-term parking should also be considered for tourists wishing to take pictures of the spectacular backdrop provided by Mount Rainier from this vantage point.

**Train Street Orting**

The Orting Kiwanis Club developed a small park shelter at this site for the use and enjoyment of Orting residents. If appropriate, the park could be expanded or matched on the opposite side of the trail to provide a central resting area for trail user access to the Orting downtown district. The rest area could be provided bicycle storage racks, benches, picnic tables, a drinking fountain, informational signage and other improvements.
TRAILHEAD ALTERNATIVE PLAN

Wilkeson Trailheads
appropriate to the existing park which would encourage trail users to frequent downtown commercial establishments.

Pacific Railroad Spur/Kapowsin Cut-off
The right-of-way created for the Pacific Railroad spur line to Electron and Lake Kapowsin is presently used by persons seeking access to the trail corridor and by persons seeking to fish the braided bend in the Carbon River. The right-of-way should be retained and furnished with benches, informational signage and other appropriate improvements. Some short-term parking may be considered at this site to accommodate persons seeking to fish this stretch of the River provided parking activities do not become a nuisance to adjacent properties or traffic on Pioneer Way/SR-162.

Voights Creek Fish Hatchery
The Washington State Department of Fisheries Hatchery on Voights Creek on Pioneer Way/SR-162 would provide a convenient service site combined with the informational and touring opportunities available from the hatchery. The right-of-way adjacent to the hatchery could be expanded and furnished with benches, informational signage and other appropriate improvements. Some short-term parking may be considered at this site to accommodate persons seeking to tour the hatchery facilities while using the trail.

Carbon River Crossing
A stretch of Pioneer Way/SR-162 right-of-way and the railroad corridor are presently used at the Carbon River crossing by persons seeking to fish this stretch of the River. The site should be retained and furnished with benches, informational signage and other appropriate improvements. Some short-term parking could be considered for persons fishing the river provided parking activities do not become a nuisance to adjacent properties or traffic on Pioneer Way/SR-162.

Cascade Junction Switchback
The South Prairie-Buckley line switchback land locks the private property that is enclosed by the looped track bed that climbs the grade below Buckley. The track encloses a meadow within this sequence that serves as a center point and backdrop to scenic vistas of Mount Rainier. The site should be acquired and added to the corridor as passive open space. The track bed could include benches, informational signage and some small rest stops along this stretch that frame the vistas which are provided.

Main Street Buckley
The Buckley Chamber of Commerce has developed an ornamental planting to define Main Street’s entrance into downtown Buckley. If appropriate, the improvement could be expanded to provide an enlarged park rest area for trail user access to downtown Buckley. The rest area could be provided bicycle storage racks, benches, picnic tables, a drinking fountain, informational signage and other improvements appropriate to the existing park which would encourage trail users to frequent downtown commercial establishments.

Buckley Cemetery
The north end of the Buckley Cemetery overlooks the White River Flume, the White River Valley and the original trestle crossing of the White River. If possible, a small trail rest and overlook should be provided at this site. The improvement could be provided benches, picnic tables, informational signage, possibly a small elevated platform, and other appropriate furnishings.
White River/River Avenue
The north end of River Avenue is presently used by persons seeking fishing access to the White River. This site should be retained and provided benches, picnic tables, some short-term parking and other improvements appropriate to the site's continued use for waterfront access.

Wilkeson Creek Park
Pierce County presently owns a small community park site on the Johns Road crossing of Gale Creek just south of the trail corridor. The park holding could be expanded to include the property which lies between the Creek and the trail corridor to create an enlarged park opportunity. The site could be provided benches, picnic facilities, short-term parking, fishing access and other improvements appropriate for trail users and local residents.

Downtown Wilkeson
At the present time the portion of railroad corridor through downtown Wilkeson is unimproved and used for overflow parking. The site could be improved and provided historical and informational signage, bicycle storage racks, benches and other improvements which would encourage trail users to be informed of Wilkeson history and frequent downtown Wilkeson commercial establishments. Any corridor excess could be incorporated into an improved, landscaped short-term parking area which would be of use to tourists, short-term commercial customers and residents during evening City Hall functions.

Wilkeson Handcar Park
Wilkeson presently uses the south end of the Quinnon Extension spur track for hand car races during Wilkeson annual community events. The site could be expanded and incorporated into the proposed trailhead at this location. The hand car starting line could be furnished with benches, picnic facilities and informational signage of interest to trail users, tourists and local residents.

Carbonado Clear-cut
The timber clear-cut north of Carbonado provides some spectacular vistas of Mount Rainier, particularly for trail users emerging from the long grades leading out of Wilkeson. Some strategic sites should be allocated along this stretch to provide benches, rest stops and informational signage for viewpoints of the Mountain.

Carbonado Cemetery
The trail corridor passes the Carbonado Cemetery on the west side away from any local access road. Benches and informational signage could be provided at this common border to provide a suitable resting stop along the trail.

Carbonado Post Office
A spur line extends off the trail corridor to the intersection of Tubbs Road and the Carbonado Post Office. This sequence could be added to the trail corridor and be provided benches, informational signage and other improvements with which to explain the historical development and importance of the town.

Carbonado Recreation Hall
The trail corridor ends at the intersection of Pershing Avenue and Burnett-Fairfax Road/SR-165 directly adjacent to the Carbonado Recreation Hall. If appropriate, special signage, bicycle storage racks, benches, landscaping and other appropriate furnishings could be
provided at this site to emphasize this entrance to the town and the historical significance of the community to the region.

**Linear Park Improvements**

Other improvements within the trail corridor may include the special installation of trees, landscaping and other park-like improvements where the trail goes through developed downtown areas in Orting, South Prairie, Buckley, Wilkeson and Carbonado. The trail may be marginally widened at these places to provide the resting areas, historical or natural area exhibit signage or scenic overlooks defined in the text on service areas or trailheads.

Special landscape screens of natural plantings, such as high grasses, bushes and trees, and built structures including fences, could be added where necessary to maintain security, traffic control and visual privacy between the trail and adjacent properties.
**FOOTHILLS TRAIL**

Master Plan

**SEGMENT A-1**

McMillin to Orting

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**KEY**

- **Pvx:** Private Crossing
- **TH:** Trailhead
- **B:** Bridge
- **2:** Trail & Station

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**Trailhead Site**

This location is currently used for parking by sportsmen fishing the Puyallup River. Access exists off a private road from SR-162. The area is cleared of trees.

**Existing Bridge over the Puyallup River**

Improvements would include removing existing wood ties, cleaning and painting the steel truss, and installing new laminated timber deck and timber guardrails.

**Proposed Trailhead**

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Portions of the bed are slightly elevated with gentle side slopes. Equestrians would be separated. The bed and drainage is good.

Typical Trail Bed

Portions of the bed contain a "reverse crown" that will hold water. Here, the bed will be elevated. The entire length shown on this plan affords good views of Mt. Rainier.

View of Mt. Rainier
**FOOTHILLS TRAIL**

**Master Plan**

**McMillin to Orting**

**KEY**

- **Pvx:** Private Crossing
- **Pbx:** Public Crossing
- **TH:** Trailhead
- **TH:** Trail & Station

---

**KEY**

- **Pvx:** Private Crossing
- **Pbx:** Public Crossing
- **TH:** Trailhead
- **TH:** Trail & Station

---

**Trail Bed**

Short portions of the bed have been tilled and will require reestablishment.

**Trail Head Site**

This trailhead provides a terminus for Segment A at the north end of Orting. This location could provide overflow parking for the high school to the east and for the Lion's parking to the south, while preserving the commercial parking through town.

**Proposed Trail Head**

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**SCALE: 1" = 800'**

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**Orting**

**Linear Park**

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**Pioneer Way**

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**Old Pioneer Road**

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**Carbon River**

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**McMillin**

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**Buckley**

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**Wilkeson**

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**Carbonado**

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**Segment Map**
Public Crossing

The at-grade crossing at SR-162 poses a low hazard because of the two 90° turns on each side of the trail and ample site distances for vehicles and trail users. Vehicle speeds are already reduced to 25 mph through town.

Proposed Trailhead

Trailhead Site

The second trailhead in Orting is at the south end of the commercial area. Improvements to this vacant area will serve as an extension of Lion's Park into the adjacent residential area.
The existing bridge over Voight Creek is a 135 foot span timber trestle. Improvements will include a new timber deck and guardrails.

**Trail Bed/Dike**

A portion of the trail bed serves as a dike along the Carbon River, protecting the adjacent low lying farms. The existing rip-rap slope will be restored where required. The trail will provide access for remedial work on the riverbank when required.
FOOTHILLS TRAIL
Master Plan

SEGMENT B-3
Orting to South Prairie

KEY
- Pyx: Private Crossing
- B: Bridge
- A.P: Access Point
- 1: Trail & Station

Improvements will include removing the existing wood ties; raising the bridge to provide 15'-6" clearance over the highway; cleaning and painting the steel superstructure; and installing a new laminated timber deck and timber guardrails.
**FOOTHILLS TRAIL**

**SEGMENT B-4**

Orting to South Prairie

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**KEY**

*Pvx:*  Private Crossing  
*B:* Bridge  
*2:* Trail & Station

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**Trail Bed**

Much of this area is low; however, the trail bed is elevated and in good condition. Small culvert crossings will be provided to relieve water concentration caused by the existing bed. Equestrians would be on a separate trail, except at the bridge.

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**Existing Bridge**

The existing bridge over drainage way is a 195 foot, thirteen span timber trestle with timber pile and timber plank abutments, and steel wide flange pile caps. The condition of the trestle and abutments is fair.

Improvements would include removing existing wood ties, cleaning and painting steel pile caps, and installing new laminated timber deck and timber guardrails.
Typical Trail Bed

While the trail bed is elevated, much of this area is low and poorly drained. Small culverts will be provided to allow drainage under the trail bed. Equestrians would be on a separate trail.

Washout

This is one of two locations where the trail bed has been severed. In this case, South Prairie Creek breaks the bed then recrosses the bed to reenter the creek down stream. A culvert crossing and bank stabilization are required.
In this segment, the trail lies between SR-162 and South Prairie-Carbon River Road, but the trail is well buffered. The trail currently provides access to South Prairie Creek as evidenced by foot and horse tracks. There are particularly nice views of South Prairie Creek Rapids.
Proposed Trailhead

The proposed trail head on the north side of the South Prairie fire station and community center will not impact parking in the town's commercial area, but will provide overflow parking for the community center.

The area will also accommodate expansion of the trail head if needed.
The existing bridge over South Prairie Creek is a double track, 29 foot span timber trestle, with an 82 foot single span steel through plate girder over the creek. The 29 foot two span timber trestle has timber pile and plank abutments and timber pile supported timber cribbing piers supporting the plate girder span.

Improvements will include removing existing wood ties; excavating to expose pile tops supporting piers; inspecting and repairing piers as required; backfilling and protecting with rip-rap; cleaning and painting the steel span; installing new laminated timber deck, and timber guardrails.

The original 150 foot 3 span bridge was removed. The new bridge will also be a 150 foot three span, using the existing abutments and pier foundations. It will have a laminated timber deck; timber guardrails; glu-lam or steel wide flange girders, and glu-lam or steel truss piers.
The original wood trestle was removed. The new bridge will span both the road and the creek, but will be at a lower elevation than the original bridge. The new bridge will be a 275 foot long timber trestle, with 20 foot typical spans, a 40 foot span over the creek, and a 35 foot span over the road.

New Bridge at Lower Burnett Road

The original 72-inch concrete culvert washed out. New improvements will include removing the remains of the culvert, and terracing the creek bed to reestablish the fish habitat. The new bridge will be a 150 foot three-span timber bridge.
A portion of this segment runs through a canyon. Runoff from the adjacent slope and springs will be collected in ditches and the trail bed slightly elevated to stay dry.

**Proposed Trail**

**Typical Trail Bed**

The majority of this portion of the trial is flat and slightly elevated above the adjacent grade.
FOOTHILLS TRAIL SEGMENT C-4
Master Plan
South Prairie to Buckley

KEY

Pvx: Private Crossing
Pbx: Public Crossing
TH: Trailhead
2 Trail & Station

As trail enters Buckley, it parallels the existing Linear Park.

Typical Trail Bed

Proposed Trailhead

The trail head at the south end of Buckley will serve as a beginning point for trail users heading to South Prairie or Wilkeson.
Master Plan

FOOTHILLS TRAIL SEGMENT C-5
South Prairie to Buckley

KEY
Pbx: Public Crossing
TH: Trailhead
Trail & Station

Segment Map

The trail head at the north end of town will double as overflow parking for the High School and Logger Rodeo.
**FOOTHILLS TRAIL SEGMENT D-1**

Master Plan  
South Prairie to Wilkeson

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**KEY**

- **B:** Bridge  
- **2:** Trail & Station

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**/* Trail Bed */*  
East of Cascade Junction, the trail swings east and south to Wilkeson. The initial few hundred feet will require additional earthwork to establish a ditch on the uphill side.

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**Existing Bridge**  
Improvements will include removing existing wood ties; cleaning and painting steel span; and installing a new laminated timber deck and timber guardrails.
A portion of the bed abuts Wilkeson Creek and has been eroded away. Approximately 80 linear feet of rip-rap protection will be required to protect the bed.

Most of the trail bed is elevated with low areas adjacent. The bed is sufficiently wide to accommodate the typical trail cross section.

Portions of the bed cut through the hillside and will require restoration of the adjacent ditches.
FOOTHILLS TRAIL SEGMENT D-3
Master Plan
South Prairie to Wilkeson

KEY
Pbx: Public Crossing
A.P: Access Point
2: Trail & Station

Portions of this section cut into the side of a hill:

Most of the trail is elevated above the adjacent grade.

At Johns Road, sight distance is poor. As the trail approaches the road, the bed will be raised to meet the grade of the road, and adequate warnings provided for both trail users and vehicles on Johns Road.

SCALE: 1" = 800'

Typical Trail Bed

Proposed Trail
The two existing bridges near Wilkeson are in fair condition and will only require removing the wood ties, cleaning and painting the steel, and installing a new timber deck and guardrail.

An area near Wilkeson's sewage treatment plant will provide a trail head adjacent to, but just outside of the town's commercial area.
FOOTHILLS TRAIL SEGMENT E-1
Master Plan Wilkeson to Carbonado

KEY

Pvx: Private Crossing
- - - 2 - Trail & Station

Just outside of Wilkeson, a section of the trail bed has sloughed away (approximately 50 feet), and will require rebuilding and stabilization.

Unstable Bānk

The one private crossing is a road that serves several residents and is a curve with poor sight distance. Here, the trail users will be required to stop.
A major portion of this part is typically a clear out area. While the character of the area is dramatically different from the rest of the trail, views of the distant Olympics are afforded.

**Standing Water**

A small section of the bed was disrupted and water now stands on the bed. Here, the bed will be elevated and drainage directed away.
Most of the trail bed is in good condition. Where cut slopes are adjacent, restoration of a ditch will be required.
The existing gravel pit will provide convenient access from SR-165, just outside of Carbonado, which has no public services.
Concrete curb

Traffic sign

Mile post

Wood bollard

Bench

Picnic table
Sanican enclosure

Bike rack

Information sign
Vegetation clearance

Vegetative screen
Operational Plan
Operations Plan

Ownership

The portion of the Foothills Trail segment that is located within unincorporated Pierce County should be owned and operated by the Pierce County Department of Parks, Recreation & Community Services as a linear park/trail in much the same manner as other county parks and improvements.

Portions of the Foothills Trail which are located within Orting, South Prairie, Buckley, Wilkeson and Carbonado may be:

1) owned by the local jurisdictions and operated by the Pierce County Department of Parks, Recreation & Community Services under an interagency agreement as an extension of the countywide system of trails, or be

2) owned and operated by each community as the local component of the countywide system, as the local jurisdiction desires.

However, if the local portion of the trail is purchased using funds provided from the countywide trail improvement program, then the local trail portion must conform to the same or compatible corridor location, trail design and use standards as the countywide system so that there are no use, operation or other conflicts between systems.

Management

The Pierce County Department of Parks, Recreation & Community Services should organize a Pierce County Trails Task Force or Council to provide advice on the management of the Foothills Trail segment, other succeeding segments of the proposed Nisqually Delta/Mount Rainier Trail and other proposed portions of the countywide trail system. The Task Force or Council should be directed by the Department and include the participation of a policy group, 2 technical groups and 2 citizen advisory groups.

Policy Group - public/park officials

The Trail Policy Group should include a designated elected official or park and recreation board or agency surrogate from each local jurisdiction that is affected by a portion of a countywide trail segment. Ultimately, this group should probably include a designated representative from each local jurisdiction within the county. Initially, however, the group should likely include a designated representative from Orting, South Prairie, Buckley, Wilkeson and Carbonado, and possibly from Puyallup and Tacoma if the initial Foothills Trail segment development plan also includes trail segments within these communities. The policy group should review operating issues and generally assist the Department with the development and implementation of trail policies.
Technical Group - Design
The Technical Design Group should include the director or a designated planning or design staff member from each public park and recreation, planning, public works or engineering department that is affected by the development and operation of countywide trails. The initial group should include active representatives from the Buckley and Orting Public Works Departments, Puyallup Planning and Parks Departments, Tacoma Planning and Public Works Departments, Metropolitan Park District of Tacoma, Pierce County Planning & Natural Resource Management and Public Works Departments, and King County Parks & Recreation Division.


The Technical Design Group should help the Department review and adopt a system of coordinated trail design, development and maintenance standards for each type of trail, trail segment and trailhead improvement within the proposed countywide system. The Technical Design Group should also establish a common system of traffic controls, traffic and trail signage, directory and informational maps and signs, a trail logo and system of trail names.

Technical Group - Security
The Technical Security Group should include the Chief or head of security or a designated staff member from each police, fire and emergency aid service that is affected by the development of a system of countywide trails. The initial group should include a designated representative from the Pierce County Sheriff's Department, the Buckley and Orting Police Departments, Puyallup and Tacoma Police Departments, Pierce County Fire Districts Number 12,18 and 20, and others appropriate.

The initial group should also provide for the participation of designated security staff representatives from the Intercounty River Improvement District, Washington State Highway Patrol, Washington State Departments of Wildlife, Natural Resources and Ecology, US Fish & Wildlife Service, US Forest Service and National Park Service, McChord Air Force Base and Fort Lewis Army Post.

The Technical Security Group should help the Department review and adopt a system of coordinated trail safety, security and operating activity standards for each type of trail activity, occasion or event planned or allowed along the proposed countywide system. The Technical Security Group should also establish a coordinated emergency call system and response concept.

Advisory Group - User Organizations
The Advisory User Group should include the president or a designated participating member from the various interest groups and organizations whose members would use the proposed countywide trail system. The group may include representatives from the Bike Federation of Washington, Boy Scouts of America - Mount Rainier Council, Camp Fire Council, Cascade Bike Club, Daffodil Valley Volksport Association, Equest Special Riders, Evergreen State Volksport Association, Evergreen Wanders, Fort Steilacoom Running Club, Girl Scouts - Pacific Peak Council, Meridian Riding Club, Mountaineers - Tacoma Branch,
Tacoma Wheelmen's Association, The TACID Center - Individuals with Disabilities, Washington Horsemen's Unit #1, Washington Trails Association, among others.

The Advisory Users Group should help the Department develop, operate and finance (through special funds raising efforts and/or with volunteer resources) trail safety and education programs, maintenance schedules, information and promotion efforts, historical and cultural exhibits, special events and activities of interest to trail users and the general public concerning trail and linear park related activities. The Advisory Users Group may provide special funds raising efforts and/or volunteer resources with which to manage trail program efforts of interest.

Advisory Group - Property Owners
The Advisory Property Owner Group should include appointed private residential and business owners who are representative of interests of various segments of the proposed countywide trail system. The initial group may include appointed parties who represent downtown property interests of the Orting, South Prairie, Buckley, Wilkeson and Carbonado downtown districts, of agricultural farmlands that abut the corridor within the Puyallup and Carbon River Valley, of timber interests that abut the corridor within the Wilkeson Creek and Carbonado segments, and of residential properties that adjoin the corridor between Cascade Junction and Buckley, among others. The ultimate Advisory Property Owners Group may include parties that represent property owners interests in other areas of the countywide trail system.

The Advisory Property Owners Group should help the Department develop and implement policies and practices concerning trail security programs, maintenance schedules; special events and activities which may impact adjacent property interests or activities.

Trail Use Ordinance
With the assistance of the management groups outlined in the preceding pages, the Pierce County Department of Parks, Recreation & Community Services should develop and the Pierce County Council should adopt a Trail Use Ordinance. The Ordinance should define a set of regulations or policies governing behavior and conduct on the proposed trail system in much the same manner as the County presently adopts guidelines governing public conduct in county-owned parks. The Ordinance should also define the methods by which the Ordinance should be enforced and the civil penalties for a person's failure to comply. The regulations should be posted at trailheads and be included on all trail brochures and maps.

Security

Present capabilities
In accordance with Police Protection District Number 12 provisions, the Pierce County Sheriff's Department has responsibility for patrol and emergency response duties throughout the unincorporated areas within the study corridor and including the municipal jurisdictions of South Prairie and Carbonado. The area is patrolled from a district headquarter's facility at 10615 234th Avenue East near Bonney Lake. The district currently has 9 full-time officers.

Orting has 3 full-time police officers who respond to calls and perform patrol duties within Orting city limits from a headquarters facility at 100 Train Avenue. In addition, the city has mutual aid agreements with surrounding jurisdictions including the City of Buckley and the Pierce County Sheriff's Department.
Buckley has 7 full-time officers and responds primarily to calls within the City of Buckley. In addition, by contractual agreement, Buckley provides police services to the City of Wilkeson and assigns officers part-time duty in Wilkeson on a regular basis. The city has a mutual aid agreement with the Pierce County Sheriff’s Department and the City of Orting which permits additional responses to areas outside of the city limits.

Other occasional and specialized security surveillance activities are provided within the area by the Intercounty River Improvement District on flood control dikes, the US Fish & Wildlife, Forest and National Park Services on federal lands, and the Washington State Departments of Wildlife, Natural Resources and Ecology on state lands and resources.

In accordance with Fire Protection District Number 12 provisions, Pierce County has responsibility for fire and medic aid emergency response duties throughout the unincorporated eastern areas within the trail corridor and including the municipal jurisdictions of South Prairie, Buckley, Wilkeson and Carbonado. The area is patrolled from a district headquarter’s facility at 10615 234th Avenue East near Bonney Lake and a branch station in Wilkeson. The district is operated by a staff of 28 volunteer firefighters.

In accordance with Fire Protection District Number 18 provisions, Pierce County has responsibility for fire and medic aid emergency response duties throughout the western areas within the trail corridor including McMillin and the City of Orting. The district is operated by 38 volunteer firefighters and 1 full-time chief from a facility in Orting.

In accordance with Fire Protection District Number 20 provisions, Pierce County has responsibility for fire and medic aid emergency response duties throughout the central areas within the trail corridor including the areas south of the Carbon River east to Wilkeson. The district is operated by 25 volunteer firefighters.

Emergency response
The Pierce County Sheriff’s Department will add 3 additional patrol deputies to the District 12 detachment area to increase patrol and response capabilities within the Foothills Trail segment corridor. District 12 deputies will be able to provide random patrols along the trail corridor during their normal tour of duty assignments. The Sheriff may also assign resources for Foothills Trail segment patrols from the Pierce County Summer Park Patrol program.

In addition, the Pierce County Sheriff’s Department should develop with the Buckley and Orting Police Departments an interagency agreement to provide trail emergency and complaint response services for life-threatening conditions or criminal activities along the Foothills Trail segment. A similar or the same coordinated effort should also be used to respond to civil or other aggravated activity complaints by adjacent land owners or residents.

In a like manner, the Pierce County Fire Protection Districts 12, 18 and 20 should create a coordinated fire and emergency response system for the Foothills Trail segment for the fire stations located in Orting, South Prairie and Wilkeson.

Routine trail patrols
The Pierce County Department of Parks, Recreation & Community Services should operate a trail security patrol for the complete length of the trail during the peak seasons, days and hours of use. The trail patrol should be staffed with Park Rangers who are empowered with
the authority to issue tickets, impound illegal vehicles and arrest offenders, if necessary, for
the enforcement of park rules and regulations - in a manner similar to what Park Rangers
do in other County parks.

Trail rule violations should be subject to fines or special duties including service hours on
maintenance or other trail support activities, depending on the nature of infractions. The
most serious penalties should be given infractions involving safety, such as speeding,
failure to abide by stop signs or failure to yield right-of-way and blocking the trail.

Violators could also be required to attend trail safety class in lieu of paying a citation. Trail
safety classes could be held on a monthly basis with instruction by a certified Effective
Cycling Instructor - which is a nationally recognized certification program for bicycle
instructors.

Generally, Park Rangers should perform positive trail functions as much as possible,
distributing maps and brochures, providing information, giving safety checks and other
service oriented activities. Park Rangers and any other associated or volunteer security
personnel should patrol the trail on bicycle or by horse, and not on motorized vehicles of
any kind.

The trail patrol’s primary function is to provide assistance and information, not apprehend
criminals. There are no circumstances which would justify high speed chases or other
security responses on the trail which could jeopardize trail users, particularly children. The
trail patrol can get assistance from the emergency 911 network or radio-assisted system to
be created between the Pierce County Sheriff’s Department and local policy agencies
should a security occasion arise that requires such a response.

The Department should authorize other law enforcement personnel to patrol and enforce
park rules and applicable laws within the Foothills Trail segment. Possible joint
enforcement patrols could be accomplished by the US Fish & Wildlife, Forest and National
Park Services, Washington State Departments of Wildlife, Natural Resources and Ecology,
and the Intercounty River Improvement District.

In addition, the Department should authorize special trail patrols by the Pierce County
Sheriff’s Mounted Posse, which is a civilian organization authorized special deputy Sheriff’s
commissions, and volunteer safety patrols by various bike, hike, walk and horse user
organizations. Trail patrol volunteers, however, should take an expanded Effective Cycling
course and pass the Effective Cycling exam provided with the trail safety classes before
they are authorized on the trail. The class instruction should provide the volunteers with
information necessary for safe trail practices and a working knowledge of trail security
procedures and practices. In addition, the instruction should certify the volunteers so that
they make also help with school education programs and rodeos.

At the beginning and end of each season, the trail patrol should conduct an annual field
survey to measure the patrol’s effectiveness and to identify potential enforcement
procedures and problems. The survey could be done with volunteer assistance and would
also provide an opportunity for a count of trail user volumes.

Accident report forms should be completed by the trail patrol or any other involved parties
for all incidents that occur on the trail. The reports should be compiled and analyzed on a
yearly basis to determine any necessary improvements in traffic control systems,
procedures or patrol methods.
Trailheads should be monitored by the Park Rangers during peak use hours, and by the Pierce County Sheriff's Department and the local Buckley and Orting Police Departments during evening and nighttime hours. Trailheads should be closed after prime trail use hours to discourage nighttime trail use, vandalism or other inappropriate behaviors. Under the proposed interagency agreements, the Orting and Buckley Police Departments could be given afterhour management authority over the trailheads within their patrol area and the trailheads could be provided security gates to allow the closing of the site.

**Trail security improvements**
Trailheads should be provided emergency telephone and callbox systems with direct connections to the local 911 network and/or the coordinated law and fire response system to be developed by the Pierce County Sheriff's Department. The calling system could also be installed at measured points along the trail, particularly the more remote sections between South Prairie, Wilkeson and Carbonado if fire and other emergency conditions warrant. In addition, Park Rangers, maintenance staff and volunteer patrols should be equipped with 2-way radios and other emergency telecommunications equipment which can connect into the emergency response system.

Trailheads should also be provided night security lights to provide visibility and allow evening and late hour security patrols. Security lights could also be installed at major road and trail crossings or activity areas if conditions warrant.

The recommended trail design standards provide for an open operating pathway of from 10-12 feet which will accommodate all varieties of security, safety and other emergency equipment including double-wheeled, 4-wheel drive fire trucks and medic aid vans. The type of bollards or other vehicle obstructions which should be installed at all access and entry points along the trail should be of a type which can be knocked-down by emergency vehicles or unlocked and removed by appropriate security of safety personnel during an emergency response.

Directional signage should be provided at all trailheads, trail access points, rest areas and at frequencies no longer than 1 mile in distance along the trail. The directional sign should provide a simplified map indicating the location of the sign in relation to the trail system, the location of nearby trailheads and access points, and instructions concerning emergency aid requests and other important information.

**Trail safety programs**
The Pierce County Department of Parks, Recreation & Community Services, with user group assistance, should develop a series of trail safety programs with which to educate and manage trail activities and users. Example programs could include:

*Sprocket Man* - developed by John Williams of Bike Centennial of Missoula, Montana, the program provides school assembly instructions about bicycle safety to children in the 7-14 age groups. The curriculum teaches skills that are most likely to reduce accidents, including roadway crossing, keeping right, stopping at stop signs and traffic signals, wearing a helmet and using lights at night. Generally, the program requires: 1) an adult volunteer to be trained to be Sprocket Man (in costume), 2) certified safety instructors and 3) time to conduct school instruction assemblies.

*Bicycle Rodeos* - a 1-3 hour on-bike training class for elementary children about bicycle safety. On-bike training is the best way of affecting changes in childrens bicycle riding
habits. Instruction materials are published by the American Automobile Association (AAA). Generally, the program requires: 1) a certified instructor and 1 parent-helper for every 4 children in a class, 2) traffic control cones and other riding props and 3) time to conduct a series of rodeos each year for area schools, scout groups and camps.

Trail Safety Days - a trail-side stand manned at least once a month during the trail use season by volunteer user groups providing free refreshments, safety literature, a copy of the trail user ordinance, brochures on bicycle and helmet safety, and information concerning membership in area bicycle, hiking and walking user organizations. Safety day volunteers would also perform speed-gun checks to provide riders an idea of actual speeds and help riders with bicycle safety checks, maintenance assistance and other free services. Generally, the program requires: 1) volunteers with safety and equipment experience, 2) printed informational and safety materials and 3) a modest service and refreshment budget.

Trail safety signage - a uniform system of trail operating and advisory signs should be developed and posted at regular intervals along the Foothills Trail segment. The signs should repeat basic trail operating rules such as "Bicycles use bell or voice when passing. All users keep right. Bicycles yield to pedestrians" and other safety and operating instructions. In addition, a summary copy of the Trail Use Ordinance should be posted at each trailhead and major resting stop to provide reinforcement of trail operating requirements.

Maintenance

The Pierce County Department of Parks, Recreation & Community Services should maintain the Foothills Trail segment as a linear park much like the Department maintains other park properties in the County inventory. A comprehensive maintenance program should be developed along the lines of the following design and operational principles.

Design standards
The following design standards should apply to the development of the Foothills Trail segment:

1) The trail should be designed from natural materials to the maximum extent possible to reduce maintenance requirements and to ensure the corridor blends into the surrounding habitat.

2) Natural vegetation should be retained along creek beds and other water bodies to help preserve water quality by filtering pollutants, maintaining water temperature and controlling erosion run-off.

3) Natural vegetation should be retained within the trail corridor and buffer areas to provide suitable habitat for native species of birds and animals.

4) Natural ecological control procedures should be followed including the twice annual pruning of overgrown trees, bramble bushes and other vegetation from the trail corridor. Trail shoulders and buffer areas, however, should be planted and allowed to grow natural plants and materials.
5) Herbicides should only be used on the trail surface proper and only to prevent or reduce the growth of vegetation which would overgrow natural material or crushed rock surfaces or crack asphalt pavings.

6) Horse trails should be located outside of wet or sensitive soils or upon improved trail beds to avoid possible pollution problems from horse manure deposits.

7) Rip-rap and other shoreline protection measures should be provided where the trail coincides with flood control levies or where the trail exposes erodible materials.

User group volunteers
User organizations should be encouraged to provide periodic maintenance work along the trail corridor as a means of building good will with adjacent property owners and of educating the membership and public. Under some conditions, the Department should provide a trail related benefit or other special recognition to organizations and individuals who provide volunteer maintenance resources.

Local community groups or special interest user organizations could also be urged to assume responsibility for special facilities or improvements along the trail corridor in much the same manner that the state asks for sponsors or hosts for the Adopt a Park program. The group or organization could be asked to assume maintenance and other chore duties for a specified facility or property in return for special recognition, possibly including a limited version of public advertising.

In addition, the Department or County should sponsor groups like Volunteers for Outdoor Washington, the Washington State Department of Ecology’s summer youth program, the Washington State Parks & Recreation Commission’s summer work program, or a County version of young adult summer work recruitments. Under appropriate supervision, such programs can provide young adults a work opportunity and exposure to the trail system while also providing a source of seasonal, temporary labor.

Citizen Improvement Trail Request Forms
Trail users should be encouraged to monitor and report maintenance requirements and other low cost improvements along the trail. The user should use an Improvement Request Form provided at trailheads and through user organizations. Typical request items could include:

1) trail patching, crack filling and edge feathering,
2) drainage cleaning/modifications to eliminate ponding,
3) removal of dirt, mud slides and debris,
4) removal of trees that fall across the trail,
5) spot pruning and removal of encroaching vegetation,
6) litter pick-up and removal,
7) maintenance of directional and regulatory signs,
8) trail/road intersection improvements,
9) connector path of spur trail improvements, and
10) furniture and furnishings, among others.

Trail Promotion
The Department of Parks, Recreation & Community Services should develop the following trail promotional materials and activities:
Trail map
The Department of Parks, Recreation & Community Services should develop a Foothills Trail segment map brochure showing trailheads, public parking, mileage, access points, points of interest along the trail, waterfront access and fishing areas, convenience stores, historical background of the rail line and trail, a summary copy of trail regulations and telephone numbers for information and emergency calls. The map could also include the Citizen Trail Improvement Request Form as a tear-off, mail-in item.

The map brochure should be free and available in county branch libraries, community centers, bicycle and hiking equipment shops and at trailheads. Printing costs could be paid by a sponsoring user organization or trail corridor business establishments with appropriate public recognitions.

Trail concession signs and furnishings
The trail directory signs at trailhead locations could also identify the location of trail related business conveniences including gas, equipment, food, motel and other establishments. Sign costs could be paid by the advertised business owners.

In addition, the signs could show convenient routes between the Foothills Trail segment and downtown business establishments, list operating hours, and provide bicycle racks at area stores.

Transit connections
Bicycle racks should be mounted on the front of Pierce Transit buses servicing the routes that connect Puyallup, Orting and Buckley to other county areas. Monies are available under the Urban Mass Transit Act (UMTA) with which to finance bicycle related transit improvements including bus racks, shelters, signage and advertisements.

Any improvement in transit/bicycle service to the Foothills Trail segment should increase county resident access to the trail, and reduce vehicular traffic and parking demands along the trail corridor and within corridor communities.

Five Year Work Plan
The Department of Parks, Recreation & Community Services, with the assistance of the Pierce County Trails Task Force or Council, should create a five year work plan for the Foothills Trail segment defining cyclical maintenance, repair and minor construction requirements to trails, trailheads, service areas and other improvements and properties; and corresponding security, education and promotional program contents and requirements.

The work plan should estimate work requirements, define responsibilities, develop cost and budget estimates, and specify project designs and program solutions. The contents should be reviewed and validated on an annual basis with each technical and advisory group.

On an occasional basis, the Department may consider resurveying all adjoining property owners, user organizations, business enterprises and others of interest or impact from the trail to determine long range project and program adjustments.
Financial Plan
Land acquisition

Were the proposed trail to be contained within a 40 foot wide corridor, defined to be 20 feet to either side of the centerline of the original track bed, the project will require approximately 129 acres of land. Access requirements, buffering considerations and the acquisition of leftover or unusable parcel remainders may require another 10 percent or 12.9 acre contingency. Trailhead development may require 5 acres per development or another 40 acres in total for the proposed 8 sites. The required acreage may be acquired through donation or purchase.

In 1987, the Pierce County Division of Real Property Management estimated the value or cost of acquiring a trail corridor on the former Burlington Northern Railroad right-of-way by comparing the lands with similar undeveloped properties within the same sections of the County. The Division estimating method accounted for the size of the parcel and the parcel's environmental capabilities or limitations as well as some presumed value where the property provided direct highway frontage. The Division's estimates also included a presumed cost to acquire Burlington Northern Railroad's rights and interests in the properties and the estimated compensation costs to acquire properties from adjoining property owners where Burlington Northern did not have full and clear title to the underlying land. The estimates also included the cost of securing title including quiet-title actions, accomplishing property surveys, obtaining appraisals and other property administration functional requirements.

According to the Division's estimates, the average cost of acquiring the former railroad acreage is estimated to be approximately $18,600 per acre. Consequently, the value of the acquired trail corridor including buffering areas and trailheads, could be worth $3,389,709 on project completion, not accounting for presently owned public portions of the corridor or donations by private property owners.

A significant number of owners of property adjacent to the right-of-way expressed an interest in transferring the property interests to their portions of the former railroad right-of-way for the development of a multipurpose trail when the Foothills Trail segment master planning study was initially contemplated by the Pierce County Council. As a result, on 27 August 1987 the Pierce County Council authorized by Ordinance Number 87-124 the Pierce County Executive to accept the transfer of any titles which the railroad, the railroad's salvage contractors or any other entity may offer as a gift or at a reasonable price. Accordingly, the Department of Parks, Recreation & Community Services established a property donation function within the Department to deal with property owners who were interested in making a donation for trail development purposes. At the present time, a significant number of property owners with interests in property distributed throughout the Foothills Trail segment have donated or indicated a strong interest in donating portions of their property for trail development purposes once a project proposal is formally approved.
for implementation by the County Council. Consequently, the trail right-of-way acquisition costs could be significantly reduced from the amounts estimated in the preceding paragraph by whatever land values that are received as a result of donations.

**Development cost estimates**

Project development costs were estimated for the basic project scope which would be the trail corridor segments from a) McMillin to Orting, b) Orting to South Prairie, c) South Prairie to Buckley, d) South Prairie (Cascade Junction) to Wilkeson and e) Wilkeson to Carbonado. The estimates were defined in accordance with the 5 bicycle/walking lane trail surface improvement options illustrated in the development plan where:

Option 1 would provide an existing surface (8 foot wide) for bicycling and an existing surface (4 foot wide) for walking.

Option 2 would provide a crushed rock surface for bicycling and an existing surface for walking.

Option 3 would provide a crushed rock surface for bicycling and a crushed rock surface for walking.

Option 4 would provide an asphalt surface for bicycling and a crushed rock surface for walking, and

Option 5 would provide an asphalt surface for bicycling and an asphalt surface for walking.

A number of project scope options were also estimated in the event the local communities may decide to seek the inclusion of some or all of these options within the trail project. The list of options includes the possible development of:

1) camping facilities at the Puyallup River trailhead,

2) the expansion of Orting's Lions' Park to create a linear improvement through the downtown,

3) the acquisition and development of Kapowsin Spur to provide access to the trail and the Carbon River,

4) the expansion of the War Memorial and the improvement of a linear park through South Prairie,

5) the acquisition of the Cascade Junction switchback for open space preservation;

6) the expansion of Highway/Thunderbird/Main Street Park to create a linear space through Buckley,

7) the expansion of Wilkeson Creek County Park to provide trailhead and camping facilities;

8) the extension and improvement of the trail and streetscape through downtown Wilkeson,
## Development cost estimates

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<th>Option</th>
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### Basic Improvements

- **McMillin to Ortig:** $225,639
- **Ortig to South Prairie:** $2,769,744
- **South Prairie to Buckely:** $1,631,640
- **Cascade Junction to Wilkeson:** $1,561,130
- **Wilkeson to Carbonado:** $196,928

**Subtotal:** $8,003,083

### Development cost components

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#### Land acquisition

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**Subtotal (land costs)**: $3,589,709

#### Trailheads

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**Subtotal direct costs**: $3,284,142

### Total project costs

- **Total acquisition/construction costs**: $9,022,513
- **Bond legal fees, financing, etc. (2.20%)**: $216,095

**Total project costs**: $10,238,608

### Development cost estimates

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#### Trailheads

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<th>Basic Improvements</th>
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<tr>
<td>Land acquisition</td>
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<tr>
<td>Subtotal (land costs)</td>
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<td>Rip-rap</td>
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Source: Bruce Bees & Associates with Justun/Fisher Engineers
9) the acquisition and development of the Quinnon Extension Spur to the Wilkeson quarry and coke ovens site,

10) the construction of an additional trailhead at the Wilkeson handcar site,

11) the improvement of trail access and park settings at Carbonado Cemetery, and

12) the construction of an optional trailhead south of Carbonado's city limits on Burnett-Fairfax Road (in lieu of the proposed trailhead at the gravel pit site).

Project development cost estimates include site and building constructions, design, engineering and construction administration fees, sales tax, project contingencies and bond finance and legal fees assuming all projects are financed under a conventional design/bid/construction approach.

**Line item costs**

The total cost for the basic trail project improvements (including land, construction, a 15 percent contingency, a 15 percent design fee and a 7.9 percent sales tax) ranges from $8,003,083 where there is very little alteration to the existing trail surface to $11,212,621 where the surface is completely improved with asphalt. The most expensive project item would be Orting to South Prairie due to this segment's length and bridge requirements.

The total cost for all trail project options (including land, construction, a 15 percent contingency, a 15 percent design fee and a 7.9 percent sales tax) will be $1,819,430 if all options are included. The most expensive options would be the proposals to acquire the Cascade Junction switchback due to the parcel's large acreage at $513,174 followed by the expansion of the linear park improvement through Buckley at $324,505 followed by the possible extension and improvement of the trail corridor through downtown Wilkeson at $201,392.

A total project cost may range from $10,038,608 (including a 2.2 percent bond legal fee and financing charge) which includes all options and an existing trail surface to $13,318,756 which includes all options and a complete asphalt surfacing. A minimum project cost would be $8,179,151 for the basic improvement project only with 2.2 percent bond financing and legal charges but without any of the proposed options.

**Cost components**

Of all the costs estimated for basic trail improvements, the most expensive component items will be land acquisition at $3,389,709 followed by bridge reconstructions and improvements at $1,394,413 followed by trailbed cut and fill improvements at $657,264 followed by trailhead development at $609,079.

Trail surfacing costs may range from $254,287 or 3.2 percent of all project costs for a natural material surface to $2,525,159 or 22.5 percent of all project costs for an all asphalt surface.
Public funding sources

Property tax generated general funds
Counties may levy a property tax for general governmental purposes at a rate not to exceed $1.80 per $1,000 on the assessed value of all taxable property within a county; and for an additional $2.25 per $1,000 for road construction and maintenance needs on the assessed value of taxable property within the unincorporated area of a county.

In 1988, Pierce County's overall property tax rate was $1.4993 per $1,000 of assessed valuation in property for general funds, $1.0780 for special revenue funds and $0.0 for debt service, or $2.5700 in total. By comparison, in 1975 the County's overall rate was $1.7101 for general funds, $1.1876 for special revenue funds and $0.1512 for debt service, or $3.0489 in total. Consequently, the property tax levy rate has declined $ 0.4700 per $1,000 assessed valuation between the two periods.

Consistent property tax levy rate declines were registered for all taxing agencies including the state, Port of Tacoma, the rural library, cities, towns and schools. Fire protection districts, however, are reestablished by local levy elections, and have remained relatively constant during this time. Park and recreation expenditures, usually short term levies which must be validated every few years, have fluctuated during this time. As a result, the total levy rate in the County has declined significantly, from $22.5239 per $1,000 assessed valuation in 1975 to $15.7944 in 1988 for all taxing agencies combined.

106 percent budget growth lid
In 1975, the state adopted RCW 84.55, a statutory provision limiting the budget of local taxing districts funded by regular property taxes to an annual increase of no more than 106 percent of the amount collected in the highest of the three most recent years. The statue was intended to control local governmental spending by controlling the annual rate of growth. In practice, however, the statue reduces the effective property tax yield to an annual level far below a county's levy authorization, often resulting in a severe impact on a county's ability to finance basic governmental needs, particularly if a county experiences major population growth and is affected by high annual inflation rates, as has been the case in Pierce County in recent years.

For example, the 1988 total assessed valuation was $15,222,000,000; which would have produced an annual tax return of $26,031,142 to the County general fund were the 1975 rate of $1.7101 per $1,000 assessed valuation in affect, rather than the $22,822,345 resulting from the reduced 1986 rate of $1.4993 per $1,000 assessed valuation, for a difference in $3,208,798 in lost annual taxes. The 106 percent statutory limitation has probably cost the County general fund $27,300,709 in lost cumulative revenues since the statue's imposition in 1975.

The 106 percent statutory limitation could be waived by referendum approval of a majority of the County's registered voters. The referendum could establish a new levy rate at whatever amount residents prefer below the maximum authorization of $1.80 per $1,000 assessed valuation. The new rate would be subject to the 106 percent statutory limitation, however, and would ultimately decline in purchasing power requiring referendum adjustments at successive points in time. However, referendums are time consuming, expensive and difficult to communicate, especially when general fund issues are complex, somewhat statistical and abstract.
## Pierce County financial trends

### GENERAL REVENUES BY SOURCE

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### GENERAL EXPENDITURES BY FUNCTION

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### ASSESSED/ESTIMATED ACTUAL VALUE OF TAXABLE PROPERTY

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<td>40,500</td>
<td>40,550</td>
<td>40,600</td>
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### Ratio of assessed/actual

| Ratio of assessed/actual | 85.0% | 85.3% | 85.5% | 85.8% | 86.1% | 86.4% | 86.7% | 87.0% | 87.3% | 87.6% | 87.9% | 88.2% | 88.5% | 88.8% |
### Impact of RCW 84.55 (106 Percent Limitation)

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<td>Population Variations (0,000)</td>
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<td>(9,000)</td>
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### Impact of RCW 84.55 (106 Percent Limitation) Summary

[...table continues with detailed data and calculations]
General fund park and recreation allocations

The Department of Parks, Recreation & Community Services operating costs are appropriated on an annual basis by the Council from the general fund revenues collected from County property taxes. The Council’s annual appropriation is to pay for park department staff salaries and wages, personnel benefits, supplies, other services and charges, intergovernmental services and some minor capital outlays.

The Council’s annual appropriation has increased steadily from $742,000 in 1975 to $3,995,000 in 1988, or from 1.7 percent of all County expenditures in 1975 to 3.2 percent in 1988. The annual appropriation increased 5.38 times over the 14 year period or an average of 38 percent per year. The trend is especially significant considering the affects the 106 percent limitation had on all County discretionary funding during this same period of time.

Most of the department’s annual budget is devoted to staff including salaries, wages (44.9 percent in the 1987 budget) and personnel benefits (11.0 percent in the 1987 budget). However, the percentage devoted to staff costs has declined as a relative portion of the department’s budget from 62.2 percent in 1983 to 55.9 percent in 1987 for salaries, wages and personnel benefits combined. Likewise, the departments total staffing has remained relatively constant (42-43 people) since 1982, even though the County has increased in overall population, and presumably in park and recreation service requirements during the last 5 years.

An increasing portion of the department’s annual budget is absorbed by other services and charges, a category that includes fees for officials and umpires, class instructions, temporary help, professional services, telephone and communication costs, vehicular rentals and travel, and equipment replacement and repair. Service costs and charges have more than doubled since 1983, increasing from $590,000 in 1983 to $1,248 in 1987, or from 28.1 percent of the department’s total expenditures in 1983 to 37.1 percent in 1987. Professional services, meaning swimming, skating and other athletic activity instructors, represent a large and growing portion of this cost category due to the increasing interest and willingness of County residents to pay fees for these activities.

The portion of the department’s overall budget devoted to capital outlay has remained relatively small, ranging from $82,000 in 1983 to $115,000 in 1987, or from 3.9 percent of the department’s total budget expenditures in 1983 to 3.4 percent in 1987. Major capital outlay expenditures have been devoted to machinery and equipment purchases rather than land acquisitions, construction or other facility improvements. Generally, the department’s operating budget funds minor construction and repair efforts by department staff, rather than construction projects by outside contractors.

Capital improvement funding implications

The Department has an extensive list of major construction and repair requirements, as itemized in the recently adopted Pierce County Comprehensive Park & Recreation Plan. However, the County has not had the funds available within the general fund with which to finance major park and recreation improvement projects given other more critical County requirements for jail, court, sheriff, health and mental health facilities.

The County has acquired a quality park and recreation inventory using land donations, creative land swaps and leases and a healthy allocation of property tax derived general funds. However, these sources have not yielded enough money with which to initiate
major facility development. In addition, given the affects the 106 percent statutory limit will have on local property tax contributions to discretionary funding in general, the County cannot no longer depend entirely on traditional sources for the funding of new facilities, particularly for linear parks and trails. Rather, the County must devise new financial strategies with which to develop the proposed system of countywide trails.

**User fees**
The Pierce County Department of Parks, Recreation & Community Services presently charges a user fee for most recreational facilities and services including use of the skating rink, tennis courts, batting cages, baseball fields, basketball and volleyball courts, the marina, group picnic facilities and a variety of community and recreation center services such as day care and meeting room rentals at the County's various sites.

The County's gross revenues have steadily increased on an annual basis. The County's annual revenues are increasing primarily because of a rise in the volume of annual recreational activity, rather than because of any increased use of user fees or rates.

User fee administration, management and collection costs have not been analyzed in detail but can be significant and may consume from 25 to 75 percent of the gross proceeds of a facility which has low user volumes, turnover or fee charges, and/or which is time consuming to collect, like the use of group picnic facilities. Conversely, user fee charges may be relatively easy and efficient to collect on facilities which have very high user volumes, turnover or fee charges, and which are time efficient to collect like the use of the skating rink at Sprinker Recreation Center.

User fees would be difficult and time consuming to collect on a trail facility, particularly where users may access the trail from local neighborhoods or other unstructured access points. However, user fees could be relatively easy to collect at trailheads when special events or programs are staged which require an entrance registration, or the fee could be charged the organization which sponsors the event. The fees may cover administration costs and any special staff or equipment requirements associated with the event. The fees will not be sufficient, however, with which to finance trail acquisition and development costs.

**Public/private ventures**

**Concessions**
The County could lease a portion of a trailhead site or facility to a private party in exchange for a fixed fee or a percentage of gross receipts. The private operator assumes operation and maintenance responsibilities and costs in exchange for a profit. The County's portion of the profits may be used to pay trail or trailhead development costs at the same or for similar facility developments in other areas along the trail.

Concessions can save the County considerable monies where the activities are specialized, seasonal, experimental or unproven. Concessions can be easily initiated, provide direct user benefit/cost reimbursements and relieve the County of a capital risk should market or user interest fail to materialize to a least break-even levels.

Concessionaire's could operate a wide variety of trail related facilities at trailhead sites including horse stables or trailering services, bicycle rentals, equipment sales, repair and trailering services. The concessionaire's could also be licensed to sell trail promotional
materials like maps, historical books, decals, T-shirts and other items where the proceeds are collected in an enterprise account for the trail's benefit.

**Joint development ventures**
The County can enter into an agreement with a private or public developer to jointly own or lease land for an extended period of time to allow the development, operation and maintenance of a major park or trail related facility or activity in exchange for a fixed lease cost or a percentage of gross receipts.

The developer would assume development, operation and maintenance responsibilities, costs and all market risks in exchange for a market opportunity providing a profitable return which may not otherwise be available. The County would realize the development of a trail related facility which may not be realized otherwise in exchange for a low minimum capital return and no or very little capital risk.

Joint development agreements represent an ultimate benefit/cost resolution which may also provide public revenue which the County could use for other trail development opportunities. Examples include the possible joint development of horse rental stables or trailering services at trailheads, recreational vehicle or group campgrounds at the Puyallup River site, or even overnight hostels or bed and breakfast rooms in the older buildings in downtown Buckley and Wilkeson. The proceeds could be collected in an enterprise account for the trail's benefit.

**Grants**
There are public grant programs at the federal and state level which can provide funds for the development of linear park and trail systems.

**Community Development Block Grants (CDBG)**
For example, the US Department of Housing and Urban Development (HUD) dispenses discretionary Community Development Block Grants (CDBG) to local governments for the development of local public facilities or services assisting low income or disadvantaged neighborhoods. Pierce County receives CDBG funds under an entitlement which is recertified every 3 years by the federal government. The County's entitlement funds may be spent on an annual basis subject to HUD project criteria by or on behalf of local cities and the developed but unincorporated areas of the County.

CDBG funds are generally limited to no more than $100,000 per project and usually as a match with other public or private funds. Under present criteria, the trail would have to be submitted as a joint project on behalf of all the incorporated areas within this portion of the County, including Orting, South Prairie, Buckley, Wilkeson and Carbonado, and would likely preclude these communities applying for CDBG funds for other projects at the same time.

**Land & Water Conservation Funds (LWCF)**
Land & Water Conservation Funds (LWCF) are a more specialized type of federal/state grant pass-through that is available from the National Park Service and administered by the Washington State Interagency for Outdoor Recreation (IAC). The federal funds are allocated to each state, and then to local communities within each state on a competitive basis for the acquisition and development of outdoor park and recreational facilities including linear parks and trails. LWCF monies are generally limited to no more than $150,000 per project on a 50 percent matching basis with another source of public or
private funding. The IAC assigns each project application a priority on a competitive statewide basis according to each jurisdiction's need, population benefit, natural resource enhancements and a number of other factors. In the past few years, project awards have become extremely competitive as the federal government has significantly reduced the amount of federal monies available the NPS program. The state has increased its contributions to the program over the last few years, but the overall program could be severely affected by pending federal deficit cutting legislation. However, LWCF monies have been used for other trail projects in the state and the Foothills segment would be a logical and competitive project for funding consideration.

Aquatic Lands Enhancement Act (ALEA)
Washington State created a number of new programs in recent years for park and recreation development purposes using special state revenue programs. Recently enacted programs include the 1985 Aquatic Lands Enhancement Act (ALEA) initiated on a trial basis, and since renewed and expanded, using revenues obtained by the Washington Department of Natural Resources from the lease of state owned tidal lands. The ALEA program is administered by the Washington State Interagency Committee for Outdoor Recreation (IAC) for the development of shoreline related trail improvements. Generally, ALEA funds are limited to $75,000 per project, preferably on a matching basis with other sources of funds. The portions of the Foothills segment which directly adjoin the South Prairie and Wilkeson Creeks would be logical projects with which to apply for ALEA funding consideration.

Referendum 39
Other examples of recent, innovative state grant programs include Referendum 39, a Department of Ecology administered water quality program which provides grants for up to 75 percent of the cost of water quality/fish enhancement studies. Referendum 39 monies can be applied to park developments which propose to restore, construct or otherwise enhance fish producing streams, ponds or other water bodies. Portions of the Foothills segment which will involve culvert improvements, particularly at Wilkeson Creek, may be eligible for funding consideration under Referendum 39.

Dedicated fund accounts - paths & trails
There are designated monies available at the federal, state and county level for the acquisition and development of paths and trails.

Urban Mass Transportation Act 1964 - UMTA
Section 326 of the 1987 Surface Transportation & Uniform Relocation Act amends the UMTA to provide up to 90 percent of the cost for developing shelters, parking facilities, racks and other equipment for transporting bicycles on mass transportation vehicles. UMTA funds may not be used to construct trail or path facilities within or around transit stations. UMTA funds may be available to the Pierce Transit Authority where the Foothills Trail segment adjoins an existing transit stop or transfer facility in downtown Orting and Buckley.

Paths & Trails Fund - NHTSA
In 1983, Congress passed a federal law, 23 of the United States Code (USC) Section 217, directing the National Highway Traffic Safety Administration (NHTSA) to allocate on an annual basis a portion of the federal gas tax revenue monies to each state for the development of alternative trail transportation systems. The monies are allocated by the Federal Highway Administrator on a statewide, competitive basis for the development of
bikeway systems which provide alternative commuting routes, ideally for home to work trips. When a bikeway is to be constructed within the right-of-way of a proposed federal highway, the bikeway may be funded with the same federal-aid funds as the highway, usually up to 90 percent for interstates, and 75 percent for urban and primary roads and highways. When the bikeway is within an existing federal highway, the funding can be 100 percent federal. The Nisqually Delta/Mount Rainier Trail segments which adjoining Interstate 5 along the Nisqually Delta and Fort Lewis may be eligible for these funds on a statewide competitive basis. The Foothills Trail segment within the Orting, South Prairie, Buckley, Wilkeson and Carbonado communities, however, adjoin state rather than federal highways and will probably not be eligible for these funds.

Paths & Trails Fund - WSDOT
The Washington State Department of Transportation (WSDOT) reserves 3/10 of 1 percent of state gas tax revenues into a Paths & Trails Fund to be allocated on a statewide, competitive basis for the resolution of trail and state highway crossing conflicts. These monies have primarily been awarded in the past to projects which route trails along shoulder improvements, but on occasion have also been used for the development of separated systems. WSDOT has 3 internal criteria for spending money on trail projects: 1) the property must be owned by WSDOT, 2) the trail project is not for bikes only and is part of a larger vehicle related improvement, and 3) the project is part of a locally adopted transportation improvement plan. The Foothills segment should qualify for funding, though the trail will have to compete with a large number of other proposed trail projects throughout the state for the approximately $1,000,000 that is available on an annual basis. However, the trail project could be especially competitive if the application is for those portions of the Foothills segment that must directly cross state highways, such as the Pioneer Way/SR-162 surface crossing in Orting, the elevated crossing of Pioneer Way/SR-162 at 177th Street East/Alward County Road, River Avenue/SR-165 in Buckley and the optional extension of the trail through Wilkeson and across Burnett Fairfax Road/SR-165 to the Quinnon Extension.

Paths & Trails Fund - Pierce County
Pierce County designates a local share (1/2 of 1 percent) of county gas tax revenue for the development of paths and trails in accordance with the optional provisions available to counties in the state code (RCW 46.68-100). The fund accumulates about $30,000 on an annual basis and had accumulated approximately $194,000 by the end of 1988. The fund can be used to plan, acquire, design, construct and operate any manner of separated path and trail system. The funds have not been used to date because the County did not have a comprehensive trail system plan. The funds have been used to finance the development of this master planning effort for the Foothills segment and should be available to be used for match monies for other funding source applications.

Dedicated fund accounts - conservation futures
In 1987, the Washington State Legislature approved Chapter 84.34.230-250 to the Revised Code of Washington authorizing special nonprofit nature conservancy corporations and associations. As defined in section 84.34.250, the Chapter authorizes counties to establish or support nonprofit nature conservancy corporations or associations which qualify as tax exempt under the Internal Revenue Code and which have as one of it's principal purposes the conserving of natural resources including open spaces and wildlife habitat to be utilized as public access areas for the use and enjoyment of the general public.
Any board of county commissioners may levy an amount not to exceed $.0625 per $1,000 dollars of assessed valuation against the assessed valuation of all taxable property within the county for the purpose of acquiring open space et. al., or the development rights of such lands. By resolution, the board of county commissioners may establish a special fund which may be termed a conservation futures fund to which it may credit all taxes levied under the authorization for the management by the agent the commissioners designate, including a nonprofit corporation or association. The fund may be used solely, without limitation, for the purpose of acquiring rights and interests in real property and may not be used for trail development or operations.

For example, the 1986 total assessed property valuation of county land was $14,249,000,000; which would produce $8,900,562 on an annual basis were the maximum conservation futures levy amount established by resolution. The proposed conservation futures fund could easily be used to acquire all the required right-of-way, trailheads, buffering lands and environmentally sensitive adjoining lands within the Foothills Trail corridor plus other proposed countywide trail right-of-way and proposed regional parks with appropriate conservation features.

Open space, agriculture and timber lands conservation - special benefit assessments
The Washington State Legislature also established the Open Space, Agricultural and Timber Lands Current Use Assessment Act, Chapter 84.34.300 of the Revised Code of Washington, for the purpose of preserving valuable lands within an undeveloped state. Under the act’s provisions, property owners may have their property taxes reduced by up to 50 percent by agreeing to keep their lands within open space for 10 year periods. Landowners who withdraw from the program before a 10 year agreement period expires, must pay the back taxes plus a small penalty. The special benefit assessment approach could be used to conserve open space, agricultural and timber land areas which adjoin the trail corridor along the Foothills Trail segment.

Impact mitigation funds
Residential, and in some instances industrial and office development projects, may be required to provide sites, improvements and/or funds for the development of regional park and recreation improvements like linear parks and trails.

Environmental impact mitigation
County subdivision policies can require developers of subdivisions and other land development projects to provide suitably designed and located open spaces, woodland preserves, trail systems and other park or recreation facilities including major components of a regional or countywide linear park or trail system which may be affected by the project’s location or development under the mitigation provisions of the Washington State Environmental Policy Act (SEPA) and the SEPA Guidelines in Chapter 197-10 of the Washington Administrative Code.

Project mitigations are usually on-site improvements but may, under special occasions, include funds or other provisions for off-site projects like open space acquisition, linear park or trail improvements where the off-site location would provide a better mitigation of project impacts.

Portions of the Foothills Trail segment could be financed with project mitigations from possible land development projects within the unincorporated areas surrounding McMillin,
Orting, South Prairie, Buckley, Wilkeson and Carbonado where the trail's development would directly mitigate project impacts on local park and recreation opportunities.

Project mitigation funds may be allocated to the Foothills Trail from land development projects in all other unincorporated areas of the County if the fund is a dedicated set-aside account to help develop a countywide system of trail projects. The initial funds could be spent where there is a pending trail opportunity, which need not be within the immediate local area of the impacting land development project. Likewise, future project impact funds would be spent wherever countywide trail development opportunities are available at the time of impact mitigation, rather than within the Foothills corridor once the Foothills Trail segment has been completed.

**Growth impact ordinance**

As called for in the recently adopted Pierce County Comprehensive Park & Recreation Plan, the County may develop and adopt a park and recreational growth specific impact ordinance that applies to all proposed residential, and possibly some industrial or office developments, within the unincorporated areas of the county. The ordinance will estimate the impact each development project will have on park and recreational facilities within the development project's local and regional service zones and make provisions whereby the project developer will set aside the lands or necessary monies necessary to offset the project's specific park and recreational impacts.

Impact formulas will determine park and recreational facility impacts and development costs using the same detailed methodology outlined in the recently adopted Pierce County Comprehensive Park & Recreation Plan. Like EIS mitigation provisions, the regional linear park and trail impacts may be disbursed for countywide projects which are available for accomplishment at the time of impact fund collection.

Portions of the Foothills Trail segment could be financed with growth impact ordinance assessments from possible land development projects within unincorporated areas throughout the County if the ordinance proposal is defined and adopted within the Foothills Trail time frame. Subsequent regional facility growth impact ordinance assessments could be used to finance other segments of the Nisqually Delta/Mount Rainier Trail, or other multipurpose countywide trail segments which may be available in the future when the impact assessment is collected.

**Limited General Obligation (Councilmanic) Bonds**

Councilmanic Bonds, may be issued without voter approval by the Council for any facility development purpose. The total amount of all issued limited obligation bonds may not exceed 3/4 of 1 percent of the assessed valuation of all County property, equal to a maximum 1988 debt capacity allowance of $114,166,634 ($15,222,217,854 assessed valuation times 0.0075).

Limited obligation bonds must be paid directly into a dedicated or specially designated source from the annual proceeds of the County general fund levy (an "inside levy") which is subject to the 106 percent statutory limitation. Therefore, debt service on limited obligation bonds may reduce the amount of annual revenue available for current operating expenses and the financial flexibility the Council may need to respond to annual budget priorities. For this reason, Councilmanic Bonds have only been used for the most pressing capital improvement issues.
Pierce County's Bonding Capacity
As of 31 December 1988

Under Washington State law, a county may issue general obligation debt for general county purposes in an amount not to exceed 2 1/2 percent of actual value of all taxable property. Unlimited tax debt requires an approving vote of the people; and any election to validate general obligation debt must have a voter turnout of at least 40 percent of those who voted in the last State General Election and of those voting, 60 percent must be in the affirmative. The County Council may, by ordinance, authorize the issuance of limited tax general obligation debt in an amount up to 3/4 of 1 percent of the actual valuation within the county without a vote of the people. No combination of limited or unlimited tax debt may exceed 2 1/2 percent of the actual valuation. The debt service on unlimited tax debt is secured by excess tax levies, whereas the debt service on limited tax debt is secured by taxes collected within the $1.80 per $1,000 of assessed value county operating levy.

**ASSESSED VALUATION (PROPERTY VALUE)**

$15,222,217,854

A. INSIDE LEVY (issued without vote of the people)

<table>
<thead>
<tr>
<th>Legal limit 3/4 of 1% of property value</th>
<th>114,166,634</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amount of debt applicable to debt limit:</td>
<td></td>
</tr>
<tr>
<td>Limited General Obligation Bonds</td>
<td>$17,460,000</td>
</tr>
<tr>
<td>Limited General Obligation Proprietary Type Bonds:</td>
<td></td>
</tr>
<tr>
<td>Installment purchase contracts</td>
<td>14,382</td>
</tr>
<tr>
<td>Lawsuit settlement</td>
<td>1,121,677</td>
</tr>
<tr>
<td>Compensated absences</td>
<td>3,649,662</td>
</tr>
<tr>
<td>Total Limited Tax General Obligation Debt</td>
<td>$35,075,701</td>
</tr>
</tbody>
</table>

Less:

<table>
<thead>
<tr>
<th>Debt service funds</th>
<th>321,702</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Limited Tax General Obligation Debt</td>
<td>$34,753,999</td>
</tr>
</tbody>
</table>

Legal Debt Margin |

| $ | 79,412,635 |

B. OUTSIDE LEVY (issued with vote of the people)

| Legal limit 2 1/2% of property value | $380,555,446 |
| Amount of debt applicable to debt limit | $0 |
| Net Limited Tax General Obligation Debt | $34,753,999 |

Total General Obligation Debt Margin |

| $ | 345,801,447 |

Source:

At the present time, the County has limited general obligation bonds, proprietary type bonds, installment purchase contracts, lawsuit settlements and compensated absences outstanding which total $35,075,701 in limited tax obligation debt; and assets available for payment of principal of $321,702 providing an available legal debt margin for limited tax general obligation bonds of $79,412,635.

**Unlimited general obligation bonds**

Unlimited general obligation bonds must be approved by at least 60 percent of the resident voters during an election which has a turnout of at least 40 percent of those who voted in the last state general election. The bond must be repaid from a special ("outside") levy which is not governed by the 106 percent statutory limitation. Total indebtedness which may be incurred by limited and unlimited general obligation bonds together, however, may not exceed 2.5 percent of the assessed valuation of the County, equal to a maximum 1988 debt capacity of $380,555,446 ($15,222,217,854 assessed valuation times 0.025).

At the present time, the County does not have general obligation debt. Therefore, the County's total limited and unlimited general obligation debt is $34,753,999 limited net debt leaving an available total obligation debt capacity for bonds of $345,801,447.

Monies authorized by both types of bonds must be spent within three years of authorization if the bond is to retain a tax free status. Consequently, bonds may be used to construct but not maintain or operate facilities. Facility maintenance and operation costs must be paid from the annual general fund levy - which is subject to the 106 percent statutory limitation, or by voter authorization of special annual or biannual operating levy, or by user fees or charges where possible.

Of the two types of obligation bonds, the unlimited or voter approved type of obligation bond would appear to be of most practical application for the long term acquisition and development of the Foothills segment, provided county residents approve of what the bond will finance in regards to trail improvements.

The Pierce County Department of Parks, Recreation and Community Services has not recently submitted a major bond proposal to resident voters for the funding of a major park and recreation acquisition or development. Consequently, there is no way to know for sure whether County residents will validate an unlimited general obligation bond for the financing of a major countywide park and recreation development effort like the Foothills trail. Other agencies have offered bond proposals to residents within portions of the County with different success rates.

For example, a number of local bond proposals failed because of low voter turnouts within the Peninsula and University Place Park and Recreation Districts. The district proposals were designed primarily to fund the development of local recreation centers, neighborhood parks and athletic facilities. The measures may have failed because the proposals did not demonstrate or include facility proposals of enough interest to enough voters to be validated, and/or because the proposals were not coordinated with enough other issues to attract a sufficient number of voters to validate an approval.

A recent and major bond proposal was validated by the voters within the Metropolitan Park District of Tacoma, however, to fund maintenance and minor improvements to a variety of neighborhood park improvements and some major shoreline facility developments at Point Defiance Park and around Commencement Bay. Consequently, there may be support for a
countywide bond proposal for park and recreation development purposes if the contents of
the proposal offers facility benefits of interest to County voters, and the bond effort is
properly coordinated to realize a high enough voter turnout to validate the results.

Private funding sources

Foundations
There are a number of specialized private foundations within the Puget Sound area that
provide small grants for the development of park and recreational facilities including, in
some circumstances, linear parks and trails.

Northwest Bicycle Foundation
This newly formed foundation provides small grants up to $5,000 per project, with no
requirement for matching funds, to assist with the planning and development of bicycle
trail systems.

Ben Cheney Foundation
The foundation provides small grants, which do not require matching funds for the
planning and development of bicycle trail systems.

Seafirst Foundation
The foundation provides grants up to $20,000, which do not require matching funds, for
the planning and development of outdoor recreational facilities including trail projects.

Fuchs Foundation
The foundation provides small grants, which do not require matching funds, for the
planning and development of outdoor recreational facilities.

Arco Foundation
The foundation provides grants up to $75,000 per project, which do not require matching
funds, for the planning and development of outdoor recreational facilities including trails.

Weyerhaeuser Foundation
The foundation provides grants for a variety of projects usually favoring human services
rather than physical development. Individual projects usually do not total over $50,000 per
project with no requirement for matching funds.

Boeing Foundation
The foundation provides grants, with no requirement for matching funds, for a variety of
human service and physical development projects on a competitive basis.

Pacific Northwest Bell Foundation
The foundation provides small grants up to $4,000 per project, which do not have to be
matched, for a variety of human service and physical development projects.

REI Foundation
The foundation provides small grants up to $2,000 per project which do not have to be
matched, for the development of outdoor recreational facilities including trails. Project
considerations are decided on a competitive basis.
Mountaineers Foundation
The foundation promotes the development of outdoor recreation facilities including trails. Generally, Foundation bequests have been oriented to land conservation and preservation efforts on the behalf of it's membership.

Nonprofit groups
There are a number of specialized interest groups and organizations within Pierce County and the Puget Sound area that assist with fund raising activities or otherwise provide volunteer services for the development, maintenance and operation of park and recreational facilities including linear parks and trails.

Cascade Bicycle Club
The club promotes bicycle trail developments within the Puget Sound region with whatever contribution the membership can raise on a project by project basis. Generally, the club has been most effective providing volunteer services, educational programs and instructors rather than funds.

Tacoma Wheelmans Bike Club
The club promotes bicycle trail developments within Pierce County and has previously worked on projects with the Pierce County Department of Parks, Recreation & Community Services. The club has previously held fund raising events, or sold maps and other materials to raise donations.

SeaTac Volks Association
The association promotes walking trails and special events within the King and Pierce County areas. The association has previously held special fund raising events to raise donations for event related activities.

Daffodil Valley Volks Association
The association promotes walking trails and special events within the Puyallup area. The association has previously held special fund raising events to raise donations for event related activities.

Tacoma Mountaineers
The local chapter of the Mountaineers promotes the development of outdoor recreational facilities including trails within Pierce County.

Telephone survey results - Comprehensive Park & Recreation Plan
A household telephone survey was conducted during the development of the recently adopted Pierce County Comprehensive Park & Recreation Plan by the consultant team during the first week of February 1987 to determine resident household opinions concerning park and recreation facility and program needs, behaviors, facility conditions, priorities and financing preferences. The survey sample was randomly derived from telephone number listings and was controlled to collect opinions from 201 households living in incorporated areas and 201 households living in unincorporated portions of Pierce County.

Following is a brief summary of major findings related to finance issues. A complete printout of the questionnaire and cross tabulations is provided in the Appendix to the adopted Pierce County Comprehensive Park & Recreation Plan.
Telephone Survey
Pierce County Comprehensive Park & Recreation Plan

Facility needs

2: Specifically, should the Pierce County Park and Recreation Department develop a multipurpose hike and bike trail on the abandoned Burlington Northern Railroad right-of-way from the communities of McMillan to Buckley to Carbonado?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
<th>opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>percentage</td>
<td>70.4%</td>
<td>16.9%</td>
<td>12.7%</td>
</tr>
</tbody>
</table>

Would you support a bond issue to complete the development of a trail between McMillan, Buckley and Carbonado if this were part of a county-wide multipurpose trail system that extended from Puget Sound to Mount Rainier?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
<th>opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>percentage</td>
<td>69.4%</td>
<td>22.9%</td>
<td>7.7%</td>
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</tbody>
</table>

Financing

10: Should park and recreation agencies in the county use the following methods to finance more park and recreation services and facilities?

<table>
<thead>
<tr>
<th></th>
<th>yes</th>
<th>no</th>
</tr>
</thead>
<tbody>
<tr>
<td>user fees and charges?</td>
<td>66.2%</td>
<td>33.8%</td>
</tr>
<tr>
<td>bond issues?</td>
<td>62.4%</td>
<td>37.6%</td>
</tr>
<tr>
<td>reduce expenditures for other public services?</td>
<td>37.3%</td>
<td>62.7%</td>
</tr>
<tr>
<td>joint venture with other public agencies?</td>
<td>87.1%</td>
<td>12.9%</td>
</tr>
<tr>
<td>joint venture with private developers?</td>
<td>67.2%</td>
<td>32.8%</td>
</tr>
</tbody>
</table>

11a: How much does your household now pay per month for park and recreational activities?

<table>
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<tr>
<th></th>
<th>$0</th>
<th>$5</th>
<th>$10</th>
<th>$15</th>
<th>$20</th>
<th>$25</th>
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<th>$100</th>
<th>$250</th>
<th>$500</th>
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<td>16</td>
<td>37</td>
<td>10</td>
<td>29</td>
<td>24</td>
<td>68</td>
<td>44</td>
<td>23</td>
<td>52</td>
<td>46</td>
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<tr>
<td>percent</td>
<td>13.2</td>
<td>4.0</td>
<td>9.2</td>
<td>2.5</td>
<td>7.2</td>
<td>6.0</td>
<td>16.9</td>
<td>10.9</td>
<td>5.7</td>
<td>12.9</td>
<td>11.4</td>
</tr>
</tbody>
</table>

11b: How much would your household be willing to pay per month to help finance additional park and recreation facilities?

<table>
<thead>
<tr>
<th></th>
<th>$0</th>
<th>$5</th>
<th>$10</th>
<th>$15</th>
<th>$20</th>
<th>$25</th>
<th>$50</th>
<th>$100</th>
<th>$250</th>
<th>$500</th>
<th>opinion</th>
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<tbody>
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<td>51</td>
<td>51</td>
<td>6</td>
<td>17</td>
<td>18</td>
<td>19</td>
<td>8</td>
<td>5</td>
<td>27</td>
<td>94</td>
</tr>
<tr>
<td>percent</td>
<td>26.4</td>
<td>12.7</td>
<td>12.7</td>
<td>1.5</td>
<td>4.2</td>
<td>4.5</td>
<td>4.7</td>
<td>2.0</td>
<td>1.2</td>
<td>6.7</td>
<td>23.4</td>
</tr>
</tbody>
</table>

by the Beckwith Consulting Group with GMA Market Research, February 1987
Financing options
The respondents were asked (question 10) to indicate from a list of methods which ones they preferred park and recreation agencies in the County use to finance more park and recreation services and facilities.

The respondents indicated they most preferred agencies use joint ventures with other public agencies (87.1 percent of the total sample), joint ventures with private developers (67.2 percent), user fees and charges (66.2 percent) and bond issues (62.4 percent) as means of financing park and recreational developments within the County.

The respondents indicated they least preferred agencies reduce expenditures for other public services (only 37.3 percent approved this method) as a means of releasing funds for park and recreational use.

Willingness to pay
The respondents were asked (question 11a) the amount of money their household presently spends per month for park and recreation activities.

Of the households responding, the larger percentages indicated their households presently spent nothing (13.2 percent), $10 (9.2 percent), $50 (16.9 percent), $100 (10.9 percent) and $500 (12.9 percent) on a monthly basis.

The respondents were also asked (question 11b) how much more (additional) their household would be willing to pay per month to help finance additional park and recreation facilities in Pierce County?

Of the households responding, the larger percentages indicated their households were most willing to contribute nothing (26.4 percent), $5 more (12.7 percent) $10 more (12.7 percent) and $500 more (6.7 percent) on a monthly basis.

Foothills rail to trail
The respondents were asked (question 2) specifically, whether the Pierce County Park, Recreation & Community Services Department should develop a multipurpose hike and bike trail on the former Burlington Northern Railroad right-of-way from McMillin to Buckley and Carbonado.

Over 70 percent of the respondents indicated the County should actively seek to acquire and develop the former rail line for a multipurpose trail facility. There were no major differences in the respondent opinions by jurisdiction or area.

The respondents opinions were virtually unchanged when asked whether their household would support a bond issue to complete the development of the trail if this were a part of a countywide multipurpose trail system that extended from Puget Sound to Mount Rainier. Over 69 percent of the respondents indicated their household would support a bond issue for trail development purposes.

Qualifications
It should be noted, however, that the survey was conducted at the beginning of the comprehensive planning process. Consequently, the results may not be used to determine the exact type of park or recreation activities for which residents would agree to pay extra
costs or assessments. Residents may or may not be willing to pay extra assessments or charges once a detailed program is submitted for approval. Nonetheless, the results do indicate residents are committed to the development of a park and trail system within the County and may be more than willing to pay the costs associated with developing and operating a quality system if presented with effective proposals.

Financial plan recommendations

Generally, possible funding sources should be matched to specific trail finance requirements to avoid duplication and take advantage of each funding source’s specific possibilities.

Acquisition and development

For example, based on the preceding analysis, the following public financing alternatives are available to the County for the acquisition and development of the Foothills Trail:

1: General fund capital improvements program

Under this option, Foothills Trail acquisition and development costs would be financed by a line item authorization in the capital improvements program of the annual county budget. This approach is possible but not recommended. There are other more critical requirements in the capital improvements program which would make it difficult to justify using the program for park and recreational purposes.

2: Councilmanic Bonds

Under this option, Foothills Trail acquisition and development costs would be financed by a Councilmanic Bond authorization by the County Council. This approach is possible and could be considered an option under a short term plan or critical time requirement. However, like the capital improvements program, there are other more critical safety and security funding requirements to consider which would make it difficult to justify using Councilmanic Bonds unless the use was of a very short term, temporary nature. Councilmanic Bonds could be used to finance land acquisition if the funds were to be repaid from current or following year funds obtained from the conservation futures levy authorized under Chapter 84.32.230 of the Revised Code of Washington.

3: Grants, dedicated fund accounts and private foundations

Public grants, dedicated fund accounts and private foundation monies should be used to the maximum extent possible for financing acquisition and development, particularly Washington State’s LWCF and ALEA programs, the state and county paths and trails fund accounts, EIS and growth ordinance impact mitigation funds. However, grants, dedicated account funds and foundations will not provide sufficient capital to finance all required acquisition and development costs. Some public monies will be required.

4: General obligation bond - Foothills Trail segment only

Under this option, a general obligation bond referendum would be submitted to county voters to authorize the acquisition and development of the Foothills Trail segment only. This approach is possible but is probably not feasible considering the majority of voter approvals required. The Foothills Trail is only a segment of the larger Nisqually Delta/Mount Rainier Trail and other proposed countywide trails system which will be used by and of benefit to all county residents. Consequently, considering the effort required for a proposed general obligation bond validation, a proposed bond package should offer county
residents more than just the Foothills Trail segment, especially those county residents who live outside the Foothills Trail corridor area.

5: General obligation bond - countywide trail proposals
Under this option, a general obligation bond referendum would be submitted to county voters to fund acquisition and development of the Foothills Trail segment and any other portions of the Nisqually Delta/Mount Rainier Trail (like Puyallup and Tacoma) and/or any other regional countywide trail segment which could be in a planning or design phase which could be implemented within the bond authorization time period (possibly including segments in Steilacoom, Anderson Island, Gig Harbor Peninsula, among others). This approach is probably feasible and is recommended for further study with possible participating jurisdictions. The study effort should also consider working with Washington State's elected federal representatives to determine if use rights and additional funds can be obtained on the federal level for additional trail development within the McChord Air Force Base and Fort Lewis Army Post segments of the system.

6: Conservation futures and general obligation bond - countywide trail proposals
Under this option, the County Council would establish a conservation futures levy and funds account as authorized under Chapter 84.34.230-250 for the purpose of acquiring trail, related linear park right-of-way and other significant sites and lands, and submit a general obligation bond referendum to county voters to fund development of the Foothills Trail segment and any other portions of the Nisqually Delta/Mount Rainier Trail (like Puyallup and Tacoma) and/or any other regional countywide trail segment which could be in a planning or design phase which could be implemented within the bond authorization time period (possibly including segments in Steilacoom, Anderson Island, Gig Harbor Peninsula, among others). This approach is probably feasible, and possibly very popular, and is recommended for further study with possible participating jurisdictions along with option 4 above. Like option 4, the study effort should also consider working with Washington State's elected federal representatives to determine if use rights and additional funds can be obtained on the federal level for additional trail development and access to the sensitive environmental sites within the McChord Air Force Base and Fort Lewis Army Post segments of the system.

Operating and maintenance costs
For example, based on the preceding analysis, the following public financing alternatives are available to the County for the acquisition and development of the Foothills Trail:

1: User groups
Under this option, nonprofit groups would help raise or provide trail operating monies or services. User groups can help reduce trail operating costs, particularly for education, information and promotion programs, and possibly for some safety and maintenance efforts. However, though significant, user groups will not generate sufficient capital or provide sufficient volunteer resources with which to finance all required trail operation and maintenance costs. Some additional source of monies will be required.

2: Fees, concessions and joint development revenues
Under this option, user group contributions would be supplemented with user fees, and the revenues generated by concessionaires and/or joint venture developments of trail related facilities and services. Private operators will tend to tailor the services and costs to fit public demand more efficiently and effectively than were these same services to be provided by a public agency. Fee and concession revenues can be significant, and should
be placed in a dedicated fund account which promotes these types of services. However, though significant; user fees, concessions and joint development ventures will not provide sufficient capital to finance all required trail operation and maintenance costs. Some additional source of monies will be required.

3: General funds
Under this option, user group contributions, user fees and joint venture revenues would be supplemented with the County's property tax generated general funds accounts in the same manner as any other County park or recreation property operation and maintenance requirement. General fund budgets are flexible and can be adjusted to meet annual variations in trail operation or maintenance needs. However, the County is already financing a wide variety of park and recreation program services with general fund accounts and this source may be stretched to provide for all existing park requirements plus the addition of new countywide linear park and trail facilities. Some additional source of monies may be required.

4: Dedicated fund accounts - paths and trails
Under this option, all of the above sources would be supplemented with the annual revenue realized on an annual basis from the County's, and possibly from each participating local jurisdiction's, dedicated paths and trails fund accounts. The paths and trails funds would be reserved exclusively for operating and maintenance needs, while other sources, like obligation bonds, conservation futures and grants would be used to finance acquisition and development costs. This combination source of funds should provide sufficient revenues with which to finance all trail operating and maintenance costs. This approach is feasible, and should be studied further with each participating jurisdiction.
Option 1: Develop camping at the Puyallup River Trailhead

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit</th>
<th>quantity</th>
<th>unit cost</th>
<th>qty cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>clearing and grubbing</td>
<td>lump sum</td>
<td>1</td>
<td>$500.00</td>
<td>$500</td>
</tr>
<tr>
<td>picnic tables</td>
<td>each</td>
<td>5</td>
<td>$900.00</td>
<td>$4,500</td>
</tr>
<tr>
<td>fire pits</td>
<td>each</td>
<td>5</td>
<td>$200.00</td>
<td>$1,000</td>
</tr>
<tr>
<td></td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Subtotal building construction</td>
<td></td>
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<td></td>
<td>$6,000</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>project contingency (construction)</td>
<td>15.00%</td>
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</tr>
<tr>
<td>Washington State sales tax (const+contingency)</td>
<td>7.90%</td>
<td></td>
<td>$545</td>
<td></td>
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<tr>
<td>design/engrng/const fees (const+contingency)</td>
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<td></td>
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<td>TOTAL DEVELOPMENT COST</td>
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<td>$8,480</td>
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Option 2: Expand Orting's Lions Park

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<th>unit cost</th>
<th>qty cost</th>
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<td>$12,000</td>
</tr>
<tr>
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<td>cu yards</td>
<td>733</td>
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<td>$14,660</td>
</tr>
<tr>
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<td>$5,520</td>
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<td>$900.00</td>
<td>$9,000</td>
</tr>
<tr>
<td>barbecue</td>
<td>each</td>
<td>5</td>
<td>$300.00</td>
<td>$1,500</td>
</tr>
<tr>
<td>litter receptacles</td>
<td>each</td>
<td>5</td>
<td>$200.00</td>
<td>$1,000</td>
</tr>
<tr>
<td>trees</td>
<td>each</td>
<td>60</td>
<td>$150.00</td>
<td>$9,000</td>
</tr>
</tbody>
</table>

Subtotal building construction  $54,180

| project contingency (construction) | 15.00% | $8,127 |
| Washington State sales tax (const+contingency) | 7.90% | $4,922 |
| design/engrrng/const fees (const+contingency) | 15.00% | $9,346 |

Subtotal indirect development costs $22,395

TOTAL DEVELOPMENT COST $76,575
### Option 3: Acquire and develop Kapowsin spur

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit</th>
<th>quantity</th>
<th>unit cost</th>
<th>qnty cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>acquire land for trail access</td>
<td>acres</td>
<td>3</td>
<td>$18,600.00</td>
<td>$55,807.2</td>
</tr>
<tr>
<td><strong>Subtotal land</strong></td>
<td></td>
<td></td>
<td></td>
<td>$55,807.2</td>
</tr>
<tr>
<td>c-12 trail improvement</td>
<td>lr feet</td>
<td>3,400</td>
<td>$20.28</td>
<td>$68,952</td>
</tr>
<tr>
<td><strong>Subtotal building construction</strong></td>
<td></td>
<td></td>
<td></td>
<td>$68,952</td>
</tr>
<tr>
<td>project contingency (construction)</td>
<td></td>
<td></td>
<td>15.00%</td>
<td>$10,343</td>
</tr>
<tr>
<td>Washington State sales tax (const+contingency)</td>
<td></td>
<td></td>
<td>7.90%</td>
<td>$6,264</td>
</tr>
<tr>
<td>design/eng/nig/cons fees (const+contingency)</td>
<td></td>
<td></td>
<td>15.00%</td>
<td>$11,894</td>
</tr>
<tr>
<td><strong>Subtotal indirect development costs</strong></td>
<td></td>
<td></td>
<td></td>
<td>$28,501</td>
</tr>
<tr>
<td><strong>TOTAL DEVELOPMENT COST</strong></td>
<td></td>
<td></td>
<td></td>
<td>$155,525</td>
</tr>
</tbody>
</table>

[Diagram of Kapowsin Spur with locations marked]
Option 4: Improve linear park in South Prairie

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit quantity</th>
<th>unit cost</th>
<th>qty cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>clearing and grubbing</td>
<td>lump sum 1</td>
<td>$1,500.00</td>
<td>$1,500</td>
</tr>
<tr>
<td>earthwork</td>
<td>cubic yd 1,500</td>
<td>$4.00</td>
<td>$6,000</td>
</tr>
<tr>
<td>storm sewer</td>
<td>lump sum 1</td>
<td>$8,000.00</td>
<td>$8,000</td>
</tr>
<tr>
<td>picnic tables</td>
<td>each 8</td>
<td>$900.00</td>
<td>$7,200</td>
</tr>
<tr>
<td>barbecue</td>
<td>each 4</td>
<td>$300.00</td>
<td>$1,200</td>
</tr>
<tr>
<td>litter receptacles</td>
<td>each 4</td>
<td>$300.00</td>
<td>$1,200</td>
</tr>
<tr>
<td>topsoil</td>
<td>cubic yd 366</td>
<td>$20.00</td>
<td>$7,320</td>
</tr>
<tr>
<td>seeding</td>
<td>lump sum 1</td>
<td>$4,000.00</td>
<td>$4,000</td>
</tr>
<tr>
<td>irrigation</td>
<td>sq ft 39,600</td>
<td>$0.25</td>
<td>$9,900</td>
</tr>
</tbody>
</table>

Subtotal building construction $66,320

project contingency (construction) 15.00% $6,948
Washington State sales tax (const+contingency) 7.90% $4,208
design/engnrng/const fees (const+contingency) 15.00% $7,990

Subtotal indirect development costs $19,146

TOTAL DEVELOPMENT COST $65,466

---

Improve the Linear Park in South Prairie
Option 5: Acquire Cascade Junction switchback

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit</th>
<th>quantity</th>
<th>unit cost</th>
<th>qty</th>
<th>cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>acquire land for switchback</td>
<td>acres</td>
<td>28</td>
<td>$18,600.00</td>
<td>$513</td>
<td>$513,174</td>
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</tbody>
</table>

Subtotal land $513,174

TOTAL DEVELOPMENT COST $513,174
Option 6: Expand Main Street Park in Buckley

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit</th>
<th>quantity</th>
<th>unit cost</th>
<th>qty</th>
<th>cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>clearing and grubbing</td>
<td>lump sum</td>
<td>1</td>
<td>$6,000.00</td>
<td>6</td>
<td>$6,000.00</td>
</tr>
<tr>
<td>earthwork</td>
<td>cubic yd 9,000</td>
<td>4.00</td>
<td>$36,000.00</td>
<td></td>
<td></td>
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<tr>
<td>picnic tables</td>
<td>each</td>
<td>24</td>
<td>$900.00</td>
<td>21,600.00</td>
<td></td>
</tr>
<tr>
<td>barbecue</td>
<td>each</td>
<td>12</td>
<td>$300.00</td>
<td>3,600.00</td>
<td></td>
</tr>
<tr>
<td>benches</td>
<td>each</td>
<td>12</td>
<td>$500.00</td>
<td>6,000.00</td>
<td></td>
</tr>
<tr>
<td>litter receptacles</td>
<td>each</td>
<td>12</td>
<td>$200.00</td>
<td>2,400.00</td>
<td></td>
</tr>
<tr>
<td>topsoil</td>
<td>cubic yd 3,000</td>
<td>20.00</td>
<td>$60,000.00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>seeding</td>
<td>acres</td>
<td>6</td>
<td>$4,000.00</td>
<td>22,000.00</td>
<td></td>
</tr>
<tr>
<td>trees</td>
<td>each</td>
<td>160</td>
<td>$150.00</td>
<td>24,000.00</td>
<td></td>
</tr>
<tr>
<td>irrigation</td>
<td>sq ft 240000</td>
<td>0.20</td>
<td>$48,000.00</td>
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<td></td>
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</tbody>
</table>

Subtotal building construction $229,600

project contingency (construction) 15.00% $34,440
Washington State sales tax (const+contingency) 7.90% $20,859
design/engrng/const fees (const+contingency) 15.00% $39,606

Subtotal indirect development costs $94,905

TOTAL DEVELOPMENT COST $324,505

Expand Main Street Park in Buckley
Option 7: Expand Wilkeson Creek Park

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit</th>
<th>quantity</th>
<th>unit cost</th>
<th>qty</th>
<th>cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>clearing</td>
<td>acres</td>
<td>3</td>
<td>$2,000.00</td>
<td></td>
<td>$6,000</td>
</tr>
<tr>
<td>earthwork</td>
<td>na</td>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
<tr>
<td>picnic tables</td>
<td>each</td>
<td>6</td>
<td>$900.00</td>
<td></td>
<td>$5,400</td>
</tr>
<tr>
<td>barbecue</td>
<td>each</td>
<td>6</td>
<td>$300.00</td>
<td></td>
<td>$1,800</td>
</tr>
<tr>
<td>litter receptacles</td>
<td>each</td>
<td>3</td>
<td>$200.00</td>
<td></td>
<td>$600</td>
</tr>
<tr>
<td>topsoil</td>
<td>cubic yd</td>
<td>1,600</td>
<td>$20.00</td>
<td></td>
<td>$32,000</td>
</tr>
<tr>
<td>seeding</td>
<td>acres</td>
<td>3</td>
<td>$4,000.00</td>
<td></td>
<td>$12,000</td>
</tr>
<tr>
<td>irrigation</td>
<td>na</td>
<td></td>
<td></td>
<td></td>
<td>$0</td>
</tr>
</tbody>
</table>

Subtotal building construction $57,800

project contingency (construction) 15.00% $8,670
Washington State sales tax (const+contingency) 7.90% $5,251
design/engnrng/const fees (const+contingency) 15.00% $9,971

Subtotal indirect development costs $23,892

TOTAL DEVELOPMENT COST $81,692
Option 8: Extend trail through downtown Wilkeson

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit quantity</th>
<th>unit cost</th>
<th>qty</th>
<th>cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>15+1850 b-10</td>
<td>lr feet 940</td>
<td>$18.72</td>
<td>$17,597</td>
<td></td>
</tr>
<tr>
<td>extra cut to widen bed</td>
<td>cubic yard 635</td>
<td>$8.00</td>
<td>$5,080</td>
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</tr>
<tr>
<td>extra fill to widen bed</td>
<td>cubic yard 676</td>
<td>$16.00</td>
<td>$10,816</td>
<td></td>
</tr>
<tr>
<td>15+2790 c-12</td>
<td>lr feet 320</td>
<td>$20.28</td>
<td>$6,490</td>
<td></td>
</tr>
<tr>
<td>raise bed 12 inches</td>
<td>cubic yard 560</td>
<td>$16.00</td>
<td>$8,960</td>
<td></td>
</tr>
<tr>
<td>private crossing</td>
<td>lump sum 3</td>
<td>$3,841.30</td>
<td>$11,524</td>
<td></td>
</tr>
<tr>
<td>15+3110 existing bridge</td>
<td>lr feet 105</td>
<td>$701.05</td>
<td>$73,610</td>
<td></td>
</tr>
<tr>
<td>15+3215 c-12</td>
<td>lr feet 415</td>
<td>$20.28</td>
<td>$8,416</td>
<td></td>
</tr>
<tr>
<td>15+3630 end</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Subtotal building construction: $142,493

- project contingency (construction): 15.00% $21,374
- Washington State sales tax (const+contingency): 7.90% $12,945
- design/engnrng/const fees (const+contingency): 15.00% $24,580

Subtotal indirect development costs: $58,899

TOTAL DEVELOPMENT COST: $201,392

Extend trail through downtown Wilkeson.
### Option 9: Acquire and develop Quinnon Extension spur

<table>
<thead>
<tr>
<th>Station/Item</th>
<th>Unit Quantity</th>
<th>Unit Cost</th>
<th>Qty</th>
<th>Qty Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acquire land for trail extension</td>
<td>acres 3</td>
<td>18,600.00</td>
<td></td>
<td>51,240</td>
</tr>
<tr>
<td><strong>Subtotal land</strong></td>
<td></td>
<td></td>
<td></td>
<td>$51,240</td>
</tr>
<tr>
<td>12 foot wide section</td>
<td>lr feet 2,920</td>
<td>20.28</td>
<td></td>
<td>59,218</td>
</tr>
<tr>
<td>Public crossing</td>
<td>each 1</td>
<td>6,388.00</td>
<td></td>
<td>6,388</td>
</tr>
<tr>
<td><strong>Subtotal building construction</strong></td>
<td></td>
<td></td>
<td></td>
<td>$65,606</td>
</tr>
<tr>
<td>Project contingency (construction)</td>
<td>15.00%</td>
<td></td>
<td></td>
<td>9,841</td>
</tr>
<tr>
<td>Washington State sales tax (const+contingency)</td>
<td>7.90%</td>
<td></td>
<td></td>
<td>5,960</td>
</tr>
<tr>
<td>Design/engrnrng/const fees (const+contingency)</td>
<td>15.00%</td>
<td></td>
<td></td>
<td>11,317</td>
</tr>
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<td><strong>Subtotal indirect development costs</strong></td>
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<td></td>
<td></td>
<td>$27,118</td>
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<td><strong>TOTAL DEVELOPMENT COST</strong></td>
<td></td>
<td></td>
<td></td>
<td>$143,963</td>
</tr>
</tbody>
</table>
Option 10: Construct trailhead at handcar site

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit quantity</th>
<th>unit cost</th>
<th>qty cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>develop trailhead</td>
<td>lump sum 1</td>
<td>$67,000.00</td>
<td>$67,000</td>
</tr>
</tbody>
</table>

Subtotal building construction $67,000

| project contingency (construction) | 15.00%        | $13,050    |
| Washington State sales tax (const+contingency) | 7.90%        | $7,904     |
| design/engnrng/const fees (const+contingency) | 15.00%        | $15,008    |

Subtotal indirect development costs $35,961

TOTAL DEVELOPMENT COST $122,961

Construct trailhead at Handcar Site
Option 11: Improve Carbonado Cemetery site

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit</th>
<th>quantity</th>
<th>unit cost</th>
<th>qnty cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>access point</td>
<td>lump sum</td>
<td>1</td>
<td>$1,936.00</td>
<td>$1,936</td>
</tr>
<tr>
<td>Subtotal building construction</td>
<td></td>
<td></td>
<td></td>
<td>$1,936</td>
</tr>
<tr>
<td>project contingency (construction)</td>
<td>15.00%</td>
<td></td>
<td></td>
<td>$290</td>
</tr>
<tr>
<td>Washington State sales tax (const+contingency)</td>
<td>7.90%</td>
<td></td>
<td></td>
<td>$176</td>
</tr>
<tr>
<td>design/engr/cons fees (const+contingency)</td>
<td>15.00%</td>
<td></td>
<td></td>
<td>$334</td>
</tr>
<tr>
<td>Subtotal indirect development costs</td>
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<td></td>
<td></td>
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<tr>
<td>TOTAL DEVELOPMENT COST</td>
<td></td>
<td></td>
<td></td>
<td>$2,736</td>
</tr>
</tbody>
</table>
Option 12: Construct trailhead south of Carbonado

<table>
<thead>
<tr>
<th>station/item</th>
<th>unit</th>
<th>quantity</th>
<th>unit cost</th>
<th>qnty cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>develop trailhead</td>
<td>lump sum</td>
<td>1</td>
<td>$87,000.00</td>
<td>$87,000</td>
</tr>
</tbody>
</table>

Subtotal building construction $87,000

| project contingency (construction) | 15.00% | $13,050   |
| Washington State sales tax (const+contingency) | 7.90% | $7,904    |
| design/engnrng/const fees (const+contingency) | 15.00% | $15,008   |

Subtotal indirect development costs $35,961

TOTAL DEVELOPMENT COST $122,961

[Diagram showing the trailhead location south of Carbonado]