CITY OF RAPID CITY'S

RESPONSE TO

South Dakota Department of Transportation

Invitation for Proposals to Purchase State-owned Rail Lines

November 20, 2019

CITY OF RAPID CITY

RAPID CITY, SOUTH DAKOTA 57701-5035

Department of Community Development

300 Sixth Street

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November 20, 2019

Mr. Jerry Cope, Chairman
South Dakota State Railroad Board
700 East Broadway Avenue
Pierre, SD 57501

Re: RRProposal7585

Dear Mr. Cope:

On behalf of the City of Rapid City (City), it is with sincere pleasure that I submit to you the City's proposal in response to your Invitation for Proposals (IFP) to Purchase State-owned Rail Lines, for that portion of the MRC railbanked line between the City of Rapid City and Kadoka, to be used for recreational purposes, similar to the State's reuse of the rail line now known as the George S. Mickelson Trail.

Although the City does not have experience operating a rail line, the City does have experience providing exceptional recreational opportunities for the public. Not long after the devastating flood in 1972, the City of Rapid City created the Leonard "Swanny" Swanson Memorial Pathway, a paved shared-use path that runs the breadth of Rapid City along Rapid Creek, approximately 12 miles. This is the most used facility within Rapid City's park system, and daily, the path becomes a multi-use recreational path for bikers, runners, inline skaters, dog walkers and strollers.

Since the creation of the Rapid City Area Metropolitan Planning Organization (MPO) in 1977, the City of Rapid City, as the fiscal agent for the MPO, and the entity providing the federally required funding match for the MPO's long range transportation plans (now referred to as the Metropolitan Transportation Plan or MTP), has participated in long range planning for multi-use transportation and recreational facilities. Numerous revisions to the bikeway / walkway plans have occurred since 1977. Even today, with the on-going development of the Rapid City Area MPO's MTP, the Bike / Pedestrian Plan element will provide an analysis for needed bicycle and pedestrian improvements within the MPO, as well as identifying targeted improvements to address the existing sidewalk connectivity gaps. These long range plans continue to prioritize multi-modal expansion including the rail property extending from the existing city limits east to the Rapid City Regional Airport, ensuring all modes of transportation are addressed.

Over the past 30 years, the City's and the MPO's land use and long range plans have included the railbanked corridor as a potential future extension of the Swanny Pathway to the east. For example, in 1999, the City of Rapid City adopted the Rapid City East Greenway Master Plan, developed to protect the safety and welfare of the public and increase the quality of life through open space and recreational opportunities, included the railbanked property as a proposed bike path.

Expanding on the opportunities the State provides with the George S. Mickelson Trail, the City is proposing to secure the railbanked rail line as publicly owned property in perpetuity for recreational purposes. The City provides funding for numerous public improvements through its Capital Improvements Program and, if successful with the railbanked purchase proposal, will begin the capital improvements planning process to identify funds for extending the Swanny Pathway east for that portion located within the City limits. For those areas outside Rapid City, the MPO staff will work with other public agencies along the route as well as non-profit organizations similar to the West River Trail Coalition and Ridge Riders of the Black Hills to secure outside funding sources including grant and donation opportunities. These public / private partnership collaborations will jumpstart the extension of the existing recreational multi-use facility east from Rapid City to Kadoka.

In 2012, Future Focus Consulting in conjunction with Wyss Associates, Inc. and the West River Trail Coalition, completed the Mako Sica Trail Feasibility Study for another rails-to-trails opportunity located within South Dakota. The study, named for the Lakota term "land bad," provides the preliminary planning data to begin developing programmed improvements once the right-of-way is secured. In general, the study identified that the railbanked corridor bed is in excellent condition for conversion to a recreational trail and includes typical trail sections and preliminary trail crossing and trailhead schematics along the route. A copy of the Feasibility Study can be provided upon request.

As noted in **Section 1.3 IFP Objectives**, the City's proposal addresses several portions of the goals and objectives identified therein. Although the City's proposal includes only the MRC railbanked property and adjacent excess property located between Rapid City and Kadoka, statistical data available from various national and regional organizations (Appendix A) identifies an increased economic impact to nearby communities from trail development through recreational and tourism dollars to local, regional and state entities. The completion of a rails-to-trails conversion project can provide economic benefits statewide through increased tourism opportunities, but could also more directly positively impact individuals located within Jackson County where just under 45% of individuals are at or below the national poverty level (Appendix B).

Future possible events on the Mako Sica Trail could include organized activities similar to the annual Mickelson Trail Trek held during the third week of September. It is worthy to note that the 22nd Annual Mickelson Trail Trek 600 person registration limit had 325 individuals register on the first day, another 153 on the second day, with the State closing the registration on day 7 because all 600 available registration spots were filled.

This one 3-day activity was estimated to gross approximately $135,000 in increased regional spending based on an estimated $150 day per day for double room occupancy. This estimate excluded any additional spending that may have occurred for out-of-town participant meals, travel expenses or other potential spending activities.

City staff looks forward to visiting with the Board about the information contained within this proposal. Please contact me at (605) 394-4120 to schedule an interview with the Board to address any questions you or the Board members may have about this proposal.

Sincerely,

Patsy Horton

Patsy Horton, Division Manager
Long Range Planning

3 Proposal Requirements

The Department reserves the right in its sole discretion to modify the proposal submission requirements. The Board may request additional information or clarifications from any Proposer.

All information in Sections 3 of this IFP is required to be considered a complete Proposal. Proposals must respond to and reference each item in Section 3 of this IFP. Proposers should submit their best Proposal by the Proposal submission deadline.

The City of Rapid City acknowledges the requirements identified within this IFP and will provide any additional information or clarifications the Board may request.

3.1 Proposer Information

Proposals must include detailed information on the Proposer. At a minimum, each Proposal must contain the following:

1. *Proposer's lead contact information:*

   Patsy Horton, Long Range Planning Manager
   City of Rapid City
   300 Sixth Street
   Rapid City, SD 57701
   Phone: (605) 394-4120; Fax: (605) 394-6636
   email: patsy.horton@rcgov.org

2. *History and background information about the Proposer and the Proposer's railroad industry experience.*

   The City of Rapid City was established in 1876 by prospectors who were lured to the Black Hills by the discovery of gold. The city was named after the creek which flows through a geologic formation on the edge of the Black Hills known locally as "the Gap." Originally called Hay Camp, Rapid City became a major trade center for not only mining camps, but also for the surrounding towns, Indian reservations and ranches after the completion of the Fremont, Elkhorn and Missouri Valley Railroad on July 4, 1886.

   Rapid City Air Base, now named Ellsworth Air Force Base, was established six miles northeast of the city in the early part of World War II. Ellsworth AFB has also been selected as the preferred location for the first operational B-21 Raider bomber and the formal training unit.

   As the commercial center of the region, Rapid City grew steadily over the past. Ranching and other agricultural business depended on, and sustained the city for many years. However, Rapid City has become the eastern gateway to the Black Hills, with nearly 2.7 million visitors and serving as the hub for many Black Hills

tourism activities. Visitors can drive to Mt. Rushmore from Rapid City in 45 minutes or less, dependent on traffic and weather conditions. The Badlands, Crazy Horse Memorial and Devil's Tower are all within easy driving distance from Rapid City.

This influx of economic development and population has created an even more diverse community during the last half century. Rapid City has many fine attributes including the expansive recreational opportunities via the twelve mile shared-use path adjacent to Rapid Creek, Skyline Drive Wilderness Park which includes over 50 combined miles of mountain bike / hiking trails, including the 14 miles of privately owned trail system within Hansen-Larsen Memorial Park with over 14 miles of hiking/ mountain biking trails.

The City of Rapid City does not proclaim any railroad industry operational experience. However, with the nearly 50 miles of recreational/ share-use paths, over 1,650 acres of public park/open space and three privately operated bicycle shops to provide equipment for an alternate transportation mode, the City has extensive experience providing exceptional recreational opportunities to the region.

3. *Proposer's leadership personnel and command structure.*

   The City of Rapid City is a Class 1 municipality with a mayor/aldermanic form of government.

4. *A description of any parental relationships and any guarantor relationships that apply.*

   The City of Rapid City operates in compliance with all South Dakota Codified Laws as it applies to parental and/or guarantor relationships.

5. *Details of any prior bankruptcies or operational issues experienced by the Proposer or any guarantor within the last five years.*

   The City of Rapid City operates in compliance with all South Dakota Codified Laws and remains solvent without any prior bankruptcies or operational issues as confirmed by all past municipally required audits.

6. *Details of any instances where the Proposer has been fined or assessed a civil penalty by federal, state or municipal agencies within the last five years.*

   The City of Rapid City has not been fined or assessed any civil penalties and operates in compliance with all South Dakota Codified Laws.

7. *Business goals in relation to the purchase of the Lines, and company-wide goals.*

Plan Rapid City, Rapid City's Comprehensive Plan, identifies several short and long term goals to enhance livability through recreational opportunities. Two such goals include the following:

TI-2.4A: Multi-User Bicycle Network. Develop a bicycle network that accommodates and supports all types of bicycling, including paved and unpaved recreational trails and commuter routes.

SEC-NA1.1H: Parks and Greenways. Promote the development of parks and conservation of greenways in the area to increase recreation opportunities for existing and future residents of the Southeast Connector Neighborhood Area. Support the implementation of the proposed Rails-to-Trails project and East Greenway Master Plan.

8. *Anticipated successes and challenges in achieving business goals and company-wide goals.*

Similar to the Mickelson Trail development during the 1980s, adjacent land owners near Mystic were vocally opposed to the project. Now, annual Trail Trek participants look forward to the "Mystic homeowners" stop. The picture to the right depicts the amenities the homeowners provide to all second day Trek participants, including cookies, bars, coffee, fire pits, seating, and other amenities.

To address concerns with the ranching operations adjacent to the trail along with concerns from other adjacent property owners, fencing and gates can help minimize impacts from the trail. Public input sessions are anticipated to gather comments which will drive the mitigation efforts to address property owner concerns as trail development occurs.

Once the right-of-way is secured for public purposes, staff will begin working with land owners and the various communities along the route as well as trail coalitions to begin fundraising efforts. Two such groups will include Black Hills Trails Coalition and Ridge Riders of the Black Hills, local non-profit and cycling enthusiasts supporting this rails to trails conversion effort (Appendix C).

3.2 Lines to be Purchased

Proposals should clearly identify the Line(s) or portions of Line(s) that are proposed for purchase.

The purchase proposal as presented herein includes all of the Mitchell to Rapid City (MRC) railbanked line between Rapid Creek (Mile Marker 659.5) and Kadoka Depot Museum (Mile Marker 562.5), including all of the adjacent excess property. This purchase proposal includes all previously leased and permitted property identified within Addendum No. 5, Attachment A – MRC, in order to utilize a minimum trail surface of approximately 20 feet in width for a rails-to-trail recreational shared-use path.

Staff anticipates working with numerous lease and permit holders in order to plan and construct a usable portion of the rail line around encroachments that may exist on the rail bed, as well as work with adjacent property owners to minimize trail user impacts on agricultural operations and other adjacent land uses.

Opportunities also exist to work with communities along the route to create trailheads and tourism activities as part of the trail development

3.3 Purchase Price

Proposals must include the purchase price, payment method (lump sum or installment payments) and the anticipated date for closing the transaction. If a Proposer submits a Proposal to purchase more than one Line or segment of Line, the Proposer must allocate the purchase price among the Lines or Line segments. Proposers will not be permitted to reduce the purchase price during negotiations without the consent of the Board.

1. City acquires all MRC railbanked property located between MMR 562.5 and MMR 659.6, including all leaseholds, permitted property and excess property located within or adjacent to the railbanked line, as identified in Addendum No. 5.
2. City secures transfer documentation required for property and leaseholder, permit holder and/or lessees of excess property located within or adjacent to the MRC railbanked line.
3. City pays State annually an amount equal to the existing revenues generated from leaseholders, permit holders and/or lessees for any excess property located within or adjacent to the MRC railbanked property, excluding Lease No. 1621 held by City, estimated at approximately $6,660 per year.
4. City works with all leaseholders and permit holders as identified in Addendum No. 5 to secure easements, construction easements and a minimum of 20’ wide right-of-way for shared use path location. City shall work with leaseholders through agricultural operations and other potential non-permitted encroachments, including fencing, gates, etc., in order to minimize impacts to adjacent landowners.

5. Once the City secures ownership of the MRC railbanked property, the City will work with other local, state and national public agencies to implement recreational programming goals and objectives, including the SD Game, Fish and Parks as well as the National Park Service.
6. Once the rails-to-trails shared use path is constructed, the City will offer for sale the balance of the MRC railbanked property to existing leaseholders and/or adjacent property, similar to process identified in SDCL 1-44-28. The City shall coordinate with the State to transfer the balance of the excess property, with all excess property sale proceeds payable to the State, less the city's document preparation costs as specified in the current IFP.
7. Once the rails-to-trails shared use path is constructed, the City will also work with local, state or national public or non-profit agencies in securing funding for ongoing maintenance and operations costs, including potential agreements for property transfer to local, state and/or national public agencies.
8. If the shared use path is not substantially constructed within 20 years, the MRC railbanked property located adjacent to any unconstructed portion acquired through this IFP will be offered to existing leaseholders and/or adjacent property, similar to the process identified in SDCL 1-44-28. The City shall coordinate with the State to transfer the balance of the excess property, with all excess property sale proceeds payable to the State, less the city's document preparation costs as specified in the current IFP.

3.4 Service Protections

Proposals must address how current levels of rail service will be sustained or improved. Proposals must include detailed operational plans, including:

1. *Expected operational improvements or methods;*

   The City anticipates constructing a 10 foot concrete shared-use path within the City of Rapid City, consistent with its existing infrastructure requirements. In conjunction with other communities along the trail, successful fundraising efforts will lead to construction of the balance of the Mako Sica Trail to the east. Other surface options may be considered for that property located outside the Rapid City limits. Additional amenities for the rails-to-trails conversion project include trailheads and trailhead parking, trail shelters, educational opportunities identifying educational and historical significance along the route, all similar to those located along the Mickelson Trail. The City anticipates collaborating with local agencies along the route for trail improvements within the local agency jurisdictions.

2. *Capital investment commitments or a capital investment plan;*

   Once the railbanked right-of-way is secured, the City will begin programming projects through the City's Capital Improvements Program, with anticipated improvements beginning inside the city limits of both Rapid City and Kadoka, as funding becomes available. Additionally, the City will work with other interested parties to raise funds in order to complete the entire section. Additional conversations are anticipated with the SD Department of Game Fish and Parks in

working to advance the expansion of the state's trail system as identified within the 2018 South Dakota Statewide Comprehensive Outdoor Recreation Plan implementation strategies.

3. *Potential railroad expansion options;*

   The City anticipates recreational trail construction only within the MRC railbanked property.

4. *Projected industry developments for current and future shippers;*

   The City does not anticipate any industry related shipping activities to be located within the railbanked purchase proposal, only recreation related activities.

5. *Identification of management headquarters, projected employee needs, and job creation estimates;*

   The Rapid City Department of Parks and Recreation Office is located at 515 West Boulevard in Rapid City, SD. The existing City staff will work to plan and program improvements within the City limits. The number of construction employees associated with publicly bid construction projects will vary. Based on a study commissioned by the American Association of State Highway and Transportation Officials (AASHTO) on American Recovery and Reinvestment Act (ARRA), it was determined that job creation from transportation enhancement projects (trails, walking and biking) created 17 jobs (design, engineering and construction) per $1 million spent, more than any other type of transportation investment (Appendix A).

6. *Marketing plan for rail customers and users;*

   The City anticipates working with SD Tourism as well as Visit Rapid City, Black Hills Badlands and Lakes and other interested public/private partnerships in order to promote this proposed recreational opportunity not only via local promotions, but regionally and nationally.

9. *Rate or service modifications to better serve customers (Proposer should provide estimates of potential fees and rates, including any comparison to similar local, regional and State services operated by the Proposer);*

   At this time, the City anticipates providing the shared-use path as another free recreational opportunity located within its city limits. However, similar to the Mickelson Trail, day use passes and seasonal passes will be considered for that area outside Rapid City and Kadoka.

10. *Expected impact to existing shippers and other rail users;*

    The City anticipates working with existing leaseholders and permit holders to minimize and/or mitigate adverse impacts.

11. *Expected impact to communities located along or near the Line(s);*

    Based on the AASHTO study referenced earlier, the City anticipates a significant increase in spending related to the recreational trail construction and eventual trail, creating a positive impact not only for the nearby communities but also for the state.

12. *Experience operating short line railroads or experience working in concert with or hiring short line railroad operators for business purposes;*

    The railbanked proposal does not include any operational railroad activity, only recreational activities.

13. *Projected economic impact of the Proposal (Proposers should be as detailed as possible without incurring excessive expenses to produce economic studies); and*

    Based on the trail investment study referenced earlier, significant economic opportunities have occurred throughout those areas studied. Not only are communities experiencing an increase in economic activity, but the studies referenced also identified a reduction in overall health-care costs related to trail use and investments.

14. *Long-term maintenance plan to meet or exceed current applicable rail standards.*

    The City anticipates including maintenance funding for that portion of the railbanked property located within the city limits, similar to other city-owned public infrastructure. Through the coordinated efforts of public/private partnerships with local, regional, state and national trail enthusiasts, an operation and maintenance funding plan will be a key factor for the ongoing maintenance and operation of the Mako Sica Trail.

3.5 Trackage Rights, Haulage Rights, and Interchange Rights

A settlement agreement between the Department and BNSF Railway Company ("BNSF") addresses trackage rights, haulage rights, and interchange rights on some of the Lines. The Department will make redacted copies of the settlement agreement and certain related documents available to Proposers in ***Attachment H – BNSF Settlement****. Any requests for unredacted copies of the settlement agreement and related documents must be posted to the Q&A forum and are subject to approval by the Department, the parties to the agreements, and the Proposer's execution of Department-approved agreements to protect the confidentiality of the unredacted material. Proposals must contain an assurance to protect any applicable rights secured as a result of the settlement agreement and related documents.*

This proposal does not appear to include any property subject to the BNSF Settlement Agreement.

3.6 Current Grant Commitments

Due to the receipt of federal rail rehabilitation funding, some segments of the MRC Line are required to be maintained at FRA Class 2 standards and are subject to reporting and other grant requirements. A segment of the Sioux Valley Line is also subject to a grant agreement. Proposers are responsible for familiarizing themselves with the grant requirements that apply to these Lines. Proposals must contain a plan for complying with all reporting and other requirements associated with the grants for these Lines. Copies of the grant agreements are available to Proposers in ***Attachment I – Grant Agreements****.*

Although the railbanked property proposed for acquisition within this proposal is considered part of the MRC Line, the MRC railbanked property does not appear to be subject to the Grant Agreements identified in Attachment I.

3.7 Future Grant Commitments

During the period Proposals are being submitted or considered, the Department may submit federal grant applications for improvements to the Lines. Proposals relating to the affected Lines must contain a plan for complying with all reporting and other grant requirements in the event a grant is awarded. Copies of submitted grant applications will be promptly made available to Proposers.

If any federal grant applications include the MRC railbanked property, the City will ensure reporting and other grant requirements are met in the event a federal grant is awarded.

3.8 Loan Commitments

Regional railroad authorities are eligible to receive loans from the Department's railroad trust fund to complete rail-related improvement projects. Currently, loans are outstanding for improvements to or along some of the Lines. Proposals relating to these Lines must contain a plan for addressing repayment of unpaid loan obligations. Copies of the loan agreements and a list of unpaid loan balances are available to Proposers in ***Attachment J – Loan Agreements****.*

If the City is awarded and secures a loan from the railroad trust fund to complete the recreational rails to trails improvements, the City will develop a plan to address repayment of those future loan obligations.

3.9 Other Financial Commitments

Pursuant to the operating lease and sublease of the MRC Line, shipments originating or terminating on the MRC Line are subject to a surcharge of Fifty Dollars ($50.00) per car. This surcharge is intended to compensate the Mitchell-Rapid City Regional Railroad Authority and reimburse the Department for railroad trust funds totaling Five Million Seven Hundred Thirty-nine Thousand One Hundred Fifty Dollars ($5,739,150.00) that were expended to rehabilitate the MRC Line. To date, the Department has collected One Million Three Hundred Ninety Thousand Five Hundred Fifty Dollars ($1,390,550.00) as reimbursement for that public expenditure. The unpaid balance is Four Million Three

Hundred Forty-eight Thousand Six Hundred Dollars ($4,348,600.00). Proposals for the MRC Line should address how the unreimbursed portion of this public expenditure will be satisfied.

The Department has submitted a funding request to the Federal Emergency Management Agency (FEMA) to fund repairs to the Sioux Valley Line. That request is pending. The Department has also entered into an agreement that obligates D&I Railroad Co. to pay for any repairs that do not qualify for FEMA funding. A copy of the agreement between the Department and D&I Railroad Co. is available to Proposers in ***Attachment K – Other Financial Commitments.***

Although the railbanked property proposed for acquisition within this proposal is considered part of the MRC Line, the MRC railbanked property does not appear to be subject to the operating lease and sublease arrangements for that portion of the railbanked MRC line located west of Kadoka; it also does not appear that the railbanked property is subject to the potential FEMA requested funding agreement in order to repair the Sioux Valley Line.

3.10 Lease and Sub-lease Agreements

Any sale of the Lines will be subject to applicable operating leases and subleases. The Department will assign its rights and obligations under the operating leases and subleases to the purchasers of the Lines. Any early termination of the operating leases or subleases will be a matter of private negotiation between the Proposer and the lessees or sublessees and will not be the responsibility of the Department. Copies of operating leases and subleases are available to Proposers in ***Attachment L – Leases and Subleases****.*

The City will work with all leaseholders and permit holders as identified in Addendum No. 5 to secure necessary permanent easements and construction easements within existing leased property in order to maintain a minimum of 20’ right-of-way and/or easement for the shared use path location. The City will also work with leaseholders through agricultural operations and other potential non-permitted encroachments, including fencing, gates, etc., to help minimize and/or mitigate encroachments and recreational use impacts to adjacent landowners, similar to those mitigation efforts completed along the Mickelson Trail.

3.11 Permits, Licenses, Excess Property Leases, and other Land Use Agreements

Sales will be subject to the permits, licenses, excess property leases, and other land use agreements that apply to the purchased Lines. Notwithstanding the foregoing, the Department reserves the right to exclude any excess property from the sale of the Lines at any time prior to execution of a Line purchase agreement.

The City will work with all leaseholders, permit holders, licensees, and excess property lessees located adjacent to the MRC railbanked property as well as other land use agreements that apply to the MRC railbanked property purchase

in order to secure a minimum 20' wide easement and/or right-of-way for recreational trail purposes.

3.12 Approval of Sale

Proposals must include a plan for obtaining any necessary approvals from the Surface Transportation Board (STB) and must include estimates of the required approval timelines.

It does not appear that the City's proposal to purchase the MRC railbanked property is subject to approval by the Surface Transportation Board as the proposal is specific to a recreational trail use not freight rail use. However, if the SDDOT determines the purchase is subject to STB approval, the City will work to secure STB approval as quickly as practicable.

3.13 Environmental Liabilities

Proposals must identify how any potential environmental liabilities or obligations will be addressed.

As noted within the Mako Sica Trail Feasibility Study, there are several environmental issues that will to be addressed during final design and construction of the trail, including bank stabilizations. Additional fundraising may be necessary to secure ongoing maintenance for those portions of the MRC railbanked property that have experienced bank stabilization issues.

3.14 Conditions of Sale

Proposers must acknowledge the conditions of sale listed in Section 4 of this IFP. Proposers must be prepared to address any other contingencies required by the Board.

The City acknowledges the ten conditions of sale as listed in Section 4 of the IFP as referenced below. The City will also include the same sale provisions in all assignee and/or successor purchase agreements, including those agreements that may occur with other municipalities for that portion of the trail located within the municipal jurisdiction.

4. Conditions of Sale

The following terms and conditions, in whole or in part, are expected to be included in any agreement of sale:

1. *The ability to re-purchase the Lines in an abandonment proceeding or if the purchaser were to discontinue service for any reason;*
2. *Preferred re-purchase rights if a sale is contemplated to another buyer;*
3. *A requirement that any assignee or successor to the purchaser abide by the terms of the sale agreement*
4. *A requirement that the sale of the line be considered "AS IS, WHERE IS", as allowed by law;*
5. *A provision requiring the purchaser to indemnify the Department and hold the Department harmless for any claims related to any acts or omissions after the closing of the sale;*

6. *Provisions requiring the purchaser to fully protect any haulage, trackage and interchange rights that apply to the line as a result of the Department's settlement agreement with BNSF, and to fully comply with any other obligations that apply to the purchaser pursuant to that settlement agreement;*
7. *The Department will retain mineral rights as required by South Dakota law;*
8. *The purchase will be subject to the right of highway authorities to maintain, construct, re-construct, sign, mark and repair all existing public highway crossings;*
9. *The Department will reserve a right to crossings that have not yet been constructed but are identified in the Department's current Statewide Transportation Improvement Plan; and*
10. *The Lines will be conveyed by quit claim deed and the purchaser will waive any title defects.*

5. Evaluation of Proposals

The Board will select Proposals that are in the best interests of the State of South Dakota. The Board will evaluate each Proposal based on the requirements set out in Sections 3 and 4 of this IFP and the Proposal's likelihood of meeting the IFP objectives set out in Section 1.3.

The City acknowledges that the Board will select Proposals for the MRC railbanked property that are in the best interests of the state based on the requirements included within the IFP objectives set out in Section 1.3.

RRProposal7585
Appendix A

Trail Investment: A Good Deal for the American Economy

Trails and Trail Networks Revitalize American Infrastructure

Job Creation: Making a Case for Healthy Transportation Investments
Jobs Created Per Million Dollars Spent

Source: American Association of State Highway and Transportation Officials (AASHTO) Average Direct Jobs by Project Type (2012); jobs in terms of full-time equivalents (FTE)

More Jobs Per Dollar

A study commissioned by the American Association of State Highway and Transportation Officials (AASHTO) on American Recovery and Reinvestment Act (ARRA) job creation found that transportation enhancements (trails, walking and biking) projects create 17 jobs (design, engineering and construction) per $1 million spent, more than any other type of project.[1]

Creating Economic Opportunity

A 2012 economic impact study of the Great Allegheny Passage, a 150-mile trail between Cumberland, Maryland, and Pittsburgh, Pennsylvania, found that trail users spent more than $40 million annually.[2] A 2008 study found that the trail-related local businesses there (bike shops, restaurants, etc.) pay out $7.5 million in wages every year—stimulating our rural economies.[3] In Michigan, meanwhile, in- and out-of-state bicycle tourism generate $38 million and $22 million per year, respectively.[4]

Strong Communities

While the Erie Canalway Trail in upstate New York attracts users from across the country, residents from communities along the 360-mile trail account for almost 90 percent of trail use. By making 1.5 million visits annually along the trail, local users spend over $165 million in their own communities.[5]

Trails as Transportation

Between 2000 and 2012, the number of U.S. workers who commuted daily via bicycle increased from 488,000 to 786,000—a 60 percent gain.[6] With continued investment in bicycle infrastructure, we can expect more than 1 million Americans to routinely bike to work. Increasing transportation alternatives increases worker productivity and decreases wear on federal highways—saving maintenance costs.

Fiscal Responsibility

The federal government pays 28 percent of all health-care costs in the United States.[7] A study of Lincoln, Nebraska, found that every dollar spent on trails returned $2.94 in direct medical benefits.[8] Having access to walking or jogging trails is associated with a higher percentage of people meeting current activity recommendations compared with those who didn't have access to trails. Investing in active transportation infrastructure eliminates a host of negative health-risk factors in trail users—relieving strain on federal health-care programs and American taxpayers while catalyzing community development.

Brockport, New York | Photo courtesy Parks & Trails New York

Sources:

[1]http://onlinepubs.trb.org/onlinepubs/nchrp/docs/NCHRP08-36(103)_FR.pdf
[2]https://www.trailtowns.org/wp-content/uploads/2015/08/Economic-impact-of-all-Trails-1.pdf
[3]https://www.trailtowns.org/wp-content/uploads/2015/08/07-294-GAP-Economic-Impact-Study-2008-2009_Final-Report.pdf
[4]https://www.michigan.gov/mdot/0,4616,7-151-9615_11223_64797_69435---,00.html
[5]https://headwaterseconomics.org/wp-content/uploads/Trail_Study_109-NY-Econ-Impact-Erie-Canalway.pdf (p. 24)
[6]https://www.census.gov/content/dam/Census/library/publications/2014/acs/acs-25.pdf
[7]http://www.cms.gov/Research-Statistics-Data-and-Systems/Statistics-Trends-and-Reports/NationalHealthExpendData/downloads/highlights.pdf
[8]http://journals.sagepub.com/doi/abs/10.1177/1524839903260687

rails·to·trails conservancy

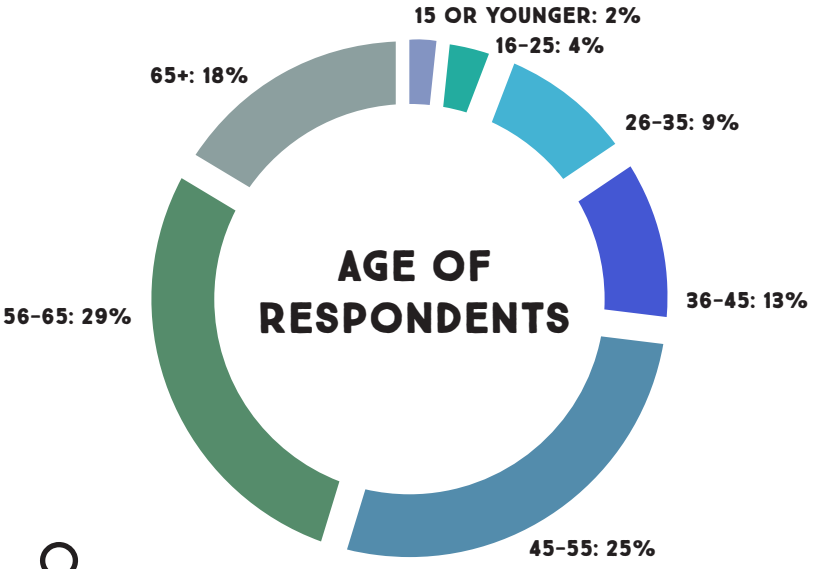
railstotrails.org | @railstotrails

20 RAILS-TO-TRAILS CONSERVANCY PENNSYLVANIA AND NEW JERSEY SURVEYS: 2006-2016

RURAL TRAILS SURVEY DATA

rails-to-trails conservancy

AGE OF RESPONDENTS



PURPOSE OF TRAIL USE

HEALTH	56%
RECREATION	38%
TRAINING	3%
OTHER	2%
COMMUTING	1%

54% MALE

46% FEMALE

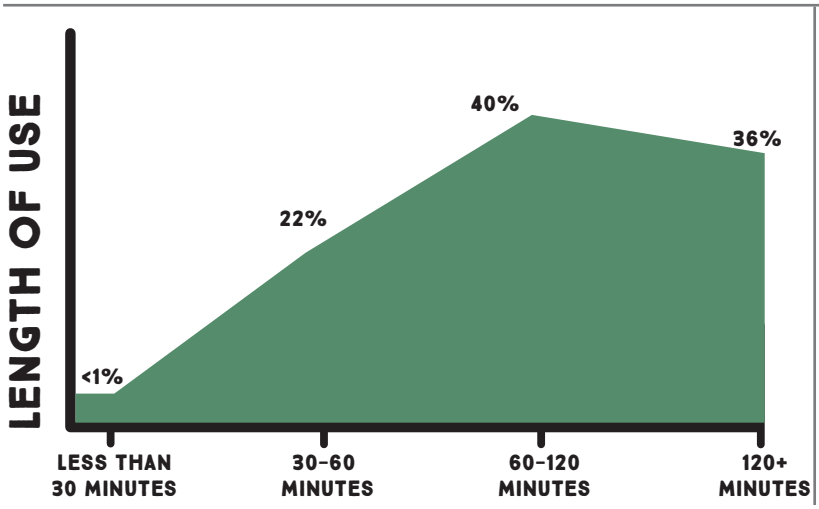
PRIMARY TRAIL ACTIVITY

BIKING	WALKING/HIKING	JOGGING/RUNNING	OTHER	WALKING A PET	WINTER SPORTS	EQUESTRIAN
48%	32%	9%	5%	3%	3%	1%

HARD GOODS: $273 PER YEAR
(BIKES, SHOES, CLOTHES, ETC.)

SOFT GOODS: $16.30 PER OUTING
(FOOD, BEVERAGES, ETC.)

LENGTH OF USE



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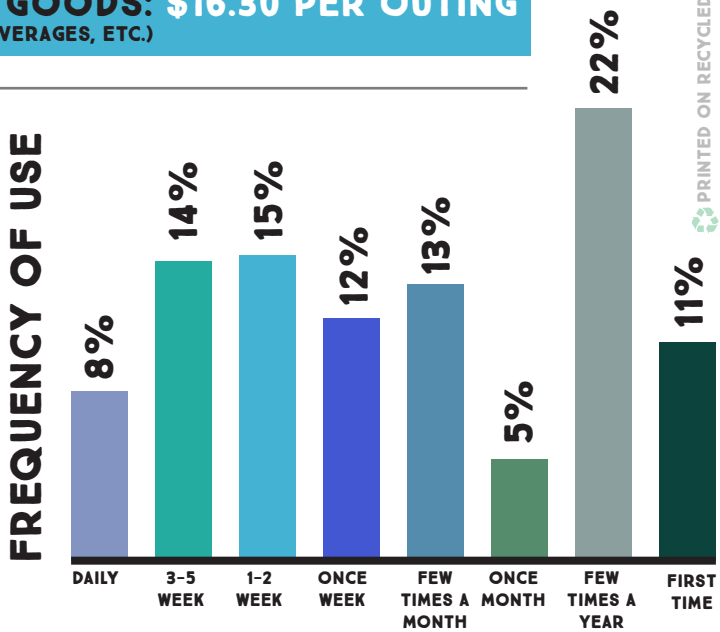
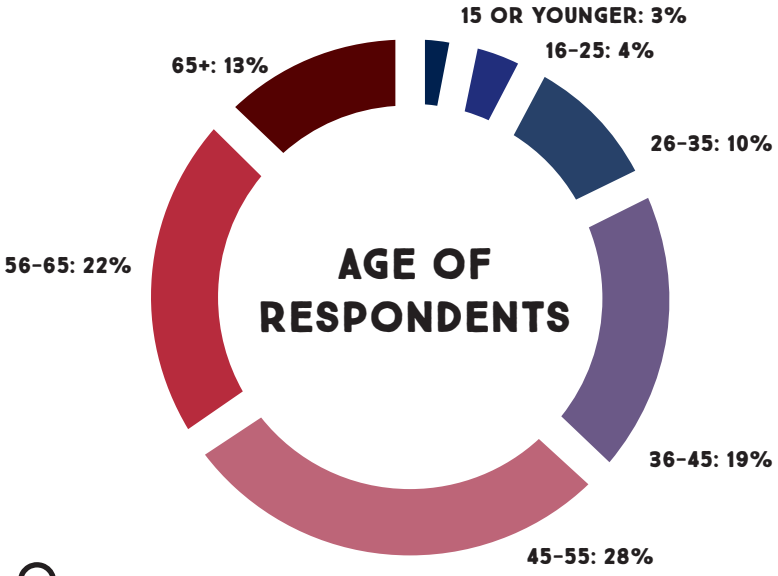


PERCENTAGE TOTALS MAY EQUAL +/- 100 PERCENT DUE TO ROUNDING.

20 RAILS-TO-TRAILS CONSERVANCY PENNSYLVANIA AND NEW JERSEY SURVEYS: 2006-2016

SUBURBAN TRAILS SURVEY DATA

rails-to-trails conservancy



PURPOSE OF TRAIL USE

HEALTH	64%
RECREATION	25%
TRAINING	6%
COMMUTING	3%
OTHER	3%

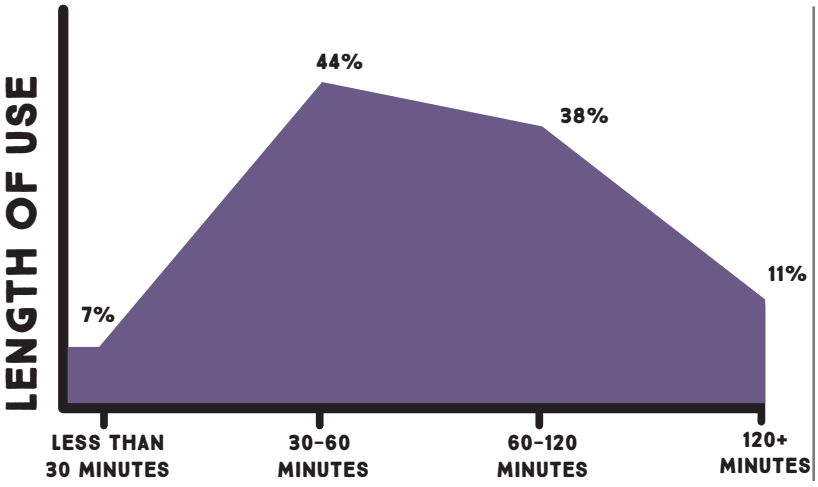
54% MALE | **46% FEMALE**

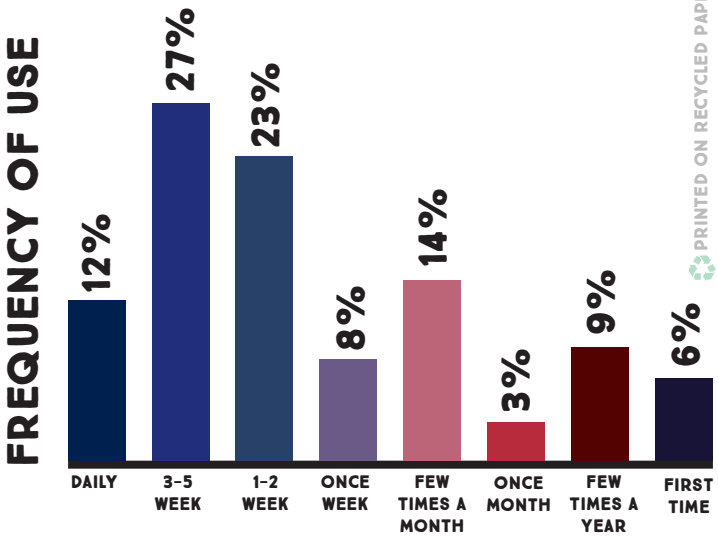
PRIMARY TRAIL ACTIVITY

BIKING	WALKING/HIKING	JOGGING/RUNNING	WALKING A PET	OTHER	EQUESTRIAN	WINTER SPORTS
42%	31%	12%	11%	4%	0%	0%

HARD GOODS: $147 PER YEAR (BIKES, SHOES, CLOTHES, ETC.)

SOFT GOODS: $4.02 PER OUTING (FOOD, BEVERAGES, ETC.)





PERCENTAGE TOTALS MAY EQUAL +/- 100 PERCENT DUE TO ROUNDING.

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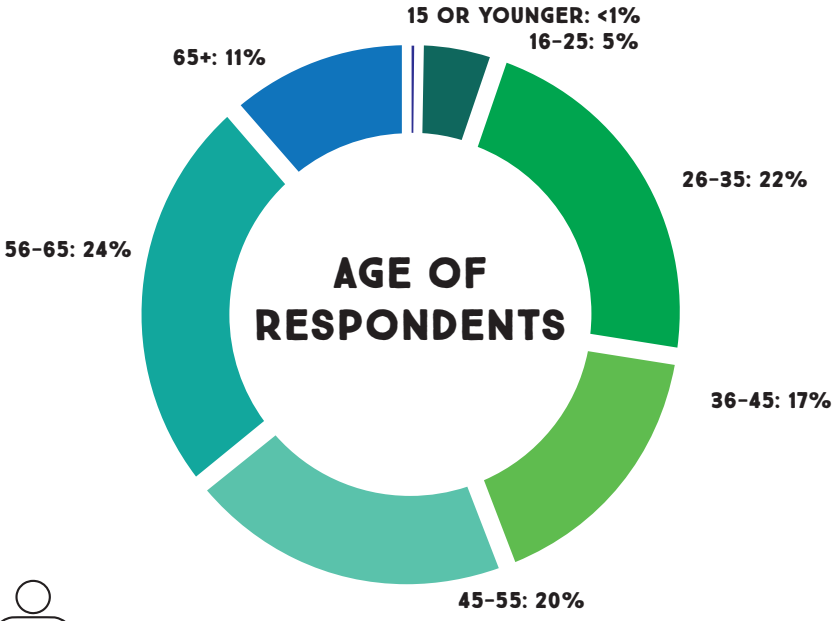
20 RAILS-TO-TRAILS CONSERVANCY PENNSYLVANIA AND NEW JERSEY SURVEYS: 2006-2016

URBAN TRAILS SURVEY DATA

rails-to-trails conservancy



PURPOSE OF TRAIL USE

HEALTH	37%
RECREATION	35%
TRAINING	15%
OTHER	7%
COMMUTING	6%

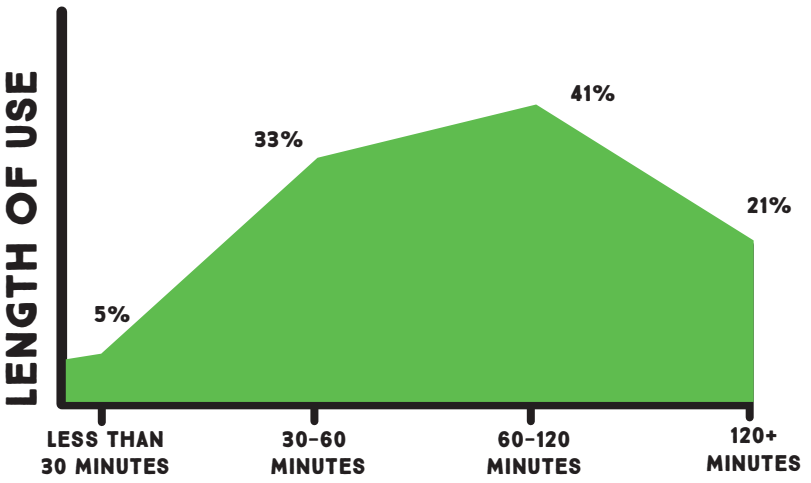
60% MALE | **40% FEMALE**

PRIMARY TRAIL ACTIVITY

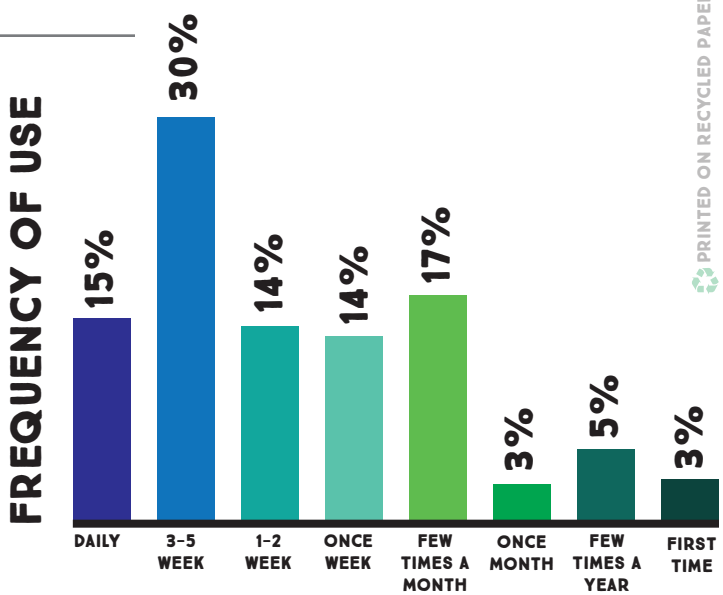
BIKING	WALKING/HIKING	JOGGING/RUNNING	OTHER	WALKING A PET	WINTER SPORTS	EQUESTRIAN
44%	33%	21%	2%	0%	0%	0%

HARD GOODS: $383 PER YEAR (BIKES, SHOES, CLOTHES, ETC.)

SOFT GOODS: $16.53 PER OUTING (FOOD, BEVERAGES, ETC.)



PERCENTAGE TOTALS MAY EQUAL +/- 100 PERCENT DUE TO ROUNDING.



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Outdoor Recreation Net Benefits of Rail-Trails

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Net economic values were estimated with the individual travel cost method for user samples from three rail-trails in geographically diverse regions of the U.S. Estimates of rail-trail demands were derived from count data and continuous data models. Model specifications included travel costs, activity variables, and other user group characteristics. In general, recreation users valued rail-trails located in rural areas more highly than in suburban areas. Consumer surplus trip values were relatively stable across recreation demand models.

KEYWORDS: *Recreation modeling, trails, recreation demand, recreation benefits*

A relatively new type of recreation site is the recycling of an abandoned railroad bed into a rail-trail, which is able to accommodate recreation activities and transportation purposes. As of mid-1991, there were approximately 415 rail-trails in the United States and many more in either the planning or construction phases (Moore, Graefe, Gitelson, & Porter, 1992). The Rails-to-Trails Conservancy reported that in 1988 rail-trails were used 27 million times for recreational purposes (Moore, Graefe, Gitelson, & Porter, 1992). Annual use in 1988 varied from 1,800 user-days for a 7.5 mile trail in Illinois to a high to 1 million user-days on the 44.5 mile Washington and Old Dominion Trail in Northern Virginia. Regnier (1989) found corresponding increases in the miles of rail-trails, from 70 to 156, and visits, 81,000 to 217,000, between 1980 and 1988 in Minnesota. A 1978 study of the Lafayette/Moraga Trail in California estimated annual use at 116,000 visits.

Lawton (1986), investigating the annual economic impact of the 23.5 mile Sugar River Trail (bicycle trail) near New Glarus, Wisconsin, found that trail users spent nearly $430,000 in 1985 or $9.04 per person. Users of the Elroy-Sparta Trail in Wisconsin during 1988 spent on the average $14.88 per day and the annual economic impact was estimated to be $1,257,000 (Schwecke, Sprehn, & Hamilton, 1989). A 1989 study by the U. S. Forest Service of 19 Illinois bicycle trails, some of which were rail-trails, found that on average users spent $2.89 per person/trip. Similarly, Minnesota reported the average amounts rail-trail users expected to spend on the day they were interviewed varied from $1.90 to $8.38.

In the determination of visitor spending for rail-trails and estimates of economic impacts, no measures of the user benefits were derived for rail-

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trails. Other than the Mendelsohn and Roberts (1983) hedonic study of the demand for forest attributes by hikers in the Olympic National Park, we can find no other published valuation studies of trails. This study is intended to expand the recreation economics literature on trails by estimating the net benefits realized by representative individuals from a sample of geographically diverse rail-trail settings in the U.S.

The term net benefit in recreation economics expresses a gain (consumer surplus) in annual income or well being and is interpreted as user willingness-to-pay, over and above the actual travel expenditures, for access to a particular site. In light of the projected growth in day trips for hiking (91.2 million in 1987 to 293 million by 2040) and cycling (114.6 million in 1987 to 222 million by 2040), estimates of the economic benefits of rail-trail sites should be useful to land managers and recreation trail planners (Cordell, Bergstrom, Hartmann, & English, 1989). Federal agencies (e.g., U.S. Forest Service) estimate the values of different types of recreational trips as part of their outdoor recreation planning processes. Study results could be used to evaluate the aggregate benefits from introducing new rail-trails or changes in the types of activities supported at existing trails as the product of the benefit per trip times the typical number of trips taken annually per user by the number of recreationists. A requisite step in the estimation of user benefits is to statistically model user demand for trips to rail-trails.

Study Sites and Research Method

Study data were obtained from three separate surveys of rail-trail participants in different states during 1991 (Moore, Graefe, Gitelson, & Porter, 1992). Rail-trails represented the diversity of the overall population in the United States with the following criteria used in selecting trails: region of country, surrounding population, density of population, physical setting, land ownership pattern, trail length, and type of managing authority. The rail-trails included the Heritage Trail in Dubuque County, in eastern Iowa, the Tallahassee to St. Marks Historic Railroad Trail in northern Florida, and the Lafayette/Moraga Trail near Oakland, California. The Heritage Trail (26 miles) is a crushed limestone trail that winds through rural countryside, consisting of open farmland to a wooded river valley, the St. Marks Trail (16 miles) is a paved asphalt trail that runs adjacent to small towns and undeveloped forest land, and the Lafayette/Moraga Trail (7.6 miles) is paved asphalt and passes through dense urban and suburban areas.

In selecting the sample of trail users, researchers used a two-part strategy in which trail users were first given a short on-site interview and, then, sent a detailed mail questionnaire. The on-site surveys were conducted using a stratified sampling method to assure coverage by time of day, day of week, season of year, and section of trail. The combined response rate for the mail questionnaires was 79.3%, with 1,705 of the 2,151 questionnaires being returned.

Questionnaire items of interest to this study sought information from participants about their rail-trail use patterns. We restricted site samples to single-day trips from an affirmative responses to the questionnaire items, "Was the rail-trail the primary reason for visit?" and a negative response to the question, "On an overnight trip?" The resulting sample sizes were 307, 522, and 717 respondents for the Heritage, St. Marks, and Lafayette/Moraga, respectively. Rail-trail and user characteristics are summarized in Table 1.

Dummy variables (0,1) representing walking and bicycling were included in the analysis. The remaining activities like horseback riding, jogging, etc. accounted for less than 8% of trail use, and were excluded to avoid the dummy variable trap that makes the regression models inestimable (Greene, 1990). Group composition was operationally defined by the age

TABLE 1
Sample Rail-Trails and User Characteristics

Characteristics	Rail-trails		
	Heritage (n = 307)	St. Marks (n = 522)	Lafayette/Moraga (n = 717)
Trail setting	Rural	Mixed (Rural small towns)	Suburban
Surface	Compacted limestone	Asphalt paved	Asphalt paved
Most popular activity	Bicycling	Bicycling	Walking
Length of trails	26 miles	16 miles	7.6 miles
Mean trips	37 (± 70)	43 (± 75)	137 (± 110)
Median trips	10	12	120
Mean age	45.7	38.3	50.2
Mean one-way miles	34.2	30.8	5.2
Car transport	88%	84%	56%
Mean on-trail hrs.	2.5	2.3	1.1
Annual visits	134,986	171,774	408,950
Rank-order of perceived trail benefits			
Health & fitness	1	1	1
Preserving open space	3	2	2
Aesthetic beauty	2	2	3
Community pride	4	3	4
Recreation opportunities	5	2	5

Notes. The three trails selected include the Heritage Trail in eastern IA, the St. Marks Trail in northern FL, and the Lafayette/Moraga Trail near Oakland, CA. Table data were taken from *The Impacts of Rail-Trails* (Moore, Graefe, Gitelson, and Porter, 1992). Mean trip values in parentheses are the standard errors.

distributions and the number of individuals. Definitions of variables and descriptive summary statistics are displayed in Table 2.

TABLE 2
Summary Descriptive Statistics of Sampled Rail-Trails

Variables[a]	Means	Std. Dev.	Minimum	Maximum
		Heritage Trail (n = 307)		
r	37.37	70.56	1	365
TC_r	20.94	33.08	.10	188.40
B	.65	.48	0	1
W	.33	.47	0	1
GS	1.79	1.20	1	9
A1	.79	1.32	0	7
A2	1.24	.97	0	8
I	50,000.54	21,709.97	20,000	99,999
		St. Marks Trail (n = 522)		
r	43.30	75.59	1	365
TC_r	16.11	12.47	.09	289.37
B	.81	.39	0	1
W	.12	.33	0	1
GS	1.61	1.04	1	8
A1	1.03	1.55	0	21
A2	.82	.96	0	7
I	51.876.58	24,406.74	20,000	99,999
		Lafayette/Moraga Trail (n = 717)		
r	136.58	110.06	1	365
TC_r	2.26	3.36	.06	42.64
B	.21	.41	0	1
W	.75	.43	0	1
G	1.38	.68	1	9
A1	.40	.81	0	7
A2	1.16	.78	0	9
I	74,078.77	25,335.86	20,000	99,999

[a] r Annual visits to sample rail-trail sites.
TC_r Combined out-of-pocket and opportunity costs, based on hourly wage rates, for travel to and from a rail-trail. Mileage, travel time, and occupations, which were used in the calculation of TC_r, were obtained from respondents.
I Annual household income, measured from responses to an income scale with $20,000 categorical increments.
B 1 if primary activity was bicycling, 0 otherwise.
W 1 if primary activity was walking, 0 otherwise.
GS Number of individuals in a group.
A1 Number of individuals in group age 26 years or less.
A2 Number of individuals in group older than 26.

Specification of a Rail-Trail Model

Within applied recreation economics, the focus has been on trips to the recreation sites that enter the household production process much like any other consumable goods (Mendelsohn & Brown, 1983). The public sector typically supplies access to users for rail-trail trips, and the household produces trips with inputs of such durable purchases as a car, clothing, and recreational equipment coupled with a demand to visit a rail-trail. We make the assumption that an individual is maximizing satisfaction when choosing a specific rail-trail over other trails. Using the individual travel cost method (ITCM) from revealed preference theory, we combine the decision regarding the selection of a particular rail-trail and how much to use that trail (Wilman, 1984). Individuals do not buy trips to a rail-trail unless they find it worth the price, as measured by their travel costs to that trail. A property of the ITCM is that the expenditure behaviors of participants exhibit an inverse relationship between trip travel costs and the number of annual trips taken to a designated rail-trail. Consequently, participants are willing to buy more trips at lower prices than at higher prices, assuming that their incomes, preferences, etc., do not change.

The ITCM involves vehicle-related costs spent traveling to and from rail-trails and the opportunity cost of travel time at some fixed portion of an hourly wage rate per trip. Travel costs are the necessary input into the production of a trail experience since the cost of travel does not contribute positively to a trail user's satisfaction from on-site time (Smith, 1989). It is assumed therefore that on-trail time is not part of the computation of user benefits (Fletcher, Adamowicz, & Tomasi, 1990).

Using compact notation, a specification of the ordinary demand function $h(\cdot)$ for a user of a rail-trail is $r_i = h_i(TC_r, I, S, GS, TA)$, where r is the annual quantity of trips demanded by user i, TC_r is the travel cost to include the opportunity cost of travel time per trip, I is the annual income earned from work and fixed income, and S is the prices to users of substitute rail-trails. Studies of outdoor recreation behavior suggest that the interrelationships between people, place, and activity are the essential factors in recreation decisions (Clark & Downing, 1984). In specifying the rail-trail demand function, we include two independent variables from recreation engagement theory—compositions of the user groups (GS) and respondents' participation in trail activities (TA)—to account for the different demanders of rail-trails (Williams, 1984). The quality characteristics of sample rail-trails are omitted in the separate site demand functions because they are invariant across users who visit each trail.

Travel costs (TC) were measured from the direct costs of transportation at \$.19 per mile multiplied by the round-trip number of miles driven. The figure of \$.19 per mile was arrived at by subtracting the depreciation cost of approximately \$.09 per mile (Department of Transportation, North Carolina) from the federal rate of \$.28 per mile. The out-of-pocket cost of travel with bicycles and walking to rail-trails was zero. The opportunity cost of time

was assumed to be income foregone, and was empirically measured from the hourly wage rates associated with respondents' occupations (taken from the categories proposed by Smith in 1983 and corrected for 1992). By taking an estimate of the fraction of income foregone while travelling to and from the rail-trail site, the opportunity cost of time spent traveling, or best alternative uses of that time, were valued at 58% for Heritage, 52% St. Marks, and 34% Moraga/Lafayette. Mean travel costs were $20.94 at Heritage, $16.11 St. Marks, and $2.26 Lafayette/Moraga (McConnell & Strand, 1981).[1]

We acknowledge the importance of substitute prices or quality measures of other rail-trails in the specifications of the demand functions (Rosenthal, 1987; Kling, 1989). However, the availability of substitute trails differed among the three rail-trails in our sample. There were no other rail-trails close enough to two trails to be considered substitutes by day-trip users. The nearest rail-trail to Heritage was 170 miles away and to St. Marks 350 miles. The issue of substitutes for our sample of rail-trails was somewhat more complex than the lack of other rail-trails might imply, however. There were other settings in which trail activities could occur, but these trails would not be considered substitutes for rail-trails by most respondents. Also, we were valuing rail-trail sites, not trail activities, and rail-trails have very distinct characteristics. They generally extend long distances, have very low grades, hard surfaces, straight alignments, and do not allow motorized vehicles. Only multi-purpose greenway trails might share similar characteristics and could be considered substitutes. Such sites did not exist in the vicinity of these two study rail-trails. The most similar setting near the Heritage was a flood wall along the Mississippi River, which was suitable for bicycling, walking, and running, but was less than a mile long and did not offer the natural surroundings afforded by the Heritage. The levies in the St. Marks National Wildlife Refuge, near the southern terminus of that trail, offered an excellent setting for mountain bikes, but not for walking and touring bikes. The only alternative sites for these cyclists were county highways.

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[1]McConnell and Strand (1981) specify price in their model as the argument in the right-hand side of the equation, $r=f[c+(\alpha)(1-t)g'(w)]$ where r is trips per year, c is out-of-pocket costs per trip, α is travel time to the rail trail per trip from respondents, and $(1-t)g'(w)$ is the after tax marginal income foregone per unit time. Hourly wage rates were associated with respondents' occupations from the hedonic wage rates for occupation categories from Smith (1983) and corrected for 1992. Using the marginal wage rates, $g'(w)$, for the occupational categories of survey respondents, $r = B_0 - B_1 c - B_2 y$ where the opportunity cost per unit of time is $y = (\alpha ga)(g'(w))$ and B are the coefficients. The ratios of coefficients B_2/B_1 from the equations below were used to estimate the fraction of income foregone while travelling to and from the rail-trail site. Alternative models for valuing time in ITCM are discussed by McKean, Johnson, and Walsh (1995). The resulting models including the gross estimates of income I:

Heritage	$r =$	49.981	$-$ .414c	$-$ .238y	$-$ .0001I
		(5.411)	($-$.994)	($-$.923)	($-$.692)
St. Marks	$r =$	54.079	$-$ .275c	$-$ .143y	$-$ .0001I
		(7.197)	($-$1.045)	($-$.807)	($-$.951)
Lafayette/Moraga	$r =$	171.960	$-$ 9.140c	$-$ 3.092y	$-$ .0002I
		(13.25)	(4.13)	($-$3.978)	($-$1.249)

There were two alternative trails approximately six miles from the Lafayette/Moraga that might be considered substitutes by many users. One trail traveled through developed surroundings and the second followed a water district canal and was less scenic than the Lafayette/Moraga. Survey researchers did not directly obtain data from respondents regarding substitute trails. Indirect methods were inadequate for estimating distances and travel times from zip code addresses since we would be second-guessing respondents about their choices of trail access from a variable number of points along the substitute greenway or canal walkways.

Estimation

Without knowledge of the "true" benefits from rail-trails to users, it is customary to display results from alternative demand models for each rail-trail separately and compare the models. Our specification of trail behavior with the assumption that we can observe interior solutions to the constrained utility maximization process underlying a trail demand function follows current estimation methods for *on-site* data (Smith, 1988). Given the decision by an individual to use a rail-trail, we combine into one decision whether to participate and to select a rail-trail. Consequently, the only relevant alternatives for analyzing on-site data are the continuous models—ordinary least squares (OLS) or OLS with the logarithmic transformation of dependent variable—and maximum likelihood (ML) estimators (Smith, 1989).

An issue that can arise when ITCM is applied to data from on-site surveys is sample selection bias (Smith, 1988). Our three samples of individuals visited rail-trails at least once, and no information was available on individuals who chose not to visit the rail-trails. In addition, truncation bias can arise due to the logarithmic transformation of one trip, which is zero. In this case, we are questioning whether an explicit recognition of the truncated error is important in the estimation of parameters. In effect, were first trip users overrepresented in the data, and do they create marked effects on our characterizations of other rail-trail users? The Tobit regression takes account of selection bias at low levels of rail-trail trips, and uses the available data to estimate demand function parameters (Greene, 1990; Smith, 1988).[2]

The Poisson regression meets the necessary statistical assumptions to estimate recreation demand functions (Creel & Loomis, 1990; Hellerstein, 1992). Poisson estimates the number of occurrences (counts) of an event in nonnegative integer quantities—the number of annual trips to a rail-trail. Count data models have been shown to be robust to such potential sampling issues as censoring and endogenous stratification, which are related to the

[2]The underlying regression is $r = \beta x + \varepsilon$, which includes an error term ($\varepsilon \sim N[0,\sigma 2]$), and r is the annual trips (Greene, 1990). Sigma (σ^2) is an ancillary parameter and is the standard error of the regression, which is comparable to the estimated mean square error that is normally reported in regression. Regression estimates were obtained using the censoring regression routine in LIMDEP (Greene, 1990).

ITCM and use of on-site surveys (Shaw, 1988). Endogenous stratification occurs when the frequent users of a recreation site are more likely to be sampled, than individuals who visit a site infrequently. The implicit assumption that the variance equaled the conditional mean in the Poisson regression is too strong a restriction for recreation data, and hence fails to account for the *over-dispersion* in the data where the conditional variance exceeds the conditional mean. Cameron and Trivedi (1986) relaxed this restriction to account for over-dispersion and recommended a compound Poisson model with a negative binomial distribution.[3]

From a more practical recreation modeling standpoint, we include robust regression results since we are dealing with recreation data and non-normal disturbances (error) in a multiple variable framework. Robust regression refers to a general class of statistical procedures designed to reduce the sensitivity of annual trip estimates to failures in the assumptions of the parametric model. In brief, robust regression is characterized as a form of weighted regression because the downweighting of residuals for influential outliers (high number of trips at larger travel costs per trip) occurs during the iterative estimation and re-estimation of regression parameters by the computer. Advantages of robust regression include less sample-to-sample variation and more accurate confidence intervals (Hamilton, 1992).[4]

Results

A variety of alternative regression models were considered for the independent variables assumed to affect individual demand functions for rail-trails. In our demand specification, the independent variables were selected for alternative models at the different rail-trail locations because they reflect those determinants expected to influence trail demand under a travel cost and recreational engagement framework (Table 3).

The travel cost parameters of the three separate samples of respondents indicated broad consistency in the parameter sign of the effects of travel costs per trip (TC_t) across all the alternative models by trail locations. The

[3]The negative binomial, $ln\lambda_i = \beta x_i + \varepsilon$, includes a vector of the determinants of demand and error term, and λ_i is the natural logarithm of the trip counts. The negative binomial model is one extension of Poisson regression that allows the variance to differ from the conditional mean. Log-likelihood functions are maximized using the algorithm Newton's method with the econometric software, LIMDEP (Greene, 1990). The variance is $Var(exp(\beta x)) = exp(\beta x)\,(1 + \alpha\, exp(\beta x))$ (Greene, 1990). The computer program sets the nuisance parameter or alpha (α) in the measurement of variance equal to an arbitrary constant since the maximum likelihood (ML) estimator assumes that only the mean can be specified correctly. See Cameron and Trivedi (1986) for an extended discussion of these issues and Poisson regression models.

[4]Hamilton (1992) provides a comprehensive discussion on a robust regression method. Robust regression reduces the impact of gross outliers in the data because the solution minimizes the squared deviations. Robust regression initially screen data points based on Cook's D (distance) > 1 to eliminate gross outliers prior to calculating starting values and then performs Huber iterations followed by biweight function iterations (Hamilton, 1992). This minimizes the sum of absolute residuals, rather than the sum of squared residuals.

TABLE 3
Continuous, Censored, and Count Data Regressions of the Trip Demands for Sampled Rail-Trails

Independent[a] variables	Continuous regression models				Censored	Count data
	Linear	Semi-log	Robust[b]	Double-log	Tobit[b]	Negative binomial
			Heritage Trail (n = 307)			
TC_r	−.3925	−.0252	−.0234	−.7017	−.0458	−.0330
W	36.40					.70
Al		−.28	−.30	−.33	−.30	−.16
Constant	34.08	3.41	3.41	4.49	3.21	3.62
Alpha (α)						*1.511*
Sigma (σ)					*1.67*	
R^2	*.12*	*.32*		*.38*		
MSE	*66.137*	*1.439*		*1.495*		
$\mathcal{L}$						*−1272.01*
Pseudo R^2					*.13*	*.06*
			St. Marks Trail (n = 522)			
TC_r	−.2737	−.0155	−.0151	−.4706	−.0295	−.01221
B	−36.49	−.55	−.46		−.61	−.76
W	33.48	.80	.88		.79	
GS	−7.61	−.32	−.35	−.31	−.39	−.17
Constant	89.40	3.33	3.36	4.10	3.41	4.56
Alpha (α)						*1.658*
Sigma (σ)					*1.73*	
R^2	*.14*	*.23*		*.25*		
MSE	*70.006*	*1.517*		*1.497*		
$\mathcal{L}$					*−935.14*	*−2305.53*
Pseudo R^2					*.08*	*.03*

	Lafayette/Moraga Trail (n = 717)					
TC_r	−6.968	−.1485	−.2078	−.4528	−.1616	−.1025
B		−.76	−.69	−.87	−.79	−.53
GS	−16.60	−.30	−.26	−.33	−.29	−.32
A1	−19.21	−.31	−.30	−.30	−.34	−.18
Constant	186.71	5.08	5.35	4.75	5.01	5.68
Alpha (α)						*.933*
Sigma (σ)					*1.370*	
R^2	*.20*	*.32*		*.34*		
MSE	*98.315*	*1.323*		*1.310*		
$\mathfrak{L}^a$					*−231.47*	*−4143.66*
Pseudo R^2					*.11*	*.02*

[a]Variables are travel cost (TC), bicycling (B), walking (W), group size (GS), number in group ages ≤26 (A1), and ages >26 (A2).
[b]Based on a semi-log specifications of the demand functions.
Notes. All coefficients are significant at the .05 level. MSE is the mean square error. $\mathfrak{L}$ is the log likelihood ratio values, which serves the same purpose as the F test serves for least squares. Sigma (σ) is an ancillary parameter and is the standard error of the truncated regression, which is comparable to the estimated MSE reported in linear regression. Variable coefficients are in the natural logarithmic values for all models, except for the linear regression results. The pseudo R^2 is an informal goodness-of-fit index that measures the fraction of an initial log likelihood value explained by the model. Although not reported in the table results, annual income, activity, and group variables were retained in all models to avoid specification error. Also, likelihood-log tests were performed for the alpha values in the negative binomial models. The large χ^2 values asserted that the rail-trail data being conditional on the Poisson was virtually zero.

higher elasticities of demand for annual trips with respect to travel costs were at Lafayette/Moraga than at St. Marks or Heritage. The demand equations exhibited no significant annual income effects, which was not unexpected, in that the amount of available discretionary time for a day's outing and travel, incorporated into travel cost as an opportunity cost, was more of a factor in rail-trail decisions than their annual incomes (Bockstael, McConnell, Strand, 1991).

The remaining significant parameters in the alternative models and rail-trail locations included group size (*GS*), which had inverse relationships to the annual quantities of rail-trail trips to St. Marks and Lafayette/Moraga. Groups comprised of more participants under 26 years (*A1*) demanded significantly fewer trips at the Heritage and Lafayette/Moraga locations, across all models. This finding confirmed survey observations and modeling expectations that the more frequent participants used rail-trails in group sizes of one or two, and were older than 26 years.

The trail activity parameters were mixed in sign and significance across alternative models and trail locations. The bicycling (*B*) parameter for the paved asphalt, Lafayette/Moraga had a negative sign with cyclists demanding significantly fewer trips. Users who were likely to walk (*W*) the St. Marks, also an asphalt paved rail-trail, demanded significantly more annual trips; while cyclists on the St. Marks demanded significantly fewer trips even though bicycling was the more popular activity. We must emphasize that the lack of statistical significance in the cases of the activity parameters was not indicative of the popularity of these activities, rather our findings related specifically to the modeling of individuals' demands for annual rail-trail trips.

Since recreation economic theory does not offer guidance as to the appropriate statistical estimator, we used "work in progress" techniques like the Box-Cox transformations toward normality and Davidson and Mackinnon tests for linearity versus log-linearity, both of which asserted the travel cost semi-log models to provide the better fit of the continuous data (Greene, 1990). Within rail-trail locations, quantitative differences in estimated parameters and judgements regarding their significance between alternative models were equally important in selecting the appropriate models and the computed net benefits. However, the differences in the size and importance of estimated parameters across alternative models must be interpreted cautiously because they were not directly comparable (Greene, 1990). For example, the higher levels of statistical significance of the OLS semi-log model than the Tobit (semi-log specifications) and the negative binomial can be misleading. The pseudo R^2, which is from the maximum likelihood estimate of trips demanded by individuals and displayed in Table 2, is an informal goodness-of-fit index that measures the fraction of the initial log-likelihood value that is explained by the demand model (Greene, 1990). Negative binomial results, instead of the Poisson, were reported because the alpha's (α) were significant, and we rejected the Poisson assumptions (α's = 0) (Cam-

eron & Trivedi, 1986).[5] Overall, the significance of the same variables across alternative models were consistent; even though, there were differences in the magnitudes of parameters. Inspections of the resulting graphic displays of the curves from the non-linear models were convex to the origins, which is customary to the demand curves that are generated from ITCM's.

Discussion

An important use of ITCM is the estimation of recreation benefits of recreation sites to individuals. Consumer surplus (CS) is a measure of the net recreation benefits to individuals among the different rail-trails and in evaluating the accuracy of benefit estimators. It expresses a not observable utility in terms of observable dollars, and is interpreted as an individual's willingness-to-pay over and above the mean trip travel costs for a rail-trail trip.[6]

The three samples of rail-trail users were similar in their responses as to the perceived benefits to their health and fitness from trail activities, aesthetic beauty (quality of place), and from knowing that the existence of rail-trails work to preserve open spaces for recreational opportunities and community pride. The economic values of these perceived benefits to users were embedded within the recreation site selection decision in the ITCM.

To simplify comparisons, Table 4 reports CS and the estimators used in net benefit computations. CS per trip ranged from $21.83 to $81.99 at Heritage, $33.89 to $112.31 at St. Marks, and $4.81 to $19.48 at Lafayette/Moraga. CS were larger for the Heritage and St. Marks than for the Lafayette/Moraga, suggesting that rail-trail users in rural Iowa and Florida valued trails more highly than did the suburban Lafayette/Moraga area residents who found this trail more readily accessible and took larger volumes of trips.

However, comparisons within the separate rail-trail samples indicated a diversity in CS among the demand estimators, even when we held the assumptions used in constructing travel costs and other key variables constant. With the exception of the Lafayette/Moraga, which had the fewest first-trip

[5]Likelihood-ratios to test $\alpha = 0$ (equivalent to $ln\alpha = -\infty$) or the process being Poisson were significant. The $\chi^2(1)$ were 15,653 (Heritage), 30,648 (St. Marks), and 48,612 (Moraga); all of which were significant at the .000 level.

[6]An individual's CS is derived by the integral in (1) that gives the change in the area to the left of the trail demand curve for an individual's (i) willingness-to-pay over and above the mean trip travel cost (p) for a rail-trail trip (v):

$$CS = \int_{p}^{\bar{p}} v_i \, dp_i \quad (1)$$

We simplify the notation in (1) by suppressing constant terms and the other determinants of demand that would appear normally in the demand functions. Since the trip travel cost cannot be observed at zero trips, the upper trip travel cost is truncated at the choke or highest trip price ($\bar{p}$) that any one trail user is willing to pay (Smith, 1989). A trail user chooses the number of rail-trail trips by maximizing (1), where the marginal utility of additional trips is zero.

TABLE 4
Comparisons of Net Benefits per Trip

Demand functions		Consumers Surplus (CS) per Trip		
		Heritage	St. Marks	Lafayette/ Moraga
Linear	CS	$46.74	$ 78.60	$ 9.77
	Trips	38	43	136
Semi-logarithmic	CS	39.37	65.54	6.70
	Trips	9	11	67
Robust	CS	41.86	65.13	4.81
	Trips	9	11	84
Double-logarithmic	CS	65.83	112.31	16.70
	Trips	5	7	50
Tobit	CS	21.82	33.89	6.16
	Trips	7	9	65
Negative binomial	CS	30.18	49.78	9.56
	Trips	22	32	122

Notes. Choke prices (the highest travel costs) for Heritage, St. Marks, and Lafayette/Morage were $188, $289, and $43, respectively. CS is the consumer surplus per rail-trail trip, and the integrals of the functions were calculated using Simpson's rule for approximating integrals. An alternative method for semi-logarithmic results is the approximation $-(1/\beta)$, where β is the coefficient on travel cost. Constant terms were not corrected for logarithmic bias. This bias does not alter consumer surplus estimates per trip, only the mean sample estimates of rail-trail trips.

users, Tobit CS values were comparatively lower than those from alternative demand models since the Tobit estimators were sensitive to on-site sample selection effects. In computing the Tobit CS values, we assumed that the probability of visiting a rail-trail was held constant (Smith, 1988).

CS from robust regression estimators were more conservative than the semi-log OLS models. By testing whether the semi-log travel cost parameters were more than one (robust) standard errors from the corresponding robust regression parameters, we roughly assessed the influence of outlier observations upon the semi-log models. Travel cost parameters in Table 2 were similar for the Heritage and St. Marks sites, but we were encouraged to lean toward the consumer surplus from robust regression estimators for the Lafayette/Moraga. Taking the difference between the robust travel cost parameter and the semi-log and, then, dividing by the robust standard error *[(−.2077636) − (−.148516) / .0123168]*, resulted in a value of *−4.81* which was clearly more than one (robust) standard error for the corresponding robust travel cost parameter (Hamilton, 1992).

Count data estimators are designed to mitigate many of the problems associated with continuous data models. The CS values from the Tobit and

count data models were in the range expected for the Heritage and St. Marks Trails. Both were in rural settings with one-way travel means of over 30 miles and 2 hour average stays. CS of $4.81 per trip from the robust regression for the Lafayette/Moraga Trail appeared to more closely reflect the expected welfare value of a suburban trail, given the ease of accessibility.

Bergstrom and Cordell (1991) estimated community demands for outdoor recreation trips to state and federal sites for outdoor activities and the net benefits per trip with the zonal TCM and the 1989 Public Area Recreation Visitors Survey (PARVS). However, net benefits from zonal and individual TCM involve different underlying assumptions (McConnell & Bockstael, 1984). The 1989 CS estimates for activities that might occur on rail-trails were $26.10 for day hiking, $7.37 for jogging, $31.92 for biking, and $36.95 for walking. If we assume that the rural locations of the Heritage and St. Marks Trails were similar to the state recreation sites in the PARVS, the CS rail-trail estimates of $30.18 to $49.78 were within the range of the 1989 CS estimates for day hiking, biking, and walking.

Conclusion

Rail-trail demand models were estimated for three rail-trails using the individual travel cost method. Important determinants of demand for rail-trails were travel cost, recreation activities, and the sizes and age groupings of trail parties. An important use of ITCM is the estimation of recreation benefits from rail-trails for use by planners in studying the welfare benefit of existing or potential rail-trail conversions. Using the values of $30.18 for Heritage, $49.78 for St. Marks, and $4.81 per trip for Lafayette/Moraga and multiplying these values by the total annual trips to the appropriate rail-trail (see Table 1), annual rail-trail benefits were $4,073,877 for Heritage, $8,550,909 for St. Marks, and $1,967,049 for Lafayette/Moraga. The annual benefits per mile of rail-trail were $156,687 (Heritage), $534,432 (St. Marks), and $258,822 (Lafayette/Moraga).

As a final note, the sensitivity of net benefits suffered from two sources of error—omitted variable and the likelihood of recall errors from asking respondents the number of trips to trail sites in the past 12 months (Smith, 1990; Bockstael & Strand, 1987). In hindsight, recall errors could have been reduced if the data had contained information from non-trail users where we could have directly incorporated the selection effects of non-users into our modeling efforts. In brief, this would involve a 2-step estimator where we first model an individual's decision to visit a trail and, if significant, then estimate in the quantity of trips to that trail. Next, our omission of substitute trail prices at the Lafayette/Moraga Trail, in particular, may have resulted in an overstatement of consumer surplus for users participating in less skilled activities at rail-trails. Overall, the variability in consumer surplus can be attributed to needed research that can better measure the decision variables that describe the household's demand for trails and greenways.

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BLACK HILLS TRAILS.org

The Honorable Kristi Nome
Governor of the State of South Dakota

Dear Governor Nome,
Black Hills Trails fully supports the conversion of the abandoned Milwaukee Rail Line from Rapid City to Kadoka to non-motorized trail.
Black Hills Trails is a South Dakota 501c3 nonprofit made up of volunteers who successfully have partnered with local, federal, and state land managers on many successful area trail projects.
The abandoned Milwaukee Rail Line would make for an excellent addition to the South Dakota system of trails, and is in line with the current South Dakota State Wide Outdoor Recreation Plan.
Please take the first step to complete this trail by supporting the plans to create another South Dakota Legacy Trail.

Best regards,
Kevin Forrester
Black Hills Trails BOD

Kevin Forrester

To Whom it may concern:

I have heard rumors of a RailTrail on the Milwaukee Rail between Rapid City and Kadoka for several years. It would be a huge asset to the State of South Dakota to have this resource come to fruition. There are many benefits including tourism, local access, recreation and mental and physical health.

I have hosted 37 cycling events on the Black Hills National Forest in the last 19 years and have watched the sport grow. There are many local riders and many more who love to ride in South Dakota. The increase in riders coming to the area is amazing and to have another option and a non motorized trail for access to the Badlands would be awesome. These types of trails create a legacy for tourism and prize asset to locals.

I would highly encourage the state of South Dakota to go ahead with the plans and develop this old railway to a RailTrail, it will be used for generations to come and produce revenue in tourism dollars.

Sincerely,

Perry Jewett
Ridge Riders of the Black Hills