Appendix G. Recommended Bicycle Parking Guidelines

Table 45. Recommended Parking Requirements, Residential Land Uses

Type of Activity	Long-Term Bicycle Parking Requirement	Short-Term Bicycle Parking Requirement
Single family dwelling	No spaces required	No spaces required
Multifamily dwelling		
a) With private garage for each unit*	No spaces required	0.5 spaces for each bedroom
b) Without private garage for each unit	0.5 spaces for each bedroom, minimum 2 spaces	0.5 spaces for each bedroom, min 2 spaces
c) Senior housing	Minimum 2 spaces	Min 2 spaces

* A private locked storage unit may be considered as a private garage if a bicycle can fit into it.

Table 40. Recommended Furking Requirements, CMC/Cultural Land Oses		
Type of Activity	Long-Term Bicycle Parking Requirement	Short-Term Bicycle Parking Requirement
Non-assembly cultural (library, government buildings, etc.)	1 space for each 10 employees, min 2 spaces	1 space for each 10,000 s.f. of floor area, min 2 spaces
Assembly (church, theater, stadium, park, beach, etc.)	1 space for each 20 employees, min 2 spaces	Spaces for 2% of min expected daily attendance
Health care/hospital	1 space for each 20 employees or 1 space for each 70,000 s.f. of floor area, whichever is greater, min 2 spaces	1 space for each 20,000 s.f. of floor area, min 2 spaces
Education		
a) Public, parochial, and private day-care centers for 15 or more children	1 space for each 20 employees, min 2 spaces	1 space for each 20 students of planned capacity, min 2 spaces
b) Public, parochial, and private nursery schools, kindergartens, and elementary schools (1-3)	1 space for each 10 employees, min 2 spaces	1 space for each 20 students of planned capacity, min 2 spaces
c) Public, parochial, and elementary (4-6) public and high schools	1 space for each 10 employees, plus 1 space for each 20 students or planned capacity, min 2 spaces	1 space for each 20 students of planned capacity, min 2 spaces
d) Colleges and universities	1 space for each 10 employees, plus 1 space for each 10 students or planned capacity; or 1 space for each 20,000 s.f. of floor area, whichever is greater	1 space for each 20 students of planned capacity, min 2 spaces
Rail/bus terminals and stations/airports	Spaces for 5% projected a.m. peak period daily ridership	Spaces for 1.5% a.m. peak period daily ridership

Table 46. Recommended Parking Requirements, Civic/Cultural Land Uses

Type of Activity	Long-Term Bicycle Parking Requirement	Short-Term Bicycle Parking Requirement
Retail		
General food sales or grocery	1 space for each 12,000 s.f. of floor area, min 2 spaces	1 space for each 2,000 s.f. of floor area, min 2 spaces
General retail	1 space for each 12,000 s.f. of floor area, min 2 spaces	1 space for each 5,000 s.f. of floor area, min 2 spaces
Office	1 space for each 1,000 s.f. of floor area, min 2 spaces	1 space for each 20,000 s.f. of floor area, min 2 spaces
Auto Related		
Automotive sales, rental & delivery, automotive servicing/repair, cleaning	1 space for each 12,000 s.f. of floor area, min 2 spaces	1 space for each 20,000 s.f. of floor area, min 2 spaces
Off-street public parking lots/garages without charge or on a fee basis	1 space for each 20 automobile spaces, min 2 spaces – unattended surface parking lots excepted	Min 6 spaces or 1 per 20 auto spaces – unattended surface parking lots excepted

Table 47. Recommended Parking Requirements, Commercial Land Uses

Table 48. Recommended Parking Requirements, Industrial Land Uses

Type of Activity	Long-Term Bicycle Parking Requirement	Short-Term Bicycle Parking Requirement
Manufacturing and production	1 space for each 15,000 s.f. of floor area, min 2 spaces	Number of spaces to be prescribed by the Director of City Planning. Consider min 2 spaces at each public building entrance

Appendix H. Education and Encouragement Programs

Apply to Become a Bicycle Friendly CommunityTarget audienceLeague of American BicyclistsPrimary agencyCity of Rapid CityPotential partnersSouth Dakota Bicycle CoalitionPurposeHighlight bicycling initiatives and get national recognition for implementing the Bicycle and
Pedestrian Master PlanTime frameOne-time, with regular updates; can happen at any timeProgram informationhttp://www.bikeleague.org/programs/bicyclefriendlyamerica/

The League of American Bicyclists has a well-respected Bicycle-Friendly Communities award program. Communities fill out a detailed application that covers bike-related facilities, plans, education efforts, promotion initiatives, and evaluation work that has been completed by the jurisdiction. The award is designed to recognize progress that has been made, as well as assist communities in identifying priority projects to improve bicycling conditions. Receiving the award is a media-worthy event, and may give elected officials the opportunity to receive media coverage for the positive work they are doing. Awards are granted for Bronze, Silver, Gold and Platinum bicycle-friendly communities.

It is recommended that Rapid City apply for bicycle-friendly community status after several of the bicycle improvements recommended in this Bicycle and Pedestrian Master Plan have been implemented. City staff should obtain a copy of the application and review it annually to determine when Rapid City is ready to apply. The League may also be able to assist with a readiness assessment.

Convene a Permanent Bicycle Advisory Committee	
Target audience	Citizen advocates
Primary agency	City of Rapid City
Potential partners	South Dakota Bicycle Coalition
Purpose	Advise City on bicycle and pedestrian issues
Time frame	Ongoing
Sample program	Beaver Creek, OH: http://ci.beavercreek.oh.us/boards-commissions/bikeway-advisory/

Many states, Metropolitan Planning Organizations, and cities have an official Pedestrian and/or Bicycle Advisory Committee consisting of citizen volunteers, appointed by City Council, to advise the city on pedestrian and bicycling issues. An advisory committee establishes the area's commitment to making bicycling and walking safer and more desirable, and has the potential to assist the Rapid City area in getting funding for bicycle and pedestrian projects. Establishing a committee is also desirable for receiving Bicycle Friendly community designation.

The Rapid City area has had many advisory groups in the past, including the Bike Walk Run Committee and the Pedestrians Avoiding Traffic Hazards (PATH) committee. The Bicycle and Pedestrian Advisory Committee (BPAC) should be composed of representatives from all bicycle and pedestrian stakeholder groups, including but not limited to road bicyclists, walkers, runners/joggers, and mountain bicyclists.

The charges of the BPAC should include some or all of the following:

- Review and provide citizen input on capital project planning and design as it affects bicycling (e.g., corridor plans, street improvement projects, signing or signal projects, and parking facilities)
- Review and comment on changes to zoning, development code, comprehensive plans, and other long-term planning and policy documents
- Participate in the development, implementation and evaluation of bicycle and pedestrian master plans and bikeway and pedestrian facility standards
- Provide a formal liaison between local government, staff, and the public
- Develop and monitor goals and indices related to bicycling in the jurisdiction
- Promote bicycling, including bicycle safety and education

Because BPAC members are volunteers, it is essential to have strong staffing supporting the committee in order for it to be successful. An agency staff person should be formally assigned to the BPAC and should take charge of managing the application process, managing agendas and minutes, scheduling meetings, bringing agency issues to the BPAC, and reporting back to the agency and governing body about the BPAC's recommendations and findings.

Develop and Launch a Bicycle/Pede	estrian Safety Awareness Media Campaign
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Target audience	General public
Primary agency	City of Rapid City
Potential partners	Local jurisdictions, local bicycling and walking groups
Purpose	Create awareness of bicycling and walking; promote safety
Time frame	Late spring or early summer, or in conjunction with Bike to Work Day or back to school
Sample program	Sonoma County (CA) Transit: http://www.sctransit.com/bikesafe/bikes.htm

A marketing campaign that highlights bicyclist and pedestrian safety is an important part of creating awareness of bicycling and walking in Rapid City. This type of high-profile campaign is an effective way to reach the general public, highlight bicycling and walking as viable forms of transportation, and reinforce safety for all road users.



Figure 63. In order to be most effective, a safety campaign should be simple, yet memorable.

A well-produced safety campaign will be memorable and effective. One good example is the Sonoma County Transit "You've got a friend who bikes!" campaign. It combines compelling ads with an easy-to-use website focused at motorists, pedestrians and bicyclists. This type of campaign is particularly effective when kicked off in conjunction with other bicycling/walking events or back to school in the fall. It is recommended that the Rapid City area develop and launch a safety awareness campaign similar to Sonoma County Transit, with additional messages related specifically to safety and "sharing the road." The safety and awareness messages should be displayed near high-traffic corridors (e.g., on billboards), printed in local publications, and broadcast as radio and/or television ads.

Target audience	Bicyclists and potential bicyclists
Primary agency	City of Rapid City
Potential partners	South Dakota Bicycle Coalition, other local bicycling groups and shops, large employers such as SMSDT and Rapid City Regional Hospital
Purpose	Encourage bicycling by hosting group rides, offering incentives and rewards, and hosting events
Time frame	Annually in May
Sample program	Bike Month NYC: http://bikemonthnyc.org/index.php

Bicycling to work or to other destinations is a great way to get exercise, save money, reduce pollution, and have fun. Cities and towns across the country participate in National Bike Month. The League of American Bicyclists (LAB) hosts a website for event organizers. The website contains information on nationwide and local events, an organizing handbook, and promotional materials.

It is recommended that the City of Rapid City kick start National Bike Month events and activities, with the support of local bicycling groups and shops.

A sampling of National Bike Month activities include:



Figure 64. Bike Month activities build excitement around bicycling, and are an opportunity for novices to get support and encouragement.

- Bike to Work Day events: morning commute energizer stations with food, encouragement, information, and sponsored goodies for participants; rally or celebration with raffles, food, and vendors.
- Group rides to the business center with the mayor and/or local celebrities.
- Discounts at local businesses for bicycle commuters.
- Bike vs. Bus vs. Car challenge. This is a fun competition to determine which transportation mode arrives at the city center in the least amount of time.
- Commuter Challenge in which local companies participate by recording the number of employees who bike to work over a given

time period. The percentage of bicycle commuters are then compared between participating companies and recognition is awarded through press, trophies or plaques, and a final award party or event.

• Family or themed rides, such as a Mother's Day Ride or a ride to visit local parks or cultural destinations.

Establish a "Create a Commuter" Program	
Target audience	Low-income residents
Primary agency	City of Rapid City with support from other groups
Potential partners	Local bicycling groups and shops, such as Black Hills Reconditioned Bikes for Kids
Purpose	Empower low-income residents to bicycle for transportation
Time frame	Ongoing
Sample program	Community Cycling Center "Create a Commuter" Program, Portland, OR: http://www.communitycyclingcenter.org/index.php/programs-for-adults/create-a-commuter/

A "Create a Commuter" program provides basic bicycle safety education and fully-outfitted commuter bicycles to low-income adults striving to connect to work, workforce development, or other daily needs by bicycle.

Bicycles can be donated by members of the community and refurbished with volunteer or local group support. Participants are outfitted with everything a bicycle commuter would need including fenders, front and rear lights, locks, pumps, patch kits, tools, and racks.

The program can work with local social service agencies or service providers to identify candidates. Candidates should complete a half-day bicycle safety education and commuting basics course before receiving their bicycle.

The course should cover the following topics:

- Mechanical skills
- Safety checks
- Parts identification
- Cleaning and basic maintenance
- Safe riding skills and making safe decisions on the road
- Laws and rules of the road
- Helmet fitting
- Group riding skills
- Map reading
- Hand signals

Safe Routes to School Program – Phase 1	
Target audience	Parents, schoolchildren, administrators, city planners & engineers
Primary agency	City of Rapid City, school districts (Rapid City School District, Meade School District)
Potential partners	Parent groups at schools, school neighbors
Purpose	Encourage and educate students and their parents about walking and biking to school; improve safety through physical improvements and programs
Time frame	School year
Sample programs	Marin County National Model Program: http://www.saferoutestoschools.org/index.shtml

Helping children walk and bicycle to school is good for children's health and can reduce congestion, traffic dangers and air pollution caused by parents driving children to school. Robust Safe Routes to School programs address all of the "Five E's" (Engineering, Education, Encouragement, Enforcement, and Evaluation).



join in the walkabout. Safety concerns, issues, and ideas should be recorded.

After the bicycle and pedestrian audit is conducted, parent maps for each elementary school showing recommended routes to reach school, along with high-traffic intersections and routes to avoid, should be produced and distributed.

As a final step, an initial infrastructure improvement plan should be produced for each elementary school, including cost estimates and a prioritized project list. This infrastructure improvement plan will serve as a blueprint for future investments, and can be used to apply for further grant funding.



Figure 65. Safe Routes to School programs improve conditions for walking and bicycling near schools and in surrounding neighborhoods.

Develop an	d Adopt a Complete Streets Policy
Target audience	Rapid City planners and engineers
Primary agency	City of Rapid City
Potential partners	Federal Highway Administration, South Dakota Department of Transportation, local transportation and health advocacy groups
Purpose	Adopt policy language that creates streets for all users, including drivers, freight, walkers, bicyclists, and transit riders
Time frame	One-time; can happen at any time
Sample programs	Sample policies and real-life examples: http://www.completestreets.org/

Local governments adopt Complete Streets policies in order to direct transportation planners and engineers to consistently design roadways with all users in mind (e.g., motorists, transit riders, pedestrians, bicyclists, older people, children, and people with disabilities). There are many ways to implement Complete Streets policies. Once a policy is in place, training is recommended for professionals whose work will be affected by the policy (e.g., planners and engineers).

The Principle:

- Complete Streets are designed and operated to enable safe access for all users. Pedestrians, bicyclists, motorists and transit riders of all ages and abilities must be able to safely move along and across a Complete Street.
- Creating Complete Streets means changing the policies and practices of transportation agencies.
- A Complete Streets policy ensures that the entire right-of-way is routinely designed and operated to enable safe access for all users.
- Transportation agencies must ensure that all road projects result in a complete street appropriate to local context and needs.

Create Walking an	nd Bicycle Maps
Target audience	Current and potential bicyclists
Primary agency	City of Rapid City
Potential partners	Downtown Rapid City Economic Development Corporation, Rapid City South Dakota Convention and Visitors Bureau, Parks and Recreation, South Dakota Bicycle Coalition, local bicycling and walking groups, and local bike shops
Purpose	Assist bicyclists in wayfinding by offering a map with clear symbols and graphics, destinations and services attractive for cyclists, and a good selection of routes
Time frame	One-time, with regular updates; can happen at any time
Sample programs	Sample bike maps: Des Moines Regional Trails Map (online): http://www.dsmbikecollective.org/node/74/zoomify Long Beach, CA: http://admin.longbeach.gov/civica/filebank/blobdload.asp?BlobID=27418

One of the most effective ways of encouraging people to bike and walk is through the use of maps and guides showing that the infrastructure exists, to demonstrate how easy it is to access different parts of the city by bike or on foot, and to highlight unique areas, shopping districts or recreational areas. Bicycling and walking maps can be used to promote tourism, encourage residents to walk or bike, or promote local business districts. Maps can be citywide, district-specific, or neighborhood/family-friendly maps.

The Rapid City South Dakota Convention and Visitors Bureau and the Downtown Rapid City Economic Development Corporation currently produce a Rapid City walking map, depicting destinations and services in the area (Figure 66). As the on- and off-street bikeway system is further developed, the City of Rapid City and

local jurisdictions should create a complementary regional bike map or incorporate bicycling routes into the existing walking map or a complementary bicycling map should be produced.

Once a bike map is produced or the existing map updated to include bicycling routes, the map should be made available online and distributed to residents by mail, at local bike shops, and/or at community events such as those recommended here. The walk/bike map(s) can also be promoted through flyers in utility bills, city newsletters, and other community media outlets. Maps should be updated every few years to incorporate new bikeways or other changes.



Figure 66. A bike map can stand alone, like the one above from Portland, Oregon, or walking and bicycling routes and information can be incorporated into one comprehensive map.

Develop a Rapid City Area "Walk and Bike Central" Website

Target audience	Current and potential bicyclists and walkers
Primary agency	City of Rapid City
Potential partners	Local bicycling and walking groups, e.g. South Dakota Bicycle Coalition
Purpose	Make bicycling and walking information easier to find by providing resources, maps, safety information, events, group listings, and more in one central place.
Time frame	Ongoing
Sample programs	Bike Long Beach (CA) Website: http://www.bikelongbeach.org/



Figure 67. A comprehensive walk/bike website provides "one-stop shopping" for walking and bicycling information.

Many current and potential bicyclists and pedestrians do not know where to turn to find out about bicycling and walking laws, events, maps, tips, and groups. The City of Rapid City should develop a "one-stop shopping" website with comprehensive bicycling and walking information.

The Rapid City area "Walk and Bike Central" website should contain:

- A list of all walking and bicycling groups, including clubs, racing teams, and advocacy groups
- Information about the Bicycle and Pedestrian Advisory Committee (including how to get involved, meeting times and dates, agendas and minutes)
- Information about current projects and how to get involved (e.g. public meetings, comment periods)
- Maps and other resources (links to online maps and brochures, where to find in person, and how to request mailed materials)
- Links to laws and statutes relating to bicycling and walking
- Walking and bicycling tips
- Links to all relevant local jurisdictions and their pedestrian/bicycle contacts
- Information about bicycling and walking events (rides, classes, volunteer opportunities)
- A list of local bike shops, including phone number and address

A one-stop walk and bike website will not be difficult to set up, but it will only be successful if the site is both easy to use and updated regularly. All website content should be reviewed regularly for accuracy. The bicycle community can assist in keeping the site up to date. Rapid City should consider adding a standing agenda item for the BPAC to discuss the website in order to hear about new content that should be added or out-of-date content that should be updated or removed.

Perform Annual	Bicycle and Pedestrian Counts
Target audience	N/A
Primary agency	City of Rapid City
Potential partners	Local bicycling and walking groups, local volunteers
Purpose	Track bicycling and walking trends and measure success of the Bicycle and Pedestrian Master Plan implementation
Time frame	Annually
Model program	National Bicycle & Pedestrian Documentation Project: http://bikepeddocumentation.org/

Many jurisdictions, including the City of Rapid City, do not perform regular bicycle or pedestrian counts. As a result, they do not have a mechanism for tracking bicycling or walking trends over time, or for evaluating the impact of projects, policies, and programs.

It is recommended that the City of Rapid City perform and/or coordinate annual counts of bicyclists and pedestrians on both on- and off-street facilities according to national practices. The National Bicycle and Pedestrian Documentation Project has developed a recommended methodology, survey and count forms, and reporting forms, and this approach may be modified to serve the needs and interests of individual jurisdictions.



Figure 68. Conducting counts assists in planning for the future of the bicycle and pedestrian network, and provides a mechanism evaluating projects and programs.

The City of Rapid City should take the lead role in standardizing a regional approach to counts and surveys. The

standardizing a regional approach to counts and surveys. The MPO should handle tracking, analysis, and reporting. Counts can be done manually by staff/volunteers or using video, piezometric (pressure-sensing) tubes, or infrared, radar, ultrasonic, magnetic loop technologies.

Launch Parties for New Bicycle/Pedestrian Facilities					
Target audience	General public, particularly residents living near a newly-completed facility				
Primary agency	City of Rapid City				
Potential partners	Local jurisdictions, local bicycling and walking groups and shops				
Purpose	Inform residents about new bicycle facilities to encourage use and promote awareness				
Time frame	As new bikeways are built				
Sample program	When a new bikeway is built, the City of Vancouver throws a neighborhood party to celebrate. Cake, t-shirts, media and festivities are provided and all neighbors are invited as well as city workers (engineers, construction staff, planners) who worked on it.				

When a new bicycle or pedestrian facility is built, some residents will become aware of it and use it, but others may not realize that they have improved options available to them. A launch party/campaign is a good way to inform residents about a new bike or pedestrian facility, and can also be an opportunity to share other bicycling and walking information (such as maps and brochures) and answer resident questions. It should be a mediafriendly event, with elected official appearances, ribbon cuttings, and a press release that includes information about the new facility, other facilities and support services, and any timely information about bicycling or walking (such as Bicycle Friendly Community designation, an increase in bicycling or walking mode share or user counts, etc.).



Figure 69. A launch party informs residents about a new facility and provides an opportunity for additional outreach.

Launch a "Share the Path" Campaign				
Target audience	Path users			
Primary agency	City of Rapid City			
Potential partners	Local jurisdictions, local bicycling or walking groups, local volunteers			
Purpose	Encourage responsible, respectful behavior by path users			
Time frame	Can be done anytime, particularly during nice weather months			
Sample program	Share the Path (Portland, OR): http://www.bta4bikes.org/btablog/2007/07/24/path-users-share- 300-bike-bells-and-50-scoops-of-ice-cream-on-saturday/			

Conflicts between path users can be a major issue on popular, well-used pathway systems like the Leonard "Swanny" Swanson Memorial Pathway. Communities around the country have launched successful "Share the Path" programs to help educate users about safety and courtesy. Share the Path campaigns can be run by agencies, nonprofits, or any user group (equestrian, hikers, etc.). These programs educate users about expected behavior and how to limit conflicts. Volunteers often give out brochures and engage with users in a nonconfrontational way. Volunteers can also report back to agencies about path maintenance or safety/security issues. Media outreach should be included as well. Common strategies include a bicycle bell or bike light



Figure 70. A "Share the Path" campaign encourages respectful behavior on multi-use paths.

giveaway, the distribution of maps and information, posting signs, tabling, and 'stings' that reward good behavior.

Coordinate a Bi	ke Light Campaign
Target audience	Bicyclists (especially students and low-income bicycle commuters)
Primary agency	City of Rapid City
Potential partners	Local jurisdictions, South Dakota Department of Transportation, South Dakota Bicycle Coalition, local bike shops
Purpose	Encourage and enforce the use of bike lights
Time frame	Fall, annually
Sample programs	Portland, OR "See & Be Seen" campaign: http://www.portlandonline.com/transportation/index.cfm?&c=deibb&a=bebfjh Dutch "Lights On" campaign: http://www.valopmetjefiets.nl/



Figure 71. A Bike Light Campaign with free light giveaways is a win-win situation: bicyclists get free lights, and streets and paths get safer.

The majority of bicycle related crashes in the Rapid City Area occur in the fall as the skies get darker earlier, daylight savings ends, and bicyclists are harder to see. Many bicyclists, especially students, are unaware that lights are required by law, or they have simply not taken the trouble to purchase or repair lights. Research shows that bicyclists who do not use lights at night are at much greater risk of being involved in bike-car crashes.

Every fall in the Netherlands, as days get shorter, a national "lights on" campaign reminds cyclists to use bicycle lights. This "lights on" campaign focuses several complementary strategies into a short time frame for maximum impact, pairing media messages (ads, posters, radio spots, and TV ads) with police enforcement of 'fix it' tickets.

A similar bike light campaign is recommended for the Rapid City Area. This multi-pronged outreach effort should take place every fall, as the days are getting shorter and as kids and university students are returning to school.

The Rapid City area bike light campaign should include the following elements:

- Well-designed graphic ads, to be placed on billboards and in local newspapers.
- Police enforcement of bike light laws. This enforcement will be most likely to result in behavior change if the bicyclist is able to avoid penalty if they obtain a bike light. Ideally, the police would give a warning, explain the law, and then install a bike light on the spot. If this is not possible, the bicyclist should receive a 'fix it ticket' along with a coupon for a free or discounted light at a local bike shop; once the bicyclist shows proof that they have purchased a bike light, their fine will be waived.
- Partnership with local bicycling groups to get the word out to their members and partners. These groups can be counted as campaign partners at no cost to them, enhancing the campaign's credibility and community exposure. Groups should be supplied with key campaign messages to distribute with their constituents along with coupons for free or discounted bike lights.
- Earned media outreach: The City of Rapid City should distribute media releases with statistics about the importance of using bike lights, relevant legal statutes, and the campaign's goal, timing, activities, and partners. If possible, a meeting with local media editorial boards should be sought.

South Dakota School of Mines & Technology Bike Orientation

Target audience	SDSMT students, especially incoming freshmen
Primary agency	South Dakota School of Mines and Technology
Potential partners	City of Rapid City, local bike shops
Purpose	Encourage bicycling and promote safety for incoming freshmen and returning students.
Time frame	At the beginning of the academic year
Sample program	Stanford University Bike Program: http://transportation.stanford.edu/alt_transportation/BikingAtStanford.shtml

University students are ideal candidates for bicycling outreach programs; many students live on or near campus and may not own a car or choose not to drive. The City of Rapid City should partner with the South Dakota School of Mines and Technology to promote bicycling to students at the beginning of the school year.

The SDSMT Bike Orientation should include:

- Bike maps and information provided to incoming and returning students at the beginning of the year through school information packets
- Flat clinics, bike legal clinics, and guided rides, advertised through flyers, email and bulletin boards, and campus newspaper
- Information tabling at campus events and prominent locations (e.g., bookstore, quad) during the first few weeks of school
- A Bikes at SDSMT web page with links and more information
- At-cost or low-cost bike lights sold at tabling events and through the campus bookstore

If desired, a "bike buddy" program may be implemented to match current bicycling students with interested students. This can be a simple program where bicyclists wear a sticker that says "I bike to SDSMT, ask me how," or a more involved program that matches bike buddies with interested students who live in their neighborhood for mentoring. A bike buddy program would increase the cost of the program. This could be set up through the existing campus rideshare website.

Youth Bike Safet	y Education
Target	School-age children
Primary agency	City of Rapid City, Rapid City School District, Meade School District
Potential partners	Parent groups at schools, community volunteers
Purpose	In-school and/or after-school on-bike skills and safety training
Time frame	Ongoing
Sample programs	LAB's Kids I and Kids II curriculum: http://www.bikeleague.org/programs/education/courses.php#kids1 BTA's Bike Safety Education Program: http://www.bta4bikes.org/resources/educational.php
	Nearly every child in America can look forward to in-depth training before receiving a driver's license. Bicycles are also vehicles that are used on the roads, but most Americans do not receive any training about the rules of the road, how bicycles work, or how to ride a bicycle on the roadway. At the time that this program is planned, the City of Rapid City should

At the time that this program is planned, the City of Kapid City should decide whether to start a program from scratch, or modify an existing program. Two excellent model programs are the League of American Bicyclists' Kids I and Kids II classes, and the Bicycle Transportation Alliance's Bike Safety Education Program (see "sample program" links, above, for more information).

Safe Routes to School Program – Phase 1				
Target audience	Parents, schoolchildren, administrators, city planners & engineers			
Primary agency	City of Rapid City, school districts (Rapid City School District, Meade School District)			
Potential partners	Parent groups at schools, school neighbors			
Purpose	Encourage and educate students and their parents about walking and biking to school; improve safety through physical improvements and programs			
Time frame	School year			
Sample programs	Marin County National Model Program: http://www.saferoutestoschools.org/index.shtml			

Helping children walk and bicycle to school is good for children's health and can reduce congestion, traffic dangers and air pollution caused by parents driving children to school. Robust Safe Routes to School programs address all of the "Five E's" (Engineering, Education, Encouragement, Enforcement, and Evaluation).

The City of Rapid City should work with local school districts to implement the first phase of a Safe Routes to School Program. This phase

will use a walkabout (also known as a bicycle and pedestrian audit) to assess walking and biking conditions of streets adjacent to elementary schools. Parents, students, neighbors, and city planners and/or traffic engineers should be invited to join in the walkabout. Safety concerns, issues, and ideas should be recorded.

After the bicycle and pedestrian audit is conducted, parent maps for each elementary school showing recommended routes to reach school, along with high-traffic intersections and routes to avoid, should be produced and distributed.



Figure 72. Safe Routes to School programs improve conditions for walking and bicycling near schools and in surrounding neighborhoods.

As a final step, an initial infrastructure improvement plan should be produced for each elementary school, including cost estimates and a prioritized project list. This infrastructure improvement plan will serve as a blueprint for future investments, and can be used to apply for further grant funding.

Coordinate Enfo	oordinate Enforcement Actions			
Target audience	Motorists and bicyclists			
Primary agency	Local law enforcement			
Potential partners	City of Rapid City, South Dakota Department of Transportation			
Purpose	Deter unsafe behaviors by motorists and bicyclists by enforcing traffic laws			
Time frame	Can be ongoing or concentrated into short "stings" or campaigns			

Enforcement actions can include motor vehicle speed enforcement, speed reader board deployment, bicycle light enforcement, crosswalk enforcement, and other actions.

Speeding vehicles endanger bicyclists and pedestrians and discourage nonmotorized transportation modes. Targeted speed enforcement activities can address these issues. Law enforcement agencies can enforce speed limits on designated bikeways, near schools, and in response to resident complaints. These campaigns are ideal for a Safe Routes to School Program. A speed reader board request program will deploy speed reader boards at the request of neighborhood associations and schools. The boards should be mounted temporarily (e.g. for two weeks) and then be moved to another location to keep motorists from becoming inured to the speed reader board effect.

Appendix I. Project Costs

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Item Description	Unit	QTD	Unit Cost	Total Cost	Notes
Standard Concrete Curb and Gutter	LF	5,280	\$18.00	\$95,040.00	
Sidewalk	SY	3,520	\$45.00	\$158,400.00	6' wide
12 Inch Storm Sewer Pipe, 10' deep	LF	2,640	\$70.00	\$369,600.00	Storm System Pipe, including trenching/backfill, assuming half roadway
Storm Manhole	EA	9	\$2,800.00	\$24,640.00	Every 300' assuming half roadway
Standard Catch Basin	EA	18	\$1,500.00	\$27,000.00	Every 300'
Cost per mile:				\$489,880.00	
Fully burdened cost per mile:				\$759,314	
Construction Cost per LF:				\$144	

Table 49. Costs for Sidewalk. Drainage. Curb and Gutter

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Item Description	Unit	QTD	Unit Cost	Total Cost	Notes
Signs	EA	18	\$250.00	\$4,500.00	Every 600' each direction
Cost per Mile				\$6,9750	
Construction Cost per LF:				\$1	
Sign replacement	EA	2	\$250.00	\$45	18 signs every 10 year
Cost per Mile				\$45	
Annual Maintenance Cost per	r LF:			\$0.01	

Table 51. Costs for Bike Lanes (Roadway restriping)					
Item Description	Unit	QTD	Unit Cost	Total Cost	Notes
Striping Removal	LF	10,560	\$1.50	\$15,840	Assumes 2 lanes
Re-striping	LF	21,120	\$4.50	\$95,040	2 lanes w/ bike lanes
Pavement markings	EA	53	\$50.00	\$2,650	Every 200' each direction
Signage	EA	18	\$250.00	\$4,500	Every 600' each direction
Cost per Mile				\$118,030	
Fully burdened cost per mile:				\$182,947	
Construction Cost per LF:				\$35	
Re-striping	LF	5,280	\$4.50	\$23,760	2 lanes, every 2 years
Sign replacement	EA	2	\$250.00	\$500	18 signs every 10 years
Patching	LF	10,560	\$0.04	\$400	Twice per year
Cost per Mile				\$24,660	
Annual Maintenance Cost per LF: \$5					

Table 52. Costs for Shared Lane Markings						
Item Description	Unit	QTD	Unit Cost	Total Cost	Notes	
Shared Lane Markings	EA	106	\$175.00	\$18,480	Every 100' each direction	
Custom Signs	EA	18	\$250.00	\$4,400	Every 600' each direction	
Cost per Mile				\$22,880		
Fully Burdened Cost per Mile				\$35,464		
Construction Cost per LF:				\$7		
Sign replacement	EA	2	\$250.00	\$440	18 signs every 10 years	
Patching	LF	10,560	\$0.04	\$400	Twice per year	
Cost per Mile				\$840		
Annual Maintenance Cost per LF: \$0.16						

Table 53. Costs for Signed Shared Roadways							
Item Description	Unit	QTD	Unit Cost	Total Cost	Notes		
Signs	EA	18	\$250.00	\$4,500.00	Every 600' each direction		
Cost per Mile				\$6,9750			
Construction Cost per LF:				\$1			
Sign replacement	EA	2	\$250.00	\$45	18 signs every 10 years		
Cost per Mile				\$45			
Annual Maintenance Cost per LF: \$0.01							

Table 54. Costs for Side Paths						
Item Description	Unit	Qtd.	Unit Cost	Total	Notes	
Selective Site Demolition	LF	5,280	\$0.66	\$3,500	assume minor removals	
Clearing and Grubbing	Acre	5,280	\$3.73	\$19,694	25' wide corridor	
Soil Stripping and Stockpiling	СҮ	5,280	\$1.75	\$9,240	27' corridor, 12" deep	
Fine Grading	SY	15,840	\$1.08	\$17,107	27' corridor	
Finish Grading	SY	15,840	\$0.20	\$3,168	27' corridor	
Erosion Controls	LF	10,560	\$1.25	\$13,200	both sides, length of project	
Sedimentation Controls	LF	100	\$7.15	\$5,016	hay bales	
Aggregate Base Courses	SY	9,387	\$5.25	\$30,782	16' wide base course (2' shoulders + 12' tread), 3/4" stone base, 3" deep	
Asphalt Paving Wearing Course 4" thick	SY	7040	\$15.00	\$105,600	16' wide base course (2' shoulders + 12' tread)	
Mechanical Seeding	SY	5280	\$0.50	\$2,640	9' corridor	
Cost per mile:				\$209,948		
Fully Burdened Cost per Mile				\$522,872		
Construction Cost per LF:				\$99		
Patching	LF	5,280	\$0.04	\$200	Twice per year	
Repaving	LF	264	\$9.47	\$2,500	Asphalt, every 20 years	
Landscaping	SF	21,120	\$1.25	\$26,400	2' shoulders each side, yearly	
Restriping	LF	1,056	\$4.50	\$4,752	6", every 5 years	
Cost per Mile				\$33,852		
Annual Maintenance Cost per LF: \$6						

Table 55	. Costs for Bike Lane Restriping, S	shoulder Bikeway, Shared Lane Markir	ig, and signed	a Sharea Roa	
Facility	Route	Extent	Length	Points	Planning-Level Cost Estimate
Signed Shared	Sagewood Street/Northridge Drive	Bunker Drive - Haines Ave	0.56	69	\$3,900
Shared Lane	Jackson Boulevard	Mountain View Road - Mountain View Road	0.28	65	\$9,900
Bike Lane	Jackson Boulevard	W Highway 44 - Chapel Lane	1.53	65	\$279,900
Shared Lane	Red Cloud Street	Northridge Drive - Mall Drive	0.63	64	\$22,300
Shared Lane	5th Street	Omaha St - Columbus St	0.46	62	\$16,300
Signed Shared	Alta Vista Drive/Anaconda Road	East of City View Drive - E Fairmont Boulevard	1.65	62	\$11,500
Shared Lane	Cathedral Drive/Fairmont Boulevard	Mount Rushmore Road - Creek Drive	2.35	62	\$83,300
Shoulder Bikeway	Country Road	Haines Avenue - N Elk Vale Road	3.50	62	\$38,800
Shared Lane	Covington Street	Twilight Drive - E Highway 44	0.89	62	\$31,600
Shared Lane	Creek Drive	E Saint Patrick Street - Fairmont Boulevard	1.01	62	\$35,800
Shared Lane	E Centennial Street/Locust Street	Parkview Drive - E Fairmont Boulevard	0.82	62	\$29,100
Signed Shared	E Fairlane Drive	Elm Avenue - Robbinsdale Park	0.25	62	\$1,700
Shared Lane	E New York St/N Maple Ave/E Philadelphia Street	East Boulevard - Cambell Street	1.00	62	\$35,500
Signed Shared	E Oakland Street	Hawthorne Avenue - Cambell Street	0.87	62	\$6,100
Shared Lane	Flormann Street/Meade Street	West Boulevard - 5th Street	1.27	62	\$45,000
Signed Shared	Meade Street/E Indiana Street	5th St - Hawthorne Avenue	1.21	62	\$8,400
Shared Lane	Milwaukee Street	Crestwood Drive - E New York Street	1.00	62	\$35,500
Signed Shared	Minuteman Drive	Lindbergh Avenue - Anamosa Street	0.60	62	\$4,200
Bike Lane	North Street	West Boulevard N - Allen Avenue	0.91	62	\$166,500
Signed Shared	Parkview Drive	E Liberty Street - E Minnesota Street	0.14	62	\$1,000
Shared Lane	Raider Road	44th Street - Hillsview Drive	0.55	62	\$19,500

Table 55. Costs for Bike Lane Restriping, Shoulder Bikeway, Shared Lane Marking, and Signed Shared Roadway Treatments

Rapid City

Bicycle and Pedestrian Master Plan

Signed SharedSilver Street/Philadelphia StreetN 11th Street - Boegel Street0.6162\$4,300Signed SharedSoo San RoadBrookside Drive - Range Road1.0062\$7,000Bike Lane SharedSoo San RoadW Main Street - Brookside Road0.1662\$29,300Signed SharedVan Buren StreetAlten Avenue - Milwaukee Street0.9962\$6,900Signed SharedW South StreetSoo San Road - Mary Hill Park0.1162\$800SharedW South StreetSoo San Road - Mary Hill Park0.1162\$800Shared LaneJolly LaneE Highway 14 - Daly Circuit0.9061\$31,900Bike Lane LaneJackson BoulevardSagewood Street - Disk Drivel0.8659\$30,500Shared LaneBunker DriveSagewood Street - Raider Road1.0658\$37,600Shared LaneGeth StreetW Chicago Street - Raider Road1.0658\$37,600Shared LaneGeth StreetQuincy Street - Flormann Street0.3954\$6,900Signed SharedApolda StreetN Mount Rushmore Road - 610.1354\$1,300Signed LanePace StreetN Mount Rushmore Road - 610.1354\$1,300Shared LaneApolda StreetWest Boulevard - 5th Street0.3554\$1,300Signed SharedApolda StreetWest Boulevard - 5th Street0.5554\$1,900Signed Lane<	Facility	Route	Extent	Length	Points	Planning-Level Cost Estimate
SharedSoo San RoadBrookside Drive - Range Road1.0062\$7,000Bike LaneSoo San RoadW Main Street - Brookside Road0.1662\$29,300Signed SharedVan Buren StreetAllen Avenue - Milwaukee Street0.9962\$6,900Signed SharedW South StreetSoo San Road - Mary Hill Park0.1162\$800Shared 	-	-	N 11th Street - Boegel Street	0.61	62	\$4,300
Signed SharedVan Buren StreetAllen Avenue - Milwaukee Street0.9962\$6,900Signed SharedW South StreetSoo San Road - Mary Hill Park0.1162\$800Shared LaneJolly LaneE Highway 14 - Daly Circuit0.9061\$31,900Bike LaneJackson BoulevardW Main Street - Mountain View Road0.4860\$87,800Shared LaneJunker DriveSog San Road - Kary Hill Park0.4860\$87,800Shared LaneJackson BoulevardW Main Street - Nountain View Road0.4859\$30,500Shared LaneBunker DriveSog Street - Disk Drive/- 900.8659\$30,500Shared Lane44th StreetW Chicago Street - Raider Road1.06\$8\$37,600Shared Lane6th StreetOmaha Street - Kansas City Street0.3854TSigned Shared9th StreetOuincy Street - Flormann Boulevard0.9954\$6,900Shared LaneApolda StreetNount Rushmore Road - 6th Boulevard0.1354\$1,300Shared LaneDegeest DriveEStumer Road - Ectoron Boulevard0.1354\$2,3100Shared LaneDegeest DriveWest Boulevard - 5th Street0.5554\$19,500Signed LaneHawthorne AvenueE Main Street - E Oakland Street0.3454\$2,400Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.4654\$1		Soo San Road	Brookside Drive - Range Road	1.00	62	\$7,000
SharedVan Buren StreetStreet0.9962\$6,900Signed SharedW South StreetSoo San Road - Mary Hill Park0.1162\$800Shared LaneJolly LaneE Highway 14 - Daly Circuit0.9061\$31,900Bike LaneJackson BoulevardW Main Street - Mountain View Road0.4860\$87,800Shared LaneJackson BoulevardSagewood Street - Disk Drive/I- Road0.8659\$30,500Shared LaneBunker DriveSagewood Street - Raider Road1.0658\$37,600Shared LaneAtth StreetW Chicago Street - Raider Road1.0658\$37,600Shared LaneAtth StreetOmaha Street - Kansas City Street0.3854\$4,600Signed Shared9th StreetQuincy Street - Flormann Street0.9954\$6,900Signed SharedApolda StreetNomon Rushmore Road - 610.1954\$1,300Shared LaneBlack Hills BoulevardBoulevard51,51\$4,600\$23,100Shared LaneDegeest DriveMomstead Street - Twilight Drive/E St Andrew StWest Boulevard - 5th Street0.5554\$23,100Shared LaneHawthorne AvenueE Main Street - E Oakland Street0.3454\$1,200Shared LaneHawthorne AvenueE Main Street - E Oakland Street0.3654\$1,630Shared LaneHawthorne AvenueE Main Street - E Oakland Street0.3454\$1,	Bike Lane	Soo San Road	W Main Street - Brookside Road	0.16	62	\$29,300
SharedW South StreetSoo San Road - Mary Hill Park0.1162\$800Shared LaneJolly LaneE Highway 14 - Daly Circuit0.9061\$31,900Bike LaneJackson BoulevardW Main Street - Mountain View Road0.4860\$87,800Shared LaneBunker DriveSagewood Street - Disk Drive/l 900.8659\$30,500Shared Lane44th StreetW Chicago Street - Raider Road Street - Kansas City Street1.0658\$37,600Shared Lane6th StreetOuincy Street - Flormann Street0.3854*Signed Shared9th StreetN Mount Rushmore Road - 6th Street0.1354\$1,300Shared LaneBlack Hills BoulevardE Stumer Road - E Catron Boulevard0.1354\$1,300Shared LaneDegeest DriveWest Boulevard - 5th Street0.5554\$23,100Shared LaneDegeest DriveE Stumer Road - E Catron Boulevard0.5554\$19,500Shared LaneDegeest DriveWest Boulevard - 5th Street0.5554\$19,500Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.3654\$2,400Shared LaneDrive/E St Andrew StWest Boulevard - 5th Street0.5554\$19,500Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.4654\$2,400Signed SharedHawthorne AvenueE Main Street - E Oakland Street <td< td=""><td></td><td>Van Buren Street</td><td></td><td>0.99</td><td>62</td><td>\$6,900</td></td<>		Van Buren Street		0.99	62	\$6,900
LaneJolly LaneE Highway 14 - Daly Circuit0.9061\$31,900Bike LaneJackson BoulevardRoad0.4860\$87,800SharedBunker DriveSagewood Street - Disk Drive/I- 0.860.8659\$30,500Shared44th StreetW Chicago Street - Raider Road1.0658\$37,600Shared6th StreetOmaha Street - Kansas City Street0.3854StreetSigned9th StreetQuincy Street - Flormann Street0.9954\$6,900SharedApolda StreetNount Rushmore Road - 6th Street0.1954\$1,300SharedBlack Hills BoulevardSolleward51\$1,300\$1SharedDegest DriveSolleward51\$1,300\$1SharedDegest DriveSolleward51\$1,300\$1SharedHawthorne AvenueBulken Street - Twilight Drive0.65\$4\$1,300SharedNegest DriveSolleward - 5th Street0.55\$4\$1,9500SharedHawthorne AvenueE Main Street - E Oakland Street0.34\$4\$1,9500SignedHawthorne AvenueE Main Street - E Oakland Street0.46\$4\$1,6300SignedKansas City StreetSth Street - East Boulevard5.4\$1,6300\$1,6300SignedKansas City StreetSth Street - East Boulevard5.4\$1,6300\$1,6300SignedKansas City StreetSth Street - East Boulevard5.4 <t< td=""><td>-</td><td>W South Street</td><td>Soo San Road - Mary Hill Park</td><td>0.11</td><td>62</td><td>\$800</td></t<>	-	W South Street	Soo San Road - Mary Hill Park	0.11	62	\$800
Bike LaneJackson BoulevardRoad0.4860\$87,800Shared LaneBunker DriveSagewood Street - Disk Drive/l- 900.8659\$30,500Shared Lane44th StreetW Chicago Street - Raider Road1.0658\$37,600Shared Lane6th StreetOmaha Street - Kansas City Street0.3854TextSigned Shared9th StreetQuincy Street - Flormann Street0.9954\$6,900Signed SharedApolda StreetQuincy Street - Flormann Boulevard0.1954\$1,300Shared SharedApolda StreetStreet0.1954\$1,300Shared LaneApolda StreetBoulevard0.1354\$4,600Shared LaneDegeest DriveBoulevard0.6554\$23,100Shared LaneDegeest DriveWest Boulevard - 5th Street0.5554\$19,500Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.4654\$2,400Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.4654\$16,300Signed SharedKansas City StreetSth Street - East Boulevard0.4854\$3,300Signed SharedMt. Rushmore RoadNoth Street - Omaha Street0.4554\$3,300		Jolly Lane	E Highway 14 - Daly Circuit	0.90	61	\$31,900
LaneBunker Drive90°0.8659\$30,500Shared Lane44th StreetW Chicago Street - Raider Road1.0658\$37,600Shared Lane6th StreetOmaha Street - Kansas City Street0.3854StreetSigned Shared9th StreetQuincy Street - Flormann Street0.9954\$6,900Signed SharedApolda StreetN Mourt Rushmore Road - 6th Street0.1954\$1,300Shared LaneBlack Hills BoulevardEStumer Road - E Catron Boulevard0.1354\$4,600Shared LaneDegeest DriveHomestead Street - Twillight Newer Belleview Drive/E St Andrew StNewer Boulevard - 5th Street0.5554\$23,100Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.3454\$19,500Signed SharedHillsview DriveCanyon Lake Road loop0.4654\$16,300Signed SharedKansas City StreetSth Street - East Boulevard0.4854\$3,300Bile LaneMt. Rushmore RoadNoth Street - Omaha Street0.4554\$3,300	Bike Lane	Jackson Boulevard		0.48	60	\$87,800
Lane44th StreetW Chicago Street - Raider Road1.0658\$37,600Shared Lane6th StreetOmaha Street - Kansas City Street0.3854		Bunker Drive	-	0.86	59	\$30,500
Lane6th StreetStreet0.3854Signed Shared9th StreetQuincy Street - Flormann Street0.9954\$6,900Signed SharedApolda StreetNMount Rushmore Road - 6th Street0.1954\$1,300Shared LaneBlack Hills BoulevardEstumer Road - E Catron Boulevard0.1354\$4,600Shared LaneDegeest DriveHomestead Street - Twilight Drive0.6554\$23,100Shared LanePegeest DriveWest Boulevard - 5th Street0.5554\$19,500Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.3454\$2,400Signed SharedHillsview DriveCanyon Lake Road loop0.4654\$16,300Signed SharedKansas City StreetSth Street - East Boulevard0.4854\$3,300Bile LaneMt. Rushmore RoadNorth Street - Omaha Street0.4554\$3,300		44th Street	W Chicago Street - Raider Road	1.06	58	\$37,600
Shared9th StreetStreet0.9954\$6,900Signed SharedApolda StreetN Mount Rushmore Road - 6th Street0.1954\$1,300Shared LaneBlack Hills BoulevardE Stumer Road - E Catron Boulevard0.1354\$4,600Shared LaneDegeest DriveHomestead Street - Twilight Drive0.6554\$23,100Shared LanePegeest DriveWest Boulevard - 5th Street0.5554\$19,500Signed Shared LaneHawthorne AvenueE Main Street - E Oakland Street0.3454\$2,400Signed Shared LaneHillsview DriveCanyon Lake Road loop0.4654\$16,300Signed Shared LaneKansas City StreetSth Street - East Boulevard0.4854\$3,300Bike LaneMt. Rushmore RoadNorth Street - Omaha Street0.4554\$82,300		6th Street	•	0.38	54	
Shared LaneApolda StreetStreet0.1954\$1,300Shared LaneBlack Hills BoulevardE Stumer Road - E Catron Boulevard0.1354\$4,600Shared LaneDegeest DriveHomestead Street - Twilight Drive0.6554\$23,100Shared LaneDegeest DriveDriveNewstead Street - Twilight Drive0.6554\$23,100Shared LaneFranklin Avenue/Belleview Drive/E St Andrew StWest Boulevard - Sth Street0.5554\$19,500Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.3454\$2,400Signed SharedHillsview DriveCanyon Lake Road loop0.4654\$16,300Signed SharedKansas City StreetSth Street - East Boulevard0.4854\$3,300Bike LaneMt. Rushmore RoadNorth Street - Omaha Street0.4554\$82,300	•	9th Street	-	0.99	54	\$6,900
LaneBlack Hills BoulevardBoulevard0.1354\$4,600Shared LaneDegeest DriveHomestead Street - Twilight Drive0.6554\$23,100Shared LaneFranklin Avenue/Belleview Drive/E St Andrew StWest Boulevard - 5th Street0.5554\$19,500Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.3454\$2,400Shared LaneHillsview DriveCanyon Lake Road loop0.4654\$16,300Signed SharedKansas City StreetSth Street - East Boulevard0.4854\$3,300Bike LaneMt. Rushmore RoadNorth Street - Omaha Street0.4554\$82,300	-	Apolda Street		0.19	54	\$1,300
LaneDegeest DriveDriveDrive0.6554\$23,100Shared LaneFranklin Avenue/Belleview Drive/E St Andrew StWest Boulevard - 5th Street0.5554\$19,500Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.3454\$2,400Shared LaneHillsview DriveCanyon Lake Road loop0.4654\$16,300Signed SharedKansas City StreetSth Street - East Boulevard0.4854\$3,300Bike LaneMt. Rushmore RoadNorth Street - Omaha Street0.4554\$82,300		Black Hills Boulevard		0.13	54	\$4,600
Shared LaneAvenue/Belleview Drive/E St Andrew StWest Boulevard - 5th Street0.5554\$19,500Signed SharedHawthorne AvenueE Main Street - E Oakland Street0.3454\$2,400Shared LaneHillsview DriveCanyon Lake Road loop0.4654\$16,300Signed SharedKansas City StreetSth Street - East Boulevard0.4854\$3,300Bike LaneMt. Rushmore RoadNorth Street - Omaha Street0.4554\$82,300		Degeest Drive	-	0.65	54	\$23,100
Shared LaneHawthorne AvenueE Main Street - E Oakland Street0.3454\$2,400Shared LaneHillsview DriveCanyon Lake Road loop0.4654\$16,300Signed SharedKansas City StreetSth Street - East Boulevard0.4854\$3,300Bike LaneMt. Rushmore RoadNorth Street - Omaha Street0.4554\$82,300		Avenue/Belleview	West Boulevard - 5th Street	0.55	54	\$19,500
LaneHillsview DriveCanyon Lake Road loop0.4654\$16,300Signed SharedKansas City Street5th Street - East Boulevard0.4854\$3,300Bike LaneMt. Rushmore RoadNorth Street - Omaha Street0.4554\$82,300		Hawthorne Avenue	E Main Street - E Oakland Street	0.34	54	\$2,400
SharedKansas City Street5th Street - East Boulevard0.4854\$3,300Bike LaneMt. Rushmore RoadNorth Street - Omaha Street0.4554\$82,300		Hillsview Drive	Canyon Lake Road loop	0.46	54	\$16,300
		Kansas City Street	5th Street - East Boulevard	0.48	54	\$3,300
Shared	Bike Lane	Mt. Rushmore Road	North Street - Omaha Street	0.45	54	\$82,300
LaneQuincy StreetWest Street - East Boulevard1.2054\$42,600		Quincy Street	West Street - East Boulevard	1.20	54	\$42,600
SharedReservoir Road/LongviewLaneRoadTwilight Drive - E Highway 441.4854\$52,500		-	Twilight Drive - E Highway 44	1.48	54	\$52,500

Facility	Route	Extent	Length	Points	Planning-Level Cost Estimate
Bike Lane	Steele Avenue	Brennan Avenue - Railroad	0.28	54	\$51,200
Signed Shared	W Flormann Street	Argyle Street - Mountain View Road	0.63	54	\$4,400
Signed Shared	West Boulevard	Leonard "Swanny" Swanson - Flormann Street	1.18	54	\$8,200
Signed Shared	Allen Avenue	Anamosa Street - North Street	0.51	52	\$3,600
Signed Shared	Cambell Street Service Road	Fairmont Boulevard - Richland Drive	0.37	52	\$2,600
Shared Lane	City Springs Road Extension	Sturgis Road - Galena Drive	1.57	52	\$55,700
Shared Lane	N 40th Street	Fish and Game Site - W Chicago St	0.25	52	\$8,900
Shared Lane	N Maple Avenue	Disk Drive - Anamosa Street	0.57	52	\$20,200
Signed Shared	N Spruce Street	Meadowlark Road - E Philadelphia Street	0.50	52	\$3,500
Signed Shared	Nordby Lane	W Saint Louis Street - W Main Street	0.19	52	\$1,300
Signed Shared	Oak Avenue	E Indiana Street - Colorado Street	0.62	52	\$4,300
Shared Lane	Triple Crown Drive	E Minnesota Street - E Catron Boulevard	0.53	52	\$18,800
Shoulder Bikeway	Airport Road	Airport - E Highway 44	1.29	50	\$14,300
Signed Shared	Copperfield Drive	End of Existing Street - Highway 44	0.61	50	\$4,300
Bike Lane	Mountainview Road	W Omaha Street - Jackson Boulevard	0.58	50	\$106,100
Shoulder Bikeway	N Elk Vale Road	Country Road - E Mall Drive	1.43	50	\$15,800
Signed Shared	South Canyon Road	Berry Boulevard - N 44th Street	2.04	50	\$14,200
Shared Lane	E Kansas City Street	East Boulevard - SD School of Mines & Technology	0.60	49	\$21,300
Signed Shared	Prairie Avenue	Saint Patrick Street - E Indiana Street	0.35	49	\$2,400
Bike Lane	W Main Street	44th Street - Soo San Drive	0.76	49	\$139,000
Bike Lane	W Chicago Street	N 44th Street - Deadwood Avenue	1.76	46	\$322,000

Facility	Route	Extent	Length	Points	Planning-Level Cost Estimate
Shared Lane	Moon Meadows Drive	Dunsmore Road - Highway 16	2.27	45	\$80,500
Shared Lane	East Boulevard	E Quincy Street - Signal Drive	0.45	44	\$16,000
Shared Lane	Anamosa Street	Commerce Road - Silver Street	1.14	43	\$40,400
Shared Lane	Dunsmore Road	Sheridan Lake Road - Moon Meadows Drive	0.14	42	\$5,000
Signed Shared	San Marco Boulevard	City Springs Road - South Canyon Road	0.36	42	\$2,500
Signed Shared	San Marco Boulevard	South Canyon Road- W Chicago Street	0.31	42	\$2,200
Signed Shared	W Chicago Street	San Marco Boulevard - N 44th Street	0.35	42	\$2,400

Table 56. Costs for Bike Lanes Requiring Additional Treatments

Route	Extent	Length	Points	Planning-Level Cost Estimate
St. Joseph Street	W Main Street - West Boulevard	0.32	56	\$29,250
W Main Street	Soo San Road - West Boulevard	2.14	56	\$343,900
E Minnesota Street	Minnesota Street Park - Cambell Street	0.25	50	\$45,700
Harmony Heights Lane	Plaza Boulevard - Anamosa Street	2.79	44	\$510,400
N Plaza Drive/Plaza Boulevard	Deadwood Avenue - Harmony Heights Lane	1.08	44	\$197,600
St. Patrick Street	5th Street - Elm Avenue	0.73	44	\$133,600
N Maple Avenue	Mall Drive - Disk Drive	0.47	37	\$86,000

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Appendix J. Funding Sources

Acquiring funding for projects and programs is considerably more likely if it can be leveraged with a variety of local, state, federal and public and private sources. This section identifies potential matching and major funding sources available for bicycle and trail projects and programs as well as their associated need and criteria. It identifies funding sources available at the Federal, State (through South Dakota Department of Transportation, SDDOT) and potential local sources.

Federal Funding Sources

Federal funding is primarily distributed through a number of different programs established by the Federal Transportation Act. The latest act, The Safe, Accountable, Flexible, Efficient Transportation Equity Act – a Legacy for Users (SAFETEA-LU) was enacted in August 2005 as Public Law 109-59. SAFETEA-LU authorizes the Federal surface transportation programs for highways, highway safety, and transit for the five-year period 2005-2009.

In South Dakota, Federal funding is administered through the State (SDDOT). Most, but not all, of these funding programs are oriented toward transportation versus recreation, with an emphasis on reducing auto trips and providing inter-modal connections. Federal funding is intended for capital improvements and safety and education programs, and projects must relate to the surface transportation system.

SAFETEA-LU

There are a number of programs identified within SAFETEA-LU that provide for the funding of bicycle and pedestrian projects, described in the following section.

Surface Transportation Program

The Surface Transportation Program (STP) provides states with flexible funds which may be used for a wide variety of projects on any Federal-aid Highway including the National Highway System, bridges on any public road, and transit facilities.

Bicycle and trail improvements are eligible activities under the STP. This covers a wide variety of projects such as on-street facilities, off-road trails, crosswalks, bicycle and pedestrian signals, bike parking, and other ancillary facilities. SAFETEA-LU also specifically clarifies that the modification of sidewalks to comply with *Americans with Disabilities Act* requirements is an eligible activity.

As an exception to the general rule described above, STP-funded bicycle and pedestrian facilities may be located on local and collector roads which are not part of the Federal-aid Highway System. In addition, bicycle-related non-construction projects such as maps, coordinator positions, and encouragement programs are also eligible for STP funds.

Ten percent of each State's STP apportionment is set aside for two infrastructure safety programs: the Hazard Elimination Program (HEP) and the Railway-Highway Crossing Program. Under the HEP, States must "conduct and systematically maintain an engineering survey of all public roads to identify hazardous locations... which may constitute a danger to motorists, bicyclists, and pedestrians," and implement prioritized improvements at identified hazardous locations. Eligible projects include improvements on any public highway, public transportation facility, and any public bicycle or pedestrian pathway or trail, as well as traffic calming projects.

Highway Safety Improvement Program

This program funds projects designed to achieve significant reductions in traffic fatalities and serious injuries on all public roads, bikeways and walkways. This program includes the Railway-Highway Crossings Program and the High Risk Rural Roads Program and replaces the Hazard Elimination Program from TEA-21.

Transportation Enhancements

Administered by SDDOT, this program is funded by a set-aside of STP funds. Ten percent of STP funds are designated for Transportation Enhancement Activities (TEAs), which include "provision of facilities for pedestrians and bicycles, provision of safety and educational activities for pedestrians and bicyclists," and the "preservation of abandoned railway corridors (including the conversion and use thereof for pedestrian and bicycle trails." (23 USC Section 190 (a) (35)). Under TEA-21, approximately \$9.0 million was available annually, of which \$4.5 million was allocated to Statewide TE funds. The reauthorization of the Federal transportation bill will determine funding availability for 2010 and later.

TE funding in South Dakota can be used to build projects that enhance bicycle and pedestrian safety, and to build bicycle and pedestrian facilities. Facility development can include both development of new facilities as well as modifications of existing facilities. Bicycle facilities must be transportation-oriented (not solely for recreational purposes), can be located within or outside of the highway ROW and could include riding or walking surfaces and related amenities. Eligible projects under the safety category include non-construction safety-related activities, such as safety

Rapid City

and educational activities. Projects must be accessible to the general public or targeted to a broad segment of the general public.

From FY 1992 to 2008, SDDOT has programmed \$13,858,739 for bicycle and pedestrian facilities, the largest proportion of Transportation Enhancement funds. However, no money was allocated for safety programs.

Recreational Trails Program\

The Recreational Trails Program of the Federal Transportation Bill provides funds to states to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Example trail uses include hiking, bicycling, in-line skating, and equestrian use. These funds are available for both paved and unpaved trails, but may not be used to improve roads for general passenger vehicle use or to provide shoulders or sidewalks along roads.

Recreational Trails Program funds may be used for:

- Maintenance and restoration of existing trails
- Purchase and lease of trail construction and maintenance equipment
- Construction of new trails, including unpaved trails
- Acquisition or easements of property for trails
- State administrative costs related to this program (limited to seven percent of a State's funds)
- Operation of educational programs to promote safety and environmental protection related to trails (limited to five percent of a State's funds)

In South Dakota, the Recreational Trails Program is administered by Division of Parks and Recreation in the Department of Game, Fish, and Parks.

State and Community Highway Safety Grant Program (Section 402)

Administered by National Highway Traffic Safety Administration (NHTSA) and Federal Highway Administration (FHWA), as well as by the designated State Highway Safety Offices (SHSO), Section 402 monies support State highway safety programs that are intended to reduce traffic crashes and resulting deaths, injuries, and property damage. Grant funds are provided to States each year according to a statutory formula based 25 percent on population and 75 percent on road mileage. States must submit a Performance Plan with goals and performance measures as well as a Highway Safety Plan, which should describe how they will achieve the Performance Plan.

Funds may be used for a wide variety of highway safety activities and programs including those that improve pedestrian and bicycle safety. States

are to consider highly effective programs (previously known as National Priority Program Areas), including bicycle and pedestrian safety, when developing their programs, but are not limited to this list of activities.

Safe Routes to School (SRTS)¹⁸

Under the SRTS Program, Federal funds are administered by SDDOT. The grants can be used to identify and reduce barriers and hazards to children walking or bicycling to school (70 to 90 percent of funds) or for non-infrastructure encouragement and education programs (10 to 30 percent). Eligible projects must be within two miles of a school and are fully funded with no local match requirement. One infrastructure and/or non-infrastructure application will be accepted, with three projects maximum that can be funded per school district. There is a \$250,000 funding limit for the total infrastructure project application and \$100,000 maximum for non-infrastructure projects.

Community Development Block Grants

The Community Development Block Grants program provides money for streetscape revitalization, which may be largely comprised of pedestrian improvements. Federal Community Development Block Grant grantees may "use Community Development Block Grants funds for activities that include (but are not limited to): acquiring real property; reconstructing or rehabilitating housing and other property; building public facilities and improvements, such as streets, sidewalks, community and senior citizen centers and recreational facilities; paying for planning and administrative expenses, such as costs related to developing a consolidated plan and managing Community Development Block Grants funds; provide public services for youths, seniors, or the disabled; and initiative such as neighborhood watch programs."

Rivers, Trails and Conservation Assistance Program

The Rivers, Trails and Conservation Assistance Program (RTCA) is a National Parks Service program providing technical assistance via direct staff involvement to establish and restore greenways, rivers, trails, watersheds and open space. The RTCA program provides only for planning assistance—there are no implementation monies available. Projects are prioritized for assistance based on criteria that include conserving significant community resources, fostering cooperation between agencies, serving a large number of users, encouraging public involvement in planning and implementation, and focusing on lasting accomplishments.

¹⁸ http://www.sddot.com/srts/default.aspx

Land and Water Conservation Fund

The Land and Water Conservation Fund (LWCF) is a Federally-funded program, providing grants for planning and acquiring outdoor recreation areas and facilities, including trails. Funds can be used for right-of-way acquisition and construction.

Transportation, Community and System Preservation Program

The Transportation, Community and System Preservation Program provides Federal funding for transit-oriented development, traffic calming and other projects that improve the efficiency of the transportation system, reduce the impact on the environment, and provide efficient access to jobs, services and trade centers. The program is intended to provide communities with the resources to explore the integration of their transportation system with community preservation and environmental activities. The Transportation, Community and System Preservation Program funds require a 20 percent match.

The National Scenic Byways Program¹⁹

Administered by the Federal Highway Administration (FHWA), the National Scenic Byways Program funds 50 percent of an eligible project's costs. Projects must be along a designated scenic highway and meet accessibility guidelines under ADA. Eligible projects include, "Improvements for enhancing access to a recreation area include bicycle and pedestrian facilities ... to the extent that the project and recreational area have a clear, demonstrated role in enhancing the byway traveler experience (rather than primarily serving the existing customer base of the operator of the recreational area)."

Local Funding Sources

Tax Increment Financing/Urban Renewal Funds²⁰

Tax Increment Financing (TIF) is a tool to use future gains in taxes to finance the current improvements that will create those gains. When a public project (e.g., sidewalk improvements) is constructed, surrounding property values generally increase and encourage development or redevelopment in the area. The increased tax revenues are then dedicated to finance the debt created by the original public improvement project. Tax Increment Financing typically occurs within designated Urban Renewal Areas (URA) that meets certain economic criteria and are approved by a

¹⁹ <u>http://www.byways.org/</u>

²⁰ <u>http://www.rcgov.org/Growth-Management/tifprojectplanhistory.html</u>

local governing body. To be eligible for this financing, a project (or a portion of it) must be located within the URA.