Bicycle Task Force
Recommendations
September 18, 2008
City of Golden

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Cover Photo: Images of local cyclists
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Section 1

INTRODUCTION

1.1 BACKGROUND

The City of Golden’s (City) goal with respect to bicycles is to provide a high quality and safe bicycle system for a wide diversity of users including family oriented recreational riders, commuters, and advanced athletes. This is an important goal that should be embraced by the community for many reasons. Riding a bicycle is fun, and it also provides a viable alternative mode of transportation for those who cannot or prefer not to use a motor vehicle.

By using a bicycle instead of a car, a cyclist can:
- Reduce air pollution
- Decrease dependency on fossil fuel
- Reduce traffic congestion
- Decrease costs associated with the construction and maintenance of roads
- Reduce need for parking facilities
- Provide health benefits to our citizens
- Boost tourism by being a “bicycle friendly” community

The City is actively working to promote bicycling and improve its bicycle infrastructure and systems. According to the 2003 City of Golden Comprehensive Plan, one of the transportation goals is to make all parts of the City accessible through a variety of modes of travel. One action item listed to achieve this goal is to continue investment in pedestrian and bicycle facilities. In addition, one of the City’s sustainability goals, Resolution 1793, is to increase the ability of Golden residents and visitors to travel to and through Golden using alternative transportation with the goal of reducing the total motorized vehicle miles traveled by 15% in ten years.

The City of Golden Master Bicycle Plan (Master Plan) was created in 2003 to guide future bicycle development to the City. The plan was an overall, comprehensive 10 year plan to guide the City in developing a citywide bicycle system. Following this plan, the City has made noticeable progress towards providing a high quality and safe bicycle system, which is applauded by City residents and area bicyclists.

The Bicycle Task Force (BTF) was established by City Council of the City of Golden by Resolution 1852, adopted April 10, 2008. City Council established the BTF to update the 2003 Bicycle Master Plan and accomplish four main goals:

1. Review the City of Golden Bicycle Master Plan;
2. Assess any conditions that have changed since the plan was adopted in 2003, including progress made in completing the improvements identified in the plan;
3. Provide specific recommendations to City Council and staff identifying any recommended updates to the plan; and
4. Provide specific recommendations to City Council and staff for the 2009 – 2018 Capital Improvement Plan that will make it easier for citizens of all ages to bicycle for recreation and for transportation

The BTF received direction as to priorities for recommendations from Section 3 of Resolution 1852:

“In considering updates to the City of Golden Bicycle Master Plan, the Task Force will look first to the ability of students to bike to school, secondly toward bicycling as a general transportation option and thirdly for recreation.”

1.2 PROCESS

The BTF consisted of seven community members from the City of Golden representing various geographic, demographic, and bicycling style constituencies. Two City staff were also active in the BTF meetings throughout the entire process. The BTF met weekly from May 29th...
through September 11, 2008. Meetings were public and were attended by other members of the community throughout the time period who provided public comment. In addition, BTF members attended meetings with Bike Jeffco, a Jefferson County based bicycling group, to obtain further input from the larger community.

Per Resolution 1852, the BTF has prepared this report providing recommendations to City Council and the City Staff for updating the Master Plan. These recommendations have been carefully evaluated and debated by the members of the BTF considering the directives provided by Resolution 1852. The BTF believes that implementation of these recommendations will not only provide safer and more comfortable conditions for bicyclists in the City, but will also promote the City further as a bicyclist destination and a bicyclist-friendly community.

This document is a result of the combined efforts of the appointed task force and city staff members.

The following is a list of facilities that the Task force is proposing to include in the Master Bicycle Plan Update:
- Paved Shared-Use Trails
- Unpaved shared use trails
- Bicycle Lanes
- Bicycle Routes
- Shouldered Roadways
- Detailed Plan Improvements
- Bicycle Facilities
- Actuated Signals for bicycles
- Amenities
- Bicycle System Signage
- Maps
- Education
- Policy
- Bicycle Share Program
- Staff Bicycle Planner/Engineer
- Bicycle Golden Advisory Committee

The BTF also considered other criteria, including: general safety, current usage of bicycle routes, future usage due to factors such as the future FastTracks station, connectivity to other bicycle systems, and feasibility of implementation. In addition, the BTF has made an effort, to the extent possible, to identify and prioritize those recommendations that are cost-effective, yet will provide significant improvement (i.e., those recommendations that provide the most “bang for the buck”).

This report provides recommendations grouped into three categories: Policy, Capital Improvement Projects (CIP), and Non-CIP projects. Within each category, the BTF has prioritized recommendations as “first tier” or “second tier” recommendations.

First tier recommendations are those that the BTF feels are important, given the criteria above. Some first tier recommendations are simple, relatively cost-effective, and provide great benefit to bicyclists. Bicycle lanes are an example of such a recommendation. Others are more difficult and expensive (such as a bridge over Highway 6 to a future FastTracks station). The BTF feels that all of the first-tier recommendations are important, given the criteria above, and are worthy of consideration by the City.

Second tier recommendations are those that the BTF feels would improve the bicycling experience in Golden. Many of these recommendations were included in the initial Master Plan. However, these recommendations are considered a lower priority by the BTF for a variety of reasons, including not meeting the criteria outlined in Resolution 1952 or a finding by the task force that the project is not practical or feasible. Several second tier items are not within the City limits and, while the task force would support projects that serve as gateways and connections to Golden from surrounding communities, the task force wished to put more emphasis on projects within Golden.

1.3 APPROACH AND REPORT FORMAT

The BTF recognizes that the recommendations provided in the Master Plan and in this report represent a range of possible actions by the City, as well as a range of funding and implementation issues. Therefore, the BTF has attempted to prioritize recommendations based on the criteria established in Council Resolution 1952, which specifically addresses the needs of school children, recreational riders and those who wish to cycle as a general mode of transportation.
Section 2
POLICY RECOMMENDATIONS

Through the creation of the BTF and other task forces, the City has taken a proactive stance on improving the City for bicyclists and general quality of life for its citizens. In keeping with this spirit, the BTF is providing policy recommendations so that the City may continue to be proactive in providing a bicycle friendly community. All policy recommendations are considered first tier priority.

2.1 BICYCLE COORDINATOR

The BTF recommends that a City employee be designated as Bicycle Coordinator as a part of their duties to implement the Master Plan and the updated recommendations provided in this report by the BTF.

The BTF is concerned that proposed changes be implemented as quickly as financially feasible. To deal with this, the BTF proposes implementation or oversight responsibilities be given to a City employee who shares our interest in this project on a part time basis as a part of their regular duties. The BTF suggests that one option is the new Sustainability coordinator assume this role given the importance of alternative transportation to Sustainability.

2.2 CONTINUED BICYCLE ADVISORY COMMITTEE

In conjunction with the establishment of a City Bicycle Coordinator, the BTF recommends the establishment of a standing advisory committee to work with this person. The purpose of the committee would be to assist the assigned coordinator and review progress on the Master Plan and BTF recommendations. The BTF recommends the advisory committee be appointed by City Council and consist of similar makeup to the BTF. It is recommended the advisory committee meet with the Bicycle Coordinator every other month (or as needed) to provide input and review.

The BTF makes this recommendation to ensure that the plan can move forward and be implemented. It is not the desire of the BTF to “re-do” the master plan every year. Rather, the advisory committee would provide advice as requested by the Bicycle Coordinator and review progress.

2.3 CONTINUED ESTABLISHMENT OF A BICYCLE FRIENDLY COMMUNITY

The Bicycle Friendly Community Campaign is an awards program that recognizes municipalities that actively support bicycling. A Bicycle-Friendly Community provides safe accommodation for cycling and encourages its residents to bike for transportation and recreation.

The League of American Bicyclists administers the Bicycle Friendly Community Campaign. Those cities that meet the League’s requirements are awarded Bicycle Friendly Community status at a level of Bronze, Silver, Gold, or Platinum. The City of Golden has already applied for this designation, though if Golden does not initially achieve the title of a Bicycle Friendly Community, the BTF feels

A “Complete Street” provides for all modes of transportation.
that the City should continue to pursue this goal. Once Golden receives the designation, the BTF feels that the City should strive to work toward the highest level (Platinum) in future years.

2.4 COMPLETE STREETS

Complete Streets policies are gaining support and are being implemented throughout the country. By definition, Complete Streets are those which are designed and operated to enable safe access for all users. Pedestrians, bicyclists, people with disabilities, motorists, and bus riders are able to safely move along and across a complete street, regardless of age and ability. Complete streets often contain elements such as bicycle lanes, sidewalks, crosswalks, bus pullouts, refuge medians and other design features that assist people in nearly all modes of transportation. Complete streets increase safety, encourage walking and bicycling for health, and can help ease transportation woes.

Golden has implemented Complete Streets elements in some recent construction and the BTF feels the results are positive. The BTF recommends that a Complete Streets policy be used for future construction in the City and also added, where possible, to existing roadways and streets, such as when resurfacing occurs.
The Master Plan developed in 2003 provides an extensive list of CIP recommendations. The BTF has examined and evaluated the Master Plan recommendations. Recommended updates are provided in this section. While the Master Plan grouped its recommendation by type (e.g., shared-use paved trail versus shouldered roadway) the BTF elected to categorize recommendations by priority. The BTF hopes this categorization will make it easier for City Staff and the City Council to better understand those recommendations that the BTF feels are a higher priority. Further details on the process and approach for developing this prioritization are provided in the Introduction section.

3.1 FIRST TIER RECOMMENDATIONS

For convenience, first tier recommendations are identified by type and description similar to that provided in the Master Plan developed in 2003. However, the BTF has added additional types of improvements or grouped types of improvements to emphasize their priority.

**TYPE:** School associated bicycle lanes and shared-use paths  
**DESCRIPTION:** Improvements to serve connections to schools

In keeping with the priorities identified in Resolution 1852, the BTF examined specific routes for students to take to schools. The Bicycle Task Force has identified these lanes, paths and routes as having a higher priority than the others, as this contributes to the Safe Routes to Schools goal.

Encouraging students to use a bicycle as a means of transportation has many benefits. Childhood obesity rates nationally have been on the rise in recent years, and encouraging physical activity can help with this problem. In addition, a bicycle is often a child’s first vehicle. Learning the rules of the road and how to share the road with other vehicles, both motorized and non-motorized, will help children later in life when they become drivers. Cycling to school helps decrease traffic congestion and air pollution. Finally, it helps develop a mindset in this new generation that a bicycle is a viable means of transportation for all ages.

In general, the schools have many appropriate and safe access routes between residential areas and the schools. The BTF has only identified those routes that warrant improvement, rather than document what is safe, and photos of these existing conditions are also provided. In order to emphasize their importance, the BTF recommendations are organized by routes to individual schools.

**BTF Recommendations:**

**Mitchell Elementary:**

Upgrade the corridor along Iowa Street from Ford Street to Highway 93. Currently the only option for students east of Washington Street is on-street bicycling, which is not suitable for elementary age cyclists. Off-street options are preferred over on-street for elementary age cyclists. There are several options listed below, but the BTF will ask City Staff to create the best corridor possible with the right-of-way space available.

- Provide bicycle lanes on either side of Iowa Street from Ford Street to Hwy 93.
- Provide a shared use path along south side of Iowa Street from Washington connecting to the shared path that begins on the west side of Hwy 93. A portion of the shared use path could be an infrastructure improvement required for the development of the lot on the southwest corner of Washington Avenue and Iowa Street.
Shelton Elementary
- Construct concrete shared-use path and reduce the grade of the existing dirt path bicycle path that links the 4th Street dead end (near Heritage Road) to the school.

Bell Middle School:
- Provide a bicycle lane on 10th Avenue between Ulysses Street and Johnson Street.
- Provide a bicycle lane on Ulysses from South Golden Road to West 10th Avenue

Type: Bicycle Lanes
Description: Addition of striping and/or bicycle symbols on roadways to establish bicycle lanes

The BTF has rated bicycle lanes as one of its highest priority recommendations. The Master Plan identified numerous bicycle lanes that would be advantageous to the City’s bicycle infrastructure, and the BTF has provided updated recommendations. Some of the Master Plan’s recommended bicycle lanes have already been completed and are a positive addition to the community for bicyclists.

Marked bicycle lanes are one of the key elements of the City’s bicycle infrastructure. Studies have shown that bicycle lanes have the benefit of supporting and encouraging bicycling as a mode of transportation. They allow bicyclists and motorists to share the road more easily, which increases safety for both groups. Additionally, marked bicycle lanes can be implemented without building new facilities, and added as a part of routine street striping and paving operations. This makes them cost effective with high benefit.

BTF Recommendation: Bike lanes in the following locations
- Jackson Street between 14th Street and 24th Street,
- Ford Street from South Golden Road to 14th Street,
- Ulysses Street from South Golden Road to West 10th Avenue,
- West 10th Avenue from Johnson Road to Ulysses Street,
- 13th Street between Washington Avenue and Ford Street,
- West side of Heritage Road between Highway 6 and the 4th Avenue pedestrian bridge,
- East side of Heritage Road between pedestrian bridge and Colfax Avenue,

It should be noted that bicycle lanes in many places are neglected when it comes to road maintenance and sweeping operations. Bicyclists cannot be expected to ride in a bicycle lane that is covered with debris or riddled with potholes, as this compromises their safety. The City must be aware that bicycle lanes must be maintained to the same standards as the rest of the roadway in order to be an effective part of the City’s transportation infrastructure.
TYPE: Signage
DESCRIPTION: Addition of signs to bicycle systems to improve safety and provide direction

While the Master Plan developed in 2003 does have a section on signage, it provides guidance on signage for the various components of the bicycle system. The BTF feels that focus on signage should be elevated to a priority, rather than just a component of the other recommendations, for several reasons. Additional and better signage may improve safety, provide direction for bicyclists, improve visibility of bicyclists, and increase public exposure and use of Golden’s bicycle system.

A major benefit to signage is that it is relatively inexpensive compared to other options such as shared-use paths or paved shoulders. Hence, signage provides a large benefit to cost ratio for issues such as safety. In addition, in locations where other options or actions are not possible or prohibitively expensive, signage will still provide benefit and increase safety.

BTF Recommendation: Several types of signs were identified by the BTF. These are listed, in order of priority in Appendix B, along with recommended locations for signage.

In addition to the priorities listed in Appendix B, the BTF recommends the City follow the standards set forth in the Master Plan. Examples of these standards include following the Manual of Uniform Traffic Control Devices for signage, receiving appropriate approval for posting signs not on city roadways, providing directional and hazard notification signage when necessary, and pursing mileage markers on longer length trails. The BTF has no further recommendations for the sign design guidelines provided in the Master Plan.

TYPE: Intersection Improvements
DESCRIPTION: Railroad crossing near the intersection of 44th Avenue and Salvia Street

There has been a history of bicycle accidents (see Appendix C) on the railroad crossing at 44th Avenue and approximately Salvia Street. The angle at which the railroad rails intersect with the street makes it easy to catch a bicycle wheel, making it unsafe to cross as the rails. This crossing has a reputation of being unsafe and has gained attention from local advocates and the media.

City Staff contacted the BnSF Railroad Company (BNSF) to inform them of the danger it poses for bicyclists at this intersection. BNSF offered to complete the design and construction to mitigate the danger at this crossing but will only fund 20% of the project. The total estimated cost to upgrade the crossing is $167,145, as estimated by BNSF. The City’s share would be $133,716. There may be alternative or outside funding available for the City’s balance.

BTF Recommendation: Funding options should be explored to have this intersection brought up to an acceptable, safe standard. In the interim, the BTF recommends signage to warn bicyclists of the dangerous crossing.

TYPE: Bicycle Routes
DESCRIPTION: Development of recommended bicycle routes throughout Golden

In general, a bicycle route simply informs bicyclists how to get from point A to point B. The route may identify alternate routes for bicyclists or a particularly advantageous corridor. A bicycle route may also identify bicycle facilities.
Bicycle routes are often utilized where a road has bicycle demand but has inadequate shoulders for a bicycle lane. Bicycles and other vehicles share the road. There are no stripes or other special provisions. Generally the bicycle route is designated by signage and may utilize a combination of roads and paths. Bicycle routes are very cost effective.

The items that were taken into consideration by the Master Plan and the BTF when recommending or designing the bicycle route system included: bicycle demand, traffic volumes, speeds, topography, other safety factors and linkage to trails, other bicycle facilities, downtown, CSM, neighborhoods and schools.

BTF Recommendation: The following should be signed as Bicycle Routes.

North Area
- Washington Avenue from Highway 58 south to 18th Street.
- 10th Street from City offices to Ford Street.
- Ford Street from Tucker Gulch Trail south to Iowa Street.
- North along Cheyenne Street from 10th Street to 8th Street, connecting west along 8th Street to the City Recreation Center.
- Jackson Street between 13th and 11th Street, connecting at 11th Street west to Washington Avenue.
- 13th Street between Washington Avenue and Maple Street.
- Maple Street between 11th and 18th Street.
- Illinois Street from 11th to 24th Street then connect to shared path.
- 18th Street between East and Elm Street, connecting at Elm Street to the south to 19th Street.
- 24th Street from Illinois Street to East Street.
- Ford Street from 13th to 14th Street.

South Area (Outside City Limits)
- West 16th Avenue from South Golden Road to Salvia (and possibly extending out of the city to Quaker Street and connecting to the south along Quaker Street to 10th Avenue).
- Moss Street from Old Golden Road to existing I-70 underpass, turning east along 7th Avenue to Indiana Street (Again, outside of the city but is a corridor to connect the West 3rd Area with the rest of Golden city limits).

Tipo: Detailed Plan Improvements
Descripción: 32nd Avenue from Ford to McIntyre Street

32nd Avenue experiences a high volume of bicyclists who use the road to get from as far east as downtown Denver or the Cherry Creek area to Golden. It is a popular and known conduit, particularly for the thousands of bicyclists headed for Lookout Mountain.

BTF recommends working with Jeffco on 32nd Avenue safety improvements.
32\textsuperscript{nd} Avenue also has high vehicular traffic volume, including truck traffic; yet the road has little or no shoulder. In addition, the late-afternoon sun can make it difficult for westbound motorists to see bicycles. There is a winding one-mile stretch near South Table Mountain with multiple blind turns, dips, rises and shadows cast by tall cottonwoods. The speed limit at this location drops from 35 to 25 mph but is routinely ignored based on traffic speed data collected by Jefferson County.

BTF Recommendation: The road should be widened and bicycle lanes in both directions added. However, the BTF recognizes that this stretch of road is in Jefferson County. Therefore, the BTF recommends the City support Jefferson County and participate to the extent possible in making improvements to 32\textsuperscript{nd} Avenue to improve safety on this dangerous piece of road.

**Issues**
- Inadequate rest area at 10\textsuperscript{th} Street for bicyclers recovering from the steep grade on Tucker Gulch Trail.
- Inadequate sight distance for travelers along 10\textsuperscript{th} Street to see bicyclists approaching crossing.
- Unclear connection to Tucker Gulch Trail, south of 10\textsuperscript{th} Street.
- Speeding vehicles along 10\textsuperscript{th} Street due to excessive street width.

**BTF Recommendation:**
- Reduce the travel lanes on 10\textsuperscript{th} Street to 12 foot maximum width.
- Provide staging space for bicyclists traveling south on Tucker Gulch Trail.
- Widen the pedestrian path on the bridge to 12-feet wide on the north and six-feet wide on the south.
- Install a pedestrian crossing on 10\textsuperscript{th} Street at East Street. Utilize contrasting pavement materials and standard signage. Consider pedestrian activated flashing warning signs to alert motorists.
- Increase the Tucker Gulch Trail width on the south side of 10\textsuperscript{th} Street to ten-feet.
- Sign 10\textsuperscript{th} Street east of Washington Avenue as a share the road route.
- Place signs on the bicycle path to provide further direction.
The video detector will give a green light to bicyclists waiting at intersections. A bicycle video detector makes it possible to sense bicycles waiting for traffic signals, allowing the signal to change. Video bicycle detectors work at traffic actuated signals that use video detection.

A bicycle stencil pavement marking informs bicyclists where to stop in order to be detected. The video detector can be easily programmed to detect a bicyclist just as it would an automobile. An R10-15 sign may be installed to supplement the pavement marking.

BTF Recommendation: Bicycle video detection be employed at all existing traffic actuated video detection locations. In addition, when intersections are being considered for traffic actuated video detection, whether at new intersections or in replacement of existing equipment, the BTF recommends video detection be employed if the intersection is associated with bicycle lanes, bicycle routes, or share the road routes.

BTF Recommendation: Provide bicycle racks at key city locations

The BTF recommends that the City provide bicycle racks at key City locations such as the recreation center, parks, trail heads, public buildings, inside the new parking garage, Splash, grocery stores and other shopping areas. The BTF notes that RTD provides bicycle racks and/or bicycle lockers at some of their Light Rail stations and Park-n-Rides, but it is unknown if bike storage will be included in Golden’s new Light Rail station.

BTF Recommendation: A few options to consider for the non-City locations bicycle rack program:

- The City purchases bicycle racks in bulk, labels them with city logo, and sells at cost to businesses that want to have bicycle racks for their customers.

- The City establishes a 50/50 cost share program
with businesses that want to purchase bicycle racks for their customers.

- The City solicits local businesses to pay to advertise their business on the bicycle racks; thereby substantially reducing, or even eliminating bicycle rack costs.

- The City purchases bicycle racks in bulk and places them at strategic city locations.

**Bike racks are needed in key locations throughout Golden.**

**TYPE:** Detailed Plan Improvements  
**DESCRIPTION:** 14th and Ford Street

The bicycle lane coming in on Ford St. comes to an abrupt end at this corner with a storm sewer grate at the end. This grate presents a hidden hazard. Recommended changes include a painted hazard warning on the road and reducing the corner curb to provide more room to bicyclists once the bicycle lane ends. In addition, this grate should be replaced with a grate that is designed to accommodate bicycles, such as angled so as not to catch a tire or covered to avoid the hazard. The bicycle lane which stops here should be continued, and the modifications to the grate should be part of that modification. The photograph below shows this hazard.

**Grate on Ford Street at 14th Street catches bike tires.**

**A better grate.**

**TYPE:** Shouldered Roadway  
**DESCRIPTION:** Colfax Avenue from Rooney Road intersection west continuing along Heritage Road south along Highway 93

Improvement and/or addition of a shoulder along Colfax Avenue, from the intersection with Rooney Road west to Heritage Road and continuing south along Highway 93 (State Highway 40) was recommended by the Master Plan. The BTF believes this recommendation should be kept and would be a worthwhile improvement for bicyclists.

**Colfax Avenue at Rooney Road needs Shouldered Roadway.**

This route is utilized by bicyclists, primarily as a “connector” for recreation. This priority would provide improvements to the gaps identified in the 2003 Master Plan “Gap Analysis”, specifically “Connection along Highway 93 to Red Rocks” and “Connection to C-470 trail”.

**Grate on Ford Street at 14th Street catches bike tires.**
The route sees heavy vehicle traffic, including truck traffic from the quarry south of Heritage Square. In addition, traffic appears to move at higher speeds given the double lane construction, a long straight section along a hill, and its highway status and appearance.

BTF Recommendation: A shoulder would provide a safer and more comfortable ride for bicyclists, and space is available along this route. Given the usage, the BTF believes creation or improvement of a shoulder along this route is appropriate. A shouldered roadway is more cost effective than a bicycle path and the type of recreational riding along this route (i.e., generally adult or experienced bicyclists rather than children) does not warrant a separate path. While a bicycle lane may be a viable option on this route, space for a shoulder is available and will provide further separation from the volume and speed of traffic along this route.

TYPE: Intersection Improvements
DESCRIPTION: Highway 6 and 19th Street

The City has proposed plans to CDOT, the agency with jurisdiction over State Highway 6, to install raised concrete corner islands, similar to the one on the south-east corner, on the remaining three corners of the intersection. These islands provide a turn lane for traffic and a refuge for pedestrians and cyclists. Preferably the light posts would be relocated onto these islands as on the existing south-east corner, allowing better access to walk buttons. CDOT has not approved these upgrades in the past.

BTF Recommendation: The Johnson road shared trail should be extended to 10 feet to accommodate pedestrians and bicyclists traveling to and from and through the following areas: Splash, via the shared use path along the golf course, Bell Middle School, Golden High School, the Jefferson County Government Facilities and the future FastTracks station. With the development of the FastTracks station, the BTF expects this path will see heavier use, warranting this work.

TYPE: Intersection Improvements
DESCRIPTION: Highway 6 and Heritage Road

This intersection currently brings together the residential area of Heritage Road with existing bicycle paths on the east side of Highway 6. Routes to Bell Middle School, Golden High School and Shelton Elementary pass through this intersection. In addition, the new FastTracks station will generate increased bicycle and pedestrian traffic in this area.

The intersection as it exists today is a fairly typical large highway crossing with turn lane medians, crosswalks and pedestrian buttons/signals and can be negotiated by experienced bicyclists. However, it is not suitable for...
elementary or middle school bicyclists. The BTF predicts that this intersection will see increased traffic of all kinds due to FastTracks and potential upgrades to Heritage Road, and making this intersection as bicycle friendly as possible will encourage cycling vs driving and increase safety.

BTF Recommendation: A new pedestrian/cycling overpass bridge would provide an excellent crossing at this key intersection. A bridge would be a costly solution, but the BTF feels it is the best option if funding is available.

3.2 SECOND TIER RECOMMENDATIONS

Second Tier recommendations are provided in the tables below. The BTF feels these recommendations are worthwhile and should be considered by the City in the event funding, time and resources become available to complete them. They may be implemented if they can be included with other scheduled improvements or maintenance (e.g., routine street repaving) in an area. Otherwise, the BTF feels the first tier recommendations should be considered priority.

Further details for many of these recommendations are provided in the Master Plan, but are not re-iterated here.
## Second Tier Priority - Capital Improvement Projects

<table>
<thead>
<tr>
<th>LOCATION</th>
<th>PROJECT DESCRIPTION</th>
</tr>
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<tbody>
<tr>
<td>North side of Golden Road.</td>
<td>Construct shared-use paved trail to connect 16th Avenue and Ford Street bicycle route.</td>
</tr>
<tr>
<td>Jackson Street from 12th Street to 14th Street.</td>
<td>Construct a bike lane on either side. If not enough right of way, sign a bike route.</td>
</tr>
<tr>
<td>Shared-use paved trail along Highway 93.</td>
<td>Fix gap in shared-use paved trail near Virginia Street.</td>
</tr>
<tr>
<td>South Industrial Park</td>
<td>Provide trail connection to other parts of the city</td>
</tr>
<tr>
<td>North side of Colfax from Moss Street west to Highway 6 interchange then along Highway 6 to Johnson Road.</td>
<td>Construct shared-use paved trail.</td>
</tr>
<tr>
<td>West side of Highway 6 from 19th Street south to underpass at Highway 6.</td>
<td>Construct a shared-use paved trail.</td>
</tr>
<tr>
<td>South Indiana Street.</td>
<td>Upgrade sidewalks on the east side of the street or construct a shared-use paved trail.</td>
</tr>
</tbody>
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## Second Tier Priority - Non-Capital Improvement Projects

<table>
<thead>
<tr>
<th>PROJECT DESCRIPTION &amp; LOCATION</th>
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<tbody>
<tr>
<td>Identify routes and trails by name that relates to Golden (e.g. Golden, Mesa, etc. route.)</td>
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<tr>
<td>Promote cycling by sponsoring bicycle races and rides for all levels of riders. For example, a Golden moonlight ride or fun race up lookout mountain for beginners to average bicyclists. Could also involve local merchants to promote bicycle friendly business.</td>
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<tr>
<td>Sponsor a CSM Senior Design project to allow students to aid in the design of bicycle system, trails, over/under passes, etc.</td>
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<tr>
<td>Design a logo for the bicycle system.</td>
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<tr>
<td>Set up a program for corporate sponsorship to fund bicycle facilities as done in Cherry Creek North.</td>
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Section 4

NON-CAPITAL IMPROVEMENT RECOMMENDATIONS

Non-CIP recommendations are similar to policy, yet recommend specific actions or programs that could be undertaken immediately. The Non-CIP recommendations include bicycle safety and education programs, participation in the Safe Routes To School Program (SRTS), improvement of bicycle system maps, and establishment of a bicycle library. All of the Non-CIP recommendations are considered first tier priority.

4.1 BICYCLE SAFETY AND EDUCATION

Bicycle Safety and Education Programs are paramount to the City providing a safe and sustainable environment for Golden citizens and visitors. The BTF feels that an education program is important to encourage and facilitate use of the bicycle system and set the tone for responsible and safe bicycling in the City. A safety and education program is a simple and effective way to reinforce safe and responsible use of all of the recommendations provided in this report.

BTF Recommendation: The BTF recommends that the City implement programs to promote bicycle safety and bicycle usage. There are several options for delivery and implementation of Safety and Education Programs, examples of which are listed below.

Recommended Delivery for Education and Safety Programs

1. Publish safety tips and bicycle rules in the Transcript and Informer.
2. Build an online tutorial on City website.
3. Organize a regular bicycle clinic for in-person instruction, which could be delivered by a Bicycle Committee, Golden police, or local bicycle shop personnel.
4. Start a bicycle registration program, possibly through Golden Police, which includes a safety class.
5. Deliver Bicycle Education and Safety through local bicycles shops.
6. Deliver Bicycle Education and Safety concurrent with new City “Safe Routes to School Program”.
7. Publish safety tips and bicycle rules in pamphlet format that can be distributed through various venues throughout the city (bicycles shops, visitors center, etc.).
8. Publish education and safety tips on the reverse side of local bicycle map routes.
9. Motorist education on bicycle safety is also recommended.

The BTF recommends simple education and safety programs for bicyclists designed to educate school age and adult bicyclists in the City, with specific focus on education in conjunction with a “Safe Routes to School Program” (see following section). A suggested list of “Safety and Education Rules and Topics” that could be covered in education programs described above are provided in Appendix A.

4.2 SAFE ROUTES TO SCHOOL PROGRAM

SRTS is an international movement that focuses on making walking and bicycling to school a safe and valued activity. Safe Routes’ top priorities are to return kids to the active and healthy tradition of walking and biking to school while reducing child pedestrian and bicycling injury and deaths.

Today, SRTS indicates that less than fifteen percent of children walk or bicycle to school. The sharp decline in walking and bicycling has had a negative impact on traffic congestion, air quality and student safety around schools. SRTS addresses these concerns and provides resources to establish a program in communities.

The BTF recommends that the City participate in the SRTS program and make use of the resources that SRTS offers. Through infrastructure improvements in school environments, traffic safety education, enhanced traffic enforcement, and encouragement and outreach to communities; more children could be traveling to school in fun and healthy ways.
4.3 BICYCLE SYSTEM MAPS

The BTF recommends the preparation and distribution of an improved City bicycle system map. The 2003 Master Plan does mention the creation of a bicycle system map (see “Plan Phasing,” final bullet under Phase I). However, the BTF feels this priority is important enough to provide further specifics and emphasis. In addition, a bicycle map is currently available from the City’s website. This map is an excellent start, but the BTF feels the map should be updated and improved.

Several other communities or organizations throughout the Denver metro area have prepared excellent bicycle route maps. The BTF feels that these maps are useful to bicyclists (whether bicyclists are local or visiting) and increase use of bicycle systems in these communities. In addition, the maps provide indication of safe and appropriate routes for bicyclists, helping the bicyclist avoid congested traffic areas or roads. Examples of useful bicycle system maps are listed in Appendix D.

The BTF expects that creation of the bicycle system map will not be difficult given that 1) a bicycle map currently exists that may be updated and 2) GIS data for the map are already in existence through Golden’s collaboration with the City of Lakewood on the ezMAPs project. Data for GIS maps also may be available from other communities or organizations that have prepared maps. The BTF recommends the map be provided on the City website and distributed at Golden businesses (such as bicycle shops) and the visitor center. The map may also be distributed to residents via the Golden Transformer.

Ultimately, the design of the bicycle system map is up to the City department preparing the map. However, the BTF provides a list of recommendations for the map in Appendix E.

4.4 BICYCLE LIBRARY OR BICYCLE-SHARE PROGRAM

The BTF recommends that the City establish a bicycle “library” or bicycle “share” program. There have been some very successful bicycle “library” and bicycle “share” programs, both in the U.S. and around the world. These programs vary in their policies and procedures, but they all ultimately share the goal of reducing vehicle miles, easing traffic congestion, and improving local air quality.

The 2008 Bicycle Task Force recommends that the City establish a bicycle “library” or bicycle “share” program similar to the Fort Collins Bicycle Lending Library, which relies solely on grants and donations and receives no funding from the City.

Details about the Fort Collins Bicycle Lending Library and a few examples of other bicycle “library” and bicycle “share” programs are provided in Appendix F.

Bike Share System in Paris, France.
Bicycle Safety and Education Rules and Topics

• Obey Traffic Signs And Signals: Bicycles must drive like other vehicles if they are to be taken seriously by motorists

• Never Ride with Headphones

• Always Wear a Helmet

• Never Ride Against Traffic: Motorists aren’t looking for bicyclists riding on the wrong side of the road. State law and common sense require that bicycles drive like other vehicles

• Use Hand Signals: Hand signals tell motorists and pedestrians what you intend to do. Signal as a matter of law, of courtesy, and of self-protection

• Don’t Weave In Between Or Leave The Curb Between Parked Cars: Don’t ride out from between parked cars. Motorists may not see you when you enter traffic

• Follow Lane Markings: Don’t turn left from the right lane.

• Choose The Best Way To Turn Left: There are two ways to make a left turn. (1) Like an auto: signal, move into the left turn lane and turn left. (2) Like a pedestrian: ride straight to the far-side crosswalk. Walk your bicycle across.

• Don’t Pass On The Right: Motorists may not look for or see a bicycle passing on the right. Pass on the left like other vehicles.

• Make Eye Contact With Drivers: Assume that other drivers don’t see you until you are sure that they do. Eye contact is important with any driver which might pose a threat to your safety.

• Scan The Road Behind: Learn to look back over your shoulder without losing your balance or swerving. Some riders use rear-view mirrors, but still look before turning.

• Avoid Road Hazards: Watch out for gravel or debris. Cross railroad tracks at right angles.

• Keep Both Hands Ready To Brake: You may not stop in time if you brake one-handed. Allow extra distance for stopping in the rain, since brakes are less efficient when wet.

• Be Visible: Wear bright colors in daylight and use lights at night

• Keep Your Bike in Good Repair: Adjust your bike to fit you and keep it working properly. Check brakes and tires regularly. Routine maintenance is simple and you can learn to do it yourself.

• About Traffic Circles:
  - Merge into the circle smoothly just like you would on a freeway onramp.
  - Traffic always flows counter-clockwise.
  - Bikes already in the circle have the right-of-way over bikes entering the circle.
  - If you miss your exit, just continue around the circle until you reach your exit point again
APPENDIX B

Bicycle Signs

- Safety and Visibility Signs: Signage may be used to alert motor vehicles to the presence and rights of bicyclists and to encourage motorists and bicyclists to share the road. Signs and potential locations include:
  - “Bikes Have Use of Full Lane”
    - Example locations: Roundabouts, roads where planter-boxes have restricted lane width (e.g., 19th Street east of Highway 6 and Ford Street north of Iowa)
  - “Share the Road” or “Please Share the Road”
    - Example locations: 13th Street east of Golden, South Golden Road.
  - “Watch for Bikes”
    - Example locations: northbound Highway 6 right-hand turn lane onto 19th street, Tucker Gulch trail crossing on 10th Street.
  - “Dangerous Intersection”
    - Example location: 44th Avenue and Salvia railroad crossing.

- Directional and Informational Signs: These signs provide direction for bicyclists. Direction for bicyclists may be a safety issue, particularly if it provides a route to avoid hazardous streets or congested areas. Directional signs will also encourage use of Golden’s facilities or encourage bicyclists to patronize businesses at destinations (e.g., downtown).
  - Bike paths signs, such as along the Cressman Gulch and Tucker Gulch paths from Pine Ridge Road to 10th Street.
  - Maps of the city bike system placed at key locations, such as downtown, start of bike paths, or where bicyclists from connector systems enter the city.
  - Directions to key city locations or destinations. Example destinations include: downtown Golden, parks, parks and recreation facilities (e.g., Splash), schools, farmer’s market, libraries, City Hall, or county buildings.
  - Directions to key cycling destinations, such as Lookout Mountain, White Ranch, or connector trails (e.g., the C-470 bike trails).

- Bike Route Signs: Signs that say “Bike Routes” or “City of Golden Bikeway” should be placed along the bike routes identified in Table A. The BTF also feels that a logo or graphic for Golden bicycling should be designed for these signs.

1 The BTF prefers the use of “Please” in compliance signs because it has been shown to have more positive results than purely directive signs.
Information on Reported Bicycle Accidents at 44th Avenue and Salvia Street Railroad Crossing

Fairmount Fire Protection District
EMS Responses to 44th Ave. and Salvia St.
2002 Through 2008

2001
Total Calls: 3

2002
4/17/2002  11:49  44th and Salvia
4/28/2002  13:42  44th and Salvia
6/04/2002  12:01  44th and Salvia
7/20/2002  14:57  44th and Salvia
7/24/2002  12:07  44th and Salvia
9/07/2002  10:23  44th and Salvia
Total calls: 6

2003
4/02/2003  13:07  44th and Salvia
6/08/2003  10:48  44th and Salvia
6/08/2003  10:48  44th and Salvia
No Transport
6/21/2003  12:12  44th and Salvia
7/18/2003  20:09  44th and Salvia
9/15/2003  19:22  44th and Salvia
Total Calls: 6

2004
2/26/2004  12:39  44th and Salvia
6/12/2004  12:14  44th and Salvia
No Transport
Total Calls: 2

2005
Total Calls: 2

2006
Total Calls: 1

2007
4/15/2007  13:04  44th and Salvia
7/18/2007  18:23  44th and Salvia
Total Calls: 2

2008
3/01/2008  08:39  44th and Salvia
APPENDIX D

Examples of Resources for Bicycle Maps

Current City of Golden Bicycle Maps:

• General maps: http://cityofgolden.net/Page.asp?NavID=131
• Current bicycle map: http://cityofgolden.net/files/TrailandParkMap.pdf
• Current ezMAPS page: http://cityofgolden.net/Page.asp?NavID=638

Example Regional Bike Maps:

Excellent bicycle maps exist for the City of Boulder, City of Denver, and the greater Denver Area. These maps are excellent examples of good bicycle maps. They provide routes, are easy to read, and often provide other information, such as safety tips or locations of other bicycle amenities, such as bicycle shops.

• A number of bicycle maps are available for Boulder. Generally the maps are well designed and incorporate the locations of pertinent facilities for bicyclists, such as bicycle shops, trailheads, and schools. Of particular use are the “Go Boulder” maps (viewable online) and the “Trails” map, only available in bicycle shops and city offices.

  http://www.bouldercolorado.gov/index.php?option=com_content&task=view&id=8853&Itemid=2979

• The Denver Bicycle Touring Club (DBTC) map is widely used. It is a reliable map with routes verified by the DBTC. The maps are not available online, but are available in most metro bicycle stores.

  http://www.dbtc.org/

• The City of Denver bike map is an attractive map produced by the City of Denver. The map also provides numerous tips.


Other Examples of Regional Bike Maps

• Trails Denver is an online bicycle map system, which may provide a good resource.

  http://www.trailsdenver.com/index.html

• Bicycle Colorado has compiled a list of bike maps throughout the region. From this list, one can see cities such as Aurora, Arvada, Colorado Spring, etc…

  http://bicyclecolo.org/page.cfm?PageID=626

• Colorado Department of Transportation has compiled a list of Colorado bicycling maps throughout the state, including their own. Golden is currently not included on the list.

  http://www.dot.state.co.us/BikePed/maps.htm

• Denver Regional Council of Governments has performed an inventory of bicycle maps. The maps include bike routes in Golden, though are not Golden's maps. They may be able to provide mapping data to assist Golden's mapping process.

  http://www.drcog.org/index.cfm?page=BicycleFacilityInventory

• Colorado Front Range Trail Maps is compiling a series of maps for the front range. It starts in the northern part of the state, but will presumably include Golden in the near future.

  http://parks.state.co.us/Trails/ColoradoFrontRangeTrail/CFRTMaps
APPENDIX E

Bicycle Map Recommendations

• The maps should provide bike paths (shared-used paths), bike lanes, shouldered roadways, bike routes, and un-paved bike trails.

• Bike routes or trails should extend beyond City of Golden limits to encourage connectivity.

• The bicycle system map should provide locations of landmarks or destinations of interest to bicyclists. Examples include:
  o Local bike shops (placing their location free of charge will encourage them to distribute the map),
  o Public restrooms,
  o Golden recreation facilities,
  o Parks and Open Space,
  o Schools,
  o Trailheads for mountain biking or hiking, and
  o Start locations for popular road-rides.

• Printing costs may be offset by offering local bike stores (or other businesses) the opportunity to place an advertisement on the map.
Examples of Bicycle Library Programs

Fort Collins, CO- [www.fcbikelibrary.org](http://www.fcbikelibrary.org) The very successful Fort Collins Bike Lending Library is a free service for residents, students, and visitors to Fort Collins. From April 5, 2008 to August 18, 2008 there have been 762 free bicycles checked out to 830 riders! Bikes can be borrowed anywhere from 1 hour to 5 days. The bike library is open Friday, Saturday, and Sunday. Patrons are: visitors, residents, students, hotel guests, visiting professors, visitors touring the breweries, those trying out a bike to see if and what type they want to purchase, those needing a temporary transportation alternative, etc.

Partnerships and Funding for the Bike Library:

The Bike Library program is administered by BikeFortCollins.org and the city’s FC Bikes program, but includes partners such as the Downtown Development Authority, CSU, hotels and other businesses throughout Fort Collins. 80% of bike library funding comes from the acquisition of federal grant funds through the Congestion Mitigation and Air Quality (CMAQ) grant. The necessary 20% local match comes from a cash contribution from the DDA and several “in kind” local contributions. No City of Fort Collins General Funds are required for this project, however, the bicycle library fleet is housed and maintained by the Fort Collins Bike Co-Op on city property.

Arcata, CA- [www.arcata.com/greenbikes](http://www.arcata.com/greenbikes) The Arcata Bike Library Program promotes the use of bicycles as a safe, efficient, and environmentally friendly sound means of transportation. They try to inspire their citizens to incorporate bicycling into a healthy and sustainable lifestyle. From 2002-2004 they loaned out 1465 bikes! Bike cans be borrowed from multiple locations at no cost for up to six months.

Washington, D.C. – [www.smartbikedc.com](http://www.smartbikedc.com) SmartBike DC is America’s first self-service public bike rental of its kind. Bikes are parked at docking points at key city locations. SmartBike DC bikes are accessible via online subscriptions. For a $40 individual subscription fee the user receives a personalized card that provides access to any location at any time during business hours. Availability can be accessed online. Maximum rental time is 3 consecutive hours.

Paris, France- [www.velib.paris.fr](http://www.velib.paris.fr) Velib launched July 15, 2007. It currently has 20,000 bikes for rent. 1,450 stations at about 1 station per 300m!!! Subscriptions can be purchased by the day, week, or year. With a subscription, first half hour is free. If bike is stolen, credit card attached to subscription is charged $150 euros.