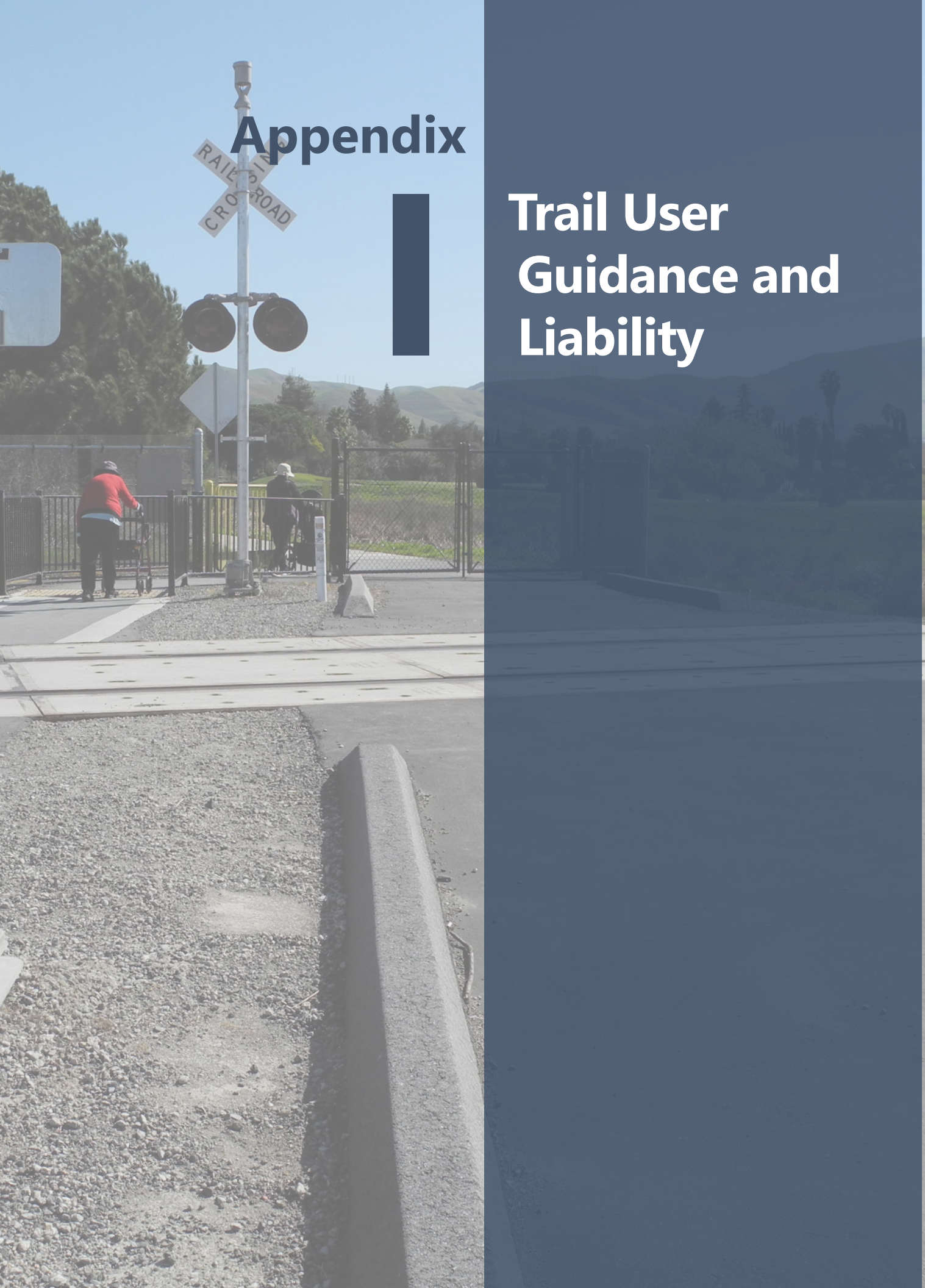

Appendix I

Trail User Guidance and Liability

Contents

Trail User Guidance, Conflict Solutions, and Liability

This appendix starts with a discussion of **Trail User Guidance and Conflict Solutions** and reviews common underlying factors that contribute to trail conflicts and provides design and operational strategies to help mitigate or avoid them. A section on **Liability** and related laws follows.

Trail User Guidance and Conflict Solutions

Conflict between trail users arises when there are incompatible trail uses that lead to crashes or near misses. Providing balanced trail design and operations can help avoid conflict among users with different characteristics or trip purposes

The local desire for proactive trails conflict management has been highlighted recently on Fremont's Cabrillo Trail and Sabercat Historical Park Trail. Respondents to the online survey question about local trail issues also ranked addressing potential conflicts among trail users as the fourth most important issue.

This section reviews common underlying factors that contribute to trail conflicts and provides design and operational strategies to help mitigate or avoid them.

Crissy Field multi-use trail with centerlines, San Francisco

Why do conflicts occur on trails?

Trails often serve multiple trip purposes: recreation, socialization, and active transportation. They also serve a variety of trail user types, including bicyclists, e-bicyclists, scooter riders, and pedestrians of all ages and abilities. Heavily-used trails often feature crowding that can contribute to conflicts between different trail users.

Bicyclists (and other micromobility users such as e-bicyclists and scooter riders) typically travel between approximately seven and fifteen miles per hour, depending on fitness, trip purpose, and ability. Additionally, bicyclists may reach excessive speeds on downhills or long straight stretches without intending to.

Meanwhile, pedestrians typically travel more slowly, between one and three miles per hour, or slightly faster if jogging.

Groups of bicyclists or pedestrians traveling together tend to naturally spread out across a trail's full width to facilitate social interaction, which can cause conflicts with users approaching in the opposite direction or in the same direction at a different speed.

Children also tend to wander across the full width of a trail (whether traveling by bicycle, scooter, or as pedestrians), and their movements can be difficult for other trail users to predict, posing a challenge for conflict avoidance. If allowed on a trail, dogs can also contribute to conflicts by wandering across a trail.

How can conflicts be avoided?

Conflicts on trails are primarily a function of the design of the facility and the volume of users across different trip purposes and design profiles. Therefore,, like any multimodal transportation facility, designs should be context sensitive and accommodate projected use over time (designing the trail for anticipated use).

Providing a wide trail (e.g. 15 feet or greater) or separating micromobility and pedestrian pathways along a parallel alignment (using continuous horizontal or vertical separation) is a generally recommended approach to help ensure a more comfortable experience for everyone and prevent conflicts between trail users. Assessing the anticipated volumes of trail users at different times of day and days of the week can help determine the necessary width or need for horizontal or vertical separation among modes (i.e. pedestrians and micromobility riders such as bicyclists, e-bicyclists, and/or scooter users), based on the corresponding Shared Use Path Level of Service.[1] This is especially important when volumes are high, for example, near existing or proposed high-density residential or commercial land uses.

More nuanced design treatments like material changes, color changes, painting or pavement markings (such as edge lines, centerlines, and directional symbols), art, and signage should also be considered to inform the preferred design strategy, as they can provide important design cues to trail users that help to naturally manage conflicts without the need for active and ongoing supplemental intervention.

Design options recommended in national best practice (e.g. AASHTO Bike Guide) to manage conflicts between trail users, like trail widening or providing separate bicyclist and pedestrian facilities, may have a bigger impact than attempting to influence user behavior through speed limits or education.

Where constrained trail corridors prevent such design approaches, there are also a variety of operational approaches that can help avoid conflicts on trails. For example, robust communication and education efforts built into the management of the trail network can foster ongoing dialog between the various user groups — a friends of the trails group can work well in this case.

The following recommendations for trail design, user norms and guidance, and coordination with trail user groups is based on research of Bay Area and national practices.

1 See, e.g. FHWA Shared Use Path Level of Service Calculator, Appendix C, for look-up tables of recommended trail widths with different combinations of pedestrian and bicyclist volumes.

Walkers enjoy separate, dedicated space for then, while avoiding conflicts with faster bicycles at Benicia State Park.

Recommendations: Physical Design

Especially for popular trails with high volumes of existing or projected pedestrian users, separate facilities for pedestrian and micromobility users is ideal.

This is the goal for Fremont's Regional typology trails. In some constrained locations, enough width is not available for separate pedestrian and micromobility trails. For example, the width of a levee, rail corridor, or topographic constraints can preclude having separate facilities. In these cases, a shared use trail may be necessary.

Design elements that help reduce conflicts between users include:

- The widest possible paved trail (e.g. 15 feet or greater).
- Designated micromobility and pedestrian portions separated by continuous horizontal or vertical elements, striping, and/or different colored pavement.
- Centerline striping on the bicycle portion — implies that it is designated for higher speed use
- Use curves or horizontal deflection, tactile feedback (rough surfaces), and pavement markings to manage bicycle speeds. Note that recommendations call for a 15 MPH maximum speed limit, but most bikes or bicyclists do not have a speedometer, so physical design and sign warnings to slow can be more effective.
- Improve soft surface shoulders to encourage runners, walkers, and dog walkers to stay to the side of the trail. Ideally the shoulder surface will be relatively firm, stable (not rough base rock), and wide to accommodate wheelchairs and walkers, and to be comfortable for people and dogs to walk on.
- Provide adequate sight lines (at least 150 lineal feet ahead) so bicyclists and pedestrians can see each other in advance.
- Where sight lines are not possible, such as at an undercrossing or a curve around a steep hill, a "blind driveway" mirror may help.
- Avoid sharp corners and steep gradients. The Caltrans Highway Design Manual has maximum slopes and minimum radii for Class I multi-use trails (see **Chapter 7, Trail Typologies and Design**). Often it isn't feasible to maintain these radii in a constrained setting, but using the maximum practical radius will help reduce conflict.
- Smooth transition on and off the street and sidewalk system to the trail, and between different trail configurations (separated, shared use, etc.). **Chapter 8, Trail Improvement Recommendations** goes into detail about these connections and transitions
- Ensure access for maintenance vehicles, which could be a separate gate if the divided entry prevents vehicle access.

Trail mirror at path under the Golden Gate Bridge provides additional safety where adequate sight lines are not possible.

Recommendations: User Norms and Guidance

- Consider a posted speed limit (typically 15 mph), and norms and signage regarding use and speed of E-bikes (see **Appendix D, Policy Review and Recommendations**)
- Have signage that clarifies purpose of separate facilities, and encourages use of a portion of shared use trails — i.e. the shoulder for pedestrians
- Consider equity implications of these decisions (e.g. the likelihood of inequitable enforcement leading to disparities in trail access).
- Consider the needs of people with limited English proficiency (e.g. multilingual signs or universal design using symbols) and trail users with vision disabilities (guidance may be accomplished through physical design cues)
- Have an organized trail identification and wayfinding system (see **Chapter 9, Trailside Elements**)
- Have signage regarding trail courtesy and yielding (i.e. "wheels yield to heels" for trails with no horses)
- Have norms and signage regarding trail access, control of, and cleanup for dogs.
- Have a brochure, social media, and website information that clarifies rules and etiquette — ideally multi-lingual
- Promote education through an affiliated support group and the trail manager. Bringing users together early and often can mitigate many conflicts.
- Organize meetings and volunteer maintenance events that include different user groups and facilitate dialogue between them.
- Form and support a volunteer trail patrol and volunteer maintenance group (see **Appendix G, Operation and Maintenance Detail** for examples and more detail)

Recommendations: Deaf and Blind Community User Norms and Guidance

The California School for the Deaf and the California School for the Blind are located north of Central Park in Fremont. Both deaf and blind trail users benefit from wider trails or separation of bikes and pedestrians. Because hearing loss is an "invisible" disability, deaf trail users report being harassed by faster moving trail users for a perceived lack of response to their approach. Providing wider trails and/or separation of users can reduce these conflicts by giving adequate space for all users.

As a secondary measure, signs may be helpful to alert trail users to the presence of deaf and blind trail users. These signs would ask faster moving trail users to slow down and avoid passing close to other users.

Clarity of the trail system and guidance for safe use should also be provided to the deaf and blind trail users via both visual and audible notices, and both visual and audible crossing signals.

Multilingual trail guidelines (Toole Design)

Liability

Public entities and private landowners must know the legal responsibilities, laws, and strategies associated with developing and maintaining trails.

Liability Overview

One concern for potential trail operators, trail landowners, and nearby landowners is the whether they may be legally responsible (liable) for activities on or near the trail. The good news is that state and case law both clearly indicate that landowners and trail operators are generally protected from liability for trail use, with some specific exceptions, and that there are common-sense ways to reduce risks.

There are three types of individuals or organizations that are typically concerned about such liability: the entity that operates the trail; the entity that owns the trail property; and the adjacent landowners. These entities are typically concerned about three types of risks: injury to individuals, vandalism, and trespassing. Slightly different laws apply whether the entity is a private individual, public agency, or private business, but the resulting protection is generally the same.

In all cases, individuals or organizations that operate a trail, own trail property, or own property adjacent to a trail should seek legal advice specific to their situation.

California State Law

Liability for injury or other harm on any portion of a trail will be regulated by several existing California laws. California laws, also called statutes, are organized into 29 codes which cover specific subject areas.

Recreational trail use is addressed in several sections of codes, including (but not limited to):

- California Government Code Sections 830.6, 831.2, 831.4, 831.7, 835, 846, 14662.5 and 51238.5
- California Civil Code Sections 813, 846, 846.1, 1006, 1007, 1008, and 1009
- California Public Resources Code Section 5075.4
- California Code of Civil Procedure Sections 128.7 and 1038

Broad legal protection for landowners with trails on or near their property is provided by state laws and statutes, including California Civil Code Section 846, known as the California Recreational Use Statute (RUS), and the California Recreational Trails Act (Public Resources Codes Article 6, Section 5070 – 5077.8). which requires the Director of California State Park to develop and maintain a "comprehensive plan for the development and operation of a statewide system of recreation trails." Section 5075.4 of the Recreational Trails Act states that "No adjoining property owner is liable for any actions of any type resulting from, or caused by, trail users trespassing on adjoining property, and no adjoining property owner is liable for any actions of any type started on, or taking place within, the boundaries of the trail arising out of the activities of other parties." California's RUS and the Recreational Trails Act potentially offset some or all of a private landowner's increased liability associated with a trail.

Duty of Care

Duty of Care is a term used to describe how responsible one entity may be for injuries caused to another entity or individual. For trail purposes, this term refers to how much liability (responsibility) the trail operator or landowner has for injuries that occur on or near the trail. A higher duty of care indicates more potential responsibility for any injuries.

In most states a landowner or trail operator has varying levels of responsibility depending on how the injured party accessed the trail (as a trespasser, licensee, invitee, etc.). However, in California, the law has typically been interpreted that the duty of care is the same regardless of how the injured person accessed the property. Rather, the trail operator or landowner has generally not been found liable except when they willfully or maliciously failed to guard against a dangerous condition;, the injured person paid to use the trail;, or there was a specific invitation for use. These exceptions are covered in detail in California Civic Code Section 846, also known as the Recreational Use Statute (RUS), and in California Government Code Section 835, which pertains to agency awareness of a hazardous condition and failure to act to protect against it..

Indemnification

Indemnification is a term for a guarantee against potential liability or loss experienced by another individual or entity. In trail development, indemnification refers to the situation in which one entity (typically a government agency or non-profit) assumes the responsibility for injury or harm that occurs on a trail managed and/or owned by another individual or entity. In California a state agency or county non-profit organization may agree to take responsibility for injuries or loss occurring on trails on or near private property, therefore encouraging and supporting public trail development while reducing potential liability for private landowners.

Risk Reduction Strategies

There are some simple, common-sense strategies that can reduce risks to trail operators and landowners. These include proper trail planning, design, operation, and maintenance. Successful risk reduction also requires public awareness, through published rules, guidelines, and signage.

Trail Planning and Design

Following standard trail best practices when planning and designing the trail will go a long way in reducing the potential for injury to trail users. General design guidelines are developed by national organizations, such as the American Association of State Highway and Transportation Officials (AASHTO) and the National Association of City Transportation Officials (NACTO). State guidelines and standards are issued by Caltrans, including the California version of the Manual on Uniform Traffic Control Devices (CAMUTCD). Local agencies, such as cities and counties, typically adopt the Caltrans guidelines and standards as is, or with slight modifications. These guidelines and standards pertain to paved, transportation-oriented trails. Recreational trails, especially unpaved trails, have fewer clear standards, but the U.S. Forest Service publishes planning and design standards and details for them, as does California State Parks, and many regional park and open space agencies.

Privacy, safety, security and liability issues are often affected by the setting of the trail. Given the sensitivity of these issues, alternative alignments that buffer the trail from private land uses should be developed when feasible.

Operation and Maintenance

Possible operation and maintenance strategies to improve public safety and mitigate liability include implementation of a safety program, implementation of an emergency response protocol, implementation of a management system data base, implementation of a trail user education program, conducting routine trail inspections, posting and enforcing safe trail behavior, and trail maintenance and vegetation management.

Provision of adequate operation, maintenance, and emergency response is essential to minimize trail user safety issues. The trail will require maintenance to address deterioration due to weather or general use. Patrol and maintenance will be required to prevent and address potential problems such as damage to signs, litter, and graffiti; travel at unsafe speeds; mismanaged pets; or unauthorized motor vehicles on the trail. Operations and maintenance activities will require staff, equipment, and the associated funding. Each trail segment or project should have a specific operations and maintenance plan that identifies tasks, responsible parties, sources of funding and support.

Entities responsible for trail construction should fund or endow operations and maintenance activities in conjunction with implementation of any specific trail plan.

Developing and following a written maintenance plan is another important strategy for reducing potential risks. The plan should include details for how trail inspection, record keeping, inventory of potential hazards, and emergency response procedures. The trail operator would be responsible for developing and implementing the plan, but the property owner (if different than the trail operator) should review the plan and confirm that the plan is in place and being followed.

Public Information

Clear and consistent published rules, guidelines, and signage is a third important strategy for reducing potential risks. Using a combination of words and graphics to convey only the most important information is key — signage fatigue, visual clutter, and language barriers can reduce the impact and effectiveness of the signs. Key information includes permitted and prohibited uses; trail use behavior guidelines; potential hazards; permanent and temporary closures; and emergency contact

information. Signs should be posted at the trail entry and at the location of the hazard (along with physical barriers), where appropriate.

Insurance and Waivers

Insurance and waiver forms are also typical components of risk reduction strategies, although they do not reduce the future risk of injuries, only the risk of financial losses due to injuries.