FLORIDA

SAFE ROUTES TO SCHOOL

# Traffic Safety Education Guide

## Supplemental Guide for Teaching Pedestrian and Bicycle Safety to Individuals with Disabilities

## Grades K-8

The Supplemental Guide for Teaching Pedestrian and Bicycle Safety to Individuals with Disabilities was designed to be used in conjunction with the Florida Safe Routes to School Traffic Safety Education Guide. Florida Safe Routes to School (SRTS) is funded by the Florida Department of Transportation.

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# Supplemental Guide for Teaching Pedestrian and Bicycle Safety to Individuals with Disabilities

Thank you for choosing to make your community a healthier and safer place! The adapted **Florida Safe Routes to School Traffic Safety Education Guide** was developed to help educators teach pedestrian and bicycle safety to individuals with disabilities. This guide is a resource that educators can use when implementing pedestrian and bicycle safety education, and can be tailored based on the needs of individuals, and the time, equipment, and facilities available.

A growing health risk for children is physical inactivity which can lead to diabetes, obesity, heart disease, and other preventable diseases. Teaching children to be physically active through safe walking and bicycling can promote the skills necessary to live a more active and healthier life. Although walking and bicycling are viable forms of physical activity and transportation, they may pose added risks to students who have not been educated in safe traffic practices. Pedestrians and bicyclists need proper training in safe behaviors, use of equipment, and rules of the road. An effective program teaches children safe walking and bicycling habits that will reduce their injury risk by equipping them with skills they will use throughout their lives. Crashes and subsequent injuries commonly involve being distracted, darting into a roadway, failing to stop or yield at intersections, riding against traffic, or riding into the street or diagonally across it without first yielding and scanning for traffic. Such skills are best learned through repetitive skill practice in a pedestrian and bicycle safety program. A school-based traffic safety program provides the opportunity for all students to acquire lifesaving skills they may not get elsewhere.

Florida Safe Routes to School welcomes you to use this guide for developing and implementing a traffic safety education program that is effective, fun, and appropriate for your goals. When the guide is used in conjunction with the Florida Safe Routes to School Traffic Education Guide you will be better prepared to teach the lessons while making any necessary modifications or adaptations to best meet the needs of your students. To make educational programs more effective, there are a number important factors to consider. When learning pedestrian and bicycle safety skills, multiple developmental areas play a role in a child's ability to learn

the necessary safety skills. These include physical, motor skill, brain, perceptual, and cognitive development. It is important for educators to know how these developmental areas impact a child's ability to learn. The most important thing to keep in mind when preparing to teach pedestrian and bicycle safety is your students' abilities and strengths.

The Florida Safe Routes to School Traffic Education Guide is separated by grades, with pedestrian safety lessons for grades K-8 and bicycle safety lessons for grades 3-8. Each lesson addresses a main topic and is similar in structure.

**For example, most lessons provide:**

- Background Information
- Prerequisites
- Vocabulary
- Objectives
- Videos with Guided Discussion
- Get Moving Activities (gets students physically active while teaching fundamental skills)
- Activities for practical application of skills

Most lessons are designed to be taught during one class period, but instructors may extend or condense lessons based on time, equipment, or facilities available. For example, while most lessons have accompanying videos, teachers may not have access to a computer, or it may not be convenient to move children from a classroom setting to an outdoor setting in one class period. While videos are not mandatory, teachers could choose to implement the videos and Get Moving Activities one period, then teach the practical activities another period.

# What are the benefits to children and the community?

While a traffic safety education program requires commitment in curriculum time, equipment and training, children and the community benefit greatly. The community has much to gain from the adoption of traffic safety programs which encourage walking and bicycling as healthy activities. In addition to children learning how to be safer pedestrians and bicyclists, one goal is that children who learn traffic awareness and safety skills at an early age are more likely to apply these skills and concepts to their motorist behaviors in later years. They should also be more likely to understand the benefits of safe walking and bicycling for themselves and their community. Competent pedestrians and bicyclists can contribute to reductions in pollution, traffic congestion, and energy consumption by being less reliant on motor vehicles for short or local trips.

Benefits of a traffic safety education program include, but are not limited to:

**Children**

- Progressive acquisition of lifetime and lifesaving skills for walking and bicycling
- Development of sound decision-making skills
- Well-developed sense of balance, eye-hand/foot coordination, and other motor skills
- Increased awareness of neighborhood and surroundings
- Increased awareness of conservation issues and earth-friendly habits
- Independent mobility
- Physical activity and improved health
- Lifetime recreation and transportation

**The Community**

- Increased number of well-informed pedestrians, bicyclists, and, ultimately, drivers
- An adult population more likely to use pedestrian/bicycle transportation, thereby reducing automobile use, pollution, traffic congestion, and energy consumption
- Lifetime recreation and transportation

# What Should a Safe Routes to School Education Program Include?

## The Five E's — Engineering, Enforcement, Education, Encouragement and Evaluation

These Five E's combine to present a quality, comprehensive traffic safety program. An ideal education program teaches children how to be predictable and competent in traffic through sequential learning experiences in pedestrian and bicycle safety. Instruction should focus on traffic skills where lessons provide instruction in safe street crossing, skillful handling of bicycles in traffic, proper use of bicycling equipment (i.e., helmets), laws/rules of the road, and planning of safe routes.

**A Traffic Safety Education Program should also include:**

- Traffic safety materials for classroom and practical skill instruction
- Family traffic safety nights sponsored by PTA/PTOs
- School site designs that facilitate safe walking and bicycling provided by traffic engineers and school administrators
- Secure bicycle parking areas
- Effective law enforcement programs on school property and in surrounding neighborhoods
- Safety campaigns and other community supported events and media promotions
- Encouragement programs for school and community wellness, including participation in International "Walk to School Day" or "Bike to School Day" Events
- Evaluation of program effectiveness

# What are Some Program Choices?

Many schools give some attention to pedestrian and bicycle safety. Programs, however, range in commitment from a two/three-week program in physical education classes to a one-time assembly or showing of a video about traffic safety. In many public schools throughout Florida, Montana, Colorado, Hawaii and North Carolina, a full, two-week program with 8-10 hours of instruction and on-foot/on-bike training has been found to be effective, because actual on-foot/on-bike practice supports skill development. In schools where a full program is not possible, plans can be adapted to accommodate particular school district needs and constraints.

*"In the past, people thought that handing out some pamphlets and giving a pep talk were effective ways to teach bike safety. No one would think of teaching baseball, football, square dancing, and car driving or hunter safety by handing out brochures and talking to an auditorium full of kids. These days, we see it's important to get the kids on their bikes and teach them real world skills."*
— John Williams & Dan Burden

**Alternatives may include:**

- Extended day or after-school programs (at school site taught by certified teachers and/or resource officers).
- Cooperative programs with local recreation departments, youth organizations, YMCAs, Boys and Girls Clubs, etc. for after-school and/or summer programs.

Alternate models should only be temporary, as transitions into, or to complement implementation of, full traffic safety education programs in schools. Alternate models should not replace in-school programs, since they will not reach all children. These approaches, however, can supplement the skills taught in school, raise community awareness, and motivate actions necessary for developing or maintaining comprehensive and effective programs at schools. While a one-day pedestrian/bicycle rodeo can be effective as a community awareness event, it is typically not sufficient to cover the pedestrian and bicycle safety education needs of children. It is typically most effective as a culminating event at the conclusion of a traffic safety education unit.

# How Can A Traffic Safety Education Program Be Implemented In My School?

The program requires: instructor training, equipment & facilities, curriculum materials, and time to teach the curriculum.

Schools need to identify constraints to program implementation and resolve issues related to scheduling and equipment. Teachers may need support and assistance from school administrators and others to arrange schedules to reach students with the program. Principals, PTAs, and school advisory committees can also play a key role.

## Instructors

To be most effective, teachers need preparation for teaching pedestrian and bicycling safety skills. Ideally, this preparation includes a one-day (8-hour) in-service training. The Florida Safe Routes to School Program provides school districts, at no charge, with the necessary training and curriculum materials to effectively implement a pedestrian and bicycle safety education program. Teacher-training workshops train teachers, school resource officers, and others how to use the curriculum and implement a pedestrian and bicycle safety education unit in their schools. Health and physical education teachers, classroom teachers and school resource officers typically make excellent traffic safety instructors. Often, these educators know the children personally and are aware of their individual capabilities.

## Facilities and Equipment

Pedestrian safety skills can be taught in a variety of settings such as a classroom, gymnasium, grassy field, or paved area (e.g., basketball court, covered pavilion, secured asphalt area). On-bike practice requires a large (50' x 100' or larger) asphalt or grassy area, covered if possible, along with a secure space to store bicycles and equipment for the time that the bicycles are at the school (assuming a set of equipment travels from school to school). Some schools store and transport equipment in enclosed trailers, surplus delivery trucks, or retired school buses with

the seats removed. All windows and doors should be secured to prevent theft.

It is ideal, but not necessary, to have a bicycle provided for each child in a class. However, when station-rotation training is utilized, there can be 2-3 bicycles for each line/station so a minimum of 6-10 bikes total could still provide basic skills training for an entire class. Another option is to ask the children to bring their own bicycles to use during the class. While this may provide more bicycles to be used during class, it is essential to inspect all bicycles before they are used. Helmets are mandatory for each child, and it is helpful to send a note home or ask children to bring their own helmets if possible. This allows you to inspect their helmets and identify any fit issues or whether a new helmet is needed. Other program equipment may include ropes, cones, chalk/chalk spray, halved tennis balls, stop signs, mock vehicle signs, and polyspots. Each activity will provide suggestions for equipment and materials.

## Curriculum Materials

Some teachers assemble their own curriculum materials from websites, pamphlets, videos, fact sheets, and lessons available from numerous safety organizations and programs. In addition to other available resources, the Florida Safe Routes to School Program provides a comprehensive traffic safety education curriculum to participants that attend teacher-training workshops. The Florida Safe Routes to School Traffic Safety Education Guide includes pedestrian and school bus safety lessons for grades K-8, and bicycle safety lessons for grades 3-8.

## Regional Trainers

**Regional Safe Routes to School** programs have staff that can conduct teacher-training workshops in their areas. Trainers are certified as League Cycling Instructors by the League of American Bicyclists, and complete the training process through Florida Safe Routes to School. For information on a regional Safe Routes to School program or trainer near you, please contact:

Florida Safe Routes to School
SRTS@hhp.ufl.edu
(352) 294-1685

# What Student Activities Should Be Part of a Traffic Safety Education Program?

Student activities involve both indoor (classroom) lessons and outdoor lessons where practical pedestrian, school bus, and bicycle safety skills can be practiced.

**The lessons include skills such as:**

- Stopping at the Edge
- Stop and Search
- Visual Barriers
- How to enter and leave a school bus
- Importance of Helmets
- Seeing and Being Seen
- Rules of the Road
- Pre-ride bicycle check
- Avoiding hazards and defensive riding techniques, such as stopping, searching for traffic, scanning to the rear, signaling, turning and maneuvering through intersections.

Traffic safety skills must first be learned and practiced by children in a controlled setting before they venture out into traffic. Mastering these will help children be safer and more predictable pedestrians, bicyclists and future motorists.

# Traffic Safety Education

Teaching children to be safer pedestrians and bicyclists is the main goal of **Safe Routes to School (SRTS)** education programs. Another valuable goal is teaching children about the benefits of walking and bicycling, such as the positive impact these activities have on personal health and the environment. Knowing these benefits can help children understand the importance of these activities and inspire lifelong participation.

### School-based Education

- While, ideally, children receive most of their instruction from parents, this does not always happen. School-based education assures that all children get the chance to learn and/or practice the same potentially lifesaving skills.
- All children can benefit from learning pedestrian and bicycle safety behaviors regardless of whether they will walk and/or bicycle to school, as these skills will serve them throughout life.
- The reality in some communities is that young children, who would ideally be supervised by adults, are walking to school alone. This makes providing safety education and other strategies even more important.

### Classroom or Physical Education Lessons

In a classroom or physical education class, education can be provided in the following ways:

- Stand-alone lessons,
- Comprehensive curriculum delivered as a pedestrian and/or bicycle safety, unit, or
- Lessons integrated into subjects such as language arts and math.
- Ideally, children will receive a comprehensive bicycle and pedestrian safety education program which includes skills practice on-bike and as pedestrians.

### Parent Involvement

Parents can also be an important part of children's traffic safety education because:

- They can serve as role models for safe walking and bicycling behavior.
- They can observe their child's behavior and provide guidance in real-life situations.

Information about what's being taught in school can be sent home and parents can be asked to reinforce these skills with their children. Encouraging parents to walk or bicycle with their child provides time for them to assess the child's skills, such as whether the child pays attention to traffic, chooses appropriate routes to walk/bike, and has the ability to gauge gaps in traffic that allow for safe street crossing. Parents can also play a role in schools by volunteering to help with classroom and skills practice.

## Why is this curriculum important, especially for individuals with disabilities?

More children today are considered overweight or obese, and children with disabilities are at a greater risk due to not achieving the recommended amount of daily physical activity. While there may be a number of factors that contribute to this, one may be the lack of opportunities to receive education or instruction that is designed to promote their abilities through adaptations or modifications. In 2013, the estimated number of children ages 3-21 who received special education services in the United States was 6.4 million[1].

When it comes to teaching individuals with disabilities (physical or cognitive), the patterns of teaching may be very similar to those you would use when teaching individuals without disabilities. However, a main difference is individuals with disabilities may require additional time or teaching strategies that are more specialized.

In addition to improved muscular strength, cardiovascular fitness, societal participation, etc. by teaching individuals with disabilities how to walk and ride a bicycle safely, educators are able to help foster more independence.

1 http://nces.ed.gov/programs/coe/indicator_cgg.asp

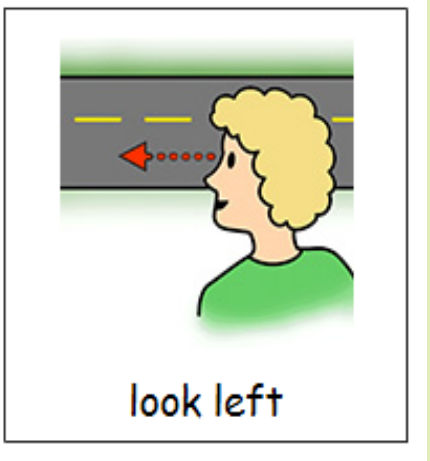
# Modifications/Adaptations

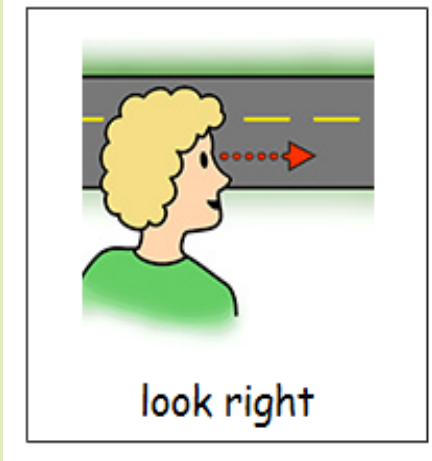
While this guide provides suggestions, educators know their students the best and what techniques may be most effective. What may work for one individual may not work for another. The suggestions for adaptations and modifications may need further tailoring to meet the needs of each individual. There is no "one size fits all" method that works for adapting or modifying the curriculum to meet all the needs of individuals with disabilities. Instead, it is important for educators to assess the specific needs of that individual. By doing so with each individual, you will be able to see which adaptations or modifications are necessary. Some adaptations or modifications can be as simple as adjusting the delivery of the lessons and/or locations.

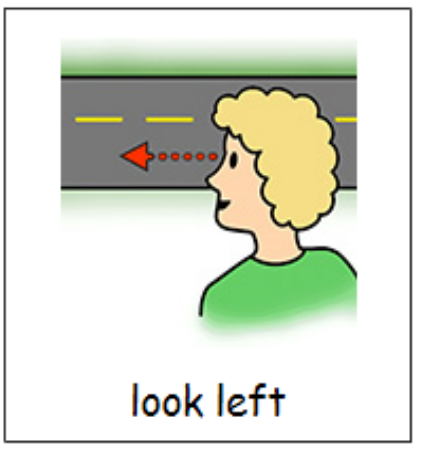
These suggestions were developed to help serve as a guide for teaching pedestrian and bicycle safety to individuals with disabilities.

Individuals with disabilities may not respond to natural cues that prompt them to perform a specific task, so they may rely on more external cues. For such individuals, teachers can, for example, provide the individual with an activity schedule. An activity schedule is a visual schedule that consists of pictures and/or words that show an individual the order of steps needed to complete an activity.

Pictures for an activity schedule may look like:



# Preparing to Teach the Lessons

Teachers work with their students regularly and know their abilities and potential disabilities, but community educators may be interacting with individuals for the first time. Therefore, community educators may not know an individual's abilities or potential disabilities. This guide should help adapted educators, community educators, and also general educators become more confident in teaching pedestrian and bicycle safety to individuals with disabilities.

Although individuals with disabilities may have some physical or mental challenges, it is important to consider the individual's strengths and incorporate them into the lessons to best meet their needs. When preparing to teach a lesson, what are your students' specific learning styles and abilities?

**Some questions you may want to ask:**

Does the individual have an Individualized Education Program (IEP)? If so, refer to the IEP to see if there are any suggestions or further insight into the individual's needs. It is important to correlate any adaptions with the individual's IEP. Adaptations should align with the individual's needs outlined in the IEP.

How is the individual's communication? Is the individual verbal or non-verbal?

What is the individual's cognitive level?

Can the individual actively participate in the lesson without any adaptations or modifications? Will the same outcome be achieved as those individuals without disabilities?

Does the individual need any special accommodations?

Should you consult therapists that the individual may have (Occupational Therapist, Physical Therapist, etc.)?

Would changing the instructional arrangement help increase the individual's participation?

Would the individual benefit from adjusting the formatting of the lessons? Should there be changes in the delivery of the lesson to best meet the needs of the individual?

What type of equipment is needed? Does this individual need special equipment or modified (existing) equipment?

Will the individual need personal assistance during the lessons?
Would the individual benefit from a different activity?

Consult the school district's Orientation and Mobility (O&M) specialist and the Teacher for Students with Visual Impairments (TVI).

# Teaching Strategies

Use short, precise, clear prompts when delivering instructions. Incorporate frequent feedback (praise the effort and not necessarily the outcome).

Repeat directions and provide visuals if needed.

Use close proximity to address safety concerns. Include personal interests such as animated characters from TV or movies.

Establish boundaries, goals, and expectations for the students. Modify rules, instruction or delivery of information to best meet the needs of the individual learner.

Teach decision-making in case of unexpected situations.

Direct or small group instruction - 1:1, 2:1 or 3:1 ratio is preferred.

Demonstrate and practice ALL skills.

Provide tactile modeling and physical guidance of the skill sets.

Use specific, positive reinforcement.

Always allow for choice when appropriate.

Use peers or buddies.

Provide visual cues.

Watch your speed of delivery, as everyone learns/ comprehends at different rates.

Use task analysis or sequencing where needed.

Use a storyboard to create a visual schedule of the events forthcoming.

Provide individuals with social stories regarding bicycle or pedestrian safety.

Provide enlarged maps or tactile maps for individuals who have low vision or are blind.

# Adaptations for Individuals with Disabilities

Each disability presents unique learning challenges, so whomever is teaching the individual/s, should already have a relationship before with them before implementing the bicycle element.

Provide a checklist and/or matching diagram so individuals have a visual of the safety equipment and bicycle parts.

Some individuals may have a tendency to pedal backwards, instead of forwards, to propel the bike. It may be helpful to first use stationary foot cycles or stationary bikes.

Once individuals master stationary and continuous pedaling on a stationary bike, it might be helpful for them to work on their balancing before getting on a bike. (See: https://www.striderbikes.com/). Ultimately, it is the teacher's decision of when to advance their individuals to the next level.

Use cones to establish boundaries in secure parking lot or other designated riding area.

Use non-motorized scooters as an alternative to bikes when building an understanding of traffic flow patterns.

Tricycles work well when teaching individuals with disabilities. There are many different tricycles, both for children and adults.

Always review hand signals and traffic signs prior to riding.

Safety – individuals must always wear a helmet that is properly fitted!

For individuals that cannot ride by themselves due to inability to control the bike, use a tandem bike with a peer or an adult to steer/pedal. You may also use a bicycle that has a push bar.

Safety is a priority, when possible, have someone who can immediately assist (peer, parent, adult, etc.) to help decrease risks.

Blind and Legally Blind individuals can ride a tandem bicycle with a peer partner. The peer partner can provide verbal descriptions on movement, terrain, noise, landmarks, etc. Teach the students how to pedal and stop the tandem bicycle, put on and remove safety gear, and use hand signals through physical guidance and tactile modeling.

Low vision individuals may have issues with balance, sun glare (use hats or visors that can be worn with a properly fit helmet and sunglasses), shading from clouds or buildings, and color contrast. Have the school district's Orientation and Mobility Specialist determine if the student can safely ride a bike independently. Other options would be to have the student ride a tandem bicycle with a peer partner, a tricycle, or a recumbent bicycle (add a colorful flag, use front and rear lights to signal to drivers and motorists). Until the individual becomes proficient in bicycling and using hand signals, have a parent or peer partner accompany the individual.

Deaf or hard of hearing individuals may need to have an interpreter present during instruction and directions. They may have difficulty with balance as a result of inner ear problems. Make sure to go over major routes, intersections, street lights, road signs, and terrain changes. Teach the student to scan throughout the route and use appropriate hand signals. Until the student has become proficient in bicycling and using hand signals, have a parent or peer partner accompany the individual.

For the bicycle safety lessons, you may want to focus on more basic skills such as a balance and bicycle handling/control rather than more complex skills.

# Try this!

## Suggestion for progression of teaching bicycle skills:

1. Assess the core strength and ability of the individual's balance in basic locomotor skills. For individuals who have difficulty with balance, you can use a tricycle. At this point, determine if the child needs support laterally, anteriorly and posteriorly.

2. Establish core strength and balance on a balance bike, strider, or simply remove the pedals and secure the cranks of a standard bicycle. You could also take a standard bicycle remove the pedals, gears and chain and have a dedicated balance bicycle. The seat height for balance bikes should be low enough so that when in the sitting position, their feet are flat on the ground to easily catch themselves.

3. While working with balance bicycles, integrate pedaling with the use of a tricycle and focus on contact with pedals. You could also use a stationary bicycle, bicycle trainer, or pedal exerciser to teach the concept of pedaling.

4. Encourage the child to focus on the contact with pedals. Depending on the needs of the child, you may need to use foot cups or toe clips.

5. As they improve with foot and pedal contact start introducing the concept of scanning.

6. When foot-to-pedal contact with no supporting straps is strong - introduce more balance bike time.

# Helmet Fitting

Below are some suggestions that can be used when fitting helmets for individuals with sensory issues.

- Prior to engaging in actual bike riding, try some "helmet time" at home or school. Have an adult and the child wear a bike helmet for just a few minutes while doing an activity such as watching a music video or singing a song. Start with a few minutes then work up to 15 or 20 minutes. The more the individual wears the helmet, the easier the activity becomes.

- If an individual has severe sensory issues, start with touching the helmet, carrying the helmet, placing the helmet on an adult's head (without connecting the strap) to the count of 3, then on the individual's head for a count of 3. Use short instructions such as "Helmet on. 1-2-3. Helmet off." Begin with very small steps, praise and congratulate with every accomplishment. Take turns increasing the count each time. Once you reach a few minutes where the individual has the helmet on their head, the next step is to connect the strap. Show the child how to close and open the buckle of the strap. BE SURE to adjust the helmet prior to this exercise so that you can fit two fingers between the strap and the individual's neck so as not to pinch. Pinching this area hurts and may result in a major setback.

Helmet fitting is very important and no one wants to wear a helmet that is too small or too large.

## Check these out!

**"Selecting a Suitable Bicycle" by I Can Bike**
https://youtu.be/y0o2vNLCw2Y

**"Selecting the Best Helmet for Your Rider" by I Can Bike**
https://youtu.be/cw_GOUBOR0I

# Resources for Adapted Curriculum

## Products/Equipment

### Adapted Bikes

- Freedom Concepts http://www.freedomconcepts.com/
- Rifton http://www.rifton.com/
- Buddy Bike http://buddybike.com/SpecialNeeds.html
- Ambucs http://www.ambucs.org/
- Triaid http://www.triaid.com/
- Flaghouse http://www.flaghouse.com/
- Mobo Cruisers http://www.mobocruiser.com/
- The Duet http://www.frankmobility.com/duetfeat.php
- Strider Bikes http://www.striderbikes.com/
- Strae Sport http://straesport.com/
- Bike giveaway https://www.friendshipcircle.org/bikes/

## Information for Parents/Caregivers

**Bicycle Safety Activity Kit:**
http://www.nhtsa.gov/people/injury/pedbimot/bike/BSKitBoth/3152BSKit/index.htm

**Pennsylvania's Pedestrian Safety Video Series:**
http://www.safeschools.info/emergency-management/emergency-management/336-pedestrian-safety-videos

# Resources for Adapted Curriculum cont.

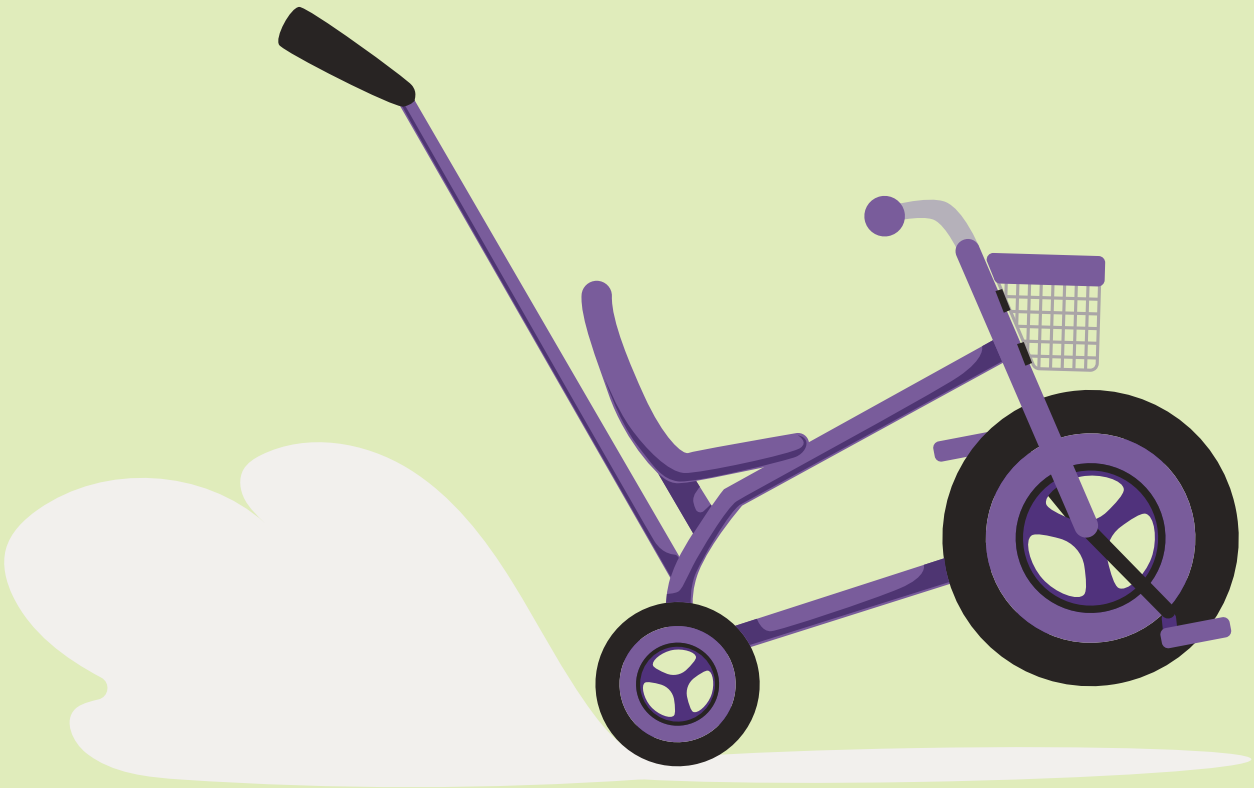
## Information for Parents/Caregivers cont.

**Bikeology Curriculum & Parent Guide:**
https://www.shapeamerica.org/publications/resources/teachingtools/qualitype/bicycle_curriculum.aspx

**I can Shine:**
http://icanshine.org/

**Story Board creator:**
http://www.storyboardthat.com/

**Activity Schedule:**
http://do2learn.com/picturecards/printcards/safety_streetsafety.htm



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