

Broadening Outreach Efforts of Safe Routes to School to Children with Disabilities

Assessing Opportunities in New Jersey



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Prepared for:
State of New Jersey Department of Transportation
Federal Highway Administration

Date:
December 2012

RUTGERS

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U.S. Department of Transportation
Federal Highway Administration

ACKNOWLEDGMENTS

The researchers would like to thank the individuals and organizations interviewed for this study. The thoughtful and insightful information each individual generously conveyed greatly contributed to this report and will help to guide and improve New Jersey's Safe Routes to School program.

All of the photographs included in this report are contributions from Lose the Training Wheels, a national, not-for-profit organization. We would like to acknowledge and thank them for their use of the photos.

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I. EXECUTIVE SUMMARY

Background:

Safe Routes to School (SRTS) programs promote and encourage children to walk and bike to school. Encouraging all children, including those with disabilities, to be physically active and participate in these programs is a vital component of the New Jersey SRTS effort and a specified goal in the federal legislation that created SRTS.

Children today are less physically active than previous generations, and childhood obesity has risen to the highest levels ever recorded within the past several years.¹ Children with disabilities are at an even greater risk for obesity than their peers without disabilities since the former's symptoms may impact their ability to participate in physical endeavors and because opportunities for such activity are not typically provided or offered as often as they are for children without disabilities². Inclusion in SRTS events and activities not only enables children with disabilities to obtain important health benefits through increased physical activity, but also they can gain independence by learning important life skills about safe walking and bicycling and build relationships with peers.

SRTS programs promote and encourage physical activity through walking and bicycling events and teach safe pedestrian and bicycle skills that can be used throughout one's lifetime. However, very few comprehensive resources exist that provide useful ideas and strategies for local programs to involve children with disabilities in SRTS. This research study was conducted to collect information on methods and strategies that will allow the New Jersey SRTS program to become a leader and national model for inclusiveness of students with disabilities in statewide SRTS programs.

Contained in this report are: an overview of disability categories and associated challenges that could impact involvement in SRTS, the importance of inclusion of children with disabilities in physical activities and SRTS, a synopsis of how children with

disabilities are included in SRTS programs nationwide, and suggestions and strategies on how to broaden awareness and increase inclusion of children with disabilities in SRTS programs throughout New Jersey.

Methods:

The research team undertook a literature review and a series of interviews with key stakeholder organizations in the disability community. The interviews were conducted to: gain a better understanding of how New Jersey SRTS programs can take steps to increase inclusion of students with disabilities; learn more about the active travel needs and issues often uniquely associated with certain disability types; and develop a core network of stakeholders in the disability community who can serve as resources as New Jersey SRTS seeks to broaden inclusion of students with disabilities in SRTS programs throughout the state. A concerted effort was made to identify and interview organizations representing the following four main disability categories discussed in this report:

- (1) Physical
- (2) Sensory
- (3) Cognitive/Developmental
- (4) Mental/Emotional/Behavioral

Findings:

The research team conducted a series of interviews via telephone with 15 individuals representing 13 organizations throughout New Jersey including:

The Arc of New Jersey, Autism New Jersey, Concordia Learning Center, Feeley Consulting, For This One, Horizon Lower School, The National Center on Physical Activity and Disability, The New Jersey Council on Developmental Disabilities, New Jersey School for the Deaf, PerformCare, Safe Routes Michigan, Statewide Parent Advocacy Network, and the WalkSafe® Program at the University of Miami’s Miller School of Medicine. All but one of the organizations interviewed had a basic awareness of SRTS and more than half of the interviewees had either personal familiarity with SRTS and/or knowledge of SRTS goals and activities. All interviewees agreed that the benefits of inclusion in SRTS for children with

disabilities are both physical and social/emotional and that learning safe pedestrian and bicycling behaviors is an important life skill.

Strategies and suggestions for successful inclusion of children with disabilities in SRTS gathered from the interviews included the following:

- Generate increased awareness for SRTS and building relationships with key stakeholders who can impact program success such as parents, PTA/PTOs, parent advocacy groups, and school administration and personnel representing interests of students with disabilities;
- Include SRTS activities in a student's Individual Education Program (IEP);
- Ensure that proper supervision and support is present when implementing SRTS activities;
- Make appropriate adaptations and modifications to activities so that all children, particularly those with disabilities, can fully participate; and
- Evaluate the results of SRTS inclusive efforts to ensure goals are met and identified problems/issues are understood and addressed.

Conclusion:

Information gathered from the interviews and the literature review provided valuable information to advance the New Jersey SRTS goal of including more children with disabilities in SRTS activities throughout the state. Interviewees were consistent in their discussion of components that would contribute to the successful participation of children with disabilities in SRTS programs, such as informing and involving parents and educators in the process, devoting considerable attention and effort to adequately planning for SRTS events by ensuring the proper level and type of supervision, making modifications where needed, and evaluating activities to help determine the elements needed to promote and sustain the success of inclusive SRTS efforts.

The following recommendations are suggested to assist in the goal of increasing participation of students with disabilities in SRTS in New Jersey:

- Develop a statewide NJ SRTS advisory group on disability made up of professionals who can provide guidance and support on an as-needed basis;
- Educate/train SRTS Regional Coordinators about the benefits of including students with disabilities in SRTS programs along with facilitating brainstorming sessions to suggest strategies on how to include more children with disabilities in SRTS throughout New Jersey.

To further succeed in increasing public awareness and understanding of SRTS and to broaden outreach to include students with disabilities in SRTS programs, the following are ideas for further consideration:

- Outreach to the Statewide Parent Advocacy Network (SPAN) and present SRTS at one of their parent workshops.
- Outreach to the Special Education Parent Advisory Committees (SEPAC) and parent organizations to build relationships and educate them about the benefits of SRTS programs and events
- Contact the Arc of New Jersey to disseminate information about SRTS to their network of members.
- Explore options for collaborating with WalkSafe® Miami to pilot their special needs curriculum in New Jersey for students in grades kindergarten through fifth grade to teach the important life skills of pedestrian safety.

These recommendations pursued with leadership from NJ SRTS and support from the Regional SRTS Coordinators can greatly advance the efforts to include more children with disabilities in physical activity and in SRTS programs statewide.

II. BACKGROUND

Introduction

SRTS is a federal, state and local effort to enable and encourage all children, including those with disabilities, to walk and bicycle to and from school. The goals of the SRTS Program are to encourage more students to walk and bike to school where it is safe and to improve the areas where it is not safe. SRTS programs bring a wide range of benefits to students and the community, such as:

- increases the health and mobility of school-age children;
- reduces congestion, air pollution and traffic conflicts around schools;
- establishes healthy lifetime habits for students;
- strengthens children's independence;
- helps students arrive at school ready to learn; and
- teaches safe pedestrian, bicyclist and driver skills.

The number of students walking and bicycling to school in New Jersey and across the country has declined dramatically over the past several decades. Children are less physically active than previous generations, and childhood obesity has escalated to a nationwide epidemic. In New Jersey, 30% of all children, including 20% of pre-school children, are obese.³ Many children with disabilities are at an even higher risk of obesity for a few reasons, including the reality that their symptoms, such as seizures and low muscle tone and control, could greatly affect their ability to participate in the physical activities of walking and bicycling to school.⁴ Also, students with disabilities are often presented with limited opportunities for physical activity compared to their peers without disabilities.⁵ SRTS programs not only promote and encourage students to walk and bicycle to school, but they also teach safe pedestrian and bicycling skills that students can use throughout their life.

Encouraging children of all abilities to be physically active and participate in SRTS activities is a vital component and goal of

New Jersey's SRTS program, as well as a specified goal in the federal legislation that created Safe Routes to School⁶. The Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) became public law in August 2005, and it states under Section 1404 that "the purposes of the Safe Routes to School program shall be to enable and encourage children, including those with disabilities, to walk and bicycle to school."⁷ Although inclusiveness is an important goal for SRTS, few resources exist that provide ideas or materials to aid local programs seeking to involve children with a variety of disabilities in SRTS programs.

All children experience growing pains as they progress through their early educational and teenage years. Each child experiences growing pains physically, emotionally and socially. However growing pains can present even more difficult challenges for children already coping with physical, cognitive, mental and/or emotional disabilities. By including children with disabilities in SRTS programs and events, a variety of physical, emotional and social benefits can result for the child, their family, and the entire community. Furthermore, the additional opportunities for social interaction that SRTS offers can help foster friendships while allowing students without disabilities the chance to better understand their peers with disabilities.

Study Purpose and Objectives

Federal law has required since the early 1970s that children with disabilities receive a free, appropriate public education that emphasizes special education and related services designed to meet their unique needs and prepare them for further education, employment, and independent living. Children with disabilities have individual needs that must be addressed and to the extent possible, should be educated alongside their peers.⁸

Guidelines from the Department of Health and Human Services recommend that children participate in at least 60 minutes of moderate physical activity ideally five days a week, however many children with disabilities do not meet this recommendation.⁹ Participating in SRTS programs can help students with disabilities attain this important health goal as well

as provide an opportunity to socialize and interact with their peers.

The main purpose of this study was to identify methods and strategies to increase commitment and participation from children with disabilities in SRTS programs in New Jersey. The objectives of this report include:

1. Provide an overview of disability categories, associated challenges related to those disabilities and SRTS program modifications that could be made to increase involvement in SRTS by children with disabilities;
2. Summarize the importance of inclusion of children with disabilities in SRTS programs and physical activities;
3. Identify how children with disabilities are included in SRTS programs and activities nationwide; and
4. Develop suggestions and strategies on how to include and increase involvement of children with disabilities into SRTS programs.

III. LITERATURE REVIEW

A review of literature was conducted on disability categories, children with disabilities and participation in physical activities and their inclusion in SRTS programs nationwide.

Disability Categories and Associated Challenges

Over six million school-aged children in the United States (13.6%) receive special education services.¹⁰ Within New Jersey 72,269 children under 18 years old (3.5%) out of a total 2.1 million children have a disability.¹¹ These children receive services for a wide range of disabilities. For the purpose of this paper, the researchers have organized the range of disabilities into four main categories: (1) physical, (2) sensory, (3) cognitive/developmental and (4) mental/emotional and/or behavioral. Within each category, there are a number of disabilities; however, this report will not focus on information for every possible disability. Instead, a broad overview of key disability categories is reviewed. Each disability presents



unique challenges, even if considering two children who are diagnosed with the same disability. For example, one child with a traumatic brain injury may suffer from cognitive impairments such as loss of short term memory and a behavioral impairment like combative or disruptive behavior. Another child with traumatic brain injury could suffer from a behavioral impairment such as depression, while coping with a physical impairment such as fatigue or loss of balance.

SRTS programs are comprised of a variety of components and activities associated with encouraging walking and bicycling to school. Some programs or activities focus on engaging in physical activities, such as walking school buses, bicycle trains, park and walk activities, and routine on-campus walks. Other SRTS events for children, such as pedestrian safety assemblies, bicycle rodeos and workshops on obeying traffic rules, involve cognitive skills. There are also programs and activities which encourage participation among school administrators, teachers, staff, parents, and other community stakeholders, such as assisting the children with walking or biking to school safely. In all, there are a variety of SRTS activities and events, and most of the programs can be modified to include children with a diverse array of disabilities.

A. Physical Disabilities

Physical disabilities may extend beyond what is visible to the eye and may comprise impairments related to skeletal, muscular, ligature and joints. The most common physical disabilities include cerebral palsy, spina bifida, amputations and spinal cord injuries.

Cerebral Palsy:

Cerebral Palsy (CP) is the most common motor disorder in children. An estimated two out of every 1,000 newborn children in the US will develop cerebral palsy and approximately 40% of those born with cerebral palsy may have a severe case.¹² While CP is a blanket term commonly describing loss or impairment of motor function, CP is actually caused by brain damage. The brain damage is caused by either a brain injury or abnormal development of the brain that occurs while a child's brain is still developing — before, during, or immediately after birth. CP can

affect body movement, muscle control, muscle coordination, muscle tone, reflex, posture and balance, and it can also impact fine motor skills, gross motor skills and oral motor functioning. Physical impairment of the child will vary depending upon the severity of CP.¹³

Children with CP may face physical and emotional challenges on a daily basis. However, exercising is beneficial and essential for children with CP. Some exercises may be incorporated into a child's physical therapy sessions. There are also certain recreational exercises that children with CP may engage in with a doctor's consent. Exercising will keep a child with CP physically fit, as they may need exercise as much as, if not more than, children without CP. The cardiovascular system of a young person with CP will also reap benefits from any form of exercise and will further help raise the child's self-esteem. For children with CP, exercise can relieve stress and provide the opportunity to socialize through group activities. Furthermore, exercise may ease the anxiety that is often associated with CP and may help to improve coordination, flexibility and strength while reducing chronic illnesses.¹⁴

Children with CP would likely need assistance with participation in physical SRTS activities, and may require some educational activities to be adapted in order for them to participate. For example, when participating in a walking trip or walking school bus, extra time may need to be allotted and an adult should supervise and assist students with CP so that they may walk part, most or the entire journey with their peers. Knowing the limitations of a child with CP and planning for their participation are important steps to facilitate optimum inclusion in SRTS events.

Spina Bifida, Spinal Cord Injuries and Amputations:

Spina Bifida (SB), which occurs in seven out of every 10,000 live births in the United States, is a condition that is present at birth and results from an abnormality in the development of the neural tube, which forms the spinal cord.¹⁵ Depending on the type of abnormality, there is weakness in the areas that the damaged nerves control, such as sensory areas and muscles in the lower body. As with CP, health issues for children with SB

vary for each child. For example, children with SB higher on the spine (near the head) might have paralysis in the legs and use wheelchairs. Those with SB lower on the spine (near the hips) may have more control of their legs and use crutches, braces, or walkers, or they may be able to walk slowly and carefully without these devices.¹⁶ Also many children with SB have shunts which may interfere with daily physical exercise and activities.

Children with spinal cord injuries have limitations similar to those with SB. An individual who has sustained a spinal cord injury usually demonstrates some loss of motor function and/or sensation at and/or below the level of injury. The type and location of injury often dictates the severity. Partial damage to the spinal cord may result in an incomplete injury. A complete injury generally involves severe damage to the spinal cord whereby the child is restricted to a wheel chair.¹⁶

Challenges of children with amputations are also dependent on the type and severity of the amputation and whether it is congenital, surgical or accidental. If children with amputations have prostheses, they may be more mobile and able to participate in physical activities depending upon the extremity affected and/or lost.¹⁶

Exercise for children with physical disabilities is important for the following reasons and should be encouraged, as it:

- prevents deconditioning and promotes endurance
- helps prevent obesity
- may improve symptoms such as resisting infection, reducing stress, preventing diabetes and heart disease, and lowering blood pressure
- often provides opportunities to be outdoors, which can be invigorating both physically and mentally
- improves mood and increases self-esteem¹⁷

A well-rounded exercise program should include various components to promote fitness and help to maintain functional independence. As in any exercise program, consistency is

essential, and a three to four day per week commitment is necessary.¹⁷

Including children with physical disabilities such as CP, SB, spinal cord injuries and amputations into SRTS activities is possible, and depending on the severity of the disability and the obstacles each child faces, assistance to participate in SRTS activities may be necessary. By understanding the limitations that may exist for students with physical disabilities, SRTS activities can be adapted – for instance, utilizing walking buddies and/or arranging with the school bus driver to drop students at a pre-determined location so they can complete their journey to school by walking – in order to facilitate full participation with their peers. Assessing the walking route ahead of time to identify curb cuts, intersections with pedestrian signals and presence of crossing guards will enable safe walking. Consulting the child’s parents and physician is also important when planning a safe way to include them in SRTS.

B. Sensory Disabilities

Sensory disabilities include speech or language, visual, and/or hearing impairments. As of 2009, there were 1.43 million children with speech or language impairments, 78,000 children with hearing impairments, and 29,000 children with visual impairments in the US.¹⁹ Hearing loss may affect a child’s development of speech, language and social skills.

Children with sensory disabilities are able to physically participate in SRTS activities, but the program may have to be adapted to accommodate any specific impairment(s). For example, a child with a visual impairment can hold hands with a sighted guide or use a tether between the guide and the student in order to participate in a walking school bus event. Students with hearing or visual impairments must be presented with content visually and/or audibly to ensure access to SRTS educational programs. Social interaction and integration with peers is important for students with sensory disabilities, and SRTS activities and events can be easily accommodated for full participation.

C. Cognitive/Developmental Disabilities

Approximately two million children or 3.8% of the 53.9 million school-aged children in the United States have a cognitive disorder which accounts for about 76% of school-aged children with a disability.¹⁰ Children with cognitive or developmental impairment experience problems with thought processes, which can include loss of higher reasoning, forgetfulness, concentration difficulties, and other learning disabilities. Cognitive impairment may be present at birth or can occur at any point in a person's lifespan. Many children with cognitive or developmental disabilities are physically capable of participating in physical activities like SRTS, unless their disability affects them both physically and cognitively. More common cognitive or developmental disabilities include autism, Down syndrome, and traumatic brain injury.¹⁸

Autism:

Autism Spectrum Disorders (ASD) are a range of complex neurodevelopment disorders, characterized by restricted and repetitive patterns of behavior, social impairments and communication difficulties. Autistic disorder, sometimes called classical ASD, is the most severe form of ASD, while other conditions along the spectrum include a milder form known as Asperger syndrome. Although ASD varies significantly in character and severity, it occurs in all ethnic and socioeconomic groups and affects every age group and gender. Experts estimate that six children out of every 1,000 in the US have ASD, and males are four times more likely to have ASD than females. The National Center for Education Statistics estimated there were 336,000 children aged three to 21 years old with autism in 2009 in the US.¹⁹



As with most disabilities, each child's parents and physician will understand best how autism affects that child specifically. Children with autism often have difficulty perceiving other's thoughts, needs and feelings. Social communication, both verbal and non-verbal, is likely to be impaired in individuals with autism; therefore, group dynamics and cooperation may be demanding as social skills and cues are needed for appropriate interactions.²⁰ The challenges associated with autism can be sensory-related such as sensitivity to noise, behavioral or

repetitive patterns, difficulty with socializing, visual rather than auditory learners, and trouble expressing needs or themselves.²⁰

Adaptions may need to be made when including children with autism in physical or educational SRTS activities. An article by Appel et al. suggests strategies²¹ to handle certain characteristics of autism, such as resistance to change, difficulty expressing needs, showing little or no emotion and/or eye contact and over-sensitivities. Overall successful strategies for improving physical education and activity for children with autism include: developing a relationship with each student, using strategies that are effective in the classroom, providing a predictable schedule, providing choices and incorporating music and visual aids in the activity. Including a child with autism in a social activity, such as a walking school bus, may be challenging since autistic children typically socialize differently than their peers without autism. However, ensuring an adult, sibling, relative or friend accompanies the child during the walk and maintaining consistency with the route and walking group will enable that child to successfully participate in a walking school bus.

Down Syndrome:

Down syndrome is a genetic condition that causes delays in physical and intellectual development and occurs in one of every 691 live births in the United States. Individuals with Down syndrome have 47 chromosomes instead of the usual 46. Down syndrome is not related to race, nationality, religion or socioeconomic status and occurs in both genders.²² This form of developmental disorder may impose some physical challenges such as low muscle tone, mild to moderate obesity, underdeveloped respiratory and cardiovascular system, short stature and poor balance.²³ However, an individual with Down syndrome can participate in almost every form of physical activity and benefit from the social aspects of the activity as well.²³ Children with Down syndrome can participate in both physical and educational SRTS activities, and only simple adjustments in activities and events may be needed, such as enhanced supervision and more detailed instructions.

Acquired/Traumatic Brain Injury:

Traumatic brain injury (TBI) is an injury to the brain caused by an external force to the head like a fall or accident, while acquired TBI usually results from internal brain damage such as a stroke. Brain injury is the leading cause of death and disability in children and adolescents. In the United States, approximately half a million children sustain brain injuries each year and 200,000 of them require hospitalization. In 2006, the Centers for Disease Control and Prevention estimated that six million people in the United States are living with a permanent disability due to TBI.²⁴

Children with acquired and TBI may experience depression, primarily because they remember what they were able to do prior to the accident that caused their disability. The resulting depression can lead to a lack of motivation, resulting in disinterest, social anxieties, mood swings and/or fatigue. The location of the injury to the brain can determine what challenges the child has – whether physical, cognitive, behavioral, or emotional. Other challenges may include lack of self-esteem, inability to control anger or feelings, memory and learning problems and imbalance issues. Overall, children with TBI have a spectrum of severity and therefore each may have unique challenges that need to be addressed in order to increase their participation in SRTS programs.

Children with cognitive or intellectual disabilities like ASD, Down syndrome and TBI may have limitations in functioning in the following skills areas: communication, self-care, home living, social/interpersonal skills, use of community resources and self-direction. They are primarily physically capable; however they may lack the mental capacity to grasp the main objective of a given SRTS activity. Use of visual aids and repetition can help to combat such challenges. Students with cognitive disabilities can participate in a walking trip or walking school bus by allowing for extra time, assessing the walking routes in advance, and ensuring adult supervision to assist the students so that they may walk part, most or the entire journey with their peers.

D. Mental/Emotional/Behavioral Disabilities

Almost 20% of young people (under age 24) in the United States have one or more mental/emotional/behavioral (MEB) disorder(s), and one in ten youths (under 18 years) has mental health problems that are severe enough to impair how they function at home, school, or in the community. A greater proportion of youths in the child welfare and juvenile justice systems have mental health problems than youths in the general population.²⁵ Children with MEB disabilities may include, but are not limited to, depression including unipolar and bipolar disorders, Attention Deficit Hyperactivity Disorder (ADHD), anti-anxiety, conduct and defiant disorder, and substance use.

Depression is characterized by a combination of symptoms present for a minimum of two consecutive weeks that interfere with a person's ability to work, sleep, study, eat, and enjoy once-pleasurable activities. Unipolar or major depression symptoms may include: irritability and agitation, insomnia or oversleeping, change in appetite, lack of energy, feeling hopeless or helpless and trouble concentrating. The difference between unipolar and bipolar depression is mania, which is a state of extreme highs that does not occur with unipolar depression.²⁶

Approximately 21 million people in the US are affected by depression each year, and it is one of the leading causes of disability for individuals between the ages of 15 and 44.²⁷ Symptoms can begin during early childhood but usually emerge during adolescence or adulthood. Until recently, young people were rarely diagnosed with this disorder, yet up to one-third of the three million children and teens with depression in the United States may actually be experiencing the early onset of bipolar disorder, according to the American Academy of Child and Adolescent Psychiatry.²⁷

Attention deficit hyperactive disorder (ADHD) is associated with inattentiveness, over-activity, impulsivity, or a combination of these symptoms. A significant number of children are affected by ADHD with the prevalence in the North American school-aged population between 2% and 14%.²⁸ ADHD is mostly associated with behavioral problems, such as inattentiveness

and hyperactivity.²⁹ Motivation is usually not a problem, however many children with ADHD need paraprofessionals or aides during school and may need assistance when participating in SRTS programs to help them stay focused.

As with other disabilities, the issues students with MEB disorders are coping with vary depending on the type and severity. One of the primary barriers for students with MEB disabilities is motivation, therefore an understanding of how to best motivate and inspire students to participate in SRTS programs and in other physical activities – by promoting how these activities can increase social interaction with peers and independence, for example – is critical. Also, spending time outdoors and engaging in physical activities like those offered through SRTS can boost a participant’s self-esteem and improve their mood.

The Importance of Inclusion

Many children nationwide are coping with disabilities and on average, one out of every seven students in the United States has a disability.³⁰ Children with disabilities need to be included in physical activities because of the many benefits they offer. As Christie Dafoe, Program Development Manager for a community-based sports program for individuals with disabilities called BlazeSports America, explained, “it is simple -- anyone can benefit from exercise. Youth who possess a specific disability may experience different benefits from physical activity than their peers without disabilities. Sports and physical activity not only increase longevity for youths with disabilities, it can also improve their overall quality of life; and the best part is they have fun in the process.”³¹

While exercise is crucial for children with disabilities, the experience must be positive both physically and emotionally. School staff can assist in this effort by including social and recreation skills in the curricula and by training personnel to assist with physical activities and techniques that can help ensure healthy and positive interactions among participating peers. A paper from Cross et al. identifies four common elements³² that contributed to successful inclusion of seven young children with significant disabilities in physical activities

as follows: (1) attitudes - defined as the parent or provider's positive or negative perspective concerning inclusive settings, (2) parent-provider relationships - critical to the success of inclusion, (3) therapeutic interventions – e.g. physical therapy, occupational therapy, etc. and (4) adaptations - changes made to daily routines and activities to achieve successful inclusion.

Children participating in the SRTS program engage in physical activity, interact with their peers, learn about alternate modes of transportation and are trained in pedestrian and bicycle safety skills that can be used throughout their life. Physical SRTS activities, such as walking school buses and bicycle rodeos, have the potential to mitigate many symptoms resulting from a disability, increase quality of life, provide social outlets, and help boost self-esteem and self-confidence.

A. Achieve Health Benefits:

Children with disabilities are at a high risk for obesity for a number of reasons. Some of the symptoms resulting from a disability can have an impact on a child such as seizures, low muscle tone and difficulty with coordination. In addition, not obtaining the daily required amount of exercise, being socially isolated, leading a sedentary lifestyle, and exhibiting poor eating habits can contribute to the high risks of obesity for children with disabilities. More children are overweight or obese today than ever before and the numbers continue to grow. Childhood obesity, in addition to the presence of a physical disability, not only poses health risks, but also may affect a child's psychological well-being.³³

Physical activity can help reduce the likelihood of obesity and mitigate the symptoms of the disability. In the past, many thought that physical activity could harm a child with a disability, but many studies have shown that it has direct benefits for the child. For example, strength and endurance training are components of physical fitness that may prevent secondary disorders, lower energy costs of movement, and enhance quality of life for children with disabilities.³⁴ Physical activity has the potential to enhance the quality of life for people with serious mental illness, one of the leading disabilities for youths in the US, and has been shown to improve physical health and to

alleviate psychiatric and social disabilities.³⁵ Regular physical activity has also been shown to alleviate symptoms for those with Down syndrome, help those with ADHD focus and improve their behavior, as well as increase communication and social interactions for children with autism.³⁴

B. Gain Independence:

Continued and regular involvement in SRTS activities and education may allow children with disabilities to gain more independence in the future by teaching them life skills that will help prepare them for adulthood. Children with disabilities are more likely to rely on walking and bicycling in order to live independently later in life.³⁶ This finding demonstrates the importance of SRTS involvement during school years, as a means to prepare students for independence post high school graduation. SRTS activities can provide the training necessary, such as bike and pedestrian safety and practice, to prepare them for autonomous travel as adults.

C. Build Relationships:

Children with disabilities tend to lack consistent social interactions with their peers. Finding friends at school or “fitting in” can be extremely challenging for a child with a disability. People with disabilities are also less likely than those without disabilities to report that they socialize with friends, relatives, or neighbors, suggesting that there are significant barriers for participation and involvement in activities for this population.³⁷ Inclusion in a SRTS program is an excellent avenue for social interaction. Children are engaged and working/playing together, which in turn can foster relationships.³⁸ Author Richard Owen³⁹ mentions ideas for encouraging more friendships among children with disabilities and their families through recreation such as joining a community sports league, interest club (gardening, martial arts), youth organization (Boy and Girl Scouts, 4-H) or simply utilizing community facilities like parks, playgrounds and open gym and swim times.

Increased involvement of children with disabilities in SRTS programs can also benefit children without disabilities and the entire community. Social interaction provides emotional benefits for children with disabilities and the opportunity for

those without disabilities to better understand any special needs their peers with disabilities may possess. Community events like bicycle rodeos and traffic education offer children with disabilities as well as their families more opportunities for social interaction and formation of relationships with other families in their community.

Inclusion of Children with Disabilities in SRTS throughout the US

The research team was unable to identify any specific SRTS inclusion efforts in New Jersey for students with disabilities. However, the Michigan Department of Transportation (DOT), the Illinois DOT and the National Center for SRTS have each produced reports regarding SRTS for children with disabilities, offering strategies to achieve increased inclusion in SRTS programs.

Eberlein and Waterman from The Michigan DOT and the Michigan Physical Fitness, Health and Sports Foundation, focus on strategies aimed at three special education school settings: (1) Neighborhood schools, which serve special education students who live in the neighborhood and are placed in general education classes, (2) Regional/district wide schools where neighborhood schools have set aside one or more classrooms for special education students and (3) Center-based schools which exclusively serve special needs students. SRTS events and activities that include students with disabilities can typically be more effectively planned with accommodations at neighborhood schools, while similar events at regional/district schools and center-based schools require more planning and communication because students with disabilities often do not live near the school and/or may have more severe disabilities.⁴⁰

The article also presents strategies that local, statewide and national SRTS programs can pursue to better serve students with disabilities that include:

- (a) providing tools and support so SRTS can be included in IEPs;
- (b) ensuring that all materials and plans recognize and include students with disabilities;

- (c) sensitively engaging the families of students with disabilities in SRTS planning;
- (d) creating a public archive of reports from the field regarding SRTS efforts to serve students with disabilities;
- (e) encouraging investment in special education for SRTS now;
- (f) initiating dialogue at state and national levels to promote SRTS opportunities and benefits with special education professionals, while advocating for increases in SRTS funding.

The National Center for SRTS offers a number of strategies for creating inclusive SRTS programs such as: involving special education professionals and parents of children with disabilities on the SRTS team and when planning events; involving children with disabilities in walking and bicycling audits; and ensuring SRTS messages and images include students with disabilities.⁴¹

The SRTS National Partnership describes four proposed initiatives as follows: (1) create training and curricula with enhanced content to include students with disabilities, (2) conduct outreach to parents and students and include promotional materials with relevance for families with disabilities on the benefits of SRTS, (3) pilot programs at local levels so strategies can be replicated, accommodated and disseminated, and (4) perform evaluation through interviews and focus groups with students with disabilities and their families to provide insight on how to better serve their needs.⁴²

Finally, SRTS Illinois issued a guidebook which lists strategies for inclusive participation of students with disabilities using the five E's of SRTS (engineering, encouragement, education, enforcement and evaluation). The guidebook also describes perceived barriers to participation and offers solutions to these barriers. Strategies to increase inclusion include: improving the infrastructure around a school to facilitate safe walking and/or biking; using pedestrian and safety events and contests to increase participation and interest; ensuring the drivers of vehicles within the community follow the law and take it seriously; and evaluating the program to monitor the success and achievement of goals by utilizing parent/teacher/student

surveys, student travel tally forms, and parent perception surveys.⁴³

Some barriers to participation in SRTS activities for children with disabilities include distance and time constraints. One solution is to have a park and walk/roll program that is located four -six blocks from school where buses and parents can drop their child off with a group of school personnel and volunteers who walk with them the rest of the way to school. Some other strategies include parents walking with their children either a portion or the entire route to school as part of a daily exercise routine, walking with a group of neighborhood children supervised by parents and adults, and using a walking route that takes advantage of existing crossing guards.

IV. THE IMPORTANCE OF THE INDIVIDUAL EDUCATION PROGRAM (IEP)

The federal government requires that all students with disabilities or special needs must have an Individual Education Program (IEP), which details educational goals and objectives for each student. The IEP also provides guidance to teachers and staff for how children with disabilities or special needs will achieve these goals. Parents, administrators, teachers, child study team members and other school staff develop, maintain and update each student's IEP throughout their education until high school graduation. This legally binding document between the child/child's family and the school district details exactly what special education services a child will receive and why. Included in the IEP is the child's classification, placement, services such as a one-on-one aide and therapies, academic and behavioral goals including physical education and activity goals, a behavior plan if needed, percentage of time in regular education, and progress reports from teachers and therapists. Goals of the IEP must be achieved in the "least restricted environment", which means that a student who has a disability should have the opportunity to be educated with non-disabled peers to the greatest extent possible. They should have access to the general education curriculum or any other program

offered at school that peers without disabilities would be able to access.⁴⁴

The physical education goals of a child's IEP is the ideal place to incorporate SRTS activities and events. The details of the SRTS activity, how the student will be included, how the activity will be adapted/modified for the student, if necessary, and an associated goal of the lesson or activity if the student will be taught a skill (e.g. pedestrian safety education) would all be specified. Once a SRTS activity is included in a student's IEP, a strong effort must be made to achieve that goal. School districts are often hesitant to include goals that they are not directly accountable for and in many cases, before and after school activities are not included in a child's IEP. However, if carefully tied to physical education and curriculum goals, SRTS can be integrated. Examples of SRTS goals could include increasing the student's amount of daily physical activity, practicing social skills with peers and teaching lessons on how to safely cross the street.

V. KEY INFORMANT INTERVIEWS: PROCESS & FINDINGS

In addition to the literature search, the research team pursued a series of key informant interviews with organizations across the state of New Jersey representing the interests of persons with disabilities. An effort was made to interview organizations from each of the four main disabilities categories discussed in this research report: (1) physical, (2) sensory, (3) cognitive/developmental, and (4) mental/emotional/behavioral.

From July through November 2012, the research team conducted this series of structured interviews with a variety of stakeholders in the disability community including: The Arc of New Jersey, The NJ Council on Developmental Disabilities, Autism New Jersey, and the Statewide Parent Advocacy Network. Also interviewed were: three New Jersey private schools for children with disabilities; PerformCare (a behavioral health care company); The National Center on Physical Activity and Disability; a NJ nonprofit organization that hosted a Lose the Training Wheels camp; a consultant specializing in

transportation research and advocacy for the autistic community, and two Safe Routes to School programs in Florida and Michigan that have each focused efforts on involving children with disabilities in SRTS events.

There were several goals associated with the key informant interview task. One was to discuss how children with disabilities could benefit from participating in SRTS activities. The interviews also provided an opportunity to gather strategies and advice for successfully engaging children with disabilities in SRTS programs and served to inform the study team about travel issues often associated with certain disability types. The interviews also provided an opportunity for NJ SRTS to begin developing a core network of stakeholders in the disability community who can be resources in offering guidance and input toward meeting the SRTS program goal of involving children of all abilities in SRTS activities.

Interview sessions were conducted with a total of 15 individuals representing 13 entities/organizations (*See Table 1*). Members of the research team facilitated each interview session, which lasted from 30 minutes to one hour, via telephone. A list of interview questions (Appendix A) and detailed individual interview reports for each of the 13 interview sessions (Appendix B) were prepared.



Table 1 Key Informant Interviews Performed

Organization Interviewed	Description of Organization	Interview Date
Autism New Jersey	A nonprofit advocacy group focused on improving the lives of persons with autism	8.6.12
Concordia Learning Center	A private school serving children aged 3-21 who have blindness, vision impairments, and/or other disabilities	10.15.12
Feeley Consulting	A firm which concentrates on transportation planning and research for the Autism community	9.10.12
For This One (regarding the Lose the Training Wheels camp)	A nonprofit organization that hosted a camp that taught children with disabilities to ride a two-wheel bicycle	9.27.12
Horizon Lower School	A private school that serves children aged 3-13 who have Cerebral Palsy and/or other disabilities	10.22.12
New Jersey School for the Deaf	A private school that serves 145 students aged 3-21 years who have hearing impairments	11.15.12
PerformCare	A behavioral health managed care company that provides information and coordinates behavioral health care for children experiencing emotional and behavioral difficulties	8.20.12
Safe Routes Michigan	A statewide program that encourages students to walk and bike to school	9.10.12
Statewide Parent Advocacy Network	A federally funded advocacy group that provides information and support to families coping with issues impacting their child's development	8.10.12
The Arc of New Jersey	An advocacy organization for persons with intellectual and developmental disabilities	9.6.12
The National Center on Physical Activity and Disability (NCPAD)	An organization that focuses on ensuring that the needs of people with disabilities are considered in healthcare policy and in the promotion of healthy lifestyles	8.16.12
The NJ Council on Developmental Disabilities	A federally funded advocacy organization that educates people with developmental disabilities and their family members	7.19.12
WalkSafe® Program at University of Miami's Miller School of Medicine	A SRTS program that offers a pedestrian safety curriculum as a countermeasure towards the reduction of pedestrian crashes among children in Miami-Dade County, FL	9.27.12

Potential Benefits of Engaging Children with Disabilities in SRTS Activities

A main topic of discussion with interviewees was the potential benefits of attracting and involving children with disabilities in the SRTS program. The depth of discussion on this topic was dependent on how familiar each interviewee was with SRTS. Of the 13 entities interviewed, all but one had a basic awareness of the program, and more than half had either personal familiarity with SRTS and/or had knowledge of the program's goals and common SRTS activities, such as walking school buses and bicycle rodeos.

The potential benefits of involvement in SRTS activities emphasized by all interviewees that could be experienced by children with disabilities focused on physical and social/emotional health advantages.

Physical Benefits

The interviewee from the National Center on Physical Activity and Disability (NCPAD) emphasized the tremendous opportunity inclusion in SRTS activities offers students with disabilities in terms of physical health benefits. She explained that many children with disabilities often have limited exposure to physical activities and exercise. Sometimes parents of these children do not permit or encourage their child to pursue such opportunities due to fear or lack of information on how physical exercise can contribute to their child's overall health. Other times, children with disabilities are not exposed to physical education because their school may waive the physical education requirement for students with disabilities due to staffing and funding constraints. Thus, involving children with disabilities in the SRTS program offers these students a safe opportunity to engage in a physical activity, which all too often they do not get a chance to participate in and enjoy.

Another interviewee explained that because children with developmental and other disabilities often have so few opportunities for exercise, many are combating obesity and need physical activity to improve their health. One interviewee who works with children with autism noted that providing children the opportunity to walk to school can have a tremendous positive impact on the rest of that child's day at

school. This general sentiment was expressed by several interviewees.

Social and Emotional Benefits

Significant discussion with almost all interviewees focused on the emotional and social benefits involvement in SRTS activities could yield to children coping with disabilities. The interviewee who hosted a Lose the Training Wheels bicycle camp in summer 2012 for children with developmental, intellectual and/or physical disabilities explained that learning a new skill in a positive group environment provided an excellent opportunity for participant socialization with fellow peers coping with disabilities. He hoped that learning how to ride a bicycle will also enable the participants to socialize with their peers without disabilities who reside in their respective communities.

Another important point this interviewee remarked was that many parents of camp participants explained that prior to the Lose the Training Wheels camp, their children had been unsuccessful in learning how to ride a bicycle. By learning how to ride a bike in the five day course, the children were able to achieve a goal that had previously seemed unattainable; thus demonstrating to these children who are so often faced with obstacles the affirming message that what may seem impossible, may in fact be achievable with dedication, a positive outlook, and the proper training and equipment.

Each of the interviewees representing a disability organization or a school noted the important opportunities for socialization inclusion in SRTS activities could offer children with disabilities. For example, one interviewee explained that children with disabilities are often segregated from their peers without disabilities during the journey to/from school because of separate busing, as well as in the classroom due to frequent usage of self-contained classrooms. Thus, these students rarely if ever have the opportunity to meet and socialize with their peers without disabilities, many of whom may live in their neighborhoods. One interviewee noted that interacting and building relationships with students without disabilities is important for the emotional wellbeing of children coping with disabilities, while another added that children with certain

disabilities, such as emotional and behavioral issues, can sometimes learn positive behaviors from their peers.

Most importantly, the social benefits can be experienced not only by children with disabilities, but also children without disabilities. By including children with disabilities in SRTS activities, their peers without disabilities will have the opportunity to build new relationships and better understand issues associated with different disabilities. Inclusive activities also provide an opportunity for activity leaders/educators to address any stereotypes and misguided perceptions about persons with disabilities.

To facilitate the development of mutually beneficial relationships among SRTS participants with and without disabilities, several interviewees recommended implementing a buddy system for activities. One interviewee reported that some studies have demonstrated that children with intellectual and/or developmental disabilities can achieve more when they are working with peers without such disabilities. Utilization of a buddy system also allows for peer mentorships to form, which can help combat the stigmas often surrounding children with disabilities. One interviewee suggested that a buddy for a child with a disability for a particular SRTS event could also be a parent, volunteer, or even another child with a disability if there is appropriate supervision or support present.

New Skill Acquisition Benefits

A final benefit that could be experienced by children with disabilities who participate in SRTS activities that was discussed by some interviewees is the important lifelong knowledge and skills related to safe walking and bicycling they will acquire. This knowledge base and skill set will help these children navigate the transportation issues that will be present throughout their adult life. One interviewee emphasized the importance of teaching pedestrian and bike safety skills and rules of the road to children with disabilities since walking and bicycling can offer a viable, independent transportation mode throughout adulthood that will be especially valuable to those persons who may not be able to drive a motor vehicle. Learning how to safely travel as a pedestrian will impact a child's ability to access employment, medical care, daily living needs and social opportunities as

he/she ages. As one interviewee expressed, "...teaching children with disabilities how to be safe pedestrians and how to navigate their environment is not only valuable, it is critical."

Suggestions for Successful Inclusion in SRTS from the Interviewees

Interestingly, the 13 organizations interviewed shared similar suggestions for promotion of successful inclusion of children with disabilities in SRTS activities. The main themes discussed involved creating SRTS awareness and building relationships among stakeholders, understanding the role of the IEP, providing adequate supervision for SRTS activities, conducting detailed SRTS event/program planning and seeking evidence based results.

Generating SRTS Awareness & Building Relationships

To generate support for the inclusion of children with disabilities in SRTS activities all stakeholders need to understand the purpose, goals, intentions and potential benefits associated with the SRTS program. Interviewees stressed that key stakeholders in this process include parents, school administrators, special education teachers and other educators, as well as advocacy organizations focused on disability issues. Many of these stakeholders possess extremely limited or no knowledge of SRTS. In order for parents to feel these programs can benefit their children who have disabilities and for school administrators and educators to readily include students with disabilities in SRTS activities, they must not only understand the program but also support and buy into its goals related to creating and encouraging safe walking and bicycling opportunities for all students.

Building awareness for SRTS and developing relationships among disability stakeholders should be an important area of focus for the NJ SRTS program. The WalkSafe Miami interviewees explained that they planned and devoted significant efforts to develop relationships with school and parent stakeholders as a way to identify and develop SRTS program champions. They also experienced success with what they described as a top down-bottom up approach, whereby they worked on gaining support for their program through top

level school and government administrators, as well as from teachers, school volunteers and community organizations.

To achieve the goal of creating widespread awareness for SRTS, one interviewee suggested developing a webinar that details the program goals and how it can benefit children with disabilities. Others suggested working with disability organizations to share informational presentations to group members on SRTS. For example, the federally funded advocacy organization known as the Statewide Parent Advocacy Network (SPAN) offers parent workshop sessions where SRTS could be a possible topic of discussion. Also, The Arc of New Jersey maintains a family email network, which includes over 1,000 Arc members, and could serve as a vehicle for disseminating SRTS information regarding inclusion of children with disabilities. Making connections so SRTS can benefit from these existing disability networks is crucial. The interviewee whose organization functioned as a host site for a Lose the Training Wheels camp noted that he experienced difficulty in garnering support for the camp because of his initial lack of connectivity among the special needs community.

In addition to reaching parents and other stakeholders through disability organizations, several interviewees suggested NJ SRTS should reach out to special education parent association organizations to help educate and create awareness of SRTS in the state. Another interviewee noted some school districts have Special Education Parent Advisory Committees (SEPAC), which can be identified through the NJ Department of Education's school district directory. Finally, county educational services commissions, such as the Morris/Union joint venture and the Middlesex Regional Commission may also be useful partners in disseminating SRTS information.

Several interviewees emphasized the importance of educating and involving parents/families in SRTS efforts as early in the process as possible. Parents can serve as either the strongest advocates or opponents to any program involving their child with special needs. One interviewee reported that some parents will be concerned their child is too young, vulnerable or just not ready to participate in unfamiliar activities. Thus, informing parents of the program and allowing them an opportunity to

explain any concerns related to including their child in a SRTS activity could determine the success of the activity. Types of concerns parents could express related to participation may include: What happens if my child falls behind or wanders away from the group? What if a buddy assigned to partner with my child is not available on a given day or for a given SRTS event? These types of questions must be considered and addressed by SRTS activity leaders.

Seeking parent volunteers of students with disabilities for a SRTS event provides an excellent opportunity to increase the likelihood for program support among this population. In addition, these parents can aid activity leaders in the planning and implementation process as they can share invaluable information on the potential issues/obstacles their child may encounter in a SRTS activity and offer suggestions to ameliorate those issues. For example, one of the SRTS grant recipient schools described by the Michigan SRTS interviewee conducted a walking audit within a two mile radius of the school. The school created committees that reached out to families who had students with special needs and involved them in the walking audit process so that their input was included when identifying physical barriers that would hinder children with disabilities from walking to school.

Finally, following implementation of SRTS activities, the leaders should document examples of program successes that include testimonials from students, parents and school staff. Pursuing such an effort can contribute to program sustainability and help achieve the goal of spreading awareness of SRTS to all stakeholders, particularly the parents of students with disabilities.

The Role of the IEP

Several interviewees discussed the important role the Individualized Education Program (IEP) could hold in supporting inclusion of children with disabilities in SRTS activities. All students with disabilities or special needs must have an IEP which details educational goals and objectives for each student, and the IEP also provides guidance to teachers and staff for how students with special needs will achieve their goals.

Parents, administrators, teachers, child study team members and other school staff develop, maintain and update each student's IEP until high school graduation. One interviewee commented that including SRTS activities in a child's IEP is an important way for specific goals and objectives related to participation to be discussed, clarified and determined.

Some interviewees expressed existing problems with IEPs including lack of individualization and the common practice of IEPs that focus primarily on academics and not necessarily on physical education components or plans to educate young students on safe active travel in their communities. Most often issues related to active travel are included in transition IEPs (elementary school to middle school to high school), which are typically developed for children with disabilities who are aged 14 or older. However, there is tremendous benefit and importance to teaching children at younger ages about safe pedestrian movement and mobility.

To address these issues, one interviewee suggested that SRTS program leaders need to develop relationships with teachers and child study teams to inform them of the potential benefits of SRTS participation, both physical and mental/emotional. These educators need to understand and embrace the importance of teaching children pedestrian and other active travel skills. Once child study team educators and other teachers understand the SRTS program and the benefits it can provide students, they will be more likely to suggest inclusion of SRTS in IEPs. Educating parents on the importance and advantages of including physical activities such as SRTS and other active transportation goals in their child's IEP is also critical, as parents can then advocate for inclusion and/or revisions to existing IEPs.

Overall, by establishing specific active travel goals in each student's IEP, the resources and modifications needed to teach that child how to safely navigate his/her community and offer more opportunities for physical activity can be identified and pursued. Considering the unique capabilities of each child, details such as the number of times a particular skill or lesson will be taught or level of supervision necessary would also be valuable to include in the IEP.

In order to understand more about the role IEPs can play in successful implementation of SRTS activities that benefit students with disabilities, the research team contacted several special education directors in New Jersey schools. One Director of Special Education suggested that SRTS could be included within the IEP as instructional goals and objectives and another offered that SRTS could fall under the heading of “Related Services”. Content areas that may be addressed with curriculum geared toward SRTS could fall under Health/Physical Education such as safety, healthy activity, as well as transition skills, such as fostering independence and learning the route to school/home. Furthermore, there is a section under “Special Services” within the IEP that describes any extracurricular and non-academic activity with non-disabled peers that SRTS activities could be incorporated. Most emphasized that if SRTS is included in a student’s IEP as a goal, a specific plan must be determined and implemented so that the goal is achieved. Another respondent emphasized that since the IEP is a contract between the school and the child’s family, most IEP components relate to services the school provides to that student, and after school activities are rarely included in IEPs.

An Essential Need for Supervision

Supervision was the most frequently mentioned concern to ensure the safe and successful inclusion of children with disabilities in the SRTS program. All interviewees agreed that the level of supervision required for a SRTS activity that is inclusive of children with disabilities is dependent on the needs and issues of the individual children participating. As one interviewee explained, adequate supervision, especially at the onset of an activity, decreases both real and perceived risks in SRTS participation.

SRTS activity leaders must be educated about the needs of the children with disabilities who will participate in an activity so that the supervisors can be prepared and comfortable with addressing any conflict/situation that may arise. Potential challenges need to be identified and discussed among SRTS activity leaders and school special educators/teachers prior to event implementation, and strategies for addressing those challenges should be determined based on factors that include

but are not limited to each participant's level of intellectual ability, physical mobility and responsiveness.

An important issue related to supervision stressed by numerous interviewees involves the need for supervisors to be alert and responsive to the potential for children with disabilities to experience bullying by their peers during a group activity. Factors that could promote bullying include, for example, potential unresponsiveness and/or disinterest presented by a child with a developmental disability or the need of a child coping with a physical disability to use accessibility devices that are unfamiliar to children without exposure to such aids, such as gait trainers or adapted chairs. Proper supervision will greatly help to address and minimize bullying concerns among parents, children with disabilities and educators.

Type of Supervision

While all interviewees agreed on the critical role of adequate supervision, input varied among some regarding the preferred type of supervision for SRTS activities. As reported above, general consensus was that SRTS activity leaders should seek to involve special education teachers when planning SRTS activities, as they are familiar with the needs and behaviors of the children with disabilities who may participate in them. Some interviewees suggested that discussing the planned activity with these instructors would be adequate, while a few noted that asking special education teachers to participate in the SRTS activity would be ideal to achieve the appropriate supervision level and encourage participation.

Interviewees, representing organizations focused on particular disability types, discussed the topic of supervision in relation to some of the predominant characteristics associated with certain disabilities. For example, the interviewee from Autism New Jersey recommended that a trained staff member (e.g. a professional who has experience and knowledge of autism) should be present for any SRTS event involving children with autism – particularly if there are multiple children with autism or children with severe autism participating – since trained staff are able to discern signs from the child such as distress and/or regression from the lesson or activity. Trained staff would also

be able to help control the child's potential random behaviors and/or stereotypical ticks, assist with limiting any distractions, and help discern the difference between dangerous and normal stimuli.

The same interviewee emphasized that SRTS activity leaders must comprehend that children coping with autism and other intellectual or developmental disabilities may demonstrate a lack of or inconsistent understanding about safety and danger; difficulties in grasping lesson plans; and inability to fully express/communicate feelings and emotion. With regard to communication issues, she added that some children with autism may in fact appear deaf because they are not able to respond to various inquiries. The interviewee from The Arc added that children with intellectual and/or developmental disabilities may become easily distracted during an activity and could leave the group or fall behind. Some of these children are also impressionable and will often follow the lead of other peers, even when not appropriate.

Children coping with mental, emotional, and/or behavioral disabilities face a similar dilemma as their peers with developmental and/or intellectual disabilities regarding experiencing difficulty in assessing social cues and in evaluating safety risks and potentially dangerous situations. These children may also be very trusting of strangers. In addition, children coping with mental and behavioral issues may exhibit impulse control issues, which the SRTS activity leader must be cognizant of and prepared to address.

Planning for Adaptations, Modifications and Support for SRTS events

The topic of supervision is one of the critical elements involved when planning for a successful SRTS activity that includes children with disabilities, and determining the needs of the individual prospective participant(s) with a disability must also be a vital consideration of SRTS coordinators. An important fact SRTS activity leaders must be aware of is that the comorbidity of various disabilities and conditions is often present in a child coping with disability, thus further demonstrating the necessity



for program managers to discuss each child's needs with his/her teachers and parents.

Classroom & "Real Setting" Skill Instruction

To effectively plan a SRTS activity, leaders must focus on determining the best ways to build skills and plan each detail of an event with full consideration of the needs of children participating with disabilities. With regard to classroom skill instruction, SRTS implementers must display patience with students and recognize that some children will need more support and skills training than others. Most interviewees suggested instructors begin efforts at a rudimentary level and provide repetition. For example, children without disabilities may learn pedestrian and bike safety by simply observing their parents; however a child with a particular disability, such as a developmental disability, needs to be taught the basic aspects of pedestrian safety through repetition and with reinforcement and consistent practice in order for that child to effectively apply pedestrian safety skills.

SRTS activities can be adapted to meet the divergent needs of participants with disabilities and focus should be given to improving a measurable skill. One interviewee explained that many erroneously believe that adapting lesson plans to meet the needs of children with disabilities is costly. An example of a minor cost efficient adaptation that could improve the outcome of involving children with sensitivity to loud noises could simply entail providing the child with headphones to wear during the activity.

Overall, many children with disabilities will require supportive instruction and practice to develop the skills needed to safely and effectively participate in SRTS activities. One interviewee emphasized that skill development related to assessing safety risks of walking and/or biking must be a priority of any SRTS activity that involves children with disabilities. The WalkSafe® Miami special needs curriculum strives to teach these skills to children with disabilities by employing more visual, non-verbal and other additive learning opportunities compared to their general curriculum. For example, in addition to videos, flashcards are also used in program instruction to teach topics

focused on walking basics, safe places to walk, pedestrian signals and crossing at intersections.

The interviewee with Feeley Consulting explained that utilizing an occupational therapist to help teach pedestrian skills and lessons could be helpful to those participants with autism, as the therapist will be able to read and respond to body language cues as well as understand the gross motor skills needed to complete the lesson or task being taught. An interviewee from The Arc stressed that individual attention, repetition and reinforcement of skills is critical, as is usage of visual teaching aides, which was also mentioned by WalkSafe® Miami. An interviewee with Autism New Jersey added that instructional approaches such as video modeling (watching videos of how to properly and safely cross a street), visual schedules (pictures depicting how to cross at an intersection), and audio prompts (audio tapes that describe in detail the fundamentals of pedestrian and bike safety) have been used to help teach children with autism. She also advised that desired SRTS activities should be broken into small steps for instruction purposes and consideration be given to utilizing a token economy as a way to encourage and reward the desired behavior. Finally, she suggested that perhaps providing children with autism with heart rate monitors for certain activities as a means to help SRTS implementers determine feelings of stress, fear and anxiety in these children who may experience difficulty or an inability to communicate those emotions.

An interviewee from the Concordia Learning Center, a school attended by children with blindness, visual impairments and/or other disabilities, explained that when teaching safe mobility skills to children with visual impairments, many issues must be considered in addition to their vision constraints, including external factors (e.g. vehicle drivers, other pedestrians) and the cognitive ability of the child to make judgment decisions regarding their mobility choices. As such, he recommended involving an Orientation and Mobility (O&M) instructor in planning a SRTS activity that will include children with visual impairments. O&M instructors offer a specific form of travel training that is focused on teaching persons with visual

impairments skills to safely navigate diverse environments/settings.

Many interviewees emphasized the need to provide children with disabilities the opportunity to practice the skills they are taught in the actual settings in which they will be applied – not just in a classroom environment. The SRTS Michigan interviewee stressed that overall, children with disabilities are similar to children without disabilities in that they learn best by practicing in the “real world.” The interviewee from The Arc of New Jersey specified that children with developmental or intellectual disabilities often have difficulty transferring what they learn to divergent settings so being able to practice pedestrian and/or bike skills on the street and sidewalk is vital.

When seeking to plan a SRTS activity in the “real world” environment, interviewees emphasized the significance of conducting a detailed review/assessment of all routes SRTS participants will be traveling during the SRTS activity to ensure the routes are safe and manageable for all students. Elements and features of the built environment that must be examined by SRTS activity leaders during this pre-event route check include but are not limited to the following:

- Walking surfaces (e.g. presence and condition of sidewalks, driveways, paths, cobblestoned surfaces, crosswalk markings)
- Curb cuts
- Street furniture (e.g. fire hydrants, lamp posts, telephone poles, benches/seating, trees, planters, garbage cans, bus stops, bus shelters)

When conducting the travel route assessment, street crossing details must also be considered such as whether there is a signal, a pedestrian light or a stop sign; the presence of audible announcements as a feature of the signal; and if there is vehicular traffic parked in front of a crosswalk. Also, SRTS activity leaders need to consider the types of accessibility devices participants with disabilities will be using – such as walkers, gait trainers (equipment to assist with walking) and wheel chairs – and if the built environment will impose any obstacles to their safe usage.

Some interviewees provided specific advice on including children with disabilities in certain SRTS activities. For example, with regard to bicycle rodeos, the interviewee from the National Center on Physical Activity and Disability suggested seeking access to adapted bicycles that all children participating can use. Costs associated with adapted bikes such as tricycles, foot bikes which operate similar to a scooter and hand propelled bikes can sometimes be prohibitive, but to address that obstacle she advised seeking support from local individuals or groups who promote and/or build adapted bicycles. Seeking funding support from targeted nonprofits in the area, such as the Kessler Foundation or the Christopher Reeve Foundation, is another possible approach. The interviewee from SRTS Michigan also recommended partnering with community organizations, bicycling stakeholders and local bike shops for either funding support or other assistance related to a SRTS bicycle rodeo event. SRTS Michigan and a nonprofit organization coordinated a bicycle event for students with disabilities that included instruction on how to use tandem and hand propelled bikes, as well as bicycle safety education and instruction. The nonprofit organization she collaborated with brought hand-propelled bicycles for the children to use.

Many comments also focused on walking school buses or other walking field trip activities near school. For a walking school bus activity, the interviewee from Michigan's SRTS program recommended that the SRTS activity leader work with an event planning committee as well as family, teachers, students and perhaps even a representative from the school bus/transportation department to collaboratively determine and designate an appropriate drop-off point on the journey to school, where the students with disabilities can access the walking route safely. From that point, the children can walk with supervision to school. She also suggested walking to school one day a week and gradually progressing to two times or more a week as students continue to practice and gain experience and confidence in walking to school.

A final note on planning a walking school bus or other walking trip activity proposed by several interviewees is that various concepts must be taught prior to initiating such activities,

including the purpose of and differences between a sidewalk and a street. Students must learn about the difference between curbs and curb-cuts. Sidewalks often have driveways so students need to be alert not only at intersections but between intersections, even when traveling on a sidewalk. When teaching bicycle and/or pedestrian skills, students must also be taught personal safety skills to avoid any potentially dangerous situations with strangers. These are important elements that all students must learn and understand.

Seeking Evidence Based Results

Promoting the SRTS program among the disability community involves documenting and sharing examples of program success through participant and parent testimonials. While this is a wise marketing approach to pursue, true program sustainability can be best achieved by seeking and publicizing evidence based results related to the SRTS program. Conducting program evaluation is a critical means to measure outcomes and progress, including the systematic identification of both problems/issues as well as successful program components.

Both the Miami and Michigan SRTS interviewees and the National Center on Physical Activity and Disability representative discussed program evaluation measures, such as base line participation rates among schools that run SRTS events. A key tool for evaluating program success and identifying necessary improvements involves conducting survey research. Any school travel surveys should include questions targeted to parents of children with disabilities. Learning how these students travel to school and identifying barriers they encounter or would likely encounter while walking to school is important to determine, as it provides useful information to SRTS leaders in developing activities including walking school buses. This data can also serve to prioritize infrastructure and other needed improvements that will facilitate safe walking/biking conditions for all students.

One interviewee emphasized that if NJ SRTS conducts a survey of program participants at a particular school they should seek to determine the number of students who participated with an

IEP, instead of the number of children with disabilities who participated which will ensure that all children with special needs are included in the data collected.

Miami's SRTS WalkSafe® curriculum, which includes a special needs section, requests that schools implementing the program provide various data to SRTS including an online curriculum completion form, which one individual from each school implementing the curriculum is instructed to complete. In addition, each teacher implementing the WalkSafe® curriculum is asked to complete a teacher survey. Through the data gathered from the teacher survey on the special needs curriculum, the SRTS program coordinators have learned that teachers desire inclusion of more color and visuals in the curriculum, as well as music and song to help improve student retention of skills taught.

The Miami SRTS interviewees explained that when seeking to develop a SRTS initiative for children with disabilities such as a special needs curriculum, assistance should be sought from educators who work with children with disabilities to review the curriculum developed. The curriculum should also be piloted prior to wide implementation. The WalkSafe® special needs curriculum was piloted in five schools in Miami Dade County. Now that the program is more widely implemented, the Miami SRTS team is working diligently to gather data and evidence on the program for evaluation and sustainability purposes. If New Jersey seeks to develop a distinct SRTS curriculum for children with disabilities, evidence based teaching and instructional strategies should be utilized including repetitive teaching, as well as behavioral therapy components designed to reduce anxiety, apprehension and fear such as systematic desensitization.

Concluding Remarks about the Interviews

The interview sessions conducted with 15 individuals representing 13 organizations/entities offered valuable insights to the research team on issues and factors to consider and resolve in an effort to achieve greater involvement of children with disabilities in SRTS activities. One of the most noteworthy findings garnered from the interview process was the striking

consensus disability advocates and other professionals interviewed shared about broadening efforts to include students with disabilities in SRTS activities.

Most interviewees cited the importance and value of involving children with disabilities in physical activities, such as those offered through the SRTS program. They also acknowledged that many of these children are offered few opportunities for such engagement, which is to the detriment of both their physical and emotional well-being and growth.

Much conversation during the interview sessions also focused on critical factors to consider and address when planning for a successful SRTS activity involving children with disabilities. Emphasis was given to the important role parents/guardians and special educators should have in any SRTS program effort seeking to involve children with disabilities. These stakeholders understand the needs and potential obstacles children with disabilities may face while participating in a SRTS activity and thus can greatly contribute to the ultimate success of the event. Educating these stakeholders on the SRTS program and seeking their input and guidance will also yield greater support for the overall inclusion of children with disabilities. Informing parents and special needs educators about the benefits of physical activity and SRTS can also create opportunities for potential inclusion of SRTS and other active travel-related activities in a child's IEP, which can help ensure implementation of SRTS activities and education.

The monumental role supervision has in the successful implementation of a prospective SRTS activity was emphasized by interviewees. Most noted that the specific supervision level is dependent on the needs of the individual children participating but overall, SRTS implementers need to be informed and prepared to address the needs of various children, encourage positive interactions among all participants and eliminate any bullying behavior. Securing support from special educators and parents can contribute to event success.

Interviewees discussed the importance of skills training both in and out of the classroom setting. Instruction should focus on teaching basic skills using reinforcement and repetition and offer

opportunities to practice the skills. Using visual learning aides and other innovative and additive strategies should also be pursued.

When seeking to implement a SRTS activity beyond the classroom, such as a walking school bus, SRTS implementers must focus significant effort on conducting assessments of the routes to be traversed and examining the built environment for any potential obstacles to the safe movement of children with divergent disabilities.

Finally, several interviewees touched on the topic of program evaluation and seeking evidence based results for various SRTS efforts. These interviewees agreed that conducting program evaluation is a critical means to measure program outcomes and progress, which can contribute to program sustainability. As such, it was recommended that any efforts the New Jersey SRTS program undertakes to involve more children with disabilities should include a well-designed evaluation component.

VI. MOVING FORWARD TOGETHER: STRATEGIES AND RECOMMENDATIONS

Both the literature review and key informant interviews performed for this study provided invaluable information that guided the research team in crafting concluding recommendations to advance the NJ SRTS goal of including more children with disabilities in SRTS activities conducted throughout the state.

The literature review revealed a number of sources that advocate for increased physical activities such as walking and bicycling to school for all children, particularly for children with disabilities who have a higher percentage of inactive and obese populations than their peers without disabilities. Strengthening their bodies through inclusion in physical programs such as SRTS can also lead to the strengthening of relationships, as well as greater self-esteem and self-confidence. Information and resources gathered from Safe Routes programs throughout the country suggest various strategies for broadening inclusion

of SRTS to students with disabilities, such as focusing on the different special education schools (neighborhood, regional/district wide and center-based schools); communicating and collaborating with parents, educational professionals, and school staff; providing tools and support so SRTS can be included in IEPs; ensuring event promotional materials, planning, and evaluation components recognize and include students with disabilities; and making program adjustments and modifications as needed to encourage increased inclusion of all children, particularly those with disabilities.

The interviews conducted with 15 representatives from 13 entities representing a diverse array of disability organizations, schools and select other stakeholders provided evidence that increased involvement of children with disabilities in New Jersey's SRTS program would be largely supported by the disability community because of the potential physical, social/emotional, and skills-based benefits SRTS participants can experience. Interviewees were rather consistent in their discussion of successful components of a SRTS effort that seeks to include children with disabilities. Those components include facilitating improved awareness for SRTS among the disability stakeholder community; informing and involving parents and educators in SRTS activities; and devoting considerable effort and attention to adequately planning for a SRTS event that will involve children with disabilities. Planning elements include determining the proper supervision level needed for a given activity and conducting a thorough assessment of the built environment where a specific SRTS activity is scheduled. Program evaluation is also a critical means to promote program sustainability, as evaluation efforts assist in determining successful elements and areas that need improvement or adjustment.

Recommendations:

There is not one recommendation or strategy presented below that will alone achieve the goal of increasing SRTS involvement of students with disabilities. Instead, a multi-pronged, comprehensive approach is suggested which seeks to incorporate the strategies, best practices, and advice garnered from the literature review and stakeholder interviews conducted.

Develop a NJ SRTS Advisory Group of Professionals on Disability for Consultation on an as-needed Basis

Stakeholders of both the disability and SRTS communities are largely unfamiliar with one another. If the NJ SRTS program is to successfully increase widespread involvement of children with disabilities in SRTS efforts, it will be invaluable for NJ SRTS to build relationships within the state's diverse disability community and to call upon on an as needed basis for advice and guidance.

A SRTS advisory group of professions knowledgeable across the various categories of disabilities will be able to offer NJ SRTS and Regional Coordinators with contacts who can provide guidance and support. The feedback and advice that will be shared by the advisory group with NJ SRTS and Regional Coordinators as they plan activities designed to involve children with disabilities will help contribute to the effective design and implementation of those initiatives.

All interviewees from this study indicated willingness to serve as an informational resource moving forward, and collectively, the entities interviewed represent a diverse range of disabilities. Therefore, the interviewees should be asked to continue on as a resource for feedback and guidance on an as needed basis for consultation. This advisory group of professionals on disability will contribute to NJ SRTS's commitment to build relationships within the disability community to help guide and promote the increased involvement of children with disabilities in New Jersey's SRTS programs.

Education/Training about Involving Children with Disabilities in SRTS

As was evident from the literature review as well as the interviews, all children including those with disabilities can benefit from SRTS. When SRTS implementers are planning and running SRTS events, a conscious effort could be made to specifically include where and when possible students with special needs and disabilities. It is important to educate SRTS Regional Coordinators who work with schools and communities to implement SRTS events about the importance of including children with disabilities in physical activities and SRTS events. There are a variety of strategies that can be implemented to

help educate and train Regional Coordinators about children with special needs:

- The NJ SRTS Resource Center can conduct a training session with Regional Coordinators focusing on: (1) an overview of the 4 main disability categories and associated challenges, (2) why inclusion in SRTS is crucial for students with disabilities, and (3) strategies on how to include children with disabilities in SRTS activities and events.
- The NJ SRTS Resource Center can facilitate a brainstorming session with the Regional Coordinators and other interested parties to suggest and consider strategies to include more children with disabilities and special needs in SRTS activities and events.
- Based on the training and brainstorming session with the Regional Coordinators and other interested persons, a webinar can be presented with ideas and strategies to include students with disabilities and special needs in SRTS.

Through the discussions with interviewees, it was evident that any successful effort to involve more children with disabilities in SRTS programs needs to include a public awareness and promotion effort targeted to parents of children with disabilities, educators and school administrators. Many of these stakeholders who are critical to SRTS program success have little or no knowledge about the SRTS program and how it can benefit all children. Presentation materials/resource tools should all be prepared for a general audience, with the assumption of limited SRTS knowledge. The following documents, all of which could include photographs of children with disabilities participating in SRTS events could comprise:

- A PowerPoint presentation, describing the NJ SRTS program, including its goals and common activities for an audience of special needs educators, parents and their children. Sections of the presentation could also focus on how the SRTS program can benefit children with disabilities; examples of SRTS activities children with disabilities can participate in; possibly examples of SRTS

efforts in other states that have successfully focused on children with disabilities; and strategies that will ensure the safety of participating children with disabilities, such as adequate supervision and pre-event planning that involves parental and educator input and support. A promotional flyer or one page sheet can be produced for parents, administrators and educators to take with them that includes information about NJ SRTS such as the website address, for those seeking more details about the program.

- A Tip Sheet for those interested in planning a SRTS activity that includes children with disabilities. Suggestions for addressing both real and perceived concerns that may be raised by parents and/or educators could be included. Those concerns may include issues related to skills instruction, supervision, peer bullying and “stranger danger.”
- A Frequently Asked Questions (FAQ) sheet that answers commonly asked inquiries on the overall SRTS program and issues related to including children with disabilities.

Once these resource tools are developed, they can be made available on the saferoutesnj.org website. NJ SRTS and the Regional Coordinators will be equipped if they conduct active outreach to the disability community, with a focus on parents and educators. Education and involvement of parents/families and educators in SRTS efforts as early in the process as possible is extremely important. Parents can serve as the strongest advocates or opponents to any program involving their child with special needs. Informing educators on SRTS, especially special educators and members of child study teams, could present opportunities to discuss strategies for including SRTS in IEPs. As one interviewee proposed, if child study team educators and other teachers understand the SRTS program, they will be more likely to suggest inclusion of SRTS in students’ IEPs.

Ideas for Further Consideration:

To further succeed in increasing public awareness and understanding of SRTS to the disability community and to

broaden inclusion of students with disabilities in SRTS events, the following are some ideas for possible consideration:

Outreach to the Statewide Parent Advocacy Network

(SPAN):

SPAN is a federally funded advocacy group located in Newark that provides information and support to families coping with issues impacting their child's development. SPAN offers various parent workshops and perhaps NJ SRTS and/or Regional Coordinators can present at one or more of these in order to reach out to a wider community.

Outreach to Special Education Parent Advisory Committees

(SEPAC):

SEPAC organizations at school districts throughout the state can be identified through the NJ Department of Education's school district directory and there are also special education parent organizations located throughout the school districts in New Jersey. Presenting to these organizations at their meetings is an ideal venue for SRTS to connect and build relationships with special education groups and to communicate and demonstrate how children with disabilities can be safely included in SRTS activities.

Contact the Arc of New Jersey:

The Arc of New Jersey, an advocacy group for persons with intellectual and developmental disabilities, maintains a family email network with over 1,000 Arc members and SRTS could utilize this network to disseminate SRTS information to families with children coping with disabilities.

Implement SRTS Event(s) Targeted to Students with Disabilities:

Perhaps the Regional Coordinators could support the implementation of one or two SRTS events which would include children with disabilities, such as a walking audit. This activity could include both students with and without disabilities and special effort could be made to uncover pedestrian issues for persons with disabilities such as lack of curbs cuts for wheel chairs, more pedestrian signals, lower speed zones, etc.

When targeting students with disabilities, the type of school setting could also be considered -- whether it is a neighborhood school, regional/district-wide school or center-based school. This consideration for the school setting is based on the Michigan Department of Transportation's suggestion that a distinct approach may be warranted in pursuing SRTS events depending on the special education school setting where the event will occur – (1) neighborhood schools where students with special needs are integrated with all students, (2) regional/district wide schools, which may have a combination of both inclusion and distinct classes and (3) center-based schools which exclusively serve children with special needs. SRTS events and activities may be more effectively planned and implemented at neighborhood schools while regional/district wide and center-based schools may require more communication, promotion, planning, and accommodations since students with disabilities may not live near the school and may have more severe disabilities.

The SRTS Regional Coordinators can help to identify the sites for these activities. The site where an event will be planned exclusively for children with disabilities could perhaps be a private school that focuses on students with disabilities, such as the Horizon Lower School in Livingston and/or the Concordia School in Jersey City, both of which were interviewed for this study.

Another strategy to consider is to identify and coordinate SRTS events at each type of special education school setting, beginning with a neighborhood school and possibly a regional/district-wide school and eventually a center-based school. For any pilot efforts, NJ SRTS and the Regional Coordinators could pursue utilization of a planning committee approach, whereby the involvement of local stakeholders is sought from pre-event implementation to post-event evaluation. Those stakeholders could include parents of children with disabilities and special educators, both of whom can help with event planning and supervision. Since these are pilot efforts, the SRTS team could conduct a survey of participating schools and committee members after the activity in order to evaluate



program success, limitations and suggestions for improvement or modifications.

These pilot activities can serve as momentum for increased SRTS activities statewide that involve children with disabilities. As such, once these pilot efforts are completed and an evaluation is performed, information on both efforts can and should be used to guide planning and additional efforts to include children with disabilities in SRTS events across New Jersey.

Explore Options to Pilot the WalkSafe® Special Needs Curriculum in New Jersey

A final recommendation is to discuss and consider a potential pilot implementation of the Miami WalkSafe® Special Needs Curriculum at one or two targeted New Jersey sites. The Miami SRTS program developed the WalkSafe® Special Needs Curriculum approximately two years ago by redesigning their general curriculum with support from a special needs school. The Special Needs curriculum was piloted in five schools in Miami Dade County prior to being formally implemented in other Florida schools.

The curriculum is for students in kindergarten through fifth grade and is structured with five days of instruction, with each session lasting 15 to 20 minutes, but with flexibility to exceed 30 minutes. The curriculum is organized with an instructional, modeling, and creative module and includes more visual, non-verbal, and other additive learning opportunities compared to the general curriculum. For example, in addition to videos, flashcards are also used in program instruction to teach topics focused on walking basics, safe places to walk, street crossing, pedestrian signals, and crossing at intersections. Typically, the special needs curriculum is taught by a self-contained classroom teacher but the instructor may vary by school.

Currently, WalkSafe® is collecting more data on their curriculum that will help provide evidence-based results. Thus far, feedback they have gathered from teachers on the Special Needs curriculum has included requests for more color and visuals in the curriculum and increased usage of music and song to help improve retention.

A study³⁹ of the WalkSafe® pedestrian curriculum which was modified slightly for students in grades kindergarten through fourth grade in Newark public schools, was implemented during the 2008-2009 and 2009-2010 school years was conducted. Students were exposed to the program once annually for the two school years and curriculum was delivered weekly for three consecutive weeks. Conclusions from the study of the pedestrian curriculum revealed that a one-time annual educational program resulted in long-term retention between grades three and four only. The test scores of the younger students, however reverted back to the baseline pretest score seen in year one. Therefore, the efficacy and impact of a one-time pedestrian education program may be insufficient to change long-term pedestrian behavior.

The conclusions from the WalkSafe® Newark study support the information given from the interviewees of this report that students with disabilities like younger students need repetition and reinforcement. If a pilot of the WalkSafe® curriculum were to occur in New Jersey for children with disabilities and special needs, these findings needs to be incorporated and appropriately adapted.

Collaboration between NJ SRTS and Miami SRTS to pilot the WalkSafe® Special Needs Curriculum or a modified version in New Jersey could benefit both parties. Miami SRTS would gain additional data on their Special Needs curriculum which is already being successfully implemented in Florida, as well as input on the curriculum's potential for more universal implementation throughout the country. NJ SRTS would gain an opportunity to offer New Jersey children with disabilities a pedestrian skills curriculum designed to accommodate their needs.

To further consider this recommendation, a meeting between the NJ SRTS and Carolina Gutierrez, Assistant Director of the WalkSafe® Program at the University Of Miami's Miller School of Medicine could be convened to gather more information.

VII. Conclusion

Utilizing the invaluable information gathered from the key informant interviews and literature review conducted for this study, recommendations were put forth that will help to advance the goal of including more children with disabilities in New Jersey's SRTS program. These recommendations can be pursued with leadership from the NJ SRTS Resource Center staff and with support from the Regional Coordinators and the NJDOT.

The overall time frame for implementation of the recommendations presented here is not prescribed; however, substantial progress to advance each could be achieved in a one to two year period. These recommendations do not necessarily need to be pursued in sequential order but the research team advocates that NJ SRTS could initially establish a SRTS advisory group of professionals on disability prior to pursuing the other recommendations, as committee members can provide guidance and input on the successful consideration and advancement of the other recommendations. Furthermore, education and training about children with disabilities and the importance of inclusion can increase awareness and involvement of all students, especially students with disabilities.

- ¹ 2008 Pediatric Nutrition Surveillance System (PedNSS).
- ² Rimmer, James H. *Health Promotion for Individuals with Disabilities*. 2002.
- ³ U.S. Department of Transportation, Federal Highway Administration. (2005). Retrieved December 17, 2012, from Safety.fhwa.dot.gov: <http://safety.fhwa.dot.gov/saferoutes/overview/legislation.cfm>
- ⁴ Eberlein, M., Waterman, J. (2010, January 27). Presented by The Michigan Department of Transportation and The Michigan Physical Fitness, Health, and Sports Foundation. Retrieved March 29, 2012, from Saferoutesmichigan.org: http://saferoutesmichigan.org/userfiles/file/Resources/papers_and_presentations/sr2s_papers/EX_SUMMARY_SR_TS_for_Students_with_Disabilities_FINAL.pdf
- ⁵ US Department of Health and Human Services. www.hhs.gov
- ⁶ Office of Special Education Programs, U.S. Department of Education. (2007). Retrieved October 29, 2009, from Ideadata.org: <https://www.ideadata.org/PartBTrendDataFiles.asp>
- ⁷ U.S. Census Bureau, 2010 American Community Survey. (2011). Retrieved July 29, 2012 from Census.gov: <https://www.census.gov/prod/2011pubs/acsbr10-12.pdf>
- ⁸ My Child Without Limits Advisory Committee. (2009). Retrieved July 23, 2012, from Mychildwithoutlimits.org: <http://www.mychildwithoutlimits.org/understand/cerebral-palsy/who-does-cerebral-palsy-affect/>
- ⁹ Ziegler, R. (2007, October). *PELINKS4U*. Retrieved July 16, 2012, from Pelinks4u.org: http://www.pelinks4u.org/articles/stopka/oct07_a.htm
- ¹⁰ *MyChild*. (2012). Retrieved October 31, 2012, from CerebralPalsy.org: <http://cerebralpalsy.org/about-cerebral-palsy/treatment/>
- ¹¹ Spina Bifida Association of America. (2012). Retrieved July 23, 2012, from Spinabifidaassociation.org: <http://www.spinabifidaassociation.org/site/c.liKWL7PLLrF/b.2700313/k.28B2/How Often Does Spina Bifida Occur.htm>

- ¹² Centers for Disease Control and Prevention. (2011). Retrieved July 16, 2012, from Cdc.gov:
<http://www.cdc.gov/ncbddd/spinabifida/school-age.html>
- ¹³ The National Center on Physical Activity and Disability. (2012). Retrieved July 9, 2012, from Ncpad.org:
<http://ncpad.org/content/9/Exercise~and~Fitness>
- ¹⁴ National Center for Education Statistics, U.S. Department of Education. (2009). Retrieved July 19, 2012, from Nces.ed.gov:
<http://nces.ed.gov/fastfacts/display.asp?id=64>
- ¹⁵ Disability-World. (2012). Retrieved August 3, 2012, from Disabled-world.com: <http://www.disabled-world.com/disability/>
- ¹⁶ The National Center on Physical Activity and Disability. (2012). Retrieved July 19, 2012, from Ncpad.org:
<http://ncpad.org/315/1452/Autism~and~Considerations~in~Recreation~and~Physical~Activity~Settings>
- ¹⁷ Appel, Donna, Shira Gebel, Ann Griffin and Robin Olberding. *Physical Education and Autism*. 2008.
- ¹⁸ National Association for Down Syndrome. (2012). Retrieved July 19, 2012, from Nads.org: http://www.nads.org/pages_new/facts.html
- ¹⁹ The National Center on Physical Activity and Disability. (2012). Retrieved July 19, 2012, from Ncpad.org:
<http://ncpad.org/117/910/Down~Syndrome~and~Exercise>
- ²⁰ The National Center on Physical Activity and Disability. (2012). Retrieved July 19, 2012, from Ncpad.org:
<http://ncpad.org/98/725/Acquired~Brain~Injury>
- ²¹ National Council for Community Behavioral Healthcare. (2012). Retrieved August 3, 2012, from Thenationalcouncil.org:
http://www.thenationalcouncil.org/cs/childrens_mental_health_facts_the_national_council
- ²² Croft, H. MD. (2010, May). *Healthy Place, America's Mental Health Channel*. Retrieved August 3, 2012, from Healthyplace.com:
<http://www.healthyplace.com/bipolar-disorder/bipolar-depression/differences-between-unipolar-depression-bipolar-depression/>
- ²³ Mental Health America. (2012). Retrieved July 19, 2012, from Mentalheathamerica.net:
<http://www.mentalhealthamerica.net/index.cfm?objectid=ca866daf-1372-4d20-c8023899e7497020>

- ²⁴ Scahill L and M. Schwab-Stone. *Epidemiology of ADHD in school-age children*. Child Adolescent Psychiatry Clinic of North America. 2009(3):541-555.
- ²⁵ Bailey, K. (2009, August). *The Impact of Physical Activities on Children with Attention Deficit Hyperactivity Disorder's Ability to Focus*. The Faculty of the College of Education, Ohio University. Retrieved July 15, 2012, from Cehs.ohio.edu: <http://www.cehs.ohio.edu/resources/documents/bailey.pdf>
- ²⁶ National Center for Education Statistics, U.S. Department of Education. (NCES 2009-020). Retrieved July 19, 2012, from Nces.org: http://nces.ed.gov/pubs2009/2009020_2a.pdf.
- ²⁷ Dafoe, C. (2012). The National Center for Physical Activity and Disability. Retrieved July 20, 2012, from Ncpad.org: http://www.ncpad.org/lifetime/fact_sheet.php?sheet=449§ion=2403
- ²⁸ National Center for Education Statistics, U.S. Department of Education. (2009). Retrieved July 19, 2012, from Nces.ed.gov: <http://nces.ed.gov/fastfacts/display.asp?id=64>
- ²⁹ The National Center for Physical Activity and Disability. Retrieved July 20, 2012, from Ncpad.org: <http://www.ncpad.org/433/2272/Children~with~Disabilities~and~Obesity>
- ³⁰ Fragala-Pinkham, M., Haley, S., Rabin, J., Kharasch, V. *A Fitness Program for Children with Disabilities*. *Journal of the American Physical Therapy Association*, 2005; 85(11), 1182-1200.
- ³¹ Ussher, M., Ph.D., M.Sc., Stanbury L, M.B.B.S., B.Sc., Cheeseman, V., M.B.B.S., B.Sc., Faulkner G., Ph.D., M.Sc. *Physical Activity Preferences and Perceived Barriers to Activity Among Persons With Severe Mental Illness in the United Kingdom*. *Psychiatric Services*, 2007; 58(3), 405-408. Retrieved online July 20, 2012, from <http://ps.psychiatryonline.org/data/Journals/PSS/3797/07ps405.pdf>.
- ³² National Center for Safe Routes to School. *Involving Students with Disabilities in SRTS*. http://saferoutesinfo.org/sites/default/files/resources/Involving_students_with_disabilities.pdf. May 2010. Accessed on July 20, 2012.
- ³³ Kessler Foundation/National Organization on Disability. *The 2010 Survey of Americans with Disabilities in New Jersey*. Final Report. 2005.
- ³⁴ Cross, A., Traub, E., Hutter-Pishgahi, L., Shelton, G. *Elements of Successful Inclusion for Children with Significant Disabilities*. *Topics in Early Childhood Special Education*, 2004; 24(3), 169-183.

³⁵ Owen, Richard R. *Strengthening Relationships and Bodies: Social Inclusion through Recreation. Impact*. Published by the Institute on Community Integration. Volume 16, Number 2, Summer 2003.

³⁶ Safe Routes to School National Partnership. *Final Position Paper on Students with Disabilities*. November 4, 2009.

³⁷ The National Center on Physical Activity and Disability and the Illinois Department of Transportation. Discover Inclusive Safe Routes to School Guidebook which builds upon the Final Position Paper from the SRTS National Partnership. 2011.

³⁸ U.S. Department of Education, Office of Special Education. (2004). Retrieved December 17, 2012, from Ed.gov:
<http://www.gpo.gov/fdsys/pkg/PLAW-108publ446/html/PLAW-108publ446.htm>

³⁹ Livingston, M.D., David, Iesha Suber, Dawn Snyder, Sharon Clancy, Marian Passannante and Robert Lavery. *Annual Pediatric Pedestrian Education Does Not Improve Pedestrian Behavior. The Journal of Trauma Injury, Infection and Critical Care*. Volume 71, Number 5, November 2011.

APPENDIX A: Articles about Children with Disabilities

- Furlong, P. (2010, September). Parent Project Muscular Dystrophy. Retrieved April 12, 2012, from ParentProjectMD.org: <http://www.parentprojectmd.org/site/DocServer/EdMatters-AdaptivePE.pdf?docID=2401>
- Eberlein, M., Waterman, J. (2010, January 27). The Michigan Department of Transportation, The Michigan Physical Fitness, Health, and Sports Foundation. Retrieved March 29, 2012, from Saferoutesmichigan.org: http://saferoutesmichigan.org/userfiles/file/Resources/papers_and_presentations/sr2s_papers/EX_SUMMARY_SRTS_for_Students_with_Disabilities_FINAL.pdf
- Office of Special Education Programs, U.S. Department of Education. (2007). Retrieved October 29, 2009, from Ideadata.org: <https://www.ideadata.org/PartBTrendDataFiles.asp>
- Pedestrian and Bicycle Information Center, Highway Safety Research Center. Safe Routes to School Guide. University of North Carolina, 2007.
- U.S. Census Bureau, 2010 American Community Survey. (2011). Retrieved July 29, 2012 from Census.gov: <https://www.census.gov/prod/2011pubs/acsbr10-12.pdf>
- My Child Without Limits Advisory Committee. (2009). Retrieved July 23, 2012, from Mychildwithoutlimits.org: <http://www.mychildwithoutlimits.org/understand/cerebral-palsy/who-does-cerebral-palsy-affect/>
- Ziegler, R. (2007, October). PELINKS4U. Retrieved July 16, 2012, from Pelinks4u.org: http://www.pelinks4u.org/articles/stopka/oct07_a.htm
- Ratanawongsa, B MD. (2012). E-medicine Health. Retrieved July 16, 2012, from Emedicinehealth.com: http://www.emedicinehealth.com/cerebral_palsy-health/article_em.htm
- MyChild. (2012). Retrieved October 31, 2012, from CerebralPalsy.org: <http://cerebralpalsy.org/about-cerebral-palsy/treatment/>
- Spina Bifida Association of America. (2012). Retrieved July 23, 2012, from Spinabifidaassociation.org: http://www.spinabifidaassociation.org/site/c.liKWL7PLLrF/b.2700313/k.28B2/How_Often_Does_Spina_Bifida_Occur.htm
- Centers for Disease Control and Prevention. (2011). Retrieved July 16, 2012, from Cdc.gov: <http://www.cdc.gov/ncbddd/spinabifida/school-age.html>
- The National Center on Physical Activity and Disability. (2012). Retrieved July 9, 2012, from Ncpad.org: <http://ncpad.org/content/9/Exercise~and~Fitness>

- Disability-World. (2012). Retrieved August 3, 2012, from Disabled-world.com:
<http://www.disabled-world.com/disability/>
- National Center For Education Statistics, U.S. Department of Education. (2009). Retrieved July 19, 2012, from Nces.ed.gov: <http://nces.ed.gov/fastfacts/display.asp?id=64>
- The National Center on Physical Activity and Disability. (2012). Retrieved July 19, 2012, from Ncpad.org:
<http://ncpad.org/315/1452/Autism~and~Considerations~in~Recreation~and~Physical~Activity~Settings>
- National Association for Down Syndrome. (2012). Retrieved July 19, 2012, from Nads.org:
http://www.nads.org/pages_new/facts.html
- The National Center on Physical Activity and Disability. (2012). Retrieved July 19, 2012, from Ncpad.org: <http://ncpad.org/117/910/Down~Syndrome~and~Exercise>
- The National Center on Physical Activity and Disability. (2012). Retrieved July 19, 2012, from Ncpad.org: <http://ncpad.org/98/725/Acquired~Brain~Injury>
- National Council for Community Behavioral Healthcare. (2012). Retrieved August 3, 2012, from Thenationalcouncil.org:
http://www.thenationalcouncil.org/cs/childrens_mental_health_facts_the_national_council
- Croft, H. MD. (2010, May). Healthy Place, America's Mental Health Channel. Retrieved August 3, 2012, from Healthyplace.com: <http://www.healthyplace.com/bipolar-disorder/bipolar-depression/differences-between-unipolar-depression-bipolar-depression/>
- The National Center on Physical Activity and Disability. (2012). Retrieved July 19, 2012, from Ncpad.org: <http://www.ncpad.org/644/2615/Depression~and~Physical~Activity>
- Mental Health America. (2012). Retrieved July 19, 2012, from Mentalheathamerica.net:
<http://www.mentalheathamerica.net/index.cfm?objectid=ca866daf-1372-4d20-c8023899e7497020>
- Scahill L, Schwab-Stone M. Epidemiology of ADHD in school-age children. *Child Adolescent Psychiatry Clin N Am.* 2000;9(3):541-555.
- Bailey, K. (2009, August). The Impact of Physical Activities on Children with Attention Deficit Hyperactivity Disorder's Ability to Focus. The Faculty of the College of Education, Ohio University. Retrieved July 15, 2012, from Cehs.ohio.edu:
<http://www.cehs.ohio.edu/resources/documents/bailey.pdf>
- National Center for Education Statistics, U.S. Department of Education. (NCES 2009-020). Retrieved July 19, 2012, from Nces.org: http://nces.ed.gov/pubs2009/2009020_2a.pdf.

Dafoe, C. (2012). The National Center for Physical Activity and Disability. Retrieved July 20, 2012, from Ncpad.org:
http://www.ncpad.org/lifetime/fact_sheet.php?sheet=449§ion=2403

The National Center for Physical Activity and Disability. Retrieved July 20, 2012, from Ncpad.org: <http://www.ncpad.org/433/2272/Children~with~Disabilities~and~Obesity>

Ussher, M., Ph.D., M.Sc., Stanbury L, M.B.B.S., B.Sc., Cheeseman, V., M.B.B.S., B.Sc., Faulkner G., Ph.D., M.Sc. Physical Activity Preferences and Perceived Barriers to Activity Among Persons With Severe Mental Illness in the United Kingdom. *Psychiatric Services*, 2007; 58(3), 405-408. Available online at:
<http://ps.psychiatryonline.org/data/Journals/PSS/3797/07ps405.pdf>.

Fragala-Pinkham, M., Haley, S., Rabin, J., Kharasch, V. A Fitness Program for Children with Disabilities. *Journal of the American Physical Therapy Association*, 2005; 85(11), 1182-1200.

Kessler Foundation/National Organization on Disability. The 2010 Survey of Americans with Disabilities in New Jersey. Final Report. Edward J. Bloustein School of Planning and Public Policy, Rutgers University, New Brunswick, N.J., 2005.

Cross, A., Traub, E., Hutter-Pishgahi, L., Shelton, G. Elements of Successful Inclusion for Children with Significant Disabilities. *Topics in Early Childhood Special Education*, 2004; 24(3), 169-183.

National Center for Safe Routes to School. Involving Students with Disabilities in SRTS. http://saferoutesinfo.org/sites/default/files/resources/Involving_students_with_disabilities.pdf. Accessed on July 20, 2012.

APPENDIX B: Interview Questionnaire

STRUCTURED INTERVIEW QUESTIONNAIRE

Interviewee: Welcome and overview of SRTS program

1. Please tell us about your organization:
 - a. What is your mission/focus?
 - b. What kind of services/programs do you offer?
 - c. Who is the primary population you serve (disability type; age range, etc.)?
2. What are some of the specific travel issues and needs children with disability x face?
 - a. What strategies do you use to overcome these issues?
3. As we discussed, the prime goal of our study is to investigate how children with disabilities can become more engaged in NJ SRTS programs. Understanding the issues children with disabilities face related to their specific disability type will help us achieve that goal.

That said:

- a. How would you describe some of the more prevalent characteristics of disability x that could impact involvement in SRTS programs/physical activities?
 - b. What are common pitfalls/obstacles when attempting to include children with disability x in physical activities?
4. What benefits could children with disability x derive from participating in physical activities?
 - a. We have been gathering information regarding IEPs. Are there any unknown issues or worthy points regarding IEPs and a child's physical activity you can share with us?
5. Let's briefly discuss a few typical SRTS programs and brainstorm thoughts on how children with disability x could participate most fully.

Create walking school bus;

Convene a bicycle rodeo;

General bicycle education;

Conduct class walking field trip;

Have students create a walking journal;

Hold a walk to school poster contest.

Issues to think about as we discuss these activities include:

- a. What is the supervision level needed?
 - b. What are potential obstacles and solutions related to involving children with disability x in this particular activity?
 - c. What are the potential benefits of engaging in the activity for children with disability x?
6. What steps do you suggest SRTS programs should take to more fully involve children with disabilities?
- a. What strategies could be pursued to address motivation-related issues?
 - b. What strategies could be pursued to address social-related issues (fear, anxiety, etc.)?
 - c. Are there any actions you feel are needed to specifically engage more children with disability x?

Do you feel SRTS programs need to be 'customized' for children with disability x?

7. As we move forward, we are seeking to develop a disability stakeholder network to help advance the goal of involving more children with disabilities in NJ SRTS programs. Would you be willing to continue to serve as a resource in that regard? Is there a specific individual in your organization you would like us to reach out to?
8. Is there anything else you would like to add or any advice you could share as we work to achieve this goal of including more children with disabilities in NJ SRTS programs?
- a. What is the biggest challenge you see as we move forward with this initiative?

Thank you very much for your time and input.