



NATIONAL CENTER FOR BICYCLING AND WALKING

FORUM



ISSUE NO.
52

Above: Whitney Wilson (l) and Rose Hollis (r) clean up in "Getting There," the new board game for transportation advocates. For more about the game (and Whitney's and Rose's comments), see p.14.

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Readers' Forum

Idaho's Stop Sign Law

■ I am a bicycle rider and ride approximately 4000 or 5000 a year, all for pleasure. I have to admit to a cavalier attitude toward stop signs. That is, I come to a stop sign, slow down, check cross traffic, and then cross. I don't stop and most other riders that I know do the same. Idaho it seems to me has a more humane approach.

Apparently they know that bringing a bicycle to a stop and then getting started again is a lot of trouble and takes a lot more energy than cruising through if no traffic threatens.

Attached is Idaho's bicycle law, why can't California do the same?

Tony Leap <BLUE22633@aol.com>

Tony—

Thanks much for your thoughts and the address. Back when Idaho passed their law in the 80's, *Bicycling* magazine asked several of us what we thought.

My primary concerns were (1) that when the state "gives" us something, I want to know what they'll take away or expect in return; (2) young bicyclists emulate what they see and I doubted they'd understand the subtleties of behavior under the law, as compared to simply blowing the stop sign. As

someone who was involved in teaching cycling to youngsters and creating materials, this worried me.

Ultimately, I'd like to see transportation agencies use stop signs more judiciously and consider such things as yield signs or other traffic calming measures as alternatives where an actual stop isn't required for safety (e.g., where there's no sight obstruction problems). —JW.

■ The question is what are the statistics on bicycle/stop sign accidents since the law was passed compared to previous years before the new law?

Tony <BLUE22633@aol.com>

Tony—

Dunno. As I said, the concerns I mentioned were ones I raised back then. I don't know if Idaho is keeping track.

On the other hand, typical crash statistics kept by police and state highway safety offices tend to significantly under-count serious bike

crashes (ones that send someone to an emergency room). See, for instance, studies done by the Highway Safety Research Center in North Carolina comparing police reports with emergency room admissions in the same communities.

Bottom line: probably no one knows if there have been good or bad effects of the change. —JW

Risk Compensation

■ Please tell me more about "risk compensation." Thanks!

<Marc.Brenman@ost.dot.gov>

Marc,

Rather than show my (1) vast ignorance of the subject and (2) therefore uninformed prejudices on the topic, here are a few items I found through a google.com search...

—JW

☞ Here's a British web page devoted to the topic:

<http://www.ravenfamily.org/andyg/risk.htm>

Excerpt: Idaho Statutes.

TITLE 49 MOTOR VEHICLES CHAPTER 7 PEDESTRIANS AND BICYCLES 49-720. STOPPING -- TURN AND STOP SIGNALS. (1) A person operating a bicycle or human-powered vehicle approaching a stop sign shall slow down and, if required for safety, stop...

<http://www3.state.id.us/cgi-bin/newidst>

NCBW FORUM 52

Editor John Williams

Publisher Bill Wilkinson

About NCBW Forum

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Calendar

September 13-16, 2001

Rail-Volution: Envisioning the New Frontier, San Francisco, CA. Info: (503) 823-6870.

web: www.railvolution.com/ataglance.htm

September 17-21, 2001

Velo-city 2001, Edinburgh/Glasgow, Scotland. Info: Meeting Makers Ltd, Jordanhill Campus, 76 Southbrae Drive, Glasgow G13 1PP, Scotland, voice: 0141 434 1500 fax: 434 1519, e-mail:

<Velo_city@meetingmakers.co.uk>
web: <http://velo-city2001.org/>

September 21-22, 2001

New Zealand Cycling Conference 2001, Chateau on the Park, Christchurch. Info: NZ Cycling Conference, PO Box 237, Christchurch, NZ, voice: 03 371 1472, fax: 03 371 1864. email:

<cycling@ccc.govt.nz>

September 24-28, 2001

International Conference on Ecology and Transportation, Keystone, CO. Info: Pam Cloer, CTE Events Coordinator, (919) 515-7990, email:

<pcloer@unity.ncsu.edu>
web: www.itre.ncsu.edu/cte/icoet2001.html

September 26-29, 2001

TrailLink 2001: the 3rd International Trails and Greenways Conference, St. Louis, MO. Info: Rails- to-Trails Conservancy, (202) 974-5152, email: <rtccconf@transact.org>
web: www.railtrails.org

September 27-28, 2001

Creating Active Community Environments, Sandy, UT. Info: Jane Lambert: (801) 572-9487.

October 4-6, 2001

Innovative Approaches to Understanding and Influencing Physical Activity, Dallas, TX. Info: The Cooper Institute, Dallas, TX. web: www.cooperinst.org/conf2001.asp

October 10-12, 2001

Footprints and Bike Tracks: Washington State's biennial conference on walking and bicycling, Olympia, WA. Info: Bicycle Alliance of Washington, Box 2904, Seattle, WA 98111; (206) 224-9252
Web: www.bicyclealliance.org

November 21-25, 2001

Pan African Bicycle Conference, Jinja, Uganda. Info: First African Bicycle Information Office (FABIO), Main St, Jinja, Plot 9, P.O.Box 1537, Uganda. voice or fax: ++256 (43) 121 468, e-mail: <fabio@source.co.ug>
web: <http://www.connect-uganda.net/fabiobspw.htm>

☞ Here's an example of the other side. This one is on the "United States Freedom Fighters" website...
<http://usff.com/hldl/hoax/goldstein/reviews/6.htm>

☞ Here's one from the Industrial Safety & Hygiene News Online site:
http://www.ishn.com/CDA/Article_Information/BehavioralSafetyItem/0,3563,3436,00.html

☞ Here's a link to Gerald Wilde's book, **Target Risk**:
<http://pavlov.psyc.queensu.ca/target/>

Here's a book on the subject:
Challenges to Accident Prevention: The Issue of Risk Compensation Behaviour:
Rudiger Trimpop and Gerald Wilde (1994, 150 pages, Paperback, Styx Publications, US\$48.50) "This collection of papers on risk behaviour/risk compensation... by some of the leading experts in the field... highlights some of the underlying psychological processes involved in

unwanted — and often unexpected — human reactions to system modifications aimed at improving safety on the roads and in industry."
<http://www.drivers.com/store/books/book003.shtml>

☞ Here's an article from the American Driver and Traffic Safety Assn's Chronicle:
http://adtsea.iup.edu/adtsea/TheChronicle/fall_94/risk_behavior_analysis.htm

☞ Here's something from the "Independence Institute," whatever that might be...
<http://i2i.org/SuptDocs/Personal%20Freedom/RiskHomeostasis.htm>

☞ And, finally, something on risk compensation in stock trading...
http://lcb1.uoregon.edu/jarradh/finl316/s99final_8ans.htm

CORRECTION ISSUE 51 FEATURE ARTICLES

In the previous issue, two articles appeared in a garbled form, with parts of the first page repeated on the second and some missing text.

I'm not sure quite how it happened but in order to better serve our subscribers, we're reprinting the articles in full. To do this, we're adding eight extra pages to this issue.

—John Williams, editor



Got something to say? Contact:
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<email: john@montana.com>

February 1 - March 30, 2002
Exhibition: *The Physical Fitness of Cities: Vision and Ethics in City Building*, Salt Lake City, UT.
Web: www.fitcities.org/

February 10-13, 2002
National Leadership Conference: *Healthy Kids, Healthy Communities: Integrating Health and Education*, Washington, DC. Info: Professional and Scientific Associates, (404) 633-6869, fax: (404) 633-6477
Web: <http://www.cdc.gov/nccdphp/dash/conference/current/index.htm>

February 27 - March 1, 2002
16th National Conference on Chronic Disease Prevention and Control: *Cultivating Healthier Communities*, through research, policy and practice, Atlanta, GA. Info:
Web: www.cdc.gov/nccdphp/conference/current/index.htm

September 3-6, 2002
ProBike/ Prowalk 02, the 12th International Symposium on Bicycling and Walking, St. Paul, MN.
web: www.bikewalk.org

To get your event listed, contact:
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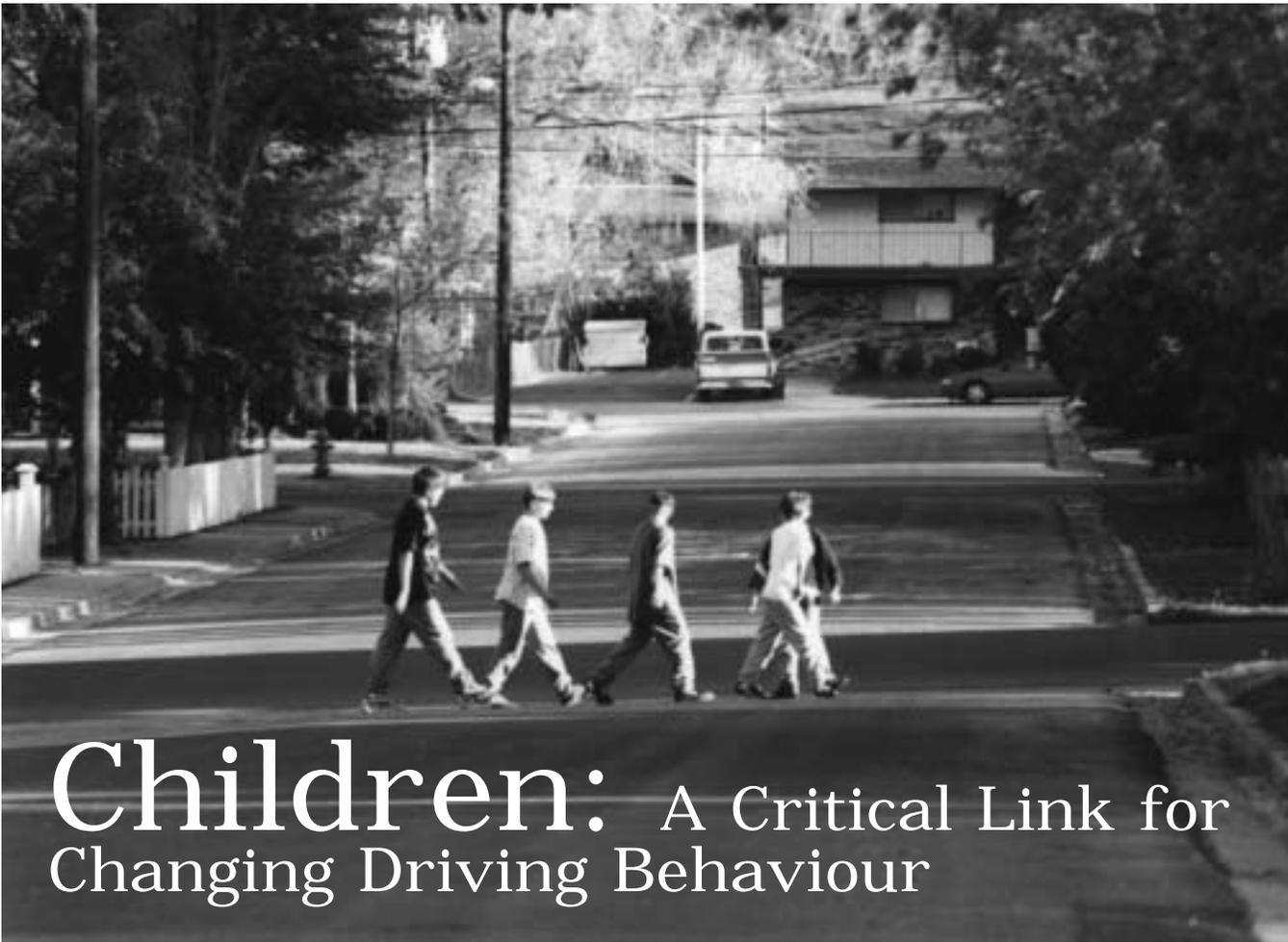
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To view back issues, point your browser at: www.bikefed.org



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FAMOUS
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IS THIS?

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Children: A Critical Link for Changing Driving Behaviour

Catherine
O'Brien

York Centre
for Applied
Sustainability
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*Research for this paper
was made possible
through the Canadian
Pacific Post-Doctoral
Fellowship*

Reports from Transport Canada¹, the National Round Table on the Environment and the Economy², the Centre for Sustainable Transportation³, and many others, have outlined the pressing need to move towards more sustainable transportation.

Outstanding ground-work has been accomplished with excellent recommendations offered. Moving from recommendations to action, and specifically influencing behaviour in the direction of sustainable transportation is critical.

Technology-based solutions are being explored but it is wide-

ly recognized that these cannot offer the immediate solutions required (apart from low technology solutions such as removing barriers to walkable communities and cycling).

Of the options examined, reducing kilometres driven appears to be the only one which could meet both the stabilization and 20 per cent reduction targets (for carbon dioxide emissions) by 2005⁴.

While many technology solutions are welcome, it is important to question whether a sustainable transportation future simply involves a transfer of our auto-dependency to cleaner vehicles. Research

regarding the impacts of cars on children suggests that reducing our car use is also an important goal⁵. Technology that improves air quality will mitigate some of the negative impacts on children. However, we may anticipate that the acceptability of cleaner vehicles will reinforce auto-dependency.

The sedentary lifestyle that children and youth have adopted, the number of traffic fatalities and injuries, restricted independent mobility and impoverishment of childhood experiences are likely to persist. Therefore, our efforts towards technology-

based solutions must be coupled with strategies to influence driver behaviour.

Proposals for more compact, mixed-use communities, increased use of public transit, user fees, and trip reduction are all tied to the need for greater public awareness and education. The Transportation and Climate Change Collaborative⁶ has proposed a number of education and awareness strategies.

The National Round Table on the Environment and the Economy's "The Road to Sustainable Transportation in Canada: State of the Debate"⁷ says the following:

Increasing public awareness is the most significant step needed to lay the groundwork for effective action. As part of a sustainable transportation strategy, public education is needed to:

- *Inform individuals of the risks and costs of current transportation trends.*
- *Educate individuals about steps they can take to contribute to sustainable transportation.*
- *Build public support for the political actions necessary for sustainable transportation.*

A critical question then is how do we educate for sustainable transportation and also influence driver behaviour?

Dr. McKenzie-Mohr has published an on-line Guide for Fostering Sustainable Behaviour⁸. He writes:

Most programs to foster sustainable behaviour rely upon large-scale information campaigns. These campaigns are usually based on one of two perspectives regarding changing behaviour.

The first perspective assumes that changes in behaviour are brought about by increasing public knowledge about an issue, such as decreasing landfill capacity, and by fostering attitudes that are supportive of a desired activity, such as recycling.

Accordingly, programs based on this perspective attempt to alter behaviour by providing information, through media advertising, and frequently the distribution of brochures, flyers and newsletters.

McKenzie-Mohr concludes that "numerous studies document that education alone often has little or no effect upon sustainable behaviour." Changing attitudes and values does not automatically lead to behaviour changes.

McKenzie-Mohr outlines a strategic approach for Fostering Sustainable Behaviour through community-based social marketing which is being incorporated into car trip reduction projects.

The *Way To Go!* school program⁹ and *Active and Safe Routes to School*¹⁰ across Canada employ an informal process of community-based social marketing. These programs are now examining methods to formally incorporate the tools and methodology of community-based social marketing.

Changing attitudes and values does not automatically lead to changes in behaviour.



Parents are deeply concerned when they learn about the impacts of cars on children. However, few are aware of the extensive nature of these impacts.



David Engwicht¹¹ of Australia, has also postulated that information dissemination alone will not change driving behaviour to the extent required. Building on the work of McKenzie-Mohr and Engwicht, I have been researching the impact of our auto-dependency on children.

My aim is to compile a comprehensive body of literature that can be used to appeal to the value drivers hold for our children. Raising the profile of children's needs and feelings may touch the emotional chord which drivers need to hear. However, as McKenzie-Mohr rightly states, knowing that we should change our behaviour is not enough. Changing norms, providing prompts, obtaining

public commitments identifying and removing barriers are all significant for success.

My preliminary research suggests that parents are deeply concerned when they learn about the impacts of cars on children. However, few are aware of the extensive nature of these impacts.

While public outreach strategies have focussed on convincing people to reduce the number of kilometres they drive, become more physically active, and run more fuel efficient cars, the role of children has often been overlooked.

There is a need to raise the profile of children in sustainable transportation planning and education. The impacts of cars on children as well as the

opportunities to foster sustainable behaviour bear further investigation. We may learn that parents are more receptive to information about child-friendly transportation than sustainable transportation.

A review of the literature on children and transportation indicates that most articles address several impacts of cars on children, including youth. Often the points that are stressed relate to rising levels of obesity, traffic fatalities, risks associated with physical inactivity and air pollution.

The impacts are far more comprehensive and may cause us to explore the responsibility that we as a society may have for putting childhood at risk.

The following is a brief overview of the

impacts of cars on children:

- *Traffic fatalities are the leading cause of death in Canada for children over the age of one year¹².*
- *Fewer than half of Canadian children now walk to school¹³. This figure drops to 10 per cent in the United States¹⁴.*
- *Two out of three Canadian children do not meet average physical activity guidelines to achieve optimum growth and development¹⁵.*
- *More than a quarter of Canadian and American children and youth are overweight¹⁵.*
- *Heavy traffic has reduced the independent mobility of children and youth¹⁶.*
- *Opportunities and locations for spontaneous play are severely restricted by traffic¹⁷.*
- *Children who survive traffic accidents may suffer from emotional distress for a considerable amount of time, unless treated. This may include depression, recurring nightmares, difficulty attending to school-work, fear of cars¹⁸.*
- *There appears to be no threshold for ozone levels that are safe and children are particularly susceptible¹⁹.*
- *Children may be more vulnerable to airborne pollution because their airways are narrower than those of adults¹⁹.*
- *Children have markedly increased needs for oxygen relative to their size. They breathe more*

rapidly and inhale more pollutant per pound of body weight than do adults. In addition, they may spend more time engaged in vigorous outdoor activities than adults¹⁹.

- *Exposure to traffic noise has been linked to reduced reading levels in children (possibly due to reduced auditory discrimination)²⁰.*
- *In Canada, approximately 30 per cent of greenhouse gas emissions come from transportation. These are contributing to global warming which will have long-term impacts on children²¹.*

Parents were presented with this information in both a rural and urban focus group and asked for their response. They were visibly disturbed, and commented that most people are likely unaware of this information.

The points that seemed to be the greatest concern for them centred on the loss of spontaneous play opportunities and restricted independent mobility.

They clearly related the information to their own children and seemed to struggle with the realization that their children are not having the quality of life which they, as parents, are trying to offer.

One parent mentioned that the only real freedom her twin eight year olds ever experience occurs in the summer when they go

camping or when they can get out of the city to hike.

Their children no longer find walking normal, and complain if asked to walk short distances, unless they are in a natural park setting. Parents talked about their fear of allowing their children to move around independently in the neighbourhood.

They wonder at what age it will feel safe to permit this and how their children will develop the skills to deal with their environment alone. One father spoke of his son's need to socialize with his friends, and realized that this is completely dependent on the availability of parents to drive.

When asked if a week-long campaign highlighting the impacts of cars on children would change driving behaviour the focus group participants stated that it would probably change only a few people. They recommend that the information should be presented many times over until it is common knowledge.

The greatest impact, they feel would come if their children asked them to drive less. Parents suggested that children should be learning about sustainable transportation at school and influencing their parents.

It's interesting to note that parents responded to the less tangible, qualitative

The only freedom one parent's kids experience occurs when they go camping during the summer.

Parents feel the greatest impact would come if their own children asked them to drive less.

impacts of cars on their children. This is an area that has received little research attention. Cars and the impoverishment of childhood experience has been raised by Sandqvist²².

From children's point of view, cars and traffic in neighbourhoods is deleterious and undesirable. Children lose opportunities to learn from first-hand interaction with the real world and with adults and other children in their neighbourhood. Children increasingly live a world of vicarious experience provided by television and computers.

In Canada, surveys²³ indicate that approximately 50 per cent of children walk to school. Fewer and fewer, then have the experience and memories that go along with walking to school. We are creating more sedentary lifestyles where many children are chauff-

feured from point 'A' to point 'B' in "adult-sized" trips rather than "kid-sized" trips. (Anyone who has tried to coerce a child to walk quickly knows that as adults we tend to be concerned with getting to our destination — kids are more engaged with living along the way.)

What is the significance of this? How important are those lingering, sensory experiences that many of us can remember from our childhood—playing with mud puddles, kicking through piles of autumn leaves, and chatting with buddies along the way to school? While the research in this area is scanty, we do have anecdotal indications.

One retired British teacher has written about the loss of lived experiences of his students. He writes:

I found it increasingly difficult to stimulate children's writing and artwork because there was so little in the way of stored experience for them to use... If I wanted children to write about walking in the rain I had to suggest just about everything because so few of them had walked in the rain... Not one, not one of them had the chance to feel raindrops running down their backs. Had any of them walked in the morning fog? Not one. Had they had the chance to walk into the teeth of a howling wind? Had they felt the full force of a hailstorm? Of course not²⁴.

Fostering Sustainable Transportation Behaviour

Fortunately, we have a tremendous opportunity to learn from a Canadian initiative that is working with parents and children to change driving behaviour. It's the *Way To Go!* school program in British Columbia.

The program begins from the premise that parents and teachers are concerned about traffic safety, particularly at drop off and pick up times at school. Increasing traffic congestion and aggressive drivers have led to the creation of a new term, "parent drop off rage."

The coordinator of *Way To Go!*, Bernadette Kowey, works with Parent Advisory Councils to analyze the nature of their concerns and implement strategies for reducing traffic. Children become involved in neighbourhood mapping and surveys, creating bar charts to indicate transportation patterns.

While each school is free to implement its own strategy, many develop *Walking School Bus* programs, "*Walking Wednesdays*" which invariably lead to *Walking Thursdays*, *Fridays*, and so on.

Parents, teachers and children identify barriers to walking and cycling and develop plans to remove these whenever possible. The process leads to a new community culture — one might say, "a culture for sustainability."



As the program unfolds, schools proudly identify themselves with statements such as, “we’re a walking and cycling school.”

The results of *Way to Go!* are impressive. Kowey anticipated that the program would be delivered to 300 British Columbia schools during its first year. The demand has been far greater. More than half the schools in British Columbia, 450 schools, have requested the *Way To Go!* kit. Many schools report a 50 per cent increase in the number of children walking.

One school reduced the number of cars dropping off children from 150 to just four. *Way To Go!* is sponsored by the RoadSense Team: Autoplan brokers and Insurance Corporation of British Columbia (ICBC) — partners in road safety.

Way To Go! provides a model for us to learn from and support. Kowey sees it as a stepping stone towards a greater understanding of the impacts of our transportation choices. Her experience with parents verifies that they can be motivated through concerns for their children. She also notes that many impacts of cars on children are not common knowledge for parents.

One of the most striking discoveries parents have reported to Kowey relates to the impoverishment of childhood experiences. Parents are astonished

to learn their children do not know the route home from school, even though this may be only three blocks.

One parent recounted that on a particularly rainy day she was tempted to lapse into the old pattern of picking up her children. She imagined them walking home, becoming cold, miserable and wet. She resisted the urge to pick them up.

To her delight and surprise, the children arrived home singing at the top of their lungs, having thoroughly enjoyed their new experience. “I would have deprived them of that if I had driven,” reflected their mother.

Parents in the *Way To Go!* program are beginning to ask the question, “What are we doing to our children?” As the habit of driving gives way to walking and cycling, parents are recognizing that their children have been deprived of many interesting and perhaps critical, experiences.

Both Kowey and parents are asking for more information. They would like to have wider reporting of the impacts of cars on children. They believe that more research is needed to understand the extent of the impoverishment of childhood experiences.

Recommendations for Strategic Directions

Applied research on children and sustainable transportation is needed. The Academy

for Educational Development recently published a literature review on reducing vehicle miles travelled, with a focus on youth. They write,

In the transportation research literature we found little material that pertained to youth and air pollution or VMT. We contacted more than 15 university transportation/environment/engineering departments across the United States, but none were doing research specifically in the field of environmental transportation and youth²⁵.

The York Centre for Applied Sustainability, Moving the Economy, and the Centre for Sustainable Transportation are collaborating to organize a one-day forum in Toronto which will focus on Children and Sustainable Mobility. The Forum will attract academics, policy makers, business representatives, community-based organizations and educators. It is anticipated to take place in February, 2002.

Way to Go! provides an excellent framework for communicating research information that can then be applied to change behaviour. Parents sensitized to links between transportation and their children’s health and social development needs are likely to embrace other solutions, including legislation. General public awareness campaigns may also be more effective once par-

One school reduced the number of cars dropping off children from 150 to just four.

Kowey repeatedly observes a transition in the schools applying the *Way To Go!* kit...school culture shifts towards one that views walking and cycling as the norm.

ents and children have become actively engaged in reducing car use.

For example, public transit companies could raise the profile of children's health and safety in their advertising. Corporate sponsors, particularly those associated with children, may be approached from the perspective of promoting sustainable transportation for the sake of children.

A challenging research opportunity exists regarding the *Way To Go!* program. Kowey reports that she repeatedly observes a transition in the schools applying the *Way To Go!* kit. The school cultures shift towards one that views walking and cycling as the norm. Understanding this cultural shift and learning how to extend it throughout the neighbourhood would assist the transition towards sustainable transportation.

Conclusion

Serious attention and substantial funding for programs such as *Way To Go!* and *Active and Safe Routes to School* provide cost effective and sustainable behaviour change in mobility patterns. Their community-based approach, which creates change at both the individual level and community level, may prove to be more efficient than conventional public education and awareness campaigns.

Delivering these pro-

grams also provides additional benefits for children's health and well-being. They may lay the foundation for building a sense of community in which a culture for sustainability will flourish.

Finally, I would like to appeal to those of us engaged in research and implementation strategies regarding sustainable transportation to note the absence of children in our discourse. Very often, reports refer to "moving people and goods," examining mobility patterns, increasing efficiencies, and so on.

The "people" envisioned in many studies and reports are generally adults. Even though the term appears inclusive, youth and child mobility needs and impacts generally go unnoticed. If we attend more to children and youth, we may also find that we communicate more effectively in attempts to foster sustainable transportation.

We need multiple strategies and mechanisms for our transition towards sustainable transportation. Raising the profile of children in transportation discussions is a starting point. Coupling public awareness with social marketing and opportunities for positive action are critical. Expanding our knowledge regarding the impact of cars on children will enhance programs aimed at changing driving behaviour.

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 9. *Way to Go! School Program: The Way to Go! School Program fosters safer, healthier travel alternatives for children attending elementary schools*. Its goal is to enable more children to walk, bike, carpool or take public transit to school with their families, friends and neighbours. Way To Go! offers assistance in the form of a manual and resource kit. Information may be obtained at their web site, www.waytogo.icbc.bc.ca. E-Mail: waytogo@icbc.sympatico.ca
Tel: (604) 732-1511
Fax: (604) 733-0711
 10. *Active and Safe Routes to School: Active and Safe Routes to School* is a national program encouraging the use of active modes of transportation to and from school. Components of the program include Walking School Buses, Biking School Buses, promotion of no-idling zones for cars around schools, group pick-up spots, busing drop-off zones a kilometre or so from school, mapping activities and community infrastructure changes. Information may be obtained at their web site, www.goforgreen.ca. E-Mail: info@goforgreen.ca
Tel: (613) 562-5313
Fax: (613) 562-5314
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Update...

Dr. O'Brien recently completed two studies of interest to readers:

Ontario Walkability Study: Trip to School: Children's Experiences and Aspirations, May, 2001

Parent Attitudes and Travel Behaviour Regarding the Trip to School: Opportunities for Sustainable Mobility, June 2001

For more information on either study, contact the author at: <imurray@renc.igs.net>



THE DAY-LONG HIKE TO SCHOOL

Can the “walking school bus” compete with school closures, school sprawl, and supersized mega-schools?

by John Williams

Last year, two important events roughly coincided in our town. One was the closing of two schools in older neighborhoods. While residents fought hard against a recalcitrant district administration and its “go along, get along” board, ultimately the residents lost. One neighborhood school, Roosevelt, was leased long-term, with very generous terms, to a local church to house its parochial school.

The other school, Emma Dickinson, became an Adult Ed center. No doubt a good purpose but few of its students would be prime candidates for

walking school buses.

Kids who used to go to Roosevelt now go to a somewhat nearby school, Paxson Elementary. Many can even walk to school.

On the other hand, kids who went to Dickinson now go to C.M. Russell, a suburban school across town.

Dickinson kids going to Russell have a 45-minute bus ride with several stops along the way. That’s how they use almost 2 hours of their school day.

Closing these two schools was the first important event. The second came a few months later. It was our first “Walk the Kids to

School Day.” In our town, this focused particularly on Lewis & Clark School, a suburban school in the southeast corner of the community. Everyone had a nice time walking with the kids. The media was there. Parents loved it. Politicians did too.

But I kept thinking about those kids from Dickinson, staring out the windows of their bus while it wound its long circuitous way to Russell School.

As the world went by their bus windows, those kids may have remembered when they, too, walked to school. Every day. In those kids’ “good old

days,” they moved from home to school like a huge youthful wave, rolling down Curtis Street heading for the school’s front door.

Bicyclists and pedestrians were everywhere. Getting to school and going home again was an adventure. And motorists who used Curtis Street at those special times had no choice but to drive very carefully.

I figured that if these kids and their parents were to join the “Walk Your Kids to School Day” celebration, they’d have to start at about 5:00 in the morning in order to get to school on time.

It'd be a long and arduous trip. They'd walk a couple of miles down South 3rd, with its gravel shoulders and dusty 35 to 40mph traffic. Their nice school clothes would already be soiled from the first leg of their journey.

They'd next turn south on Russell Street. Few sidewalks there, and in some spots the dirt and mud shoulder gives way to the corners of garages. Russell Street's right-of-way is kind of spotty.

After a few miles on Russell Street, they'd pass behind the Ace Hardware and the Albertson's supermarket, with smelly dumpsters proudly squatting where the sidewalk ought to be.

Then the kids and parents would come to "Malfunction Junction" — the six-legged intersection of Russell Street, South Avenue, and Brooks Street (U.S. 93). This would give them pause because it's got lots of ways to go but none of them are very good. Whichever way they went, though, it could easily take them a good 2 to 4 minutes to deal with this one intersection's many signal phases.

Once through, they would trudge past the fairgrounds and its animated billboard. "Monster Trucks Saturday Night!" That might raise their spirits. Nothing like the prospect of noise and car crushing to make kids happy.

They'd pass the YMCA's impressive

campus with its big buildings and fancy skateboard park. Most of the kids might not even know what the "Y" is. Few would have ever gone there or used their nice facilities. From their neighborhood, it would seem like a world away.

Finally, Russell School would come into view. Kids and parents would turn into the school's driveway and tramp sorefooted up to the front door, heroes all.

Over the past few years, many of us have seen a growing interest in walking to school, bicycling to school, walking (or bicycling) with kids to school, and creating safe routes to school. It's an admirable movement, one worthy of support. And it's taken off in many communities in this country and others.

But as a recent report from the National Trust for Historic Preservation (see sidebar) points out, "To a surprising extent, public policies have cut schools and communities off from each other by encouraging the closure of small, community-centered schools and promoting mega-school sprawl."

Some factors that fuel this shift include:

- *Guidelines that mandate or recommend large minimum sizes for school sites;*
- *State reimbursement policies that favor new construction over renovation;*

- *Laws that allow school districts to ignore local plans or zoning regulations;*
- *Building codes that equate modern materials and methods with "safe" construction.*
- *Funding formulas that assure money for school buses and fuel but not for keeping neighborhood schools open.*

Local practices, as we have seen in our community, can also thwart efforts to keep walkable schools. Deferred maintenance policies allow older school buildings to deteriorate until they must be razed.

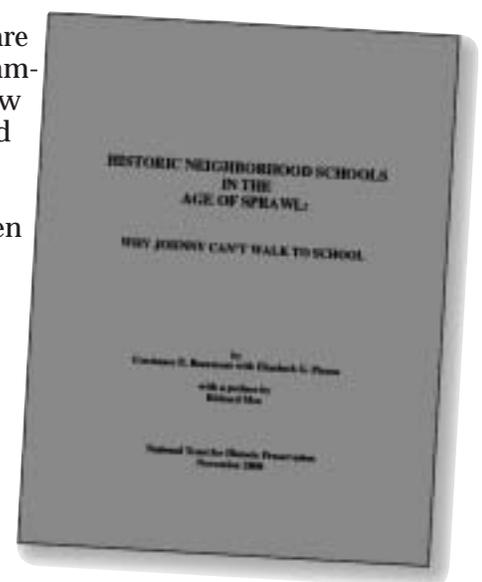
Some school boards and administrations are notorious for withholding important information from the public. And they often work as if in a vacuum where no other agencies appear to exist.

But the bottom line is simple to the point of being très obvious: we must keep walkable community schools if we expect kids to walk to them.

And, in towns like ours, things are changing. For example, our brand new pro-neighborhood School Board majority recently voted to keep open a school that had been slated for closure this fall.

The bottom line is simple to the point of being très obvious. We must keep our walkable community schools intact if we expect kids to walk to them.

The National Trust for Historic Preservation's November 2000 report, "Historic Neighborhood Schools in the Age of Sprawl" can be downloaded from: www.nationaltrust.org/main/frontline/schoolsRpt.pdf



GETTING THERE

a fun game with a message...

For more information:
 Contact Peggy Schmidt, School Outreach Coordinator,
 Missoula Ravalli Transportation Management
 Association (MR TMA), 127 West Spruce Street,
 Missoula, MT 59802. Phone: (406) 542-1257
 E-mail: peggyandben@aol.com

“Getting There” is a board game for ages eight and above. It teaches players about the monetary costs involved with different kinds of transportation. It also tests their knowledge of transportation options.

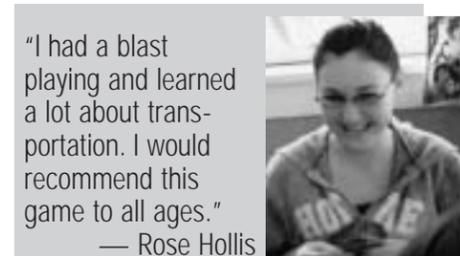
The player with the most money at the end of the game wins. The game is based loosely on real life, however, so the cyclist and pedestrian tend to win. This is because in real life, walking and cycling are the least expensive ways to get around.

The game can be used as the centerpiece of a school outreach program on transportation choices. Transportation professionals can purchase a classroom set of the game (seven or eight copies), and bring the game to classrooms they visit.

Peggy Schmidt, School Outreach Coordinator at the Missoula Ravalli Transportation Management Association, does one-hour and fifteen-minute presentations in grades four through six. First, she gives a forty-minute oral presentation.

Students are motivated to listen, because they will need the information from the presentation to correctly answer “quiz questions” in the board game. Then, students are divided into groups of three or four to play “Getting There.” Peggy does a five-minute wrap-up after students play the game.

According to Peggy, “The feedback from both kids and teachers has been very positive. Kids say they love the game. Teachers really like it too.”



“I had a blast playing and learned a lot about transportation. I would recommend this game to all ages.”
 — Rose Hollis



“The game showed which ways of transportation were good for the environment. I really enjoyed all the different activities.”
 — Whitney Wilson

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Spontaneous Combustion: The New Threat to America's Bicycles

by Dan Burden

Two years ago, a Florida bureaucrat wouldn't let another civil servant park his bicycle in the State Environmental Protection Agency office building. He reportedly feared that the bicycle might "spontaneously combust." Upon hearing the news, our local bicycle club had a hearty laugh. All laughter has ceased.

In late December, 2000, club member Arnie Olson narrowly escaped a hellish fate. His bike burst into flames two miles north of Craighead Swamp while he was descending the 3% grade off the

crossing of the Appalachicola River. Arnie's brakes quickly melted down, making it impossible to slow or stop the bike.

The flames spread fast. Quick-witted Arnie climbed onto his bike's top tube. On and on he sped... twenty... thirty... forty miles per hour. Arnie was saved when brothers Dave and Don Willow came along side and lifted him free. The bicycle tumbled harmlessly to the pavement.

When they got back to the bike, they found the magnesium alloy frame engulfed in brilliant multicolored

flames. So hot was the fire that it continued to burn even after the bike was thrown into the river.

An inspection of the remains showed that rapid combustion began near — but not at the front brake mount. Theories that the fire started because of friction between brake pad and rim were quickly doused.

"The movement of the bike through oxygen-rich swamp air, especially at the higher speed of the descent, may have 'torched' the normally stable alloys," suggested State Fire Marshall Cleve Ander-

son. "And this is not the first such case I have dealt with this month," he muttered.

Before becoming an expert witness in bicycle liability cases, I would have scoffed at reports of such a phenomenon. But my research has disclosed 17 more confirmed cases of spontaneous combustion in five southern states. As many as eight other events could be related to the rapid and unexpected combustion of light alloy bicycle parts.

Recently, two Georgia officials, Louisiana's celebrated Fire Marshall, Ollie Bourgeine, and an Atlanta-based consulting team joined the search for a cause. Their interest was sparked when a Georgia State coed, Margaret Saunders, suffered first, second and third degree burns in the latest spontaneous combustion event to hit the Land o' Cotton.

According to a friend who asked to remain anonymous, "Margaret was a careful rider who kept her bike immaculate, never allowing the first bit of grease or dirt to accumulate."

Although no witnesses actually saw the fire start, a 7-11 store manager heard Margaret's desperate screams. He ran to the storeroom, grabbed an extinguisher and made it to curbside within two minutes.

Margaret had already collapsed. In failing, she suffered

hip, shoulder and head abrasions and a concussion from which she has yet to recover. All that remained of the bike was a grotesque outline burned into the asphalt, a bit of white ash, a few steel bearings and other steel parts that failed to melt in the inferno that consumed Margaret's chrome-moly Bianchi.

Incidents such as this, like the dreaded emergence of AIDS and the unexplained but short-lived epidemic of Legionnaire's Disease, are on a sudden and puzzling rise. Not a single case of spontaneous combustion had been recorded before 1995. Two events in '95 are now confirmed, one in '96, then five in '97, five more in '98, eight in '99 and twelve in 2000.

"We don't have an epidemic yet," cautioned Louisiana's Fire Marshall Ollie Bourgeine, "but people should not rest easy until we figure this blasted thing out."

Already, several Southern communities have enacted ordinances banning bikes within 200 feet from any wood frame building. And despite official attempts to keep the situation under control, there have been reports of cyclists being squirted with hoses as they passed through several Dade County, Florida neighborhoods.

Here's what we know about the new cycling menace. Most incidents have involved chrome-moly bikes,

although at least two titanium frames and one graphite bike have fallen victim to the dreaded SCS (Spontaneous Combustion Syndrome).

Further, a steady stream of water from well-directed waterbottles won't save the day, once flames are present. Bourgeine reports that the fire reaches temperatures of 3800-4400 degrees Fahrenheit. "Only the total removal of an oxygen atmosphere can slow the consumption of the metals," he adds.

"A Class 'A' fire extinguisher, or a large (3#) box of baking soda will work during the first twelve seconds but after that, forget it," cautions Bourgeine. "Try to get a few photos, preferably in color, both for insurance records and to help us analyze this bizarre plague devastating valuable high quality bicycles."

Researchers at the prestigious Atlanta Institute of Spontaneous Combustion are baffled. Using a wide variety of temperatures, chemicals, atmospheric conditions and other variables, they have not been able to duplicate one of these strange spontaneous events.

"The best we can do is to simply melt these frames into a puddle," reports Chief Engineer Dave Henley-Smyth. "In no case have we been able to ignite any of the 200 frames that have been donated for our research."



Both American and international bike manufacturers have eagerly supported the research with funding and free bikes. Fears of a new wave of product tort liability cases led one company's CEO to mutter "We don't want to get burned on this one."

The Consumer Product Safety Commission, quick to recognize a new hazard when they see one, has already stepped in. "We're too late for the 2002 model bikes," reports a senior official who spoke only under condition of deep background, "but you can be certain all 2003 bikes will be required to carry a fire

Above: Fire extinguishers have become standard equipment on all paths in Florida as a result of the recent wave of bike-related conflagrations.

Previous page: A cautious cyclist lets the Fire Department know his cycling plans before taking off on a ride. Note garments that comply with proposed CPSC regulations for cycling clothes.

Photos by Laura Burden

extinguisher and riders will be required to wear flame retardant underwear. Quite simply, we're not taking any chances of having this turn into a major disaster."

Bush Administration officials, who normally resist regulation of consumer products, are reported to have "looked the other direction on this one." Reliable sources have disclosed that the FBI and CIA are investigating the possibility that at least two cases may have been "either influenced by or started by terrorists."

Bicyclists in North and Central Florida have taken advantage of the situation by wearing specially made jerseys and shirts that carry the message "Pass with care/this vehicle may spontaneously combust."

Motorists have already gotten the message and have been observed to move to the left a full lane when passing cyclists. Others have been seen to detour two to three blocks from popular bike routes.

America's bicyclists are cautioned to not let this thing get blown out of proportion. While the media is quick to dramatize any unexplained phenomenon or new type of disaster, so far there have only been twenty seven confirmed cases. All of these have involved rapidly moving bikes, so storing your bike in the garage or basement seems quite safe.

Two Tallahassee bicycle club members have decided not to wait for the CPSC to take action. They've already sewn up their own flame-retardant underwear.

Unfortunately, their efforts have led to extreme chaffing. One rider spent three days in a local hospital as a result. Our advice: Wait for qualified manufacturers to produce safe and reliable products!

Until the results are in, follow these precautions:

1. *If possible, wear wool clothing rather than nylon or other synthetics that ignite when exposed to flames. If wool is too warm for your climate, cotton will act as a reasonable, albeit often soggy, substitute.*
2. *Consider riding your old Hercules or Hermes three-speed more, especially during early morning hours when the air is dense (this is when most of the recorded burnings have taken place). The steel tubing of the Hermes and the low level of alloy componentry make this bike the safest on the road.*
3. *Report any unusual behavior of possible terrorists to local police (as mentioned earlier at least one or two of these incidents may have been influenced by terrorists),*
4. *If possible, confine your rides to river front paths or circle your local fire station. At the very least re-route your travel so that you are on a direct line from fire house to fire house on cross-town rides.*
5. *Never ride alone. It is best to ride in threes, so that if a fire does break out, two companions can lift the third rider from his/her bike. Practice this technique as you ride and memorize this new jingle:*

"Three at a time is not just a good rhyme;. It's your surest protection; from spontaneous combustion."

Dan Burden is executive director of Walkable Communities, Inc., and former Florida State Bicycle/Pedestrian Coordinator.

In honor of Dan's appointment last January as the Transportation Research Board's Distinguished Lecturer for 2001, we decided to reprint one of his finest essays, "Spontaneous Combustion: The New Threat to America's Bicycles."

While we've altered it slightly to fit today's needs, it was originally published in Bicycle Forum #11 (Summer 1984). At that time, the essay caused a tremendous storm of worry and angst among readers...as well as chuckles and guffaws.

As editor, I remember getting a call from a staffer at the Stockton, California, Planning Office. She said they had gotten their copy of Bicycle Forum that morning and had spent half the day arguing over whether the article was for real or a spoof. A few days later, I got a postcard from a bicycle shop owner in Maryland saying: "Please tell me which brands of bicycles burn up! I want to make sure I'm not selling them!"

Just so you know, the bicyclist in the photo is Dan's brother, Phil, who was a Westerville, Ohio, fireman for many years (as was Dan's dad Ralph). And the photos were taken by Laura Burden, Phil's wife. When Dan originally sent the article in, I told him it just cried out for photos. He, being the ham that he is, naturally agreed. And, coming from a firefighter family, he was able to quickly accommodate our needs.

Hope you enjoy this trip to the Bicycle Forum archives!

John W., editor

Review:



PPS' NEW BOOK IS A WINNER

by John Williams

I've long admired the efforts of Project for Public Spaces (PPS). An outgrowth of the work of William H. Whyte (*The Social Life of Small Urban Spaces*), PPS has been around for 25 years, helping "create and sustain public places that build communities."

Unlike some groups, they get their hands dirty making things happen. Since 1975, they've worked with more than 1,000 communities, turning dismal public spaces into vibrant community assets.

They also publish many useful guides and videos on such topics as public mar-

kets, transit, parks, downtown revitalization, and more.

Recently, PPS published a book that distills some of their revitalization experience into advice that can benefit all who work with public places. *How to Turn a Place Around* is that book and it is good.

There are many things to learn from this book — it has detailed instructions on how to evaluate public spaces, do user surveys and observations, count pedestrians, and more. There are lots of photos of nice public spaces and not so nice ones.

But, in this review I'd like to focus on two

topics that should interest all pedestrian and bicycle advocates.

First, PPS suggests a focus on place, rather than project. Typically in a project-oriented approach, members of certain disciplines (e.g., transportation engineering) go through a process to create a new road, a civic stadium, or a housing development. While they may conduct some sort of "public process," it is often orchestrated and aimed at the proposed end point. Seldom does the genesis of the project come from asking the community what they want.

In a place-oriented approach, a team works with the community to elicit their concerns (i.e., what's wrong with this place?) or their visions (how would they like to see this place change?). Focusing on place instead of project can lead to solutions to problems that team members didn't even know existed. And it does this by taking the community's interest as the starting point.

Focusing on project, on the other hand, often leads to a slightly modified (but still preconceived) project that someone else wants. It may not address the community's desires, except by accident — call it "mitigation."

Second, PPS emphasizes the importance of what happens after the design is done. The best design work can go for naught if no one

sweeps away the trash or scrubs off the graffiti. As they say:

"...About 80% of the success of any public space can usually be attributed to its management. No matter how good the design of the space is, it will never become a true place unless it is managed."

It is management that shows people that this space is cared for. And this visible care gives users a sense of comfort and safety. Further, by keeping an eye on public spaces, one can often see things that need to be "tweaked."

A bench here, some movable chairs near a water fountain over there, a new tree for shade or some petunias for color. These are the kinds of things that make a place live and they will only be done if people care about the space.

A well-cared-for space that arises from a community's concerns and vision tends to get used and enjoyed by everyone. And PPS, through this book, helps us all move toward that goal.

How to Turn a Place Around: A Handbook for Creating Successful Public Spaces; \$30; by Project for Public Spaces, 153 Waverly Place, 4th Fl., New York NY 10014.

To order online, go to: <http://www.pps.org>



SOUTH AFRICANS ...swept off their feet

an Afribike update by Paul Steely White

Since December 1998, the Afribike project of the Institute for Transportation and Development Policy (ITDP) has mobilized over 1,000 Southern Africans with bicycles and training. What's more, Afribike has successfully communicated the experiences of its beneficiaries to decision makers, marshaling new and unprecedented support for pro-bicycle projects from national, provincial, and local African governments, and from industry and international lending institutions.

In January 2000, Afribike established itself as an independent non-profit organization based in Johannesburg, South Africa. ITDP continues to provide support and technical assistance to Afribike as it undertakes advocacy and project work throughout Southern and Western Africa. Funding for Afribike was made possible by the support of the International Foundation, Alternative Gifts International, the Marcia Brady Tucker Foundation, the Roy A. Hunt Foundation, and the Members of ITDP.

Mobilizing South Africa's Stranded Students

Because their only option is to walk, most primary and secondary school children in South Africa arrive to school late and tired. Many do not arrive at all.

In some areas it is common for children to walk 10km each way. In the KwaZulu-Natal province, 37% of secondary school students walk further than 5.5 kilometers each way. That is over six miles per day of walking, a significant time and calorie expenditure that, according to school principals in the province, fatigues 70% of the

students so much that learning is significantly compromised.

According to the KwaZulu-Natal Rural Mobility Study, "The most economic form of intervention would be in the form of supplying bicycles to assist scholars [students] in traveling to school." For most families, sending their children to school by public transport or mini-bus taxis, at 1,000 Rand (US\$147) per year (or about 10% of average annual household income for one student), is prohibitively expensive.

As a result, 89% of secondary students and 98% of primary students walk. While

trip distances within the urban and peri-urban townships are shorter than in rural locales, student attendance and performance in these areas is similarly hampered.

In partnership with V3, an engineering firm, and local and provincial governments, Afribike is currently implementing several projects that will mobilize a total of 2,000 students by providing subsidized bicycles. The projects will simultaneously

- 1) train the students in riding, maintenance, and repair;
- 2) implement concurrent infrastructure improvements to improve the safety of the new cyclists; and
- 3) establish a local bicycle economy, creating sustainable local jobs in bicycle sales, repair, and related services.

Two of these student bicycle projects are based in Ugu and Uthekela, rural regions in KwaZulu-Natal. Another is in Ivory Park, an urban township located about 25km north of downtown Johannesburg and near South Africa's fastest growing suburb, Midrand, which also happens to be the site of ITDP's 1997 Workbike Demonstration Project. (See "Making Bikes Work For South Africa", Sustainable Transport #8)

The Pioneering Mzobe Brothers

The relative efficiency of bicycles vs. public transport and walking begs the question: Why aren't students cycling to school already? A few already are. Despite hilly terrain, brothers Richard and Lindo Mzobe, two teenage secondary school students in rural KwaZulu-Natal, ride their bicycles to school every day.

Richard, 18, began cycling to school in February of 1999 after he purchased a used mountain bike. After witnessing his big brother's success, Lindo bought a used BMX bicycle. Today, Richard and Lindo each save about 1.5 hours per day that they used to spend walking. That leaves more time and energy for studies. Both are set on going to college.

Richard and Lindo overcame many obstacles. They saved up for several months, then took an expensive mini-bus taxi trip to Port Shepston (46km away) where the nearest bike shop is located. After purchasing their used bicycles (about US\$50) they then had to pay extra to fasten their bicycles to the top of the mini-bus taxi for the return trip. Richard and Lindo share one set of 3mm, 4mm and 6mm Allen wrenches, tools that are rare in their community.

In addition to enabling them to perform many of their own repairs, the wrenches double as a makeshift bike lock: each day they use their tools to lock their handlebars into an unrideable position, effectively deterring thieves. The busy highway that cuts through their community is the only route to school.

The author, who rides daily from Brooklyn to Manhattan, was aghast at the lack of a shoulder, high traffic speeds, and blind curves as he rode with them. Richard and Lindo hugged the edge of the road and pushed on as the author sweated.

Issues like affordability; access to bicycles, tools, and spare parts; security, and unsafe routes must be addressed to enable more students to ride to school. Some past efforts to mobilize students with bicycles have



*Above: Afribike dealerships being delivered.
Below: An Afribike dealership—a converted shipping container.*



yielded limited success because only bicycles were provided.

In time, the bicycles fell into disrepair. Simply injecting bicycles into the community is not sustainable. Seeking to improve on past efforts, Afribike is providing skills training, establishing local dealerships, and improving safety.

The Afribike Skills Course

Students are selected for the program based on the distance they travel to school and on their household's income. Those eligible to receive subsidized bicycles will first complete the Afribike Training Course. The course, led by Afribike Master Mechanic, Sam Soni, teaches

Students are selected for the program based on the distance they travel to school and on their household's income. Those eligible to receive subsidized bicycles will first complete the Afribike Training Course.



Above: Carrying a load by bicycle in Ghana.

Promoting cycling goes beyond the sustainable provision of bicycles and related skills. Safe and comfortable "cycling habitats", especially in urban areas, are vital.

Afribike's Containerized Dealerships

Afribike dealerships are franchised bicycle retail outlets that are owned and managed by local entrepreneurs selected and trained by Afribike. Dealership entrepreneurs are trained by professional bicycle mechanics and bicycle shop owners and operators like Archie Sipoyo of Archie's Bike Tech in Soweto. (Mr. Sipoyo also serves on Afribike's Board of Directors.) Afribike dealerships, which include workshop and retail space, are housed in converted 20 foot shipping containers.

In addition to investing and keeping more project dollars within the community, the dealerships solve many problems encountered with previous bicycle hardware promotion projects. First, from a project point of view the dealerships provide a recognizable and locally controlled framework for project promotion, training, implementation and monitoring.

Second, the dealership provides a sustainable mechanism to deliver ongoing service and spare parts, vital to keep new cyclists on the road. Third, the dealership provides a financially sustainable mechanism to meet future demand.

Fourth, the dealership addresses the issue of job creation in areas where unemployment approaches 50%. Fifth, the dealership establishes an invested and sustainable local constituency and an organizational capacity for cyclists' rights, safety, and infrastructure advocacy.

Lastly, the dealerships give the cycling industry a real incentive to participate in the project by providing outlets to sell their products.

In short, the dealerships represent a departure from previous bicycle promotion projects that have ignored these issues and simply provided free, subsidized or micro financed bicycles in isolation from private sector stakeholders. In 2000, Afribike plans to roll out three containerized dealerships, with 15 more planned for 2001.

Improving Safety with "Shova Lula"

Promoting cycling goes beyond the sustainable provision of bicycles and related skills. Safe and comfortable "cycling habitats", especially in urban areas, are vital. In Ivory Park, where urban traffic conditions are unsafe for cyclists, this includes the construction of dedicated cycle paths. "Shova Lula", which means "Push Easy" in the Tswana language is colloquial for cycling and the name of this planned bicycle infrastructure component.

Maikel Lieuw Kie Song, Afribike's Projects Director, designed these cycle paths under the auspices of the Research Centre for Employment Creation in Construction of Wits University and the Interface for Cycling Expertise (Jeroen Buis) from the Netherlands. These lanes are designed to offer cyclists a safe riding environment and access to the most important destinations in Ivory Park, such as schools, clinics, the main taxi station, municipal offices, and the soccer stadium.

Getting the network built has proven difficult, as politicians and even some community members are skittish about embarking on an unproven concept. To overcome these obstacles, Afribike and ITDP are pursu-

ing several strategies. An alliance with Slagment, a local producer of low-energy cement, has agreed to provide half of the cement required for the network.

The first draft of the cycle path design calls for approximately 4.6 km of bicycle paths, and it includes accommodations for future expansions into surrounding areas like Tembisa Township. The recommended design is for a 3m wide, concrete, two-way dedicated cycle lane with raised crossings at important intersections. Local contractors will use employment-intensive methods and low-energy cement to construct the lanes. The estimated cost of the project is 1.4 million Rand, approximately US\$200,000.

In rural KwaZulu Natal, Afribike has partnered up with V3 Consulting Engineers, who will assess the current infrastructure in the region and provide recommendations to improve accessibility and safety. Dedicated bicycle infrastructure is not yet in the cards for KwaZulu Natal; the current goals are to improve accessibility and safety at crossings of streams and major roads, and increase the visibility and awareness of cyclists with reflective material and signage.

Afribiking to Save the Black Rhino

South Africa's game reserves are home to several endangered and rare species including the black and white rhino, the rare mammal species of suni, samango monkey, the pangolin and the shy red duiker. In order to protect these species from poachers and monitor important biological indicators dedicated field rangers patrol the parks boundaries and sensi-

tive habitat sites. Most rangers, bereft of transportation, walk several kilometers per day executing their daily duties.

Bicycles were identified as a crucial component in the fight to save endangered species, as they could provide rangers and wardens with a much-improved ability to patrol the park perimeter, as well as enable timely access to "problem areas" where poachers typically enter the reserves. Bicycling is better than walking because bicycle-equipped rangers are three to four times faster and provide a more active presence along reserve boundaries.

From June 18-21, 2000 Afribike provided 25 bicycles to 25 game rangers of the Ndumo game reserve, home to the endangered Black Rhino. The bikes were donated by Royal Mail, the United Kingdom's Post Office, which is donating its old stock to Afribike via Re-Cycle, a bicycle recycling NGO based in the UK. Sam Soni, Afribike's Master Mechanic and apprentice Kehn Hlagala trained the rangers in riding and bicycle maintenance while Marko Ludeking and Erik Rouwette, two Dutch exchange students at the University of the Witwatersrand, helped out.

Mobilizing the first 25 rangers in the Ndumo is the first stage of a larger program in which Afribike hopes to equip 200 rangers in Ndumo and Umfolozi game reserves, both located in South Africa's KwaZulu Natal province. The larger program will also entail an outreach component in the local communities surrounding the reserves, where bicycles could enable access to markets, services and schools.

Afribike Senegal, Guinea and Ghana

Afribike is currently expanding the geographical focus of its work to the West African countries of Senegal, Guinea, and Ghana. Prior to project implementation, Afribike undertook a one-week Afribike Training Course (for local project partners), and a one-week scouting mission to meet with local stakeholders, gather information, and devise strategies to increase cycling. (The reports of these missions are available on ITDP's website.)

In July 2000, Afribike will begin to implement projects in Senegal and Guinea with local NGO partners. The Ghana project will start in 2001. The projects include a number of innovative aspects including the sourcing of new bicycles based on technical input from local users, significant involvement of private-sector bicycle companies, widespread micro financing of bicycles via local NGOs and credit institutions, and in the case of Senegal, concurrent labor-based bicycle infrastructure construction. The projects in Senegal, Guinea and Ghana are being financed by respective national governments through loan agreements with the World Bank.

The bicycle is a crucial component in the fight to save endangered species, as it can provide rangers and wardens with a much-improved ability to patrol the park perimeter.

Paul S. White is the Africa Program Director for the ITDP. Paul received his Master's degree in Environmental Science from the University of Montana in Missoula. Paul commutes by bicycle from his home in Prospect Heights, Brooklyn to ITDP's midtown Manhattan office, a trip that will get much easier with the opening of the Manhattan Bridge bicycle lane next month.

Paul also volunteers for Transportation Alternatives, the NYC advocates for cyclists and pedestrians.

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For more information on Afribike, visit the organization's homepage: <http://www.afribike.org/>





based on individual pedestrian needs.

Ries says that the time allowed for a pedestrian crossing is typically based on a walking speed of four feet per second. Many pedestrians easily cross the street in this amount of time, which means traffic is stopped longer than is necessary when no one is in the crosswalk. But other pedestrians, particularly the elderly and the disabled, need more time to cross.

This system, says Ries, will not only improve safety for the pedestrian, but will also improve the efficiency and flow of vehicular traffic at intersections.

TRACKING PEDESTRIANS

From Volume 1, Issue 2 of the ITS Institute Sensor, University of Minnesota.

You're crossing the street at a busy intersection when, half way to the other side, the signal changes from "Walk" to "Don't walk." Perhaps you started out late, or were walking slower than usual. Whatever the case, you're now in the path of oncoming cars.

A new system developed by researchers at the University of Minnesota may solve that problem by automatically detecting pedestrians in a crosswalk and extending the walk signal (and stopping traffic) until they've safely cleared it.

"We believe we can help prevent accidents," says associate professor Nikolaos Papanikolopoulos of the Department of Computer Science and Engineering, who, with graduate student Osama Masoud, created the system. The idea, Papanikolopoulos says, came from Gary Ries, traffic signal engineer at the Minnesota Department of Transportation (Mn/DOT), who was familiar with Papanikolopoulos' previous

research on video-based detection of cars. Ries proposed developing a similar method for pedestrians that improved upon the drawbacks of current devices.

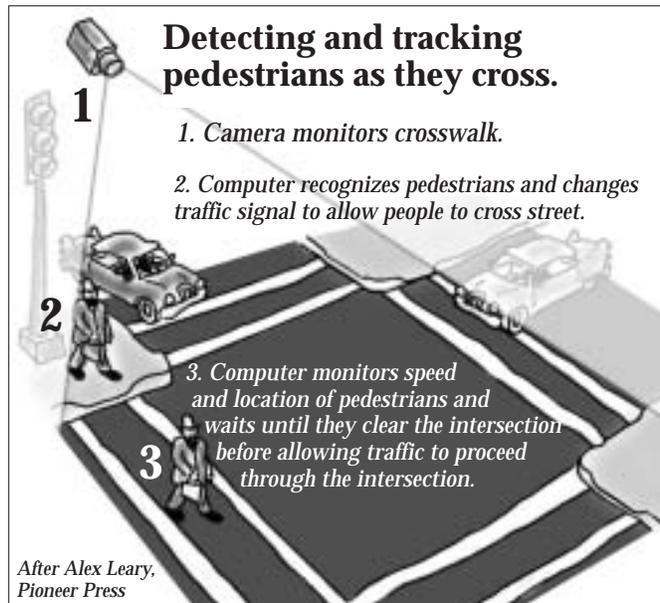
"I thought something better might be possible," he says. Ries explains that most traffic signals respond to vehicles and adjust accordingly. However pedestrians, unlike cars, are not automatically detected, nor does pedestrian signal timing vary

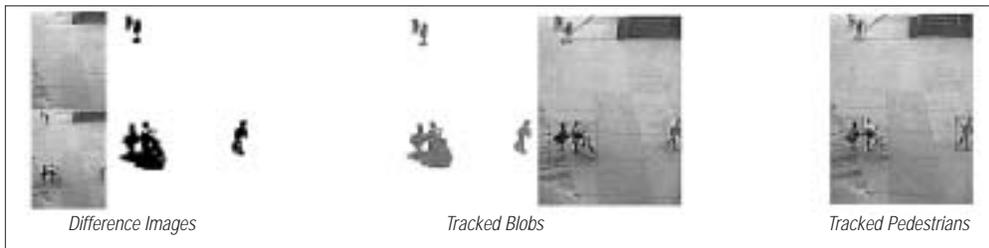
How it works

Although detecting pedestrians in a crosswalk is easy for the human eye, performing the same task with a computer requires a complex program that can detect moving objects. For this, the researchers use a regular video camera to collect data and a Pentium-based PC with a Matrox Genesis board to process it.

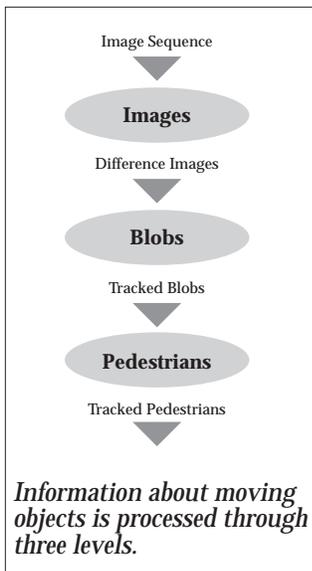
The camera, mounted in an arbitrary position, captures an image of the background,

Pedestrians, unlike cars, are not automatically detected, nor does pedestrian signal timing vary based on individual needs.





Above: How moving objects are tracked.
Below: Pedestrian tracking in the crosswalk.



in this case the crosswalk scene, without movement. This background image is processed and stored in the system, then updated throughout the day according to changing light and weather conditions.

The process considers images as groups of either figure pixels, belonging to a pedestrian, or ground pixels, belonging to the background. The researchers assume that uninteresting objects, such as the crosswalk, are displayed by pixels whose intensities are constant or change very slowly over time.

But an interesting object, such as a pedestrian, would be located where pixel intensities have recently changed. Thus, by identifying and analyzing figure pixels in each image of a sequence over time, the system receives information about the existence of pedestrians.

This takes place on the first, or image, level of processing. From the sequence of raw images, the system produces a sequence of difference images by separating the figure pixels from the fixed background image.

These difference images are then passed on to the second level, where they are segmented to obtain “blobs.” In this level, the system tracks blobs, without regard to what or whom they represent, then passes them on to the final level—the pedestrian level.

In the pedestrian level, relations between pedestrians and tracked blobs, represented by an undirected bipartite graph, as well as information about pedestrians, is inferred from previous information. By using Kalman filtering, the system can predict and estimate pedestrian attributes.

These include the spatio-temporal coordinates (location, velocity, etc.) of each pedestrian while the pedestrian is visible—which constitute the output of the system as a whole.

The system can operate in diverse weather conditions, including rain and snow, but sunny days present the biggest challenge. “Shadows are a tricky issue,” Papanikolopoulos says, because the system may be confused by shadows cast by an adjacent building or passing vehicle. He says the most effective way to deal with the problem is to know the geometry and the surroundings of the area being monitored.

The research project culminated in a field test of the system last fall at an intersection on campus, which allowed researchers to learn how it handled various simple and complex pedestrian scenarios, including different walking speeds, partial and full obstructions, and pedestrians meeting and passing each other. Papanikolopoulos was pleased with how the system performed, citing the 90 percent accuracy it achieved in detecting humans and triggering the signal to allow pedestrians time to cross.

For this experiment, the system activated a flashing signal rather than a red light at the crosswalk. Papanikolopoulos explains that stopping vehicles or otherwise interfering with traffic brings with it safety and liability risks that no one is yet willing to

take on, making it an issue “more complicated than the research itself.”

One possible solution, he says, is for the team to find an industrial partner, (e.g., a consulting company with traffic control experience) to evaluate and test the system and to eventually commercialize it.

Because of its cost, and its failure to work well in highly crowded situations, the system’s implementation in the field will most likely be limited to specially selected sites, Ries says. Sites may be chosen based on the age mix of pedestrians, volume of pedestrians, and width and complexity of the crossing.

Meanwhile, the researchers will continue to refine the system and expand its potential for other applications. The system has already evolved for use for more complicated tasks, such as counting people and detecting specific activities like walking or running. Another potential safety application is its use for detecting children near a school bus, Papanikolopoulos says. Most commercial interest so far has come from those wanting to collect data—for example, to determine how many people in a shopping center use a particular area. “All of these are basically the same thing—detecting and tracking humans,” he says.

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Selected Listings from CenterLines, our e-newsletter...

Aggressive Driving is Emotionally Impaired Driving

Paper by Dr. Leon James and Dr. Diane Nahl of the University of Hawaii for an online Drivers.com conference on aggressive driving. "...Aggressive driving is on the increase because it is a learned habit that is transmitted from one generation to the next, and reinforced in the media..." Available at:

<http://www.aggressive.drivers.com/board/messages/25/47.html>

America's Unused Legs: a Pedestrian's Lament

April 2000 Drivers.com article says "85% of people in the U.S. are 'essentially' sedentary and 35 per cent are 'totally' sedentary. The average American walks less than 75 miles a year-about 1.4 miles a week, barely 350 yards a day."

<http://www.drivers.com/cgi-bin/go.cgi?type=ART&id=00000242&static=1>

Bicycle-Friendly Rumble Strips ["Bicycle Tolerable"

-Ed.] May 2001 report by William (Skip) Outcalt of Colorado DOT "recommends using the standard design rumble strip with gaps, grinding the grooves to a depth of 3/8 inch (+/-1/8 inch)."

Downloadable as PDF files (whole report; report w/o appendices; individual appendices) from:

<http://www.dot.state.co.us/Communications/Publications/Rumble%20Strip%20PDF.htm>
(Note: whole file is over 12mb.)

Cambridge Pedestrian Plan Describes the role of walking in Cambridge, current City policies and projects, and the direction of future pedestrian improvements.

<http://www.ci.cambridge.ma.us/~CDD/envirotrans/walking/pedplan/index.html>

Community Noise Exposure and Stress in Children

Article in the Journal of the Acoustical Society of America (Mar. 2001, Vol. 103, Issue 3) says, in part, "Children in the noisier areas had elevated resting systolic blood pressure and 8-h, overnight urinary cortisol, evidenced elevated heart rate reactivity to a discrete stressor (reading test) in the laboratory and rated themselves higher in perceived stress symptoms on a standardized index" To read the abstract, go to:

<http://ojs.aip.org/getabs/servlet/GetabsServlet?prog=normal&id=JASMAN000109000003001023000001&idtype=cvips&gifs=Yes>

Encouraging Walking - Advice to Local Authorities

Report by UK DETR, intended as "a working guide for the people who will put policy into action. It is based on the work of an advisory group drawn together from a wide range of organisations with interests in the issues." Can be downloaded as a PDF from:

<http://www.local-transport.dtlr.gov.uk/walking/index.htm>

Epidemiology And Prevention Of Traffic Injuries To Urban Children And Adolescents

Article in "Pediatrics" (Vol. 103 No. 6, p. e74). "Child traffic injuries, particularly those involving pedestrians, are a major public health problem in urban communities... Community interventions involving the creation of safe and accessible play areas as well as traffic safety education and supervised activities for school-aged children may be effective in preventing traffic injuries to children in these communities. Additional controlled evaluations are needed to confirm the benefits of such interventions." For more info:

<http://www.pediatrics.org/cgi/content/full/103/6/e74>

Guidance on the Use of Tactile Paving Surfaces Jan. 1999 report from the UK DETR describes treatments that aid visually impaired pedestrians.

<http://www.mobility-unit.detr.gov.uk/tactile/index.htm>

Illinois Bicycle Path Grant Program "The Illinois Bicycle Path Grant Program was created in 1990 to financially assist eligible units of government acquire, construct, and rehabilitate public, non-motorized bicycle paths and directly related support facilities..." Can be found at:

<http://dnr.state.il.us/ocd/Newbike.htm>

The Impact of Transport Policy on Children's Development

Presentation by Mayer Hillman discusses "...an aspect of children's maturation into coping adults which to date has been largely overlooked... how policies and practices in the transport and related spheres have had damaging affects on children..." Available at:

<http://www.spokeseastkent.org.uk/mayer.htm>

In-Roadway Flashing Lights at Crosswalks: an Informational Report

Report from the Institute of Transportation Engineers "contains information and data on the In-Roadway Flashing Light Crosswalk Warning System, ... gives a history of the system and a description of lighting devices and installation, as well as activation methods. It also discusses other uses of the device. (Publication No. IR-105) Available through the ITE online bookstore; cost: members \$15.00; non-members \$20.00.

<http://www.ite.org>

A Landscape of Choice: Strategies for Improving Patterns of Community Growth

"... growth patterns actually play a more important role in causing urban sprawl than population growth itself. Replacing urban sprawl with more compact and efficient patterns of growth on the urban edge and directing growth inward through infill development and neighborhood revitalization can accommodate the same number of people on much less land..." Can be found at:

<http://www.farmlandinfo.org/fic/ft/fresno.html>

Older Drivers Slower While Using Telematics

As we enter the age of hyper-cyber-autos ("On-Star, how may we help you, Batman?"), it may be worth considering the aging of the Baby Boomer generation and how they'll interact with all the gizmos. According to this article on the Drivers.com website, "In-car technologies may require more time for older drivers to use, raising their risk levels when driving." Eh? How's that?

http://www.drivers.com/Top_Older_Drivers.html#000000388

Personal Security Issues in Pedestrian Journeys

Nov. 1999 report intended as part of the efforts of the UK DETR to "improve personal security for both transport passengers and pedestrians."

<http://www.mobility-unit.detr.gov.uk/psi/index.htm>

Remarks Prepared for Delivery by Marie E. Birnbaum

Presentation made to Montgomery County (MD) Blue Ribbon Panel on Pedestrian and Traffic Safety Community Forum on Pedestrian Safety on June 6, 2001. "It is shocking that the US could have enough dead pedestrians to fill twenty jumbo jets a year and at the same time have safety experts and politicians saying that safety was their top priority, yet not mention this. What could account for this?"

http://www.walkdc.org/20010606_marie.html

Roundabouts: Reducing Traffic Frustration Article by the editors of *Drivers.com* suggests "North American engineers, impressed by the efficiency and safety of modern roundabouts, are ... following suit [by developing roundabouts]. British Columbia has had some in place for a decade, and roundabouts have recently been built in California, Colorado, Florida, Maryland, Nevada, and Vermont. Many more are on the drawing boards..."

<http://www.drivers.com/cgi-bin/go.cgi?type=ART&id=00000334&static=1>

Sustainable Transportation: the Canadian Context

"Describes the state of transportation in Canada as it relates to sustainable development. Reflecting recent developments in sustainable transportation, it discusses the nature of the challenges we face and what we are doing to address them."

http://www.tc.gc.ca/envaffairs/english/UNCSD9_April23_01.htm

Sweden's Experience in Reducing Childhood Injuries

1991 article in *Pediatrics* journal by AB Bergman and FP Rivara: "Why does Sweden have the lowest childhood injury rate of any country in the world? The answer lies in a combination of factors including the special characteristics of Swedish society and an energetic 35-year campaign... Key factors in the campaign have been support of trauma surveillance systems and injury prevention research, ensuring safer environments and products through legislation and regulation, and a broad-based safety education campaign using coalitions of existing groups..." For more info:

<http://www.pediatrics.org/cgi/content/abstract/88/1/69?ijkey=ilozT2vTwRB1A>

Transport, Infrastructure and the Economy Subtitle:

"Why new roads can harm the economy, local employment, and offer bad value to European tax payers." 30-page article in the December 2000 issue of *T&E*, the newsletter of the European Federation for Transport and Environment. Downloadable from:

<http://www.t-e.nu/Publications/2000%20pubs/T&E%2000-6.pdf>

Transportation Energy Data Book: Edition 20 "Designed for use as a desk-top reference, the data book represents an assembly and display of statistics and information that characterize transportation activity, and presents data on other factors that influence transportation energy use." Can be downloaded from:

<http://www.cta.ornl.gov/data/tebd20/Index.html>

Walking-Speed, Stride and Cadence in Gait Assessment in Different Age Groups Study from the Mobility Laboratory, Department of Geriatrics, Utrecht University Hospital and Utrecht University Faculty of Social Science.

<http://www.nig.nl/congres/congresouderworden98/abstract-samson1.html>

Winning Back the Cities - the European Experience

"Looking at walking as mainly a mode of transport, would be almost as incomplete as having a conference on housing where all the energy was spent discussing what goes on in the corridors..."

<http://www.transport.wa.gov.au/conferences/walking/pdfs/K11.pdf>

NOTE: Other papers presented at the Conference may be found at: <http://www.transport.wa.gov.au/conferences/walking/>

The Disability Rights Movement

Visit the Smithsonian's exhibit on disability rights at the National Museum of American History. "The ongoing struggle by people with disabilities to gain full citizenship is an important part of our American heritage. The disability rights movement shares many similarities with other 20th-century civil rights struggles by those who have been denied equality, independence, autonomy, and full access to society. This exhibition looks at the efforts - far from over - of people with disabilities, and their families and friends, to secure the civil rights guaranteed to all Americans. These people only want to be treated the same as everyone else. So they often have to fight to be included..." Online, it's available at: <http://www.americanhistory.si.edu/disabilityrights/>

Thanks to the *Ragged Edge Online*: <http://www.ragged-edge-mag.com/>

Worldwatch Paper 156. Putting the Brakes on Sprawl

"Decades ago, Copenhagen, Denmark; Portland, Oregon; and Curitiba, Brazil, made tough choices to give precedence to pedestrians and cyclists, steer new construction to locations easily reached by a variety of transportation means, and reserve green space for nature and people. Today, their economies are thriving, and their children are enjoying safer streets and cleaner air. These stories show other places how they could gain by revamping government agencies and policies to link transportation and land use decisions and remove incentives to sprawl." Can be downloaded (\$5) from:

<http://secure.worldwatch.org/cgi-bin/wwinst/WWP0156>

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