



NATIONAL CENTER FOR BICYCLING AND WALKING

FORUM



ISSUE NO.
53

Above: "The best way to handle the problem of undesirables is to make the place attractive to everyone else." (William H. Whyte) For how to do that in these uncertain times, see Andrew Wiley-Schwartz' article on p.8.

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Readers' Forum

Getting started

■ I am in the ongoing process of trying to get my small community interested in a greenway, allowing school children to ride to school, connecting the outer edges of our very small town to the center of town via safe bike-ways. I want to order 30"X30" warning signs saying "share the road" w/ a picture of a bike. I will probably go through the Indiana Dept. of Corrections for these signs.

I have located 20 areas where these signs will be put. I have the Kiwanis willing to put the posts in and I have been just going around asking neighbors and businesses for funding for this. I am trying to get a large grant for a 1/2 mile off road greenway. The quotes I get are \$75,000 for this 1/2 mile. Outrageous. How am I doing. What

am I doing right? What am I doing right. How legal do you think these signs are?

From what I've researched they should be fine. I've talked to the highway commissioners in both the town and the county. I have their blessings, but not their help. Would appreciate any and all the help I could get.

Carole Gilbert
<cgilbert41@kconline.com>

Carole—
Here are some general resources:

- STPP: The Surface Transportation Policy Project; helps advocates make a difference and understand the gobbledigook of transportation funding, programs etc. They can be reached at: www.transact.org
- CLF: The Conservation Law Foundation, while primarily oriented towards the Northeast, has good information for local

advocates; in particular, their "Take Back Your Streets" manual can be found at:

www.clf.org/pubs/street1.htm

- The National Center for Bicycling & Walking (our organization): www.bikefed.org/
- The Pedestrian & Bicycle Information Center at: www.bicyclinginfo.org/
- The Rails-to-Trails Conservancy, a good resource on trail and greenway planning: <http://www.railtrails.org/>

Now, for a couple of crucial points:

1. A community's transportation system improvements are governed by a transportation plan. In a small town, this may be the county's plan or it may be the state's plan. But somewhere there should be a plan that says, in general terms, what should be done.
2. To implement the plan, local officials create what's known as the transportation improvement pro-

gram (called the "TIP"). Think of the TIP as the shopping list of projects that the local government wants to do.

3. Transportation Improvements, like the greenways you envision, are funded as a result of their being (1) in the plan and (2) in the TIP. This process is very important to remember.
4. The plan is revised every so often (perhaps every 5 years or so) and the TIP is revised every one to three years.
5. So one of your first priorities should be to find out (1) what plan and TIP guide transportation improvements in your community; (2) who does these and when the next revisions are scheduled; and (3) how you can get involved and get your ideas included.

Bottom line: Get your vision into the plan and then make sure that specific projects that are part of that vision get into the TIP.

NCBW FORUM 53

Editor John Williams

Publisher Bill Wilkinson

About NCBW Forum

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Calendar

February 10-13, 2002

Healthy Kids, Healthy Communities, Washington, DC. Info: Professional and Scientific Assoc., voice: (404) 633-6869, fax: (404) 633-6477
Website: <http://www.cdc.gov/nccdphp/dash/conference/current/index.htm>

February 27 - March 1

Metropolitan Transportation Planning Course, Newington CT. Info: Susan Winter, National Transit Institute, (732) 9321700, ext. 17.

February 27 - March 1

16th Natl. Conference on Chronic Disease Prevention and Control, Atlanta, GA.
Website: <http://www.cdc.gov/nccdphp/conference/current/index.htm>

March 6-8

2nd National Bike Summit, Washington DC. Info: League of American

Bicyclists, 1612 K Street NW, Suite 401, Washington, DC 20006-2082; voice: (202) 822-1333; fax: (202) 822-1334; email: <bikeleague@bikeleague.org>
Website: <http://www.bikeleague.org/involved/nationalbikesummit.htm>

March 25-27

National Conference on Aging & Mobility, Scottsdale, AZ. Info: Maureen DeCindis, Transportation Planner II, Maricopa Association of Governments, 302 N. First Ave, Suite 300, Phoenix, AZ. 85003; voice: (602) 452-5073; fax: (602) 254-6490; email: <mdecindis@mag.maricopa.gov>

April 8-10

Nevada's First Bicycle & Pedestrian Conference, Reno NV. Info: Eric Glick, State Pedestrian & Bicycle Program Manager, 5151 S Carson St, Carson City, NV 89701; voice:

(775) 888-RIDE; fax: (775) 888-7207; email: <bicycle@dot.state.nv.us>
Website: <http://www.bicyclenevada.com>

April 25-26

How to Turn a Place Around training course, New York, NY. Info: Harriet Festing, Project for Public Spaces, 153 Waverly Place, 4th floor, New York, NY 10014; voice: (212) 620-5660; email: <hfesting@pps.org>
Website: http://www.pps.org/nyc_training.htm

May 8-9

3rd. Walk21 International Walking Conference, San Sebastian, Spain. Info: Carlos Suso Beitia, Technical Secretariat, Congress WALK 21, email: <carlos@2ados.com>

May 13-15

Context Sensitive Solutions training course, Rutgers University Inn, New

And some random comments:

- In case someone tells you that bicycle trails etc. aren't "eligible" for federal funds, here's your source: <http://wwwcf.fhwa.dot.gov/environment/bikeped/>
- There's a growing "Safe Routes to School" movement nationwide and some states are starting to set up specific programs to fund improvements along such routes. California has such a program and I believe South Carolina has had one. To read more about SRTS programs, go to: <http://www.transact.org/ca/saferoute/saferoute.htm>
- Even without such a state program, you should approach your State DOT and find out all about their safety funding program. Each state DOT gets Federal money to spend on physical improvements to solve safety problems.
- You can find the Federal Highway Administration's "fact

sheet" on the safety program's provisions here: <http://www.fhwa.dot.gov/tea21/factsheets/isfty.htm>

- The reason you should see this is to understand that (1) there is federal \$\$ available to the states to solve safety problems and (2) that money can be used for bicycle and pedestrian projects. —JW.

Got something to say or a question you'd like answered? Contact:

John Williams
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Missoula MT 59807
<email: john@montana.com>



Who's this famous traffic calmer?
Send your answer to: F.B.A. c/o the editor today! If you're right, we'll send you some sort of little prize...

(Thanks to Michael Oxeer for the photo)

Brunswick, NJ. Info: Harriet Festing, Project for Public Spaces, 153 Waverly Place, 4th floor, New York, NY 10014; voice: (212) 620-5660; email: <hffesting@pps.org> Website: <http://www.pps.org>

June 3-5

Bicycle Education Leaders Conference, Madison, WI. Info: League of American Bicyclists, 1612 K Street NW, Suite 401, Washington, DC 20006-2082; voice: (202) 822-1333; fax: (202) 822-1334; email: <bikeleague@bikeleague.org> Website: <http://www.bikeleague.org/involved/nationalbikesummit.htm>

June 5-7

20th National Conference on Health Education and Health Promotion, New Orleans, LA. Info: Sonya H. Geathers, M.A., NCCDPHP/DNPA, voice: (770) 488-5152.

August 1-31

Bikesummer2002, Portland, OR. Info: BikeSummer Portland, P.O. Box 786, Portland OR 97207; email: <bikesummer@pdxbikes.org> Website: <http://www.bikesummer.org>

September 3-6

ProBike/ProWalk02, the 12th International Symposium on Bicycling and Walking, St. Paul, MN. Website: <http://www.bikewalk.org>

September 23-26

5th Symposium of the International Urban Planning and Environment Assn, Oxford, UK. Info: Lynne Mitchell, OCSO, Oxford Brookes University, Gipsy Lane Campus, Headington, Oxford OX3 0BP, UK; voice: 01865 484296 Fax: 01865 483298

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And that was just one issue's worth of headlines!

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TEA-21 Reauthorization

A Commentary by Bill Wilkinson

*National Center for Bicycling & Walking
January 2002*

Note: Terms are briefly described in the Glossary at the end of the article.

State DOTs and MPOs are not using the long-range plans to guide the selection of projects for inclusion in their TIPs. Rather, most decide what they want to do, add it to their plan, then fund it through the TIP.

Early last year, I drafted some initial ideas related to bike/ped issues and the reauthorization of our current surface transportation law, the Transportation Equity Act for the 21st Century, better known as "TEA-21." Recently, I revised them a bit at the request of NCBW Forum editor John Williams. While still not complete (i.e., I've got a few other ideas floating around) it should serve to raise some of the issues and concerns that should be considered by bicycle and pedestrian advocates.

■ Planning

The role of transportation planning has deteriorated under TEA-21, not improved. I suspect that the bicycle and pedestrian element of most statewide and MPO long-range plans is out of date, if one exists at all.

Further, and more fundamentally, the State DOTs and MPOs are not using the long-range plans to guide the selection of projects for inclusion in their TIPs. Rather, most decide what they want to do, add it to their plan, then fund it through the TIP. This was not the intended function of planning in the development of a multi-modal transportation system.

How seriously does FHWA/FTA take the planning requirements? Not seriously enough to even update the planning regulations since the passage of TEA-21. The only conclusion that one can reach is that USDOT and the State DOTs are quite content to let the planning requirements — and the whole effort to make transportation system investment decisions more strategic and open to the public — just fade away.

The planning requirements should be strengthened by the adoption of an explicit set of performance measures (and a system of bench-marking and assessment). This should include a requirement that long-range plans provide for the development of a full range of transportation choices (including transit, bicycling, and walking) for most users, for most trips. Further, the legislation should require that each TIP demonstrate how the proposed allocation of funds will lead to orderly implementation of the plan to achieve the overall goals, while equitably addressing the needs of all modes.

Also, the focus of MPO plans should NOT be simply on regional bicycle and pedestrian movement and facilities. Bicycling and walking are modes for local travel, not regional trips. The MPO bike/ped element should be a compilation or abstract of local plans proposing actions needed to implement them. We need more, good, local planning — and implementation. Even more, we need better design...

■ Design

The most significant challenges to bicycling and walking are due to the fact that streets and highways are still routinely planned, designed, constructed, and operated without adequate provisions for bicycling and walking. TEA-21 made a half-hearted attempt to address this by calling for the development of design guidance for bicycling and walking...to encourage action.

The USDOT issued a statement entitled, *Accommodating Bicycle and Pedestrian Travel: A Recommended*

Approach in response to this legislative requirement, again, designed to encourage action. It is a good statement, but it doesn't do enough. AASHTO is trying to develop a guide to designing streets and highways to accommodate pedestrians.

Still, public agencies are permitted to design, construct, and operate streets and highways without regard for bicyclists, pedestrians, or people with disabilities; worse yet, this remains standard practice for most agencies. This must change; such provisions must be required as a matter of law.

During the drafting of TEA-21, language was developed to address this issue. It was accepted by the Democratic staff of the House Committee on Transportation and Infrastructure, by FHWA, and by the USDOT. The concept was very simply put and we should renew efforts for its passage:

“As an element of good highway design, all projects involving new construction or reconstruction under this title, on which bicycles and/or pedestrians are permitted, shall include appropriate provisions to accommodate bicycles and pedestrians.”

We *need* this legislative language. Too many public agencies and transportation professionals demonstrate by their day-to-day actions that they will continue to ignore the legitimate needs of bicyclists and pedestrians for safe, easy access along and across streets and highways.

Such a provision in the law would also address the need for better accommodations for people with disabilities. Currently, facilities provided for pedestrians must be made accessible.

But there is neither a requirement to provide facilities for pedestrians, nor a requirement to retain such facilities where they exist. For example, according to the Justice Department, an agency may remove an existing sidewalk as



part of a 3R project and not replace it. This must be changed and the “good design” language presented above would do so.

Some folks have called for development of “national bicycle design guidelines.” I do not see a need for “nationally accepted guidelines for designing bicycle facilities.” We have the *AASHTO Guide* which I believe serves this purpose while allowing appropriate flexibility. The problem is not a lack of guidelines, it is a lack of commitment to provide appropriate accommodations in the first place.

This is similar to the argument that bicycle facilities are not being installed because of concerns for liability. The whole “liability” issue is nothing more than an excuse used by some traffic engineers for doing nothing. State and local agencies in every state have provided facilities for bicycles and have not experienced significant liability problems. We need to debunk this myth, not lend credence to it by continuing to act as if it were a legitimate concern.

According to the Justice Department, an agency may remove an existing sidewalk as part of a 3R project and not replace it. This must be changed.

We need to make good bicycle and pedestrian accommodations a regular, routine, mandatory element of every highway & transportation project.

Another proposal calls for more research and demonstrations of “innovative” design treatments and “scanning” tours of Europe. I am not too enthusiastic about technological innovations and learning from the experiences of other countries. While there are no doubt things to learn, we already know most of what we need to accommodate bicyclists and pedestrians in the public right-of-way.

Again, the real problem is the failure of most agencies and professionals to routinely implement what we already know. Let’s not divert attention from addressing the root cause of poor design — a lack of commitment to provide people with the options of walking or bicycling.

■ **Decision-making and funding**

Another failing of TEA-21 (and, generally, of ISTEA) is that efforts designed to promote public involvement haven’t had much of an impact on decision-making, especially at the state level. Today, the State DOTs are doing pretty much what they were doing ten years ago.

Most transportation projects:

- *do not support good land-use planning or Smart Growth objectives;*
- *are not coordinated with local land-use planning;*
- *make conditions less safe for pedestrians and bicyclists;*
- *degrade the environment;*
- *have a negative impact on public health; and*
- *generally continue to degrade the quality of life in neighborhoods.*

The problem, in my opinion, is that transportation agencies and professionals are still making most of the decisions about the allocating transportation funds. We must move most of the real decision-making authority over funding allocation down to the local/regional government level, and

make the decisions as part of a public land-use planning/development process. This should be done with intense public involvement.

State DOTs have demonstrated that they are not responsible custodians of the broad public interest. Their actions continue to degrade the environment and public health, and are usually at odds with the public interest.

With respect to some programs included in TEA-21, I believe the CMAQ and TE programs should be maintained. However, the next round of legislation should require State DOTs to obligate these program funds at the same or higher rate as they do funds for other programs. We’ve been getting sand-bagged in some states.

On the other hand, we don’t need to create an “ear-marked” fund for bicycle and pedestrian facilities and programs. The real problem is that most State and local transportation and public works agencies are not required to serve the needs of bicyclists, pedestrians, and people with disabilities, so they simply ignore these users.

We need to make good bicycle and pedestrian accommodations a regular, routine — mandatory — element of every highway & transportation project. It ain’t about the money; it’s about the commitment.

There is one exception to this approach that I strongly support: we should follow the California example and mandate that at least 1/3 of the Safety Set-Aside Program funds be used for Safe Routes to School projects and programs.

■ **Data collection and reporting**

One of the things included in TEA-21 was a directive to the Bureau of Transportation Statistics to improve the collection of data related to walking and bicycling. I don’t have the legislation in hand, but as best I can recall, it directed BTS to ensure that as part of the development of a national transportation database, data would be collected and provided on all modes (including bicycling and

walking) to support MPO and local planning efforts.

Unfortunately, after getting off to a good start and developing an assessment of data sources and data needs, it does not appear that the BTS — or FHWA or NHTSA, for that matter — has done much in terms of changing data collection practices (by State DOTs and MPOs) and producing better data. About a year ago, FHWA posted a revised version of its “Traffic Monitoring Guide” which ignored both bicycles and pedestrians. This issue should be revisited and the USDOT should be mandated to implement (through the States) effective data collection related to bicycling and walking, especially levels of use and exposure data.

Another problem with current USDOT/FHWA practices relates to the lack of good information on what is being done — or not done — with the billions of dollars being allocated to State DOTs. For instance, it is not possible to get information from FHWA about the extent to which federally funded highway construction and 3R-type projects include provisions for either bicycling or for pedestrians.

Why? Because the State DOTs don't track expenditures that way...and FHWA does not ask them to. It appears that FHWA hasn't even been requiring the State DOTs to submit some of the reports mandated by Congress, like annual reports on Safety Set Aside Program expenditures.

More should be done as part of the reauthorization process to ensure that good data is collected and made available on both the patterns of transportation activity and on the patterns of transportation expenditures.

■ Summary

Well, those are my thoughts at this time. We have made some progress with ISTEA and TEA-21. Some of the things we tried to do haven't worked...yet. And, notwithstanding the weight of law,

some of the requirements have simply been ignored.

I hope each of you will consider these issues, ideas, and your own notions for improving the performance of our transportation system. The next two years represent an important opportunity to use Federal legislation to help forge a sound, sustainable transportation system, one that provides real, safe, viable mode choices for all people. It won't happen without your involvement.

■ Glossary

3R Projects: Resurfacing, restoring, and rehabilitating projects

AASHTO: American Association of State Highway & Transportation Officials

BTS: Bureau of Transportation Statistics

CMAQ: Congestion Mitigation Air Quality Funding Program under ISTEA, TEA-21

DOT: Department of Transportation

FHWA: Federal Highway Administration

FTA: Federal Transit Administration

ISTEA: Intermodal Surface Transportation Efficiency Act of 1991

MPO: Metropolitan Planning Organization

NHTSA: National Highway Traffic Safety Administration

STIP: State Transportation Improvement Program

TE: Transportation Enhancement Activity Funding Program under ISTEA, TEA-21

TEA-21: Transportation Equity Act for the 21st Century

TIP: MPO Transportation Improvement Program

USDOT: U.S. Department of Transportation

The next two years represent an important opportunity to use Federal legislation to help forge a sound, sustainable transportation system.

Safety & Security in public space



by Andrew Wiley-Schwartz

So-called “undesirables” are not the problem. It is the measures taken to combat them that is the problem...

The best way to handle the problem of undesirables is to make the place attractive to everyone else.

—William H. Whyte

Fear is a great motivator. It has been used for centuries to control the way we build and live in our communities, almost always to bad effect.

On a large scale, fear of nuclear attack was a key factor in motivating the country to build the Interstate Highway System after World War II, which devastated city neighborhoods by facilitating the suburban sprawl that characterizes so much of our landscape today.

On a smaller scale, fear of “undesirables” causes park after park and sidewalk after sidewalk to be remodeled

without seating, shade, vendors, or other amenities that might encourage the positive public activity that discourages crime and disruption. Time and again these lessons are forgotten or abused, to the extreme detriment of our quality of life.

What we end up with are downtowns and “edge cities” that are alienating, dull and inhuman. They are built on fear, fear of “negative activity,” fear of interaction with any other people, fear of crossing the street, even fear of the weather! This fear is self-reinforcing and locks us

into a world that is disconnected, difficult, and uninviting.

Blank walls and giant buildings out of scale with the street are designed to intimidate, to proclaim the ego of the designer instead of nourish a sense of place among residents.

Now we have a new fear to add to the list: fear of terrorist attack. The danger is that this fear can translate into a fortress mentality.

In Chicago after September 11, for example, the managers of one federal building immediately put concrete dividers up in their formerly bustling plaza, blocked passageways between spaces and cancelled the farmers market and other events.

Another federal building, however, is open and thriving — the displays and exhibits still run, and people find it reassuring to be able to come together. Mayor Daley has promoted this latter approach.

From our perspective at Project for Public Spaces, the safety and fear factors are real, but the methods to counter them do not necessarily have to result in sterile, alienating places. The way to revitalize a plaza is to invite the public to share in its design and planning.

And people in communities, from merchants to business leaders to residents, have many creative ideas for programs and activities in public



spaces, if they could only be given a voice and proper forum to be heard.

These spaces need to be designed with flexible uses in mind, always taking into account that a mixture of sun and shade, food,

water, and a good view of the passing scene are essentials. We have found that a good place provides a range of things to do (“uses and activities”); is easy to get to and connected to the surrounding community (“access”); is

A good place provides a range of things to do...



Most of these memorials are wiped away by the city every morning, but people return to rebuild them every night.

safe, clean, and attractive (“comfort and image”); and, perhaps, most important, is a place to meet other people (“sociability”).

Security officials we have worked with on federal buildings across the country agree with us that an actively used, thriving public plaza is much safer, and easier to police in the long run, than an empty one.

The public’s need for gathering places is evident, now more than ever. New York’s experience is telling. In the weeks after September 11, all over New York City, people gravitated to public places.

Along the Brooklyn Heights Promenade, with its views of the now-incomplete Manhattan skyline clouded by dust and smoke, a quiet, uninterrupted

vigil goes on, a month after the initial attacks. In Union Square and Washington Square, people offered comfort and stories to each other, and set up makeshift memorials along storm fences and on the pedestals of statues.

Most of these memorials are wiped away by the city every morning, but people return to rebuild them every night. In addition, firehouses have become memorials themselves, their entranceways filled with candles, flowers and notes from schoolchildren.

All of these people, all of these places, help us to re-affirm the value of public life in the face of such overwhelming violence. The need to gather, to share stories, to celebrate, protest and grieve in a common

place is a basic, human, and universal.

We must continue to allow — and encourage — the diversity, culture and commerce of New York, and all our communities to thrive in healthy, livable cities, markets, parks and neighborhoods. We cannot afford to react by building higher fences. Instead we must come together on common ground to re-establish our communities as the foundations of a civilized, compassionate society.

Andrew Wiley-Schwartz is the Director of Research and Publications for the Project for Public Spaces (PPS). PPS is a nonprofit technical assistance, research, and educational organization. Their mission — to create and sustain public places that build communities — is achieved through programs in parks, plazas and central squares; transportation; public buildings and architecture and public markets. Since its founding in 1975, PPS has worked in over 1,000 communities in the U.S. and abroad, helping people grow their public space into vital community places.

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Photos: John Williams & Linda Tracy



A New Sidepath Suitability Measure

by Ed Barsotti and Gin Kilgore

Sidepaths are shared use trails parallel to a roadway, provided in the space usually occupied by sidewalks. These bicycle facilities are becoming increasingly more common. This is especially true in the suburbs, where development patterns often leave a higher speed arterial as the only option for connectivity.

The bicycle-car accident rate is substantially higher for sidepaths and sidewalks than for on-street bicycling - a surprising result to many.¹ *The AASHTO Guide for the Development of Bicycle Facilities*² details reasons for these intersection safety problems, many stemming from a lack of visibility caused by sidepath separation from the road intersection.

For most cases, AASHTO recommends on-street bike facilities over sidepaths. However, large numbers of inexperienced bicyclists and public agencies prefer sidepaths in almost every case, because of a belief of higher safety.

In the absence of any known nationally-accepted measures, the risk factors described by AASHTO have been quantified in *the North Aurora (Illinois) Non-Motorized Transportation Plan*.³ The following algorithm, rating the suitability of a sidewalk or sidepath as a bicycle facility, can be used to:

- Rate existing sidepaths
- Determine whether a new sidepath would be an appropriate option
- Suggest safety improvements for existing or planned sidepaths

The model has not been calibrated — it is simply an estimate of the relative importance of key terms, based on personal experience and checked by observation during the North Aurora plan development. Six factors are considered below. Assumed is that bicyclists will travel in both directions on the sidepaths, even though those riding against the flow of parallel traffic are at higher risk.

Ed Barsotti: After years of volunteer bicycle advocacy, Ed Barsotti became the Executive Director of the League of Illinois Bicyclists in January, 2001. In addition to a range of advocacy work, he is involved in various technical issues of bicycle planning.

Gin Kilgore: Gin Kilgore is a transportation planner at the Chicago Area Transportation Study, the mpo for northeastern Illinois. Happily "bike-dependent," Gin spends much of her free time promoting cycling as a great way to get around Chicago, even during the winter. See www.catsmpo.com/bikeped, www.bikewinter.org and www.cyclingsisters.org.

Photo: Dan Burden

Volume and speed of traffic significantly affect the risk of collision with turning vehicles.

Discontinuities may force cyclists to ride through grass, etc., and enter the roadway awkwardly.

1) Intersection Traffic Score: The volume and speed of traffic significantly affect the risk of collision with turning vehicles. Determine the Intersection Traffic Score (ITS) from the following:

$$ITS = Spd \times Vol \times [R + (2A) + (4B)] / M$$

Where:

R = Number of residential intersections (drive-ways) on the sidepath segment,

A = Number of minor commercial intersections and streets (<1000 ADT),

B = Number of major commercial intersections and streets (≥1000 ADT),

M = Length of segment in miles

Spd = Speed limit factor, for the parallel street:
 ≤ 30 mph = 1, 35-40 = 2, ≥ 45 = 3.

Vol = Traffic ADT factor, parallel street:
 ≤ 2,000 = 1; 2,000-10,000 = 2; ≥ 10,000 = 3.

Add the appropriate number of suitability points for the ITS:

Intersection Traffic Score (ITS)	Points
0.....	0
1-40.....	1
41-80.....	2
81-120.....	3
121-160.....	4
161-200.....	5
201-240.....	6
>240.....	7

2) Continuity: Discontinuities (major gaps, or sidepath ends) may force cyclists to ride through grass, etc., and enter the roadway awkwardly. Often cyclists will avoid sidepaths with these gaps. Add **4 points** if major discontinuities exist.

3) Curb cuts: Uncut curbs compromise cyclist movement and attention at intersections. Add **3 points** if any intersections are lacking curb cuts.

4) Pedestrian use: Sidewalks and sidepaths are used by both bicyclists and pedestrians. Insufficient width increases user conflict. (However, extra width encourages higher cyclist speeds – which is a problem at incorrectly-designed intersections.) Add points according to the following pedestrian use chart:

Low (rare)	Medium (sometimes)	High (often)
≤5ft.= 1 pt.	≤5ft.= 2 pt.	≤5ft.=4 pt.
>5ft.=0 pt.	6-7ft.=1 pt.	6-7ft.=2 pt.
>7ft.=0 pt.	>7ft.=0 pt.	>7ft.=1 pt.

5) Crosswalks: Visible crosswalks can help make motorists more aware of non-motorized traffic. Sometimes two parallel painted stripes are sufficient. At busier intersections, ladder-style crosswalks and other techniques enhance visibility.

Add **2 points** if crosswalks are necessary but are absent. Add **1 point** if there are some crosswalk markings, but more visibility is warranted for that intersection type. Add **0 points** for appropriately marked crossings. Take the average crossing for the segment.

6) Intersection sidepath/road separation: AASHTO recommends that sidepaths be brought close to the parallel road at intersections, so motorists more easily see and consider bicyclists during their approaches. The intersecting road’s vehicular stop line should be in back of the sidepath crossing – cyclists must not weave through stopped traffic when crossing.

Add **5 points** if the crossing goes through stopped traffic. Add **3 points** if the crossing is not brought “close enough” to the parallel road. Add 1 point when the crossing is brought close to the road. (Paved shoulders and bike lane crossings would add **0 points**.) Again, take the average crossing for the segment.

Add together all the points for the sidepath suitability score. Ranges of suitability are:

Sidepath Suitability	Points
Most Suitable.....	0-7
Somewhat Suitable.....	8-9
Least Suitable.....	10-11
Unsuitable.....	≥12

Note: The algorithm is available as an on-line web form⁴ at:

<http://bikelib.org/roads/blos/>.

Consider three sidepath examples.

1) Suburban arterial: The first is along a high-speed (50 mph), high-volume (20,000 ADT) outer suburban arterial with only four major retail intersections over 1 mile. Some pedestrians use the 8ft. sidepath, which has some subtle crosswalk markings. The intersections are safely in front of the stoplines, but not particularly close to the parallel road.

Its suitability score is 8 (*somewhat suitable*). An improvement to *most suitable* (5) can be easily made by including high-visibility crosswalks at intersections closer to the road.

2) Residential road: The second example is a 6ft. wide sidewalk/sidepath along a significant residential road (2500 ADT, 30 mph) with 20 driveways and 4 minor side streets in a half-mile. Some curb cuts are missing. Pedestrians are often present. There are no crosswalks at the relatively quiet intersections, which are not close to the parallel road.

The score of 12 (*not suitable*) could be improved to an 8 (*somewhat suitable*) by adding the curb cuts and parallel stripes at the side street crossings. An on-road facility might be a better option, however.

3) Business district arterial: Another sidepath is being considered along a 35 mph, 15,000 ADT arterial in a business district with 10 minor and 5 major commercial entrances or side streets in a half-mile. The 8ft. trail with high pedestrian use will have gaps at vacant lots, obliging future developers for the construction. There are no plans for crosswalk markings at the commercial entrances, and the intersections are set back from the road.

With a score of 17, clearly this would be an *unsuitable* sidepath. Design improvements could be made: ladder-style crosswalks at major entrances and streets, simple

crosswalks at minor intersections, intersections closer to the street, and building the entire sidepath at one time. Even with these, the best score possible in this situation is 9 – *somewhat suitable*. A bike lane would be a better choice.

Conclusion

Bicycle suitability measures for sidepaths can be used as analytical tools for planning, prioritization, and design. A sidepath measure has been informally developed — further research is needed. These and other tools are necessary to mainstream and bring objectivity to bicycle planning.

References

- 1 Watchel, Alan and Diana Lewiston, "Risk Factors for Bicycle-Motor Vehicle Collisions at Intersections," *ITE Journal* (Washington DC, Institute of Transportation Engineers, Sept. 1994)
- 2 American Association of State Highway and Transportation Officials, *Guide for the Development of Bicycle Facilities* (Washington DC, AASHTO, 1999).
- 3 League of Illinois Bicyclists, *North Aurora (Illinois) Non-Motorized Transportation Plan, 2001.*

This article is based on "The Road Network is the Bicycle Network: Bicycle Suitability Measures for Roadways and Sidepaths," presented at the June 2001 Transport Chicago conference (in Chicago).

Sidewalks and sidepaths are used by both bicyclists and pedestrians. Inadequate width increases user conflict.

Valley of the Sun

the Next Venice?

by *Brian Fellows*

Brian Fellows is the Bicycle and Pedestrian Coordinator for the City of Mesa, Arizona. He served on the Governor's Arizona Bicycle Task Force from 1993-1997 and was recently appointed to the City of Tempe Bicycle Advisory Committee. He's a regular bicycle commuter from his home in Tempe.

Venice it's not, but the metropolitan Phoenix-Mesa area is blessed with a tremendous network of irrigation canals. These channels provide the entire area with water that is essential for growing a variety of agricultural crops.

In these parts, all local farming depends on irrigation. If you don't have water, you don't have citrus. No water — no cotton. No water — no cabbage. No water — no scotch and water. If you turn off the spigot, you're left with dust. Very dry dust.

More than 180 miles of channels crisscross their way through the Valley — nearly 50 miles in Mesa alone. Yes, the Valley of the Sun has more channels than a satellite dish showroom.

The canals are not new. The Hohokam Indians constructed the first canals between 700 and 1200 A.D. Vast networks of these ancient waterways have been discovered throughout Mesa and the surrounding Maricopa County area.

In the late 1800s Mormon farmers and pioneers refined the

system. Later, the Salt River Project, which became the local electric and water utility, SRP, took over construction and operation of the system.

The U.S. Bureau of Reclamation owns the property and rights of way on which the canals are built. SRP constructs and maintains the canals by agreement with Reclamation.

Individual cities began constructing multi-use paths along the banks of the canals in the early 1980s. The historically problematic liability issue has less-

ened since then, with cities assuming a portion of the liability. Cyclists and other users, cities now realize, don't spontaneously feel the urge to fly off the paths and drown in the canals.

The typical canal is approximately 25 feet wide bank-to-bank, lined with concrete, and with sides that slope into the water at about a 45-degree angle. The water generally isn't deeper than 4 or 5 feet, and the current is a gentle one to two miles per hour. There is a right of way of about 20 feet on each bank of the canals, which is where the paths are generally built.

Like streets, each canal is named — Highline, Crosscut, Eureka, Utah, Consolidated, Eastern. One in particular, the Arizona Crosscut Diversion Channel, is fondly called the ACDC. To many newcomers to the Valley, this name is often confused with a) a heavy metal band from the 1980s or b) uh, well, you fill in the blanks.

The lifeblood of the system is the Salt River, which bisects several cities. Originating in eastern Arizona, the Salt flows west and south, through the Valley and merges with the Gila River (that's 'HEE-la' to you outta-staters) 25 miles or so outside of town. The canals branch off of the Salt kind of like ribs from a backbone.

The Central Arizona Project (CAP) Canal brings water all the way from the Colorado River to Mesa and Tucson — a distance of more than 300 miles. Plans are currently underway to study the feasibility of developing a multi-use path along the CAP

through metro Phoenix-Mesa — someday, perhaps, all the way to the Colorado River.

The process of planning, funding, and constructing multi-use canal paths usually begins in the transportation, planning, or parks and recreation

Previous page: The abandoned Utah Canal in Mesa.

Below: Typical street crossing along the Consolidated Multi-Use Path in Mesa.

Bottom: Bike rest stop along the Consolidated Multi-Use Path in Mesa.



*Every
community is
blessed with
something
unique
— a gem.
These canals
are our gems.*



Above: A bicycle/pedestrian bridge over the Consolidated Canal.

departments of city or county governments. Spearheaded by planners in these departments — often by the bike/ped coordinators — the canal paths are programmed into the specific departmental master plans.

Funding is the responsibility of the individual city or county with occasional federal grants from Transportation Enhancements (TE), Congestion Mitigation and Air Quality (CMAQ), or the rare Transportation and Community and System Preservation (TCSP). City sales tax and bond monies also play a large role.

The local council of governments oversees the process of disbursing the federal money. In the metro Phoenix area, it's MAG — the Maricopa Association of Governments. Each

federal pot of money has its own funding cycle. Applicants submit proposals, which are ranked by the appropriate COG technical advisory committee. MAG staffs two such committees — the Regional Bicycle Task Force and the Pedestrian Working Group.

MAG's Transportation Review Committee reviews the priority project rankings. Ultimate approval is made by the MAG Board, composed of the mayors of local member cities. The total number and value of the awards in any given year depends on how much money is passed down to MAG from the U.S. Department of Transportation.

Although the cities in the metropolitan Phoenix-Mesa area have retrofitted other waterways and drainage channels with

multi-use paths, somewhat less than 20 miles of multi-use paths have been constructed along the canal system.

Every community is blessed with something unique — a gem. These canals are our gems. They provide us with nourishing water; they offer us sustaining recreational opportunities; and, more and more, they are becoming important corridors in a multi-modal transportation system. Developing the banks of these canals is not the same as the old saying "if you're given lemons, make lemonade." We've never thought of the canals as lemons. A better analogy is, "we already have lemonade, let's just sweeten it with a bit more sugar."

Review:



driver-ZED: "A Crash Course in Crash Prevention"

(for Teens Tired of Being Teased for Walking or Biking)

by Mighk Wilson

The interactive CD-ROM driver-ZED™ from the AAA Foundation for Traffic Safety is touted as "interactive risk management training for teen drivers," and at that it does a pretty good job. But how does it do at shaping teens' awareness, attitudes, and behaviors regarding pedestrians and bicyclists? It's a mixed bag, with some sweets and a few bitter pills.

The purpose of driver-ZED™ (Zero Errors Driving) is to train teens to scan for and spot important elements and situations, and then choose the timing and method of avoiding a conflict or crash. In general it does an excellent job at this, getting users to keep track of highway conditions, the driving environment, speed limits, the speedometer, and other highway users, including pedestrians and cyclists. "ZED" really does make you think about what you're looking for and how you might react. Judgment is the primary focus, not hand-eye coordination or vehicle handling skills.

Before I get into the format, style, user-friendliness, and attitude of the course,

let's get the dry *Technical Requirements* out of the way. You'll need a PC (or Mac—I only reviewed the PC version) running Windows® 95 or 98, with a "Pentium 90 or better with SigmaDesigns® REAL-magic™ MPEG1 video accelerator card or equivalent hardware-assisted MPEG playback device," or "Pentium 200 with MMX or better and 2MB graphics card with video accelerator." They recommend 32MB of RAM (16 MB minimum). The recommended display setting is "65,000 color/16 bit," though I couldn't see a difference between that and the True Color 24 bit I usually run. Resolution is an issue I'll cover in a bit. You'll also need a CD-ROM of 4X or higher, a 16 bit Sound Blaster® compatible sound card, and at least 10 MB of hard disk space.

Driver-ZED™ is quite user-friendly; you only need a mouse to operate it. But the resolution could be better. I have pretty sharp eyes but sometimes missed smaller details, like pedestrians. Still, it really gets you to consciously scan and focus.

Not having kids and being

somewhat out of touch with what turns teens on these days (beyond the usual stuff), I'll take a stab at assessing the "style" of the program as probably hip enough to not make teens laugh in derision. But it's not so style-conscious and flashy as to detract from the task at hand. At the start four energetic peers are introduced in a video and they act as the user's back-seat drivers throughout the course.

The program is divided into three sections: *On the Highway*, *Around Town*, and *In the Country*. Each of them has four activity areas: *Scan*, *Spot*, *Act* and *Drive*. Eighty-three situations are spread across these twelve areas. An illustrated, animated dashboard is superimposed on real video action, and your rear-view and side-view mirrors are also real video.

In *Scan*, you simply scan the scenes and respond to multiple choice questions on what potential threats are there. In *Spot*, you click on potential threats and are shown some potential outcomes from some of those threats. In *Act* you're shown scenes and then asked multiple choice questions about how you should respond. In *Drive* you're asked to "take action" at the appropriate time, though you don't choose what type of action.

It should take about an hour-and-a-half to complete the entire course. The program tracks how well you're doing and you can check your score at any time. You can also exit at any time and come back to finish later. You log in and the program remembers your score and what situations you've covered. Just don't try to shut the program down using Control/Alt/Delete (as I did) to skip the closing credits. You

should be able to shift between other Windows® applications though.

The program's attitude toward bicycling and walking as transportation is negative. The CD's info card quotes E.B. White; "Everything in life is somewhere else, and you get there in a car." This attitude is echoed in the opening sequence by the second teen you meet, who says, "No more waiting around until someone else takes you where you need to go."

In the first interactive section, *On the Highway*, (it's the first going left to right on the menu, though you can take them in any order), you deal only with other motor vehicles and construction zones on freeways and other limited-access roads.

Around Town is the section where all the interaction happens involving pedestrians and cyclists. Drivers are reminded to look for children in neighborhoods (who are, of course, likely to "dart out"), watch mirrors and speed, and watch for all potential users. Users are asked about pedestrian right-of-way at crosswalks, though marked and unmarked crosswalks are not explained and all these situations involve marked ones.

In one scenario in a traditional downtown, a pedestrian appears about to enter the lane from between parked cars. The driver is reminded to keep an eye on him and stop to avoid him, "even if he is jaywalking."

On the good side, sharing the roadway with cyclists is promoted, though only on a neighborhood street. In one situation, a cyclist is nearly "doored" on a neighborhood street as the user is about to pass, showing the user that cyclists should be passed

continued on p. 18

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

Alameda Countywide Bicycle Plan Produced by the Alameda County Congestion Management Assn., with Alameda County and its 14 cities. Chapters may be downloaded as pdfs: www.accma.ca.gov/pages/taskforce.shtml

"Cycling Safety On Bikeways Vs Roads" "Bicycling Renaissance In North America?" "Making Walking And Cycling Safer: Lessons From Europe" Three papers by John Pucher of Rutgers University ("everyone is welcome to download and distribute them, or post them on other websites, etc.") <http://policy.rutgers.edu/papers>

Community Bike Programs - Bike Libraries - Bike Sharing The International Bicycle Fund's extensive listing of resources on "White Bike" (or "Green Bike" or "Red Bike" or...) programs; by David Mozer and Ernst Poulsen. www.ibike.org/freebike.htm

Frail Elders And The Suburbs Patrick Hare's report says "People who cannot drive usually cannot walk long distances, and in most suburban areas, distances are long. Few services are within walking distance, even for a healthy person. In addition, there are few sidewalks, crossing lights, and safety islands for pedestrians, and few shops close enough to get to by walking" <http://www.homemods.org/library/pages/frailelders.html>

Health Update: Environment And Health: Transport The most health-promoting and environmentally sustainable modes of transport (walking and cycling) are vulnerable to the adverse health impacts of road transport." www.hda-online.org.uk/downloads/pdfs/healthupdate_road_transport.pdf

Increasing Physical Activity: A Report On Recommendations Of The Task Force On Community Preventive Services MMWR Recommendations and Reports, Volume 50, Number RR-18 is available as a pdf from:

www.cdc.gov/mmwr/PDF/rr/rr5018.pdf

For HTML (web) format, go to: www.cdc.gov/mmwr/preview/mmwrhtml/rr5018a1.htm

National Blueprint: Increasing Physical Activity Among Adults Age 50 And Older A Robert Wood Johnson Foundation report developed "as a guide for organizations, associations, and agencies to plan strategies to help people age 50 and older increase their physical activity." May be downloaded as a pdf from:

www.rwjf.org/app/rw_publications_and_links/publicationsPdfs/Age50_Blueprint_singlepages.pdf

Pedestrian Hazards At Intersections A paper by Dr. Sheila Sarkar of SDSU's California Institute of Transportation Safety. Available from Kathleen Russell at the California Institute of Transportation Safety, San Diego State Univ.; voice: (619) 594 0998; fax (619) 594 0175; email: <cits@kahuna.sdsu.edu>

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from p. 17

with care. Yielding to pedestrians is mentioned in at least four situations. The video reminds users that pedestrians sometimes make mistakes and to anticipate them.

A few situations close with short video epilogues entitled *What Was the Other Driver Thinking?*, but they're always other motorists, never pedestrians or cyclists. In one *Spot* scenario, a cyclist and a mother with a stroller are presented as two of four elements to spot, but the potential consequence shown after the user's input shows the driver violating the mother's right-of-way and makes no mention of it. It's as if she

and the cyclist are merely obstacles, not people with motivations and expectations. Neither school buses nor transit buses are mentioned or even shown.

It seems there are no bicyclists or pedestrians to be concerned about *In the Country*; only deer, poor roadway conditions, and other motorists.

There seems to be a bug in the program's scoring element. I did fair-to-poor *On the Highway* (I admit it, I crashed a couple times... guess I better stick to two wheels) and I don't recall missing any *In the Country*. Yet on my final score I was ranked as "Good" on the

highway and "Reckless" in the country. My overall score on my first try: 91 out of 100.

Overall, driver-ZED™ does a nice job getting drivers — of any age and experience — to think about how they behave on our roads and of the consequences of their actions or inaction. Too bad it takes a condescending attitude towards people not in motor vehicles.

Eliminating the subtle "non-motorized folks are losers" attitude, and adding two more sections, one where the user is a pedestrian and another a cyclist, would make this a much better training tool.

About: driver-ZED Interactive Risk-Management Training CD for Teens; Price: \$19.95; (PC, Mac).

AAA Foundation for Traffic Safety, 1440 New York Ave NW, Ste 201, Washington, DC 20005. Tel: (202) 638-5944; fax: (202) 638-5943
On the web: www.aaafoundation.org/products/index.cfm?button=item-detail&ID=110&storeid=1

Mighk Wilson has been the Bicycle & Pedestrian Coordinator for Metroplan Orlando for eight years. He says he does his best thinking while walking home from work.

While recent research and reports issued by PennDOT, CalTrans, ColoDOT, and most recently FHWA, contain much useful info, *Shoulder Rumble Strip (SRS) Issues Are Not Yet Settled*, and still need close attention by ASCE HPT Com as well as all pertinent parties.

1. Milling machines can install over 10 miles of divots in one day, can do a lot of damage in a hurry that is not easily fixed. Important that SRS are not indiscriminately placed everywhere, which is becoming more common. A big temptation. Need better criteria for warranting SRS on non-freeway roads.
2. Design of all SRS is essentially based on Large Truck response, resulting in harsh SRS everywhere. Caltrans Study found only 4 fatal sleep related run-off-road (ROR) large truck crashes on Calif roads over 3 year period, and noted RS placement should focus on passenger vehicle ROR and needs of bicyclists. While Caltrans Study may not be typical everywhere, there is still a need to set accident criteria requirements before

installing harsh RS (or any RS at all) on non-freeway type roads with narrower shoulders. Narrow shoulders warrant the less harsh SR because of closer contact with bikes.

3. Item 9b(2) of 12/20/01 FHWA Tech Advisory states that gaps in the strip pattern may be more effective in allowing safe crossings than modest reductions in the depth of each milled strip. Possibly a damaging statement which may be interpreted as giving OK to any degree of harshness or any RS as long as RS has intermittent gaps. Gaps are definitely a step in the right direction and should be encouraged but they do not eliminate need for less harsh RS. Cyclist does not always have choice of where or when to cross any RS. Also, harsher RS require more shy distance
4. FHWA Item 9b(3) OKs RS in very narrow shoulders if min 1 ft clear remains between RS and edge line for cyclist to ride. Also possibly a damaging statement, which could OK taking existing 2 and 3 ft

shoulders away from cyclists. Needs judgment in use.

5. FHWA says 3/8" deep grooves OK, while Caltrans felt groove depths of 3/8" too harsh for cyclists. Difference probably is groove width in direction of travel, which is not clear in FHWA. Groove widths in direction of travel should be spelled out, as larger groove widths produced by larger grind wheels can allow greater wheel drop. (6" wide allows 1/8" greater wheel drop than 5", etc),
6. Field experience shows difficulty in obtaining close depth and longitudinal width tolerances with grind wheels, and close attention needs to be paid to contractor ability to achieve desired grooves prior to starting work. Depth specs that target 3/8"

plus or minus 1/8" (eg ColoDOT report), allow 1/2" depths which showed too harsh in all research reports. A bike friendly SRS satisfactory to all concerned is not yet in use. Other configurations should not be ruled out.

7. Arizona using 1/4" depths with 4" to 5" widths in direction of travel by 5" to 8" or in transverse width, placed in or adjacent to edge stripe of narrower shoulders. Should track effects of these and other less harsh RS re. both cyclists and motorists.

The above doesn't cover all the bases but is a starting point. One thing that hasn't changed over the past 6 to 8 years. You can still ruin the whole day for cyclists by using the RS word.

—Mac Elliott

HPT COM is Mac Elliott's shorthand for the Human Power Transportation Committee of the American Society of Civil Engineers (ASCE). Mac has long edited the Committee's Update newsletter, available from the Committee's website: <http://ourworld.compuserve.com/homepages/kbarrett/asce-hpt.htm> Mac's compact style of writing means you'll get more information per 100 characters from the Update than from just about any other source on the planet! Thanks, Mac and David Harkey, the HPT committee chair!

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Of Note...

■ **New Community Design to the Rescue: Fulfilling Another American Dream** (2001, National Governor's Association Center for Best Practices)

Among other things, this new book by Joel S. Hirschhorn and Paul Souza has numerous computer-enhanced photos that clearly show what a dull car-centric street can look like when redesigned with broader community values in mind.

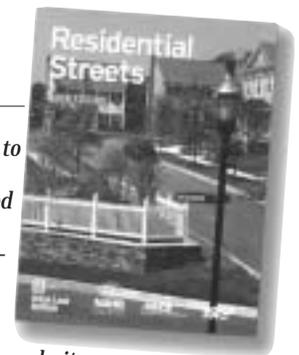
The report may be downloaded from the NGA website at: www.nga.org/center/divisions/1,1188,C_ISSUE_BRIEF%5ED_2344,00.html



■ **Residential Streets** (3rd Ed., 2001, Urban Land Inst.)

This book, by well-known traffic engineer Walter Kulash, has much to recommend it. An update to the **Residential Streets** book published by ULI, it does a better job of balancing the street's role in the transportation system with its role as part of a residential community's living environment. While it still follows the "Street Hierarchy" approach, it gives attention to bicyclists and pedestrians and comes from a more traditional neighborhood design philosophy.

The book may be ordered via ULI's website at www.uli.org
Price: \$35.00. Order No. R38.



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