

# Creating Active School Settings

An Approach to  
Improve Health,  
Academic  
Performance,  
Behavior, &  
Transportation  
Efficiency

**Urbana School  
District  
Urbana, IL  
Jan. 2011**



# Our Agenda

- Introduction & perspective.
- Why physical activity?
- Safe Routes to School – a wedge into deep cultural change.
- Five E's, Jeopardy, and pedometers.



**Goal: Walk away with concrete ideas on increasing your own physical activity, and that of your students.**



# Youthful recollections . . .

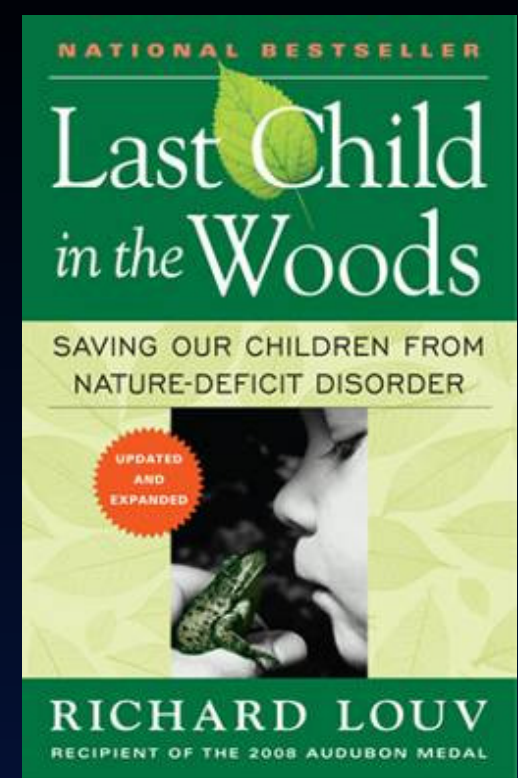


. . . and a vision  
for our children.

[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)



Not just my  
idea . . .



## Kids held back with 'over-organised' play, says Shane Gould

Pia Akerman

OLYMPIC golden girl Shane Gould has blasted children's sports programs as "over-organised" and holding back the natural development of physical skills, contributing to physical and social problems down the track.

The swimmer, who won five individual medals at the 1972 Munich Olympics, yesterday spoke out against children as young as five being pushed into team sports rather than recreational activities.



Gould

Gould said at the Australian Institute of Public Management annual conference in Adelaide.

"I believe that children are over-organised and they don't have enough opportunity just for fun," she said.

— 1, 2, 3, 4 —  
that is sports too young for kids to be involved in organised sport, even though it is modified," she said at the Australian Institute of Public Management annual conference in Adelaide.

— 1, 2, 3, 4 —  
could the term "nature deficit disorder" — it's not actually a true disorder, but we are going to start to see problems in children like concentration, hand ability to regulate their emotions."

Currently working on a masters degree in social geography at the University of Tasmania, Gould will publish her thoughts on children's physical activity in the December issue of the Child geographers in state capitals.

The Minutes the loss of traditional Australian backyards and "impeding" of public play grounds is further reducing child

ren's ability to play naturally.

"Public liability seems to be the main focus for the design of our children's playgrounds and all of us need to take some responsibility for this," Gould wrote.

"The race to blame someone for a child's fall from a piece of playground equipment has had the appalling knock-on effect of almost criminalising child's play and led to this devastating impact on our public spaces."

"Children prefer a log and a stick to play structures."

Speaking after her address,

Gould said home-improvement TV shows emphasising aesthetically pleasing courtyards had encouraged people to ditch traditional backyards.

"Kids need backyards — they need to dig dirt and pull up plants and see the roots. They need to find worms and beetles and make tracks and build cubbies and pull them down again," she said.

A mother of four, Gould raised her children on a property at Margaret River in Western Australia, where outdoor activity was an important part of everyday life.

In her article, Gould argues the

Howard government's focus on after-school sports to address childhood obesity was "well-meaning" but failed to attract most children who often had a "can't do" attitude to sports.

"Children, particularly under eight, do not, in my opinion, need to be involved in organised sports," she writes.

Gould said children today were raring due to "lack of movement experiences" such as reaching, climbing, hopping and spinning.



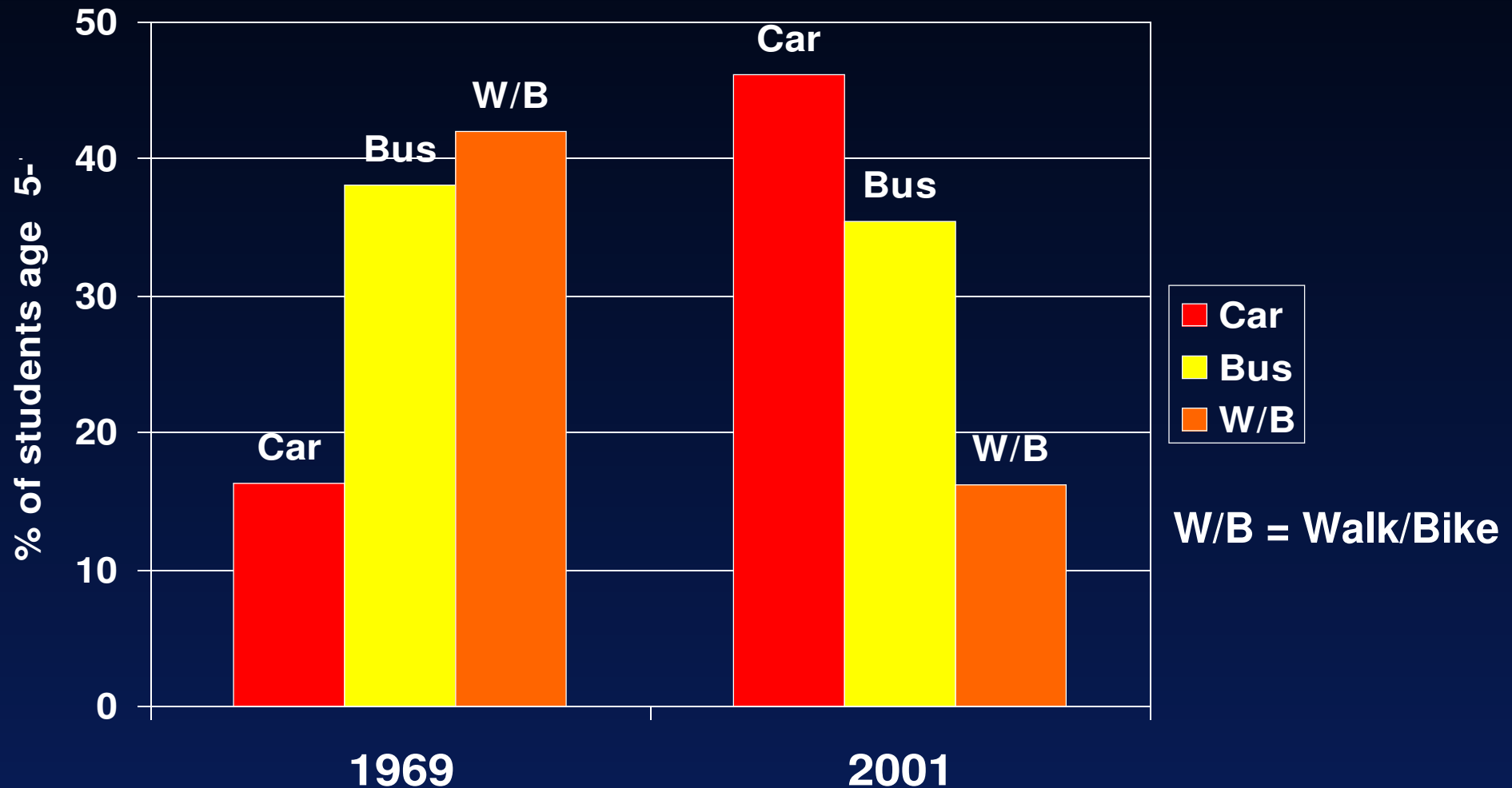
Have your say at  
[theaustralian.com.au](http://theaustralian.com.au)

The Australian, 14-Oct-2009

Mark.Fenton@verizon.net

# Changes in Walking & Cycling to School, 1969 to 2001

Ham et.al., *Jour. of Physical Activity & Health*, 2008, 5, 205-215



# What is Safe Routes to School all about?

- Getting more children, more safe physical activity, more of the time.
- Where it's safe, encourage more bicycling and walking right now.
- Where it's not safe, then do what we must to make it safe.
- Make sure we think about all children—even those who come the greatest distance or who face greatest risks.





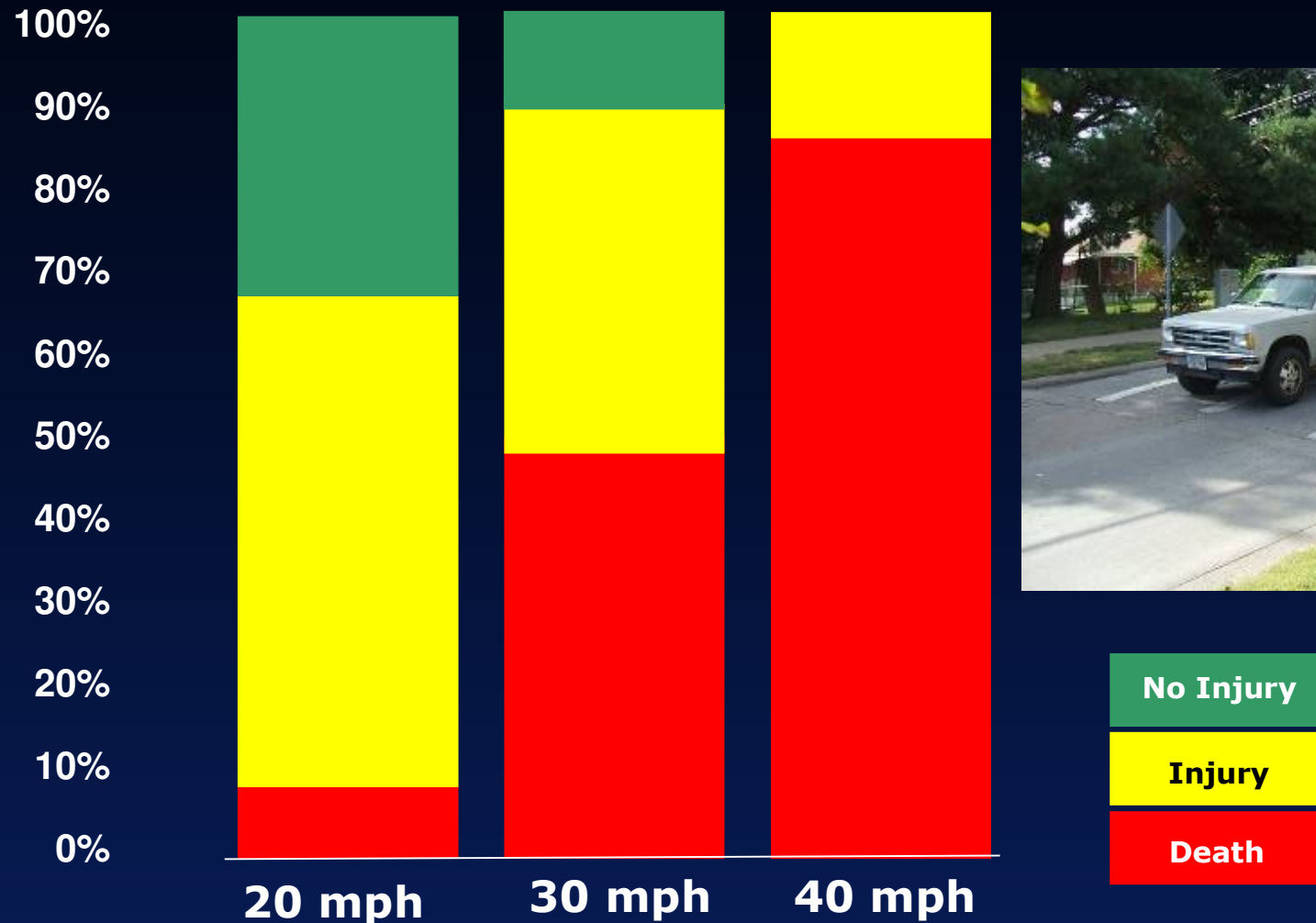
# Why a Safe Routes to School approach?



1. Safety & health of kids.
2. Academic performance & behavior of students.
3. Traffic congestion & transportation costs.
4. Environmental impact, air & water quality.

# 1a. Safety: Fatalities based on vehicle speed

## A pedestrian's chance of death if hit by a motor vehicle



*Killing Speed & Saving Lives; UK Dept. of Transp.*

[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)



**Crossing in front  
of or between  
parked vehicles. >**



**Milwaukee, WI**



**Birmingham, AL**

**[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)**

# 1b. Health: Physical activity recommendation for children & adolescents.

(2008 Physical Activity Guidelines  
[www.health.gov/paguidelines](http://www.health.gov/paguidelines))

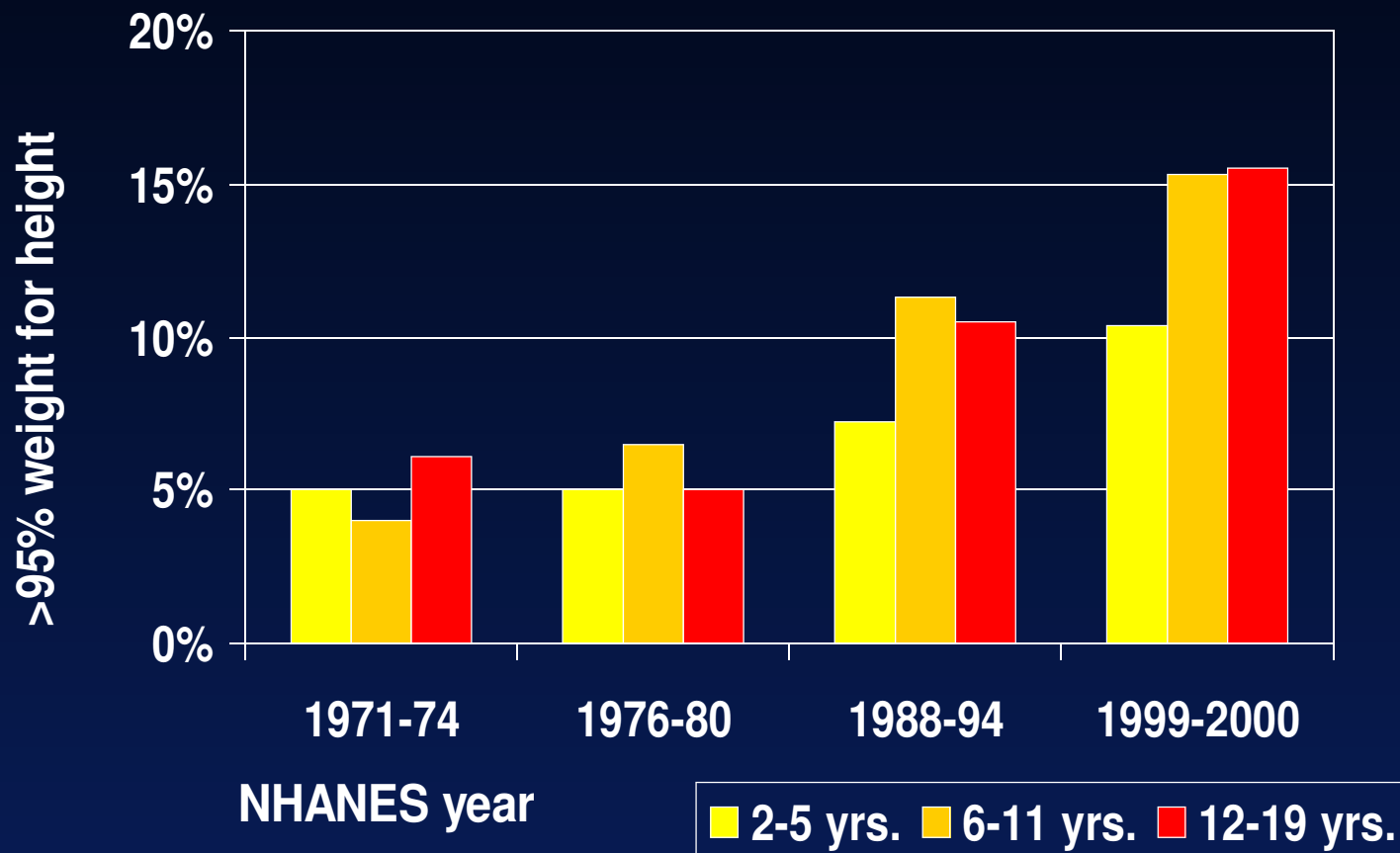
- **300 minutes/week** or more of moderate physical activity (e.g. 5 days x 60 minutes).
- At least three days a week this time should include **bone building** (climbing, lifting) & **muscle strengthening** (weight bearing) activities.





# US Youth Overweight Rates

JAMA 288 (14); Oct 9, 2002.

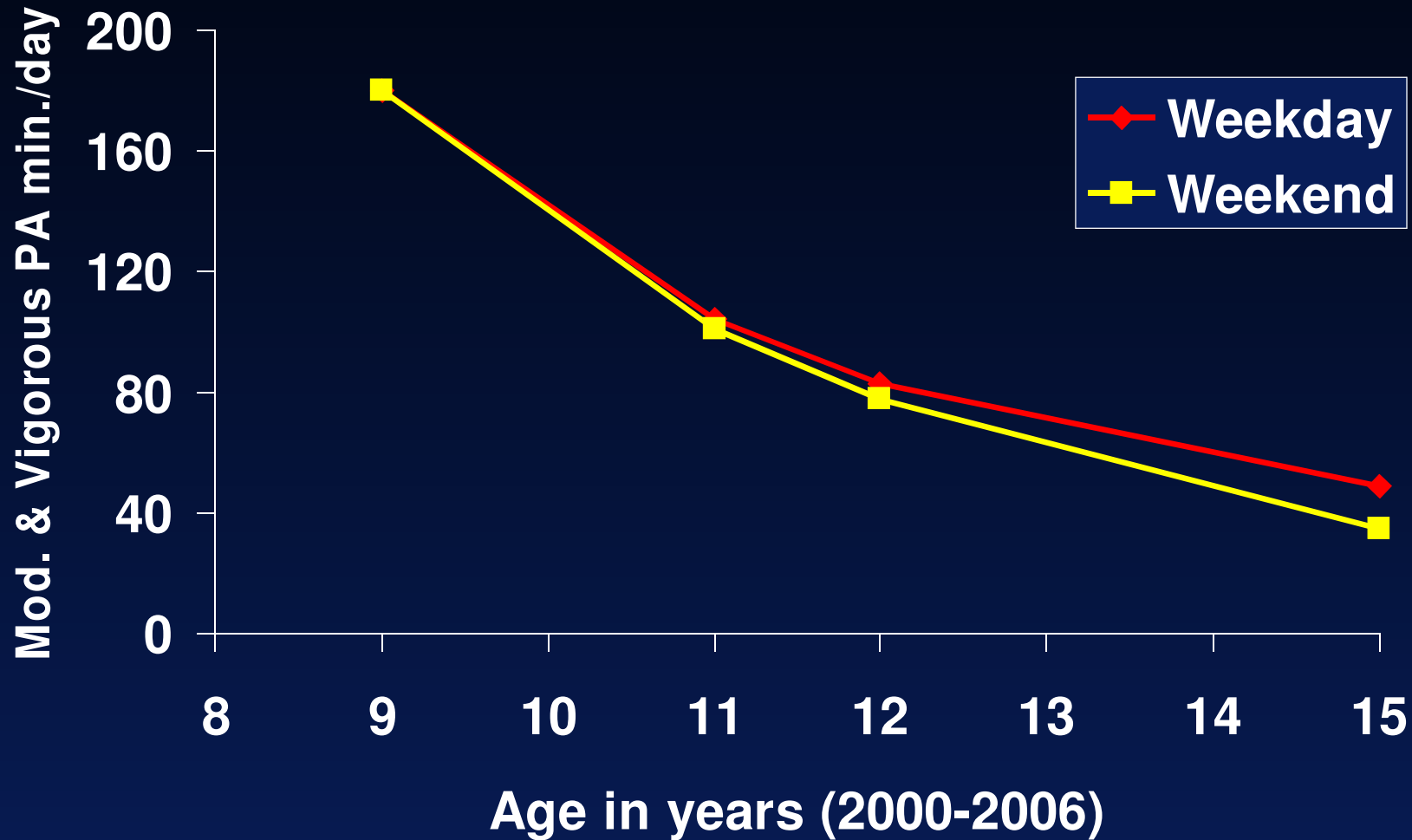


Mark.Fenton@verizon.net



# Adolescent Physical Activity

*JAMA. 2008; 300(3):295-305*



# **Physically inactive children have an increased risk of . . .**

- **Overweight and obesity, Type 2 diabetes.**
- **Aggravated existing asthma; sleep apnea.**
- **Decreased physical functioning (e.g., playing sports, climbing stairs, bicycling & walking).**
- **Musculoskeletal problems (e.g., tibial varum).**
- **Low self esteem; poor academic performance.**
- **Diminished physical & social navigation skills.**

**(American Academy of Pediatrics, 2005)**

**Mark.Fenton@verizon.net**

## 2. Student benefits.

Physically active children perform better academically.



Teachers report children act out less in class after they've been physically active.

[www.cdc.gov/healthyyouth/health\\_and\\_academics/](http://www.cdc.gov/healthyyouth/health_and_academics/)

*The Association Between School-Based Physical Activity, Including Physical Education, and Academic Performance, CDC, 2010.*

[www.activelivingresearch.org/files/Active\\_Ed.pdf](http://www.activelivingresearch.org/files/Active_Ed.pdf)

*Physical Education, Physical Activity, and Academic Performance, Fall 2007 Active Living Research Brief.*

Mark.Fenton@verizon.net



# For administrators?

Maybe even faculty and staff will act out less after they've been physically active!

## Physically active employees:

- Absent less
- More productive
- Fewer health care claims.
- Less costly.
- Better attitude . . .
  - toward work
  - toward employer



Fargo, ND

All-staff walks . . .



Vernon, CT

### 3. Transportation benefits.

Ease costs:

One bus = ~\$50-70k/year.



Longmont, CO



Ease traffic congestion and delays, risk of collisions, parent frustration, faculty time spent as “traffic cops.”

[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)

## 4. Environmental and community health benefits.



**1996 Summer  
Olympic Games  
essentially banned  
single occupant  
cars in downtown  
Atlanta.**



# Results of the ban

Morning traffic – down 22%

Peak ozone – down 28%

Asthma-related events for kids – down 42%

*(Journal of American Medical  
Assoc., Vol. 285, Feb. 2001)*



# Air quality?

Measurably better around schools with more walkers & bicyclists.



Johnson School  
Lexington, KY.

*Travel and Environmental  
Implications of School Siting,*  
EPA Rep.# 231-R-03-004, Oct.  
2003 [www.smartgrowth.org](http://www.smartgrowth.org)

McKinley Elementary,  
Billings MT

[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)



# Comprehensive Approach to Safe Routes to School

[www.saferoutesinfo.org](http://www.saferoutesinfo.org)

## Five components of successful programs:

- Education
- Enforcement
- Engineering
- Encouragement
- Evaluation

**Goal: Sustain change!**



[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)



# Evaluation: Start here!

Where do kids come from, what mode, & why?

## Travel modes

- Show of hands

## Direct observation

- Vehicle counts, speed

## Surveys

- Student, parent
- Perceptions, barriers

## Municipal data

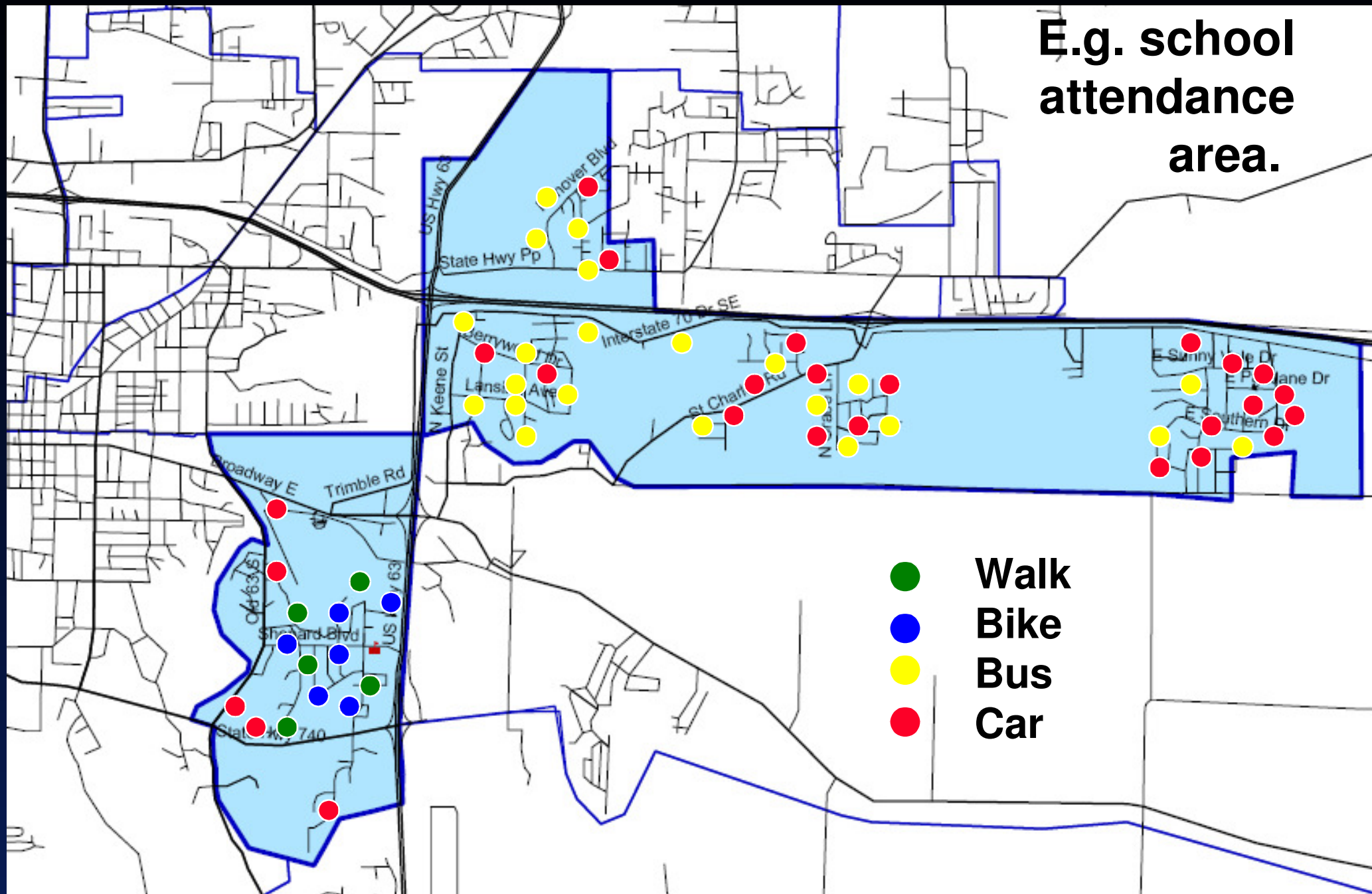
- Crash Data
- Traffic volumes, speed



## Mapping

- Home locations; code by travel mode.
  - Green = Walk
  - Blue = Bike
  - Yellow = Bus
  - Red = Car
- Routes (current, barriers, preferred)

**E.g. school  
attendance  
area.**



**Mark.Fenton@verizon.net**

# Enforcement:

- Not just police; but faculty, staff, kids, parents all involved.
- Speed and traffic enforcement.
- Combine with other tools, doesn't "stick" alone.
- No surprises; do progressive steps:
  - Educate
  - Warnings
  - Ticket, then ^\$.



[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)



# Education:

- Bicycle & pedestrian safety education.
- Tie to curricular programs (math calculating distances, speeds; geography mapping routes; science health benefits; arts, etc.)
- Target adults, neighbors, teachers with safe driving instruction, rules for pick-up, drop-off, reminders, etc.



# Engineering:

Sidewalks, bike lanes, narrowing, traffic calming, multi-use trails.



Bike parking, lockers, cul-de-sac connections, crossings, countdown timers.



[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)





**Increasing crossing visibility.**



**Traffic calming:  
Horizontal & Vertical**



**[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)**



# Lane re-alignments

- Sometimes called road diets, happening all over the US.



**Urbana, IL; before & after.**



- Reduces collisions & severity.
- Dramatically improves bicycle, pedestrian facilities.

[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)



# On-site engineering: Secure, covered bike parking.



**Rock Island, IL**



**Las Vegas, NV**



**[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)**



**Drop-off & Pick-up key principle:**  
**Make it *safer*, but  
not necessarily  
*more convenient*.**



**Sequential drop,  
curbside only, adult  
valets, defined  
lane(s), no idling.**

**< Remote drop area;  
5 min. early release.**

**Mark.Fenton@verizon.net**



# Encouragement



- < Walking school busses & bicycle trains; corner captains, safe houses.
- Walk at school (before, recess, after).
- Early release (~5 mins.) for bikes, pedestrians.
- Classroom competitions.
- Punch cards for points.
- Prize drawings.
- Footloose Fridays, Walking Wednesdays.
- Curriculum!

[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)

# Walk to School Day events:



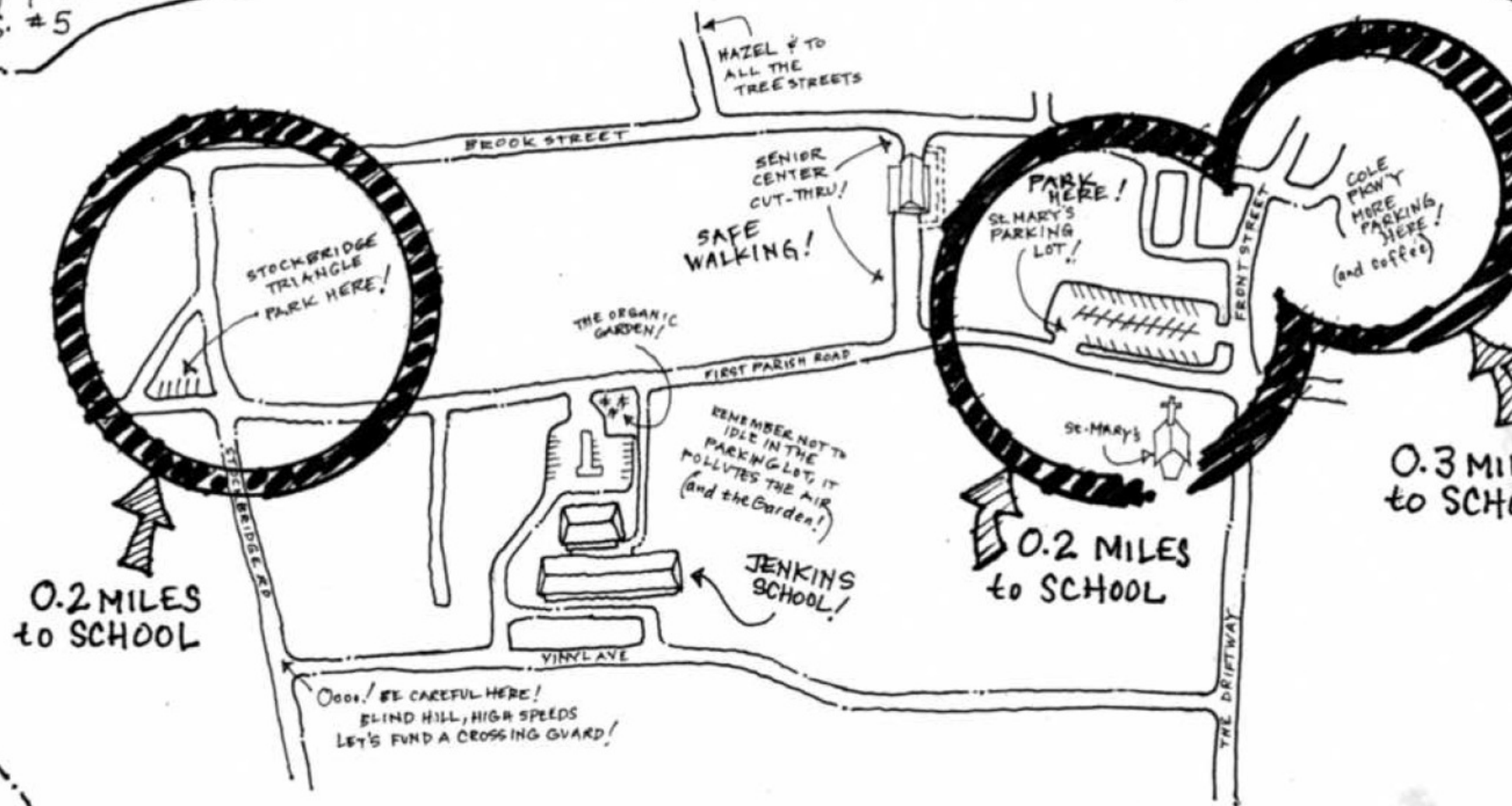
- International Walk to School Day - First Wednesdays in October (and May).
- Walkability checklists
- Suggested route maps.
- Prizes, drawings.
- Target parents!



[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)



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es. #5



# THE JENKINS SCHOOL **RAP** MAP (REMOTE ALTERNATIVE PARKING)

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# Sustaining programs:

## Walk/Bike month

- Count class physical activities for 'miles.'

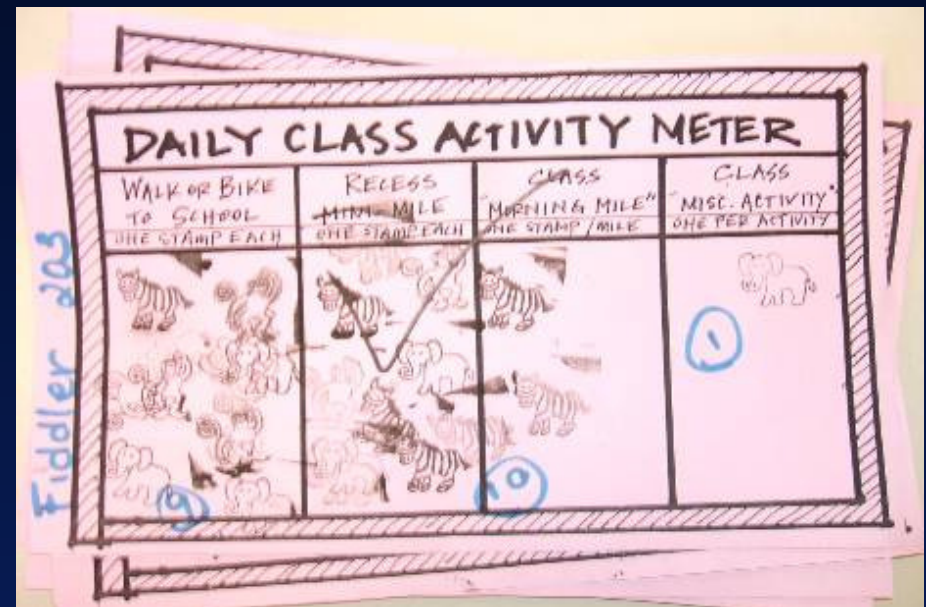


The coveted **Golden Shoe!**

	Taney	Roch	Butler	Geal/Sail	Don/Faru	Lawyer	Johnson	NEESER	HALLIN	Max/Mon	FLOUNDER	COX	DURKEY	MAUDSLAND	DOUGAN	EVANS	PLATZ	COLLIER	ROGERS	EWING	RO-G-ER	O'DELL	James	
10	-	-	4	4	9	2	11	-	8	-	20	12	14	22	-	17	31	18	39	36	24	-	9	-
11	2	6	12	2	18	7	9	12	25	-	20	37	19	31	13	14	23	18	35	40	19	-	9	-
12	1	2	32	16	14	22	6	-	13	21	46	20	25	16	6	16	5	33	34	13	-	-	-	-
13	4	8	22	14	20	13	5	26	26	-	78	23	21	17	20	18	17	16	29	34	20	36	15	-
14	2	4	14	9	10	13	4	16	9	-	13	19	10	18	25	15	61	19	40	39	16	9	15	-
15	2	10	12	9	10	5	7	10	20	7	20	18	11	41	38	13	42	13	43	33	13	16	-	-
16	1	6	10	2	34	3	9	13	6	-	28	16	11	21	31	13	54	16	46	29	13	10	-	-
17	2	10	3	2	-	9	7	8	13	10	51	19	12	76	33	15	41	11	45	27	-	11	-	-
18	0	3	13	2	-	7	9	11	21	-	25	26	31	55	-	15	-	7	40	-	9	20	-	-
19	2	8	-	-	-	5	5	9	-	-	26	11	19	42	-	8	40	4	43	49	-	9	-	-
20	1	7	-	2	-	-	6	5	9	-	19	11	15	45	-	-	40	19	49	23	-	10	-	-
21	2	5	13	2	-	-	5	9	-	-	12	26	19	35	-	-	29	7	16	-	-	18	-	-
22	1	9	9	2	-	10	8	9	-	-	23	13	19	54	33	-	-	4	23	27	-	34	-	-
23	2	1	-	-	-	-	9	-	-	-	13	17	13	41	26	11	22	12	28	26	-	-	-	-
24	4	3	-	-	-	12	11	-	-	-	20	9	9	44	33	10	74	10	67	38	-	12	-	-
25	1	8	-	-	-	15	10	-	-	-	16	15	9	57	26	26	-	5	43	-	11	20	-	-
26	2	8	-	-	-	-	-	-	-	-	8	-	26	39	26	-	-	6	68	34	-	10	68	-
27	3	2	4	-	-	-	-	-	-	-	-	-	-	32	28	-	-	5	32	13	-	11	-	-
28	-	-	-	-	-	-	-	-	-	-	-	-	-	23	11	-	-	12	-	11	-	12	-	-

# ACTIVITY METER

\*\*1 morning mile  
 \*\*2 mini-mile during Recess  
 \*\*3 WALK/BIKE TO SCHOOL  
 \*\*4 CLASS PHYSICAL ACTIVITY



**Encouragement programs should reach all kids, not just those who can walk to school.**



**PTO Dads Club built stairs to complete a ½ mile walking loop around school.**

**Used for “Morning Miles” (full class) and recess walking.**



**Scituate, MA**

**[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)**



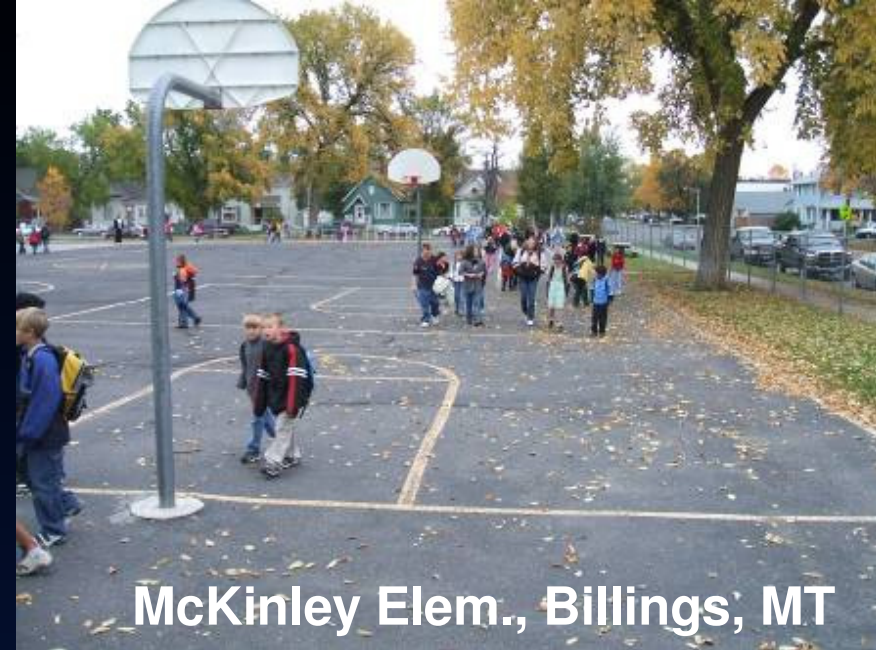
# Pre-school walking?



Carrie Busey Elem., Champaign, IL



Shepard Elem., Columbia MO



McKinley Elem., Billings, MT



Seattle, WA

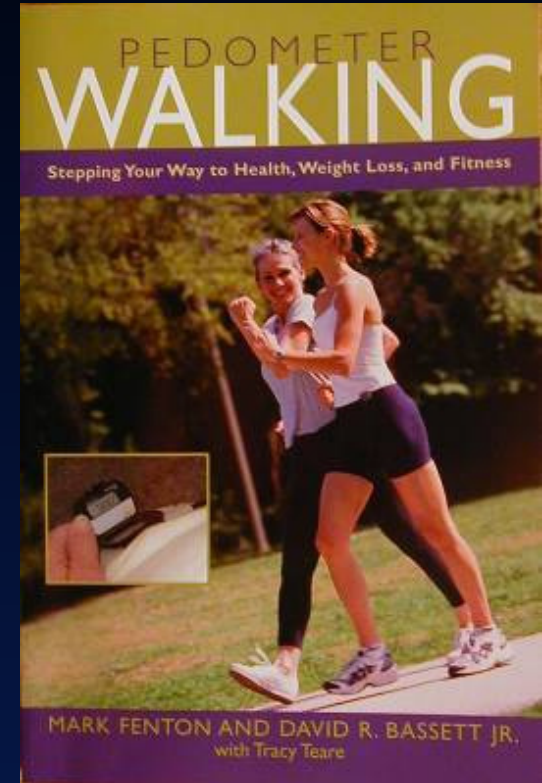
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# Pedometers as motivational tools.

From *Pedometer Walking* by Fenton & Bassett (2006)

- Measure steps all day.
  - Determine your average daily steps.
  - Increase by only 10%-20% a week.
  - Keep gradually increasing . . .



## Key to Success: Keep a record!

Mark.Fenton@verizon.net

# 20% Boost Pedometer Approach

From *Pedometer Walking* by Fenton & Bassett (2006)

**Wear a pedometer:**



**Not like these. >**



**< Like this, level  
and in line with  
the knee.**



# 20% Boost Pedometer Approach

From *Pedometer Walking* by Fenton & Bassett (2006)

S	M	T	W	Th	F	Sa
3,254	3,759	3,588	4,506	2,127	3,901	8,316

**Total = 29,451      Daily average = Total / 7 = 4,207**

**Daily average x 1.2 = 5,048**

**5,048 = Next week's daily goal!**



# How many steps?

**Fitness:**  
**3,000 steps**  
*fast.*

**Weight loss:**  
**~12-15,000 steps/day.**

**Health:**  
**~10,000 steps/day.**



# Thoughts on using pedometers with kids:

They are easily lost!

- Library loan, \$ deposit?
- Group goals, contests.
- Tie to curriculum (math, science, health).
- Encourage adult (e.g. family) involvement.
- Exercise, functional activities, play all count.



# Plan Safe Routes programs with collaborative community workshops:



4. Planning  
5. Public  
works

1. Principal  
2. Parents (PTO)  
3. Police



[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)



# Thoughts, questions?

[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)

# **A Case Study:**

## **West Boulevard Elementary Columbia, MO**



**An example:  
Columbia MO  
had a park with a  
nice trail right  
next to W.  
Boulevard Elem.**



**Decided to try remote drop-off/pick-up across the park.**

## What did the kids think?

- It was fun, and they'd be happy to do it more, even all the time (9-2 in favor).



## Why walking was a good thing to do?

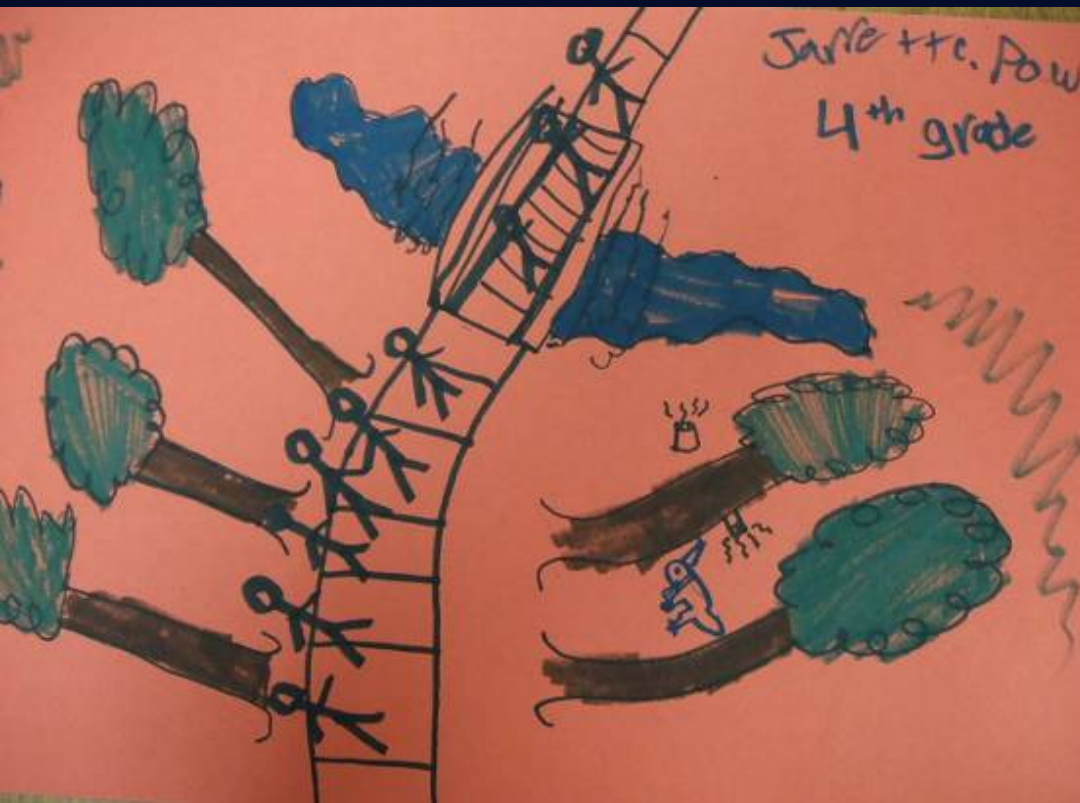
- “It’s good exercise; helps us care for our bodies.”
- “It woke me up. The cold rain woke me up *more*.”
- “We liked seeing the creek, running water, trees.”
- “I like seeing my friends; I had fun with them.”



# What did the kids think?

## The ENVIRONMENT

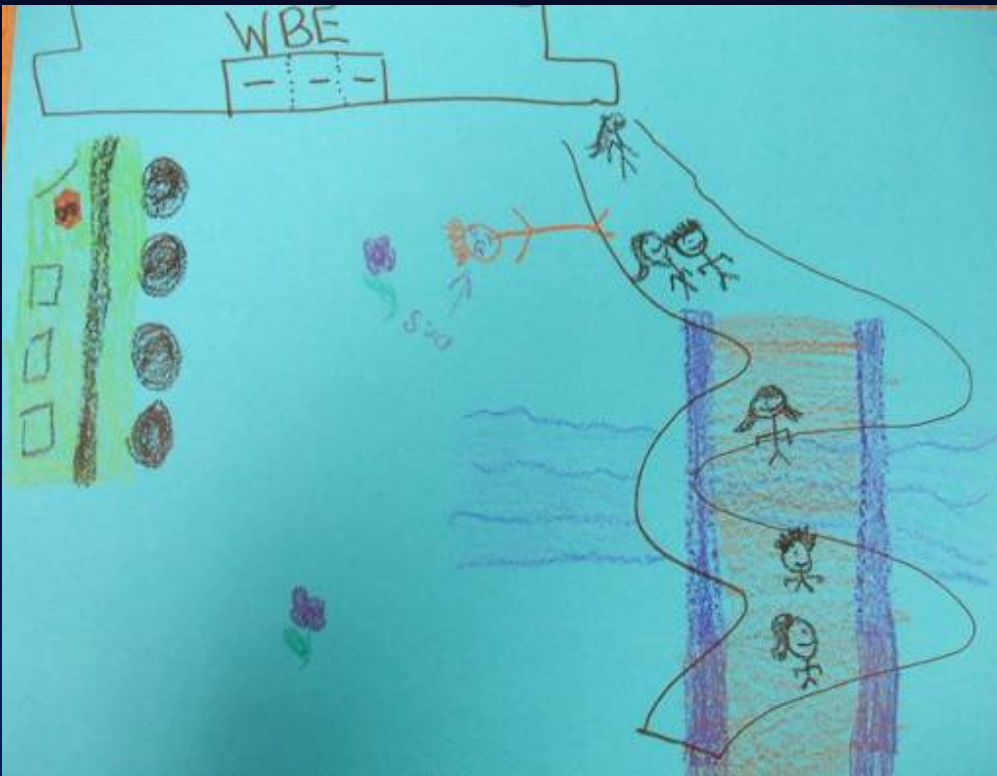
- “I had to walk with my little brother to keep him out of trouble . . .” (Ciairah)



- “We saw a dog across the creek, in the trees . . .” (Jarrette)

# What did the kids think? PEOPLE

- “I noticed swirls in the water; my 2<sup>nd</sup> friend grade worried . . .” (Adrianna)

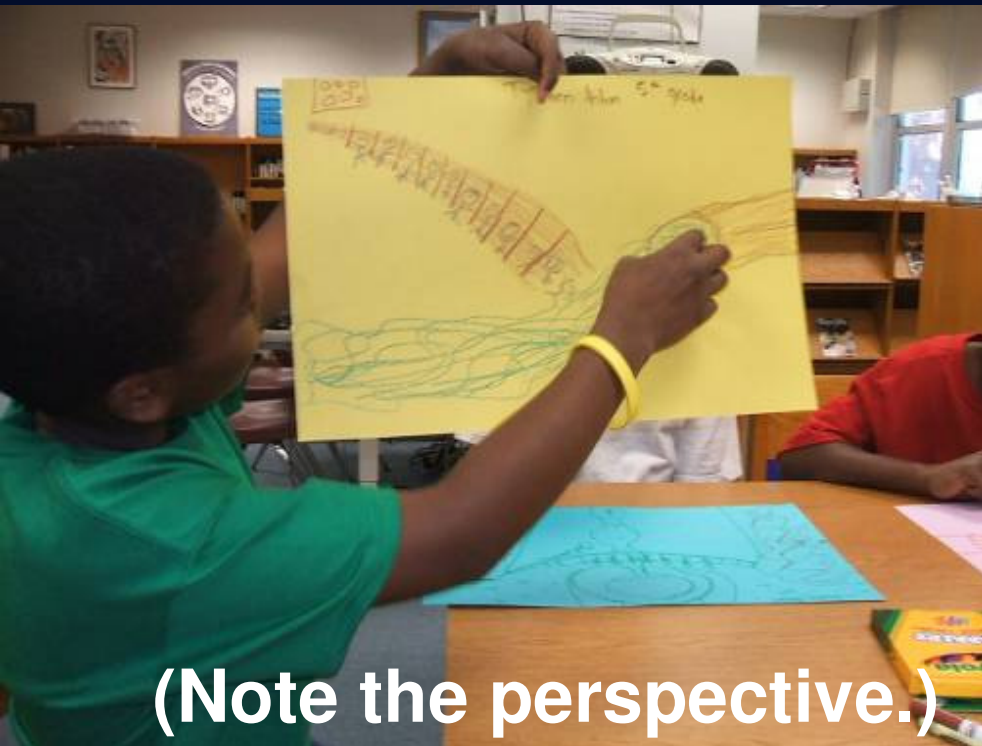


- < Big praise for her cool school bus drawing & picture of Dr. Stiepleman! (McKenzie)



# What did the kids think? FUN.

- “This is Tyshion falling in the water off of the bridge . . .” (Khalil)



(Note the perspective.)



- “This is the pipe the water comes out of, and this is Khalil falling in the water . . .” (Tyshion)





## Some of their recommendations:

- Pick a sunny day! Umbrellas if it's wet, gloves and hats if it's cold.
- Warm-up exercises, stretches when we start.
- Early enough to be on-time to breakfast—want to get the good cereals. (Not just *Wheaties*!)

**How many of you would like to be able to ride bikes as part of the day in school (gym, recess, to/from school)?**

**11 “yes!”**

**How many of you would like to be able to go for a walk as part of the day in school (gym, recess, to/from school)?**

**9 “yes!”**

**Adrianna asked the real question of the day:  
“Is this for real?”**



**Mark.Fenton@verizon.net**

# Plan included:

- Bus & car pull-outs at the park (SRTS \$).
- Walking path w/ tree plantings & community garden.
- Policy change: Pick-up and drop-off formally moved to park.





# Why it's not just about walking to school:

- Easing a daily neighborhood traffic jam.
- Getting urban kids an “outdoor” experience.
- Restoring vitality to an abandoned city park.
- Engaging neighbors, retirees, college students, the community.



# A comment on each E:

- **Evaluation.** Start here!
- **Education.** Not just the kids; parents too.
- **Enforcement.** Not just cops, everyone speaking up.
- **Engineering.** Remember the less expensive stuff.
- **Encouragement.** Mold to the school: walking busses, remote drop, in school, etc.
- **Key:** Sustained change!



**For more:**  
**[www.saferoutesinfo.org](http://www.saferoutesinfo.org)**  
**[www.saferoutespartnership.org](http://www.saferoutespartnership.org)**  
**[www.cu-srtsproject.com](http://www.cu-srtsproject.com)**



**[Mark.Fenton@verizon.net](mailto:Mark.Fenton@verizon.net)**