

Transportation Synthesis Report

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Effectiveness of "Children at Play" Warning Signs

Prepared for
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Traffic Engineering Section, Traffic Design Unit

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Request for Report

WisDOT is engaged in an effort to reevaluate and update its policies regarding roadside warning signs related to children, such as "Children at Play," "Blind Child," "Deaf Child," etc. We were asked to review research on the effectiveness of these types of signs to better ground WisDOT's policy decision.

Summary

There is no evidence that special warning signs of this sort reduce driver speeds or crash rates. This is the unanimous conclusion of the many credible sources we located on this topic. This claim is supplemented by a number of often-cited "common sense" observations that such signs do not give clear and enforceable guidance to drivers, provide a false sense of security to parents and children that may increase risk, expose the government to liability, give the false impression that areas without such signs do not have children, represent an unnecessary cost that then propagates as additional signs are requested and violate the principle that signage should be based on engineering, not political, decision making.

These arguments are used most frequently against Children at Play signs, and many of them—such as the arguments that CAP signs encourage playing in the street and that if in one location with children they should properly be in all locations—do not apply to Deaf Child, Blind Child, Handicapped Child or Autistic Child signs. These latter signs receive much less explicit discussion in the sources we located.

The **National Research and Guidelines** section of this TSR presents positions on child-related traffic warning signs with papers by U.S. DOT, FHWA, NCHRP and the Institute of Transportation Engineers. Though these all discourage the use of such signs, none of them cites specific research demonstrating that these signs are ineffective, and one source, the ITE *Design and Safety of Pedestrian Facilities* entry below, implies that no such studies exist, stating that "No accident-based studies have been able to determine the effectiveness of warning signs."

State and Local Research and Practices contains a brief representative sampling of state and local positions on this topic. While many areas make use of these signs, we located no explicit defenses on

engineering grounds for their use. A common theme is the ongoing struggle to explain to members of the public that their requests for these types of signs are based on faulty assumptions about their effectiveness.

Many of the sources we located refer generically to multiple “studies” that have shown special warning signs to be ineffective, but despite extensive research we were unable to identify any specific projects meeting this description.

National Research and Guidelines

FHWA Manual on Uniform Traffic Control Devices (2000)

http://mutcd.fhwa.dot.gov/kno-millennium_06.14.01.htm

A search of the MUTCD found no instances of “CAP,” “watch for children,” “slow children,” “blind child” or “deaf.” Related guidance includes the following:

- From Section 2C.02, Application of Warning Signs (<http://mutcd.fhwa.dot.gov/HTM/2003r1/part2/part2c.htm#section2C02>): “The use of warning signs should be kept to a minimum as the unnecessary use of warning signs tends to breed disrespect for all signs.”
- From Section 2H.03, Regulatory and Warning Signs (<http://mutcd.fhwa.dot.gov/HTM/2003r1/part2/part2h.htm#section2H03>): “All regulatory and warning signs installed on public roads and streets within recreational and cultural interest areas shall conform to the requirements of Chapters 2A, 2B, and 2C” (the chapters on general, regulatory and warning signs).
- CAP or other message signs are not specifically prohibited as long as they conform to the standard shape (diamond) and colors (black letters on yellow background) and as long as no symbols are used. Some state-specific MUTCD supplements (such as in New York) present the option of a CAP or similar sign.

Institute of Transportation Engineers: Traffic Control Devices Handbook (2001)

Paper copies are available from the WisDOT library.

Page 444 states that “Agencies should avoid the use of CAUTION – CHILDREN AT PLAY or SLOW CHILDREN nonstandard signs since such signs may imply ‘that the involved jurisdiction approves of streets as playgrounds, which may result in the jurisdiction being vulnerable to tort liability.’” (This quote is reproduced and expanded in *FHWA Course on Bicycle and Pedestrian Transportation: Pedestrian Signing and Pavement Markings* at http://safety.fhwa.dot.gov/ped_bike/univcourse/swless14.htm.)

To determine the original research basis for these claims, we noted that this source cites ITE’s *Design and Safety of Pedestrian Facilities* (below) for the claim that using CAP signs “may result in the jurisdiction being vulnerable to tort liability,” whereas this latter source, in its comments on CAP signs, refers back to this one.

Page 444 also states that “there are conditions where selected traffic control devices may be considered, such as around parks, or conditions where children may have disabilities and drivers need to take extra care.” This implies that Blind/Deaf/Handicapped/Autistic Child signs may be appropriate in some circumstances, though no evidence is cited on the effectiveness of these devices.

ITE: Design and Safety of Pedestrian Facilities (1998)

http://safety.fhwa.dot.gov/PED_BIKE/docs/designsafety.pdf

Chapter 4, Pedestrian and Motorist Signing, states (page 42 of the PDF): “No accident-based studies have been able to determine the effectiveness of warning signs. However, this is understandable because of the complex nature of events leading into each accident.” Of the 41 agencies responding to a questionnaire used in preparing this report, four reported that “all types of pedestrian-related signs and pavement stencils were helpful,” while some agencies “responded that they use these devices in the hope that they will provide some benefit to pedestrians.” (See page 39 of the PDF.) Also on page 39: “Signs should only be installed when they fulfill a need based on an engineering study or engineering judgment. In general, signs are often ineffective in modifying driver behavior, and overuse of signs breeds disrespect and diminishes effectiveness. Unnecessary signs and posts represent a hazard to errant motorists and may cause an

obstruction to pedestrians and bicyclists. Furthermore, unnecessary signs are a waste of taxpayer dollars, represent an ongoing maintenance cost, and are a source of visual blight.”

NCHRP Synthesis of Highway Practice No. 139: Pedestrians and Traffic-Control Measures (1988)

Paper copies are available from the WisDOT library.

This report, quoting an earlier version of the *Traffic Control Devices Handbook* than the one listed above, says “Nonuniform signs such as ‘CAUTION—CHILDREN AT PLAY,’ ‘SLOW—CHILDREN,’ or similar legends should not be permitted on any roadway at any time... the removal of any nonstandard signs should carry a high priority.”

NCHRP Synthesis of Highway Practice No. 186: Supplemental Advance Warning Devices (1993)

Paper copies are available from the WisDOT library.

This report gives examples of numerous related signs currently in use. A specific example of a CAP sign is given on pages 38-39: “The device is not considered effective, but installation of the sign satisfied parent and political leaders. Generally, the residents and homeowners’ organization must pay to have this sign installed. The use of this sign and its variations has been discouraged by many agencies because the message implies that it is acceptable for children to be playing in the street. It is nonstandard due to the use of a symbol not contained in the MUTCD.”

U.S. DOT Message Points (February 11, 2002)

Paper copies are available from the FHWA. Please send a request to Fred Ranck, fred.ranck@fhwa.dot.gov.

This communication states U.S. DOT’s position on CAP signs, which is to conform to MUTCD standards. Highlights include:

- Studies of the effectiveness of CAP signs by ITE, TRB and FHWA to date do not demonstrate a reduction in crashes involving children nor a reduction in speeds. (Note: ITE and FHWA staff were unaware of any studies.)
- From an ITE “traffic tips” series that answers residents’ commonly asked questions about signs, etc.: “...studies made in cities where (CAP) signs were widely posted in residential areas showed no evidence of having reduced pedestrian crashes or vehicle speed.” Several cities report that measured speeds on residential streets experienced no decrease after the installation of CAP warning signs. Further, several cities reported no decrease in the incidence of traffic crashes involving a child hit in the street after the installation of CAP warning signs.

Fred Ranck of FHWA also states that “Children at Play” is not an appropriate message for a warning sign; rather “Watch for Children” is an appropriate message consistent with other warning sign messages.

State and Local Research and Practices

We have included some comments on CAP and other signs by state governments; state DOT research programs, including tech transfer efforts; and communities. Most sources agreed with the information from national sources. We have presented such exceptions as we were able to locate. We did not find any references to research supporting the use of these signs or other cogent arguments against the national stance regarding these signs.

Multiple States

More or less identical arguments repeating the national points made above appear in a number of state DOT tech transfer documents, including Massachusetts

(http://www.ecs.umass.edu/baystate_roads/newsletters/2001_fall.pdf),

New Hampshire (<http://www.t2.unh.edu/spring02/pg4.html>), California

(www.techtransfer.berkeley.edu/newsletter/05-1/signs.php) and Minnesota

(<http://www.mnltap.umn.edu/publications/exchange/2001-1/atplay.html>).

This source states that “most collisions involving children are not actually caused by driver behavior (which this sign has very little demonstrated effect on), but by unsafe, erratic actions by children... The CHILDREN AT PLAY sign may well be understood by kids and families as a suggestion that it is acceptable for children to play in the street, and thus, by producing a false sense of security, be

counterproductive. Furthermore, CHILDREN AT PLAY signs tend to propagate through neighborhoods, popping up on every block that has a child living on it. Signs lose credibility with motorists when they appear too often. Instead of being extra diligent, drivers tend to ignore the signs, particularly if no children are playing near the CHILDREN AT PLAY signs. When these signs appear too often, they raise questions like: If there is no sign does that mean there are no children present and no need to watch for children?"

Alaska

Municipality of Anchorage, Alaska, Traffic Department FAQ

<http://www.muni.org/traffic/FAQ.cfm>

This FAQ asks: "Are there any guidelines for the installation of Children at Play signs?" Alaska DOT answers: "Yes. Children at Play signs are typically posted on neighborhood streets directly located off higher speed roadways." This approach may bypass many of the national arguments against the use of these signs.

Colorado/Wyoming

2006 Section Activities Report: Colorado/Wyoming Section of the Institute of Transportation Engineers (2007)

<http://www.ite.org/elected/Colorado-Wyoming%20Section.pdf>

This report states that "nonuniform signs such as 'Caution—Children at Play,' 'Slow—Children' or similar legends should not be permitted on any roadway at any time," presenting the national reasons and citing the FHWA 1983 *Traffic Control Devices Handbook*. According to the *ITE Journal*, May 1988, "Children at Play signs may make parents feel more secure but they don't work and they carry no enforcement value."

Colorado LTAP Newsletter, Spring 2004

http://ltap.colorado.edu/newsletter/Newsletter_Spring04.pdf

On page 3, this newsletter addresses the Web site question, "What does MUTCD say about 'Children at Play' signs?" It repeats the national arguments and gives the additional argument, drawing from the TRB report *Maintenance Management of Street and Highways Signs* that deviating from the MUTCD (which does not include Children at Play and similar warning signs) is a bad idea because "about 29 percent of tort liability lawsuits against highway departments are related to traffic signing."

Florida

Florida Technology Transfer Traffic Information Program Series (TIPS), from the Florida Section (District 10) of the Institute of Transportation Engineers

<http://mctrans.ce.ufl.edu/transportationTopics/tips.htm>

Two TIPS are relevant to this TSR:

- **"Won't a Children at Play sign help protect our kids?"**
(<http://mctrans.ce.ufl.edu/transportationTopics/tips.htm#4>) This tip states that "studies made in cities where such signs were widely posted in residential areas show no evidence of having reduced pedestrian crashes, vehicle speed or legal liability. In fact, many types of signs which were installed to warn of normal conditions in residential areas failed to achieve the desired safety benefits. Further, if signs encourage parents with children to believe they have an added degree of protection—which the signs do not and cannot provide—a great disservice results... . Specific warnings for schools, playgrounds, parks and other recreational facilities are available for use where clearly justified."
- **"Why are traffic engineers reluctant to install Deaf Child or Blind Child warning signs?"**
(<http://mctrans.ce.ufl.edu/transportationTopics/tips.htm#74>) This tip gives the following reasons against using nonstandard, highly specific signs of this sort:
 - A Deaf Child or Blind Child sign does not describe where the child might be. Most streets within a residential area have children who react in the same way, and each driver must be aware of all children in a neighborhood environment.
 - These signs provide parents and children with a false sense of security that their children are safe when playing in or near the street.
 - When the novelty of such a sign wears off, the signs no longer attract the attention of regular passersby.

- Unique or unusual warning signs are a target for vandals and souvenir hunters and have a high replacement cost.
- Unique message signs have no legal meaning or established precedent for use in basic traffic engineering references. Their use is discouraged because of both the lack of proven effectiveness and undesirable liability exposure.
- Many traffic engineers feel that special warning signs are warranted at a location adjacent to a school for the deaf or for the blind, and have considerably more merit than those at a location where a deaf or blind person may only cross occasionally.

Maine

3.6.3 “Special” Warning Signs: “Children At Play,” “Deaf Person,” “Disabled Person,” “Horse Crossing,” etc.

<http://www.maine.gov/mdot/working-with-dot/section3.php>

This regulation states that “...the driving public does not react favorably or positively to these signs in most cases. In the late 1990s, the MaineDOT changed its policy on the installation and maintenance of these signs. It is virtually impossible for the MaineDOT to keep track of every handicapped person, playing child and crossing horse in every town along all state roads.... Knowing that these signs are generally ineffective, MaineDOT does NOT advise the use of these signs because allowing one sets precedence and generates many more requests and creates a new financial burden on the municipality.”

Michigan

Speed Control in Residential Areas

<http://www.ite.org/traffic/documents/tcir0053.pdf>

Page 24 of the PDF states: “Special warning signs such as ‘Children at Play,’ ‘Watch for Children’ or others that warn of normal conditions are not effective in reducing speeds in residential areas,” among other of the standard national arguments against these signs. It continues: “The MMUTCD provides standards for signs warning drivers that they are approaching recreational facilities such as parks and playgrounds. However, there is not enough evidence to determine the effect of these warning signs on vehicle speeds.” (Reference: Michigan Department of Transportation and the Michigan State Police, *Michigan Manual of Uniform Traffic Control Devices*, 1994 edition.)

City of Troy, Mich.: “How about a ‘Children at Play’ sign?”

<http://www.troymi.gov/TrafficEngineering/Children%20at%20play.html>

According to this document, “Studies made in cities around the nation where such signs were widely posted in residential areas show no evidence of having reduced pedestrian crashes, vehicle speed or legal liability.” According to research in the City of Troy: “Studies in the City of Troy have also shown very low effectiveness of the sign and therefore have not installed them in the past several years. Before and after studies showed no reduction in speeds.”

Minnesota

Frequently Asked Questions, Office of Traffic, Safety and Operations

<http://www.dot.state.mn.us/trafficeng/faq/faq-signing.html#m>

Question: “I would like to have a ‘deaf child/blind child/slow children at play’ sign installed on my street/highway near my home. How do I get this accomplished?”

Answer: “Mn/DOT does not install this type of sign on state highways since it is not enforceable (it is a warning sign) and it can lead to a false sense of security. If you are requesting signing on a city street, contact the city offices.”

North Carolina

Traffic Engineering Policies, Practices and Legal Authority Resources

NCDOT will install these signs upon receipt of a formal written request meeting certain criteria:

- Blind Child Area Signing: http://www.ncdot.org/doh/preconstruct/traffic/tepp/Topics/B-10/B-10_p.pdf
- Autistic Child Area Signing: http://www.ncdot.org/doh/preconstruct/traffic/tepp/Topics/A-18/A-18_p.pdf

- Deaf Child Area Signing: http://www.ncdot.org/doh/preconstruct/traffic/tepp/Topics/D-02/D-02_p.pdf

This strategy seems typical of a number of states. According to http://www.ncdot.org/doh/preconstruct/traffic/tepp/Topics/C-05/C-05_mm.pdf, “Children Playing warning signs are not approved for use on the state highway system right of way. These signs tend to promote a false sense of security for the children and encourage them to actually play in the roadway, since traffic is warned of their presence.”

Ohio

Slow Children at Play Signs

http://dot.state.oh.us/dist1/planning/TrafficStudies/children_at_play_signs.htm

According to this policy, “These signs are not used by Ohio Department of Transportation on the rural state highway system and ODOT discourages others from using them.”

This text is repeated in the *Office of Traffic Engineering Traffic Engineering Manual*, page 19 of the PDF: http://dot.state.oh.us/traffic/Publication%20Manuals/TEM/Part_02/part_02_complete%20for%20072007.pdf

Virginia

A Look at What Some States are Doing. “Deaf Child Area” Signs Available in Virginia (1988)

From AASHTO QUARTERLY, Vol. 67, No. 4, p. 13.

Paper copies are available through the transportation library system.

VDOT officials have developed a policy that allows the use of Deaf Child Area warning signs. Parents of hearing-impaired children can request these signs through the VDOT residency for the area where the sign is desired. The request must be supported by medical certification of the child’s hearing loss. The signs will be allowed on nonlimited access roadways of the primary or secondary system. Jurisdictions maintaining their own streets and highways are encouraged to use similar guidelines for the use of these signs.

West Virginia

Traffic Engineering Directive 225: “Children at Play” Signing (1999)

<http://www.wvdot.com/engineering/Manuals/Traffic/TED/TED225.pdf>

This directive states that “since the other signing alternatives convey to motorists specific regulations or warning or more permanent roadway conditions rather than conditions that may exist at unspecified times, Children Present signs should only be installed after all the other alternatives have been considered.”