



156 East First Street
New Richmond, WI 54017
Ph 715-246-4268 Fax 715-246-7129
www.newrichmondwi.gov

January 15, 2015

TO ALL MEMBERS OF THE PUBLIC WORKS COMMITTEE:

**Ron Volkert
Jim Zajkowski
Craig Kittel**

There will be a meeting of the Public Works Committee on Monday, January 19, 2015, at 2:00 p.m. in the ED Lab of the Civic Center, 156 East First Street, New Richmond.

Agenda:

- 1. Roll Call**
- 2. Adoption of Agenda**
- 3. Adoption of minutes from the previous meeting, December 8, 2014**

UnFinished Business:

- 4. Dakota Avenue Bike Path**
- 5. Street Renaming – Wall Street to 32nd Division Avenue**

New Business:

- 6. Sidewalk Snow Removal Policy**
- 7. CTH A Project/Ped Accommodations**
- 8. Sidewalk Construction/Repair Policy**
- 9. North Knowles Avenue Speed Limit**
- 10. Stormwater/Wastewater Coalition Update**
- 11. Communications and Miscellaneous**
- 12. Adjournment**

**Jeremiah Wendt,
Director of Public Works**

A majority of the members of the New Richmond City Council may be present at the above meeting.

Pursuant to State ex rel. Badke v. Greendale Village Board, 173 Wis. 2d 553, 494 N.W. 2nd 408 (1993) such attendance may be considered a meeting of the City Council and must be noticed as such, although the Council will not take action at this meeting.

Copies:

Fred Horne

Jim VanderWyst

Northwest Community Communications

Mark Samelstad

The News

City of New Richmond Website

PUBLIC WORKS COMMITTEE MEETING
DECEMBER 8, 2014

Members Present: Craig Kittel, Ron Volkert and Jim Zajkowski

Others Present: Jeremiah Wendt, Mike Darrow and Tanya Reigel

Alderman Zajkowski called the meeting to order at 6:30 p.m.

Alderman Kittel moved to adopt the agenda as presented, seconded by Alderman Zajkowski, and carried.

Alderman Kittel moved to approve the minutes from the November 5, 2014, meeting, seconded by Alderman Zajkowski, and carried.

Driveway at 127 East Sixth Street

Jeremiah Wendt explained that Steve Hanson owns the property located at 127 East Sixth Street which houses the School of Driving and rents out a portion of the building. Until recently the tenants were using the driveway behind the property at 558 South Knowles Avenue to access the unpaved parking area to the west of the building at 127 East Sixth Street. The new owners of the property at 558 South Knowles Avenue have asked that they stop using this for access. Steve Hanson has proposed to install a 12 foot wide driveway that would be located five feet from the west property line. This proposal would be in accordance with the zoning ordinance, but requires council approval as a second driveway to an individual property under Section 70-39 (a)(2). Discussion followed. There was concern regarding vehicles using this second driveway when dropping off or picking up students for the School of Driving. Craig Kittel moved to approve the request for a second driveway provided that they post it for tenants only, seconded by Jim Zajkowski and carried.

The next meeting will be on January 12, 2015 at 5:30 p.m. and will go back to the second Wednesday of the month for the remainder of the quarterly meetings in 2015. Items to be discussed at the January meeting include sidewalk assessment policy, sidewalk snow removal policy, and speed limit on Hwy 64 south of the intersection with Hwy 64.

Alderman Kittel moved to adjourn the meeting, seconded by Alderman Zajkowski, and carried.

Meeting adjourned at 6:40 p.m.

Tanya Reigel,
City Clerk



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TO: Mayor and City Council

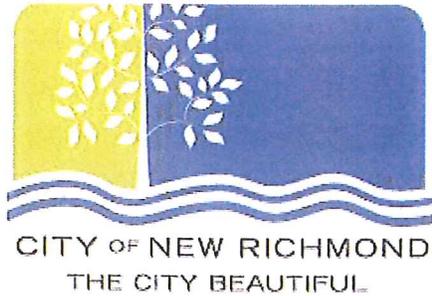
FROM: Jeremiah Wendt, Public Works Director

DATE: January 15, 2015

RE: Dakota Avenue Bike Path

Background

At our October 8, 2014 meeting, the Public Works Committee discussed the bike route from the north end of the Rail Bridge Trail at W 6th Street to the Willow River. The committee directed staff to research the history of the proposed bike route and provide the background information to the committee. Staff will present this information at the meeting. Staff will hand out some of the background information prepared by SEH, including a comparison of potential routes, supplemental data to that comparison, and a summary of the last recorded meeting about this project.



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MEMO

TO: Public Works Committee

FROM: Sarah Skinner, Zoning Administrator

DATE: January 15, 2015

RE: Impact/Procedure for renaming Wall Street to 32nd Division Avenue

By ordinance 117-28 (N) the City has the right to rename any street in the City in the interest of public safety or to preserve the continuity of street names. Such change must be made by a resolution that includes language amending all other resolutions and ordinances containing said changed street name.

The zoning administrator is tasked with serving notice of the street name change to all property owners affected, as well as notifying the St. Croix County Land & Planning Office, US Postal Service, Frontier Communications, New Richmond Ambulance Service, New Richmond Utilities, New Richmond Fire Department, New Richmond Police Department and the contracted City Assessor.

The current proposal affects 4 property owners currently; one residence, the National Guard Armory, the American Legion property, and Northern Natural Gas. Should the proposal be extended to include the entire portion of Wall Street an additional 11 properties would be affected.

I would suggest that the Committee consider granting an honorary name designation for our portion of Wall Street which would maintain continuity with St. Croix County's honorary designation of County Road CC from the city limits north to County Road H.

If the committee would like to recommend an official name change I suggest that the affected property owners should be notified prior to a final decision by the council so that they can provide feedback on the proposed change.



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TO: Mayor and City Council

FROM: Jeremiah Wendt, Public Works Director

DATE: January 15, 2015

RE: Sidewalk Snow Removal Policy

Background

The City's current ordinance related to sidewalk snow removal is copied below:
Sec. 70-8. - Snow and ice.

(a) *Removal.* Within 24 hours after the cessation of any fall of snow, it shall be the duty of the owners and/or the occupants of any lot or parcel of land in the City to remove, or cause to be removed, the snow from any and all sidewalks adjacent to the premises of such owner or occupant, and to keep the same free and clear of snow and ice for the full width of the sidewalk.

(b) *Failure to remove.* In case of failure or neglect of any owner or occupant of any land or parcel of land to remove the snow from sidewalks as specified in Subsection (a) of this section within the time set forth in said subsection and, after 24 hours after the cessation of any fall of snow, the owner or occupant has failed to remove such snow from sidewalks as specified in Subsection (a) of this section, the Street Superintendent shall remove or cause the snow to be removed from any and all sidewalks and cross-sidewalks that may be so neglected by the owner or occupant, and a fee shall be assessed against the owner or occupant for the cost and expense of moving such snow. The fee will be charged against the respective lots and parcels of land adjacent to which said work shall be done, as a special tax, and such sum or sums shall be collected in the same manner as other special taxes.

(c) *Deposits prohibited.* Except as provided herein, no person shall deposit or cause to be deposited any snow or ice taken and removed from his premises or elsewhere upon any sidewalk, alley, parkway, public place or street in the City, provided however, that the person, firm, or corporation depositing such snow shall, within one hour thereafter, cause the same to be removed from such street.

(d) *Nuisance.* The deposit of any snow or ice upon any sidewalk, alley or street of the City contrary to the provisions of this chapter shall be and is declared to be a nuisance, and in addition to the penalty provided for violation of this section, the City may similarly remove any snow or ice so deposited and

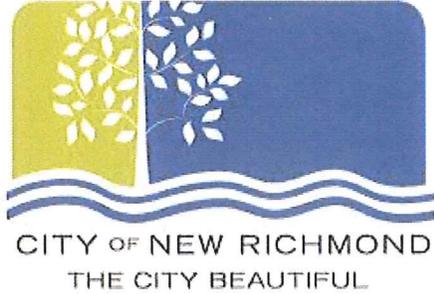
cause the cost of said removal to be charged to the owner or occupant of the property from which said snow or ice has been removed.

Staff have developed a door-hanger (attached) that we feel will notify residents and businesses in violation of this policy more efficiently than past practices which have involved the sending of certified letters. Our proposed procedure is as follows:

1. 24 hours after a snow event (and as staff are available), sidewalks will be inspected to see if snow has been removed.
2. If snow has not been removed, staff will leave a door hanger with the correct check box filled.
3. 24 hours after inspection (and as staff are available), sidewalks that still have not been cleared will be cleared by City Staff.
4. Owners will be billed for staff time to clear sidewalks at the following rates:
 - a. \$50 for first violation
 - b. \$100 for subsequent violations
5. Unpaid bills will be special assessed against the property and placed on the annual tax roll.

Possible action for the committee include:

- Approve the policy, which aligns with the current ordinance.
- Revise the policy, and consider if ordinance changes need to be recommended to the Council.



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TO: Mayor and City Council

FROM: Jeremiah Wendt, Public Works Director

DATE: January 15, 2015

RE: CTH A Project/Ped Accommodations

Background

St. Croix County has planned a project for 2015 that includes pulverizing and repaving CTH A (old STH 64) west of the Willow River. Because they have received federal funding for the project, WI DOT requires them to consider bike and pedestrian accommodations as part of the project. However, no funding is available for the bike and pedestrian improvements. As such, the county transportation committee has passed a "Finding of Absence of Need" for sidewalks as part of this project, and have asked that we affirm this finding. Staff suggests that we respond with the following language: The City of New Richmond Public Works Committee understands that St. Croix County will be pulverizing and repaving CTH A west of the Willow River in 2015, and that the construction will be limited to the area between the existing shoulders of the road. We further understand that federal funding is being used, and that such funding requires the investigation of bike and pedestrian facilities. While we have identified the stretch of road in question as a candidate for a future off-street trail, we recognize that it does not fit well with the scope of the proposed project in 2015. As such, and considering that local funds have not been allocated to this project, we currently find an absence of need for sidewalks at this location at the current time. However, we reserve the right to pursue separate funding for an off-street trail at this location in the future.



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TO: Mayor and City Council

FROM: Jeremiah Wendt, Public Works Director

DATE: January 15, 2015

RE: Sidewalk Construction/Repair Policy

Background

The City's current ordinance related to sidewalk construction is copied below:

Sec. 70-3. - Sidewalk construction and repair.

(a) *Procedures.* The Common Council may determine that sidewalks be constructed and establish the width, determine the material and prescribe the method of construction of standard sidewalks pursuant to this section.

(b) *Cost of new construction.* The property owner shall be responsible for the payment of new sidewalk construction, repair or reconstruction or curb and gutter and shall pay said costs in accordance with the terms and policies of the Common Council of the City.

(e) *Repair or replacement.* Pursuant to Wis. Stats. § 66.0907, the Common Council may order at any time property owners to repair or remove and replace any sidewalk which is unsafe, defective or insufficient, or which is damaged by the acts of the property owner or his agents. If the property owner shall fail to so repair or remove and replace such sidewalk within 20 days after service of the notice provided in Wis. Stats. § 66.0907(3)(c), the Common Council or its designee shall repair or construct such sidewalk and the City Clerk-Treasurer shall enter the total cost thereof upon the tax roll as a special tax against said lot or parcel of land. If an emergency situation exists which is caused by a sidewalk in need of repair, the Common Council or its designee shall immediately direct the property owner to immediately make repairs. If the property owner shall fail to repair such sidewalk within the required period, the Common Council shall make the necessary repairs and the City Clerk-Treasurer shall enter the total cost thereof on the tax roll as a special tax against said parcel.

The City Council has requested that the Public Works Committee review this ordinance, and make recommendations to the Council. Possible actions for the committee include:

- Recommend enforcement/implementation of the current ordinance
- Recommend changes to the current ordinance



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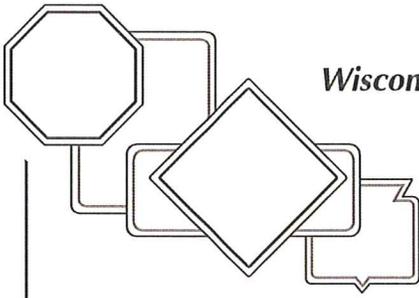
FROM: Jeremiah Wendt, Public Works Director

DATE: January 15, 2015

RE: North Knowles Avenue Speed Limit

Background

The southbound lanes of N Knowles Avenue have a speed limit of 35 miles per hour in the northernmost 1,000 feet of the street. The rest of N Knowles Avenue has a speed limit of 25 miles per hour between STH 64 and south of Sixth Street. Due to the short length of this higher speed limit, and the bike/pedestrian trail that crosses N Knowles Avenue in this stretch, staff would like the committee's direction on pursuing a 25 mile per hour speed limit on this stretch of road. Attached is a brochure that explains the authority that municipalities have to change speed limits. If the committee requests that staff pursue this change, the first step would be to perform an engineering study to justify the change at that location. Following this study, information would be brought back to the committee before any ordinance changes would be recommended.



Setting Speed Limits on Local Roads

Speed limits are an important tool for promoting safety on streets and highways. Limits tell drivers what is the reasonable speed for a road section. They also help traffic enforcement by setting standards for what is an unsafe speed.

The state sets speed limits for all roads. However, municipalities can change speed limits for roads under their authority, following guidelines in the *Wisconsin Statutes*. Selecting the appropriate speed limit can be a challenge because people often disagree. Residents frequently seek lower speeds, especially after a serious crash. Drivers tend to choose speeds that seem reasonable for the physical environment and that satisfy their personal needs, like saving time or seeking enjoyment.

Local officials have a key role in setting limits. They must balance the competing concerns and opinions of drivers, residents and law enforcement agencies with statutory requirements and traffic safety.

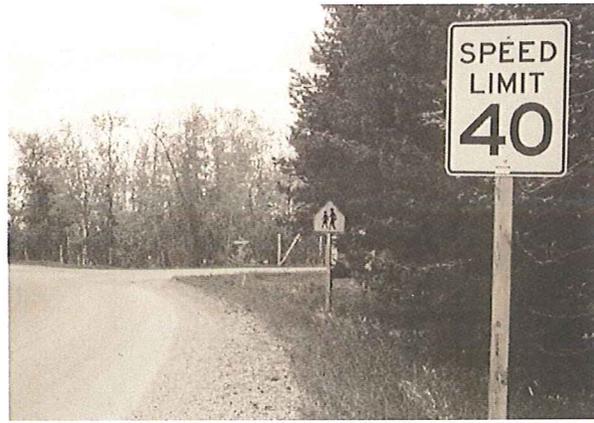
This booklet is designed to help. It includes background information and research recommendations, summarizes statutory limits, describes the process for changing limits, and discusses signs, enforcement, advisory speeds, and other speed issues on local roads. This edition reflects updates from the *2009 Wisconsin Statewide Speed Management Guidelines*.

Background

Speed-related vehicle accidents in Wisconsin from 2004 to 2008 accounted for 38% of all fatalities, 30% of all injuries and 27% of all crashes.

High speeds contribute to the severity of crashes. For example, 85% of pedestrians struck by vehicles traveling 40 mph are likely to be killed while only 5% are likely to be killed when the speed is 20 mph.

Common sense says that regulating speed is a good way to make streets and highways safer. As a result, citizens may demand lower speeds, especially if there has been a severe crash or a frightening “near miss.”



However, driving behavior is not so easy to manage. A 1997 federal speed study shows that simply lowering speed limits has little effect on actual speeds, usually reducing speeds by only one-to-two miles per hour. The difference in speeds between vehicles traveling on the same road—a common cause of crashes—usually increases when speed limits are unreasonably low, making roadways less safe. Drivers generally choose their speed based on what they think is safe and reasonable for the conditions present. An unreasonable posted speed gets little consideration from drivers.

An alternative for managing vehicle speeds is called “traffic calming.” This emphasizes physical changes to local streets—such as making them appear narrower or more restricted, adding speed bumps or traffic circles—so drivers consistently and voluntarily choose lower speeds that are both safe and comfortable.

Philosophy

Prevailing speed—the one most drivers choose—is a major consideration in setting speed limits. Engineers recommend setting limits at the 85th percentile speed, where 85% of freely flowing traffic travels at or below

that speed under ideal road conditions. The 85th percentile method is considered the best way to represent what is “reasonable” and “proper” as perceived by the motorists. When 85% of drivers voluntarily comply with speed limits, it is possible and reasonable to enforce these limits.

A recent study on Wisconsin roads compared crashes on roads with reasonable speed limits, or those accepted by the majority of drivers, with roads displaying posted speed limits considered unreasonable or irrational. The study showed that roads with reasonable speed limits had four times fewer crashes than roads with unreasonable speed limits. Other studies indicate the lowest risk of being in a crash occurs when a motorist travels at or near the 85th percentile speed. They also show that the 15% of motorists who exceed this limit cause many of the roadway crashes. These motorists are the most effective targets for enforcement.

Research in this area emphasizes considering the road’s design speed in setting speed limits. Design speed is the highest safe speed for which the road was designed. It takes into account road type, road geometry and adjacent land use. Studies show that accident rates go down when speed limits are no less than 10 mph of the design speed. When the speed difference is

greater, motorists choose a wider variety of speeds. This variance in speed between vehicles, more than the speed itself, results in higher crash rates.

However, pedestrians, bicyclists and other road users may find the prevailing speed and design speed hazardous. Modern roads often are over-designed, particularly in residential areas where they emphasize the accommodation of functions like emergency vehicles or street parking. The resulting wide and unobstructed roads can encourage drivers to travel too fast for the safety of other road users. Simply setting lower speed limits is unlikely to produce the desired results, especially without effective enforcement. In these cases, authorities may wish to consider using some traffic calming techniques.

Speeds should be consistent, safe, reasonable and enforceable. When 85% of drivers voluntarily comply with speed limits, it is possible and reasonable to enforce the limits with the 15% who drive too fast. Unreasonably low limits can promote disrespect for and disregard of other reasonable posted limits. They also promote a false sense of security among residents and pedestrians who may expect that posting lower limits will change driver behavior. Unreasonably high limits create unnecessary risks.

Speed limits and authority to change

Fixed Limits – Statute 346.57(4) ^(a)	Local Government Authority ^(b) – Statute 349.11(3) and (7) ^(a)
65 mph Freeway/Expressway	WisDOT only
55 mph State Trunk Highways (STHs)	WisDOT only
55 mph County Trunk Highways (CTHs), town roads	Lower speed limit by 10 mph or less
45 mph Rustic roads	Lower speed limit by 15 mph or less
35 mph Town road (1,000 ft min) with buildings on either side spaced an average of less than 150 ft apart	Lower speed limit by 10 mph or less
25 mph Inside corporate limits of city or village (other than outlying district)	Raise speed limit to 55 mph or less /Lower the speed limit by 10 mph or less
35 mph Outlying district ^(c) within city or village limits	Raise speed limit to 55 mph or less /Lower the speed limit by 10 mph or less
35 mph Semi-urban district ^(d) outside corporate limits of a city or village	Raise speed limit to 55 mph or less /Lower the speed limit by 10 mph or less
15 mph School zone, when conditions are met	Raise speed limit to that of the roadway /Lower speed limit by 10 mph or less
15 mph School crossing, when conditions are met	Raise speed limit to that of adjacent street /Lower speed limit by 10 mph or less
15 mph Pedestrian safety zone with public transit vehicle stopped	No changes permitted
15 mph Alley	Lower by 10 mph or less
15 mph Street or town road adjacent to a public park	Lower by 10 mph or less
Construction or maintenance zones, as appropriate ^(e)	State and local agencies have authority to establish

Notes:

(a) Source: Updated 2007-2008 Wisconsin Statutes Database

(b) All speed limit changes *shall* be based on a traffic engineering study, including modifications allowed under State Statute. Local governments can implement speed limit changes on the local road system without WisDOT approval when proposals are within the constraints identified above.

(c) Per Statute 346.57(1)(ar) “outlying district” is an area contiguous to any highway within the corporate limits of a city or village where, on each side of the highway within 1,000 feet, buildings are spaced on average more than 200 feet apart.

(d) Per Statute 346.57(1)(b) “semiurban district” is an area contiguous to any State or County highway where, on either or both sides of the highway within 1,000 feet, buildings are spaced on average less than 200 feet apart.

(e) Guidance on establishing speed limits in work zones is available in http://dotnet/dtid_bho/extranet/manuals/lgm/13/13-05-06.pdf.

Modified from original published in WisDOT Traffic Guidelines Manual, Chapter 13-5-1, Figure 1, June 2009.



Authority

Power to set speed limits rests with the state. Chapter 346.57 *Speed Restrictions* of the *Wisconsin Statutes* requires drivers to use a speed that is “reasonable and prudent,” to exercise “due care,” [346.57(2)] and to reduce speed under a variety of conditions such as “going around a curve...passing school children, highway construction or maintenance workers...and when special hazard exists...” [346.57(3)].

The *Statutes* give fixed limits for more than a dozen situations depending on the road type, jurisdiction and land use [346.57 (4) (a-k)]. See Table on page 2.

Local or state officials have authority to change these limits within the limitations in Chapter 349.11, as summarized in the Table. They must conduct an engineering and traffic investigation to determine a reasonable and safe speed limit. The limit must then be legally adopted by the local authority and appropriate signs erected. When properly changed, such limits do not create additional liability. In addition, changes beyond those specified in the statutes are possible in consultation with and approval by the Wisconsin Department of Transportation (WisDOT).

All limits, whether set by statute or local authority, are only effective and enforceable when official signs have been erected to give drivers adequate warning.

Speeds also may be temporarily reduced in work zones where highways are being constructed, reconstructed, maintained or repaired [Ch.349.11(10)]. These changes must be properly posted and are not restricted by the other limitations in Chapter 349.11. A Transportation Information Center publication, *Work Zone Safety: Guidelines for Construction, Maintenance and Utility Operations*, describes correct work zone signing and set up.

The local agency that maintains the roadway has jurisdiction for determining the speed limit. In most cases the responsibility is clear. If a roadway segment has joint jurisdiction, such as a road that borders two cities, then both agencies must agree on the speed limit. Obviously, the speed must be the same in both directions. In cases where the county or state maintains a road within the corporate limits of a city or village, the county or state is responsible for setting the speed limit. Coordination with local officials and law enforcement agencies is essential to set effective speed limits.

Required studies

Local authorities are required by the statutes to conduct engineering and traffic speed studies to modify all speed limits on local roads including those shown in the Table on the previous page. Engineering studies should include the following:

- 1) Measure and determine the 85th percentile speed, 50th percentile speed, design speed and pace speed.
- 2) Evaluate crash data for the past three to five years.
- 3) Document roadside development including land use, driveway locations, and school locations.
- 4) Document roadway geometrics including lane widths, shoulder width, sight distance limitations at hills, curves and intersections, plus parking, pedestrian and bicycle activity.
- 5) Determine the functional classification of the roadway and the practical function of the road within the state and local system.
- 6) Document the current speed limit and level of enforcement.

A well-done traffic and engineering speed study requires a comprehensive effort by a trained professional. Look for additional details in the 2009 *Wisconsin Statewide Speed Management Guidelines* report. Contact local law enforcement, County Traffic Safety Commissions, the WisDOT and consultants for assistance in conducting speed studies.

Doing a speed study is time consuming but it is a necessary step for local agencies to legally modify speed limits. The effort also has the advantage of creating consistency in how **enforceable** speed limits are set across the state and increasing safety.

Speed zone recommendations

Local road authorities can initiate action to modify a speed limit and create a new speed zone on a local road. Citizens or other agencies also can request a change. Requests should be in writing and submitted to the local authority. The local agency should prepare a written response to the request describing their action and recommendations.

Speed study recommendations for modifying a speed zone should accomplish the following:

- Reduce the speed differential of vehicles
- Be reasonable so a majority of motorists will comply
- Reflect traffic engineering guidelines

When making speed zone changes, **do not** base the decision on these reasons:

- Noise complaints
- Accommodate specialty vehicles
- Correct spot safety problems
- Future concerns that have not yet occurred

Recommendations from a speed study generally fall within 5 mph of the 85th percentile speed. Factors that can alter this guideline include road function, access density, road geometry, parking, and pedestrian and bicycle activity. Using these secondary factors to



determine a recommended speed may require more law enforcement and result in increased crashes. Consider changing the road's physical environment to lower speeds where possible.

Speed zones should be at least 0.3 miles in length. Limit the number of speed limit changes along a route. Generally, it is advisable to change speed zones outside incorporated limits in 10 mph increments.

Submit speed limit changes that require WisDOT approval to a WisDOT Regional office. Changes outside the limitations outlined in Chapter 349.11 require department approval. Local governments take on liability when they make changes outside the outlined limitations without this approval.

Post speed limit changes as soon as possible using flags or other means to call attention to the change. Monitor speed limit changes once they are made to identify any problems or need for further investigation.

Proper signage



A speed limit is not in effect until the area has been properly signed. Conversely, signs must not be installed until the limit has been approved and officially authorized. The *Manual on Uniform Traffic Control Devices (MUTCD)* governs signs. Two types may be used: one for passenger cars and another for special limits for trucks and buses.

No more than three speed limits should be displayed on any one speed limit sign or assembly. Signs with special limits for trucks or other vehicles should include the word TRUCKS or a similar appropriate message. Display this below the standard message or on a separate plate that refers to SPEED or MPH.

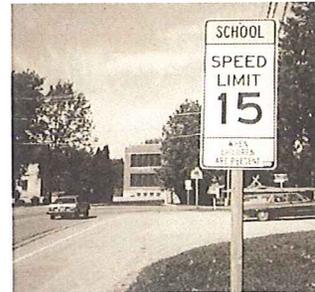
The standard speed limit sign must be 24 by 30 inches. Locate signs at:

- Each point where the speed limit changes
- Beyond major intersections
- Other locations where it is necessary to remind motorists of the limit



REDUCED SPEED AHEAD SIGNS also may be used to give advance warning of a lower speed zone. This sign should be used in rural areas to alert motorists when they need extra time to slow to the posted limit.

Always follow it with a speed limit sign at the beginning of the new zone. Near schools, use the appropriate SPEED LIMIT sign after a school zone rather than the END OF SCHOOL ZONE sign.



Enforcement

Enforcement is critical. Without it, speed limits are not effective. When enforcement is increased considerably, violations and crashes have been reduced.

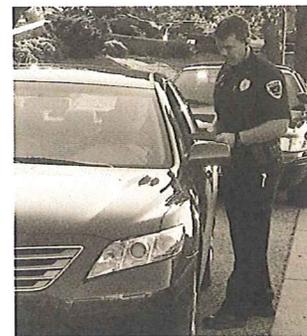
Local officials should actively involve enforcement personnel in setting speed limits to ensure they are reasonably enforceable. Always inform enforcement agencies when changes are adopted.

Enforcement requires wide public support. A first step is to ensure that the public perceives the speed limits as reasonable and fair because the voluntary cooperation of most drivers is essential. A second step is vigorous public information and education that stresses the safety benefits of enforcement. Make this a cooperative effort between highway and enforcement officials. Any information campaign should target specific aspects of the speeding problem such as young drivers, nighttime, school zones, work zones, or specific roads where potential traffic and pedestrian conflicts are high.

Within law enforcement agencies, traffic enforcement does not compete well with criminal and drug enforcement. That means local highway officials must actively seek adequate agency enforcement. These efforts are most effective when the safety benefits are clear and there is strong support from local elected officials.

Aggressive, targeted enforcement, combined with education, effectively produces better public compliance with traffic laws. The Federal Highway Administration recommends targeting enforcement programs to locations with a high incidence of crashes where speed was a contributing factor and to areas with high traffic volume.

Long-term, low-intensity speed enforcement can produce meaningful results. Studies indicate some amount of the enforcement effort (15% is recommended) be directed to random locations and times. Stationary, marked patrol vehicles are most effective in creating longer-term enforcement benefits.



Minimum speed limits and slow moving vehicles

Except on Interstate highways, there is no specific minimum speed on Wisconsin highways. However, statutes prohibit driving a motor vehicle "at a speed so slow as to impede the normal and reasonable movement of traffic, except when necessary for safe operation or to comply with the law." [Section 346.59 Wis. Stats.]

Vehicles that normally travel slower than 25 mph must display slow moving vehicle emblems. [Section 347.245 Wis. Stats.] In addition, the operator of a vehicle moving so slowly it impedes traffic must yield the roadway to overtaking vehicles, if practicable, when the operator of an overtaking vehicle gives an audible warning. [Section 346.59(2) Wis. Stats.]

Advisory speed signs

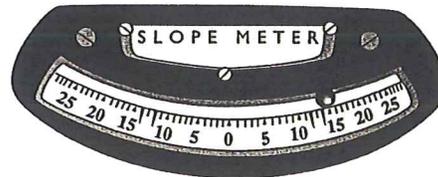
Advisory speed signs are used to tell drivers that a lower speed may be necessary at curves, turns, intersections and other localized conditions. These signs add emphasis and specific information to other warning signs, and recommend a comfortable and safe speed to drive in these locations. Do not confuse advisory speeds with enforceable speed limits. Advisory speeds do not imply the maximum operating speed at which skid and rollover occurs.



The advisory speed must be determined by an accepted traffic engineering procedure but no ordinance is required. Maintenance or sign supervisors can erect the signs. They must be in accordance with guidelines in the *MUTCD, 2C-35*.

As with other traffic signs, advisory speeds should be consistent and reasonable to promote driver respect and compliance. This is not always the case. Research published by the national Transportation Research Board (TRB) found that on the two-lane highways in the study, posted advisory speeds at most curves were well below prevailing traffic speed, and below speeds established using recommended devices and criteria.

Advisory speeds are set based on average curve speeds for different angles of deflection. One device widely used for establishing advisory speeds on curves is the ball bank indicator. Relatively inexpensive, this curved level is mounted in an engineer's car. The engineer makes successive trial runs through a curve, taking care to drive parallel to the centerline of the curve, increasing speed by 5 mph each time. The indicator shows the angle of deflection in degrees.



The TRB study reports that the generally accepted criteria, based on tests conducted in the 1930s, produce unrealistically low speeds with modern cars and should be revised upwards. The authors say ball bank readings of 12 degrees above 40 mph, 16 degrees between 30 and 40, and 20 degrees below 30 would better reflect average curve speeds.

Ball bank readings tend to fluctuate rather widely during a trial run and can be affected by loose-surfaced roads and vehicle suspension systems. As a result, setting a recommended speed depends to a significant extent on the judgment and experience of the person making the tests. The recommended speed should feel comfortable for the average driver and be lower than the maximum safe speed. It should also be sensible in comparison with prevailing speeds.

Summary

Establishing and enforcing reasonable and safe speed limits is the responsibility of local officials. This often includes balancing conflicting issues of safety, traffic movement, and community concerns.

Coordination with local law enforcement is vital to effective speed control. Most speed zones should encourage voluntary compliance by using reasonable speed limits. Traffic calming techniques that involve physical and perceptual changes also can help. Consulting enforcement officials when determining effective limits is important and they can help work with the community in difficult areas.

The traffic engineering staff of WisDOT also is a good resource. Since they participate on county Traffic Safety Commissions, this is an easy way to contact them for assistance.

Several sample speed limit ordinances are shown on page 6.



"Badger County" traffic ordinance

SPEED LIMITS. (1) The provision of sections 346.57 & 346.59 of the Wisconsin Statutes, relating to the maximum and minimum speed of vehicles, are hereby adopted as part of this section as is fully set forth herein, except as specified by section 2 of this ordinance, pursuant to section 349.11(3)(c) of the Wisconsin Statutes. (2) No vehicle shall exceed noted speed limits on the following county trunk highways:

- (a) County Trunk Highway "A"
 - (1) **Unincorporated Village of Estesville, Town of Terry.** Thirty-five miles per hour from its junction with STH 78, in Estesville, southwesterly 0.35 miles.
 - (2) **City of Covington, Town of York.** Thirty-five miles per hour from its intersection with CTH "N" (Veterans Drive), easterly to a point 0.15 miles east of its intersection with Race Track Road.
- (b) County Trunk Highway "AB"
 - (1) **Town of Finis.** Thirty miles per hour from the bridge over the Yahara River located on a line common to sections 13 and 14, Town of Finis, southwesterly to USH 51.
 - (2) **Chestnut Road, City of Centerton.** Thirty miles per hour from the intersection of USH 51, easterly to Droster Road.

Sample municipal ordinance

Section 3. **SPEED LIMITS.** [Towns, Cities, and Villages] The _____ [Council or Village Board] hereby determines that the statutory speed limits on the following streets or portions thereof are unreasonable, unsafe and imprudent and modifies such speed limits as follows:

- (1) **SPEED LIMITS INCREASED.** Speed limits are increased as follows upon the following designated streets or portions thereof:
 - (a) Outlying Districts
45 miles per hour on _____ Avenue between _____ Street and the _____ [City or Village] limits;
- (2) **SPEED LIMITS DECREASED.** With the approval of the Wisconsin Department of Transportation, the speed limits are decreased as hereinafter set forth upon the following highways or portions thereof:
 - (a) Semi-Urban Districts
25 miles per hour on _____ Road between County Trunk _____ and the _____ [City or Village] Limits;
30 miles per hour on _____ Road between County Trunk _____ and the limits

Sample amendment to a speed ordinance

AMENDING CHAPTER 1 OF THE BADGER COUNTY CODE OF ORDINANCES SPEED LIMIT CHANGES

The County Board of Supervisors of the County of Badger does ordain as follows:

ARTICLE 1. Unless otherwise expressly stated herein, all references to section and chapter numbers are to those of the Badger County Code of Ordinances.

ARTICLE 2. Section(2)(b)(2) is created to read as follows:

- 1) Chestnut Road, City of Centerton. Twenty-five miles per hour from its intersection with USH 51 to its intersection with Winona Drive.

Sample speed limit ordinances Local boards of elected officials must adopt speed limits in ordinance form. Here are sample ordinances for county and municipal governments. Local ordinances also may include details on forfeitures and law enforcement authority. The ordinance should be reviewed by the agency's attorney.

References

- Wisconsin Statewide Speed Management Guidelines*, WisDOT, June 2009
- Speed Management Safety*, FHWA resource website at <http://safety.fhwa.dot.gov/speedmgt/>
- Evaluation of Criteria for Setting Advisory Speed on Curves*, Mashrur A. Chowdhury, Davey L. Warren, Howard Bissell, & Sunil Taori, Transportation Research Board Paper No. 980133, January 11-15, 1998, 21 pp.
- Factors Affecting Speed Variance and Its Influence on Accidents*, Nicholas J. Garber & Ravi Gadiraju, Transportation Research Record 1213, Transportation Research Board, 1998, 10 pp.
- A Policy on Geometric Design of Highways and Streets*, AASHTO, 2004, pp 66-72.
- Spot Speed Studies, Ch.3 of Manual of Transportation Engineering Studies*, Institute of Transportation Engineers, H. Douglas Robertson, Ed., 2000, pp 33-51.

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