Talking Points

SW Ordinance

MMSD

6/18/08

1) Ald. Bauman, Members-Good Morning

2) Thanks to Chairperson Bauman for scheduling and Ald. Murphy for introducing

3) Members, recall from briefings-MMSD recently 2020 FP and SEWRPC RWQMPU

Same scientific data/technical team

Primary Conclusion: due to massive regional I in MMSD facilities (deep tunnels, treatment plant upgrades), commonly known as point sources of pollution, the biggest improvements in WQ for region's 6 watersheds will now come from I in non-point sources of SW pollution

4) EX: Let's say, for example, you had a hypothetical $50 M to spend on reducing fecal coliform in the Milwaukee R Watershed; your choice: spend it on MMSD facilities or SBMP throughout the watershed. You would achieve a much greater reduction in fecal coliform if it was spent on the latter.

5) More than 1.5 M acres land developed each year

   Replaces natural cover with rooftops, roads, parking lots and sidewalks

   Hard surfaces impermeable to rainfall = impervious cover

   Impervious cover has negative effect on WQ /SW pollution

   Purpose of ordinance: create framework for city G itself and development within the city to reduce impervious cover

Less impervious cover also costs less money

6) Regulatory Pressures

Existing NR 151 and proposed changes

Future TMDL's

7) Non-regulatory-Southeastern Wisconsin Watershed Trust (SWEET)

8) Subset of 2020 FP-Audit of Communities

Based on Better Site Design, Center for Watershed Protection

Thanks to DPW, DCD,DNS, LRB and City Attorney-Ann Beier, Mayor Barrett's Director of Environmental Sustainability

3 other Communities: Franklin, Greendale, Mequon going through same process

Milwaukee will be first

9) Consistent with Green Team Report:

   a) Reduce Stormwater Runoff

   b) Implement "Cross Cutting" Strategies that Address Multiple Green Objectives-Review regulations and remove barriers to green-

   Remove self-imposed obstacles to green development

   Conduct a comprehensive review of City of Milwaukee Code and Ordinances-identify where barriers exist to prohibit implementing green principles and actions

10) Supplying list of 5 proposed changes to Committee-

MMSD has carefully reviewed draft and made suggestions to improve a great package and make it better

Happy to answer questions about these or substance of ordinance

Stormwater Ordinance

Suggested Revisions to Substitute C:

1) Add to Part 1., Section 115.14.:

9. Any street that is not intended for use as an arterial or collector street may be designed as a queuing street having one designated travel lane for both directions and 2 queuing lanes that can be used for either vehicular travel or parking.

The above change should also be added to Part 8, Section 119-11-3.5 as i.

2) Add to Part 1., Section 115-14-1.:

1. The pavement width for a local street, as defined in s. 295-201-643, shall be not less than 22 feet for a roadway adjacent to a residential development with a density between 3 and 12 dwelling units per acre and not more than 36 feet unless otherwise approved by the common council.

Sets 22 foot roadway width as appropriate for a medium density residential development and defines criteria for medium density residential development.

The above change should also be added to Part 8, Section 119-11-3.5-a.

3) Add to Part 9., Section 119-12-1-b, queuing lanes.

Queuing lanes are the recognized parking lanes that accompany narrow roadway widths as adopted in Sections 115 and 119.

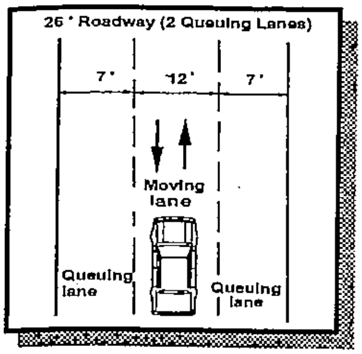
The above 3 changes were all part of the Departmental consensus draft.

4) Restore to Part 4., Section 115-24-1 "or bituminous material".

The proposed deletion of the language in the existing ordinance should be restored. A typical use would be where school buses pick up children; if the language is not restored, every time MPS wishes to use this material, they will have to apply for a variance, increasing costs and unnecessary paperwork for city staff. This change was requested by DPW staff.

5) Modify Part 29, Section 295-403-2-e-1-a.:

Substitute the following language: The additional spaces are located in a parking structure. The proposed language that all additional parking spaces be located in a parking structure is not sufficiently site sensitive and would be so costly as to render e-1-a. infeasible. The substitute language was in the departmental consensus draft.



Principle No. 1

Design residential streets for the minimum required pavement width needed to support travel lanes; on-street parking; and emergency, maintenance, and service vehicle access. These widths should be based on traffic volume.

Current Practice

Many communities require that residential streets be 36 feet wide or more, even when they serve developments that produce small volumes of traffic. These wide streets result from blanket application of high volume and high speed highway design criteria, as well as a perceived need to supply both on-street parking and unobstructed access for fire trucks. However, residential streets are often unnecessarily wide and the excessive widths contribute to making them the largest single component of impervious cover in a subdivision. Narrowing residential street widths can help reduce the amount of impervious cover created by excessive street widths requirements.

Recommended Practice

Several national engineering organizations have recommended that residential streets can be as narrow as 22 feet in width (AASHTO, 1994; ASCE, 1990) if they serve neighborhoods that produce low traffic volumes (less than 500 daily trips, or 50 homes) In addition, several communities such as Buck's County, Pennsylvania and Boulder, Colorado have implemented narrower streets with success (see Table 1.1).

Table 1.1: Examples of Narrow Residential Street Widths

Organization, Source	Residential Street Pavement Width	Maximum Average Daily Traffic (trips/day)
State of New Jersey	20' (no parking)	0-3,500
	28' (parking on one side)	0-3,500
Boulder, Colorado	20'	150
	20' (no parking)	350-1,000
	22' (one side)	350
	26' (both sides)	350
	26'(one side)	500-1,000
Bucks County, PA	12' (alley)	--
	16-18' (no parking)	200
	20'-22'(none)	200-1,000
	26' (one side)	200
	28' (one side)	200-1,000

Note: Street options are influenced by housing density and the need for on-street parking

Streets do need to be wider when they serve higher density developments. It is still possible, however, tc design a relatively narrow street even when housing densities begin to require more on-street parking. A common solution is the use of queuing streets. In the queuing street design, only one traffic lane is usec and parking lanes serve as queuing lanes where oncoming vehicles pull over to allow another vehicle tc pass by (Bray and Rhodes, 1997; ASCE, 1990; and Figure 1.2 for an illustration).

Communities have a significant opportunity to reduce impervious cover by revising their street standards so that streets are the minimum width to carry traffic and meet residential parking demand.

Perceptions and Realities about Street Width

Any effort to narrow residential streets will need to satisfy community concerns about parking, safety, fir truck access, congestion and other factors. Much of the available research profiled in Table 1.2, howeve suggests that careful design of narrow streets can address these concerns.

On-Street Parking Demand

The need for on-street parking is often used to justify wider residential streets. Most communities requi that 2 or 2.5 parking spaces be provided for each home. Depending on its dimensions, 2 spaces can usual be provided by the driveway which leaves at most one space that must be provided on the street. The on-street parking spaces need to be about 20 feet long and seven feet wide. Providing a continuo parking lane on both sides of the street, however, is a very inefficient and expensive way to satisfy th relatively minor parking need. Each on-street parking lane increases a street's impervious cover by 25 (Sykes, 1989) while creating unutilized parking capacity. If one or both of the on-street parking lanes al serve as a traffic lane (i.e, a queuing street), both traffic movement and parking needs can be met by narrower street.

Street Width and Safety

The potential for increased vehicle-pedestrian accidents is often cited for not allowing narrower stree Many studies, however, indicate that narrow residential streets may be safer than wider streets. T Federal Highway Administration (1997) noted that narrow street widths tend to reduce the speed at whi drivers travel. This finding has also been noted by the ITE (1997) and ULI (1992). Slower vehicle spee provide drivers with more time to react and prevent potential accidents. Slower speeds also reduce t severity of injuries sustained in accidents.

Fire Safety

Another common impediment is the perception that narrow streets do not provide adequate access emergency vehicles, particularly fire vehicles. The conventional wisdom is that very wide streets needed to ensure access. However, a number of local fire codes permit roadway widths as narrow eighteen feet (Table 1.3).

Table 1.2: Perceived Impediments to Narrow Streets

Perception	Facts, Case Studies, and Challenges	
1. Narrow streets interfere with the ability to clear and stockpile snow.	FACT:	"Narrow" snowplows are available. Snowplows with 8' width, mounted on a pick-up truck are common. Some companies manufacture alternative plows on small "Bobcat" type machines (Frink America, 1997).
	FACT:	Snow stockpiles on narrow streets can be accommodated if parking is restricted to one side of the street (ITE, 1997).
2. Narrow streets will cause traffic congestion.	FACT:	Narrow streets are generally appropriate only in residential areas that experience less than 500 trips per day. Street width is largely a function of traffic volume. Design criteria based on volume generally provide safe and efficient access in residential areas (ITE, 1993).
3. Narrow streets do not provide enough room for on-street parking.	FACT:	Parking can be accommodated through the use of "queuing streets" with only one travel lane (Bray and Rhodes, 1997; ASCE, 1990).
	FACT:	Most communities require some off-street parking accommodation in residential subdivisions. Olympia, Washington requires two parking spaces per dwelling unit. On-street parking is used for visitor parking or parkable vehicles, such as boats (Wells, 1995).
4. Narrow streets can cause pedestrian/ vehicle accidents.	FACT:	In a study of over five thousand pedestrian and bicycle crashes, a narrow roadway was a factor in only two cases (FHA, 1996). Unsafe driving speed, on the other hand, contributed to 225 accidents.
	FACT:	Narrower street widths reduce the speed at which vehicles can drive (FHA, 1996).
5. Narrow streets do not provide access for maintenance and service vehicles.	FACT:	Trash trucks require only a 10.5' travel lane (Waste Management, 1997), with a standard truck width of approximately 9' (BFI, 1997). In residential neighborhoods, trash collection often occurs simultaneously on both sides of the street; cars must wait for trash trucks to pass regardless of street width.
	FACT:	Half-ton mail trucks, smaller than many privately owned vehicles, are generally used in residential neighborhoods. Hand delivery of mail is also an option (US Post Office, 1997).
	CASE STUDY:	School buses are typically eight feet wide (nine feet from mirror to mirror). Both Prince Georges County and Montgomery County, Maryland require only a 12' driving lane for bus access. Furthermore, school buses usually do not drive down every street, but instead meet children at bus stops on larger roads.

Table 1.3: Street Width Requirements for Fire Vehicles

Width	Source
18'-20'[1]	US Fire Administration (Cochran, 1997)
24' (on-street parking) 16' (no on-street parking)	Baltimore County Fire Department
18' minimum	Virginia State Fire Marshal
24' (no parking) 30' (parking on one side) 36' (parking on both sides) 20' (for fire truck access)	Prince Georges County Department of Environmental Resources
18' (parking on one side)[2] 26' (parking on both sides)	Portland Office of Transportation

[1]Represents typical "fire lane" width, which is the width necessary to accommodate a fire vehicle.

[2]Applicable to grid pattern streets or short cul-de-sacs.

Economic Benefits

Significant construction cost savings can be achieved by building narrower streets. Construction costs for paving are approximately $15 per square yard. For example, a local jurisdiction currently requires all residential streets with one parking lane to be a minimum of 28 feet wide. The jurisdiction adopts a new standard: 18 feet wide queuing streets. This new standard would reduce the overall imperviousness associated with a 300 foot road by 35% and construction costs by $5,000. Additional economic benefits include reduced clearing and grading, infrastructure, and stormwater management costs. Long-term pavement maintenance costs would also be reduced.

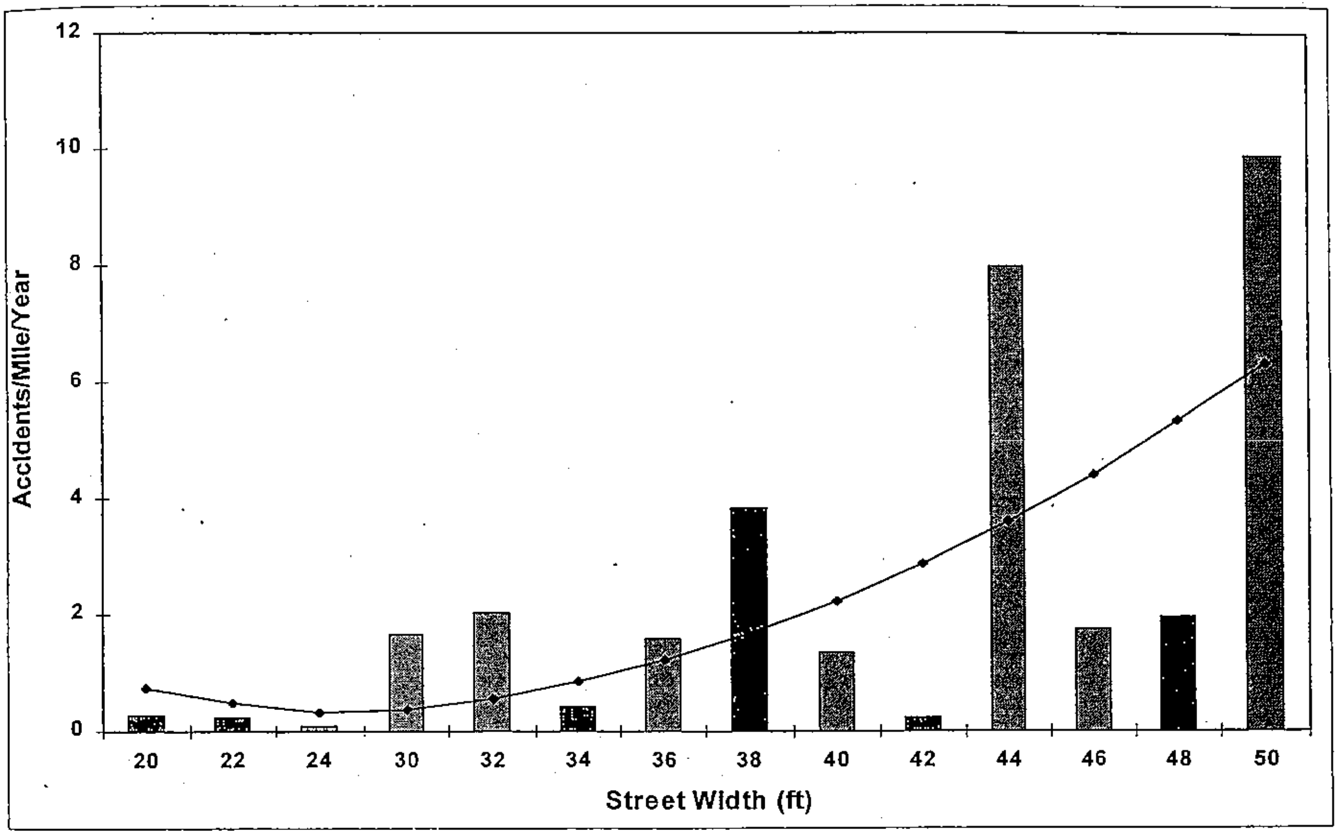
Case Study: Longmont, Colorado

(Source: Swift, et al, 1998)

The City of Longmont, Colorado is experiencing rapid growth. The quality and type of new development has become an important issue as more development and non-conventional site designs are proposed. Part of this discussion is acceptable residential street design.

Over 20,000 police reports were examined to determine the relationship between street design and safety. The study focused specifically on residential streets with maximum ADTs of 2,500. Accidents attributable to poor road conditions or substance abuse were excluded from the study. As shown in Figure 1.1, the study results suggested that narrow residential streets are safer than wide streets. Specifically, streets between 22 to 30 feet in width were found to be the safest. The study further indicated that curvilinear streets were safer than straight streets. In general, the Longmont study suggests that narrow, curved streets can safely be used in residential developments.

Figure 1.1: **Relationship Between Street Width and Accidents in Longmont, Colorado based on Swift, et al., (1998)**



The curve illustrates the increase in the number of accidents as street width increases.

CASE STUDY: PORTLAND, OREGON

(Source: Portland Office of Transportation, 1994)

The City of Portland investigated the use of queuing streets as described by ASCE (1990) to reduce street widths. The ASCE design assumes that cars will wait between parked cars, or "queue", while the approaching traffic passes (see Figure 1.2). The new design reduces existing street widths by up to eight feet. Prior to implementing the revised standard, the Portland Department of Transportation studied existing narrow streets to determine if reduced street widths would endanger pedestrians and residents. The findings of this study were:

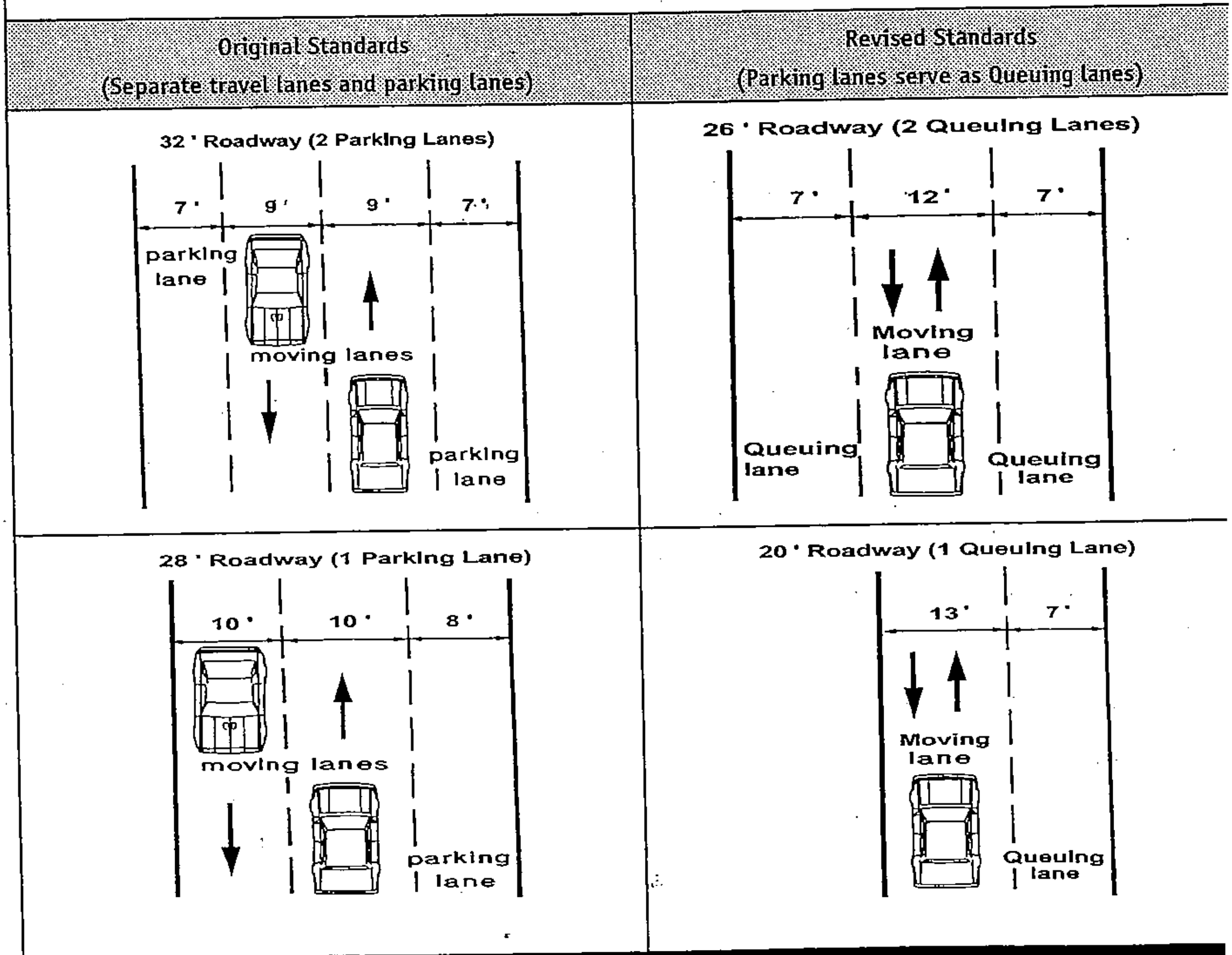
- A bicycle and a car can fit down a 24 foot wide street with parking on both sides.
- A dump truck can fit down a 24 foot wide street with parking on both sides.
- Fire trucks can easily drive down 26 foot wide streets with parking on both sides.
- A fire truck can make the turn from an 18 foot wide to a 20 foot wide road at slow speeds.
- Traffic engineers could point to no accident history relating to narrow street widths.

- The Portland fire chief was amenable to streets as narrow as 18 feet with parking on one side in gri pattern streets or on short cul-de-sacs.
- No citizen has charged that fire rescue time was impeded by skinny streets since the inception of thi program in 1991 (Bray, 1997)

One exception was noted with respect to long roads leading to cul-de-sacs (e.g., 1500 feet); these street require two travel lanes for adequate fire vehicle access. The fire bureau therefore retained the right t veto narrow streets on long cul-de-sacs.

In the City of Portland, the cost savings realized from narrow streets allowed the city to improve less developed portions of the roadway which, in turn, encouraged infill development. Infill development refe to development or enhancement within existing urban areas as an alternative to developing surroundin rural areas.

Figure 1.2: A Comparison of Queuing Streets vs. Traditional Streets [Source: Portland (OR) Office o Transportation, 1994]



WHERE TO GET STARTED

Suggested Resources	How to Get a Copy
A Policy on Geometric Design of Highways and Streets (1994) by American Association of State Highway and Transportation Officials (AASHTO) Provides guidance on highway design including shared use of transportation corridors and cost-effective highway design that reflects the needs of non-users and the environment.	AASHTO Publications 444 North Capitol Street, NW Washington, DC 20001 888-227-4860
Report on New Standards for Residential Streets in Portland, Oregon (1994) by Portland Office of Transportation Summarizes new residential street standards that encourage less costly street improvement with minimal impact on water quality and urban forests.	City of Portland Office of Transportation 1120 S.W. Fifth Avenue Room 802 Portland, OR 97204-1971 503-823-7004
Performance Streets: A Concept and Model Standards for Residential Streets (1980) by Bucks County Planning Commission. Presents model standards focusing on pedestrian as well as vehicular traffic and reducing overdesigned street networks.	Bucks County Planning Commission Route 611 and Almshouse Road Neshaminy Manor Center Doylestown, PA 18901 215-345-3400
Residential Streets (2nd Edition) Includes discussion of design considerations for pedestrian walks and paths.	Urban Land Institute 1025 Thomas Jefferson Street, NW Washington, DC 20007 800-321-5011 Also available from the American Society of Civil Engineers and the National Association of Home Builders