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Planning Practice Feature

Overcoming Resistance to Narrower Streets

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Planners for some time now have taken issue with wide right-of-way and street paving standards that were established long ago for conventional suburban subdivisions. Narrower (sometimes called "skinny") streets meet a number of smart development objectives, and planners are therefore inclined to recommend reductions of minimum street paving standards and other engineering requirements for streets, in order to better satisfy various objectives of smart growth.

In recommending narrower subdivision street widths, however, planners in communities across the United States have faced significant obstacles from public safety and service personnel — especially fire departments, but also solid waste collection crews — who often suggest and vociferously maintain that two-way movement of safety and service equipment cannot be accomplished with skinny streets, and that large vehicles cannot make the tighter turns at intersection radii of narrower streets.

This article presents a brief case of the City of Fresno, California, where standards for narrower streets were approved and other changes to municipal street standards favoring smarter development were successfully negotiated. We were able to get the narrower street standards approved in Fresno because we employed a testing technique and made other arguments that helped turned the tide in favor of support for narrow street standards. We believe our experience in Fresno can help other planners succeed in reducing excessive street widths in their communities.

WHY REDUCE STREET PAVING WIDTH STANDARDS?

Narrower street standards reduce pavement widths and road rights-of-way when compared with conventional designs. This lowers construction and maintenance costs when compared with wider street cross sections. Narrower right-of-way and pavement standards free up more land for private development, and therefore help to increase densities and create an urban form more in scale with people, consistent with new urbanism and smart growth concepts. Narrower pavements can reduce ambient temperatures, thus improving the environment.

Wider streets give motorists more maneuverability, and as a result they tend to increase speeds of travel. Narrower streets have been shown to slow the speed of vehicle traffic in neighborhoods, always a desirable trait in residential neighborhoods. Slower speeds make for a safer environment for pedestrians, also a desirable characteristic in subdivisions. Furthermore, if streets are made narrower in the first place, communities can save the expense of installing traffic calming retrofits, which often are implemented in localities to slow traffic on wider streets.

THE CASE OF FRESNO

Context

Fresno is a fast-growing city in the central valley of California. It is currently the sixth-largest city in California, with just under a half-million people. High-production agricultural land is the region's primary economic engine, and Fresno County is a major producer of agriculture in the United States, helping to feed a significant share of the nation's population.

The world-class agricultural land in the region is threatened by urbanization. Greater efforts have been made by planners in the region to encourage higher density communities that will consume fewer acres of valuable farmland. A smarter development pattern also was sought in Fresno due to the region's continuing struggle with air quality attainment standards, water supply issues, and the ever-increasing delivery costs of municipal services.

The goals of the city's General Plan were supportive of a higher density, more livable urban form. Like many cities, however, Fresno's development standards had not kept pace with the New Urban development strategies. The planned vision for growth to the year 2025 cannot be fully implemented in Fresno unless the standards for development are consistent with concepts of smart growth and New Urbanism.

The Development Proposal

In April 2007, a local development company, The McCaffrey Group, began discussions with Fresno's city planning staff regarding a 130-acre project that would include significant amounts of usable open space, narrower streets, dedicated pedestrian corridors, and landscaped boulevard features. The scale and characteristics of the new development were designed to emphasize livability and walkability, create a sense of community and place, and implement other New Urbanism and smart growth concepts. A subdivision map for the project was submitted to Fresno in October 2007. Some of the proposed design elements of the project did not meet current city standards for access for fire engines and solid waste collection vehicles.

The City's Specifications

Fresno's fire department has two typical vehicles. One is the fire engine, which carries hoses and a water pump and has as turning radius of 34 feet. The other vehicle is the fire truck, which carries aerial ladders and ancillary equipment and has a turning radius of 44 feet. These specifications have been interpreted to mean that city streets must provide a 44-foot minimum turning radius for all possible movements. The city's existing public works standards required a 36-foot residential street width and a minimum 44-foot turning radius at intersections. Officials from the fire and sanitation departments were concerned about being able to maneuver through and serve the new community as designed, if it did not adhere to these standards.

The city's solid waste division has similar needs articulated for access. The division provides service using two standard vehicles for solid waste collection. The commercial collection vehicle has a design turning radius of 44 feet. The residential collection vehicle has a design turning radius of 34 feet. Historically, the solid waste division had conditioned all projects to facilitate the larger commercial vehicle in order to accommodate any potential scheduling conflicts and equipment substitutions that might occur.

The McCaffrey Group and its design team responded to the city's concerns in a number of ways, as described in the next section.

GENERAL STRATEGIES FOR GAINING ACCEPTANCE

Demonstrate Peer City Acceptance

We provided Fresno city staff with pictures and diagrams of field visits that illustrate how other communities had addressed these issues. The rationale here was to show simply that other communities had accepted narrower streets and other, more accommodating, public works standards for streets, and therefore, Fresno should do the same.

A Cost-Effective Alternative to Traffic Calming

The City of Fresno Traffic Engineering Division and the Fresno Police Department each receive hundreds of calls annually regarding speeding in residential neighborhoods. In past years, the city installed thousands of pavement undulations, or "speed bumps," in dozens of existing residential neighborhoods to help slow motorists, as these were the only recognized traffic calming devices in that era. As noted below, these speed bumps also slowed down emergency response times. In 2006, the Fresno City Council approved an ordinance halting installation of new speed bumps within the city, as they had been determined to be hot spots for air quality issues. Clearly, a new traffic calming strategy was needed.

We provided articles from professional journals describing the benefits of narrow street sections and other New Urbanism standards in communities around the United States. One such article, published in the *ITE Journal* in December 2002, titled "Low Speed Design Criteria for Residential Streets," demonstrates that residential streets wider than 32 feet tend to increase speeds of motorists by three to four miles per hour per foot of additional width. The article concludes that this factor is a major reason why so many residential developments are experiencing motorists driving at speeds ranging from 30 mph to 40 mph on the internal streets. Hence, we demonstrated that narrower streets were an alternative to speed bumps, and a favorable one at that from a cost perspective.

Better Emergency Response Times than With Speed Bumps

The Fresno Fire Department has a "Four Minutes to Excellence" motto that it strives to attain. One outcome of this focus on response time is an intense interest in the city's streets and how the fire department's vehicles will be able to respond to every potential location. Speed bumps installed in subdivisions were slowing down emergency response times. We argued that the city could still meet its objectives for response times with narrower street standards, and that narrower streets were a better approach in that regard than speed bumps.

Give Consideration to Sirens and Emergency Lights

Current planning thought suggests that, while all roads must accommodate emergency equipment, they do not necessarily need to facilitate *every* movement. We suggested that the city's fire trucks could utilize their emergency lights and sirens, cross the centerline of the road, and take up both sides of the street as necessary in order to navigate a tight residential intersection.

Factor in Other Community Building Objectives

We also pointed out that design objectives to facilitate waste collection and emergency service vehicles were crucial, but that they were essentially dictating how the community was being built. We noted how such standards compete with other community-building objectives, such as facilitating the mobility of pedestrians by providing shorter crossing distances and slower traffic speeds.

Obsolescence of Standards with New Vehicles

Discussions with the solid waste division revealed that it had started replacing its fleet with cleaner, more fuel efficient vehicles such as hybrid and compressed natural gas (CNG) vehicles that also have been designed with tighter turning radii. Thus, from that division's perspective, the larger turning radius required by the city was demonstrated to be increasingly obsolete and unnecessary.

Address the On-Street Parking Issue

One of the arguments against narrow street widths is that if on-street parking is permitted, vehicles will not have enough room to pass. That concern was reflected in the city's previous standard for narrower-than-standard streets (32 feet). That standard, if implemented, only allowed parking on one side of the roadway and required posting of "No Stopping Any Time" signs on the other side.

In 2006, the Fresno City Council asked the parking enforcement division to patrol subdivisions for vehicles parked the wrong way, next to fire hydrants, or in "no parking" zones. They observed that many residents had been parking on both sides of the narrower streets, even though they were signed for no parking because of the lack of enforcement. Interestingly (we pointed out), these streets had been serviced by the fire and solid waste departments for many years without any known complaints or negative impact upon these essential life services. Thus, we argued, on-street parking was not a hindrance to public safety and service access, even on those narrower-than-standard (32 feet) streets.

The Field Exercise

While the above-mentioned strategies helped make a difference, the center point of our strategy to gain acceptance for narrower road widths and tighter turning radii was the demonstration in the field that emergency and service access was possible in the proposed new community.

The McCaffrey Group and its design team organized a field test to simulate the street designs being proposed in the new development (see Figures 1 and 2). The locations chosen were designed to test actual turning radii and vehicle width constraints for roadways measuring less than 36 feet curb-to-curb for two-directional residential traffic with parking on both sides (20-foot travel way with two 8-foot parking lanes); and less than 23 feet curb-to-curb for one-way residential traffic with a parking lane (15-foot travel lane with 8-foot parking lane).

Figure 1
Cones Placed to Simulate Narrower Road Pavements – Fire Truck Navigates Without a Problem

Figure 2
Solid Waste Collection Vehicle Navigates Tighter Turning Radius

In attendance at the field test were city directors and staff along with service vehicles from the following city departments: fire, public utilities (solid waste collection division), public works (traffic engineering division) and planning and development. The tests set out to simulate the worst-case scenario for accessibility by both fire and solid waste for the design of the proposed community. This included having large vehicles parked along the side of the road to simulate a delivery truck or a residential vehicle that was not parked right against the curb.

In a majority of real-world situations, the worst-case scenario is never realized. Parked vehicles typically do not take up the entire parking lane width and do not typically occur on both sides of the roadway at the same location. There are, of course, many 25-foot wide driveways located along the typical residential street, providing breaks in available parking areas that serve as effectively wider street sections. In addition, on the city's residential streets, no striping is used to delineate parking areas or the center of the travel way. As a result, many motorists, including the service vehicles mentioned above, tend to drive down the middle of the street so long as there is no opposing traffic.

OUTCOMES

Results from the field test proved positive for implementation of the proposed street and alley cross sections. All in attendance observed that the fire and solid waste vehicles could maneuver through the narrower streets and alleys. The tests alleviated many concerns over the narrowed sections and changed some perceptions of the actual minimum width required for operation of the city's equipment. Afterward, the public works director said, "I think a practical in-the-field demonstration with all stakeholders in attendance was a brilliant move."

After the field exercise concluded, all attendees met to discuss the results. The fire department and solid waste division agreed to support a reduction of public street widths from 36 feet to 32 feet while allowing for parking on both sides with the following provisions: the narrower streets must have two points of access every 700 feet (which is great for connectivity, walkability and design), an additional fire hydrant must be located at the midpoint of the block, and there must be an approved site plan showing pre-plotted driveways and an acceptable 20-foot minimum path of travel with parked cars.

We demonstrated that a curvilinear, 20-foot-wide minimum path was created by identifying and delineating the parking spaces along the roadway with striping and signage. The signage included language citing the Fresno municipal code for parking. This change will, incidentally, allow the fire department more flexibility to function under standard operating procedures for pulling hose from hydrants in closer proximity to a fire than the current standard, while requiring less pressurized hose.

To allow for complete comfort with the new standards, the developer proposed that the new criteria would not be automatically applicable to a given project; rather, the criteria would apply only if during initial review each department found that a given project met all design and performance objectives of that department on a case-by-case basis. With this ability to review each project before allowing the new standards to be utilized, the city departments felt they still had the necessary tools to protect the public and the city.

The fire department and solid waste division also agreed that their vehicles could provide service in 20-foot curb-to-curb alleys and navigate through 90-degree turns along those alleys without additional room for turning movement due to the low volume of opposing traffic in these alleyways. This was an important concession, given the staff's previous request for 30-foot-by-30-foot corner cutoffs, which they had previously believed necessary to accommodate the 44-foot turning radius. Such a corner-cutoff requirement would drastically affect density by eliminating lots or creating inefficient lot configurations on both sides of any alley approach. Instead, the 15-foot-by-15-foot corner-cutoff already in the Fresno Municipal Code for alley design was accepted as adequate.

Another decision resulting from the field exercise was to allow a reduction in lane width for a one-way street cross-section. The current standards would require 23 feet of pavement (8 feet for the parking lane and 15 feet for a one-way driving lane). All parties agreed that the curb-to-curb width could be reduced to 20 feet, with the addition of a mountable wedged curb in the median backed by 3 feet of drivable reinforced concrete. This cross-section will allow emergency and solid waste vehicles to mount the curb, should circumstances require.

Finally, a prominent design feature of the proposed community is a boulevard with wider landscaped median and pedestrian-oriented elements on both sides, connecting to a trail system and park within the community. Existing one-way streets in the downtown area of Fresno have 23 feet of pavement for each direction and are striped for two travel lanes. Speed limits are 35 mph to 40 mph. That was not what The McCaffrey Group envisioned for their boulevard. Rather, their plan has the boulevard fronted with homes. These homes feature porches and rear-loaded garages. The 20-foot one-way section encourages slower driving speeds, making this a much more attractive neighborhood than it would be with the older street section.

CONCLUSION

A significant obstacle to implementation of new urbanist development is the opposition of public safety and service personnel to narrower streets and tight intersection radii. Planners can use a variety of techniques to help convince public safety and service personnel that narrower streets will still meet their needs. In Fresno, we used a field simulation technique that showed current departmental vehicles could navigate roads built to the narrower specifications proposed. We also employed other arguments, including reduced traffic speeds, lower costs through elimination of speed bump improvements, and better air quality, which were shown to meet the city's policies and objectives. We also employed a bit of peer pressure and provided information about professional literature supporting narrower street widths. And, finally, we pointed out that wider public works standards were having a profound impact on the design of the community, one that ran counter to the city's vision. A combination of techniques along with the field test turned the tide in favor of our proposed narrower street designs. The arguments we used in Fresno may be useful in other communities faced with the same reluctance to narrower street width by public safety and service personnel.

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