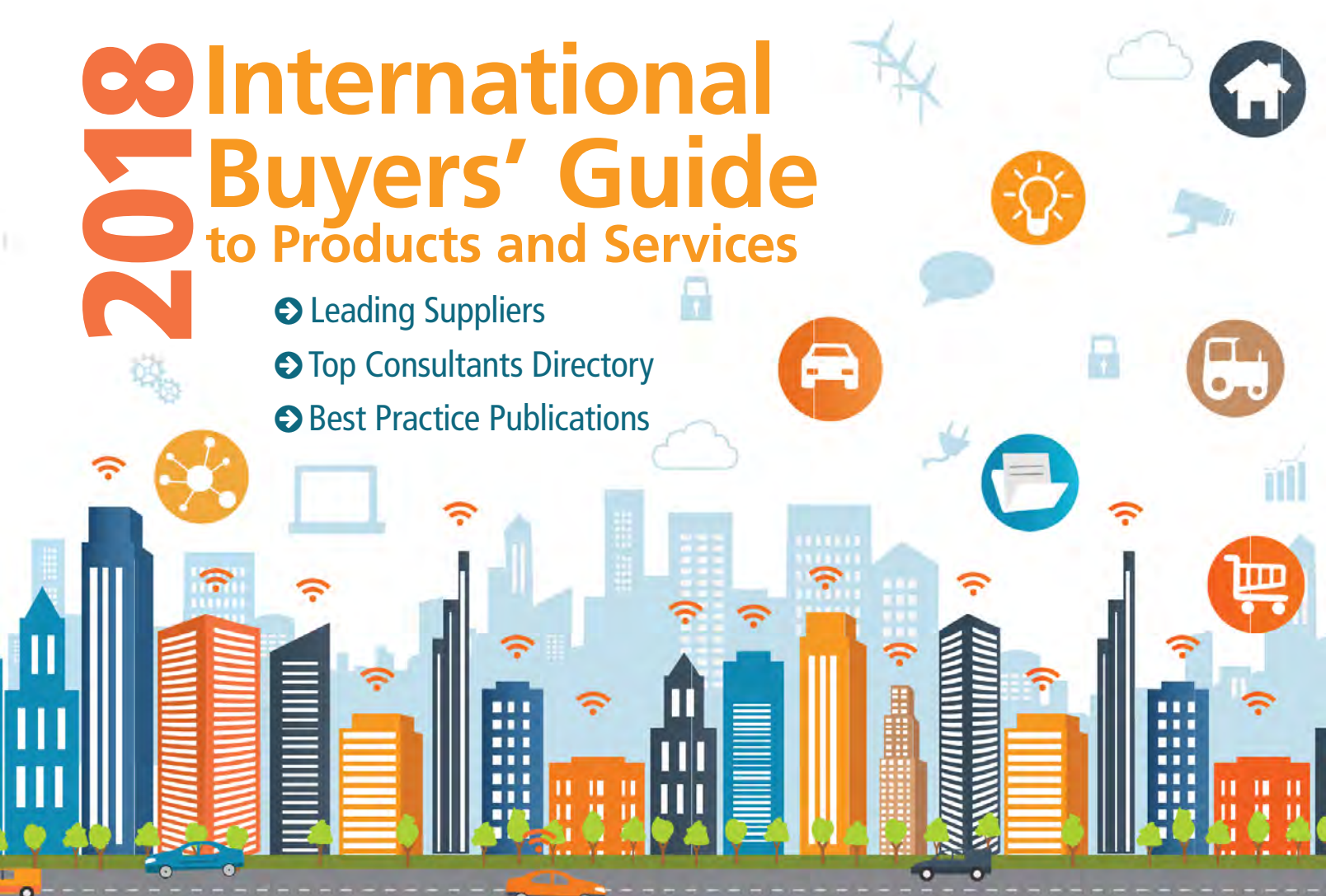


Parking

The magazine of Parking Management and Operations
A publication of the National Parking Association

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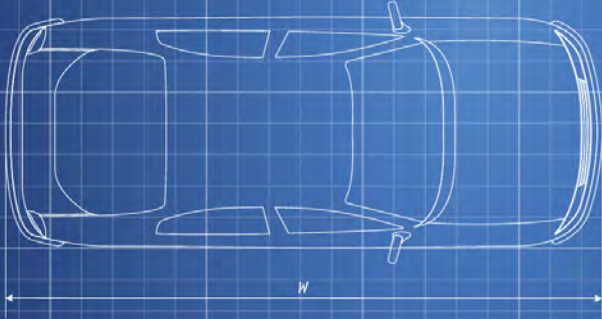
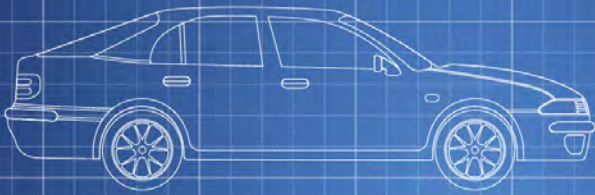
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CAR VIEWS: TOP, FRONT, SIDE



CHANGES TO STANDARD VEHICLE SIZES DETERMINE PARKING STALL DIMENSIONS

By many accounts, 2016 was a record year for vehicle sales. Economic growth and lower gas prices contributed to strong growth in sales. American consumers' taste for vehicles is clearly changing as a result, and it is having a significant impact on the parking industry.

As family sedans and large sport utility vehicles are being replaced with crossover vehicles and light trucks, including pickups and SUVs, the parking industry is now faced with significant challenges on how to maximize space.

The Environmental Protection Agency has changed its vehicle classifications and harmonized them with the National Highway Safety Transportation Authority. It has reclassified most

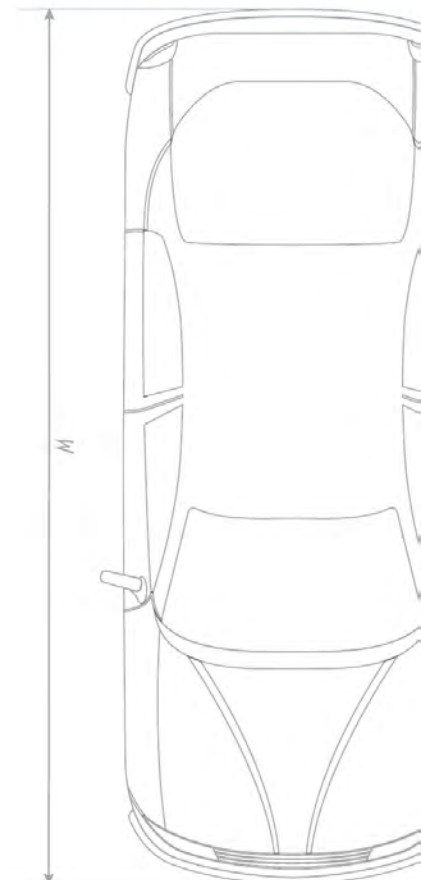
crossovers and two-wheel drive SUVs as cars, rather than light trucks, for the fuel economy standards. Vans and pickups that are considered heavy duty (8,500 pounds or more) were not included as light trucks.

As a result, car sales are rising and light truck sales are down, contrary to the data (and classifications) traditionally used from *Automotive News*.

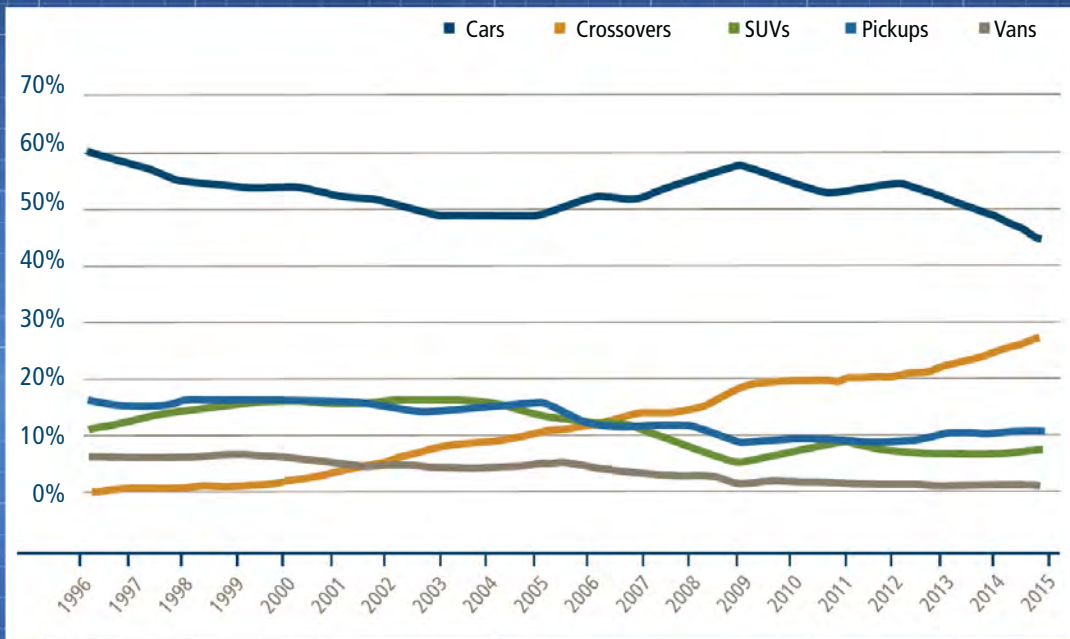
Parking by the Numbers

Over the last 50 years, vehicle sizes have changed dramatically. The very large cars of the 1970s yielded way to the importation of small cars following the Oil Embargo in the late '70s and '80s. Larger, more aerodynamic cars then eventually succeeded the small cars.

Meanwhile, the use of pickups and SUVs for personal transportation has

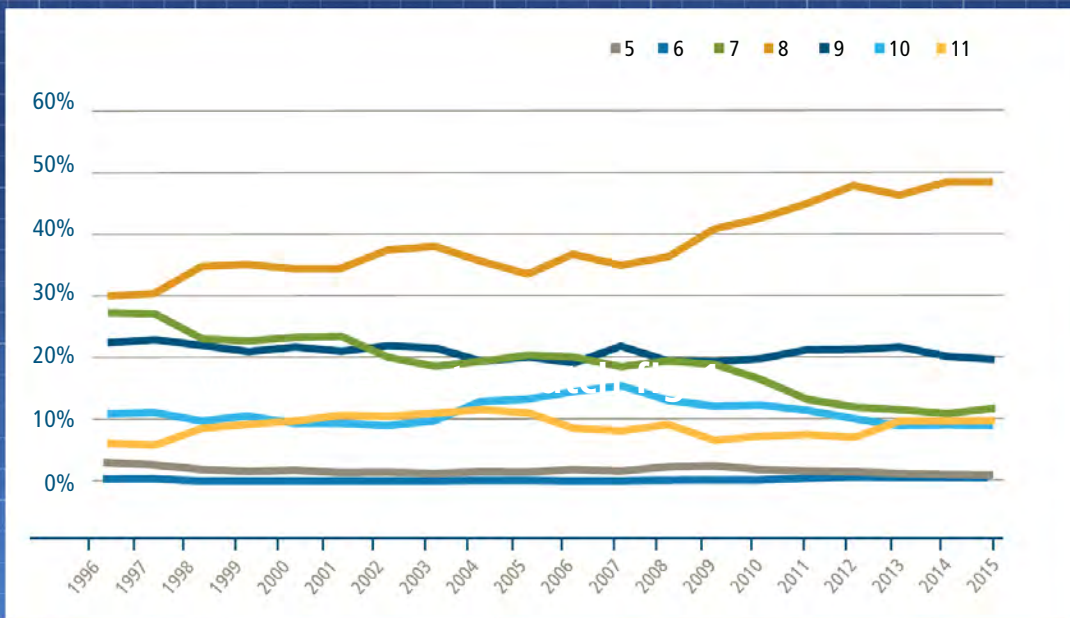


SALES BY VEHICLE TYPE



Source: Walker Parking Consultants Analysis of Automotive News Data, 1996-2015.

SALES BY VEHICLE SIZE CLASS



Source: Walker Parking Consultants Analysis of Automotive News Data, 1996-2015.

also climbed slowly but steadily since the 1970s.

The mid-1990s welcomed a surge in use of pickups and SUVs for personal transportation.

Sales of Vehicles Fitting in Compact Stalls Dwindling

Sales of vehicles which qualify as fitting in compact or small car only stalls have continued to slide, from 23.6 percent in 1998 to 17.1 percent in 2010. The numbers fell to just 13.6 percent in 2016. Vehicle classes 5, 6 and 7 are considered small cars, and 8 through 12 are considered large.

Clearly there has been a significant shift from the largest of the small cars (class 7) across the boundary into “large cars” since 2010. There has also been a reduction in the largest two classes (10 and 11), although the low gas prices in the last couple years may be allowing a slight uptick there.

PCC Recommends Stall Length Reduction

In recent years the standard width of crossover vehicles has remained the same, yet they have become shorter. As crossovers continue to gain in popularity and efficiency, NPA’s Parking Consultants Council reduced the overall design vehicle from 6’7” by 17’1” to 6’7” by 16’2”.

As a result, the PCC’s recommended parking stall length is reduced from 18’ to 17’9”. Because the turn-

ing circle has not changed significantly, we have not reduced the aisles.

However, with the stalls on each side of the aisle reduced 3 inches in length, the overall module or out-to-out dimension of two rows of stalls and the aisle between has reduced by 6 inches.

A Proactive Approach to Maximize Space

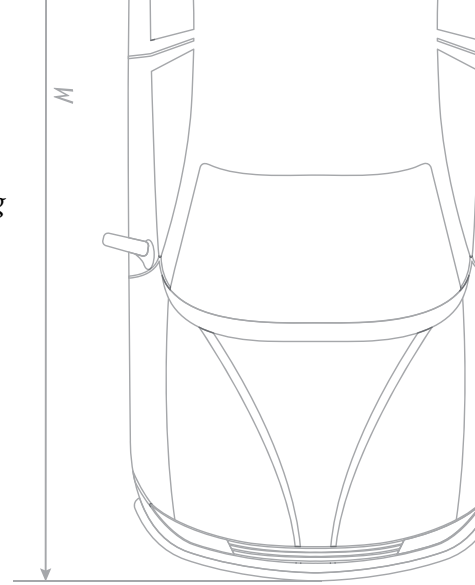
Parking spaces have always been influenced by automobile size so that satisfactory parking, turning and general maneuvering is provided within a parking facility. Using design vehicles allows the parking industry to make rational decisions on parking dimension effect.

The approach adopted by the PCC is to use the dimensions of the 85th percentile vehicle in the range from smallest to largest vehicles sold in the U.S. to determine a “design vehicle” for parking geometry.

This is significantly higher than an average vehicle, but not nearly as conservative as assuming that every vehicle parked in a parking facility is a 100th percentile vehicle.

This provides satisfactory space for the vast majority of passenger vehicles and facilitates a ‘one size fits all’ design approach to provide a balance of economy and comfort for parkers.

The *Guidelines for Parking Geometrics*, available now at **WeAreParking.org**, is intended to guide those who are involved with the planning, design or management of parking facilities. It is the definitive industry resource for those involved in parking and serves to foster uniformity in design. ■



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