Self Storage Typically Means Minimal Vehicle Traffic

Debunking the myth that self storage is a high trip generator

By Mark Wright

Self storage generates far fewer vehicle trips than many other land uses. Data published by the Institute of Transportation Engineers (ITE) in its three-volume informational report, *Trip Generation*, shows that the traffic impact of self storage facilities (termed "mini-warehouses" in ITE's report) varies depending on the day and time period studied, but is consistently lighter than a number of other common development types.

"Lots of SSA members have voiced their concern over the years that local officials automatically assume a self storage facility in their community creates traffic problems," says former SSA board chairman John Gilliland, president of York, Pennsylvania-based Investment Real Estate, LLC. "Owners and operators knew that just was not true, but they needed the Association to come up with the data that would help them explain this reality to local decision makers."

ITE's *Trip Generation* report is considered *the* source of credible traffic data in North America. While it does not purport to serve as a standard or as recommended practice, cautions Lisa Fontana Tierney, ITE's senior director of traffic engineering, the *Trip Generation* report is "a compilation of data collected by volunteers in the U.S. and Canada."

The report is "still 'state of the practice', and for many serves as the primary authority for trip generation information," observes Dan Hardy, transportation planning chief in the Montgomery County, Maryland Planning Department, and chair of ITE's Transportation Planning Council. "In special uses, either the jurisdiction or the applicant might decide (a project) doesn't fit in the ITE box and propose going to collect more data, but it still often gets compared against ITE as a benchmark."

First, a Few Technical Details

As the report itself notes, "*Trip Generation* is an educational tool for planners, transportation professionals, zoning boards and others who are interested in estimating the number of vehicle trips generated by a proposed devel-

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TRIP GENERATION AVERAGE RATES
(Sorted by Weekday, Peak Hour of Adjacent Street Traffic, One Hour Between 4 and 6 p.m.)

		Average Trip Generation Rate		
Land Use	Measure GFA*	Weekday Pk Hr 7–9 AM	Weekday Pk Hr 4–6 PM	Saturday
Mini-Warehouse (Self Storage)	1000 sq ft GFA	0.15	0.26	2.33
Furniture Store	1000 sq ft GFA	0.17	0.46	4.94
Warehousing	1000 sq ft GFA	0.45	0.47	1.22
Church	1000 sq ft GFA	0.72	0.66	10.37
Industrial Park	1000 sq ft GFA	0.84	0.86	2.49
Business Park	1000 sq ft GFA	1.43	1.29	2.56
Hardware/Paint Store	1000 sq ft GFA	1.08	4.84	82.52
Library	1000 sq ft GFA	1.06	7.09	46.55
Quality Restaurant	1000 sq ft GFA	0.81	7.49	94.36
Day Care Center	1000 sq ft GFA	12.79	13.18	6.21
Fast-Food w/Drive-Thru	1000 sq ft GFA	53.11	34.64	722.03
Drive-in Bank	1000 sq ft GFA	12.34	45.74	71.21

* Gross Floor Area

Source: Institute of Transportation Engineers, Trip Generation - 7th Edition

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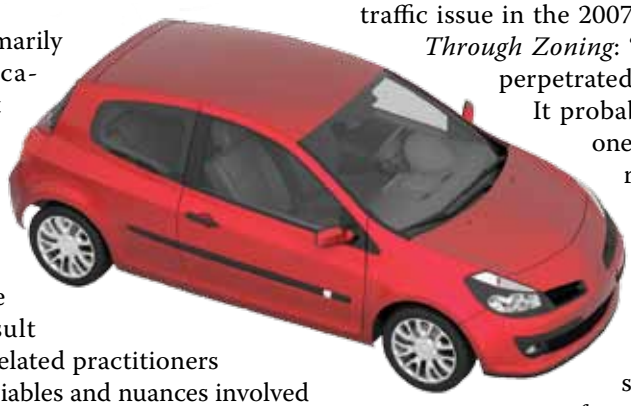
opment. This document is based on more than 4,250 trip generation studies submitted to ITE by public agencies, developers, consulting firms and associations."

ITE typically publishes a new edition every five years or so, although not on a formal schedule. "As new data becomes available, ITE updates the report," Fontana Tierney explains. Data for this article is from the 7th Edition.

A variety of measures and timeframes are used for each land use in the report. The primary comparative measure is "1,000 square feet gross floor area," since it was applied in each of the land use examples selected for this article. "Net rentable area," however, would be a fairer and more relevant measure for self storage—an important point for anyone citing ITE data for their own storage project. In addition, this article uses three specific timeframes from the report: weekday peak hour of adjacent street traffic, one hour between 7 and 9 A.M.; weekday peak hour of adjacent street traffic, one hour between 4 and 6 P.M.; and Saturday.

Data in the report were primarily collected at suburban locations—a minor detail, but worth mentioning. More importantly, trip data for some of the many land uses profiled in the report came from a small number of study sources. Storage professionals should consult with traffic engineers and related practitioners to better understand the variables and nuances involved in drawing specific conclusions from trip generation data.



Traffic Concerns Understandable

For local officials, not to mention neighborhood groups, that are unfamiliar with self storage and unacquainted with the ITE trip data for mini-warehouses, a negative initial reaction to a proposed project based on traffic worries should come as no surprise. Traffic is a major concern—sometimes *the* major concern—for proposed development of almost any type in most urban or suburban jurisdictions, because it affects quality of life, public infrastructure investment, economic development and environmental issues.

"Most jurisdictions look at the peak (traffic) period," explains Hardy. The key question local officials have for any type of proposed development, he says: "What is the transportation system impact, and what mitigation is needed?"

Impact fees might also affect local officials' perspective in some jurisdictions. "Many of my clients have to go out and get additional traffic studies, because the size of the project and trips generated is what they charge fees on" to help pay for the impact on roads, says JoBeth White, president of San Clemente, California-based Development Services Inc.

More Education Needed

A community's general plan defines levels of acceptable (or at least anticipated) traffic for specific areas and corridors. Depending on the site chosen for a proposed project, extra effort to educate stakeholders about the low trip generation rate of self storage might be required.

Uninformed attitudes about the traffic impact of self storage have presented challenges "for many years," observes Stephen Bourne, principal of Site+Plan+Mix LLC in Seattle, Washington. "It's taken a long time to re-educate people. Some people dig their heels in. I've seen local jurisdictions use (traffic) to oppose a self storage project by arbitrarily requiring extra parking" or other features.

Bourne, with co-author Roger S. Waldon, addressed the traffic issue in the 2007 SSA publication, *Zig Zagging Through Zoning*: "This is a myth that has been perpetrated about self storage for decades. It probably comes from a false one-to-one association between the garage roll-up door and a car. However, a number of studies have shown that self storage as specific use generates less traffic than almost all other uses."

"According to several national surveys conducted in the last few years," they wrote, "a self storage facility on average generates less than seven car trips per day per 100 units. Therefore, if your facility is going to have 450 units, it would generate approximately 30 car trips per day; broken down into trips per hour based on a 12-hour day, that same facility would generate less than three cars per hour—hardly a high-traffic generator."

Traffic Not Always the Real Issue

The more common source of concern isn't traffic volume, says John Schick, senior project engineer at Lancaster, Pennsylvania-based Retew Associates Inc., but rather operational issues. "Trip generation for self storage is much lower than other types of land uses that could occupy that land. (Objections) are not necessarily based on the volume of cars coming in and out. People will use traffic as one way to fight something."

For example, if a facility's gate sits too close to a road, causing vehicles to park out in the street and create congestion while others are trying to enter or exit, that's a problem. "A lot has to do with site layout," notes Schick.

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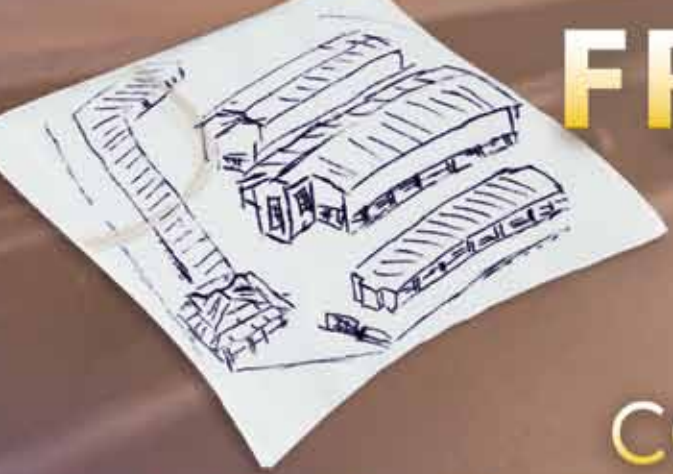
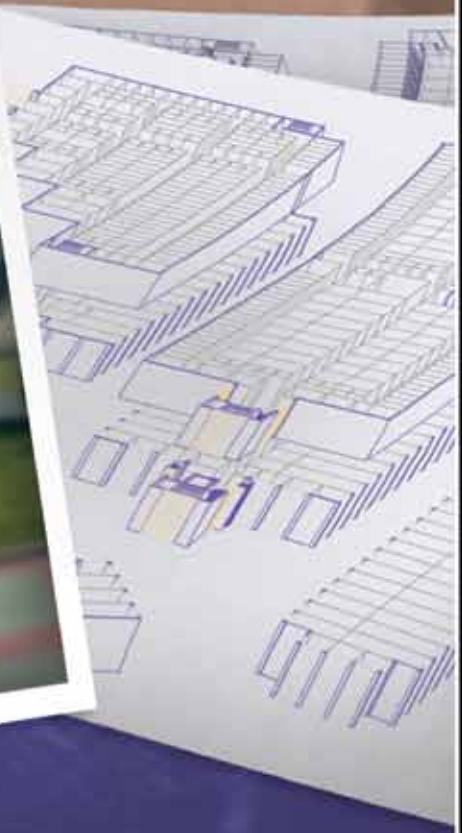
FROM IDEAS . . . COME INSPIRATION





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"If a moving truck has to wait in the street to get in, the driveway may be too narrow."

Similarly, if during the review process officials see other activities occurring on the property—people are working on cars, or stuff is illegally dumped—officials question those things, and might mistakenly generalize that a facility has "traffic" problems. Especially when a project is situated near a residentially-zoned neighborhood, versus an industrial area, communities want storage facilities to aesthetically blend in, says Schick. "It becomes a matter of trying to educate local officials and citizens."

A word of caution: Facilities offering a mix of services beyond simply storage might indeed generate more trips than a typical mini-warehouse. If, say, truck rental or mail boxes or shipping supplies constitute a big part of the business, thus drawing more customers to the site more frequently than the storage element would, then the traffic profile for the site will differ significantly from the stats in the ITE report.

Some Jurisdictions Do Understand

Fortunately, not all communities are burdened with incorrect or preconceived notions. "Self storage is such a low generator compared to other types of uses," Dave Smith, project engineer for the City of Olympia, Washington, readily acknowledges. Smith said his city typically uses the rates in ITE's report, focusing on the evening peak hour. "Self storage is usually more frequented on the weekends," he notes.

"Around our region, most of the agencies would pretty much default to the ITE (trip rate)," observes John Rowland, PE, a traffic engineer with Peters Engineering Group in Clovis, California. "It's uncommon to do a local study."

Rowland notes that when a local study is pursued, either at the behest of an agency or because a project developer believes the data is necessary, it's important to understand a traffic engineer's role—although he says he doesn't speak for all engineers on this point. "We stick to being an analysis team, not an advocacy outfit. We have to be an objective third party."

Bottom Line

With patience and a willingness to educate officials who might be unfamiliar with the "mini-warehouse" section of ITE's *Trip Generation* volumes, storage pros can chip away at the myth that their business generates a lot of traffic. At the same time, however, they should be sensitive to issues that perpetuate that myth, taking care to recognize that site design, operations and non-storage business activities at a facility legitimately affect community perceptions as well as the actual number of trips generated. ❖

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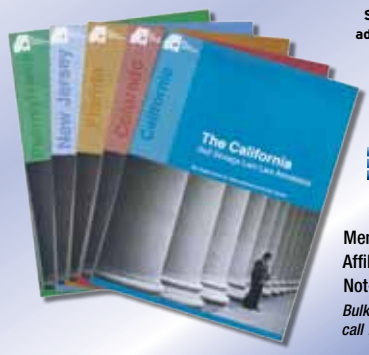

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