

September 6th, 2018

Rebecca Hammock,
Planning and Development Division Manager
Seminole County Government

Re: Parking Standards at Parkside Place

Dear Rebecca,

Thank you for the opportunity to share with you our views on the issue of parking at Parkside Place. We look forward to our discussion about it on Monday.

From the start of our involvement with this project in early 2018, in discussions with the Commissioners initially and subsequently with County staff, we raised two key points when sharing our vision for Parkside Place.

The first point was that we would be requesting significantly more density than the current Development Order in place. We have been extremely pleased with how your entire team has worked with us on making this possible. We subsequently reduced the office space we initially proposed, and which was possible for the site, by some 60% to allow for more green space (and in keeping with what we saw for future demand for office space in the greater Orlando area).

The second point we raised is what we viewed as excessive parking requirements and their attendant costs, which we would like to address in detail in this submission. Key factors to consider are:

1. this is a highly mixed-use planned development that is very different from other developments that typically have singular land use;
2. housing affordability gets severely compromised, as do office space costs, if we are forced to adopt what we believe are excessive parking requirements;
3. our vision is one of a highly sustainable living space for tenants, visitors and office workers, which is incompatible with excessive parking requirements;
4. we want to maximize the amount of green space available to everyone, including our neighbors and the broader Seminole County community, which excessive parking requirements kill;
5. we are putting in place many alternative transportation methods to eliminate the need for a second car: please see our attached detailed study;
6. as the developer, we are ready to step up and take the challenge of convincing our lenders that building only the parking that is absolutely required is wise, and we will also reassure our investors that when the time comes to sell the project in 20 years or so, they need not fear that a buyer/lender will reject the project due to the significantly lower parking standards we are advocating.

Our hope is that Seminole County will use this project opportunity to eliminate parking minimums for the Parkside Place development, leaving market forces to ensure that as the developer, we build adequate parking to meet the needs of tenants, visitors and office workers, while also being creative with parking mitigation strategies and embracing upcoming new technologies. We would be happy to consider this in a phased pilot manner for the Parkside Place development where parking minimums

are removed for Phase 1 and closely monitored. We as the developer will install smart technology to track utilization, and will put in place other transportation alternatives, and will share this data with Seminole County staff. This invaluable data will show if market forces are able to ensure the building of adequate parking to meet the needs of tenants... and the findings can be used for further phases at Parkside Place. These creative solutions can then be studied and applied (or become mandatory) for other projects in Seminole County, which will lead to less congestion, pollution and more green space and tax revenues.

As developers of Parkside Place, it is in the interest of our investors to make sure our project is successful; for this reason, we will make sure that we internally adjust our parking needs to the project demands if and as needed.

We are therefore formally requesting the removal of all parking minimums for Parkside Place by the Board of Commissioners, keeping in mind the contents of this memo and the attached study, starting with a pilot for Phase 1.

We hope that staff will consider the following key points carefully before reaching a decision.

1. How did we get here?

Jurisdictions across North America have adopted three policies over time. First, segregating land uses (housing here, jobs there, and shopping somewhere else) increases travel demand. Second, limiting development density spreads the city and further increases travel demand. Third, minimum parking requirements ensure that drivers can park free at the beginning and end of almost every automobile trip. Regulations subsidize cars, increase traffic congestion and carbon emissions, pollute the air and water, encourage sprawl, raise housing costs, damage the economy, degrade urban design, reduce walkability, and exclude the poor.

In the case of Parkside Place, we very much appreciate the support for our proposed mixed use and for the significantly increased density. What is missing so far is support for the third policy: the removal of minimum parking requirements.

Dr. Donald Shoup, author of *The High Cost of Free Parking*, is a professor of urban planning at the University of California, Los Angeles, with a background in economics. His 2005 book, updated in 2011, provides extensive research and analysis of parking in cities, including the unintended consequences of zoning requirements to provide on-site parking. There are three key points worth noting.

Firstly, the minimum parking requirements in North American cities are not, as is often supposed, based on any coherent theory or empirical basis. Most cities have historically drawn their parking requirements by copying those of other cities, or else by referring to data published by the Institute of Transportation Engineers' Parking Generation tables. The latter data source, moreover, is shown to be deeply problematic, relying as it does on small sample sizes, usually from suburban sites with little or no public transit, among other methodological and statistical problems. Shoup effectively tears down the notion that the existing approach to minimum parking requirements, in place since the end of the

Second World War, is much better than guesswork. Indeed, "Most parking requirements amount to little more than a collective hunch".

In ITE's defense, that organization has become increasingly concerned with the over-reliance on its tables as a formula for determining parking minimums and warns users against this tendency. As early as 1990 the Institute noted that "It must be recognized that sizing a parking facility or setting parking requirements is a policy decision, not merely a technical one. It must be made in light of the objectives of the developer or public agency; it does not simply drop out of a formula or equation." (*Using the ITE Parking Generation Report*. Steven A. Smith/ITE Technical Council Committee 6F-44. ITE Journal, July 1990. p.25.)

The most recent edition of *Parking Generation* contains extensive cautions against over-reliance on its tables as a definitive estimate of parking demand.

Secondly, minimum parking requirements systematically over-estimate the need for parking and distort travel behaviour. The key problem is a disregard for the impact of price on demand. Parking costs money to provide, but the practice of forcing developers to include parking hides the cost from the user and instead passes it indirectly on to consumers, businesses and tenants. (If you have to provide the parking anyway, it's easier to bundle the cost with the rent, service or housing you're providing than to require users to pay directly for it.) The hidden cost of parking is dispersed through the economy and borne by everyone, whether they drive or not, effectively encouraging and subsidizing more driving. Minimum parking requirements also over-estimate demand by conflating observed peak parking occupancy of free parking facilities (often from a site with very different urban context) with actual parking demand, the latter of which is influenced by price. As a result, the required parking facilities are largely empty much of the time, even as they force an urban form that penalizes walking, cycling or transit use.

Thirdly, minimum parking requirements are actively detrimental to city building. From the preface to the paperback edition: "The prohibition against buildings without ample parking... distorts transportation choices, debases urban design, damages the economy, and degrades the environment.... Minimum parking requirements do more harm than good and should be repealed."

2. Parking requirements have a HUGE cost

Col 1	Col 2	Col 3	Col 4	Col 5	Col 6	Col 7	Col 8	Col 9
		County standard	Spaces "needed" per traditional calculations	Cost of structured parking	County revised proposed standard - 20% reduction in parking	Revised cost based on 20% reduction	Palmeira Holdings maximum proposed spaces, given mixed uses and mitigation - see movmi report - 50% maximums	Revised cost that must still be passed on to all tenants
Residential	4,076	2.0	8,152	\$ 244,560,000	6,522	\$ 195,648,000	4,076	\$ 122,280,000
Student housing	752	2.0	1,504	\$ 45,120,000	1,203	\$ 36,096,000	752	\$ 22,560,000
Independent living	184	2.0	368	\$ 11,040,000	294	\$ 8,832,000	184	\$ 5,520,000
Office	1,392,876	4.0	5,572	\$ 167,145,120	4,457	\$ 133,716,096	2,786	\$ 83,572,560
Medical/dental	50,000	6.0	275	\$ 8,250,000	220	\$ 6,600,000	138	\$ 4,125,000
Retail	290,000	5.5	1,595	\$ 47,850,000	1,276	\$ 38,280,000	798	\$ 23,925,000
Hotel	150,000	5.5	252	\$ 7,560,000	202	\$ 6,048,000	225	\$ 6,750,000
Assisted Living	200,000	1.0	300	\$ 9,000,000	240	\$ 7,200,000	60	\$ 1,800,000
			18,018	\$ 540,525,120	14,414	\$ 432,420,096	9,018	\$ 270,532,560
Total anticipated need							8,322	
"Surplus" structured parking if needed							696	
On-street parking proposed							520	
Total "surplus" parking cushion if needed							1,216	
% "surplus" if needed							15%	

As can be seen, parking is extremely expensive – and the cost gets passed onto the end user.

If we provided only surface parking, which is what many developers do, which in turn contributes to urban sprawl, we would likely be able to only build to the current approved density:

1. 827 multi-family units = 1,654 parking spaces
2. 453,395 sq feet of commercial space = approximately 2,000 parking spaces.

This would deviate from our vision of providing increased density which staff has supported to date.

This amount of development and 3,654 parking spaces would likely take up the whole site, leaving nothing available for public amenities; yielding the least possible amount of tax revenues to the County; and creating the least amount of construction and ongoing jobs. The project would be a non-starter in our eyes.

Instead, we have proposed the development in Col 2, with the concomitant parking shown in Col 8, which maximizes County tax revenues; creates many new jobs; and allows for green space through careful use of space by only building parking that is truly required. Our estimate is that the project will also create \$200M in new annual ongoing local spending, and about 3,000 ongoing jobs.

To provide a sense of perspective, the current proposed development would cost \$1.8 billion in 2018 dollars. If we added a cost of \$540M to meet standards that other jurisdictions are today abandoning, and which we believe are completely counter productive to our vision for the site of *One with Nature*, and to Seminole County's tagline of *Florida's Natural Choice*, this would add 30% to the cost of the development that must be absorbed by the residents and office tenants. That is a huge amount, that negates the County's own desire to provide affordable housing and to attract new businesses and brings into question the entire viability of the project for us as the developer.

Even if the County requires Parkside Place to meet half the current parking standard, there is a 15% cost increase attributable to parking, which is approximately \$270 million. Investing money to store cars is an extremely unproductive use of funds that benefits no-one, so we should build only the parking that we can empirically demonstrate is absolutely required, and thereby reduce street congestion and pollution through fewer cars, which the neighbors will love.

To determine how we would reduce our parking requirements while remaining an attractive destination that is easy to reach, we commissioned a detailed study that we have previously submitted and have re-attached. As can be seen in the study, we believe the maximum parking spaces we will need is 8,322 spaces, which is below the 50% reduction in minimum standards that is our maximum baseline. If we add in street parking within the site, we could have surplus parking of 15%! That is enough cushion even if the mitigation strategies in the report do not all bear out. So we have taken a very responsible approach. We would also be willing to guarantee that all permanent parking would be on paved surfaces. This should alleviate any concerns that permanent parking will be on dirt surface; or that tenants will park in neighbourhood streets.

3. Parking minimums

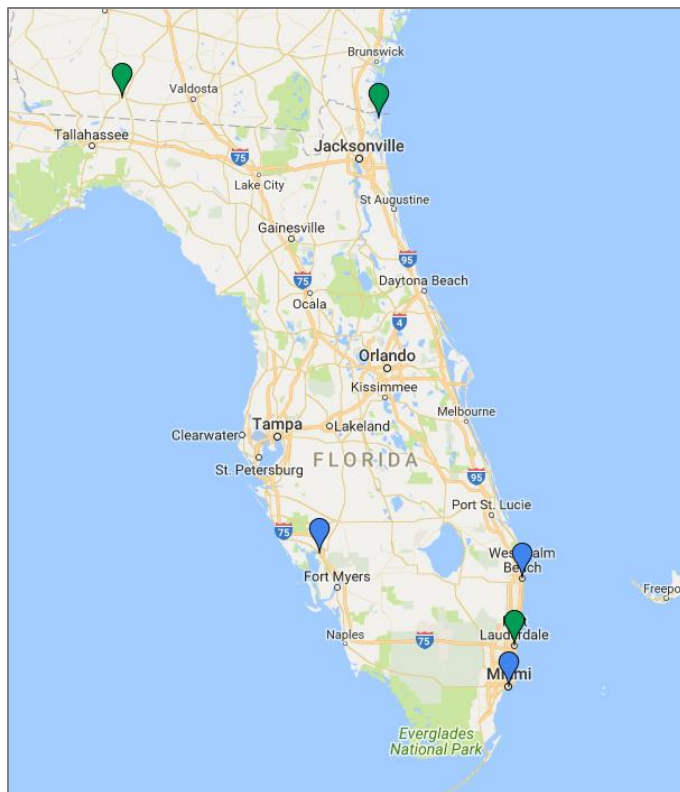
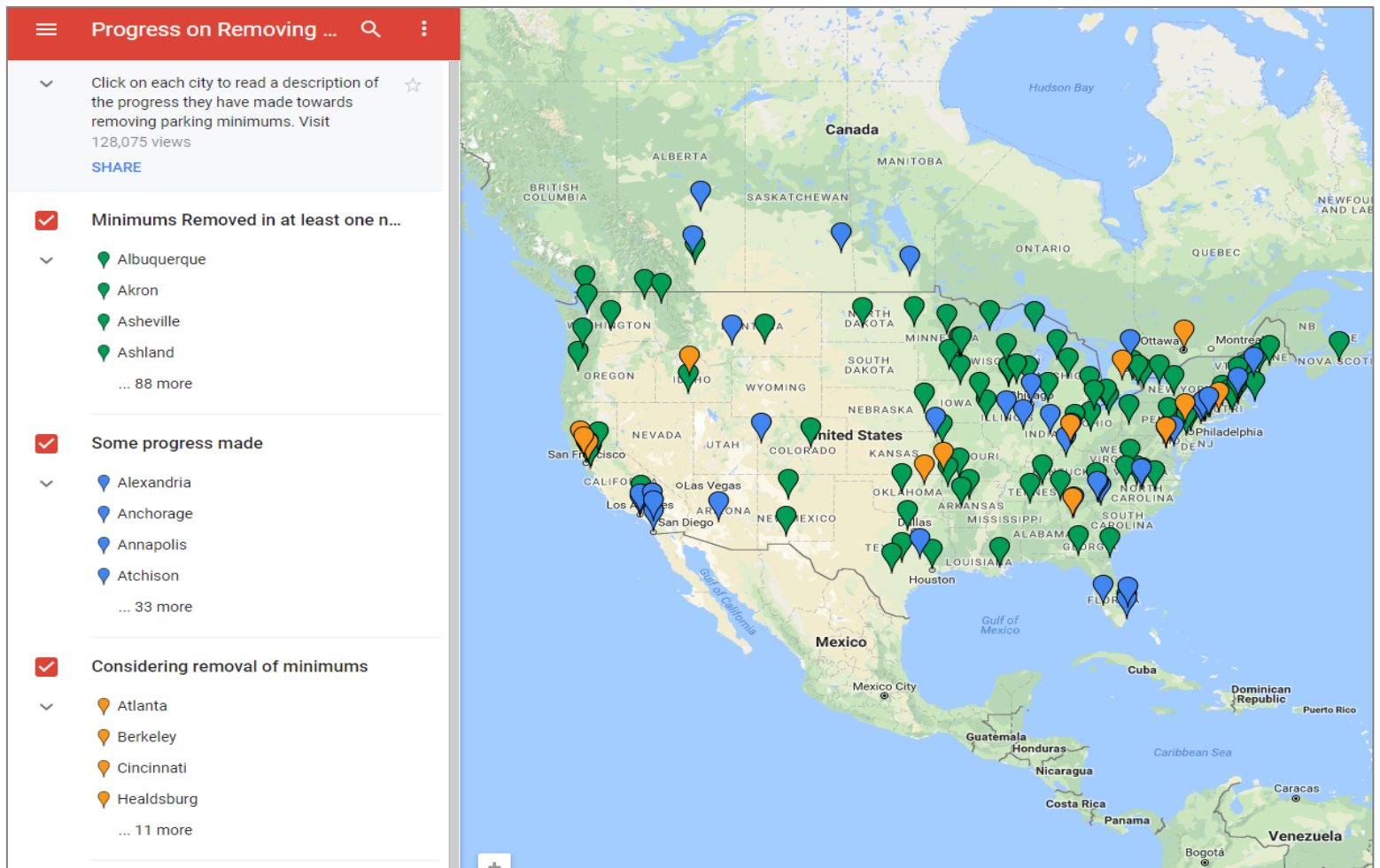
The US has long been the world leader in building parking spaces. During the mid 20th century, municipal zoning codes began to include requirements and quotas for most developments to include parking spaces. The supply skyrocketed. A [2011 study](#) by the University of California, estimated there are upwards of 800m parking spaces in the US, covering about 25,000 square miles of land.

Nobody goes to a city because it has great parking

“As parking regulations were put into zoning codes, most of the downtowns in many cities were just completely decimated,” says Michael Kodransky, global research manager for the Institute of Transportation and Development Policy. “What the cities got, in effect, was great parking. But nobody goes to a city because it has great parking.”

Increasingly, municipalities are rethinking this approach. As municipalities across the world begin to prioritise walkable urban development and the type of living that does not require a car for every trip, officials are beginning to move away from blanket policies of providing abundant parking. Many are adjusting zoning rules that require certain minimum amounts of parking for specific types of development. Others are tweaking prices to discourage driving as a default when other options are available. Some are even actively preventing new parking spaces from being built.

Ultimately parking is the single most important design feature that dilutes the tax productivity of development. Municipalities for whom property taxes are lifeblood should treat parking for what it is: **dead weight**. This is what 90 towns and cities are doing, and we urge Seminole County to join these forward-thinking jurisdictions, even if just starting with one project at Parkside Place.



Here are what some jurisdictions in Florida and elsewhere are doing:

Punta Gorda

The City of Punta Gorda has reduced parking requirements in its traditional downtown (City Center Zoning) to 1 space per residential unit or 1 space per 1,000 square feet of non-residential space. Additionally, there is a parking exemption area nested with the City Center of 7 blocks where there are no parking requirements for any development with a building footprint of up to 10,000 square feet (up to 5 stories or 50,000 sq. ft.).

In all areas of the City outside the City Center the more traditional parking minimums have also been capped with a 125% (of minimum requirement) maximum parking ratio. Furthermore, the City has granted City Staff the ability to consider shared use parking, off site (shared) parking, and developer studies (illustrating reduced need) to reduce on site parking requirements below codified minimums.

While not by any means ideal, the City of Punta Gorda has made major strides at reducing the government mandates for "free" parking as typically codified in traditional Euclidean zoning. The City has done this in the context of a small town embedded in sub-urban/rural Charlotte County, Florida. Charlotte County has the dubious distinction of being the only coastal county on Florida's peninsula without a fixed route transit system. -Mitchell Austin

Fort Lauderdale

Downtown Fort Lauderdale has no parking requirements. -Todd Okolichany

West Palm Beach

The Downtown Master Plan (DMP) relaxes parking minimums significantly for downtown development. Lots with less than 55 feet in lot frontage are not required to provide parking. Residential requires 1 space per unit. Hotel requires 1 space per 4 rooms. Office requires 2.5 spaces per 1000 SF. These requirements are much lower than in areas outside the DMP. The code also imposes a parking maximum by district.

Additionally, existing or proposed on-street parking spaces may count toward required parking. Off-site parking is permitted. Shared parking is encouraged, and in-lieu fees are also permitted. -Jesse Bailey

Buffalo

Becomes First City to Bid Minimum Parking Goodbye

Santa Monica

It has long strived to be one of the most walkable places in Southern California. Policies to make downtown a pedestrian-centric walking district have been in effect since the 1970s, when Santa Monica pioneered the "park once" strategy, with centralized public parking structures that made it easy for people to leave their cars behind while they walked to multiple activities.

See **Appendix A** for a letter from the Mayor about parking minimums and their impact

Parking is over-supplied by 65%

A new analysis of 27 mixed-use areas finds that parking in U.S. metro areas is, on average, oversupplied by 65 percent.

When we say we can't find anywhere to park, what we usually mean is we can't find a free or insanely cheap parking spot within spitting distance of our destination. As a nation of parkers, we're all home run hitters who've forgotten what it's like to knock a single—or, as a closer metaphor, to draw a walk. The result is a misperception that parking is scarce despite the great deal of lots, street spaces, or garages that might exist a block or two away.

Please see **Appendix B**

4. Drowning in car storage

Ground breaking research presents credible estimates of the total parking supply in several American jurisdictions, and it's not pretty.

Parking spaces are everywhere, but for some reason the perception persists that there's "not enough parking." And so, jurisdictions require parking in new buildings and lavishly subsidize parking garages, without ever measuring how much parking exists or how much it's used.

Now new research presents credible estimates of the total parking supply in several American jurisdictions for the first time. The report from Eric Scharnhorst at the Research Institute for Housing America, an arm of the Mortgage Bankers Association, provides city-level evidence of the nation's massively overbuilt parking supply and the staggering cost to the public [[PDF](#)]. The conclusions bolster the parking research pioneered by [UCLA professor Donald Shoup](#).

Scharnhorst used satellite imagery and tax records to tally on-street parking, surface parking, and garage parking in five jurisdictions: New York, Seattle, Philadelphia, Des Moines, and Jackson, Wyoming. The method can be replicated to measure parking in other jurisdictions, he says.

It's not an exaggeration to say American cities have been built for cars more than people. "After decades of requiring parking for new construction," Scharnhorst writes, "car storage has become the primary land use in many city areas."

In Des Moines, for example, there are 18 times as many parking spaces per acre as households — 1.6 million parking spaces and about 81,000 homes. In Philadelphia, there are 3.7 times more parking spaces than households. Of the five cities, only New York has more households than parking spaces, and New York still has 1.85 million parking spaces.

Much of the parking in the central districts of these cities — the places with the best access to jobs — consists of garages, the most expensive type of parking to build. In Seattle, one-third of the city's parking supply is in downtown garages.

Despite occupying such valuable land, many spaces in these garages sit empty. Scharnhorst reviewed prior research to gather data on parking occupancy in the five cities. In Seattle, the parking occupancy rate downtown is 64 percent.

In Des Moines at mid-day, one publicly-funded parking garage is just 8 percent full. Outside downtown Seattle, occupancy rates are as low as 43 percent. Only in New York City are some parking facilities close to fully utilized, and even there it's only the cheaper ones.

All this parking spreads destinations farther apart, making walking, biking, and transit less viable and further entrenching car dependence.

Parking is also extremely expensive to construct and maintain. If you built all the parking in these five jurisdictions today, Scharnhorst estimates it would cost \$81 billion.

It's a damning picture of America's huge misallocation of resources to car storage.

The lending industry has been a big part of the problem, [insisting on outdated parking formulas](#) as a condition for financing new construction. The fact that this report was commissioned by mortgage bankers indicates that the industry may be ready to change its standards.

Parking inventories like the one Scharnhorst compiled for his report can lead to better decisions about parking construction, replacing the current system where parking is mandated by zoning codes based on guesswork and pseudoscience, and where the assumption is that everyone must be able to drive and park at every potential destination on the busiest day of the year.

Scharnhorst concludes that jurisdictions should change course, and that in places with excessive parking developers should "allocate capital to non-parking uses" — a.k.a. housing, commercial buildings, and, in general, the sorts of things that make cities habitable for people instead of cars.

5. Some revealing facts and figures

1. Ninety-nine percent of U.S. car trips begin and end in a free parking space.
2. The average automobile is parked **95 percent** of the time.
3. Although many businesses today believe they benefit from free parking, curbside parking meters were introduced in 1935 by an Oklahoma City department store owner. He wanted to increase parking turnover so that there would always be spaces available for his customers.
4. Conventional parking policy counsels providing enough spots to handle car storage on the 30th busiest hour of the entire year, usually the weekend before Christmas. That means intentionally planning for an oversupply of parking the other 8,730 hours of the year.
5. At free parking spaces, 40 to 60 percent of vehicles overstay posted time limits.
6. Parking typically represents a full 10 to 30 percent of development costs.
7. What's more, the people who actually park only pay 5 percent of the cost of non-residential parking, meaning that public subsidies and developer capital pay for the rest.
8. In San Francisco, parking requirements have reduced the number of affordable housing units non-profit developers can build by 20 percent, with each residence costing 20 percent more to build than it would have without parking.
9. Seventy percent of Southern California suburban office developments built exactly the number of parking spaces required by law, suggesting that parking minimums are forcing developers to build more parking than they want to.
10. How much space does parking eat up? Office space typically requires 175 to 250 square feet per person. In comparison, curbside parking requires 200 square feet per vehicle, and garages require 300 to 350 square feet per vehicle.

Summary

Excessive parking requirements that are a result of outdated land use policies have long had huge attendant costs that are passed onto the end user, which many jurisdictions are discovering and mitigating.

The cost of applying the “same old” parking requirements, even with minor reduction in requirements as proposed by staff, would make the development prohibitive, as we have demonstrated in the chart in Section 2.

Parkside Place is a unique development that provides Seminole County with the opportunity to show tremendous leadership by working closely with us as the developer to “right-size” parking.

The benefits to the County are:

1. More affordable housing;
2. More green space for the community;
3. Increased jobs and a huge boost to the local economy;
4. Significantly increased tax revenues;
5. Less pollution;
6. Less road congestion;
7. Better site and building design;
8. the opportunity to study alternatives at Parkside Place and apply them elsewhere in Seminole County.

Our request is for staff and subsequently the Board of Commissioners to waive all parking minimums for this development, starting with a phased pilot, and then to continue with no minimums in future phases upon successful demonstration that lesser parking than the current County standards can work. We hope that given the benefits to the County, that the staff will work with us on our request, and that the Board will approve our request.

Sincerely,



Karim H. Ismail, MBA
co-CEO
Palmeira Holdings LLC

Appendix A: Letter from Mayor of Santa Monica

"Santa Monica has long strived to be one of the most walkable places in Southern California. Policies to make downtown a pedestrian-centric walking district have been in effect since the 1970s, when Santa Monica pioneered the "park once" strategy, with centralized public parking structures that made it easy for people to leave their cars behind while they walked to multiple activities.

Like most cities that were developed in the mid-part of the last century, however, an abundance of low-cost parking and limited public transit connections made the car king.

That's slowly changing. Santa Monica now has a diverse transportation system with 60,000 daily Expo Line riders, 10,000 daily downtown rides on Big Blue Bus and SoCal's first bike share system, Breeze.

It's time for the city to take things even further. Sixty-four percent of our carbon emissions come from transportation. We can't reduce our footprint and do our part to fight climate change without driving less.

So, over the summer, the City Council decided to eliminate minimum parking requirements on new development in downtown Santa Monica.

Here's why: Parking has a much broader impact on a city than you might expect. It's expensive to build, it incentivizes car travel over public and active transportation, and it's been built with abandon, especially in Southern California. Studies show drivers are more open to using public transit, walking or cycling when there's less access to cheap and easy parking.

For decades, before lifting this requirement, developers in downtown Santa Monica were required to provide, on average, one or more parking spaces for every unit of housing and approximately three parking spaces for every 1,000 square feet of space run by a new business.

But guess what? Downtown Santa Monica already has approximately 10,000 parking spaces. And much of it isn't used efficiently. By one estimate from a downtown local hotel manager, only 17% of its parking is used when the hotel reaches 85 percent occupancy.

Parking spaces that go unused aren't just futile and environmentally unfriendly — they're expensive and are worsening California's housing crisis. A single parking spot adds 12.5% to the price of an apartment.

By not requiring new parking, we can lower the overall cost to build new housing, remove barriers to opening businesses, spur the creative reuse of existing buildings and encourage drivers to more efficiently use the spaces that already exist.

Adding density without demanding an abundance of cheap and easy parking may sound revolutionary in car-centric California, yet there are districts throughout the state and around the country — including most major cities in Texas — that have done so in their downtown areas to allow for historic preservation and more flexible new development.

Naturally, this idea isn't without controversy. It's our attempt at a "grand bargain" — addressing the divide between slow-growth advocates and those who feel that transit-rich downtown Santa Monica is the best place to build taller and faster to address the region's housing shortage.

We have no illusions that Santa Monica will solve the regional housing crisis or eliminate all traffic congestion, but we are going to find out exactly how this kind of parking reform allows the market to innovate with housing design and adaptive reuse.

We hope the rest of L.A. County will take note of our experiment. We certainly aren't the only city to suffer from the burdens of excessive parking mandates.

Southern California's environment and our shared future depend on getting people out of cars and into alternative forms of transit. Urban areas need to make better use of existing parking spaces and focus economic investment on what we really need: housing.

We believe Santa Monica can accomplish these goals, accommodate the next generation of residents, encourage more sustainable lifestyles and still retain the character of the city we love. This is the challenge facing all cities. While there are growing pains associated with creating this future, we're compelled to do it. For Santa Monica to stay livable, we have to try.

Our priority is clear: downtown is for people first."

Ted Winterer is the mayor of Santa Monica

Appendix B: New analysis of 27 mixed-use areas finds that parking in U.S. metro areas is, on average, oversupplied by 65 percent.

When we say we can't find anywhere to park, what we usually mean is we can't find a free or insanely cheap parking spot within spitting distance of our destination. As a nation of parkers, we're all home run hitters who've forgotten what it's like to knock a single—or, as a closer metaphor, to draw a walk. The result is a misperception that parking is scarce despite the great deal of lots, street spaces, or garages that might exist a block or two away.

Some new research reminds us just how oversupplied parking really tends to be in American metro areas: in a word, enormously. Rachel Weinberger and Joshua Karlin-Resnick of Nelson\Nygaard Consulting Associates analyzed parking studies of 27 mixed-use districts across the United States and found "parking was universally oversupplied, in many cases quite significantly." On average across the cases, parking supply exceeded demand by 65 percent.

"You see a huge amount of land dedicated to parking," said Karlin-Resnick, who presented at the 94th annual meeting of the Transportation Research Board. "That land, particularly in downtowns, could really be dedicated to more active uses, economic generators, and by extension tax generators."

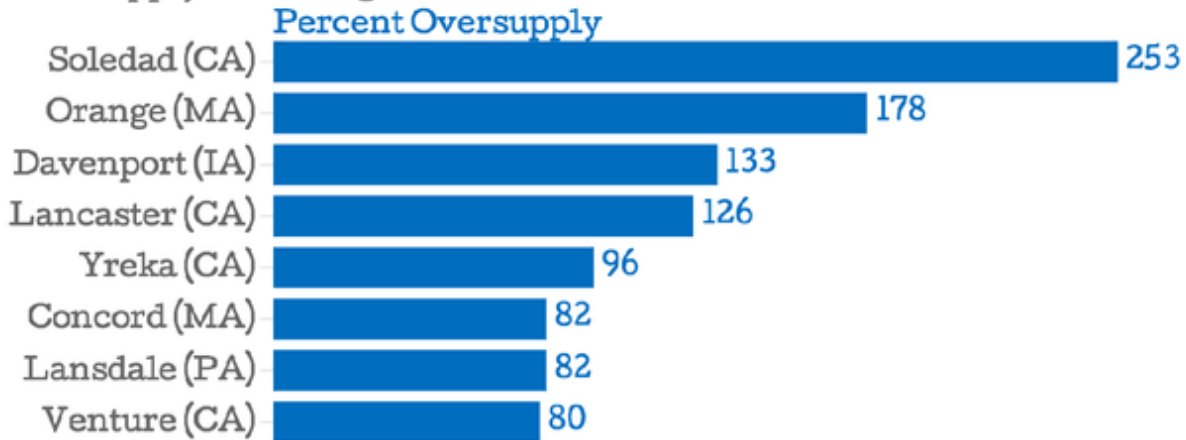
In nine mixed-use areas that had believed parking to be scarce, the oversupply ranged from 6 percent to 82 percent.

The researchers focused on districts with both residential and retail developments in a variety of settings—17 suburbs, 6 cities, and 4 towns—mostly in New England or California. (Interestingly, a third of the areas were documented as having the impression that local parking was scarce.) By looking at previous parking studies in these areas, as well as satellite imagery via Google Earth, they identified existing parking supplies and peak weekday and weekend demands.

Critically, the researchers also considered the accepted practice of supplying 15 percent more spaces than necessary—a sort of buffer zone that reduces the congestion caused by drivers circling for spaces.

In all 27 districts, spanning places with 420 spaces to those with 6,600 spaces, Weinberger and Karlin-Resnick found an oversupply of parking over and above the buffer zone. The oversupply ranged from 6 percent up to 253 percent across the study areas (below, the highest over-suppliers). And in the nine areas that had believed parking to be scarce, the oversupply ranged from 6 percent to 82 percent.

Oversupply of Parking in Select Mixed-Use U.S. Districts



SOURCE: Weinberger & Karlin-Resnick, "Parking in Mixed-Use Districts"

Surprisingly, Weinberger and Karlin-Resnick found no connection between parking oversupply and several local factors that might explain the trend, such as region, area type, commute mode, and parking cost. Instead they found oversupply to be the norm in West Coast areas designed with cars in mind as well as in East Coast districts designed around transit, and in suburbs with higher driving shares as well as in cities with lower ones. They also found that the oversupply trend held true in mixed-use districts with paid parking as well as in places where parking was free.

In other words, the tendency to supply too much parking seems to rest above the shifting winds of local behavior. Here's Weinberger and Karlin-Resnick in a write-up of the research:

Though it would be appealing to have a "scientific" or "engineering" basis for determining appropriate parking supply, the evidence here suggests that levels of parking provision are unmoored from demand, travel behavior, pricing or other dimensions where theory suggests there would be a relationship.

As for why parking supply tends to outpace demand so dramatically, several reasons might apply. Planners have been known to copy parking codes from other nearby cities rather than identifying specific local needs. And business owners retain the (often outdated) mindset that their sales depend on an abundance of adjacent parking. Mandatory parking minimums for developers no doubt play a role, too.

"The costs of oversupply really aren't felt."

Weinberger and Karlin-Resnick suspect another major factor is risk-aversion. Public officials (and, by extension, the planning staffs they assemble) might view any undersupply of parking as such a political risk that they compensate by providing way too much. And since the costs of providing parking are distributed widely among taxpayers or businesses or hidden in the decision not to build a mixed-use development at all, officials are inoculated from the consequences.

"The costs of oversupply really aren't felt," said Karlin-Resnick. "That's perhaps what drives the picture we're seeing in a lot of these places."

And of course, the flawed belief, felt most acutely as we circle for a homerun spot, that oversupply doesn't really exist.

Scale up this logic, and it's reasonable to think that parking on a much larger scale induces more driving across cities. But this is an incredibly hard thing to prove: When cities pave more parking lots, does it *make* people drive more? When you're sitting in traffic hemmed in by other cars, is easy parking in part to blame?

There's a lot of evidence that the two go hand in hand. Past studies have found that parking availability at home is strongly associated with car ownership and use. And more parking at the office is correlated with more employees driving to work alone. Commuters who work in Manhattan, for instance, are also more likely to drive in when they have parking to return to at night.

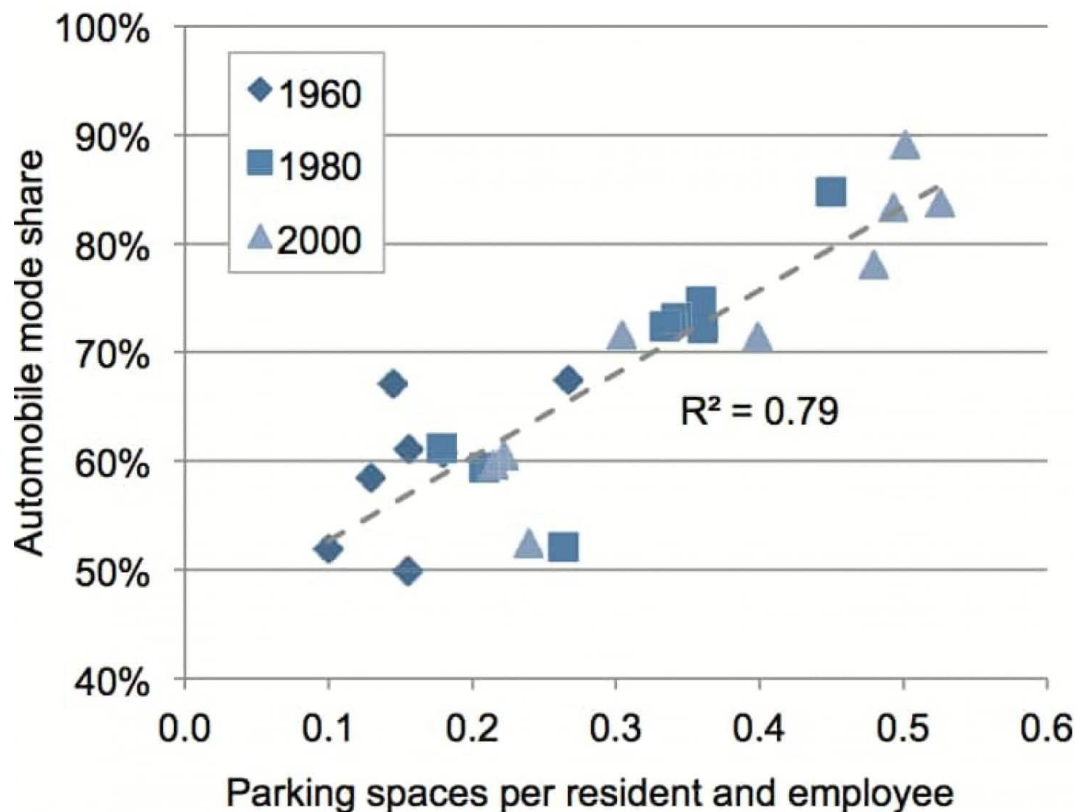
It's a provocative argument, though, that parking *causes* driving, and if this were true, a lot of city policies would look sort of backwards. When cities think they're merely accommodating all the driving we do — by, for starters, requiring apartments and businesses to build parking lots — they're encouraging that driving in the first place.

"Is there a reason parking could affect driving?" asks Chris McCahill, a senior associate at the State Smart Transportation Initiative in Madison, Wis. He was presenting new research on the question this week at the Transportation Research Board annual meeting in Washington. "On a city-wide scale it does make sense that the overall cost and convenience of parking in that place affects driving habits, as anyone who's lived in a parking-restricted place knows."

Now, McCahill and three researchers at the University of Connecticut, Norman Garrick, Carol Atkinson-Palombo and Adam Polinski, think they've found solid evidence that parking is a "likely cause" of increased driving. Their case is the strongest yet.

It's based on historic data in nine mid-sized American cities going back to 1960, including parking counts painstakingly tallied in each city [using archival aerial photos](#). The cities, roughly equal in size but with varying auto use, include Albany, N.Y.; Berkeley, Calif.; Cambridge, Ma.; Hartford, Conn.; and Silver Spring.

The researchers found, to begin with, that as these cities added more parking over the years, the share of commuters who drove to work increased. In this chart, as a city goes from having about 20 parking spaces to 50 spaces per 100 people, the share of commuters driving rises from 60 percent to 83 percent:



"Events of Parking Provision on Automobile Use in Cities: Inferring Causality" by McCahill et al

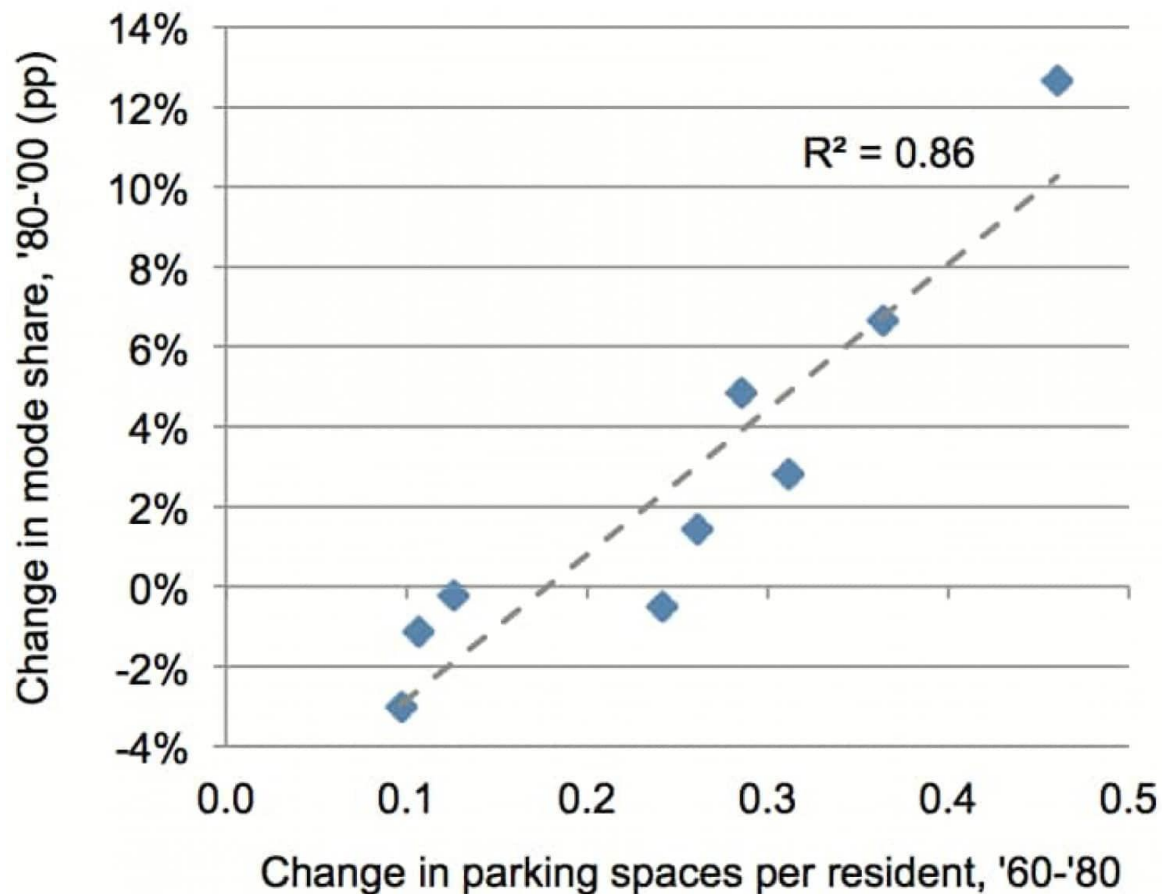
Now that's just a correlation. To go a step further, the researchers borrow from a criteria in epidemiology used to establish more causal links between, say, smoking and cancer. Parking is not that theoretically different. Does a change in the environment (more parking supply) influence the frequency of an undesirable event (more driving)? As the "dose" of parking goes up, does the likelihood of driving, too?

Epidemiologists would note that the relationship between these two factors is strong (as the above chart demonstrates) and consistent (it recurs in a lot of different cities and at different moments in time). Parking also emerges as a potential *cause* when there are no other clear explanations for an increase in driving.

In [one study](#) led by the University of Pennsylvania's Rachel Weinberger that the authors cite, commuters in the Jackson Heights neighborhood of Queens were more likely to drive to work in the central business district than commuters in Brooklyn's Park Slope. Income levels, car ownership rates, commuting times and transit access would suggest the opposite. But there was another key difference between these two neighborhoods: Commuters in Jackson Heights had a lot more off-street parking to return to when they got home at night.

Epidemiologists would also ask about the sequence of events. A treatment (smoking) must come before an outcome (cancer) and not the other way around. And so, we'd expect that more parking would predict more driving, to a stronger degree than driving predicts parking. The researchers find

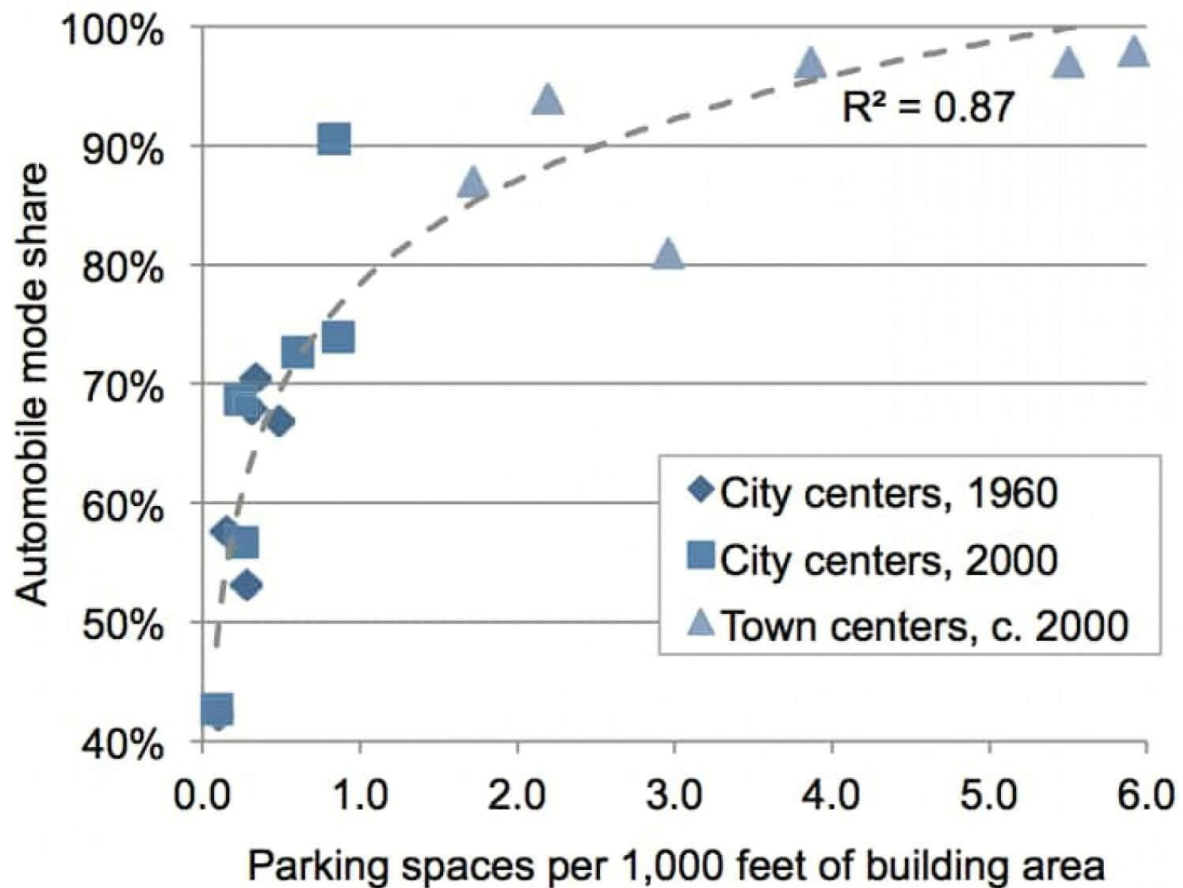
that here as well: Cities where parking increased a lot between 1960 and 1980 saw much larger increases in driving in the following two decades:



McCahill et al

Another principle from epidemiology suggests that there should be a clear dose-response curve here — that as the dose of parking goes up, the rate of driving really takes off (we'd expect, for instance, that people who smoke only once or twice would be much less likely to get lung cancer than people who smoke constantly).

This chart shows that as parking in these cities approaches five or six spots per 1,000 square feet of building area, nearly everyone drives:



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These are all patterns consistent with a causal relationship. They don't prove one, but the researchers conclude they amount to "compelling evidence" that more parking is a cause of car use. Not the *only* cause, but a cause. Which, McCahill argues, should be enough to warrant cities reconsidering how they manage this stuff.