

Appendix 18

Parking Requirements Reform White Paper



KIMLEY-HORN

November 2018



PARKING

Requirements Reform

A White Paper



Kimley»Horn

Expect More. Experience Better.



Table of Contents

Introduction.....4

Parking Requirements Reform – The Scholarly Debate .4

Parking and Transit Oriented Developments5

A Growing Interest in Parking Requirement Reform11

The Case For and Case against Reforming Parking Requirements.....13

Best Practices Review36

Peer City Reviews49

References56

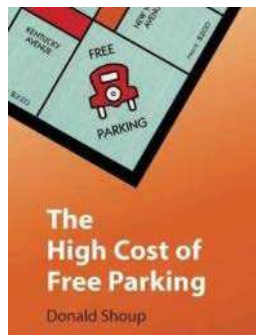


Introduction

This whitepaper is an excerpt from a review of parking requirements commissioned by the City of Fort Collins as they addressed issues arising from the implementation of a new Bus Rapid Transit (BRT) system. The area in which the BRT would operate was rezoned to create a new Transit Oriented Development (TOD) Overlay Zone. Initially, all minimum parking requirements within the TOD Overlay Zone were eliminated and were replaced by parking maximums. This very progressive policy decision was challenged and revisited once several new student oriented housing developments were constructed with less than anticipated parking in relation the number of bedrooms provided and City Council received complaints from local neighborhood groups fearing parking overflow into their neighborhoods.

This review brought into focus a larger national debate regarding the use of minimum parking requirements. This national discussion is summarized in this paper.

Parking Requirements Reform – The Scholarly Debate



There is in fact a serious and significant national discussion occurring related to benefits and problems associated with the ubiquitous use of minimum parking requirements across the US and the world. Professor Donald Shoup, author of the “High Cost of Free

Parking” and a Distinguished Professor of Urban Planning at UCLA, has been led the charge in this area; promoting how better parking policies can improve cities, the economy, and the environment. Shoup recommends that cities should charge fair market prices for on-street parking, use the meter revenue to finance added public services in the metered neighborhoods, and remove off-street parking requirements.



Recently several other noted academicians and planners have weighed in on the discussion of the importance of parking in general, expanding the research related to minimum parking requirements and proposing new options for how Cities should approach these issues. We will focus on three publications in particular. The first is a book entitled “Parking Management” published by Mr. Todd Litman, founder of the Victoria Transport Policy Institute. The second is a recently published book by Richard Willson entitled: “Parking Reform Made Easy”. The third is a book by Eran Ben-Joseph entitled: “Re-Thinking A Lot – The Design and Culture of Parking”.

However, before we launch into that discussion, there is another key issue worthy of exploration – the surprising importance of parking to Transit Oriented Developments.

Parking and Transit Oriented Developments

The following is an excerpt from an article by Mark Gander, Principal Planner; Director of Urban Mobility and Development at AECOM and a member of the Board of Directors for the Green Parking Council.

“There are approximately 250 million registered vehicles (2010) in the United States. When these vehicles are not in use, which accounts for more than 90 percent of their time, they must be parked. Because of this, off-street parking space availability is ubiquitous; its footprint is vast in scale. As MIT Professor of Landscape Architecture and Planning Eran Ben-Joseph recently noted, in some U.S. cities, parking lots cover more than a third of the land area, becoming the single most salient landscape feature of our built environment. This ubiquity is further compounded because cities require parking everywhere, yet ironically its absence is noticed most.”



“The ubiquity of parking is not accidental: Parking matters. It plays an important role in the success of cities, communities and places as well as in the development of mixed-use projects and sustainable transportation. Parking supply and pricing often have a direct impact on the ability to create compact, healthy communities. Too much parking at residential properties correlates with more automobile ownership, more vehicle miles traveled, more congestion, more carbon emissions, and higher housing costs. It also results in lost development opportunity because excess parking area could have been used instead for residential or commercial development or public realm uses such as parks and plazas.”

Parking also has both direct and indirect environmental consequences. Direct environmental impacts include excessive land consumption, increased storm water flows, degraded water quality, and exacerbated heat island effects. Additionally, parking structures themselves use substantial amounts of natural resources and energy to construct and require on-going maintenance to operate. In many cases parking structures are seen as unsightly when they are not internalized in mixed-use buildings or wrapped by liner buildings. Parking also indirectly affects the environment because it influences how and where people choose to travel. Where free and ample parking is provided, people make the rational choice to drive almost everywhere — and these areas register more vehicle miles of travel per capita with resulting increases in greenhouse gases and other pollutants.

Striking a balance between parking supply and development is a crucial challenge in developing the character of transit-oriented development (TOD). Residents in TOD projects are twice as likely not to own a car as other US households. They're also two to five times more likely to commute by transit than others in the region. On the other hand, residents will need access to cars even if not on a daily basis and commercial establishments require some amount of parking to service their non-walking clientele. In many cases, developers will be unable to secure financing unless parking is provided.



Unfortunately, many communities have simply applied conventional parking ratios to TOD projects. Because such standards have a suburban bias and are based largely on low-density single land uses they limit the expected community benefits of TOD, and possibly, lead to project failure.

- ▲ Transit Oriented Development includes four foundational elements:
- ▲ Development around transit that is dense and compact, at least relative to its surroundings;
- ▲ A rich mix of land uses—housing, work, and other destinations, creating a lively place and balancing peak transit flows;
- ▲ A great public realm—sidewalks, plazas, bike paths, a street grid that fits, and buildings that address the street at ground level; and
- ▲ A new deal on parking—less of it; shared wherever possible; energy efficient and designed properly.

Right sizing parking for TOD necessitates a multipronged approach to understanding the existing and projected parking utilization and available supply in and around a TOD project area as well as the projected demand for new parking once the project is completed. Conducting a diagnostic parking study that is comprehensive and aligned with mobility choices is essential to this effort. Once the facts about demand, price, utilization, built form/development pattern, and household characteristics are understood, then appropriate strategies can be employed.



Key elements include understanding differences among markets, unbundling or separating the full cost of parking from the associated use, and reducing (or eliminating) minimum parking requirements for certain land uses or certain areas. Understanding the parking uses by market and type then make it possible to look for opportunities for implementation of a wide range of measures from new technology (e.g. smart parking), to specific policies and physical design modification to consolidate and locate parking more efficiently.

To ensure that parking meets the needs of a TOD project, while not impacting TOD's benefits, there are a number of strategies that municipalities can employ working in conjunction with developers to provide the appropriate amount of parking. These strategies can be grouped into several categories, including reduction; demand; design; and pricing. Each of these categories is discussed briefly.





Reduction

Given the research, along with the information developed by a parking supply and demand study, municipalities should make every effort to reduce the parking requirements for TOD projects. Eliminating parking minimums and instead employing parking maximums for TOD projects will help decrease parking oversupply. Similarly, requiring shared parking where multiple developers combine parking needs into one shared parking lot or structure may also help eliminate an oversupply of parking.

Demand

Reducing the need for car travel is critical to decreasing parking demand. Municipalities or developers should consider establishing car sharing programs where multiple users have access to a fleet of cars when they need them. Similarly, municipalities and transit agencies could increase incentives for using public transportation, including providing subsidized transit passes, establishing residential parking programs for adjacent neighborhoods backed by parking enforcement, and constructing bicycle parking facilities.

Design

Designing for pedestrians is an important element to right-sizing parking. This requires reducing or eliminating design elements that hamper pedestrian use such as the number and size of curb cuts. It also requires adding elements that provide for greater pedestrian safety and aesthetic appeal. These elements might include constructing pedestrian walkways separated from parking and roads, wrapping parking behind existing buildings, designing the first level of parking structures to include other uses such as stores and restaurants, and adding public amenities like art space or public plazas which incorporate green infrastructure.



Pricing

Pricing is another strategy that can be used to influence how and where parking is used and located within a transit station area. On-street parking can be priced to encourage availability of on-street spots for preferred populations such as short term customers. In this case, the cost of parking for 15 or 30 minutes near shops located in the transit station area might be minimal while parking prices for more than 30 minutes is set quite high. Another strategy is to price parking to reflect parking desirability, i.e. spaces closest to activity hubs and on-street are priced higher than spaces at the downtown fringe and parking garages.

While increasing transit ridership, walking and biking are essential to establishing sustainable and livable communities, the car will continue as the principle mobility choice for years to come. Given this circumstance, municipalities and developers will have to provide parking for TOD projects and the surrounding area, but should do so in a way that is appropriately sized and located.

A Growing Interest in Parking Requirement Reform

In the graphic below, architect and designer Seth Goodman shows how parking and living spaces compare in major cities across the U.S. A more localized version of this research concentrated on the Northwest US is also available as is research on other land uses compared to parking spaces.



The research that focused on the northwest US challenges the common assumption that smaller cities behave more like suburbs in terms of parking requirements. It's actually a mixed bag. Spokane, Washington and Eugene, Oregon all mimic the requirements of larger cities. Fort Collins is another good example of this. We should not take for granted that a relatively small population (around 200,000 in the city proper) automatically translates to higher parking requirements. These examples demonstrate that cities don't need Manhattan-like conditions to ease up on parking minimums.



In Auckland, New Zealand, their City Council is debating whether to include traditional parking minimum requirements as an element of their Unitary Plan (comparable to City Comprehensive Plans in the US). The ad to the right illustrates how some advocacy groups are trying to influence the debate.

In the following pages we examine the origins of parking requirements, the impediments to change, and how these policies can be reformed.

THE BIN PARKING MINS!

HOW **ONE SILLY LITTLE RULE** IS RUINING AUCKLAND.

WHY IS IT A "BAD" RULE?

- 1. RIDICULOUS COST**
(Underground parking adds avg \$30,000 per park)
- 2. POOR USE OF URBAN SPACE**
(1/3 of new developments devoted to car parks)
- 3. REDUCES TRANSPORT CHOICE**
(Creates expectation you should always own a car)

—THE BAD RULE—
"for every residential unit there shall be at least two off-street parking spaces provided"



COUNCIL IS DECIDING ON INCLUDING THIS RULE IN THE UNITARY PLAN.
They probably don't think anyone cares about it. We sure do.

**THIS
WEEK**

#BIN THE PARKING MINS

Let them know...

generation
zero



The Case For and Case against Reforming Parking Requirements

Background on Traditional Minimum Parking Requirements

According to research published by professors Donald Shoup, Richard Willson and others, in many instances, efforts to accommodate parking have overextended actual need. The approach used by many cities to establish minimum parking requirements (typically a generic formula based on satisfying the maximum demand for free parking). Although this practice allows city planners to err on the side of caution, it has some serious drawbacks. In practical terms, this practice increases the cost of development and creates disincentives with respect to smart growth development and redevelopment. In addition, generic parking requirements create excess parking spaces that consume land and resources, encourage automobile use and associated pollution, and degrade water quality. The oversupply of parking is of particular concern for smart growth development in urban areas where the existing parking infrastructure can be better utilized and parking alternatives, such as shared parking and increased use of transit and pedestrian modes, can be more readily implemented.

With the shifting trend toward urban revitalization over the past decade, the timing is opportune for instituting changes in parking requirements and transportation behavior. An important way to reduce the demand for parking and the need to supply parking to meet maximum demand is to provide transportation choices. This can be achieved by reducing the supply of parking in areas where transportation choices exist and by providing incentives for making other choices. Such changes will encourage infill redevelopment and reduce vehicle miles traveled, mobile source emissions and congestion. They will also increase ridership for public transit and, in turn, provide the additional revenues needed to support public transit improvements.



There are, of course, potential drawbacks to reducing the supply of parking. Lenders, for example, may be unwilling to approve loans because plans do not meet their minimum parking requirements; developers may be concerned about the long-term marketability of their property; and residents may fear that parking will spill over into surrounding residential neighborhoods. Such concerns can be more readily addressed if:

- ▲ The factors that affect parking demand are understood;
- ▲ Walkable, pedestrian-oriented development design is implemented; and
- ▲ Viable transportation choices exist.

Concerns are also alleviated when developers, employers, and employees are aware of programs that balance the attractiveness of other transportation choices. The Transportation Equity Act for the 21st Century (TEA-21), for example, allows businesses to give their employees up to \$100 per month in tax free transit subsidies. TEA-21 also allows employees who commute by public transit or vanpool to deduct the cost of commuting from their taxable income if they do not receive a subsidy.

Establishing Parking Requirements



On the Victoria Transport Policy Institute (VTPI) website and in his book on Parking Management, noted planner and transportation consultant Todd Litman does a good job of laying out the traditional approach to establishing parking requirements and makes a strong case for the use of more flexible and localized criteria in creating zoning codes especially as it relates to parking requirements.



In setting parking requirements, planners typically use generic standards that apply to general land use categories (e.g., residential, office, retail). Such standards have been developed and published by professional organizations, including the Institute of Transportation Engineers (ITE), based on experience in many locations. Much of the data on which these standards are based comes from low-density, single-use developments with limited transportation choices. Therefore, the generic parking rates cannot take into account the mix of context-sensitive, community specific variables - density, demographics, availability of transportation choices, or the surrounding land-use mix - all of which influence the demand for parking and should be reflected in parking requirements. Instead, requirements are based on the maximum demand for parking, when parking is provided at no charge to users, and walking, biking, and transit are not available choices. This formula yields a surplus of parking that is costly for developers to provide, and it subsidizes personal automobile use and encourages auto use even in areas where convenient transportation choices exist. Because of the way in which they are typically established, parking requirements are remarkably consistent across different cities, despite varying levels of economic vitality, population size, and development density.

Alternatively, parking requirements can be established using methods that are better tailored to specific development projects. This approach entails careful consideration of the following land use characteristics that relate to parking demand:

- ▲ Development type and size.
 - ▲ Takes into account the specific characteristics of the project.
 - ▲ Parking demand is influenced by the size of the development (typically measured by total building square footage), as well as the type of land use (e.g., retail, industrial). Generic parking formulas address these factors to some extent.



- ▲ Population and development density.
 - ▲ Considers the density and demographic characteristics of the people using the building, including employees, customers, residents, and visitors. Information on income, car ownership, and age distribution also helps in projecting total parking demand.
- ▲ Availability of transportation choices.
 - ▲ Takes into account the modes of transportation available to employees, visitors, and residents. Proximity of public transportation to a particular development, for example, will reduce parking demand.
 - ▲ Walkable neighborhoods and bicycle amenities will also reduce parking demand.
- ▲ Surrounding land use mix.
 - ▲ Considers the surrounding land uses and density to better understand parking needs, and evaluates whether overall peak demand is lower than the sum of peak demands for different uses. This concept takes the timing of parking demand into account in determining the aggregate demand of multiple uses.
 - ▲ The type of community in which a development is located will also affect parking demand. For example, if a project is located in a city's central business district, the availability of general use parking will reduce onsite parking demand. On the other hand, if the development is located in a residential area, on-street parking may be unacceptable to local residents, increasing the need for off-street parking at the development.

Land use and demographic information are important tools for establishing project-specific parking requirements that create a better match of supply and demand for parking than do many generic requirements.



Moreover, adjusting parking requirements downward to reflect realistic demand helps reduce the total cost of development, particularly in urban areas. By reducing cost, a potential deterrent to smart growth development and redevelopment can be removed.

The following table from the VTPI website summarizes a wide range of parking management strategies and indicates typical reductions in the amount of parking required at a destination, and whether a strategy helps reduce vehicular traffic, therefore providing congestion, accident and pollution reduction benefits.



Strategy	Description	Typical Reduction	Traffic Reduction
Shared Parking	Parking spaces serve multiple users and destinations.	10-30%	
Parking Regulations	Regulations favor higher-value uses such as service vehicles, deliveries, customers, quick errands, and people with special needs.	10-30%	
More Accurate and Flexible Standards	Adjust parking standards to more accurately reflect demand in a particular situation.	10-30%	
Parking Maximums	Establish maximum parking standards.	10-30%	
Remote Parking	Provide off-site or urban fringe parking facilities.	10-30%	
Smart Growth	Encourage more compact, mixed, multi-modal development to allow more parking sharing and use of alternative modes.	10-30%	X
Walking and Cycling Improvements	Improve walking and cycling conditions to expand the range of destinations serviced by a parking facility.	5-15%	X
Increase Capacity of Existing Facilities	Increase parking supply by using otherwise wasted space, smaller stalls, car stackers and valet parking.	5-15%	X
Mobility Management	Encourage more efficient travel patterns, including changes in mode, timing, destination and vehicle trip frequency.	10-30%	X
Parking Pricing	Charge motorists directly and efficiently for using parking facilities.	10-30%	X
Improve Pricing Methods	Use better charging techniques to make pricing more convenient and cost effective.	Varies	X
Financial Incentives	Provide financial incentives to shift mode, such as cash out.	10-30%	X
Unbundle Parking	Rent or sell parking facilities separately from building space.	10-30%	X
Parking Tax Reform	Change tax policies to support parking management objectives.	5-15%	X
Bicycle Facilities	Provide bicycle storage and changing facilities.	5-15%	X
Improve User Information and Marketing	Provide convenient and accurate information on parking availability and price, using maps, signs, brochures and electronic communication.	5-15%	X
Improve Enforcement	Insure that parking regulation enforcement is efficient, considerate and fair.	Varies	
Transportation Management Associations	Establish member-controlled organizations that provide transport and parking management services in a particular area.	Varies	X
Overflow Parking Plans	Establish plans to manage occasional peak parking demands.	Varies	
Address Spillover Problems	Use management, enforcement and pricing to address spillover problems.	Varies	
Parking Facility Design and Operation	Improve parking facility design and operations to help solve problems and support parking management.	Varies	



Environmental Impacts of Parking

The significant environmental costs associated with parking are not typically factored into development decisions, and only recently have begun to be considered in setting parking requirements. Construction of unnecessary impervious surfaces increases the impacts of storm water runoff, either on the storm sewer system or the surrounding land. Paved surfaces can also result in water pollution and flooding, resulting in a decline in adjacent property values. Heat islands, or areas of artificially raised temperatures, also are exacerbated by unnecessary pavement.

Consuming land for parking also reduces the land available for green space or other, more productive development. Land preserved as part of the green infrastructure allows storm water to percolate into the soil, provides wildlife habitat, provides air quality and noise reduction benefits, and is aesthetically desirable. Land developed for living, working, and shopping rather than just parking provides more intensive use. This lowers the demand to develop other land nearby or elsewhere in the region. Intensifying uses also creates a more supportive environment for transit and walking, and potentially for bicycling as well.

Providing more parking than demanded, and at artificially low prices, contributes to several harmful environmental impacts. First, this subsidy of automobile use leads directly to excess driving. This results in increased auto dependency and air pollution, accidents, and congestion. Second, it indirectly degrades the attractiveness of walking and biking, by increasing distances between activities and creating uninteresting routes.

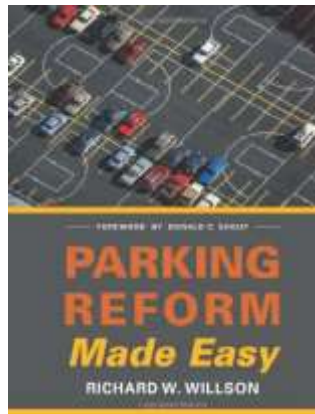
Third, it indirectly undermines the potential for transit service by decreasing the density potential of development projects.



All of these environmental costs tend to be greater for parking built in green field areas where there is more inexpensive but ecologically-sensitive open space available and where development densities are lower thus requiring more and longer automobile trips. Because these environmental costs are not realized by developers, they do not influence development decisions which are driven primarily by the direct financial costs that are typically lower in green field areas.

Parking Requirement Reform

The following is an excerpt from the book “Parking Reform Made Easy” by Richard Wilson. Richard W. Willson, Ph.D., FAICP, is Professor and Chair in the Department of Urban and Regional Planning at California State Polytechnic University, Pomona.



Parking requirements in zoning ordinances create one of the most wasteful elements of transportation and land use systems: unoccupied parking spaces. Each space requires over 300 square feet of valuable land or building area, yet many sit empty. Minimum parking requirements at shopping malls, for example, often lead to sprawling developments surrounded by large, underused parking lots. Spaces for workplaces may be well-used during the day but remain unoccupied in the evening because they are not shared with other land uses.



Sometimes, the parking required is greater than the amount of parking ever used. Parking is overbuilt and underutilized for two reasons: 1) zoning requires an excessive parking supply, and 2) it prevents efficient sharing of parking among different land uses. Both reasons reflect a legacy of single-use zoning and an automobile-first approach to planning. Minimum parking requirements prevent private developers from responding to market conditions, and lessen developers' interest in sharing parking or developing sites that are accessible without driving. Planners sometimes claim that developers would build the same amount of parking regardless of regulations, but if that's true, then why impose minimum parking requirements in the first place?

Parking requirements should be framed as a means of providing access, not an end. Parking requirements are only one of several ways to ensure storage for private automobiles. Private auto transportation, in turn, is only one of several ways to provide access. To carry out parking reform, we must counteract the decades-old practice of thinking about access in terms of roadways and parking.

Why Parking Requirements?

Early zoning ordinances did not have parking requirements. Zoning sought to manage the external impacts of properties, such as when a new building represented a fire hazard to the structure next door.

In the mid-20th century, parking requirements were added to address surface street congestion caused by patrons driving in search of parking. Planners didn't foresee that minimum parking requirements would favor private vehicle travel, lower overall density, and increase traffic.



In surveys conducted in 1995 and again in 2013, local planners in southern California were asked about parking requirements and found a repetitious justification for minimum parking requirements: planners wished to “ensure an adequate number of parking spaces.” This response reflects a lack of critical thinking about fundamental public objectives, such as accessibility, economic development, and sustainability. The response also reflects an outdated vision of separated land uses, unrestricted auto-mobility, and plentiful free parking. Thus, many parking requirements are relics that undermine current land use and transportation goals.

The following tables from Richard Willson’s book summarize the cases both for and against minimum parking requirements.

The Case *FOR* Parking Minimum Requirements

- ▲ Reduce street congestion around the development site
- ▲ Avoid parking spillover
- ▲ Create orderly development patterns
- ▲ Anticipate possible intensification or changes in the use of a development
- ▲ Create a level playing field among developers
- ▲ Encourage growth of core areas by increasing parking supply in those areas
- ▲ Reduce parking management by making the adjudication of conflicts between property owners unnecessary
- ▲ Reduce the demand for public provision of parking



The Case *AGAINST* Parking Minimum Requirements

- ▲ Encourages private vehicle usage and lengthens trips
- ▲ Adversely impacts transit and alternative modes
- ▲ Reduces development density
- ▲ Creates inhospitable project design
- ▲ Thwarts development and economic activity (little or no direct revenue)
- ▲ Makes construction of affordable housing more challenging
- ▲ Hampers investment in infill development and adaptive reuse in core areas
- ▲ Directly and indirectly harms the environment
- ▲ Lowers physical activity with consequences for public health
- ▲ Imprecisely represents actual parking utilization levels (parking utilization ratios typically are not based on local empirical evidence)

Why Change Is Difficult

Some regional and state policymakers recognize that existing parking requirements are excessive, but most have neglected the issue because parking is a responsibility of local governments. Yet parking requirements are crucial to accomplishing federal, state, and regional objectives in transportation, land use, and the environment. There are recent indications that if local governments do not carry out reforms, states may do it for them. In 2012, a proposal in the California legislature (AB 904) sought to override local parking requirements in transit-rich areas. Legislators subsequently tabled the proposal, however, showing the power of local governments to resist state interference in parking policies.



Many local planners know the parking requirement status quo is wrong. They have observed wasted land, turned away restaurant proposals in historic districts, and seen affordable housing not pencil out. Despite these undesirable outcomes, planners have not made changes. Why? Some may feel powerless to change ossified regulations, sensing weak political support and lacking technical expertise to justify changes. Others may want the negotiating leverage that excessive parking requirements provide to extract public benefits from developers. Furthermore, planners know that parking is a key point in NIMBY (not-in-my-back-yard) resistance to development, so avoiding parking controversy can help ensure economic development. In effect, cities are addicted to parking requirements. The addiction is analogous to smoking, where immediate gratification overwhelms future costs.

Change means freeing ourselves of parking dogma, habits, and golden rules. The old reality dictated fixed parking requirement ratios and exhibited an unwillingness to deviate from standard practice, even when it made sense to do so. This approach emphasized precision and uniformity. It undervalues important considerations of local variability, policy relationships, environmental capacity, and human behavior. All the land-use plans, design reviews, and streetscape renderings in the world will not produce desired outcomes if we do not reform parking requirements.



It is important to note that this reticence to address the negative impacts of minimum parking requirements has not been the issue in the City of Fort Collins, which is known for its progressive planning and sustainability policies. However, the fact that this study was commissioned is a testament to the complexity and sensitivities that these complex and interrelated policy issues generate. In particular, a key issue in this study has to do with timing. With the investment in the Mason Corridor transit planning and the new MAX Bus Rapid Transit line, a Transit Overlay District was created in the City. Zoning codes (including parking requirements) were adjusted to reflect the different transportation dynamics of the corridor as well as a vision for increased development density and enhanced transit neighborhood urban design characteristics. However, these zoning changes preceded the actual implementation of the MAX BRT. As a result, new development projects have proceeded under the revised zoning conditions of the TOD Overlay Zoning district without the benefit of having the transit component in place.

The development of the Summit project in particular (a fairly large student housing development near the CSU campus), which planned to provide 676 bedrooms with only 217 parking spaces (471 spaces would have been required in the development had been outside the TOD Overlay Zone – a difference of -254 spaces or -54% of the standard parking requirement) caused a rethinking of the policy to not to require minimum parking requirements for multi-family development within the TOD Overlay Zone and a temporary reinstatement of minimum parking requirements, on an adjusted basis, while the policy could be further examined. This policy adjust will sunset in September 2014 when recommendations from this study will be used to reassess both TOD zoning policies and parking policies on a more comprehensive basis.



Why Not Eliminate Parking Requirements?

According to national experts, deregulating off-street parking allows markets to determine parking supply levels and provokes a fresh debate about justifications for public regulations and subsidies for all transportation modes. Currently, minimum requirements compel the provision of access for driving and parking, whereas zoning codes seldom impose equivalent requirements for bus, bicycle, or pedestrian facilities. When they do, those requirements have been added more recently and are at a lower investment level.

Under minimum requirements, even those who do not drive share in paying the cost of parking. Parking costs are embedded in higher retail prices, lower workplace salaries, higher rents, and the like. In these ways, most minimum requirements tend to prioritize private vehicles. Eliminating minimum requirements would begin to level the playing field for all travel modes.

Cities such as Philadelphia, Portland, and Seattle have recently reformed their parking requirements and adopted limited deregulation. Deregulation shifts the approach from automatically requiring parking to not supplying it until it is economically justified. It is a big change from standard practice and should be coupled with programs for shared parking and advanced parking management. Still, the idea of eliminating minimum parking requirements hasn't gained traction in many places. Local officials are often buffeted by demands from residents, storeowners, and employees for more parking, not less.

City staff researched TOD parking requirements in several other communities including the following:

- ▲ Denver Zoning Code: Maximum number of spaces shall not exceed 110% of the minimum parking spaces required by context-specific ratios (Denver's method of calculating parking requirements everywhere). Parking in structures doesn't count toward the maximums.



- ▲ Aurora TOD Zoning Sub-District: Minimum 0.5 – 1.0 space per multi-family dwelling unit depending on proximity to a transit station compared to 1.0 – 2.5 spaces per unit depending on number of bedrooms outside TOD.
- ▲ Lakewood Transit Mixed Use Zone District: Minimum 1 space per unit, maximum 2 spaces per unit. Parking in structures doesn't count toward the maximums. The parking requirements may be met on-site or off-site at a distance of up to 600 feet from the use.
- ▲ Eugene, Oregon: Establishes parking exempt areas not subject to minimums including Downtown and a couple other areas.
- ▲ Metro Portland recommends three actions when the parking ratio is below 1.0 space/unit:
 - ▲ Charge for all covered parking
 - ▲ Add car-share in the area
 - ▲ Provide first rate bicycle facilities (lockers, wash areas, secured bike parking, etc.)

Examples of progressive parking requirements from additional communities are reviewed later in this report (See Peer Cities section).



Developers Responses to Different Approaches to Parking Requirements

Approaches to parking reform vary from community to community. Accordingly, the table below shows the range of reform options, including the traditional approach in which the minimum requirements exceed expected use. At the other end of the spectrum is deregulation, with no minimum or maximum parking requirements. In many cities and towns, the best approach is somewhere in between, with deregulation in central business districts and transit-oriented developments, and reduced minimum requirements in other areas.

Approach	Minimum Requirement	Maximum Requirement	Developer Response
Traditional	>Utilization	None	Rarely builds more than the requirement
Moderate Reform	=Utilization	None	Assesses market for project, may exceed the minimum
Big City Approach	<Utilization	A fixed ration or percentage minimum	Makes market decision whether to supply the minimum or build to the maximum
Partial Deregulation	None	A fixed ratio	Makes market decision whether to supply any parking or build to the maximum
Deregulation	None	None	Makes the market decision whether/how much to build



In Praise of Incrementalism

According to Richard Willson, in the past decade, many cities initiated comprehensive zoning code reform, and others are planning such efforts. Comprehensive reform efforts allow planners to rethink parking requirements while they consider the basic organization and functioning of the zoning code. These efforts also allow planners to bypass the complexity of older codes that have undergone countless revisions. Ideally, planners will amass enough political clout and financial resources before undertaking the daunting task of comprehensive zoning code revision.

There are many situations, however, where financial resources and political capital are not sufficient for comprehensive parking reform. In these cases, an incremental approach can produce good results. It makes sense to start where there is support, either from elected officials or from community or district stakeholders. Code reformers can work with these stakeholders and produce parking requirement reforms, parking overlay zones, or partial deregulation without creating opposition that might emerge in a citywide effort.

These early successes often build support for larger, more comprehensive efforts. Rather than viewing pilot projects or experiments as somehow inferior to comprehensive parking reform, we should see them as effective ways of producing valuable information, testing innovative ideas, and ultimately generating change.



Rethinking Parking – Another Perspective on the Potential of Parking Lots



In his 2012 book entitled “Rethinking a Lot: The Design and Culture of Parking”, Eran Ben-Joseph, professor of landscape architecture and urban planning at the Massachusetts Institute of Technology, argues that parking lots are so prevalent in our daily life that we should take them more seriously.

There are an estimated 600,000,000 passenger cars in the world, and that number is increasing every day. So too is Earth’s supply of parking spaces. In some cities, parking lots cover more than one-third of the metropolitan footprint. It’s official: we have paved paradise and put up a parking lot. In *ReThinking a Lot*, Eran Ben-Joseph shares a different vision for parking’s future. Parking lots, he writes, are ripe for transformation. After all, as he points out, their design and function has not been rethought since the 1950s. With this book, Ben-Joseph pushes the parking lot into the twenty-first century.



Can't parking lots be aesthetically pleasing, environmentally and architecturally responsible? Used for something other than car storage? Ben-Joseph shows us that they can. He provides a visual history of this often ignored urban space, introducing us to some of many alternative and non-parking purposes that parking lots have served - from RV campgrounds to stages for "Shakespeare in the Parking Lot." He shows us parking lots that are not concrete wastelands but lushly planted with trees and flowers and beautifully integrated with the rest of the built environment. With purposeful design, Ben-Joseph argues, parking lots could be significant public places, contributing as much to their communities as great boulevards, parks, or plazas. For all the acreage they cover, parking lots have received scant attention. It's time to change that; it's time to rethink the lot.



The parking lot is the antithesis of nature's fields and forests, an ugly reminder of the costs of our automobile-oriented society. But as long as we prefer to get around by car (whether powered by fossil fuel, solar energy or hydrogen), the parking lot is here to stay.



It's hard to imagine an alternative. Or is it? I believe that the modern surface parking lot is ripe for transformation. Few of us spend much time thinking about parking beyond availability and convenience. But parking lots are, in fact, much more than spots to temporarily store cars: they are public spaces that have major impacts on the design of our cities and suburbs, on the natural environment and on the rhythms of daily life. We need to redefine what we mean by “parking lot” to include something that not only allows a driver to park his car, but also offers a variety of other public uses, mitigates its effect on the environment and gives greater consideration to aesthetics and architectural context.

It's estimated that there are three nonresidential parking spaces for every car in the United States. That adds up to almost 800 million parking spaces, covering about 4,360 square miles — an area larger than Puerto Rico. In some cities, like Orlando and Los Angeles, parking lots are estimated to cover at least one-third of the land area, making them one of the most salient landscape features of the built world.

Such coverage comes with environmental costs. The large, impervious surfaces of parking lots increase storm-water runoff, which damages watersheds. The exposed pavement increases the heat-island effect, by which urban regions are made warmer than surrounding rural areas. Since cars are immobile 95 percent of the time, you could plausibly argue that a Prius and a Hummer have much the same environmental impact: both occupy the same 9-by-18-foot rectangle of paved space.





A better parking lot might be covered with solar canopies so that it could produce energy while lowering heat. Or perhaps it would be surfaced with a permeable material like porous asphalt and planted with trees in rows like an apple orchard, so that it could sequester carbon and clean contaminated runoff.

The ubiquity of parking lots has also led to an overlooked social dimension: In the United States, parking lots may be the most regularly used outdoor space. They are public places that people interact with and use on a daily basis, whether working, shopping, running errands, eating, even walking — parking lots are one of the few places where cars and pedestrians coexist.

Better parking lots would embrace and expand this role. Already, many lots provide space for farmers' markets, spontaneous games of street hockey, tailgating, even teenagers' illicit nighttime parties. This range of activities suggests that parking lots are a “found” place: they satisfy needs that are not yet met by our designed surroundings. Planned with greater intent, parking lots could actually become significant public spaces, contributing as much to their communities as great boulevards, parks or plazas. For instance, the Italian architect Renzo Piano, when redesigning the Fiat Lingotto factory in Turin, eliminated the parking lot's islands and curbs and planted rows of trees in a dense grid, creating an open, level space under a soft canopy of foliage that welcomes pedestrians as naturally as it does cars.





The parking lot also has an underutilized architectural function. A parking lot is the first part of a space you visit or live next to. It is typically the gateway through which dwellers, customers, visitors or employees pass before they enter a building. Architects and designers often discuss the importance of “the approach” as establishing the tone for a place, as the setting for the architecture itself. Developers talk about the importance of “first impressions” to the overall atmosphere conveyed to the user.

Yet parking lots are rarely designed with this function in mind. When they are, the effect is stunning. For instance, the parking lot at the Dia art museum in Beacon, N.Y., created by the artist Robert Irwin and the architecture firm OpenOffice, was planned as an integral element of the visitor’s arrival experience, with an aesthetically deft progression from the entry road to the parking lot to an allée that leads to the museum’s lobby.

For something that occupies such a vast amount of land and is used on a daily basis by so many people, the parking lot should receive more attention than it has. We need to ask: what can a parking lot be?





In Summary

The strategies and policy considerations discussed above are alternatives to setting a parking requirement based on a neighboring city's requirement or a national average. Fort Collins has long moved beyond most communities in this regard, however through this study we will be evaluating options to reassess parking requirements based on specific land use categories (for example applying differing standards to “student housing oriented projects” compared to other multi-family housing developments based on the demonstrated differences in parking demand generated by this specific use). We are also assessing varying requirements based on development size or context features, such as transit accessibility, mixed-land uses, shared parking and overall development density. The use of alternative compliance mechanisms that provide more context specific data from which to make rational and measured adjustments to parking requirements are also being assessed.

Parking reform can also be coordinated with regional planning and modeling activities. For example, in King County, Washington, the Metro Transit's web-based GIS tool provides data on parking utilization for multi-family housing and tests alternative parking ratios in terms of costs and impacts.

Note: More information about King County, Washington's King County Multi-Family Residential Parking Calculator can be found at <http://www.rightsizeparking.org/>.

In the case of Fort Collins, the use of the “Park+” parking demand modelling software that has been purchased by both the City and CSU could provide a similar analysis tool.



Best Practices Review

This section of the parking study summarizes some of the parking best management practices that are recommended and/or have been successfully implemented in other communities. These practices are tools to address existing parking issues and accommodate future demand. It is important to remember that these strategies are not mutually exclusive and may need to be modified to suit the needs of the City of Fort Collins. Many of these strategies are complementary and are most effective when used in conjunction with one another.

Innovative Alternatives or Supplements to Minimum Parking Requirements

Some local governments have implemented alternatives to generic parking requirements that increase availability from existing supply, reduce the demand for parking, or create more cost-effective and environmentally sensitive parking structures that preserve pervious surfaces. By lowering total development costs, some of these parking alternatives have consequently encouraged smart growth development and redevelopment. This section summarizes proven alternatives and includes discussion of their establishment, advantages, and potential concerns. The alternatives are organized according to their influence on parking supply, parking demand and pricing.

Increasing Availability From Existing Supply Or Limited Expansion

Frequently, the supply of parking in developed areas is sufficient to meet parking demand, but a combination of reasons limit the availability of that supply.



Context-specific Minimum Requirements

As discussed in the Introduction, generic minimum requirements are typically set based on maximum observed demand for free parking in areas with no transportation choices. However, parking demand is determined by a range of factors that lead to significant variations within and across jurisdictions, meaning that a single standard for each land use may not be appropriate. Other factors that are strongly correlated with lower vehicle ownership in urban areas are frequent transit service, small household sizes, low incomes, a high proportion of seniors, and rental housing.

Similarly, at commercial developments, transit access, mix of uses, and density are good predictors of parking demand. Often developers are interested in finding ways to reduce the vehicle trip generation calculations for their expected development, so that they can demonstrate fewer impacts on the surrounding roadway network, while they may not always be so eager to reduce the amount of parking to supply.

A major challenge for cities is how to convert this research and data, together with experience from other settings, into local parking requirements or planning approvals for specific developments. Some of the mechanisms being used are:

- ▲ Transit Zoning Overlays
- ▲ New Zoning Districts or Specific Plans
- ▲ Parking Freezes
- ▲ Reductions for Affordable and Senior Housing
- ▲ Case-By-Case Evaluation
- ▲ Land Banking and Landscape Reserves



Maximum Limits and Transferable Parking Entitlements

In contrast to generic minimum parking requirements, maximum limits restrict the total number of spaces that can be constructed rather than establish a minimum number that must be provided. Planners set maximum limits much like they set minimum requirements. Typically, a maximum number of spaces is based on square footage of a specific land use. For example, the City of Portland, Oregon restricts offices in the central business district to 0.7 parking spaces per 1,000 square feet, and retail to 1.0 space per 1,000 square feet of net building area. Contrary to what might be expected, the maximum limits in Portland have not led to a parking shortage because of the balance of transportation choices available.

Maximum requirements are not ideal for all locations. It is crucial for municipalities that employ maximum requirements to have accompanying accessible and frequent public transportation. It is also important for the area to be sufficiently stable economically to attract tenants without needing to provide a surplus of parking. A number of cities have implemented maximum parking requirements, including San Francisco, California; Portland, Oregon; and Seattle, Washington.

Shared Parking

Different types of land uses attract customers, workers, and visitors during different times of the day. Shared parking is another alternative that city planners can employ when setting parking requirements in mixed-use areas. An office that has peak parking demand during the daytime hours, for example, can share the same pool of parking spaces with a restaurant whose demand peaks in the evening. This alternative also reduces overall development costs.



By allowing for and encouraging shared parking, planners can decrease the total number of spaces required for mixed-use developments or single-use developments in mixed-use areas. Developers benefit, not only from the decreased cost of development, but also from the “captive markets” stemming from mixed-use development. For example, office employees are a captive market for business lunches at restaurants in mixed-use developments.

Shared parking encourages use of large centralized parking facilities and discourages the development of many small facilities. This results in more efficient traffic flow because there are fewer curb cuts, and turning opportunities on main thoroughfares. This has the added benefits of reducing accidents and reducing emissions from idling vehicles stuck in traffic.

Establishing shared parking requirements involves site-specific assessment or use of time-of-day parking utilization curves. Montgomery County, Maryland allows for shared parking to meet minimum parking requirements when any land or building under the same ownership or under a joint use agreement is used for two or more purposes. The county uses the following method to determine shared requirements for mixed-use developments:

- ▲ Determine the minimum amount of parking required for each land use as though it were a separate use, by time period, considering proximity to transit.
- ▲ Calculate the total parking required across uses for each time period.
- ▲ Set the requirement at the maximum total across time periods.

Many available sources document procedures for calculating shared parking requirements, from 1983’s “Flexible Parking Requirements” to 2003’s SmartCode.

In-Lieu Parking Fees and Centralized Parking



Municipalities establish in-lieu parking fees as an alternative to requiring on-site parking spaces. With in-lieu fees, developers are able to circumvent constructing parking on-site by paying the city a fee. The city, in return, provides centralized, off-site parking that is available for use by the development's tenants and visitors. The fees are determined by the city and are generally based on the cost of providing parking. Cities set fees in one of two ways, either by calculating a flat fee for parking spaces not provided by a developer on-site or by establishing development-specific fees on a case-by-case basis. Shoup reports that in-lieu fees in the United States range from \$5,850 to \$20,180 per parking space. These fees can be imposed as a property tax surcharge.

In-lieu parking fees provide advantages to both planners and developers. Allowing developers to pay fees in-lieu of constructing parking has the following benefits:

- ▲ Overall construction costs may be reduced;
- ▲ Construction of awkward, unattractive on-site parking is avoided;
- ▲ Redevelopment projects involving historic buildings can avoid constructing parking that would compromise the character of the buildings;
- ▲ Planners can ensure that existing parking facilities will be more fully utilized; and
- ▲ Planners can encourage better urban design with continuous storefronts that are uninterrupted by parking lots.



In establishing in-lieu parking fees, planners must be cognizant of potential developers' concerns about the impact of a lack of on-site parking on the attractiveness of developments to tenants and visitors. This can be an issue if available public parking is insufficient, inconveniently located, or inefficiently operated. Planners must carefully consider the parking demand for each participating property and provide enough parking to meet this demand in order to avoid creating a perceived or real parking shortage. Planners must also work to ensure that public parking facilities are centrally located and operated efficiently.

Centralized parking facilities can reduce the costs of parking because large facilities are less expensive on a per space basis to build and maintain than small facilities. Centralized parking, as an alternative to on-site parking, also improves urban design and preserves the historic nature of communities. Some cities mandate centralized parking facilities and finance them through development impact fees in lieu parking fees or negotiated contributions established during the environmental review process.

Increasing Availability by Decreasing Demand

Demand reduction can be achieved through a variety of programs and policies that attempt to reduce the automobile transportation demand, and thus reduce the needed supply of parking. While these programs are typically developed by local governments, their success often depends on the commitment of businesses to implement them effectively.

Demand reduction programs include: car sharing, subsidies for transit, transit improvements, pedestrian and bicycle amenities, and vehicle trip reduction programs. When employers allow telecommuting and/or flexible work schedules that reduce commuting, demand is also reduced.

Car Sharing



Car sharing is a neighborhood-based, short-term vehicle rental service that makes cars available to people on a pay-per-use basis. Members have access to a common fleet of vehicles on an as-needed basis, gaining most of the benefits of a private car without the costs and responsibilities of ownership. In programs with the most advanced technology, members simply reserve a car via telephone or the Internet, walk to the nearest lot, access the car using an electronic card, and drive off. They are billed at the end of the month.

In commercial developments, car-sharing can also be a useful tool to reduce parking demand. Employees can use a shared vehicle for errands and meetings during the day, allowing them to take transit, carpool, walk or bicycle to work. Car-sharing works best in compact, mixed-use neighborhoods, where firms with corporate memberships tend to use the vehicles during the day and residents use them in the evenings and on weekends.

As well as reduced parking demand, car-sharing brings a broad range of other benefits, including fewer vehicle trips, and improved mobility for low-income households who may not be able to afford to own a car. Formal car-sharing programs have been established in many cities including Boston, Massachusetts; Washington, DC; San Francisco, California; Oakland, California; Portland, Oregon; Seattle, Washington; and Boulder, Colorado. Many others are in the process of establishing operations. Alternatively, developers can provide shared vehicles themselves, or facilitate informal car-sharing among residents.



Improvements to Transit Service, Pricing, and Information

Transit subsidies can be provided by employers, by cities, or by residential property managers. In the case of employer-paid transit pass schemes, the employer pays the cost of employees' transit, converting the fixed cost for parking spaces into a variable cost for the public transportation subsidy. This fringe benefit for employees reduces the demand for parking at the workplace, which in turn reduces traffic, air pollution, and energy consumption. It also reduces the cost associated with providing parking, as transit subsidies are generally less expensive than providing parking.

Improvements to Pedestrian and Bicycle Service

Demand for parking can be reduced by providing pedestrian and bicycle amenities that make it easier and more pleasant for people to walk or bicycle rather than drive. These amenities and design changes can alleviate traffic congestion. In particular, improving the walkability and pedestrian orientation of employment centers can address the increasingly common "drive to lunch" syndrome. For example, the auto-orientation of Tyson's Corner, Virginia has resulted in terrible traffic at lunch time because people cannot walk to eating establishments or to do errands.

Vehicle Trip Reduction Programs

Another direct form of demand reduction involves instituting vehicle trip reduction programs. Vehicle trip reduction programs combine several types of demand reduction components to meet explicit vehicle trip reduction goals.



Thus, instead of capping the number of parking spaces, local officials limit the number of vehicle miles traveled in a particular region. These types of programs attempt to decrease the number of trips by single occupancy vehicles (SOVs) and increase the use of a variety of commuting alternatives, including transit, carpooling, walking, and bicycling.

To increase the effectiveness of vehicle trip reduction programs, cities or employers can incorporate an assortment of complementary program elements to balance transportation choices. The following are some examples:

- ▲ “Guaranteed ride home” services that allow employees who use public transit to get a free ride home (e.g., via taxi) if they miss their bus or if they need to stay at work late.
- ▲ Company fleet cars that can be used for running errands during the workday (e.g., doctor appointments).
- ▲ Preferential and/or reserved parking for vanpools/carpools.
- ▲ Carpooling and/or vanpooling with ride matching service. Ride matching can facilitate the identification of people who live close to one another. This service can be accomplished by providing “ride boards” or by using an employee transportation coordinator.
- ▲ Cellular phones for car and vanpooling to facilitate timing of pickups.

There is little incentive for employers to implement vehicle trip reduction programs if they are not granted reductions in minimum parking requirements. They would not be able to realize the potential cost savings from providing less parking, but would simply be faced with a large number of empty spaces. Several cities, such as South San Francisco, have acknowledged this through ordinances that reduce parking requirements for projects that include vehicle trip reduction programs.



Efficient Pricing

Although it is often provided at no charge to the user, parking is never free. Each space in a parking structure can cost upwards of \$2,500 per year in maintenance, operations and the amortization of land and construction costs. Even on-street spaces incur maintenance costs and an opportunity cost in foregone land value. The cost of parking is generally subsumed into lease fees or sale prices for the sake of simplicity and because that is the more traditional practice in real estate. However, providing anything for free or at highly subsidized rates encourages overuse and means that more parking spaces have to be provided to achieve the same rate of availability. Charging users for parking is a market-based approach by which the true cost of parking can be passed through to parking users. If the fee charged to users of parking facilities is sufficient to cover construction, operation, and maintenance costs, it will likely cause some users to choose not to park. Even where there are few alternatives to driving, parking pricing can encourage employees to seek out carpooling partners. In addition to reducing the cost of parking provision, pricing strategies bring major environmental and congestion benefits, particularly since they tend to reduce peak-period vehicle trips the most.

Parking charges have been found to reduce employee vehicle trips, and thus daily parking demand, by between 7 percent and 30 percent or more, depending on factors such as the level of charges and the availability of alternatives to driving alone. Parking price elasticities generally range from -0.1 to -0.6 , with the most common value being -0.3 , meaning that each 1 percent rise in parking fees is accompanied by a 0.3 percent decrease in demand.

Cash-Out Programs



Cash-out programs provide alternatives to directly charging users for parking. Under such programs, employers offer employees the choice of free or subsidized parking, a transit/vanpool subsidy equal to the value of the parking (of which up to \$100 is tax-free under current federal law), or a taxable carpool/walk/bike subsidy equal to the value of the parking.

Employees who opt for the non-parking subsidies are not eligible to receive free parking from the employer, and are responsible for their parking charges on days when they drive to work. The cost savings associated with cash-out payments depend on the amount of the payments. If the full cash equivalent is provided, this demand reduction program does not reduce the total costs of providing parking. However, employees may accept cash payments lower than the full equivalent of the parking subsidy. If partial cash payments are used, employers face lower overall transportation subsidy costs and employees still benefit.



Differential Pricing by Trip Type

Parking pricing can be used as a sensitive tool to prioritize some types of trip over others, according to their purpose and duration. It allows managers to cater for desirable trips, such as short-term shoppers, while discouraging undesirable commuter trips, which add to peak-hour congestion and occupy a parking space for an entire day. These pricing strategies allow the overall supply of parking to be minimized, while ensuring spaces are available for critical users. They can also alleviate pressure to provide more parking from retailers and businesses, who may be concerned that poor parking availability discourages shoppers. Examples include:

- ▲ Lower or zero rates for short-term parking encourage shopping trips, while proportionally higher rates for long-term parking discourage all-day commuter parking, freeing up spaces for customers. Short-term parking allows many people to use a single space over the course of a day, rather than a single commuter, and generates revenue for businesses and sales tax dollars for cities.
- ▲ Parking charges that are levied by the hour or day, with no discounts for monthly parking, remove the financial disincentive to take transit occasionally. There is no perverse incentive to drive every day to “get your money’s worth” from the monthly parking pass.
- ▲ Parking charges at transit stations that only apply before a certain time (such as 9 or 10 am) encourage off-peak transit ridership where spare capacity is available, rather than contributing to crowding in the peak.



Residential Parking Pricing

Parking charges can also be introduced at residential developments, through separating or “unbundling” the cost of parking from rents or sale prices. Rather than being provided with a set number of spaces whether they need them or not, residents can choose how many spaces they wish to purchase or rent. An alternative to direct charges is to provide “rent rebates” or discounts to residents who own fewer vehicles and do not use their allocated parking spaces.

Parking Benefit Districts

Parking pricing strategies can also be implemented through Parking Benefit Districts. Under this concept, revenue from meters and residential permits is returned to local neighborhoods. Once administrative costs are covered, all money goes to transportation and neighborhood improvements such as undergrounding of utility wires. Parking Benefit Districts allow developments to be built with less parking, while addressing potential spillover problems through market pricing of curb parking.

Earmarking revenue to directly benefit the neighborhood or commercial district helps to generate support for charges from local residents and businesses, which might otherwise resist charging for parking that used to be free. Cities such as San Diego and Pasadena, California, have implemented Parking Benefit Districts in their downtown business districts, using parking meter revenue.



Peer City Reviews

In our research related to peer city parking requirements, we applied two primary criteria: communities of similar size or characteristics to Fort Collins or communities with progressive parking planning policies similar in values to Fort Collins. We identified five primary communities that met these criteria. These communities include:

- ▲ Ann Arbor, Michigan
- ▲ Berkeley, CA
- ▲ Portland, OR
- ▲ Eugene, OR
- ▲ Arlington County, VA

A summary of the key elements of each of these city's policies are provided below. More detailed information for each community is provided in Appendix B. Appendix B contains selected examples of well-developed or progressive zoning codes including some not on the Peer Cities list noted above.

City of Ann Arbor, Michigan

- ▲ City's web page: www.a2gov.org
- ▲ Downtown Development Authority web page: www.a2dda.org
- ▲ Commuting programs and services web page: www.getdowntown.org

KEY POLICIES AND INITIATIVES

- ▲ GetDowntown Program – This is a commuter service and assistance program. It offers commuting programs and services to employees and employers in downtown Ann Arbor. Programs and services include the go!pass, Commuter Challenge, Bike Locker Rentals, Zipcars, free commuting assistance, and commuting materials.



- ▲ Go! Pass Program – It is an employee benefit which offers unlimited rides on the City buses within Downtown Development Authority's (DDA) boundaries. Additionally, this program offers discounts for other commuter services and at downtown businesses.
- ▲ Commuter Challenge – It offers prizes for trying alternative modes of transportation. The modes include busing, biking, walking, carpooling, and van pooling. The program is offered only for the month of May.
- ▲ Bike Locker Rental – Locker rentals are offered at \$60/month. The rentals are offered from April 1 to March 31. The fee is prorated if the rental starts after April. Monthly rentals are not available.
- ▲ To encourage alternative modes of transportation, the parking demand for office buildings was dropped from 4 to 3 per 1,000sf.
- ▲ Maximum parking demand ratio was implemented for many land uses.
- ▲ For downtown projects, developers are not required to provide parking for up to 400% of FAR.
- ▲ For some mixed-use land uses, 700% of FAR is allowed and parking is required for FAR above 400%.
- ▲ Bicycle parking is required for many land uses.
- ▲ Outside bicycle parking spaces can be used for meeting "useable open space" requirements.
- ▲ Areas for inside bicycle parking spaces are not included in calculating the vehicular parking requirements.
- ▲ Up to 30% of parking supply could be designed for compact cars only.



Arlington County, Virginia

- ▲ Arlington County web page: www.arlingtonva.us
- ▲ Commuter Service web page: www.commuterpage.com
- ▲ Mobility Lab: <http://mobilitylab.org/>

KEY POLICIES AND INITIATIVES

- ▲ Office parking requirement is 1 space per 580sf (with associated apartment use), which is significantly less than the national average. Without apartment use, the requirement is 1/530sf.
- ▲ Hotel parking requirement is 0.7 per room. Again, significantly less than national average.
- ▲ Underground parking is encouraged.
- ▲ Parking requirements for Medical Office Buildings could be reduced by 10%.
- ▲ Parking requirements are reduced if approved shared parking programs are implemented.
- ▲ Parking is not required for the first 5,000sf of development (some land uses are excluded). For grocery stores, first 15,000sf is exempt, if the grocery store is not the principal land use.
- ▲ Office parking requirements could be reduced by up to 10%.
- ▲ 100% of required parking could be provided up to ¼-mile away.
- ▲ Reduced parking demand with approved TDM programs.
- ▲ Up to 15% of parking supply could be designed for compact cars only.
- ▲ Maximum parking requirements for many land uses.
- ▲ Parking near metro stations is not required if the development is located within 1,000 feet (with some exemptions).



- ▲ Mobility Lab is one of the most aggressive and successful transportation alternative programs in the country is a recommended model for Fort Collins to review.

City of Berkeley, California

- ▲ City's web page: www.ci.berkeley.ca.us
- ▲ Commuter Service web page: www.ci.berkeley.ca.us/commute

KEY POLICIES AND INITIATIVES

- ▲ The City offers many commuter programs. These include:
 - ▲ The Tax Relief Action to Cut Commuter Carbon (TRACC)
 - ▲ Commuter Benefit Services for Employers
 - ▲ The City requires that employers with ten or more employees provide a commute program to encourage employees to use public transit, vanpools or bicycles. TRACCC, gives employers several options - businesses can offer their employees commuter tax benefits as a payroll deduction, provide a subsidized benefit, or offer a combination of the two.
- ▲ Commute Programs
 - ▲ Guaranteed Ride Home Program
 - ▲ Ride matching for carpools and vanpools
 - ▲ Transportation Programs at UC Berkeley
- ▲ Transit Information Services
 - ▲ 511 Transit Information
 - ▲ Getting There on Transit
 - ▲ Clipper, the Bay Area's Smart Card for Transit
- ▲ AC Transit Local and Transbay Bus Service
 - ▲ Other Bus Services in Berkeley



- ▲ Paratransit Services
- ▲ Rail Service in Berkeley
- ▲ Bay Area Rapid Transit (BART)
- ▲ Capitol Corridor (train service from San Jose to Sacramento)
- ▲ Connecting AMTRAK passenger rail services
- ▲ Car Sharing
- ▲ Parking can be provided up to 300 feet away from the development.
- ▲ Joint-use, off-street parking is allowed if there are no substantial conflicts.
- ▲ Transit Service Fee (TSF) is collected to provide paratransit passes and promote ride sharing.
- ▲ Parking requirements are reduced if the development is located within 1/3-mile from a BART station.
- ▲ Subsidies available for approved TDM programs.

City of Eugene, Oregon

- ▲ City's web page: <http://www.eugene-or.gov>

KEY POLICIES AND INITIATIVES

- ▲ Parking requirements may be reduced (for some land uses) if the developer offers an approved shared parking plan.
- ▲ Bicycle parking is required with many land uses.
- ▲ Maximum parking ratio is used.
- ▲ Maximum parking cannot exceed 125% of minimum parking requirements.
- ▲ Parking requirements may be reduced if an approved Transportation Demand Management (TDM) plan is implemented.
- ▲ The City offers typical commuter services including bus, car pool, and van pool.



CITY OF PORTLAND, OREGON

- ▲ City's web page: www.portlandonline.com
- ▲ Commuter Assistance web page:
www.portlandoregon.gov/transportation/43820

KEY POLICIES AND INITIATIVES

- ▲ Maximum parking for many land uses.
- ▲ Parking could be provided up to 500 feet away.
- ▲ Stacked parking with valet attendant is allowed.
- ▲ Parking requirements could be reduced by 5% for approved carpool programs.
- ▲ Parking requirements for residential developments are reduced and completely eliminated for all other land uses, if:
 - ▲ The development is located within 1,500 feet from a transit station, or
 - ▲ 500 feet from transit street where peak-hour service is provided at 20-minute intervals.
- ▲ Bicycle parking is required for many land uses.
- ▲ For every five bicycle parking, one vehicle parking could be eliminated.
- ▲ Parking requirements could be reduced by 10% if a transit supportive plaza is provided with the development.
- ▲ Motor cycle parking could be used to reduce vehicle parking by 5%.
- ▲ For every two car sharing parking one vehicle parking could be eliminated.
- ▲ "Smart Trip Business" initiative to encourage use of alternate modes of transportation. Some of the programs include:
 - ▲ Encourage use of bicycle at work place.



- ▲ Businesses could be certified for as, “Sustainability Work Certified.” The certifications include “Certified,” Silver,” and “Gold.”
- ▲ Car sharing programs.
- ▲ Centralized Transportation Resource.
- ▲ Employee education about use of transit.
- ▲ “Commuter Challenge” program to encourage the use of alternate modes of transportation.

The table on the following page provides a comparison of the City of Fort Collins to the selected peer cities regarding key zoning code policies and issues.



References

1. Urban and Economic Development Division. Parking Alternatives: Making Way for Urban Infill and Brownfield Redevelopment. Report EPA-231-K-99-001. U.S. Environmental Protection Agency, November 1999.
2. Development, Community and Environment Division. Our Built and Natural Environments: A Technical Review of the Interactions between Land Use, Transportation, and Environmental Quality. Report EPA-231-R-01-002. U.S. Environmental Protection Agency, January 2001.
3. Holtzclaw, J., Clear, R., Dittmar, H., Goldstein, D., and P. Haas. Location Efficiency: Neighborhood and Socio-Economic Characteristics Determine Auto Ownership and Use – Studies in Chicago, Los Angeles and San Francisco. Transportation Planning and Technology, vol. 25, no. 1 (2002), pp. 1-27.
4. Transportation and Land Use Coalition and Nelson\Nygaard Consulting Associates. Housing Shortage / Parking Surplus: Silicon Valley's Opportunity to Address Housing Needs and Transportation Problems with Innovative Parking Policies. Transportation and Land Use Coalition, Oakland, CA, 2002.
5. Shoup, D. Truth in Transportation Planning. Journal of Transportation and Statistics, forthcoming 2003.
6. Millard-Ball, A. Putting on their Parking Caps. Planning, April 2002, pp. 16-21.
7. Bureau of Planning. Chapter 33.510, Part Two. Title 33: Planning and Zoning Code. City of Portland, Oregon, May 1999.
8. Smith, T.P. Flexible Parking Requirements. Planning Advisory Services Report 377. American Planning Association, 1983.



9. Transect Codeware Company. Section 6.5, Mixed-Function Parking Standards. SmartCode, version 5.2, p. 8.
10. Shoup, D. In-Lieu of Required Parking. Journal of Planning Education and Research, vol. 18, no. 4 (Summer 1999).
11. Nelson\Nygaard Consulting Associates. City CarShare Vehicle Ownership Survey. Unpublished survey for City CarShare, San Francisco, 2002.
12. Senator for Building and Environment. Mobility Services for Urban Sustainability. City of Bremen, Germany, 2002
13. Shoup, D. The High Cost of Free Parking. Journal of Planning Education and Research, vol. 17, no. 1 (Fall 1997), pp. 3-20.
14. Urban and Economic Development Division. Smart Investments for City and County Managers: Energy, Environment and Community Development. Report EPA-231-R-98-004. U.S. Environmental Protection Agency, April 1998.
15. South Florida Regional Planning Council. Downtown Kendall Master Plan. 1998.
16. Pratt, R. Traveler Response to Transportation System Changes. Transit Cooperative Research Program, Web Document 12, March 2000. http://gulliver.trb.org/publications/tcrp/tcrp_webdoc_12.pdf. Accessed April 30, 2003.
17. Shoup, D. Evaluating the Effects of Cashing Out Employer-Paid Parking: Eight Case Studies. Transport Policy, vol. 4, no. 4 (1997), pp. 201-216.
18. Shoup, D. An Opportunity to Reduce Minimum Parking Requirements. Journal of the American Planning Association, vol. 61, no. 1 (Winter 1995), pp. 14-28.



19. Mark Gander, Principal Planner; Director of Urban Mobility and Development at AECOM and Board of Directors, Green Parking Council.
20. <http://mitpress2.mit.edu/books/chapters/020262017334chap1.pdf>
21. G.B. Arrington, Cervero, Robert, Transportation Research Board, Transit Cooperative Research Program Report 128: Effects of TOD on Housing, Parking and Travel (2008), available at http://onlinepubs.trb.org/onlinepubs/tcrp/tcrp_rpt_128.pdf
22. Donald Shoup, "The Trouble with Minimum Parking Requirements," Transportation Research Part A 33 (1999): 549-574. Available as a free download from <http://shoup.bol.ucla.edu>