

City of Coral Gables
Planning Department Staff Report

To: Honorable Planning and Zoning Board Members

From: Planning Department

Date: September 5, 2008

Subject: **Amendment to City Code.** An Ordinance providing for text amendments to the Code of the City of Coral Gables, Chapter 74, Article III, Division 1, 2, 3, and 4 entitled "Stopping, Standing and Parking" providing for updates to the parking provisions and procedures, changes to valet parking provisions, enactment of a new Division 5, to provide for a "Parking Replacement Assessment". (City Commission requested Planning and Zoning Board input and recommendation.)

Mr. Kevin Kinney, Parking Director, was requested by the City Commission to solicit input on proposed changes to the City Code relative to parking prior to City Commission First Reading consideration.

Mr. Kinney will be present to make the presentation.

Attachments:

A: 09 02 08 Memorandum from Parking Director

B: Draft Ordinance

C: City Commission Cover Memo dated 08 26 08

D: Article – In Lieu of Required Parking

CITY OF CORAL GABLES

- MEMORANDUM -

TO:

Planning and Zoning Board

DATE:

September 5, 2008

FROM:

Kevin J. Kinney, Parking Director

SUBJECT:

Ordinance No. 2008-0537
Parking Code Amendment

At the August 26, 2008 commission meeting the Parking Department and Parking Advisory Board introduced a draft amendment to the Code of the City of Coral Gables Chapter 74, Article III (the Parking Code). (A copy of the proposed amendments is included for your review.) As part of the proposed amendments a new Division 5 "Parking Replacement Assessment" was proposed. This new provision replaces the currently required perpetual payment for a lost on-street parking space with a one-time assessment related to replacement cost. In addition, the new provision provides developers with an alternative means of meeting some of the minimum parking requirements through a "Payment in Lieu" program. The commission asked questions and debated the payment in lieu program at length. In the end, they chose to refer the proposed ordinance to the Planning and Zoning Board for review.

PAYMENT IN LIEU

Driven in part by efforts to reduce the impacts of parking requirements on urban design and in part by efforts to manage transportation demand, many communities have successfully implemented "payment in lieu" programs as an alternative means for developers to meet parking requirements either in whole or in part. There have been a substantial number of professional reviews, papers and articles written exploring the efficacy of such programs.

Parking requirements now drive many site designs, and are often the make or break issue for developing an urban site. The core of the smart growth movement recognizes that the future and vitality of our communities is dependent upon our ability to foster a better planned, more environmentally protective, more sustainable pattern of development. The goal for local government and the development community is to develop "win-win" parking strategies that enhance attractiveness, convenience, and quality of life in our urban core. Our goals are to increase the overall efficiency of the parking system, support infill and redevelopment, support the creation of human-scale development and position Coral Gables to begin managing transportation demand (promoting alternatives to single occupant vehicles).

BENEFITS OF PAYMENT IN LIEU SYSTEMS

One thing is generally true of roads and garages. "If you build it, they will drive." The proliferation of vehicles within the urban core is inconsistent with creating a pedestrian friendly,

human scale streetscape. It is also true that no matter what demand strategies are employed, many people will continue to choose single occupant vehicles for their transportation needs. As we begin to take a new look at transportation and parking within Coral Gables, the key is to ensure an adequate parking supply while implementing transportation demand strategies. A properly managed payment in lieu program can provide for development of efficiently managed public parking spaces and set the foundation for transportation demand management. Review of the professional literature shows that a Payment in Lieu program allows for the following potential benefits:

- An improved urban design can be provided. Key to pedestrian commercial districts to the need to provide density. This includes as continuous a series of storefronts as possible, avoiding “dead spaces” that break up the window shopping experience. By reducing the need for driveways and parking provided along side or behind a commercial property, a payment in lieu program can result in a more effective and economically vital shopping district.
- The total amount of parking needed to adequately serve the any defined area can be reduced. Publicly owned and operated parking is generally significantly more efficient than privately held parking. Typically the number of spaces required for a public parking structure to serve multiple commercial properties is dramatically lower than if each individual property were required to provide its peak parking supply on-site. For example, restaurants can use a higher proportion of a public parking facility in the peak evening hours while commercial properties can use a higher proportion in the afternoons.
- A payment in lieu program provides another mechanism for the provision of parking, thereby reducing the need for variances. By removing the need for variances, there is more equitable treatment of landowners.
- The proposed payment in lieu program allows more creativity and flexibility in design of projects, particularly small and infill developments that can not readily provide for on-site parking.
- Additional funding for development of public parking improvements is generated, potentially speeding the addition of efficiently used parking supply. Funding increases as development that creates the additional demand increases.
- By providing an additional, readily available option for developers to address the often-difficult issue of meeting parking requirements, a payment in lieu program increases the feasibility of infill development or redevelopment, particularly for small development parcels.
- Payment in lieu programs allow adaptive reuse of historic buildings where the new use requires additional parking that is difficult to provide. The payment in lieu program therefore makes it easier to preserve historic buildings and rehabilitate historic areas.

TYPICAL CHARACTERISTICS

A review of existing Payment in Lieu programs reveals the following characteristics that are generally common and incorporated in the draft ordinance to create a Payment in Lieu program in Coral Gables:

- A separate fund is established that is reserved for the future provision of publicly owned and operated parking spaces.
- The program is available within a specified area only, such as a defined downtown zoning district where there is a significant supply of public spaces available for use by customers, patrons, diners and employees.
- Payment is typically due prior to the issuance of a building permit or a certificate of occupancy if a building permit is not required.
- Strict standards for locating the parking facilities to be built with the payment in lieu are typically not defined (such as “spaces must be provided within 600 feet of the developed parcel for which the payment in lieu fee is paid”), nor are specific locations established when the program is implemented. Instead, parking location decisions are made over time, reflecting the changes in need for parking and opportunities to provide parking within the defined district.

PUBLIC COMMITMENT

Payment in lieu programs require commitment on the part of the local governing authority, agency or government to use fees collected for their intended purpose. A delay in the timely use of the parking fund to develop additional public supply within the designated parking district degrades the ability of the program to effectively provide additional parking supply. This commitment includes dedicating publicly held development sites to meet future parking needs as well as dedicating staff to manage the payment in lieu program and develop an overall parking management plan for the community.

In the case of Coral Gables, the Parking Department is tasked with managing the public parking system. Within the existing system, several sites have been identified for future development of additional public parking supply. With the collection of dedicated funds to develop additional parking infrastructure and existing parking revenue, the Parking Department is well positioned to take on the planning and management roles necessary to make a payment in lieu program successful.

CITY OF CORAL GABLES, FLORIDA

ORDINANCE NO. 2008-_____

AN ORDINANCE PROVIDING FOR TEXT AMENDMENTS TO THE CODE OF THE CITY OF CORAL GABLES, CHAPTER 74, ARTICLE III, DIVISION 1, 2, 3, AND 4 ENTITLED “STOPPING, STANDING AND PARKING,” PROVIDING FOR UPDATES TO THE PARKING PROVISIONS AND PROCEDURES, CHANGES TO VALET PARKING PROVISIONS, ENACTMENT OF A NEW DIVISION 5 TO PROVIDE FOR A “PARKING REPLACEMENT ASSESSMENT,” CONTAINING A REPALER PROVISION, A SEVERABILITY CLAUSE AND PROVIDING FOR AN EFFECTIVE DATE.

WHEREAS, much of the existing parking code was originally drafted in 1958 and has not been updated since 1991;

WHEREAS, current technologies, equipment and operating systems within the Coral Gables parking system have changed significantly since the original codification of the existing parking code;

WHEREAS, much of the language found in the parking code no longer applies to current operating systems within the Coral Gables parking system;

WHEREAS, there are private parking facilities within Coral Gables that are significantly underutilized during certain hours of the day;

WHEREAS, allowing valet parking providers to use underutilized private parking facilities will lead to better efficiency and utilization of the private parking facilities that will benefit the overall parking system within Coral Gables;

WHEREAS, commercial development within Coral Gables impacts traffic volume and occupancy within public parking facilities;

WHEREAS, private investment in public parking facilities will enable the development of additional public parking facilities and increase the overall efficiency of the parking system within Coral Gables;

WHEREAS, the Parking Department has taken this opportunity to provide necessary updates to the existing parking code to make it consistent with the current technologies and equipment being utilized within the Coral Gables parking system; and

WHEREAS, at its March 27, 2008 and April 24, 2008 meetings the Parking Advisory Board discussed a new division within the parking code providing for a “Parking Replacement Assessment” and unanimously recommends approval.

NOW, THEREFORE, BE IT ORDAINED BY THE COMMISSION OF THE CITY OF CORAL GABLES, FLORIDA:

Section 1. The recitals and findings contained in the preamble to this Ordinance are adopted by reference and incorporated as if fully set forth in this Section.

Section 2. Chapter 74 of the Code of the City of Coral Gables, Florida, as amended, entitled “Stopping, Standing and Parking” is amended as follows:

**CHAPTER 74
TRAFFIC AND VEHICLES
ARTICLE III. STOPPING, STANDING AND PARKING***

DIVISION 1. GENERALLY

Sec. 74-100. Parking on private or public property.

- (a) *Parking without permission.* It shall be unlawful for any person to park any motor vehicle, including trucks, passenger automobile, motorcycle, motorbike, motor scooter, or any other motor propelled vehicle upon any privately-owned property, parking lot or driveway, or any publicly-owned property, parking lot or driveway, without the consent of the owner, lessee, tenant or other person entitled to manage or possess such premises, and, in the case of publicly-owned property, without the consent and permission of the city manager, his designee or the chief of police of the city.
- (b) *Penalty.* Any person convicted of the violation of this section shall be fined not more than \$50.00, or sentenced to serve not less than one day, nor more than ten days, or by both such fine and imprisonment.
- (c) *Impounding.* It shall be the duty of any police officer of the city, in the case of publicly-owned property, to impound any vehicle parked in violation of the terms of this section and store the same. Upon conviction of the person violating this section, such person shall, in addition to the fine or sentence imposed, as hereinabove provided for, be required to pay the costs of impounding, transporting and storing such vehicle so parked in violation of this section.
- (d) *Presumption of operation.* Proof of ownership of a vehicle shall be presumptive evidence in any action for enforcement of this section that the owner parked or caused the vehicle to be parked on such premises.

DIVISION 2. PARKING METERS AND PARKING AREAS

Sec. 74-127. Definitions

The following words, terms and phrases, when used in this article, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

Operator means and includes every individual who shall operate a vehicle as the owner thereof, or as the agent, employee or permittee of the owner.

Parking area means any on-street parking lane, city-owned parking lot or parking garage, located in the city and dedicated to the use of parking vehicles.

Parking Meter means any mechanical or electronic device used to regulate parking by collecting revenue in exchange for the right to park a vehicle in a particular place for a limited amount of time.

Vehicle means any device in, upon or by which any person or property is or may be transported into a parking area.

Sec. 74-128. Authority of city manager to establish zones.

The city manager is authorized and directed to establish zones to be known as parking meter zones upon any street, parking lot or garage as traffic conditions require. The city manager or his designee shall cause parking meter spaces to be designated as hereinafter provided, and shall fix the time limitations for legal parking in each zone.

Sec. 74-129. Disposition of proceeds.

Coins, bills and any other forms of payment received for use of any parking space as provided herein are hereby levied and assessed as fees to provided for the proper regulation and control of traffic upon the public streets and parking areas, and to cover the cost of the supervision, regulation, inspection, protection, installation, operation, maintenance, control and use of the parking spaces and parking meters described herein and also the cost of supervising and regulating the parking of vehicles in the parking meter zones created hereby.

Sec. 74-130. Installation, control, operation; contact to purchase, etc.; authority of city manager

- (a) The city manager or his designee is hereby directed to provide for the installation, regulation, control, operation and use of the parking meters

provided for in this article and to maintain the meters in good workable condition, and is hereby invested with power and authority to enter into a contract, after approval of the terms and conditions thereof by the commission, for the purchase or installation of parking meters, the payment for such meters or installation to be provided for from the receipts, funds and revenues obtained by the city from the operation of the parking meters, provided that such purchase or installation cost may be amortized using other city funds, if approved by the commission, over a period of not more than three years from the date of such purchase or installation. The city manager is further authorized and empowered to enter into a contract or contracts, after approval of the terms and conditions thereof by this commission, for such parts and maintenance of the parking meters as maybe necessary to maintain the same in good operating condition, and to pay for such parts and maintenance exclusively from the receipts, funds and revenues received from the operation of the parking meters.

- (b) The city manager or his designee may provide for parking by permit within any meter zone established as provided in section 74-128. Permits within meter zones may be paid through an annual or monthly fee or may be paid based on hours of use through an account activated by phone or online authorization. Fees charged for such permits must be consistent with rate schedules approved by the commission.

Sec. 74-131. Location, operation, etc.

Parking meters installed in parking meter zones established as provided in section 74-128 may be placed adjacent to on-street parking lanes, within city owned parking lots or within city owned garages. Each parking meter shall either display by signal that the parking space(s) adjacent to such meter is or is not legally in use or provide a printed receipt showing the authorized parking time to be displayed on the vehicle's dash board. Each parking meter shall display or provide a receipt indicating legal parking for up to that period of time conforming to the limit of parking time which has been or may be established for that parking area or zone.. Each meter or receipt provided shall be so arranged or displayed that upon the expiration of the legal parking time, it will indicate that the lawful parking period has expired.

Sec. 74-132. Parking space markings.

The city manager or his designee shall have lines or markings painted or placed in all parking areas for the purpose of designating the parking space(s) for which the meter is to be used. Each vehicle parked alongside of or within the area covered by any parking meter shall park within the lines or markings so established. It shall be unlawful and a violation of this article to park any vehicle across any such line or marking or to park any vehicle in such position that the same shall not be entirely within the area so designated by such lines or markings.

Sec. 74-134. Parking illegally, use of space, depositing slugs, tampering with meter.

- (a) When parking meters are erected giving notice thereof, no person shall stop, stand or park a vehicle in any metered parking zone for a period of time longer than designated by such parking meters. Upon the deposit of United States currency of the designated denomination a vehicle may remain parked in a designated meter zone for a period up to the time limit established for that zone.
- (b) Every vehicle shall be parked wholly within the metered parking space or zone which the meter controls.
- (c) No person shall willfully manipulate any parking meter or meter receipt in such a manner that the meter or receipt will fail to show the correct time of expiration before a violation occurs.

Sec. 74-135. Deposit of coins, violations of time limits.

When any vehicle shall be parked in any space alongside of or within a zone which a parking meter is located according to the provisions of this article, the operator of such vehicle shall upon entering the parking space, immediately deposit or cause to be deposited appropriate currency of the United States in such parking meter or display a valid and activated permit issued by the Parking Department. The parking space may then be lawfully occupied by such vehicle for the period of time prescribed for that meter zone or permit. If the vehicle shall remain parked in any such parking space beyond the parking time limit fixed, such vehicle shall be considered as parked overtime and beyond the period of legal parking time in any such part of a street where any such meter is located and shall be in violation of this article.

Sec. 74-136. Allowing vehicle to violate time limits.

It shall be unlawful for any person to cause, allow, permit or suffer any vehicle registered in the name of such person to be parked overtime or beyond the period of legal parking time established for any meter zone or permit program .

Sec. 74-137. Extending time, prohibited.

It shall be unlawful and a violation of the provisions of this article for any person to deposit or cause to be deposited in a parking meter currency of the United State for the purpose of increasing or extending the parking time of any vehicle beyond the legal parking time which has been established for the parking space adjacent to which the parking meter is placed.

Sec. 74-138. Entering or remaining in permit parking area space.

It shall be unlawful and a violation of the provisions of this article for any person to permit a vehicle to remain or be placed in any parking space or a parking area dedicated to permit parking, unless such vehicle clearly displays a permit indicating that the owner has paid for and secured a permit authorizing the parking of such vehicle in the parking area.

Sec. 74-139. Notice of violation, payment of penalty.

- (a) It shall be the duty of parking enforcement specialists of the city, acting in accordance with instructions issued by the parking director, to issue citations for violations of this article that include the following information:
 - (1) The location of the vehicle or the number of each parking meter indicating that the vehicle occupying the parking space adjacent to such parking meter is or has been parked in violation of any of the provisions of this article.
 - (2) The state and license number of such vehicle.
 - (3) The date and time at which such vehicle was found parked in violation of any of the provisions of this article.
 - (4) Any other facts, acknowledgement of which is necessary to a thorough understanding of the circumstances attending such violation.
- (b) Each parking enforcement specialist shall also attach to such vehicle a notice to the owner thereof that such vehicle has been parked in violation of a provision of this article.

Sec. 74-140. Parking meter bags.

- (a) The City Manager or designee shall promulgate policies and procedures authorizing the issuance of parking meter bags or permits for the purpose of temporarily closing or restricting use of public metered spaces. The policy and procedures will define the process for application, administration and distribution.
- (b) Fees for use of the metered spaces shall be established in a fines and fees resolution adopted by the City Commission.
- (c) Any person who violates the terms and conditions under which a parking meter bag or permit is issued will be subject to fines for improper parking in a meter zone.

- (d) No person may fraudulently procure, alter or wrongfully utilize a bag or permit issued pursuant to the policies and procedures promulgated under this section..

DIVISION 3. VALET PARKING

Sec. 74-164. Regulations; limitations.

- (a) It shall be unlawful for any person or company to provide, on a continuing basis, a parking service which uses public right-of-way, public or private parking spaces either for pick-up, delivery or storage of automobiles without first obtaining a valet parking permit pursuant to the regulations herein. Any vehicles valet parked outside of their assigned parking zone in any other on or off-street parking stalls or private property without property owner's written authorization will be cited.
- (b) Valet parking permits may be obtained for the operation of valet parking services at any city licensed hotel, motel or restaurant.
- (c) Valet parking spaces cannot substitute for or be counted as off-street parking spaces as required by the zoning code or other applicable city codes.

Sec. 74-165. Application and review procedures for permit.

- (a) Applications for a valet parking permit shall be made by the owner of the business for which valet parking services are to be provided or by that valet parking company providing the service. The application shall be submitted to the parking department on forms provided by the same department. Traffic plan must be submitted with original application detailing route to be followed between the pick up and delivery zones and the storage area.
- (b) If the operator of the valet parking service is a separate company from the business owner, the submitted application must include the valet company's city occupational license.
- (c) The application shall include the required information and fees as specified in section 74-166.
- (d) The city will require a certificate of insurance from each valet parking company (i.e. restaurant) requesting inclusion in the valet parking program.
 - (1) The required certificate of insurance is to be made available to Insurance and Safety Division of the Employee Relations Department located at 2801 Salzedo Street, 2nd floor.

- (2) The insurance coverage shall include:
- a. Garage liability with limits of \$1,000,000.00 per occurrence naming the city as an additional insured.
 - b. Garage keepers' legal liability of no less than \$50,000.00 each auto and \$250,000.00 aggregate.
 - c. Workers compensation: Florida statutory limits plus employers' liability limit no less than \$100,000.00 for death or injury to any one person, \$500,000.00 for personal injuries or deaths per occurrence and \$100,000.00 for damage or destruction of property.
 - d. Any other requirements as determined by the city attorney, or other city department.

Each permit holder must agree to keep this minimum liability coverage in effect for the duration of this agreement, as well as to provide the city with a new certificate 15 days before their policy renewal date.

- (e) The parking director shall review the application and may approve, approve with conditions, or deny the subject application. Permits shall be granted upon a showing that there will be compliance with the provisions of this article.
- (f) An appeal from the decision of the parking director on a valet parking application may be taken to the parking advisory board. The board shall have the authority to uphold or overrule the parking director's decision.

Sec. 74-166. Standards for service.

- (a) *Evening time period valet parking.*
 - (1) *Time provided.* Valet parking services will only be provided after 5:00 p.m. Monday through Saturday, and at any time on Sunday.
 - (2) *Signage.* A temporary pole mounted valet parking information sign may be located in front of the business providing valet service only during the time the valet service is in operation. The parking department shall provide standards for valet parking signage including material used, height, size, color, lettering and categories of information to be displayed. No other signage shall be permitted in relation to valet parking.
 - (3) *Pick-up/deliver zones.* A valet parking service may only pick up and deliver vehicles in the curb lane closet to the entrance to the

establishment. The service may reserve on-street public metered parking spaces for the delivery and pick-up of vehicles if an adequate number of metered spaces are available. The maximum number of reserved parking spaces used for a pick-up/delivery zone shall be determined by the parking director. The valet parking permit application shall indicate the location of the reserved parking spaces. In no case may any vehicle be parked in excess of 15 minutes in any pick up and delivery zone-parking stall.

- (4) *Parking storage spaces.* The number and location of reserved off-site parking storage spaces must be identified as part of the application for a valet parking permit. The number and location of reserved off-site spaces shall be appropriate to serve the establishment. When the off-site parking spaces are located in a private parking facility a written agreement shall be submitted authorizing the use of the parking spaces from the property owner and must be submitted with the application. Parking spaces located in a private parking facility that are counted toward minimum parking requirements for another development may be used for storage upon a finding by the parking director that there is adequate capacity for valet storage. Public off street parking spaces may also be reserved for parking storage wherever public access is not compromised and subject to approval of the parking director.

(b) *Lunch time period valet parking.*

- (1) *Permit.* Valet parking permits for the lunch time defined as Monday through Saturday may be obtained in order to provide valet parking which uses public parking spaces as a pick-up or delivery zone for customer cars. The permittee must demonstrate a sufficient number of parking stalls are available to meet their vehicle storage requirements before a permit is issued. A restaurant can provide valet parking at any time without a permit if the pick-up and storage of cars is accomplished on their own property.
- (2) *Where available.* A lunchtime (Monday--Saturday) valet parking permit will be available from the city parking department.
- (3) *Regulations governing.* All regulations currently obtained in the City Code (Chapter 25, Article VIII) will govern the provision of valet parking during the lunch time period with the following exceptions: Applicants must file an application and a certificate or letter specifically indicating the location and number of spaces available for storage of valet parked vehicles during the lunch time period. These spaces cannot include any on-street public parking spaces and may only include off-street public parking spaces where the parking

director has determined public access will not be compromised. Parking spaces located in a private parking facility that are counted toward minimum parking requirements for another development may be used for storage upon a finding by the parking director that there is adequate capacity for valet storage. The approval of the application is at the discretion of the parking director.

- (c) *Valet parking permit fees.* Fees in the amount established by the city commission shall be paid to the parking department for valet parking permits.
 - (1) *Security deposit.* A security deposit equal to the monthly cost for reserved spaces shall be paid at the time the parking permit is obtained.
 - (2) *Failure to pay monthly fee.* Failure to pay the monthly fee to the parking department by the tenth day after the end of the previous month may result in immediate suspension or revocation of the valet parking permit.

Sec. 74-167. Procedures and penalties for violation.

The parking director or his designee may inspect the operation of any valet parking service and may issue warnings to the establishment that the service is in violation of the regulations contained herein or is in violation of other provisions of the zoning code. Failure to correct violations may result in the parking director suspending or terminating a valet parking service permit. The parking director shall have the authority to review, modify and/or suspend a previously issued valet parking permit if there is evidence that the operation is in violation of city code provisions or has caused a hardship in the vicinity.

- (1) *First violation or violations.* The parking director or his designee, or the appropriate department, including police department, may issue a citation to the restaurant owner and/or the valet parking operator, detailing the violations, citation number or numbers, and the license plate or plates of vehicles parking in violation, and the amount of the fine, and a warning that a second date of violation within a six month period will result in the owner and valet parking operator being required to make an appearance before the parking advisory board, which shall act in accordance with the provisions provided herein.
- (2) *Second violation and/or violations occurring within a six-month period.* A citation or citations will be issued via a certified letter to the owner and the valet parking operator detailing the violations, citation numbers, and the license plates of vehicles parking in violation, and amount of fine. The owner and valet parking operator shall be required to appear before the parking

advisory board at the next regularly scheduled meeting, and may be subject to suspension or further conditions of valet parking privileges for a period deemed appropriate by the board, with the understanding that the owner, operator or their designees failure to appear may result in the restaurants being terminated, removed or suspended from participation in the valet parking program. Once suspended under the provision of this section, the owner and operator shall be prohibited from further valet parking from any location unless approved by the parking advisory board upon applying for reinstatement.

- (3) *Third violation and/or violations occurring within a six-month period.* A citation or citations will be issued via certified letter to the owner and the valet parking operator, detailing the violations, citation numbers, license plates of vehicles parking in violation and amount of fine. The owner and valet parking operator are required to make an appearance before the parking advisory board at their next regularly scheduled meeting, and may be subject to suspension, removal or termination from the valet parking program for a period deemed appropriate by the board with the understanding that the owner and/or valet parking operators or his designee's failure to appear may result in complete termination of privileges to participate in the valet parking program. Any valet parking participant suspended for a period longer than 30 days may reapply for valet parking participation through the parking advisory board at the next regularly scheduled meeting.

Sec. 74-168. Violations appeal procedures; rights and remedies; supplemental provisions.

The decision of the parking director or his designee to suspend, review or modify previously issued valet parking permits may be appealed to the parking advisory board within ten days of the issuance of a written decision by the parking director or his designee. If the parking director or his designee finds a violation of this article:

- (1) The parking director or his designee may issue a notice of violation to the violator (valet company operator in violation of the article) as provided herein, and as this article may be amended from time to time. The notice shall inform the violator of the nature of the violation, amount of fine for which the violator may be liable, instructions and due date for paying the fine, notice that the violation may be appealed by requesting an administrative hearing within 20 days after service of the notice of violation, and that failure to appeal the violation within the 20 days shall constitute an admission of the violation and a waiver of the right to a hearing.
- (2) Civil fines shall be established by resolution of the city commission.
- (3) A violator who has been served with a notice of violation shall elect either to:

- a. Pay the civil penalty in the manner indicated on the notice, and correct the violation within the time specified; or
 - b. Request an administrative hearing before a hearing officer to appeal the determination of the director or his designee that resulted in the issuance of the notice of violation.
- (4) An appeal for administrative hearing shall be accomplished by filing a request in writing to set the hearing before the hearing officer for review and mailed to the parking director or his designee or to the address indicated on the notice, not later than 20 days after the service of notice. The hearing shall be conducted in the same manner as provided in chapter 18.
- (5) If the named violator, after notice, fails to pay the civil penalty and correct the violation (within the time specified), or to request, in a timely manner, an administrative hearing before the hearing officer, such failure shall constitute a waiver of the violator's right to an administrative hearing before a hearing officer. A waiver of the right to an administrative hearing shall be treated as an admission of the violation and penalties may be assessed accordingly.

Sec. 74-169. Vehicle removal.

- (a) Whenever appropriately ascertained that a vehicle is unlawfully parked in a properly bagged or decaled valet designated pick up and delivery zone said vehicle may be removed through tow and stored at owner's expense.
- (b) Only the vendor "tow company" selected by the city to provide a tow service from on-street and off-street city parking stalls is authorized to be used by any users including valet parking companies. The use of any other tow company to service these locations will constitute a violation of this article.
- (d) Responsibility and liability for vehicle removal and storage shall be the sole province of the valet parking company requesting such removal.

Sec. 74-170. Parking advisory board.

In addition to the responsibility specified in section 74-165(f), the parking advisory board, upon the request of the parking director, may review and advise upon general standards for valet parking signage, key storage, as well as number and location of reserved off-site parking storage spaces.

Sec. 74-171. General standards; appeals.

- (a) The parking advisory board, upon the request of the parking director, may review and advise upon general standards for valet parking, signage, and key storage, as well as number and location of reserved off-site parking storage spaces.
- (b) An appeal from the decision of the parking director on a valet parking application may be taken to the parking advisory by the applicant. The board shall have the authority to uphold or overrule the parking director's decision.
- (c) The decision of the parking director or his designee to suspend, review or modify previously issued valet parking permits may be appealed to the parking advisory board within ten days of the issuance of a written decision by the parking director or his designee.

DIVISION 4. PARKING BY PERMIT ONLY

Sec. 74-194. Signs.

When signs authorized by the parking director are erected prohibiting parking in a place designated by permit only, it shall be a violation for any person to stop, stand or park a vehicle in such designated area without a proper permit.

Sec. 74-195. Residential decal parking program.

- a. The city manager or his designee shall designate a residential decal program area and shall designate certain parking spaces therein as being subject to the provisions of the program. In carrying out the provisions of this article, the city manager or his designee shall designate only those residential areas where the incursion of vehicles assimilating parking accommodation, and whose owners reside outside of said residential area, create an unacceptable shortage of parking availability for area residents and/or their guests or visitors.
- b. Where meters are installed in front of a mixed use development with residential units, multifamily residential properties, or on an arterial street that passes through a residential neighborhood; the city manager or his designee may create a residential permit program provided there is adequate on street parking
- c. The parking director or his designee shall install signage in the program area. The signs shall indicate the parking restrictions for the designated space.
- d. During the hours of enforcement, parking enforcement officers or police officers shall be authorized to issue parking citations to all vehicles parked in a designated space that do not display a proper program decal or hang tag.

- e. During the hours of enforcement, no person shall park a vehicle in a program area designated space unless such vehicle displays a current program decal or hang tag.
- f. Program decals and hang tags shall be purchased from the parking department for the annual fee set for each residential permit program area by commission resolution.
- g. The residents of each dwelling unit located within a program area will be eligible to buy annual program decals. Program decals shall be purchased upon the presentation of: current motor vehicle registration, current driver's license, and either a current utility bill or a copy of a fully executed lease for property located within the program area, all of which shall be in the name of the person acquiring the program decal. All documentation listed herein shall reflect an address within the program area boundaries.
- h. Visitor hang tags shall be available from the parking department for residential permit areas established under paragraph (a) above. Residents in a program area shall be entitled to four free visitor hang tags per year. Additional visitor hang tags shall be available for a maximum of 30 days per issuance for a fee, as established.
- i. A contractor serving a residential address within a program area established under paragraph (a) above shall be eligible to obtain a free visitor hang tag from the parking department.

Sec. 74-196. Penalty.

All persons found in violation of this division shall be liable for a fine of \$23.00, and if paid after 30 days, a fine of \$42.00. This fine schedule is subject to future increase by authority of the county.

DIVISION 5. PARKING REPLACEMENT ASSESSMENT.

Sec. 74-201. Generally.

- (a) Purpose. The parking replacement assessment is established for the purpose of developing and maintaining adequate public parking within Coral Gables. Funds generated by this assessment shall be used to develop additional public parking owned and operated by the City of Coral Gables.

- (b) Lost space within the right-of-way. Any new construction, addition, alteration or rehabilitation that results in the loss of public parking within the right-of-way requires payment of replacement costs as established in a Fee Resolution approved by the City Commission.
- (1) Replacement costs must be paid for all parking spaces lost to provide ingress and egress to a development, restrictive signage for a development, streetscape improvements adjacent to a development and/or any other permitted use of the parking right of way.
 - (a) Any development that provides off-street parking on-site will be allowed up to twenty-two (22') feet of curb space to provide ingress and egress to the parking facility without assessment.
 - (b) Any restrictive use of the parking right of way or signage must be approved by the Parking Director and the Public Works Director or their designees.
 - (2) Developments including attainable housing may be permitted a reduction in the parking assessment fee as provided in the Zoning Code or Fee Resolution approved by the City Commission.
 - (3) When an on-street parking space abutting a development is lost solely to meet an established streetscape master plan or traffic calming required by the City, the parking replacement assessment for that space shall be reduced by 50%.
- (c) Existing Annual Payments. Where an abutting property owner is making an annual payment for lost parking meter revenue pursuant to prior ordinance, the property owner may terminate that payment at anytime by paying the parking replacement assessment provided for in this ordinance.
- (d) Payment in Lieu. Any new construction, addition, alteration or rehabilitation on property within one-hundred (100) feet of the Ponce de Leon right of way or within the central business district (CBD) that creates or increases off-street parking requirements under Zoning Code Section 5-1409 may propose satisfying those requirements for off-street parking by providing a payment-in-lieu as established in the most current Fee Resolution approved by the City Commission as follows:
- (1) Where the new construction, addition, alteration, or rehabilitation exceeds the exemption found in Zoning Code Section 5-1409(A) by 1,500 square feet or less;

- (2) For all other new construction, additions, alterations or rehabilitations that created additional off-street parking demands, a developer may propose a payment-in-lieu to satisfy the requirement for up to 50 of the off-street parking spaces required. Acceptance of payment-in-lieu to satisfy parking requirements is at the discretion of the City of Coral Gables Parking Director or his designee. When reviewing development plans that propose a payment-in-lieu, the Parking Director or his designee will consider any relevant information including: the existing supply of parking spaces within six hundred (600) feet of the project, current parking occupancies, plans for construction or expansion of public parking facilities and proposed use of public or alternative transportation; or
- (3) Where a development abuts a street served by the Coral Gables Trolley, any permitted payment-in-lieu shall be reduced by 50%.

Sec. 74-202. Payment of Fee.

The parking replacement assessment or payment-in-lieu shall be satisfied by a one-time payment prior to the issuance of a building permit. The assessment will be paid in the amount established in the most current Fee Resolution approved by the City Commission.

Sec. 74-203. Deposit of Funds.

Funds generated by the parking replacement assessment program shall be deposited into a City account specifically established for parking development reserves. The funds may be used to acquire property or pay for capital improvement, development and construction costs for any public parking facility.

Section 3. All ordinances or parts of ordinances insofar as they are inconsistent or in conflict with the provisions of this Ordinance are repealed.

Section 4. If any section, part of a section, paragraph, clause, phrase or word of this Ordinance is declared invalid, the remaining provisions of this Ordinance shall not be affected.

Section 5. This ordinance shall become effective ten days from the date of its adoption by the City Commission.

PASSED AND ADOPTED THIS _____ DAY OF SEPTEMBER, 2008, A.D.

APPROVED:

DRAFT

DONALD D. SLESNICK II
MAYOR

ATTEST:

WALTER J. FOEMAN
CITY CLERK

APPROVED AS TO FORM AND
LEGAL SUFFICIENCY:

ELIZABETH M. HERNANDEZ
CITY ATTORNEY

City of Coral Gables
CITY COMMISSION MEETING
August 26, 2008



ITEM TITLE:

An ordinance providing for text amendments to the code of the City of Coral Gables, chapter 74, article III, division 1, 2, 3, and 4 entitled “stopping, standing and parking” providing for updates to the parking provisions and procedures, changes to valet parking provisions, enactment of a new division 5 to provide for a “parking replacement assessment”.

RECOMMENDATION OF THE CITY MANAGER:

The City Manager recommends approval of this item.

BRIEF HISTORY:

The parking department recommends approval of the proposed text amendments to Chapter 74, Article III of the Code of the City of Coral Gables entitled “Stopping, Standing and Parking.” A clean version of these provisions (ATTACHMENT A) with the proposed amendments is included for your review.

Background

Ordinances related to parking are found in the Code of the City of Coral Gables, Chapter 74, Article III. Many of these code provisions were adopted nearly sixty (60) years ago. Over the years, the development of new technologies, equipment and operating systems within the parking system have made many of the existing code provisions inapplicable and outdated. The Parking Department is proposing updated language to meet existing operations within the current parking system. Four of the proposed changes create changes in how we manage parking.

Historically, management of parking spaces within the public right of way was only allowed by using single space mechanical meters. Current systems and equipment within the City’s parking system allow for multiple management options. The City has invested in new systems that include electronic meters, multi-space meters and permit systems (including pay-by-phone). The proposed amendment to Section 74-130(b) specifically allows the use of permit parking to manage parking spaces within meter zones. The terms and conditions of these permit programs are defined within a permit agreement provided that fees are consistent with rate schedules approved by the Commission.

Although the existing valet ordinance allows use of off-site private parking spaces for valet storage, these spaces are not available if they are at any time counted toward the required parking of another development. Many private facilities have significant parking supply available during off-peak hours. The proposed amendments to section 74-166(a)(4) and (b)(3) would allow the use of any privately controlled space for valet parking provided the applicant demonstrates there is adequate capacity for valet storage. Because valet agreements run month to month, it is possible to change the agreement based on

changes in occupancy and demand requirements in the private parking facility.

The existing residential decal program does not explicitly provide for permit programs where right of way parking may be metered. Where residential units are primarily located on arterial streets, within mixed use districts, or where residential units are primarily large multifamily properties, spaces within the right of way may be primarily managed for non residential purposes. However, frequently a permit program can be developed to balance the interests of residential and non residential traffic. The proposed section 74-195(b) specifically allows development of such programs where there is adequate capacity in the on street parking supply. One such existing permit zone exists on the 600 and 700 blocks of Biltmore Way.

The Parking Advisory Board on two (2) occasions reviewed and approved provisions and language for a new Division 5 in the parking code providing for a “Parking Replacement Assessment.” Currently, when a development results in to loss of a public parking space, the developer is responsible for making annual payment to cover lost revenue. Staff and the Parking Advisory Board believe it is better public policy to focus on requiring the developer to pay the cost of replacing the lost parking space. This is accomplished by requiring the developer to make a one time payment equivalent to the cost of developing a parking space within the public system. The current recommendation is to initially establish the fee at twenty-five thousand dollars (\$25,000). Funds collected would be dedicated to developing additional capacity in the public parking system.

A second provision in the “Parking Replacement Assessment” ordinance allows for a limited “payment in lieu” program. Where parking requirements are triggered by small additions, alterations or infill development, those requirements may be satisfied by paying into the public parking fund a fee sufficient to develop the parking spaces within the public parking system. For larger developments, the payment in lieu program may be used only where an applicant can demonstrate there is adequate parking supply and may be used to satisfy no more than 50 required parking spaces.

FINANCIAL INFORMATION: (If Applicable)

No.	Amount	Account No.	Source of Funds

APPROVED BY:

Department Director	City Attorney (If Applicable)	City Manager

ATTACHMENT(S):

1. Draft Ordinance
2. Draft Ordinance clean copy

In Lieu of Required Parking

Donald C. Shoup

No version of the system ever quite withstood the test of additional refined observations. - Thomas Kuhn

Americans learn about free parking early, when they play *Monopoly*. Players buy property, build houses and hotels, pay rent, or go to jail at a toss of the dice – but in one toss out of 40 they land on "Free Parking."¹ When they grow up and drive cars, the odds of landing on free parking increase dramatically; American motorists park free for 99 percent of all their trips.²

If motorists don't pay for parking, who does? Initially, developers pay for parking. Providing all the spaces necessary to meet minimum parking requirements in zoning ordinances raises the cost and reduces the density of development. The cost of parking is then shifted into higher prices or lower values for everything else – so everyone pays for parking indirectly. Residents pay for parking through higher prices for housing. Consumers pay for parking through higher prices for goods and services. Employers pay for parking through higher office rents. Workers pay for parking through lower cash wages. Property owners pay for parking through lower land values. Because motorists park free for 99 percent of all trips, only in our role as motorists do we *not* pay for parking. Everyone but the motorist pays for parking.

Minimum parking requirements in zoning ordinances collectivize the cost of parking, while market prices for parking individualize this cost. Unless the price of parking gives motorists an incentive to economize, the cost of parking does not influence decisions on whether to own or drive a car. With the cost of parking hidden in the prices of other goods and services, people cannot choose to pay less for parking by using less of it.

Parking requirements generally hide the cost of parking within the cost of development, but in one case this cost is explicit: Some cities offer developers the option of paying a fee in lieu of providing the required parking. For example, Palo Alto, California, allows developers to pay the city a fee of \$17,848 for each required parking space that is not provided. The city then uses the revenue for public parking spaces to replace the private parking spaces that developers would have provided.

In this paper, I use cities' in-lieu fees to estimate the developers' cost of complying with parking requirements. I then examine another promising in-lieu option: *allow developers to reduce parking demand rather than increase the parking supply*. Examination of an Eco Pass program in California shows that paying the transit fare for commuters who arrive by bus costs far less than providing the parking required for commuters who arrive by car.

Journal of Planning Education and Research 18:307-320.

© 1999 Association of Collegiate Schools of Planning.

ABSTRACT

Some cities allow developers to pay a fee in lieu of providing the parking spaces required by zoning ordinances, and use this revenue to finance public parking spaces to replace the private parking spaces the developers would have provided. This paper presents a survey of in-lieu programs in 46 cities in the United States, Canada, the United Kingdom, South Africa, Germany, and Iceland. These in-lieu programs reduce the cost of development, encourage shared parking, improve urban design, and support historic preservation. The in-lieu fees also reveal that the cost of complying with minimum parking requirements is more than four times the cost of the impact fees that cities levy for all other public purposes combined. The high cost of required parking suggests another promising in-lieu policy: allow developers to reduce parking demand rather than increase the parking supply. Examination of an Eco Pass program in California shows that reducing parking demand can cost far less than increasing the parking supply.

Donald C. Shoup is a professor of urban planning and the director of the Institute of Transportation Studies at the School of Public Policy and Social Research, University of California, Los Angeles; shoup@ucla.edu.

■ A SURVEY OF IN-LIEU PARKING PROGRAMS

I have surveyed the in-lieu parking programs in 46 cities: 24 in the United States, seven in Canada, six in the United Kingdom, six in Germany, two in South Africa, and one in Iceland (see Table 1)³. The ordinances and supporting documents for the in-lieu programs were examined, and officials who administer the programs were interviewed. The survey results are summarized in three sections: (1) the advantages and disadvantages of in-lieu fees, (2) how cities set the fees, and (3) issues that arise in administering the programs.

Advantages of In-Lieu Fees

Officials in the surveyed cities reported that in-lieu fees have five major advantages for both cities and developers.

1. *A new option.* In-lieu fees give developers an alternative to meeting the parking requirements on sites where providing all the required parking spaces would be difficult or extremely expensive.
2. *Shared parking.* Public parking spaces allow shared use among different sites where the peak parking demands occur at different times. Shared public parking is more efficient than single-use private parking because fewer spaces are needed to meet the total peak parking demand. Shared parking also allows visitors to leave their cars parked while making multiple trips on foot, and is one of the easiest ways to make better use of scarce urban land.
3. *Better urban design.* Cities can put public parking lots and structures where they have the lowest impact on vehicle and pedestrian circulation. Less on-site parking allows continuous storefronts without "dead" gaps for adjacent surface parking lots. To improve the streetscape, some cities dedicate the first floor of the public parking structures to retail uses. Developers can undertake infill projects without assembling large sites to accommodate on-site parking, and

architects have greater freedom to design better buildings.

4. *Fewer variances.* Developers often request parking variances when providing the required parking would be difficult. These variances create unearned economic windfalls, granted to some but denied to others. If developers can pay cash rather than provide the required parking, cities do not have to grant parking variances and can therefore treat all developers consistently.
5. *Historic preservation.* In-lieu fees allow adaptive reuse of historic buildings where the new use requires additional parking that is difficult to provide. The in-lieu policy therefore makes it easier to preserve historic buildings and rehabilitate historic areas.

Disadvantages of In-Lieu Fees

Officials in all the surveyed cities recommended in-lieu fees, but some reported that developers were at first skeptical of them. The following four points summarize the potential disadvantages mentioned by developers.

1. *Lack of on-site parking.* Parking is a valuable asset for any development. A lack of on-site, owner- controlled parking can reduce a development's attractiveness to tenants and customers. While a lack of on-site parking is a real disadvantage, developers who are concerned about this problem can always provide the parking rather than pay the fee.
2. *High fees.* Cities may not construct and operate parking facilities as efficiently as the private sector. For example, cities may pay extra to improve the architectural design of parking lots and structures. The resulting in-lieu fees may be high. Although some cities charge high in-lieu fees, most set their in-lieu fees lower than the cost of providing a public parking space. Because the fixed cost for ramps, elevators, stairwells, and curb cuts can be spread among more spaces in large public parking structures, economies of scale in building these structures can further reduce the in-lieu fees.

more spaces in large public parking structures, economies of scale in building these structures can further reduce the in-lieu fees.

3. *No guarantees.* Cities may intend to use the in-lieu fee revenue to finance public parking, but they do not guarantee when or where the parking spaces will be provided. To address this concern, some cities build public parking structures before receiving the in-lieu fees. The in-lieu fees are then used to retire the debt incurred to finance the structures. Other cities return the in-lieu fees if they do not provide the parking within a certain time. A city can also

UNITED STATES		UNITED KINGDOM
Berkeley, Calif.	Palo Alto, Calif.	Brent
Beverly Hills, Calif.	Pasadena, Calif.	Harrow
Carmel, Calif.	San Francisco, Calif.	Kingston upon Thames
Chapel Hill, N.C.	San Rafael, Calif.	Redbridge
Claremont, Calif.	State College, Penn.	Sutton
Concord, Calif.	Walnut Creek, Calif.	Waltham Forest
CulverCity, Calif.		
Davis, Calif.	CANADA	GERMANY
Hermosa Beach, Calif.	Burnaby, B.C.	Dresden
Kirkland, Wash.	Calgary, Alberta	Frankfurt
Lafayette, Calif.	Hamilton, Ontario	Hamburg
Lake Forest, Ill.	Kitchener, Ontario	Munich
Manhattan Beach, Calif.	Ottawa, Ontario	Nuremberg
Montgomery County, Md.	Toronto, Ontario	Würzburg
Mountain View, Calif.	Vancouver, B.C.	
Mill Valley, Calif.		SOUTH AFRICA
Orlando, Fla.	ICELAND	Johannesburg
Palm Springs, Calif.	Reykjavik	Port Elizabeth

Table I Surveyed cities with in-lieu parking fees.

delay collecting the in-lieu fees until the revenue is needed to construct the public parking.

4. *Fewer parking spaces.* In-lieu fees will reduce the parking supply if cities provide fewer than one public parking space for each in-lieu fee paid. A smaller parking supply can put an area at a competitive disadvantage. Cities may not provide one public parking space for each in-lieu fee paid, but if a city uses in-lieu fees to build public parking spaces rather than grant variances to reduce parking requirements, the in-lieu policy will increase rather than decrease the parking supply. Even if an in-lieu policy does reduce the parking supply, shared public parking reduces the parking supply needed to meet the sum of all individual peak parking demands.

While the developers' concerns cannot be ignored, officials in most of the surveyed cities said that the fees had become a form of administrative relief for developers who do not want to provide the required parking spaces. In practice, the in-lieu fees have benefitted developers by offering them an alternative to building expensive parking spaces.

How Cities Set the Fees

Cities use two basic approaches to set their in-lieu fees. The first is to calculate the appropriate fee per space on a case-by-case basis for each project. The second is to have a uniform fee per space for all projects.

One city has employed both methods. Until 1994, Beverly Hills used the first approach – a specific fee for each project. The in-lieu fee for a project was the estimated land-and-construction cost per space to build a nearby public parking structure. Between 1978 and 1992, developers paid in-lieu fees for 52 parking spaces. The per-space fee set for each project was the sum of (1) the value of 60 square feet of land within a 300-foot radius of the site, and (2) the average construction cost per space in municipal parking structures. The average fee was \$37,000 per space, and the highest was \$53,000 per space. Therefore, in the extreme case, a developer was willing to pay the city \$53,000 for the right not to provide a parking space (Beverly Hills 1992).

This case-by-case procedure required a land-value appraisal to estimate the cost of public parking near each project that applied to pay the fee. After waiting four to six months to be notified of the fee, applicants usually appealed to the City Council to reduce it. Developers complained that not knowing the fee until after the appraisal created uncertainty in project planning. The case-by-case approach was complicated, time-consuming, and expensive.

To address these problems, Beverly Hills adopted the second approach in 1994 – it set uniform fees for all projects. These new fees are easier for the city to administer and for developers to use. Developers can easily incorporate the fee in a financial analysis and decide whether to provide the required parking or pay the fee. Thirty-seven of the 46 surveyed cities set uniform fees, probably because of their certainty, simplicity, and equity.⁴

Most cities' in-lieu fees do not cover the full cost of providing a public parking space.⁵ Cities aim to set their fees high enough

to pay for public parking, yet low enough to attract development. Most cities have no explicit policy regarding how often to revise their fees, and some cities' fees have not changed for many years. A few cities automatically link their fees to an index of construction costs. For example, Beverly Hills and Palo Alto adjust their fees annually by the ENR Construction Cost Index, a measure of cost inflation in the construction industry.

Kirkland has two unusual in-lieu options. Developers can pay \$6,000 per parking space not provided, and the subsequent owners must purchase one parking permit in a public lot for every three spaces not provided (because the city estimates that employees use one-third of the required parking spaces). Alternatively, developers pay no initial in-lieu fee but subsequent owners must purchase a parking permit in a public lot for each space not provided. This annual option reduces the capital cost of development and encourages the use of public parking. A property owner may cancel the annual agreement at any time by providing the required on-site parking.

German cities often have a graduated schedule of in-lieu fees (*Ablösebeträge*). The fees are highest in the city center and decline with distance from the center. For example, Hamburg's fee is \$20,705 per parking space in the city center, and \$11,300 in the area surrounding the center.

Vancouver has the most sophisticated method for calculating its in-lieu fee (\$9,708 per space). This fee is the parking subsidy implicit in constructing a new public parking space, as measured by: (1) the land-and-construction cost per space in a public parking structure, minus (2) the present discounted value of the net operating income per space during the expected 30-year life of the structure, minus (3) the present discounted value of the residual property value of the structure, per space, after 30 years. The in-lieu fee is thus the expected net present cost per space – all parking costs minus all parking revenues – over the structure's life. Developers who pay the fees do not subsidize the city, and the city does not subsidize developers. Instead, developers subsidize parking.

To summarize, some cities set the fees on a case-by-case basis, but most set uniform fees for all development. Cities use a wide variety of methods to set their in-lieu fees, which range from \$2,000 to \$27,520 per parking space not provided.

Who Decides Whether to Provide Parking or Pay Fee?

Most cities allow developers to choose whether to pay the fee or provide the parking, but a few cities *require* developers to pay the fee rather than provide the parking. Officials in these latter cities cited several reasons for requiring developers to pay the fees: to centralize parking facilities, put more of the parking supply under public management, encourage shared parking, discourage the proliferation of surface parking lots, emphasize continuous shopfronts, improve pedestrian

circulation, reduce traffic congestion, and improve urban design.⁶

Some cities allow property owners to remove existing required spaces by paying in-lieu fees. This option consolidates scattered parking spaces, facilitates reinvestment in older buildings, and encourages more efficient use of scarce land previously committed to surface parking.

Most American cities reduce their parking requirements in the central business district (CBD). In contrast, German cities often have uniform parking requirements throughout the city, but allow developers in the CBD to provide only part of the required parking, and require them to pay fees for the rest. For example, developers may provide at most 25 percent of the parking required for land uses in the center of Hamburg, and must pay fees in lieu of providing the rest of the parking.

In-lieu fees in the United States are legally justified by the nexus between the fees and the cost of providing public parking spaces. American cities therefore offer the in-lieu option only where they are prepared to spend the fee revenue to provide new public parking facilities. The nexus argument does not necessarily imply that the in-lieu revenue must be used to provide public parking, however, because a variety of transportation improvements can substitute for more parking. For example, British and German cities often use the in-lieu revenue to improve public transportation.

■ THE IMPACT FEES IMPLICIT IN MINIMUM PARKING REQUIREMENTS

Parking requirements resemble impact fees. Many cities require developers to pay impact fees to finance public infrastructure – such as roads and schools – that development makes necessary. In *Regulation for Revenue*, Alan Altshuler and José Gómez-Ibáñez (1993) define these impact fees as "mandated expenditures by private land developers, required as a price for their obtaining regulatory permits, in support of infrastructure and other public services" (vii).

Parking requirements resemble impact fees because developers provide the required infrastructure – parking spaces – to obtain building permits. In-lieu parking fees also resemble impact fees because developers pay the fees to obtain building permits, and cities then use the revenue to pay for public infrastructure – parking spaces – that the development makes necessary. When cities require developers to pay the fees rather than provide the parking, the in-lieu fees *are* impact fees.

We can use the in-lieu fees to estimate the impact fees implicit in parking requirements. Impact fees are usually levied per square foot of building area, while in-lieu fees are levied per required parking space not provided. To compare in-lieu fees with impact fees, we must first convert the in-lieu fees into a cost per square foot of building area. We can do this because cities usually require parking spaces in proportion to building area (on the assumption that building area determines parking demand). The in-lieu parking fees per square foot of building area reveal the impact fees implicit in the parking requirements themselves.

Impact Fees for Office Buildings

The parking impact fee for a land use depends on (1) the parking requirement and (2) the in-lieu fee. Table 2 presents the in-lieu fees and parking requirements for one land use – office buildings in the CBD – for 29 cities in the United States, Canada, the United Kingdom, Germany, South Africa, and Iceland.⁷ The last column shows the parking impact fees implicit in the parking requirements for office buildings in these cities.⁸

The first row shows that Palo Alto's in-lieu fee is \$17,848 per required parking space not provided. Palo Alto requires four parking spaces per 1,000 square feet of gross floor area for office buildings, so the in-lieu fee is equivalent to an impact fee of \$71 per square foot of office space (4x \$17,848 ÷ 1,000). A developer who does not provide any parking must pay the city a parking impact fee of \$71 per square foot of office space.

The parking impact fees range from \$71 per square foot in Palo Alto to \$2 per square foot in Waltham Forest. The median parking impact fee is \$25 per square foot of office space in the U.S. cities and \$10 per square foot in the Canadian cities. U.S. cities have higher parking impact fees because they require more parking, not because they have higher in-lieu fees. The median parking requirement is 2.9 spaces per 1,000 square feet in the U.S. cities but only one space per 1,000 square feet in the Canadian cities. The median in-lieu fee is \$9,125 per space in the U.S. cities and \$9,781 per space in the Canadian cities.

The parking impact fees outside North America range widely. Three British cities have high impact fees (\$33 to \$48 per square foot) because their in-lieu fees are high. Another British city has the lowest impact fee in the table (\$2 per square foot) because both its in-lieu fee and its parking requirement are low.⁹ The impact fees in Germany (\$32 per square foot) and Iceland (\$28 per square foot) are high because their in-lieu fees are high. The parking impact fee in South Africa (\$4 per square foot) is low because its in-lieu fee is low.

Do planners consider the cost of a parking space when they decide how many spaces to require? If they do, cities with higher in-lieu fees should require fewer parking spaces. But the coefficient of correlation between in-lieu fees and parking requirements in Table 2 is only 0.06, which suggests a random relationship between the cost of a parking space and the number of spaces required. Cost is no concern, it seems, when planners set parking requirements.

The average parking impact fee for the U.S. cities in Table 2 is \$31 per square foot, which dwarfs the impact fees levied for all other public purposes. A 1991 survey of 100 U.S. cities found that the impact fees for all purposes (roads, schools, parks, water, sewers, flood control, and the like) averaged \$6.97 per square foot of office buildings (see Altshuler and José Gómez-Ibáñez 1993, 40).¹⁰ The average

CITY	IN-LIEU PARKING FEE (\$/space)	LAND USE	PARKING REQUIREMENT (spaces per 1,000 square feet)	PARKING IMPACT FEE (\$/square foot)
(1)	(2)	(3)	(4)	(5)=(2)X(4)/1,000
Palo Alto, Calif.	\$17,848	Offices	4.0	\$71
Beverly Hills, Calif.	\$20,180	Offices	2.9	\$59
Walnut Creek, Calif.	\$16,373	Offices	3.3	\$55
Kingston upon Thames, U.K.	\$20,800	Offices	2.3	\$48
Camel, Calif.	\$27,520	Offices	1.7	\$46
Mountain View, Calif.	\$13,000	Offices	3.0	\$39
Sutton, UK	\$13,360	Offices	2.7	\$36
Harrow, UK	\$14,352	Offices	2.3	\$33
Hamburg, Germany	\$20,705	Offices	1.5	\$32
Lake Forest, Ill.	\$ 9,000	Offices	3.5	\$32
Mill Valley, Calif.	\$ 6,751	Offices	4.4	\$30
Palm Springs, Calif.	\$ 9,250	Offices	3.1	\$28
Reykjavik, Iceland	\$13,000	Offices	2.2	\$28
Claremont, Calif.	\$ 9,000	Offices	2.9	\$26
Concord, Calif.	\$ 8,500	Offices	2.9	\$24
Davis, Calif.	\$ 8,000	Offices	2.5	\$20
Orlando, Fla.	\$ 9,883	Offices	2.0	\$20
Kitchener, Ontario	\$14,599	Offices	1.3	\$19
Chapel Hill, N.C.	\$ 7,200	Offices	2.5	\$18
Kirkland, Wash.	\$ 6,000	Offices	2.9	\$17
Hermosa Beach, Calif.	\$ 6,000	Offices	2.6	\$16
Berkeley, Calif.	\$10,000	Offices	1.5	\$15
Burnaby, British Columbia	\$ 7,299	Offices	2.0	\$15
Vancouver, British Columbia	\$ 9,708	Offices	1.0	\$10
State College, Penn.	\$ 5,850	Offices	1.3	\$ 8
Ottawa, Ontario	\$10,043	Offices	0.7	\$ 7
Calgary, Alberta	\$ 9,781	Offices	0.7	\$ 7
Port Elizabeth, South Africa	\$ 1,846	Offices	2.3	\$ 4
Waltham Forest, U.K.	\$ 2,000	Offices	0.9	\$ 2
MEAN	\$11,305		2.3	\$26
MEDIAN	\$ 9,781		2.3	\$24

In-lieu fees and parking requirements are for the city center in 1996. In-lieu fees and impact fees are expressed in US\$.
 To obtain the parking requirement in spaces per 100 square meters, multiply the required spaces in Column 4 by 1.076.
 To obtain the parking impact fee in dollars per square meter, multiply the impact fee in Column 5 by 10.76.

Table 2. Minimum parking requirements considered as impact fees (for office buildings).

CITY	IN-LIEU PARKING FEE	LAND USE	PARKING REQUIREMENT	PARKING IMPACT FEE
(1)	(\$/space)	(3)	(spaces per 1,000 square feet)	(\$/square foot)
(1)	(2)	(3)	(4)	(5)=(2)x(4)/1,000
Beverly Hills, Calif.	\$20,180	Restaurant	22.2	\$448
Palm Springs, Calif.	\$ 9,250	Cabaret	28.6	\$264
Mountain View, Calif.	\$13,000	Assembly Hall	18.0	\$234
Kingston upon Thames, U.K.	\$20,800	Food Superstore	7.7	\$160
Davis, Calif.	\$ 8,000	Funeral Home	20.0	\$160
Sutton, U.K.	\$13,360	Food Superstore	8.5	\$114
Kitchener, Ontario	\$14,599	Manufacturing	7.7	\$112
Calgary, Alberta	\$ 9,781	Billiard Parlor	10.3	\$101
Ottawa, Ontario	\$10,043	Church	9.8	\$ 98
Claremont, Calif.	\$ 9,000	Theater	10.0	\$ 90
Hermosa Beach, Calif.	\$ 6,000	Theater	13.0	\$ 78
Burnaby, British Columbia	\$ 7,299	ArtGallery	10.3	\$ 75
Palo Alto, Calif.	\$17,848	All Uses	4.0	\$ 71
Mill Valley, Calif.	\$ 6,751	Assembly Hall	10.0	\$ 68
Harrow, U.K.	\$14,352	Garden Center	4.6	\$ 67
Hamburg, Germany	\$20,705	Garden Center	3.1	\$ 64
Walnut Creek, Calif.	\$16,373	Nonresidential	3.3	\$ 55
Kirkland, Wash.	\$ 6,000	Restaurant	8.0	\$ 48
Carmel, Calif.	\$27,520	Commercial	1.7	\$ 47
Concord, Calif.	\$ 8,500	Restaurant	4.0	\$ 34
Port Elizabeth, South Africa	\$ 1,846	Recreation Hall	18.6	\$ 34
Reykjavik, Iceland	\$13,000	Nonresidential	2.2	\$ 28
Lake Forest, Ill.	\$ 9,000	Restaurant	2.5	\$ 23
Orlando, Fla.	\$ 9,883	Nonresidential	2.0	\$ 20
Chapel Hill, N.C.	\$ 7,200	Offices	2.5	\$ 18
Berkeley, Calif.	\$10,000	Nonresidential	1.5	\$ 15
Vancouver, British Columbia	\$ 9,708	Nonresidential	1.0	\$ 10
Waltham Forest, U.K.	\$ 2,000	Shops	4.5	\$ 9
State College, Penn.	\$ 5,850	All Uses	1.3	\$ 8
MEAN	\$11,305		8.3	\$ 88
MEDIAN	\$ 9,781		7.7	\$ 67

In-lieu fees and parking requirements are for the city center in 1996. In-lieu fees and impact fees are expressed in US\$. To obtain the parking requirement in spaces per 100 square meters, multiply the required spaces in Column 4 by 1.076. To obtain the parking impact fee in dollars per square meter, multiply the numbers in Column 5 by 10.76. The land uses are those with the highest minimum parking requirements in each city.

Table 3 Minimum parking requirements considered as impact fees (for land uses with the highest parking requirements).

parking impact fee for office buildings is thus 4.4 times the average impact fee for all other public purposes combined. If impact fees reveal a city's priorities for public services, many cities' highest priority is free parking.¹¹

The 1995 Nationwide Personal Transportation Survey found that the average round-trip distance traveled to work in the United States was 23.2 miles.¹² Because new cars averaged 28.6 miles per gallon of gasoline in 1995, the average commute

in the average new car consumed 0.81 gallons of gasoline a day, or 17.8 gallons a month for commuting 22 days a month. The average price of gasoline in the United States was \$1.21 a gallon in 1995.¹³ At this combination of commute distance, fuel efficiency, and fuel price, the fuel cost of commuting by car is \$22 a month. In this case, a parking subsidy of more than \$22 a month is worth more than free gasoline for commuting.

The average in-lieu parking fee in the United States in Table 2 is \$11,305 per space. At an interest rate of 4 percent

amortized over 30 years, this in-lieu fee is equivalent to a capital cost of \$54 per parking space per month. This cost estimate is conservative because the interest rate is low and operating expenses are ignored. Nevertheless, it shows that parking requirements based on the demand for free parking double the cost of the gasoline used for driving to and from the required parking.

Impact Fees for Land Uses with the Highest Minimum Parking Requirements

Table 3 shows each city's parking impact fee for the land use with the highest parking requirement. The in-lieu fees in Table 3 are the same as those in Table 2 for office buildings because each city uses the same in-lieu fee for all land uses. The first row shows that Beverly Hills' in-lieu fee is \$20,180 per required parking space not provided, and that Beverly Hills requires 22.2 parking spaces per 1,000 square feet of restaurant space (one space per 45 square feet). Therefore, the parking requirement and the in-lieu fee together impose a parking impact fee of \$448 per square foot of restaurant space ($22.2 \times \$20,180 \div 1,000$). A developer who does not provide any parking must pay the city an impact fee of \$448 per square foot of restaurant space.

The impact fees in Table 3 are higher than in Table 2 because the parking requirements for the land uses in Table 3 are higher. For example, Mountain View's highest parking requirement (for assembly halls) is six times its parking requirement for office buildings, so its parking impact fee increases from \$39 per square foot in Table 2 to \$234 per square foot in Table 3.

The parking impact fees range from \$448 per square foot of restaurant space in Beverly Hills to \$8 per square foot for any land use in State College, Pennsylvania. The great variation in the cities' minimum parking requirements explains most of this variation in the parking impact fees.¹⁴ For example, Palm Springs and Vancouver have similar in-lieu fees, but Palm Springs' parking impact fee is 27.1 times Vancouver's because Palm Springs' highest parking requirement is 28.6 times Vancouver's highest parking requirement.

If a parking requirement is high, reducing the in-lieu fee does not make the parking impact fee low. For example, to encourage the expansion of restaurants that have been in business for at least two years, Beverly Hills offers a reduced in-lieu fee of \$6,265 per space, which is 35 percent of the construction cost per space for municipal parking structures, excluding land cost. Beverly Hills requires one parking space per 45 square feet of restaurant area, so this reduced in-lieu fee is equivalent to an impact fee of \$139 per square foot of restaurant area ($\$6,265 \div 45$). The in-lieu fee is far below the cost of providing a public parking space; but the parking impact fee is still high.¹⁵

Do In-Lieu Fees Impose a Cost on Developers?

In-lieu fees do not impose a cost on developers. Minimum parking requirements impose the cost, and in-lieu fees merely give developers an alternative to providing the required parking. If the in-lieu fee equals the cost of providing a parking space, the parking impact fee shows the cost of complying with the parking requirement.

Parking requirements would not impose a cost if developers voluntarily provided all the parking that zoning requires. But if developers voluntarily provided **all** the parking that zoning requires, parking requirements would be pointless. Some developers may provide more parking than required, but studies in the Los Angeles and Chicago regions have found that developers generally provide only enough parking to satisfy the zoning requirements. City officials, developers, lenders, leasing agents, and tenants all assume that planners know how much parking each land use needs (see Willson 1995; Chicago Regional Transportation Authority 1998).

In my own experience as a member of a Design Review Board in Los Angeles, I have reviewed the plans for all development projects in one part of the city, Westwood, for the past six years. I have seen many cases where the required parking limited a project's density or disfigured its design, but I have never seen a project that provided more parking than required.¹⁶

The impact fees in Tables 2 and 3 underestimate the cost of complying with parking requirements because developers who provide the required parking must also pay property taxes and operating costs for the privately owned spaces. The impact fees also understate the cost of complying with parking requirements if cities set their in-lieu fees below the cost of providing a parking space. Hamilton, Lake Forest, and Toronto set their fees at half the estimated land-and-construction cost of providing parking spaces.¹⁷ Mountain View, Orlando, and Walnut Creek set their fees at the construction cost per space in parking structures, excluding land cost.¹⁸

When asked why they set the in-lieu fee below the cost of providing a parking space, city officials typically answered that the fee would be "too high" if the city charged the full cost. When the cost of required parking is hidden in the cost of development, cost does not seem to matter. But when the cost of required parking is made explicit in cash, everyone can see that it is "too high."

Parking Requirements, In-Lieu Fees, and Impact Fees

We can use the data in Tables 2 and 3 to show the relationships among parking requirements, the cost of parking spaces, and impact fees, as seen in Figure 1, which uses the data for office buildings. The horizontal axis shows the parking requirement in spaces per 1,000 square feet of gross floor area, and the vertical axis shows the fee per parking space not provided. Each equal-impact-fee (isocost) curve

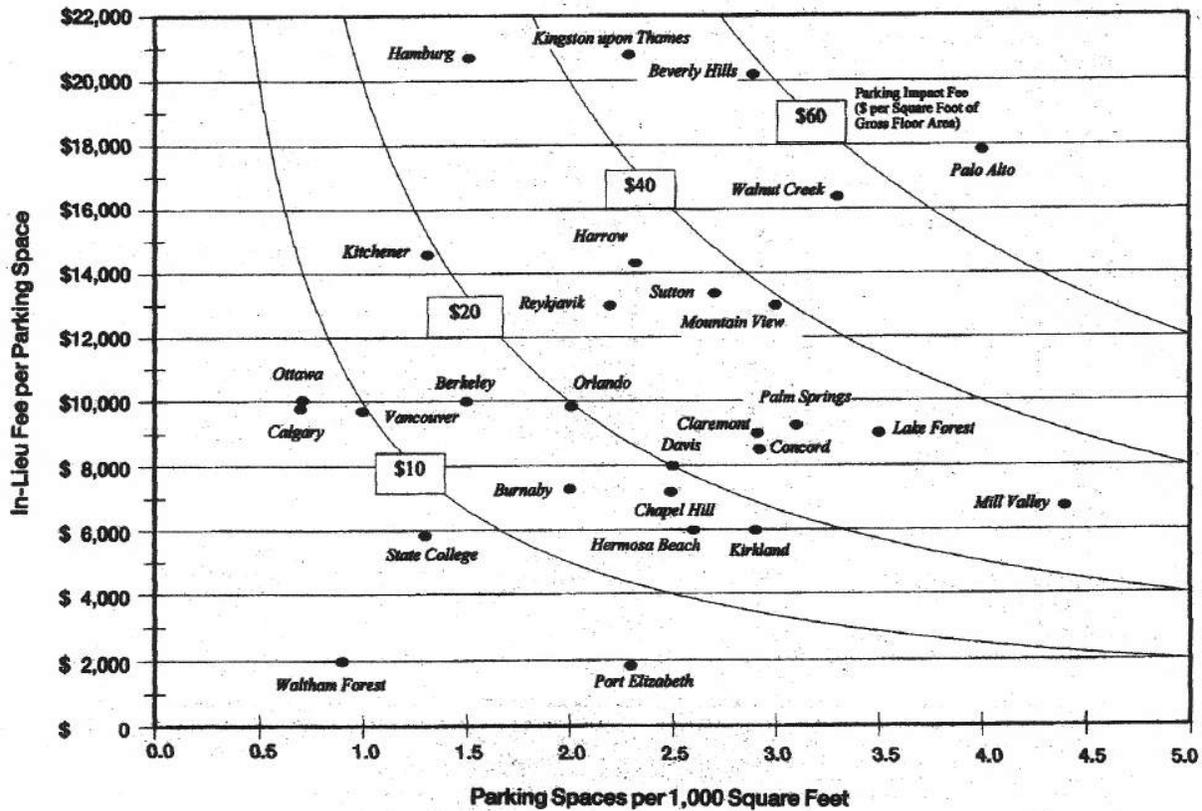


Figure 1. Parking impact fees as a function of parking requirements and in-lieu fees (for office buildings).

shows combinations of parking requirements and in-lieu fees that produce the same impact fee. For example, the lowest curve shows that a requirement of one space per 1,000 square feet and an in-lieu fee of \$10,000 per space together create an impact fee of \$10 per square foot of floor area, as do all other combinations of parking requirements and in-lieu fees along the same curve.¹⁹

A horizontal band of cities have similar in-lieu fees ranging from \$6,000 to \$10,000 per parking space, but their parking impact fees differ greatly because their parking requirements differ greatly. For example, Lake Forest and Calgary have similar in-lieu fees, but Lake Forest's parking impact fee is more than four times Calgary's because Lake Forest requires 3.5 spaces per 1,000 square feet while Calgary requires only 0.7 spaces per 1,000 square feet.

Cities with dissimilar in-lieu fees can have similar parking impact fees. For example, Mill Valley's in-lieu fee is less than a third of Hamburg's; but its parking impact fee is similar to Hamburg's because Mill Valley requires 4.4 spaces per 1,000 square feet while Hamburg requires only 1.5 spaces per 1,000 square feet.

Figure 2 arrays cities according to their in-lieu fees and

parking requirements in Table 3 (i.e., for land uses with the highest parking requirements). Because the coefficient of correlation between the cities' impact fees in Tables 2 and 3 is only 0.43, the cities' relative positions shift substantially from Figure 1 to Figure 2. In more ways than one, parking impact fees are all over the map.

This all-over-the-map aspect of parking impact fees should not surprise us, given the haphazard nature of parking requirements. Explaining how planners set parking requirements, Robert Weant and Herbert Levinson (1990) say:

Most local governments, through their zoning ordinances, have a parking supply policy that requires land uses to provide sufficient off-street parking space to allow easy, convenient access to activities while maintaining free traffic flow. The objective is to provide enough parking space to accommodate recurrent peak-parking demands For the purpose of zoning ordinance applications, parking demand is defined as the accumulation of vehicles parked at a given time as the result of activity at a given site (35-37).

That is, planners count the cars parked at existing land uses, define the maximum number of parked cars as parking

demand, and then require new land uses to supply at least enough parking spaces to satisfy this demand. Without considering either the cost or the price of parking, urban planners set minimum parking requirements to satisfy the peak parking demand.

Because high parking requirements increase development costs, they might be interpreted as a tacit way for cities to control growth. But if the goal is growth control, high parking requirements have a serious unintended consequence. All new development will have plenty of free parking, which will increase trip generation and the associated traffic. If growth control is intended to limit traffic, high parking requirements are a perverse way to control growth.

High parking requirements might also be explained as a response to high parking demand. But demand depends on price, and the high cost of providing parking should cause planners to ask, "At what price is demand being estimated?" Parking requirements based on the observed demand for parking typically require enough parking spaces to satisfy the demand for *free* parking.

■ AN ANALOGY: PTOLEMAIC ASTRONOMY

As experience has accumulated, planners have made progress in predicting the peak demand for parking at different land uses. This progress in planning resembles the progress made in astronomy from the time of Ptolemy through the medieval period. Astronomers gradually became more accurate in predicting the motion of stars and planets, but they fundamentally misunderstood what they were trying to explain. Thomas Kuhn (1957) says:

accuracy was invariably achieved at the price of complexity ... and the increased complexity gave only a better approximation to planetary motion, not finality. No version of the system ever quite withstood the test of additional refined observations (74).

Ptolemaic astronomers believed that the earth was at the center of the universe, and that everything else rotated about the earth. This theory explained the motion of stars, but the motion of planets was a puzzle. The word *planet* stems

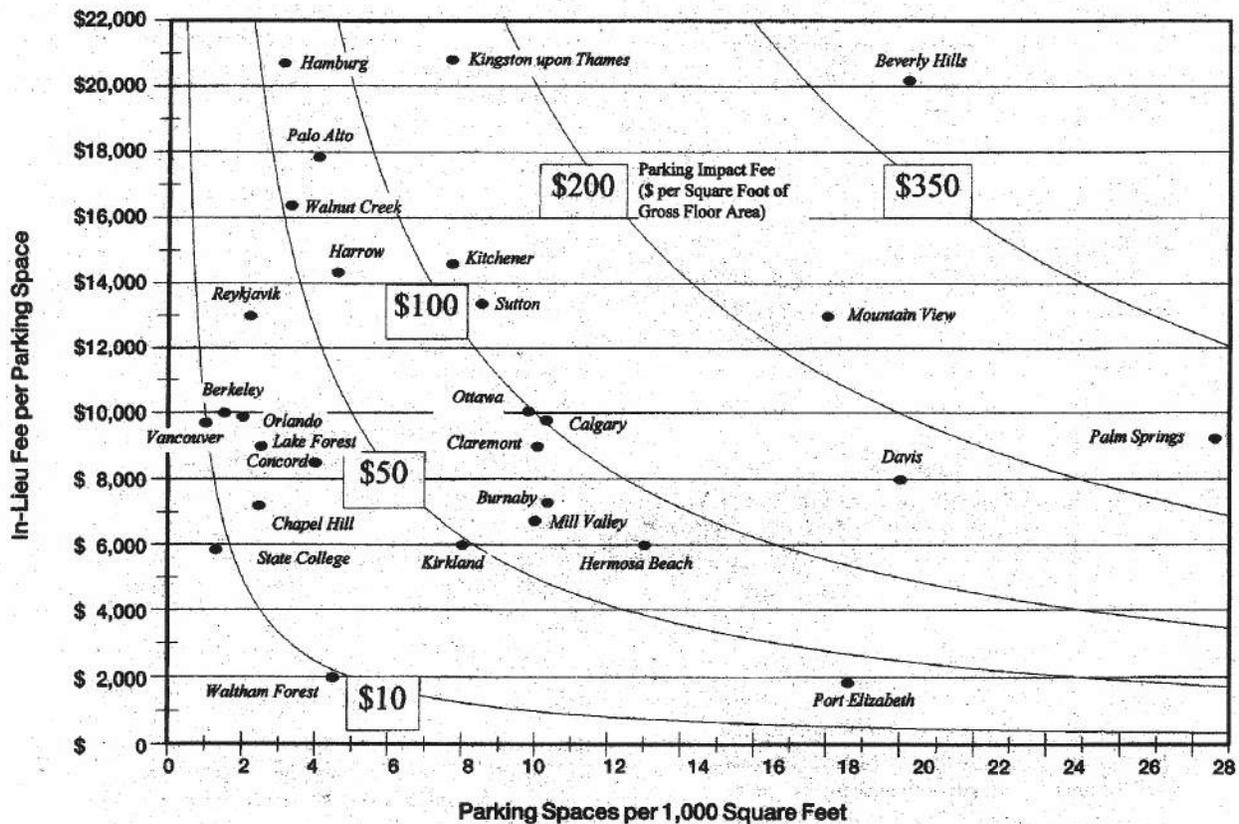


Figure 2 Parking impact fees as a function of parking requirements and in-lieu fees (for land uses with the highest parking requirements).

from the Greek word meaning *wanderer*, and astronomers developed complex mathematical devices—such as epicycles—to explain the planets' wandering behavior. But the fundamental theory was faulty, and more accurate observations of planetary motion always showed that the theory's predictions were wrong.

Similarly, many planners seem to believe that parking is at the center of urban development. Planners have gradually become more accurate in predicting parking demand as a function of land use, but this greater accuracy has invariably been achieved at the price of complexity. For example, the Planning Advisory Service of the American Planning Association has published three surveys of parking requirements in American cities. The 1964 survey reported 368 different requirements for 30 different land uses. The 1971 survey reported 609 different requirements for 83 different land uses. The 1991 survey reported 648 different requirements for 179 different land uses.²⁰ Despite this growing complexity, no one can accurately predict how many parking spaces any land use needs without considering the price of parking. For the same land use, the parking requirements in Table 3 vary between one and 28.6 parking spaces per 1,000 square feet.²¹

The growing complexity extends well beyond more requirements for more land uses. Some cities allow shared parking for a combination of land uses when the peak parking demands occur at different times. Some cities allow valet and tandem parking to increase parking capacity. All cities grant variances from parking requirements to accommodate special circumstances. Adding to the complexity, urban planners have invented many pseudo-scientific terms to describe observed but poorly understood phenomena: parking deficit, parking generation, parking need, parking overflow, parking ratio, parking spillover, parking turnover, peak parking factor, shared parking, and underparked.

Confusion reigns, and planners cannot even agree on whether to require or restrict parking. Consider the diametrically opposed approaches in Los Angeles and San Francisco. Los Angeles requires a minimum number of spaces, while San Francisco restricts the maximum number of spaces. For an auditorium in the CBD, Los Angeles requires as a minimum 50 times more parking spaces than San Francisco allows as the maximum.²² These minimums and maximums exemplify the Soviet planning slogan, "What is not made compulsory must be prohibited."

Planners usually require a minimum number of parking spaces, and they sometimes restrict the maximum number of parking spaces, but they almost never take a hands-off approach to the number of parking spaces. Perhaps some planners unconsciously fear that critics may ask, "If planners don't even know how many parking spaces to require, what *do* they know?" Or perhaps parking requirements are simply a professional confidence trick that planners have played not only on others but also on themselves,

Parking requirements stem from a belief that urban planners know how many parking spaces every land use needs. Planners *can* rationally regulate many dimensions of parking that affect the public, such as curb cuts, guidance, handicapped access, landscaping, layout, location, pedestrian amenity, setback, signage, stormwater runoff, and urban design. Planners can and should regulate the *quality* of parking. But planners *cannot* rationally regulate the *number* of parking spaces without considering the price and cost of parking and the wider consequences for transportation and land use.

By comparing urban planners to Ptolemaic astronomers, I am not questioning planners' abilities. Ptolemaic astronomers were diligent scientists, but in considering the earth to be the center of the universe they were making a fundamental mistake. Similarly, in requiring a minimum number of off-street parking spaces for all land uses, urban planners are making a fundamental mistake. The high impact fees implicit in minimum parking requirements reveal the high cost of this mistake.

■ AN ALTERNATIVE: REDUCE DEMAND RATHER THAN INCREASE SUPPLY

Minimum parking requirements lack a theoretical basis, and even their empirical basis is weak. But reform will be difficult because parking requirements are entrenched in planning practice and legislated in zoning ordinances. Nevertheless, the emergence of in-lieu fees suggests that change is possible. In-lieu fees also suggest another promising option: *allow developers to reduce parking demand rather than increase the parking supply.*

An Example: Transit Passes in Lieu of Parking Spaces

Offering free transit passes to commuters will reduce the demand for parking at work. Therefore, a city could reduce the parking requirements for developments where the developer commits to provide transit passes for commuters who do not drive to work.

Suppose that providing free transit passes to the employees at a site would reduce parking demand at the site by one parking space per 1,000 square feet. In this case, a covenant to provide free transit passes to employees at the site is an appropriate alternative to providing one required parking space per 1,000 square feet.²³

The in-lieu transit option would be simplest where firms can buy a blanket transit pass for all employees. For example, some transit agencies offer employers the option to buy "Eco Passes" that allow all their employees to ride free on all local transit lines. A city could therefore reduce the parking requirements for a building where all employees are offered Eco

LOCATION	ANNUAL PRICE PER EMPLOYEE		
	1-99 Employees	100-4,999 Employees	5,000+ Employees
Downtown San Jose	\$80	\$60	\$40
Areas with bus & light rail	\$60	\$40	\$20
Areas with bus only	\$40	\$20	\$10

Table 4. Eco Pass price schedule, Santa Clara Valley Transportation Authority.

Passes. The Eco Pass is a tax-deductible expense for employers and a tax-free benefit for employees.

Transit agencies price Eco Passes according to probability of use. The price per employee is low because many employees do not ride transit even when it is free. Employers can therefore buy transit passes for all employees at a low cost. For example, as shown in Table 4, the Santa Clara Valley Transportation Authority (SCVTA) in California's Silicon Valley charges from \$10 to \$80 per employee per year for the Eco Passes, depending on an employer's location and number of employees.²⁴

An example can explain Eco Pass pricing. Suppose (1) the price of a conventional transit pass is \$400 a year, (2) employers offer free passes to commuters who ride transit, and (3) 20 percent of commuters ride transit. Per 100 employees, employers would pay \$8,000 a year for 20 conventional transit passes (20 x \$400), or \$80 per employee per year (\$8,000 ÷ 100). The transit agency can therefore sell Eco Passes for 100 employees at a price of only \$80 per employee per year, carry the same number of riders, and receive the same \$8,000 a year in total revenue that it would receive from the sale of conventional transit passes at \$400 a year for 20 employees.

Because frequent riders often buy transit passes, transit agencies must price these passes on the assumption of frequent use. And because transit agencies price transit passes to cover the cost imposed by frequent riders, infrequent riders will not buy them. In contrast, Eco Passes are priced like employer paid insurance that covers every member of a defined population. Adverse selection does not occur when all employees receive Eco Passes, and the price of an Eco Pass is therefore much lower than the price of a conventional transit pass.²⁵ For example, the SCVTA's price for its Eco Pass (\$10 to \$80 per employee per year) is only 2 percent to 19 percent of the price for its conventional transit pass (\$420 a year).

Providing Eco Passes for employees – a demand-side subsidy – is different from subsidizing the transit system as a whole – a supply-side subsidy. Providing Eco Passes for all employees at a site increases transit use to that site and reduces parking demand at that specific site. This reduction in parking demand justifies a smaller parking supply at the site that provides the Eco Passes. In contrast, subsidizing the system as a whole would improve transit service but would not significantly reduce parking demand at any specific site. Therefore, subsidizing the system would not justify a smaller parking sup-

ply at the site that pays the subsidy.

Providing Eco Passes instead of required parking spaces converts a supply-side subsidy for parking into a demand-side subsidy for transit. The appropriate rate of substitution between Eco Passes and parking spaces depends on how shifting subsidies from parking to transit will reduce parking demand. Cities can offer a greater reduction in parking requirements in the CBD) and other transit-oriented districts because Eco Passes will reduce parking demand more at sites that have better transit service. Providing Eco Passes instead of parking spaces will benefit these transit-oriented districts by allowing higher density without more vehicle traffic.

The Cost of Reducing Parking Demand

Reducing parking demand can cost much less than increasing the parking supply. Employers in Silicon Valley pay \$10 to \$80 per employee per year for Eco Passes. If there are four employees per 1,000 square feet of office space, Eco Passes would cost from 4 cents to 32 cents per square foot of office space per year.²⁶ How does this cost of offering Eco Passes to all employees compare with the resulting reduction in the capital cost of providing the required parking spaces?

A survey of commuters whose employers offer Eco Passes found that the solo-driver share fell from 76 percent before the passes were offered to 60 percent afterward (Santa Clara Valley Transportation Authority 1997). The transit mode share for commuting increased from 11 percent to 27 percent. These mode shifts reduced commuter parking demand by approximately 19 percent.

The SCVTA serves two of the surveyed cities that have in-lieu parking fees (Mountain View and Palo Alto). As Table 2 shows, the parking impact fee for office buildings is \$39 per square foot of office space in Mountain View and \$71 per square foot of office space in Palo Alto. If the Eco Passes reduce parking demand by 19 percent, they will reduce the capital cost of providing the required parking spaces by \$7.41 per square foot of office space in Mountain View and by \$13.49 per square foot of office space in Palo Alto.²⁷

If spending between 4 cents and 32 cents a year to provide Eco Passes will reduce the capital cost of required parking by between \$7.41 and \$13.49, the annual cost of the Eco Passes ranges from 0.3 percent to 4.3 percent of the reduction in the capital cost of parking. That is, spending \$1 every year for transit will save between \$23 and \$337 for the initial capital cost of parking. Eco Passes will also reduce the operating and maintenance costs for parking because fewer spaces are required. The low cost of reducing parking demand compared with the high cost of increasing the parking supply shows that Eco Passes are a cost-effective fringe benefit. Eco Passes can greatly reduce the high cost of offering free parking.

Administering the Eco Pass option should be simpler than administering conventional in-lieu fees because cities would not need to construct, operate, and maintain parking structures. A property's transit-pass obligation could be

enforced by a covenant or conditional use permit for as long as the required parking is not provided. Monitoring compliance should be simple because public transit operators would have a strong financial incentive to ensure that property owners pay for the required transit passes.

The Benefits of Reducing Parking Demand

Providing Eco Passes instead of parking spaces can yield benefits for developers, property owners, employers, commuters, and cities.

Benefits to Developers and Property Owners

Developers who pay conventional in-lieu parking fees receive no individual benefit beyond permission to build without providing the required parking. But developers who provide in-lieu Eco Passes also receive the individual benefit of free public transit for all tenants. If a developer provides fewer than the required number of parking spaces, the compensating amenity of free transit should increase a project's marketability.

Providing Eco Passes in lieu of parking spaces can also reduce the risk and improve the feasibility of project finance. The capital cost of parking is fixed regardless of building occupancy, and it is a heavy burden for a new building that is not fully leased. In contrast, the cost of Eco Passes varies according to the number of employees in the building, and the cost will be low if the building is not fully leased. Providing Eco Passes instead of parking spaces converts an up-front capital cost for parking into an annual cost for transit, and many developers may want to make this trade if offered the option.

Benefits to Employers

Eco Passes will save employers some of the money they now spend to subsidize parking. Suppose that Eco Passes cost \$40 per employee per year and that they reduce the demand for commuter parking by 19 percent (as found in the Silicon Valley). The Eco Passes will save more than \$40 per employee per year on parking subsidies if the employer had been spending more than \$211 per employee per year to subsidize parking, because reducing a parking subsidy of \$211 a year by 19 percent saves \$40 a year. Many employers spend far more than \$211 per year (\$17.60 per month) per employee to subsidize parking.²⁸ These employers can therefore offer free transit passes, continue to offer free parking, *and* save money.

Benefits to Commuters

Eco Passes clearly benefit commuters who ride transit to work, and they can also benefit commuters who usually drive to work. Drivers can consider the Eco Passes a form of insurance for days when their cars are not available. Eco passes offer commuters day-to-day flexibility in commuting and the choice between riding transit or driving to work is not a long-term

either-or commitment.

Employees can also use their Eco Passes for non-work trips. In the Silicon Valley survey, 60 percent of employees reported using their Eco Passes for trips other than commuting, with an average of four non-work trips a month.

Benefits to Transit Operators

Using unbuilt parking spaces to finance Eco Passes would increase transit ridership and transit revenue. Although Eco Pass programs are new, in 1997 employers purchased Eco Passes for 38,000 employees in Denver and 40,000 employees in Silicon Valley. If developers could provide Eco Passes instead of parking spaces, Eco Pass sales would undoubtedly increase. Permanent demand-side subsidies for transit financed by a reduction in the capital cost of supply-side subsidies for parking would provide a reliable revenue source for transit agencies.

If developers make long-term commitments to purchase Eco Passes, transit planners can improve service to the sites where they know transit demand will be strong. This service improvement will benefit all riders, not just Eco Pass holders, and it can attract additional riders who pay a full fare.

Benefits to Cities

As with conventional in-lieu fees, providing Eco Passes in lieu of parking spaces will improve urban design, reduce the need for variances, and help to preserve historic buildings and rehabilitate historic areas. Beyond these advantages, reducing the demand for parking rather than increasing the supply of parking will reduce traffic congestion, air pollution, and energy consumption – all at no cost if the existing transit has excess capacity.

Other In-Lieu Options to Reduce Parking Demand

Cities could also allow in-lieu options for land uses other than employment sites. For example, some universities contract with their local transit agencies so their student identification cards serve as public transit passes, and these transit pass programs reduce the demand for parking on campus (Brown, Hess, and Shoup 1998). Cities could therefore allow a university to offer a transit pass program instead of required parking spaces.

A city could allow theaters and stadiums to offer free transit to all ticket holders instead of providing required parking spaces. For example, the University of Washington contracts with Seattle Metro so that ticket holders can show their game tickets to ride on any Metro transit service on the day of a game. The share of ticket holders arriving at Husky Stadium by transit increased from 4.2 percent in 1984 (the year before the transit agreement) to 20.6 percent in 1997 (University of Washington Transportation Office 1997).

A city could allow apartment developers to offer free transit passes for residents instead of providing some required parking spaces. In State College, Pennsylvania, one of the

cities with in-lieu fees, the Centre Area Transportation Authority contracts with apartment developers and owners to give all residents passes for the transit lines that serve the apartments. The passes are priced at approximately \$100 per apartment per year. Participating developers are encouraged to build transit amenities into their site designs (bus shelters and bus pull-off lanes). Apartment owners advertise these transit passes as a benefit they offer to tenants. The apartment transit passes should attract a niche market of those who are less likely to own cars, and should be especially appropriate for transit-oriented districts with good transit service and a reduced parking supply.

A city could allow hotels to offer free transit for guests instead of providing some required parking spaces. Beyond saving money on constructing parking spaces, offering free transit could help a hotel to attract a niche market of guests without cars. If hotels that offer free transit attract guests without cars, this would justify the smaller parking supply. Some hotels already offer free shuttles to popular destinations, or offer guests free tokens on public transit, and cities could reduce parking requirements in exchange for these policies.

Beyond offering transit passes, a city could allow developers and employers to take other measures to reduce parking demand. For example, offering employees the option to cash out employer-paid parking has been found to reduce parking demand by an average of 11 percent, at almost no added cost to employers.²⁹ Therefore, a city could reduce the parking requirement for sites where developers commit to a parking cash-out program.

Some cities allow property owners to remove existing parking spaces if they pay an in-lieu fee per required space removed. Cities could also allow owners to remove existing parking spaces if they offer transit passes and/or a parking cashout program. This in-lieu option would assist infill development, improve urban design, and increase urban density without increasing traffic.

Finally, a city could require the provision of transit passes and/or parking cash out at a site if the developer wished to provide more than the required number of parking spaces. That is, a developer would have to take steps to reduce parking demand in order to receive permission to increase the parking supply above what the zoning requires.

Allowing developers to reduce parking demand instead of increasing the parking supply is a logical extension of in-lieu fee programs. Nevertheless, none of the surveyed cities allows parking demand management as an alternative to providing parking spaces.

■ CONCLUSION: THE HIGH COST OF MINIMUM PARKING REQUIREMENTS

In-lieu fees unveil the high cost of parking requirements. The impact fees implicit in parking requirements dwarf the impact fees for all other public purposes combined. These high parking

impact fees should make it hard for planners to ignore the cost of parking requirements. Given the high cost of providing the required parking, planners should not uncritically assume that the demand for parking automatically justifies parking requirements. Viewed skeptically, minimum parking requirements subsidize cars and distort urban form.

In-lieu fees mitigate the damage caused by parking requirements. The in-lieu fees assist development on difficult sites, encourage shared parking, reduce the demand for variances, improve urban design, and support historic preservation. Beyond allowing developers to finance public parking spaces in lieu of private parking spaces, cities can allow developers to reduce parking demand rather than increase the parking supply. This further development of in-lieu fees will reduce traffic congestion, air pollution, and energy consumption. The option to reduce parking demand rather than increase the parking supply will benefit developers, property owners, employers, commuters, transit agencies, cities, and the environment.

Author's Note: I would like to thank Ellison Alegre, Steven Bass Aaron Bernardin, Jeffrey Brown, Leland Burns, Eric Carlson, Peter Clark, Daniel Dermittel Gregg Doyle, Elke Daugherty, Simon Fraser, Kay Gilbert, Genevieve Giuliano, Daniel Hess, Thomas Higgins, Kathleen Hiyaki, Eugene Kim, Nick Lester, Trent Lethco, Kristen Massey, Douglas Miller, Andrew Mondschein, Virginia Parks, William Pitkin, Paul Pinsker, Joshua Polston, Thomas Rice, Neal Richman, Jan Riel, Patricia Shoup, Seth Stark, Jay Sundu, Brian Taylor, Richard Willson, and Matthew Zisman for their many helpful suggestions. I am grateful to the United States Department of Transportation and the University of California Transportation Center for financial support.

■ NOTES

1. *Monopoly*® is the trademark of Hasbro, Inc. for its real estate trading game. "Free Parking" is one of 40 spaces on the game board.
2. In 1990, the U.S. Department of Transportation conducted the Nationwide Personal Transportation Survey. For all automobile trips made on the previous day, the survey asked 48,000 respondents, "Did you pay for parking during any part of this trip?" Ninety-nine percent of the 56,733 responses to this question were "no." The responses outnumbered the respondents because some respondents made more than one automobile trip per day (Shoup 1995, 15).
3. The survey includes every in-lieu parking fee program found after searching the literature on parking requirements, sending e-mail requests to parking listservers, and asking the representatives of each city with in-lieu fees for additional leads (a "snowball" sample). Additional cities in Germany have in-lieu fees (*Ablösebeträge*), but as explained later most of these cities' fees are calculated on a case-by-case basis and therefore could not be used to calculate the parking impact fees shown in Tables 1 and 2. Planners in several of the surveyed cities were unaware that any other cities had in-lieu fees, and only four brief published references to in-lieu fees were found:

- Public Technology (1982), Higgins (1985), Weant and Levinson (1990), and Topp (1993).
4. Among the nine cities that set fees on a case-by-case basis, Culver City's fee is the assessed value of 300 square feet of land under the development. Hamilton's and Toronto's fees are half the land-and-construction cost of providing a new parking space near the development site. Johannesburg's fee is the land value of a surface parking space at the development site. Frankfurt's fee depends on the land-and-construction cost of a parking space, with a maximum fee of \$16,025. San Rafael's fee is the fair market value of the land that would otherwise have been devoted to the required off-street parking, plus the cost of paving and other improvements. Montgomery County allows developers to pay a property tax surcharge instead of providing the required parking.
 5. The method of setting the fees varies greatly among cities. Lake Forest's fee (\$9,000 per space) is half the city's land-and-construction cost per space in surface lots. The fees in Mountain View (\$13,000 per space) and Orlando (\$9,883 per space) are the cities' construction cost per space in parking structures, excluding land cost. Palo Alto's fee (\$17,848 per space) is the construction cost per space added by a parking structure, after deducting the number of surface spaces lost when the structure is built. Walnut Creek's fee (\$16,373 per space) is 75 percent of the construction cost per space in a public parking structure, excluding land cost. The fees in Kingston upon Thames (\$20,800) and Sutton (\$12,800) are the land and construction cost per space in parking structures on the fringe of the town center. Port Elizabeth's fee (\$1,846 per space) is the land and construction cost per space in surface lots.
 6. Berkeley requires developers of lots under 30,000 square feet to pay fees instead of providing the parking. Calgary requires developers to provide half the required parking and to pay fees for the other half. Orlando requires developers to pay fees instead of providing the first required parking space per 1,000 square feet, and allows them to choose whether to provide parking or pay fees for the rest. Waltham Forest requires developers to provide the first 0.2 required parking spaces per 1,000 square feet and to pay fees for the rest. Carmel and Lake Forest require developers to pay fees in lieu of all the required parking.
 7. Office buildings were chosen for Table 2 because they are the most uniformly defined land use among cities. All of the cities in Tables 2 and 3 require parking spaces in proportion to gross floor area. Gross floor area is the building's total floor area, including cellars, basements, corridors, lobbies, stairways, elevators, and storage. Gross floor area is measured from the building's outside wall faces. Seventeen of the 46 surveyed cities do not appear in Tables 2 and 3 because either their in-lieu fees or their minimum parking requirements are not comparable with the other cities. Brent, Culver City, Dresden Frankfurt, Hamilton, Johannesburg, Nuremberg, San Rafael, and Toronto do not have fixed fees; instead these cities establish the fee for each specific case, usually taking into account the appraised land value at the site. Montgomery County's fee is based on the property tax. Manhattan Beach (\$25,169 per space) requires parking only for the building area that exceeds a floor-area ratio of 1:1. Lafayette (\$8,500 per space), Munich (\$16,025 per space), Redbridge (\$8,624 per space), and Würzburg (\$12,820 per space) require parking on the basis of net rather than gross floor area. San Francisco (\$17,135 per space) does not require parking spaces in the CBD. Pasadena allows developers to pay an annual fee (\$100 per parking space per year in 1992 and subsequently indexed to the Consumer Price Index) per parking space not provided.
 8. The fees and parking requirements for each city are their values in 1996. Unless otherwise noted, the fees and parking requirements apply only in the downtown area of each city. Fees are converted into US\$ at 1996 rates of exchange: U.S. \$1 = 1.37 Canadian Dollars; 1.56 German Marks; 66.57 Icelandic Kronur; 3.84 South African Rands; and 0.60 British Pounds.
 9. The British term for an in-lieu fee is "commuted payment." All the British cities in the survey are boroughs of outer London. The inner London boroughs no longer use commuted payments because then have replaced their minimum parking requirements with restrictions on the maximum number of parking spaces allowed.
 10. The average impact fee has been converted to dollars of 1996 purchasing power, the year in which all the in-lieu fees were measured.
 11. The impact fees in Table 2 refer to one specific land use (offices). Montgomery County, Maryland, has a unique in-lieu arrangement that is independent of land use. In one community (Bethesda), for example, developers can pay a property tax surcharge of 0.7 percent of a property's assessed value instead of providing the required parking; the revenue is used to construct and maintain public parking facilities. Montgomery County's general property tax rate to fund education, health, libraries, police, social services, and transportation is 2 percent of assessed property value. The special property tax rate for parking is thus more than one third of the general property tax rate for education, health, libraries, police, social services, and transportation.
 12. See NPTS Web site at <http://www.cta.ornl.gov/npts/1995/Doc/EarlyResults.shtml> for the average distance to work in 1995.
 13. See American Automobile Manufacturers Association (1998) for the average fuel efficiency and the average price of gasoline in 1995.
 14. The r^2 for the correlation between minimum Parking requirements and impact fees is 0.60, and the r^2 for the correlation between in-lieu fees and impact fees is 0.12.
 15. New restaurants in Beverly Hills are not eligible for the reduced fee. They must pay the full fee, which ranges from \$15,135 to \$25,225 per space, depending on the restaurant's location. The Parking requirement of one space per 45 square feet of restaurant area and the in-lieu fees are together equivalent to impact fees ranging from \$336 to \$561 per square foot of restaurant area.
 16. As one example of high parking requirements, the North Westwood Village Specific Plan requires 3.5 parking spaces for each dwelling unit that contains more than four habitable rooms, and even kitchens count as habitable rooms (Los Angeles Ordinance 163,202).
 17. "Since the payment of the \$9,000 per space 'in lieu of' fee only allows for a property owner to establish a business, the fee has never been intended to cover the full cost of providing a parking space... Historically, the 'in lieu of' fee has been placed at a level that is roughly equivalent to fifty percent of the cost of providing a parking space" (Memo to Lake Forest Plan Commission, February 1, 1993, page 2).
 18. In-lieu fees may underestimate the cost of complying with minimum parking requirements for another reason. Developers who pay fees merely receive permission to develop without providing the required parking. Developers who provide the

required parking not only receive permission to develop, but they also own the resulting parking spaces, a valuable asset.

Developers who pay the fees instead of providing the required parking would presumably have to pay even more to provide the required parking itself. Suppose the in-lieu fee is \$10,000 per space, and that each on-site parking space adds \$5,000 to a development's value. In this case the developer will pay the fee only if on-site parking costs more than \$15,000 per space.

Therefore, payment of the fee suggests that (1) providing the required parking would cost much more, or (2) a parking space does not add much to the development's value.

19. Minimum parking requirements impose no burden if developers would voluntarily provide the required number of parking spaces. Developers would therefore presumably prefer a low parking requirement with a high in-lieu fee to a high parking requirement with a low in-lieu fee, even if the parking impact fee is the same in both cases.
20. See Planning Advisory Service (1964, 1971, 1991). These data greatly understate the growth in the number of different parking requirements. While the 1964 survey reported every parking requirement found for each of 30 land uses, and the 1971 survey reported every parking requirement found for each of 83 land uses, the 1991 survey reported only a few of the many different parking requirements found for each of 179 land uses.
21. Palm Springs requires 28.6 spaces per 1,000 square feet for a cabaret, while Vancouver requires one space per 1,000 square feet for all nonresidential uses, including cabarets.
22. For auditoriums in the CBD, Los Angeles requires a minimum of ten parking spaces per 1,000 square feet, with no maximum. San Francisco allows parking spaces equal to a maximum of 7 percent of building area (0.2 spaces per 1,000 square feet if a parking space occupies 350 square feet), with no minimum.
23. As an administrative precedent for purchasing transit passes in lieu of providing the required parking, some cities allow property owners to purchase parking permits in public garages in lieu of providing the required on-site parking. For example, Kirkland allows a property owner to pay an annual in-lieu fee of \$1,020 per required parking space not provided, and the owner receives a parking pass to a public garage for each fee paid. This obligation runs with the land, and commits future property owners either to pay the annual fee or to provide the required parking.
24. This price includes a Guaranteed Ride Home Program. On any day they ride transit to work, employees are entitled to a free taxi ride home in the event of illness, emergency, or unscheduled overtime. The public transit systems in Boulder and Denver, Colorado, and Salt Lake City, Utah, offer similar Eco Pass programs.
25. There can still be adverse selection among employers. Firms with many employees who ride transit will have an incentive to buy the Eco Passes, and this will tend to increase the transit operators' cost.
26. Suppose the Eco Pass costs \$80 per employee per year. If there are four employees per 1,000 square feet of office space, the Eco Passes would cost \$320 per year per 1,000 square feet of office space (4 x \$80), or 32 cents per year per square foot of office space ($\$320 \div 1,000$).
27. If satisfying the parking requirement costs \$55 per square foot of office space, and if Eco Passes reduce the parking requirement by 19 percent, the Eco Passes would reduce the capital cost of required parking by \$10.45 per square foot of office space ($\$55 \times 0.19$).

28. Shoup and Breinholt (1997) found that employers in the United States provide 85 million free parking spaces for commuters.
29. Shoup (1997) presents eight case studies in which cashing out employer paid parking reduced parking demand by 11 percent. Because cashing out reduces parking demand, logically it should also reduce parking requirements. California legislation addresses this issue in the following way: "The city or county in which a commercial development will implement a parking cash-out program ... shall grant to that development an appropriate reduction in the parking requirements otherwise in effect for new commercial development" (California Health and Safety Code Section 65089).

■ REFERENCES

- Altshuler, A., and J. Gómez-Ibáñez. 1993. *Regulation for Revenue*. Washington, D.C.: Brookings Institution.
- American Automobile Manufacturers Association. 1998. *AAMA Motor Vehicle Facts and Figures*. Detroit, Mich.
- Beverly Hills Planning Commission. 1992. Staff report. April 22. Beverly Hills, Calif.
- Brown, J., D. Hess, and D. Shoup. 1998. Unlimited access. Working Paper, Institute of Transportation Studies, University of California, Los Angeles.
- Chicago Regional Transportation Authority. 1998. *Opportunity Costs of Municipal Parking Requirements*. Prepared by Fish & Associates, K.T. Analytics, and Vlecides-Schroeder Associates, Final Report, April 1998. Chicago, Ill.
- Higgins, T. 1985. Flexible parking requirements for office developments: New support for Public parking and ridesharing. *Transportation* 12:343-359.
- Hu, P., and J. Young. 1992. *Summary of Travel Trends, 1990 Nationwide Personal Transportation Survey*. Washington, D.C.: U.S. Department of Transportation, FHWA PL-92-027.
- Kuhn, T. 1957. *The Copernican Revolution*. Cambridge, Mass.: Harvard University Press.
- Planning Advisory Service. 1964. *Off-Street Parking Requirements*. Report # 182. Chicago, Ill.: American Planning Association.
- Planning Advisory Service. 1971. *An Approach to determining Parking Demand*. Report # 270. Chicago, Ill.: American Planning Association.
- Planning Advisory Service. 1991. *Off-Street Parking Requirements*. Report # 432. Chicago, Ill.: American Planning Association.
- Public Technology, Inc. 1982. *Flexible Parking Requirements*. Urban Consortium Information Bulletin, DOT-1-82-57. Washington, D.C.: U.S. Department of Transportation.
- Santa Clara Valley Transportation Authority. 1997. *Eco Pass Pilot Program Survey Summary of Findings*. San Jose, Calif.
- Shoup, D. 1995. An opportunity to reduce minimum parking requirements. *Journal of the American Planning Association* 61(1):14-28.
- Shoup, D. 1997. Evaluating the effects of cashing out employer-paid parking: Eight case studies. *Transport Policy* 4(4):201-216.
- Shoup, D., and M.J. Breinholt. 1997. Employer-paid parking: A nationwide survey of employers' parking subsidy policies. In *The Full Social Costs and Benefits of Transportation*, eds. D. Greene, D. Jones, and M. Delucchi, 371-385. Berlin, Germany: Springer-Verlag.
- Topp, H. 1993. Parking policies to reduce car traffic in German cities. *Transport Reviews* 13(1):83-95.

- University of Washington Transportation Office. 1997. *Stadium Expansion Parking Plan and Transportation Management Program: Draft 1997 Data Collection Summary*. December 19. Seattle, Wash.
- Weant, R., and H. Levinson. 1990. *Parking*. Westport, Conn.: Eno Foundation.
- Willson, R. 1995. Suburban parking requirements: A tacit policy for automobile use and sprawl. *Journal of the American Planning Association* 61(1):29-42.