CONSTRUCTING USE IN SURFACE PARKING LOTS:
Strategies for enhancing lots as part-time public spaces

By

Kathleen Kane Ziegenfuss

B.A. in Urban Studies & Public Policy and Hispanic Language & Literature
Boston University
Boston, Massachusetts (2002)

Submitted to the Department of Urban Studies and Planning
in partial fulfillment of the requirements for the degree of

Master in City Planning
Urban Design Certificate

at the

MASSACHUSETTS INSTITUTE OF TECHNOLOGY

June, 2009

© 2009 Kathleen Kane Ziegenfuss. All Rights Reserved.

The author hereby grants to MIT the permission to reproduce and to distribute
publicly paper and electronic copies of the thesis document in whole or in part.

Author

Department of Urban Studies and Planning
May 21, 2009

Certified by

Professor Eran Ben-Joseph
Department of Urban Studies and Planning
Thesis Supervisor

Accepted by

Professor Joseph Ferreira
Chair, MCP Committee
Department of Urban Studies and Planning
CONSTRUCTING USE IN SURFACE PARKING LOTS:
Strategies for enhancing lots as part-time public spaces

By
Kathleen Kane Ziegenfuss

Submitted to the Department of Urban Studies and Planning on May 21, 2009
in partial fulfillment of the requirements for the degree of Master in City Planning

ABSTRACT

Surface parking lots occupy vast amounts of land in urbanized areas—at times covering up to 40% of land in downtown areas in the United States. It is estimated that there are seven parking spaces for every vehicle in the nation; given that a vehicle can be in only one place at any given time, there are underutilized, vacant parking spaces all around us.

This thesis argues that vacant parking spaces create an opportunity for more intense use of the land. It investigates which types of surface parking lots are best suited for which types of activities, based on physical design characteristics, multiple-use considerations, and a zoning and regulatory framework. It recommends the most attention is given to parking lots in neighborhood commercial areas and large surface parking lots that occupy entire city blocks. The thesis argues for the creation of more part-time public spaces through the use of underutilized parking lots. This argument is partially based on public spaces' social benefits, increased economic development potential, linkages with increased public health, and aesthetic-related benefits.

Issues raised in creating public spaces on parking lots (both public and private lots) are addressed and possible approaches to overcome these obstacles are suggested. Strategies for creating more use on surface parking lots are identified from a municipal perspective, for those who coordinate events on parking lots, parking lot owners, and for developers. The thesis concludes with a discussion on implementation of creating more use on surface parking lots through zoning standards, design guidelines, and publicity strategies.

The thesis concluded with a theoretical discussion on the ideal types of conditions for increased use on surface parking lots. The overarching finding is that the challenge of constructing more use on surface parking lots is primarily an issue of having the will to work through the necessary bureaucratic codes and regulations; by posing strategies to help facilitate this process, a palette of ideas for creating more use on surface parking lots can be utilized by any interested stakeholders.

Thesis supervisor: Eran Ben-Joseph
Title: Associate Professor of Landscape Architecture and Planning
CONSTRUCTING USE IN SURFACE PARKING LOTS:
Strategies for enhancing lots as part-time public spaces

Kathleen Ziegenfuss
Advisor: Eran Ben-Joseph
Readers: John de Monchaux and Susan Silberberg-Robinson

Massachusetts Institute of Technology
School of Architecture and Planning
Department of Urban Studies and Planning
City Design and Development Group
Master of City Planning and Urban Design Certificate Candidate

May 21, 2009
ACKNOWLEDGEMENTS

Thanks first to all those who have used a parking lot for something other than parking—it is these collective actions which have inspired me to look more closely at how parking lots can positively contribute to our public realm.

To Eran Ben-Joseph, many thanks for guiding me through this process, always having the time to meet, and for an unending interest in parking lots, which has served as an inspiration to me and has helped to place this work in context. To John de Monchaux for his thoughtful insights into the larger questions and intricacies of the role of parking lots, and to Susan Silberberg-Robinson for a careful read and helpful insights—thank you.

Special credit to team thesis—Sarah Neilson, for the idea, and Hannah Creeley and Connie Chung for the company—for helping me stay on track, and naturally, for the great excuse of turning thesis writing into a social event. To Sarah Snider and Sandra Padilla, thanks for the keen eye on parking lots and for sharing the images.

Thanks to my mom, for her willingness to not only listen to the thesis chatter but also for her ability to go parking lot-hunting in Minneapolis; to my dad for his constant support; to Joseph for his weekly “get to work” text messages; and to Jeanette for keeping it in perspective.

The rest of all the thanks are owed to Deepinder. I am ready!
Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
TABLE OF CONTENTS

Abstract 3
Acknowledgements 7

Preface 11
Executive Summary 13

CHAPTER 1 15
THEY PAVED PARADISE AND LEFT US A MESS—A PREDICTED, PLANNED, CONVENIENT MESS
A sea of parking: the problem and its importance
Parking Lots: some basics
Thesis organization
Summary of main points

CHAPTER 2 39
CONTEMPORARY RESEARCH ON PARKING
Historical factors that shaped parking's presence in the landscape
The cost of parking and its connection to land use patterns
Best practices: strategies for better parking
Manuals for lot construction and ecological considerations
Flexible lots: a growing interest
Summary of main points

CHAPTER 3 59
PUBLIC SPACES, THE PUBLIC REALM, AND PARKING LOTS
Space occupied by parking
The role of public spaces
Benefits of public spaces
Increased activity, public health and public spaces
New use visions for the parking realm
The use of parking lots
Summary of main points

CHAPTER 4 89
LAND USE PATTERNS AND PARKING LOT TYPOLOGIES
Observations on parking's land use patterns
Allocation of spaces and efficiency
The typologies
Summary of main points

Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces 9
CHAPTER 5

OVERCOMING OBSTACLES INHERENT TO CONSTRUCTING USE ON SURFACE PARKING LOTS

Issues and approaches to address the issues
Strategies for creation flexible spaces
Summary of main points

CHAPTER 6

THE FUTURE OF MULTI-FUNCTIONAL PARKING SPACES

Bring multi-functionality into zoning
Design guidelines which reflect the needs of multi-functionalism
Sell the vision and use the space
Hierarchy of level of difficulty in implementation
Where would this work best?
Implementation: What would this look like?
Potential implementation
An ideal condition for realization?
Summary of main points

REFERENCES
PREFACE

I surprised myself by choosing to study parking lots. It had always been parks, not parking, I had been interested in—bikes, not cars. I spent several years working on public spaces previous to coming to MIT; that interest was something I wanted to combine with a newer interest in how large-scale transportation infrastructures effect neighborhood-level quality of life issues. I suppose I also chose to study parking lots because I believe in order to criticize something, you must first understand it; to change something, you must know it intimately. Through the process I have started to criticize less, and understand the reasons why our resulting landscapes contain such vast amounts of parking lots. Through this knowledge, and a refined inventory of what types of events can, and do happen on parking lots, I have seen more clearly the potential that lies all around us in the ever-present parking lot.

Suffice it to say my curiosity is piqued. It is perhaps these places—parking lots—so banal in appearance and so ubiquitous, which hold the potential for the greatest transformation as a single-category land use in our environments. Creating more intensive use of surface parking lots is only a small part of the possibilities relating to re-thinking parking lots; there is much more to explore within the lot. To this end, I have remained entertained.
EXECUTIVE SUMMARY

The problem and its importance
Parking lots are all around us. They greet us at the entrance to most every building, and announce our arrival to a desired destination. They cover vast amounts of land—at times covering up to 40% of land in downtown areas in the United States. It is estimated that there are seven parking spaces for every vehicle in the nation; given that a vehicle can be in only one place at any given time, there are underutilized, vacant parking spaces all around us.

As a society, we accept that private vehicles can, and should be, allowed to be stored throughout the land. We guarantee this right by law through minimum parking standards which regulate development and set in pavement our land use patterns. This practice goes largely unchallenged. There has been recent focus on the environmental quality of the built environment on parking lots, including stormwater runoff management issues, heat island effect, and the reduction of pervious surfaces, and parking demand management best practices. Bus scant attention has been given to how and when parking lots are being used during their periods of low automobile use.

Using parking lots as public spaces
This thesis argues that the prevailing situation can be ameliorated by the use of under-utilized parking lots for public space purposes. The thesis argues for the creation of more part-time public spaces through the use of parking lots at their times of low vehicle use. This argument is partially based on public spaces' social benefits, increased economic development potential, linkages with increased public health, and aesthetic-related benefits.

Through the creation of a typology of parking lots, the thesis identifies those parking lots best suited to be considered for public, multi-use—small urban commercial lots and parking lots which occupy the entire block in downtown areas. The types of parking lots least suited for public use are private residential properties and industrial sites. The factors contributing to this classification include location, surrounding population density, time of vacancy, and relative return on investment for creating more usable spaces.

Issues and strategies for constructing use on surface parking lots
Major issues that arise when trying to plan and design for increased use on parking lots include: economic concerns regarding the decrease in parking spaces and the cost of re-purposing a parking lot; upsetting nearby residents or businesses who rely on the parking; additional safety and liability issues; and issues relating to how to manage and allow for additional use on a parking lot.

Strategies are presented, which are aimed at specific stakeholders and constituents:

Municipal strategies
- Inventory stock of parking
- Institute a management structure
- Look to woonerf (shared street model) as an example for regulations and design guidelines

Event coordinators and lot owners
- Copy others; learn from experience
- Make people comfortable—include food and seating

Developers/new lot strategies
- Design for intended use

---

2 Ibid. p.51.
• Start simple; a bucket of paint and chairs are powerful tools
• Blur the lines between vehicle and people space
• Use zoning to your advantage, as a tool to shape desired uses

**Combined strategies**
• Sell the vision; publicize the use
• Champion and support change agents
• Take advantage of the small nature of spaces
• Celebrate the small victories

Three large-scale, implementable policy-level approaches are introduced. The list below is intended to be a palette of ideas—it is neither desirable nor possible to do all the following, but they do show where the opportunities can be located.

**Bring multi-functionality into zoning**
• Do not explicitly restrict parking lots to only vehicles
• Create parking lot review provision to evaluate the necessary number of spaces; release extra spaces from parking requirements
• Consider elimination of minimum parking standards
• Require public access or use of parking lots which lay fallow a certain amount of time
• Streamline permitting process to allow temporary uses
• On public lots, ensure the municipal liability umbrella covers hosting events in the lots; publicize this policy
• On private lots, mitigate the associated risk of new use by promoting the lots which host events or informal places
• Include police detail for all events held on public or private lots, associated with the permitting process, at no additional cost

**Construct design guidelines to reflect needs of multi-functional spaces**
• Design in use-related zones (i.e. high impact vehicle areas, areas of occasional use, areas of rare vehicle use)
• Do not shield areas of intended public use with landscaping, fences and physical barriers
• Combine landscaping requirements with functional amenities; i.e. have buffer with seating instead of shrubs
• Understand the temporal variations of parking lot use when designing
• Be vague enough to allow creative re-interpretation of the guidelines

**Sell the vision and use the space**
• Assure people that you are not taking away parking
• Promote what activities are happening on the parking lot
• Encourage others to use the created space

It is suggested that strategies to create publicly usable space on parking lots will work best in areas which lack open space, those that have large amounts of young and elderly people, in highly visible locations, and in areas that are struggling with economic redevelopment.

The overarching finding is that the challenge of constructing more use on surface parking lots is primarily an issue of having the will to work through the necessary bureaucratic codes and regulations; by posing strategies to help facilitate this process, a palette of ideas for creating more use on surface parking lots can be utilized by any interested stakeholders.
CHAPTER ONE

THEY PAVED PARADISE AND LEFT A MESS: A PREDICTED, PLANNED, CONVENIENT MESS

Source: Kathy Ziegenfuss
SUMMARY:

Parking lots occupy a vast amount of land in our cities and towns, at times reaching 40% of land in downtowns throughout the United States. Their predominance and design have profound impacts on our relationship to them, even as their ubiquitousness goes largely unquestioned. While recognizing parking lots are an important part of the nation’s mobility network, it can also be argued that all too often, little consideration is given to them from a design or use perspective. This chapter lays down a rationale for why parking lots are worthy of discussion and outlines some basic principles surrounding their use, impact upon the land, and people’s perception of them. The chapter concludes with a discussion of the thesis organization and methodology.

The research question is stated as: How can parking lot regulation and design influence the use of surface parking lots when not occupied by vehicles? What strategies can a city or town employ to promote mixed use in surface parking lots, so they function more in tune with the public space network in the city?

It is hypothesized that with the proper intervention (through zoning regulation, design, risk mitigation or incentives) surface parking lots can provide a space for public activities, such as markets, formal and informal play, fairs, events, and other social activities. Cities and towns have the power to create the conditions under which this scenario can flourish.

“Cities and wheeled vehicles have existed for over 5,000 years. The problem of what to do with the vehicles while their owners are not using them has been with us almost as long.”—C. Miller

A SEA OF PARKING: THE PROBLEM AND ITS IMPORTANCE

The problem of vehicle storage has been with us for centuries; the challenges have ranged from where to store animals, carts, carriages, and more recently, automobiles. While some elegant solutions have been provided such as the covered veranda with plants climbing on its beams for a single car in a residential home, the solutions for massive car storage have typically resulted in vast expanses of land paved over, known as a parking lot, or structured or underground parking garages. Scattered throughout the landscape, surface parking lots are in theory the most pliable parking landscape to alter; they can easily be redeveloped into new land uses (assuming the market can support such a transformation) or can be used for other activities such as fairs, markets and recreational activities when not in use housing cars.

The problem can be put quite simply: the surface parking lots throughout our landscapes are, in general, underutilized from a use perspective. The underutilization of surface parking lots has massive implications for our built landscapes: parking lots cover up to 40% of many downtown areas throughout the USA. Systematically investigating the policy, design and programming decisions around parking lots can have far-reaching effects on our urban land and use patterns. Land occupied by surface parking lots is a huge economic and social resource; using it to a greater potential can make our cities, towns and suburbs richer and more interesting experiences. Increasing the overall stock of public space (or private space used by the public, in the ‘public realm’) can, I argue, increase quality of life in the aggregate and is a goal in and of itself.

This thesis positions surface parking lots as landscapes ripe for extracting more value, through increased usage, while simultaneously continuing to function as parking lots. Though most American cities and towns may have more surface parking lots than may be ideal (from a ‘highest and best use’ of land perspective), I argue that most of these lots are here to stay. Surface parking, therefore, represents an opportunity; we
can be using this collective resource in a more intense way. Constructing more use through changes in policy and design can provide more open spaces for humans to congregate, celebrate, be active, be social, capitalize on added economic value realized in the parking lots and in surrounding land uses, and create a more interesting and varied social and physical landscape. An enhanced public space network, via the part-time use of parking lots, will bring social, physical, economic and aesthetic-related benefits to a city or town.

By exploring this relationship of opportunity between surface parking lots and public spaces, many types of people stand to gain. If successful, landowners (municipal or private) will gain via any type of rent paid (as in stalls for a craft or farmers market); individuals who use the space will gain experiences such as shopping at a market, attending a performance, or socializing with friends; municipalities will gain in that if more people are using previously inactive and empty environments where people simply come or go, more street activity will likely occur and surrounding businesses may prosper, increasing the cities’ tax revenues, civic engagement, and a city’s reputation of having interesting places to do or activities to attend; and developers can gain from including amenities such as tennis courts on overflow visitor parking areas and thus luring potential buyers of a residential complex via increased attractions.

The question of ‘who pays?’ for this added benefit can have multiple answers. The most basic answer will be the person or entity which provides the amenity. The more complicated answer may lead us to find that the costs of providing these extra amenities may be less than the benefits, and may actually result in a net positive economic impact. The answer depends on how creative the landowner can be, how the surrounding community supports owners’ efforts, and the municipality’s ability to restructure zoning or design codes to allow for more adaptable private spaces, to be considered a part of the public realm.

Parking by the numbers: The effects of paving paradise, putting up a parking lot

“The growth of the towns and the rise to prominence of the motor vehicle has gradually changed the nature of the street: pedestrians have been banished to the footpaths and motorists have become lord and master”.

The famous Joni Mitchell line, “they paved paradise and put up a parking lot”, along with the above quote, which is from the original Woonerf (shared streets) guidelines published in the Netherlands in 1980, give poetic light to what has been happening in the effort to create more parking. There are approximately 60,000 square miles of paved land in USA, which is 2% of the total land area and 10% of the potentially arable land. This land includes the entire transportation network, of which parking is a part. According to the US Census Bureau, only 5.6% of the land in the US is developed (including transportation), with 71.1% rural, 2.6% water, and 20.7% federal land. Though a small percentage, the nation’s transportation infrastructure covers 38 million acres, which includes roads, streets, and parking lots.

What do these numbers mean? They mean that if asphalt had a mind of its own, we might think it is on a rampage. But it doesn’t; this present day reality has been systematically planned for and intentionally designed. The Federal-Aid Highway Act of 1956, which paved the way for the interstate highway system and seamless access around the country, the 1944

GI Bill (The Servicemen’s Readjustment Act of 1944), which encouraged single family home ownership opportunities in the suburbs through new loans, the parking codes which govern the connection between land use and number of required parking spaces, and the zoning codes which formalize these arrangements, all have contributed to where we are now. Cities and suburbs have, for decades, competed via policies and tax incentives to entice development, accommodating the car which brings the driver, and the money, to its businesses. Downtowns have been intentionally transformed to make way for automobiles to access the diminishing resources housed within; diminishing in the sense many of the areas currently occupied by parking lots were once buildings which housed people, businesses, industrial production centers, or retail outlets which were attractions in and of themselves.

There are a number of ways to store cars: in curbside spaces, residential garages or driveways, surface lots, garages, underground structures, or shelved spaces (mechanical operations which ‘stack’ cars one atop another). The lots can be private or publicly owned; lots are increasingly privately owned. The typical car is parked in each of these spots at different times of the day, week, or year. The impact of each type of parking space on the landscape varies quite dramatically. Some residential spots look like decks if not in use; underground parking garages often just have a tunnel entrance; mechanical shelves create visible towers of cars in the sky; surface parking lots range from vast stretches of pavement to landscaped ‘gardens’; and curbside parking is often considered just an extension of the roadway.

Surface parking lots have the shortest half-life of the parking patterns. The space can be redeveloped, and the parking abandoned. The structured or underground garage is more permanent in nature, lasting for decades. Curb-side spaces’ longevity is of a different nature; roads are often repaved but rarely ‘go’ anywhere or disappear all together—it is more a matter of changing traffic patterns and a strategy of balancing through-traffic, pedestrians, bicyclists, deliveries, and parked vehicles.

The focus of this thesis is on surface parking lots because these are the lots which have the most chance for adaptability, are malleable enough to have a large-scale impact in disparate geographies throughout the nation, and in many ways leave the most to be desired in terms of their physical articulation upon the land—namely vast asphalt stretches with few aesthetic qualities of redemptive value.

What we create versus what we might like to create

The issue can be put very simply. We create places like the parking lots shown below, where land goes unused for part or much of the day.

Figure 1.1: Empty parking lot in downtown Minneapolis

![Figure 1.1](https://example.com/figure1_1.jpg)

Source: Kathy Ziegenfuss

Figure 1.2: Another empty lot in downtown Minneapolis

![Figure 1.2](https://example.com/figure1_2.jpg)

Source: Kathy Ziegenfuss
What we might rather create are places where there are people, where we can stop and congregate, and enjoy our surroundings.

These two realities, that of what we are currently creating in parking lots as well as what we might rather create in the public realm, are not mutually exclusive; there are many examples of how we can combine spaces for people along with parking lots.

*Multiple uses on parking lots: not a new idea*

The idea of making more use of parking lots is not an original one; people have written books and articles on this subject, and there are many
examples where multi-use spaces exist and work quite well. Indeed, a vehicle-based iteration of the idea is becoming quite popular—shared parking—which allows complimentary uses (such as a church and a movie theatre) which do not attract patrons (and their cars) at the same time to share the same parking lot. There is no question that these existing efforts to reduce the quantity of parking lots and/or parking spaces in new developments can be effective; this thesis, however, focuses on a different aspect of this problem. The thesis explores the relationship of parking not to programs such as shared parking or shared vehicle use (Zipcar, etc.) which work to reduce overall number of vehicles and the space they occupy, but rather the relationship between land slated solely for the use of parking and a host of other activities which could, and in some cases are, occurring in the same space, either simultaneously or in different temporal conditions.

Figure 1.7: A flower shop in the corner of a supermarket parking lot

The beauty inherent in layering uses in a parking lot is demonstrated in the portfolio of Alex MacLean, a pilot and aerial photographer based in Lincoln, MA: he has included a parking lot in Waltham, MA is his ‘going’ section of his portfolio, which shows both parking and basketball courts using the same land. The Google image below shows the context of the above lot, at Bentley College, which occupies 163 acres in Waltham, MA. It shows the parking lot is located in the sports complex (directly west of the football field); demonstrating how to take advantage of the parking lot to provide
additional amenities—a cost-savings move on the part of the college.

Figure 1.10: Sports complex at Bentley College campus, Waltham, MA

This example is one of many which demonstrate a more efficient connection between land use and parking; however, it is still the exception rather than the norm.

Unused spaces

From a user’s perspective, a parking lot is typically useful because of the number of open parking spots, its proximity to desired locations, and the cost charged to use its facilities. Little consideration is typically given to the types of materials that make the lot, the edge treatment, or the path created for the pedestrian to get to the sidewalk or destination door. Even less thought is normally given to what happens to the parking lot once you, or all the vehicles, have left the lot.

According to Mark Childs, the author of a prominent guide to parking lot design, use and management, there are approximately seven parking stalls for every car in the United States (spread throughout the nation). Based on that statistic, it is estimated that a typical surface parking lot in a typical city or town in the United States is operating at 1/7 (14.3%) of capacity at any given point, or, put another way, is full 1/7 (14.3%) of the time and sits absolutely empty the remaining 21.5 hours of every day. Of course the reality of how the parking is distributed in a temporal manner lies somewhere between these two extremes. Parking lots experience different levels of occupancy and vacancy in complex and varying patterns. But the fact remains that there is excess capacity, in aggregate, in our nation’s parking lots. In its more dormant phases, whether on a daily, weekly, or annual rotation, the parking lot typically sits with little action on its pavement, save the rustling of debris and leaves over the asphalt or a snowplow in the winter.

If one were to consider parking lots during their period of vacancy as empty lands, the possibilities for their reclamation begin to be imagined. As Kathy Madden, of Project for Public Spaces, claims: “Forget it is a parking lot, think of it as space.” There are movements underway throughout the country to create community gardens in vacant lots, or they are informally used as soccer or whiffle ball fields. In this same vein, it is possible to reconsider how we might think of our typical surface parking lot in a more systematic way.

Broken landscapes

If there is no place to go, no one will typically go there. If there are long stretches of blank facades or surface parking lots, people’s perceptions of distance become distorted and people won’t walk to get to their next destination. People believe the action stops, and the main street is done with if there are no visual clues that something lies beyond the stretch of broken landscape. Recognizing that parking lots contribute to these broken landscapes is a first step toward understanding how to use them to help arrive at an answer. Jane Jacobs discusses the deteriorating effect (on businesses) when broken landscapes occur: “When distance inconvenience sets in, the small, the various, the

---

8 Madden, Kathy. (Personal interview, March 23, 2009). Senior Vice President, Project for Public Spaces; New York City.
personal wither away". In describing the four conditions necessary to promote diversity within a district (a goal that allows “city life [to] get its best chances” to thrive), Jane Jacobs claims a district will reach its best potential when it meets the following four criteria:

1. As many parts as possible within the district must serve more than one function;
2. Blocks need to be short in length;
3. There must be a fine-grained mixing of building types; and
4. There should be a dense conglomeration of people.

Parking lots contribute to these effects, for good or for ill, and if large enough in size or great enough in number, break the possibility for diversity. In a study done by Fred Kent at Project for Public Spaces, he found that merchants that directly abutted a bank building with a large, blank façade, on an otherwise active shopping street, were not receiving the anticipated number of shoppers given the number of people who were walking on the street; it was found that after passing a dull landscape such as a blank building façade with no windows, etc., it took a few storefronts for people to reach a window-shopping speed and shopping mentality again. Parking lots, like blank walls, can have a negative effect on the streetscape. Parking lots can be most helpful in contributing to a thriving district by providing more than one function (in addition to certain design-oriented considerations); they can thus provide access for certain people to the area, as well as something interesting once people are out of their cars.

To highlight the above point, two stretches in Somerville, MA, along Somerville Avenue are shown in Figure 1.11. If, all else being equal, people were given the choice to travel along one of the two scenes, most people would likely choose that at bottom. Why? The parking lot creates a void; it is uninteresting to walk past and belittles the pedestrian. Meanwhile, the image at bottom has visual interest with various building facades and windows—the pedestrian can imagine who might live in the homes or when the buildings were constructed. Taken from the same standing point, these two images highlight the impact of surface parking lots on the streetscape.

Figure 1.11: Broken versus active street facades influence a perception of a place, Somerville Avenue

Source: Kathleen Ziegenfuss

Chapter 1: They paved paradise and left us a mess—a predicted, planned, convenient mess
PARKING LOTS: THEIR BENEFITS AND DRAWBACKS

Why are parking lots worthy of consideration? Aren't they functional, to be used, and nothing more? The parking lot has evolved to become as essential to a city's success as new development—their presence is guaranteed through new development and growth, a position most cities try to attain.

**Benefits of lots**

"Cars hold out the promise of a deep-seated need. People want cars. So the parking problem will not just go away."¹³

There are numerous reasons why parking lots are wonderful. From a user perspective, they provide easy access to whatever amenities lie near the parking lot. They are typically an easily-identifiable landscape—we know how to read the parking lot as a place where we can enter, and park a vehicle. Further, we often use them as a cut-through to other areas, providing not just a destination but a means to get to other desired destinations.

Parking lots are important because they enable access to given destinations. Though parking lots themselves are not the attraction, they enable many destinations to flourish. Where a car goes to park, so too do people; parking lots have a captive audience of people who want to experience an adjacent space. People are in parking lots often; it defines the arrival or departure from many important places in our lives—homes, jobs, restaurants, shops, and parks to name a few. As stated in 1958: "Motorists cannot be shoppers, or workers, or theatergoers, until the car is parked."¹⁴ Society has attached the dollar sign to the parking lot.

From a developer's perspective, parking lots not only support existing development but they also provide a profitable way to hold land until market conditions ripen for new development. Many of the parking lots in Fan Pier in Boston have been used as holding patterns for new development, staging construction with improvements to the Silver Line and increased development pressures outward from downtown.

Figure 1.12: Parking lot in Fan Pier, Boston, 2007, which is currently undergoing construction.

Source: Kathleen Ziegenfuss

And, as the many companies who own or operate parking lots can attest to, parking lots are often viable businesses in and of themselves. There is demand for parking, and people understand that is a business opportunity to capitalize upon. The parking lot is a relatively low-maintenance business and landscape, even in climates where snow requires occasional plowing.

In many urban areas throughout the United States which have poor or non-existent public transportation systems, the automobile provides most daily access to get to work, home, or other activities. Understanding that the nation is currently built around the automobile, it is therefore imperative that parking lots exist. Instead of saying there is no space for parking in our cities and town, a case can be made to show that the way cities and towns manage parking is inefficient at best, and an unjust and unsustainable allocation of land at worst.

Developing strategies for improving the physical design of these spaces while increasing the efficiency of our resources (namely, land) is

---


²⁴ Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces.
therefore the imperative placed upon those investigating parking lots and land use.

Finally, from a layperson, or non-motorist perspective, parking lots can provide breaks in the vertical landscape, and afford sun and good views from abutting offices or homes due to a lack of any edifice. And, as a potential user of the space for such activities as biking, learning to drive, or playing roller-hockey, parking lots can provide the perfect blank slate, ripe for interpretation and casual use. The lack of rigid enforcement rules on parking lots draws some to them; the nebulous control of use is attractive and invites creativity.

**Drawbacks of lots**

Surface parking have a substantial amount of drawbacks as well, many of which have been previously discussed. Essentially, they are usually designed in ways that clearly are de-prioritized in contrast to the buildings, residences or destinations they serve; they are often desolate in appearance and are associated with danger; they have huge environmental impacts in terms of impervious surfaces and urban heat island effect; and they break up streetscapes and potentially hinder the desire to want to continue walking down that particular street. Typically, they are voids in the landscape and are technically off-limits to anyone besides those who are patronizing the business, live on the premises, or are otherwise authorized to park in the lot.

Though there are a number of issues surrounding the present construction and use of surface parking lots, such as the environmental impacts of paving over large land masses, and the cost for which most people pay to park upon them (next to nothing, in most cases); the focus of the thesis is not on these issues. Those topics are being tackled in other research and a number of more equitable and ecological solutions have been proposed through new building and landscaping materials, and strategies to create a more balanced supply and demand of parking lots which will help reduce the ‘free’ parking most people have come to expect in most parts of the United States.

The fundamental drawback as I view it, and the one which this thesis attempts to address, is that parking lots are under-utilized, mono-functional spaces, designated for use by one certain functional subset of the population. This condition leaves parking lots often empty—but also ripe for intervention.

**PARKING LOTS: SOME BASICS**

*In the beginning*

Parking lots have not always existed. Though it is difficult to imagine a city street not flanked by cars on each side, there was a time when the streets were clear of the automobile, and people, animals and carts filled the center paths.

When people traveled on horse they simply tied up their horse to a post, often provided in front of the building—the remnants of which we can still observe today. This practice was known as 'curbing' your horse; thus, the curb was established within the mobility nomenclature. This practice continued until the excessive amounts of manure produced at the curbing stations caused such a stink that (literally) it became standard practice to curb your horse at the end of the block or the edge of the main street in a stable or a barn to suppress the smell. Thus, the practice of clustering transport vehicles in storage was widely accepted, and the modern parking lot was conceived; parking vehicles followed the same norms as horse-drawn carriages. Many of these livery stables were in the same place where parking garages now stand.

The evolution from the horse to the automobile as a major mode of transport during the early 20th century allowed for the return of curb-side parking, but the grounds had been established for the practice of cordonning-off automobiles in certain parts of town. This has been amplified in our present-day cites.

Travel patterns and implications upon the land

A theory put forth by Hopkes coined the term “the law of constant travel time,” establishing the principle that most people around the world spend a roughly equivalent amount of time per day in travel; Schafer and Victor have determined this daily travel time budget to be approximately one to one-and-one-half hours.18 This time can cover more or less distance, depending on the mode which is taken by the traveler. For example, assuming the average person travels 1.2 hours a day, a pedestrian can cover approximately 4 miles, a person on a street trolley can travel 12 miles, an early auto-era traveler could reach 48 miles and a driver on a modern freeway could travel 84 miles. The decline of distance through the adoption of modes of transportation of increasing speed has had dramatic impacts on land use patterns, namely, giving people the ability to spread out while still having access to many amenities. As automobiles were introduced into U.S. cities at the beginning of the 20th century, the percentage of people living farther from the center of the city began to increase, as shown in Figure 1.13.

Figure 1.13: Population dispersion via distance from city center

This also means that as cities have spread out in response to the ability to cover greater distance, more land has been allocated to mobility—mainly consisting of roads and parking lots.

The American Community Survey estimates that for the years 2005-2007, 86.7% of the US population commute trips to work (for people over age 16) were made by private automobile (76.1% in single occupancy vehicles and 10.6% in carpools).19 This means that combining the 104,188,550 single occupancy vehicles and, by estimating two people per car for the carpool, 7,262,291 cars for the carpooling, a total of 111,451,511 automobiles were used for daily commuting. This number could be lessened by those families who use the same car for alternating-shift work hours, but it could also be augmented by other vehicles that are not used to travel to work. Taking 111,451,511 as the base, it means that there are 22,290,302,200 square feet of space for parking a vehicle at the place of work, based on a very modest 200-square feet per vehicle (essentially only considering the space of the vehicle and not the space needed for maneuvering and lane space required). Each of these cars also came from somewhere—home, presumably, so multiplying the number by two we get 44,580,604,400 square feet. This conservative estimate would occupy 1,023,430 acres or 1,599 square miles of land if it were all housed in surface parking lots. This is slightly larger than the total land and water area of Rhode Island. Comparing that figure to the land area of the United States, the amount of space used for parking just for commuters is 0.045%, or approximately one-twentieth of a percent of all land. Though this percentage is small, the impacts are huge. Rhode Island, for example, boasts a population of over 1 million people.20

The current predominance of the lot

The amount of land dedicated to our asphalted-transportation infrastructure (2% of land in the United States\(^{21}\)) has multiple implications beyond creating a highly mobile nation, including a fragmentation of natural habitats, an abundance of impervious surfaces, and a massive effort to keep the various systems in good working order. In order for people to utilize this impressive infrastructure, there must be places for them to store their vehicle at both the origin and destination of any trip.

from http://factfinder.census.gov/servlet/ADPTable?_bm=y&-geo_id=04000US44&-qr_name=ACS_2007_3YR_G00_DP3YR2&-context=adp&-ds_name=&-tree_id=3307&-_lang=en&-redoLog=false&-format=.


The parking network (including lots, garages, etc) covers 6% to 40% of the land in American cities.\(^{22}\) This is not a small fact; it is indicative of how we, as a society, value the benefits of personal mobility, as provided through the automobile. However, this was startling even in 1987, when author Jim McCluskey claimed that within a downtown area “land is invariably too scarce and highly priced to make ground-level parking an acceptable expedient”.\(^{23}\) But yet the parking lot still abounds 20 years later. Looking at aerial images of downtown Minneapolis and Cincinnati shows how parking occupies a huge land area in these cities, right next to their central business districts.


In Los Angeles, a city which is at once hailed for its density yet criticized for its auto-dependency, the mobility network of roads, freeways and parking lots are estimated to consume two-thirds of all space downtown (shown in black, below).\textsuperscript{24}

\textit{Figure 1.16: Los Angeles, transportation network shown in black}

The issue of cost and financing is farther complicated by the fact that about 90% of commuters park for free, in spaces that have an average annual value of $1,000, which places the annual subsidy for commuting spaces at $85 billion.\textsuperscript{29} This is a subsidy because businesses are able to deduct the cost of providing employee parking spaces on their taxes as a write-off, with "government eventually bear[ing] the cost, partly in the form of debt. This supposedly 'free' parking makes car commuting almost irresistible."\textsuperscript{30} Direct savings to the commuter is estimated at $1,800 per year.\textsuperscript{31}

The system of parking and its construction

A city's parking system is a complex and expensive network. It is composed of commercial parking, municipal parking, residential parking, and event parking; these needs are accommodated via on-street curbside spaces, surface parking lots, structured garages (above and below ground) and private residential spaces or driveways. It is estimated that the average cost to develop parking is $4,000 per space in a surface lot, $20,000 in an above-grade parking structure, and $30,000-$40,000 per space in an underground garage.\textsuperscript{25} On a "wiki answers" post, the answer to "How much does it cost to build a parking lot", parking scholar Donald Shoup is quoted as saying: "the cost of all parking spaces in the U.S. exceeds the value of all cars and may even exceed the value of all roads."\textsuperscript{26} Shoup estimates the total cost of free parking to the national economy to be between $127 and $300 billion annually (2002 figures), which amounts to a national subsidy between 1.2% and 3.6% of the gross domestic product.\textsuperscript{27} These figures can be put in perspective by comparing that figure with the 2002 federal expenditures on Medicare ($231 billion) and national defense ($349 billion).\textsuperscript{28} Clearly, this is no small matter. \textit{Figures 1.18 and 1.19 detail different cost scenarios for understanding the varying nature of the cost of a parking space.}

The system of parking and its construction

A city's parking system is a complex and expensive network. It is composed of commercial parking, municipal parking, residential parking, and event parking; these needs are accommodated via on-street curbside spaces, surface parking lots, structured garages (above and below ground) and private residential spaces or driveways. It is estimated that the average cost to develop parking is $4,000 per space in a surface lot, $20,000 in an above-grade parking structure, and $30,000-$40,000 per space in an underground garage.\textsuperscript{25} On a "wiki answers" post, the answer to "How much does it cost to build a parking lot", parking scholar Donald Shoup is quoted as saying: "the cost of all parking spaces in the U.S. exceeds the value of all cars and may even exceed the value of all roads."\textsuperscript{26} Shoup estimates the total cost of free parking to the national economy to be between $127 and $300 billion annually (2002 figures), which amounts to a national subsidy between 1.2% and 3.6% of the gross domestic product.\textsuperscript{27} These figures can be put in perspective by comparing that figure with the 2002 federal expenditures on Medicare ($231 billion) and national defense ($349 billion).\textsuperscript{28} Clearly, this is no small matter. \textit{Figures 1.18 and 1.19 detail different cost scenarios for understanding the varying nature of the cost of a parking space.}

The issue of cost and financing is farther complicated by the fact that about 90% of commuters park for free, in spaces that have an average annual value of $1,000, which places the annual subsidy for commuting spaces at $85 billion.\textsuperscript{29} This is a subsidy because businesses are able to deduct the cost of providing employee parking spaces on their taxes as a write-off, with "government eventually bear[ing] the cost, partly in the form of debt. This supposedly 'free' parking makes car commuting almost irresistible."\textsuperscript{30} Direct savings to the commuter is estimated at $1,800 per year.\textsuperscript{31}

\textsuperscript{28} Ibid. p.207.
\textsuperscript{29} Kunstler. (1996). p.69.
\textsuperscript{30} Ibid.
\textsuperscript{31} Victoria Transport Policy Institute, January, 2009. Parking Costs. In \textit{Transportation Cost and Benefit Analysis: Techniques, Estimates and Implications}. Section

---


\textit{Figure 1.17 estimates the total amount of commercial parking spaces in the United States by land use, with the total number of spots at nearly 220 million. There are currently 306 million people in the United States; at any given moment, 72% of Americans could be parked in a single occupancy vehicle in a commercial parking space.}

---

\textit{Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces}

---

\textit{Figure 1.18}

\textit{Figure 1.19}
Figure 1.17: Estimated U.S. Commercial Parking Spaces, 2003

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Total Floor Area (Million Sq Feet)</th>
<th>Parking Spaces Spaces/1,000 Sq Ft</th>
<th>Parking Spaces Thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>9.874</td>
<td>3</td>
<td>29.622</td>
</tr>
<tr>
<td>Food Sales</td>
<td>1.255</td>
<td>3</td>
<td>3.765</td>
</tr>
<tr>
<td>Food Service</td>
<td>1.654</td>
<td>4</td>
<td>6.616</td>
</tr>
<tr>
<td>Health Care</td>
<td>3.163</td>
<td>3</td>
<td>9.489</td>
</tr>
<tr>
<td>Lodging</td>
<td>5.096</td>
<td>3</td>
<td>15.288</td>
</tr>
<tr>
<td>Mercantile</td>
<td>11.192</td>
<td>4</td>
<td>44.768</td>
</tr>
<tr>
<td>Office</td>
<td>12.208</td>
<td>4</td>
<td>48.832</td>
</tr>
<tr>
<td>Public Assembly</td>
<td>3.939</td>
<td>4</td>
<td>15.756</td>
</tr>
<tr>
<td>Public Order and Safety</td>
<td>1.090</td>
<td>3</td>
<td>3.270</td>
</tr>
<tr>
<td>Religious Worship</td>
<td>3.754</td>
<td>3</td>
<td>11.262</td>
</tr>
<tr>
<td>Service</td>
<td>4.050</td>
<td>3</td>
<td>12.150</td>
</tr>
<tr>
<td>Warehouse and Storage</td>
<td>10.078</td>
<td>1</td>
<td>10.078</td>
</tr>
<tr>
<td>Other</td>
<td>1.738</td>
<td>2</td>
<td>3.476</td>
</tr>
<tr>
<td>Vacant</td>
<td>2.567</td>
<td>2</td>
<td>5.134</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>71.658</td>
<td></td>
<td>219,506</td>
</tr>
</tbody>
</table>


Figure 1.18: Typical parking facility financial costs

<table>
<thead>
<tr>
<th>Type of Facility</th>
<th>Land Cost Per Acre</th>
<th>Annualized Land Cost Per Space</th>
<th>Annualized Construction Costs</th>
<th>Annual O &amp; M Costs</th>
<th>Total Annual Cost</th>
<th>Total Monthly Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Suburban, On-Street</td>
<td>$250,000</td>
<td>$94</td>
<td>$326</td>
<td>$345</td>
<td>$765</td>
<td>$64</td>
</tr>
<tr>
<td>Suburban, Surface, Free Land</td>
<td>$50</td>
<td>$0</td>
<td>$326</td>
<td>$345</td>
<td>$885</td>
<td>$74</td>
</tr>
<tr>
<td>Suburban, Surface</td>
<td>$250,000</td>
<td>$215</td>
<td>$326</td>
<td>$345</td>
<td>$885</td>
<td>$74</td>
</tr>
<tr>
<td>Suburban, 2-Level Structure</td>
<td>$250,000</td>
<td>$107</td>
<td>$1,628</td>
<td>$345</td>
<td>$2,081</td>
<td>$173</td>
</tr>
<tr>
<td>Urban, On-Street</td>
<td>$1,200,000</td>
<td>$453</td>
<td>$345</td>
<td>$345</td>
<td>$1,341</td>
<td>$112</td>
</tr>
<tr>
<td>Urban, Surface</td>
<td>$1,200,000</td>
<td>$944</td>
<td>$345</td>
<td>$345</td>
<td>$2,062</td>
<td>$172</td>
</tr>
<tr>
<td>Urban, 3-Level Structure</td>
<td>$1,200,000</td>
<td>$315</td>
<td>$1,954</td>
<td>$345</td>
<td>$2,844</td>
<td>$237</td>
</tr>
<tr>
<td>Urban, Underground</td>
<td>$1,200,000</td>
<td>$0</td>
<td>$2,714</td>
<td>$345</td>
<td>$3,289</td>
<td>$274</td>
</tr>
<tr>
<td>CBD, On-Street</td>
<td>$6,000,000</td>
<td>$2,265</td>
<td>$543</td>
<td>$460</td>
<td>$3,268</td>
<td>$272</td>
</tr>
<tr>
<td>CBD, Surface</td>
<td>$6,000,000</td>
<td>$4,357</td>
<td>$543</td>
<td>$460</td>
<td>$5,359</td>
<td>$447</td>
</tr>
<tr>
<td>CBD, 4-Level Structure</td>
<td>$6,000,000</td>
<td>$1,089</td>
<td>$2,171</td>
<td>$575</td>
<td>$3,835</td>
<td>$320</td>
</tr>
<tr>
<td>CBD, Underground</td>
<td>$6,000,000</td>
<td>$0</td>
<td>$3,776</td>
<td>$575</td>
<td>$4,007</td>
<td>$334</td>
</tr>
</tbody>
</table>


Figure 1.19: Typical parking annualized cost per space (2007 USD)


5.4: Parking, p.5.4-5.

Chapter 1: They paved paradise and left us a mess—a predicted, planned, convenient mess
Construction costs for surface lots vary dramatically considering land costs and other contextual constraints. Costs for surface parking lots can range from near nothing to over $100,000 per space (based on average space taken by auto at 330 square feet and land valued at $300 per square foot).\(^\text{32}\) Construction of structured lots is more expensive, and underground lots are even more costly. Curbside parking spaces are difficult to put a price tag on because of the bundled nature of curb-side spaces with roads. The price of residential parking spots again varies based on the price of the land, and is often packaged into the sales price of the home.

It is estimated that the annual cost of parking is equal to that of car ownership, though the payment for vehicle expenses is typically paid by owners while the parking costs are spread out through a more complicated system of support for the parking.\(^\text{33}\) This varies depending upon rural or urban conditions, as well as between different cities and towns; the cost comparison in Figure 1.20 is a national average.

\textbf{Figure 1.20: Comparing vehicle and parking costs}

![Figure 1.20: Comparing vehicle and parking costs](image)

\textit{Source: Victoria Transport Policy Institute. "Transportation Cost and Benefit Analysis II—Parking Costs". p.5.4-11.}

Typical quoted costs do not include any environmental costs or indirect costs such as a loss in the aesthetic value of an area, increased pervious surfaces, the reduction of housing affordability and other second-source energy use for the movement and extraction of materials for lot construction.\(^\text{34}\) And, importantly, costs do not reflect lost opportunity costs for that land.

\textbf{THE ‘URBAN LEGEND’ OF PARKING LOTS: CULTURAL ASSOCIATIONS}

Looking at the common beliefs and society-wide perceptions of parking lots can give an insightful glimpse as to how society considers the role of parking lots. This framework sets the stage for layering academic and professional research atop the cultural foundation.

\textbf{Parking lots and children}

The description of parking lots as bleak, unforgiving and uninteresting places to be in is a value passed on to children (and parents) from an early age. The children’s book \textit{I Saw an Ant in a Parking Lot} tells the story of Dorothy Mott, the ticket matron of the parking lot. She is a self-described lot attendant, with duties of “gather[ing] tickets, punch[ing] the clock, and help[ing] lost parkers find their spots”\(^\text{35}\). A minivan comes into the lot, looking for a spot, and Dot (Dorothy) recognizes the ant is in trouble: “Now minivans are surely not/a mini-peril/when you’ve got/a mini-ant out on a trot/across a mega parking lot.”\(^\text{36}\) Wrought with fear for the ant’s life, Dot throws a doughnut across the lot as a warning sign to the mother driving the van. She is successful, as “that sticky missile/hit the spot/just east of anguish, west of caught/north of trouble, south of shot”\(^\text{37}\). In the end, disaster is avoided, and all is in place: “Score: Dorothy 1, disaster naught!/An ant alive,/a van in spot!/A doughnut shared and coffee hot./All is well in Dorothy’s lot.”\(^\text{38}\) This story, bright with illustrations which depict the scary, dangerous world of the parking lot, help create the preconditions for young children to be afraid of surface lots.

\begin{footnotesize}
\begin{itemize}
\item \(^\text{32}\) Shoup. (2005). p.185.
\item \(^\text{33}\) Victoria Transport Policy Institute. (2009). p.5.4-10.
\item \(^\text{34}\) Ibid. p.5.4-4.
\item \(^\text{36}\) Ibid. p.8.
\item \(^\text{37}\) Ibid. p.17.
\item \(^\text{38}\) Ibid. p.21.
\end{itemize}
\end{footnotesize}
A different book, *Parking Lot Rules & 75 Other Ideas for Raising Amazing Children*, promotes the same conclusion but gears its message toward a different consumer—the parents. In his book about how to raise children with respect and love, Tom Sturges deals with ‘everyday’ rules; the first chapter in this section (in theory the most important ‘everyday’ rule for raising your child), begins with a word of caution: “In a world inhabited by cars the size of small houses, the parking lot can be an incredibly dangerous place.” This short passage includes a description of why parking lots are one of the most dangerous places:

Teach your children Parking Lot Rules, that they need to be right next to you always and whenever you are in a parking lot. There is to be no trailing behind. No racing ahead. No exceptions. Right next to you.

The moment you near a parking lot, either to or from the car, call out ‘Parking Lot Rules’ and your children will know that they absolutely must be by your side. If they have toys in their hands, or Game Boys, or PSPs, or (if you’re lucky) a good book, it gets put away at that instant.

Nothing is more important than their walking next to you, holding your hand, and safely getting back and forth from the car. Shout out ‘Parking lot Rules.’ Your children will know instantly and instinctively that they need to be by your side, that instant, no questions asked.

So, the first piece of parenting advice for raising an amazing child has to do with keeping your child alive in surface parking lots. It is obvious the situation is dire and we are at a critical point—what to do about it is a different question. Whether you decide to throw doughnuts to avoid disaster or have a code word for your children to keep them by your side, we can be sure that the common conception of surface parking lots is that they are dangerous, scary places to be. That this should be such an important element of everyday life is an indicator that perhaps it is time we turned more attention to the effects of parking lots, on both our psyche and the built environment, and on creating more safe and humane types of parking lots.

---


40 Ibid. p.3-4.
Parking lots as places of freedom

Deviating from the parking lot as a place to fear, there are others who appreciate the ‘lawlessness’ of the lots. The teenage pastime of a more intimate form of ‘parking’ in remote areas, children learning to ride bicycles, and teenagers and adults learning how to drive are all associations made with parking lots. The freedom of being able to break the rules to a limited degree is attractive, and parking lots seem to be the place to do it.

A bit more conventional use is drive-in movie theatres and drive-through restaurants like the A&W. These are places held nostalgic in the American landscape, a hark back to the time when parking lots had the potential to be something special, and social. In certain places around the country these can still be found, and the social function of a parking lot can be observed. Importantly, it is not just the parking lot that draws people in but rather it is the activity held on the parking lot which brings people to the space.

Tailgating is also a part of many people’s connections with parking lots; Figure 1.22 is from the website tailgating.com, with its slogan “Welcome to the celebration in the parking lot!”41 Their ‘mission’ as described on the homepage is uplifting and full of community spirit: “It’s the last great American neighborhood - the tailgating neighborhood. Where no one locks their doors, everyone is happy to see you and all are together sharing fun, food and football! It’s families. It’s fans. It’s a community social. It’s pre-game, halftime, post-game and more. It’s the total game day experience!”42

According to a USA Today article in 1989, a coveted parking space for the University of South Carolina game was renting for $8,500; there is a high demand for this type of activity. Figure 1.23 below of tailgating at Virginia Tech shows the popularity of such events.

Similarly, parking lots in Houston, Texas are often used for nighttime parties; many parking lots outside clubs draw a large crowd of people, who have no intentions of entering the club but rather who come for the party outside.43 The popularity of parking lot parties is so high that one recent music video (by the artist Trae) was almost entirely shot in a parking lot party.44 Parties in parking lots are often referred to as “parking lot pimping”, and are popularized in such songs as Jay-Z’s “Parking Lot Pimping”. The definition of parking lot pimping, according to the Urban Dictionary is “Popular among young clubbers. Usually after a club party ends young people, especially males, will stand in the parking lot with their boys or next to their Mercedes Benz...in order to look for females to exchange numbers with or take home...For females, parking lot pimping involves them using their looks to attract men...”45

42 Ibid.
43 Zewde, Sara. (Personal communication, April, 2009). Houstonite.
Thus, the parking lot is the place to be. The music video by Trae has been shown on YouTube 1,250,196 times; the result, whether intended or not, is that 1.25 million people (or fewer people watching numerous times) have the association that parking lots are where celebrities hang out, where the party is at, and are cool places to be. This is reinforced throughout the video. Parking lots are the place for free, fun entertainment.

Figure 1.24: Screen shots of music video showing parking lot parties


There has been agreement from sociologists that parking lots function “as places to stop while cruising, offering special opportunities for teens to display themselves and their cars and thus attract and meet potential mates”. Parking lots are providing a needed space for social interaction.

Parking lots are often assumed to be an off-limits space, outside of the realm of regular rules and regulations. The erratic driving patterns often demonstrated in lots contribute to the foreboding attitudes the general public may have toward parking lots. Kevin Lynch shines an interesting light on the subject when he suggests in Good City Form the practice of using performance dimensions as a way to determine and increase ‘good’ form in a city. Control is one of the dimensions used, along with fit, vitality, sense, access, and efficiency and justice. An important element of spatial control is to have areas of little control, where deviant behavior can occur and tolerance is greater. As an example, he uses wastelands as areas suited for fine playgrounds, where kids are allowed to play with a high degree of freedom. He claims that “waste lots of the city shelter native plant and animal associations and afford children an escape from adult control. At this moment, new wastelands are opening up in the center of the metropolis”. It is clear that parking lots can provide this ‘wasteland’ or space of less-regulated control.

Attitudes toward parking lots

In general, it may be possible to characterize people’s attitudes to parking lots in a variety of ways:

- No attention is paid to parking lots; people use them, but don’t consider any impact of them on travel patterns or visual impacts;
- People are afraid of parking lots, due to safety issues;
- The prevalence of parking lots is accepted as a necessary part of our transportation network; no real critique of the lot is identified;
- Parking lots are considered bleak spaces in the landscape, with better uses identified such as redevelopment, and at a minimum desire a more environmentally sensitive way of constructing the lots as to not have as adverse of an effect on the natural systems;
- People see the opportunities present in parking lots, and at times use them to socialize, buy or sell goods, play in, or for

49 Ibid. p.216.
50 Ibid. p.217.
51 Ibid. p.216.
recreational purposes. All of these perspectives are valid; they all inform the way parking has become such a dominant and at times foreboding or lovely part of the landscape.

Behavioral effects of the parking lot

The parking lot is a place of transformation. Most drivers are pedestrians the moment before they enter their car and the moment they get out of their vehicle in a parking space. The disconnect between these two roles is a gap that is most harshly felt when you need a color-coded, iconic sign with state names to remember where you parked, such as at the Mall of America, which boasts of 13,000 free parking spaces.  

Figure 1.25: Sign in Mall of America parking lot reminding patrons how to remember where they parked

There are implications beyond feeling anonymous in a parking area. A popular book on the current American built condition, Suburban Nation, describes a study done by the Journal of Applied Social Psychology which highlights finding statistical measures of the anti-social behaviors people demonstrate in parking lots. The study found that if another person is waiting for an occupied parking space, the driver takes 21% longer than normal to vacate the space, and 33% longer if the person honks. People are for some reason taking longer than usual when someone is waiting. Is it vengeful? The answer is not known, there is only known to be an observed instance of associated behavior.

The way in which many of our cities and towns have prioritized the automobile over the pedestrian also has effects on people’s health and behavior. In his book on the environmental design of parking lots, Jim McCluskey describes: “In our cities, towns and villages pedestrians have been confined to narrow strips at the side of streams of vehicles and subjected to the discomfort of poisonous fumes, high noise levels and the need to be constantly on the alert in order to avoid injury. Cars have commonly been permitted to park indiscriminately giving housing areas the appearance of used-car lots and increasing the congestion on our streets and roads.” Living amongst ‘used-car lots’ is certainly not an ideal situation, and potentially could be partially at fault for some of the so-called ‘deviant’ behavior often associated with parking lots.

Parking lots in the media

A search for “parking lots” using Google News search engine turns up six headlines out of the top ten (all posted within a two-day span) which point toward undesired or marginalized activity happening in parking lots. The headlines read:

- “Bank customers cautioned after parking-lot holdups” Arizona Republic
- “House panel votes to allow guns in business parking lots” Yuma Sun
- “Lawrence aims to keep car sales out of store lots” Indianapolis Star
- “Washington Township changes bus procedures after deadly accident” MSNBC
- “Burglars hit health club parking lots”  


34 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
“Parking lot fights followed postseason victories” Andover Townsmen

Whether the parking lots cause the erratic behavior or not, it is clear that for some reason parking lots are the scene for many undesired activities. The desolation of lots, the numerous parked cars which hide people and block vision, and the lack of regulations often enforced in parking lots could be potential reasons for this type of behavior.

The feeling of anonymity within a parking lot may have a link to the perceived behaviors above. Focusing on the match between the physical form and its purpose of use, and how context defines perception, Lynch sites parking as an example of how to determine congruence: “the large parking lot is an ugly, uncomfortable, often disorienting convenience. It has the deflated meaning of a storage yard; its massed cars are so many empty shells. But the parking space by the house displays the family car, a machine with personality, by which neighbors recognize the presence of its owner.” This alludes to the conclusion that it is not the mere presence of the automobile which puts us at mercy, but the greater context in which it is placed.

The view of parking lots as dangerous and a place where even mere existence is an effort is also widely perpetrated in a more academic discourse. Journal articles and books which decry the blight caused by surface parking lots abound. Former Mayor of Bogotá, Enrique Peñalosa, warned of its terrors in a recent talk on planning for cities of happiness: “Clearly, surface parking is very damaging to any city.” That something which can be considered damaging by its very nature be simultaneously so widespread and required by law is at least a frightening disconnect.

In Suburban Nation, the idea is promoted that parking lots cause much lament in our cities and towns. In the opening paragraph of the chapter titled “The Inner City” the incremental whittling away of America’s inner cities is described: “The widespread construction of parking lots downtown further eased the automotive commute while turning the city into a paved no-man’s-land.” A bleak view is relayed to the reader. Historically, we have replaced buildings with parking lots to make accessible our downtowns and commercial areas by the private automobile. As Lewis Mumford decried in 1981, “The right to have access to every building in the city by private motorcar, in an age when everyone possesses such a vehicle, is actually the right to destroy the city.” We have created the ultimate negative space—both our lack of attention and of our attitude towards the space.

However, the buzz around parking is increasing—its ecological impact, financial implications, and to a lesser extent the impact on the built environment are becoming more widely discussed. Events such as the annual PARK(ing) day, when curbside spaces are ‘rented’ by someone who constructs a temporary park in the space, are creating public attention where even mere existence is an effort is also simultaneously so widespread and required by law is at least a frightening disconnect.

57 Peñalosa, Enrique. (2009, February 6). What happens when you give street space back to people? Presentation given at MIT's Center for Transportation and Logistics Lunchtime Lectures: A Distinguished Speaker Series. Cambridge, MA.
As described in a book titled *Carsick*, we are at a tipping point: “The engineers of the 1950s thought that they were building a car utopia, but what has been achieved is a car dystopia. Now we have to find a way forward from that dystopia, to a place where we are more discriminating about our car use, enjoy the benefits more selectively, and regain some of the quality of life that car culture has destroyed.” Turning toward the role of parking lots can help achieve this sated goal.

**THESIS ORGANIZATION**

The framework presented in this chapter sets the stage for the remainder of the thesis. The parking lot has permeated into many aspects of our culture and is a daily part of most people’s lives; the challenge of how to make that experience better, and the justification of why we should do so, is explored in the rest of the thesis.

**Research question**

How can parking lot regulation and design influence the use of surface parking lots when not occupied by vehicles?

What strategies can a city or town employ to promote mixed use in surface parking lots, so they function more in tune with the public space network in the city?

**Hypothesis**

With the proper intervention (through zoning regulation, design, risk mitigation or incentives) surface parking lots can provide a space for public activities, such as markets, formal and informal play, fairs, events, and other social activities. Cities and towns have the power to create the conditions under which this scenario can flourish.

**Focus of research**

This research focuses on existing conditions—namely, parking lots which currently exist. An underlying assumption is that the parking lots will continue to function in their present role of the mobility network. The ideas presented here are temporary, stop-gap measures for land that is often idealized as slated for long-term redevelopment. In this way, what I am proposing are immediate solutions for large-scale (rather than site-specific) land use considerations that can systematically open up the land for new uses.

**Chapter structure**

A brief overview of the chapter structure will ground the reader in the flow of the thesis.

**Chapter 1: They paved paradise and left a mess—a predicted, planned, convenient mess**

An argument is developed to show why the abundance of surface parking lots should be more closely examined in order to extract more use from the land.

**Chapter 2: Contemporary research on parking**

The current research and historical precedents in parking lot standards, design, costs, connections to land use patterns, use, best practices in management, and public response through design competitions and civic engagement are analyzed. The research undertaken for this thesis is placed within that framework.

**Chapter 3: Public spaces, the public realm and parking lots**

The argument for the benefits of increased public space is developed. Examples of lots which function as part-time public spaces are highlighted.

**Chapter 4: Land use patterns and parking lot typologies**

A detailed analysis of parking lot types is undertaken; typologies are developed to understand which types of lots are better suited for use-related interventions.

---


36 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
Chapter 5: Overcoming obstacles inherent to constructing use on surface parking lots

Obstacles to allowing additional uses in surface parking lots are explored and strategies to address the issues are offered.

Chapter 6: Implementation: the future of multifunctional parking lots

Implementation measures are identified in the final chapter. The level of difficulty in type of intervention and a discussion of where the intervention would work best is included. Theoretical questions which remain are described, along with ideas for further research.

Methodology

In developing this thesis I have relied on three main forms of research: a literature review, direct observations of parking lots and interviews.

The literature review has been driven largely from contemporary and historical references to parking lots in both the academic and popular discourses. While there is relatively little material on parking lots considering their impact on the built environment, the material is vast and this is not a comprehensive overview of every trend that has been experimented with as it relates to parking systems and regulations.

Direct observations have largely focused on the Boston region, and in Somerville, Massachusetts in particular. Examples are also liberally taken from Minneapolis, Minnesota and Austin, Texas.

Finally, the interviews I have conducted have attempted to explore the current political and practical realities of expanding the role of parking lots. People interviewed include:

- Municipal planning professionals who influence city-wide zoning and policy on parking lots
  - Planning Director, City of Somerville, MA
  - Senior Planner, Downtown Core, City of Minneapolis, MN
  - Zoning Specialist, City of Minneapolis, MN

Transportation professionals who specifically focus on transportation networks and policy decisions relating to parking
- Assistant Commissioner, Office of Planning and Sustainability, New York City Department of Transportation, NY
- Parking and Transportation Demand Management Program Officer, City of Cambridge, MA

Arts, economic development and event production who are involved in producing events on parking lots and are interested in spillover economic benefits of increased use
- Executive Director, Somerville Arts Council, Somerville, MA
- Executive Director, Union Square Main Streets, Somerville, MA
- Producing Artistic Director, The Drilling Company, New York City, NY

Design and public space consultants who focus on the way the spaces are designed and the contribution they could make on a large-scale
- Senior Vice President, Project for Public Spaces, New York City, NY
- City Design and Development Visiting Lecturer, MIT DUSP, SA+P, Cambridge, MA

I have not attempted to talk with engineers, municipal traffic and parking staff, or lawyers because I believe these roles are enablers—given a problem, their expertise allows them to solve the problem put before them. I believe they are part of the equation, but not the most important. An area where I have attempted but failed to gain significant insight is from a private business owner’s perspective—to understand better the impact on business when events are happening in an abutting lot where customers may usually park, the issues surrounding liability and the benefits of increased exposure by more people who are near their businesses for an event or activity. I casually spoke with the people who run a small flower stand on a grocery store parking lot, but it was not a formal interview. Though
I have been unsuccessful in this regard, I have witnessed events that speak to these issues and spoken with others who have studied the impacts on local businesses when events take place in a parking lot, and believe I have a general understanding of the issues and opportunities from their perspectives.

**Goal of thesis**
The goal of the thesis is this: to create strategies for municipal governments, developers, business-owners, landowners, residents and community activists to enliven parking lots as part-time public spaces, thus bringing more people to their city/development/business/home and either providing a new form of interaction or increased economic profits and popularity for their land. It is my hope that there are practical strategies presented that can be used to promote more interesting parking lots, thus improving our built landscapes and giving more purpose to our shared realm of the public environment.

**Limitations**
Though I have tried to make a generalized case for re-thinking how we view parking lots' role in our built environment, every city or town regulates parking lots in different ways. Some cities use zoning regulations as flexible tools, while others haven't changed their codes in decades. The design regulations a town employs to create their base standard varies; parking lots are therefore built in very different designs. The bottom line is that the ideas and strategies presented here are meant to be tools used for building momentum and popular support for rethinking the way we view parking lots as resources, and as important parts of our built environments which can add to the stage upon which every city and town unfolds its public life. The details to implementation are manageable, though they vary greatly. This is a challenge that many talented people can work to overcome.

**SUMMARY OF MAIN POINTS**
- Parking lots in the United States are a large land use, occupying the space of Rhode Island based on a conservative estimation.
- Parking lots are essential to mobility patterns, and should not disappear; they are highlighted here as vastly underutilized land resources.
- Parking lots are already used for events such as tailgating, festivals, and unrestricted play.
- The prevalence in parking lots in our landscape percolates into cultural symbols and meanings, as expressed through songs, social gathering spaces, and media agendas.
- This thesis focuses on the connection between the current and potential use of parking lots. The latent opportunity available on that land suggests more value can be extracted from the parking lot, which acknowledges that parking lots may not be the ultimate land use goal or the 'highest and best use' of the land.
CHAPTER TWO

CONTEMPORARY RESEARCH ON PARKING

Source: Kathleen Ziegenfuss
SUMMARY:

Research in parking lots focus on the following topics; historical factors that shaped parking’s presence in the landscape; the cost of parking and its connection to land use patterns; best practices and strategies for better parking; manuals for construction and ecological considerations; and an increasing interest in flexible lots.

"Parking effects both transportation and land use, but its effects are often overlooked or misunderstood...Parking is a blind spot in most studies of automobile transportation." –Donald Shoup

Despite the fact that parking lots are often considered an overlooked space in our urbanized landscape, there are plenty of people who are paying attention to parking lots—from an environmental, land use, quality of life, safety and aesthetic perspective. The attention on the parking lot reflects a viewpoint which refuses to ignore the mundane forms in our built environment, or dry zoning requirements. Instead, current parking lot research focuses on a more holistic approach to the appropriate distribution of land uses, renewed attention to the way we travel and the effects of that travel on our landscapes, and a calling out as inappropriate the unsustainable, relentless paving over of our more natural (or at least more pervious) lands. Oftentimes the attention on parking lots stems from a public safety perspective as well as aesthetic concerns for our landscapes. Because of these factors, there are a variety of different approaches to evaluating the social, political, environmental and financial impacts of parking lots. This chapter looks upon the previous research and places the research done for this thesis within the context of current materials.

Parking lots have been discussed within the academic discourse for decades. Literature reviewed focuses on five areas:

1. The historical factors that shaped parking’s presence in the landscape;
2. The cost of parking and its connection to land use patterns;
3. Best practices and strategies for better parking management;
4. Manuals for construction and ecological considerations; and
5. Flexible lots, with attention given to the opportunity potential of the land occupied by parking.

HISTORICAL FACTORS THAT SHAPED PARKING’S PRESENCE IN THE LANDSCAPE

John Jakle and Keith Sculle’s book, Lots of Parking: Land Use in a Car Culture, describes the current state of parking through an historical perspective, demonstrating what decisions have gotten us to where we are today. The book is broken up into three parts, “Parking as Modern Convenience”, “Parking as Development Strategy”, and “Parking as Modern Necessity”.

They quickly assert the magnitude of the effects of parking: “Nothing over the past century in America has proven as disruptive of traditional urban landscape as parking. Perhaps nothing has made American cities less memorable... nothing fragmented urban space more than the parking lot.” They continue to describe the transformation of extreme parking lot provision that occurred between 1920 and 1970, as “most traditional big city downtowns substantially unraveled—disemboweled, building by building, by expanses of parking lot asphalt. Again, in the suburbs buildings were increasingly sited in parking lot surrounds that substantially negated the traditional street”.

Jakle and Sculle, geographer and historian, trace the initial regulation of parking as a solution to mass car ownership with chaotic parking habits. The nation’s first commercial parking lot is thought to be constructed in Detroit, in 1917.

Chapter 2: Contemporary research on parking
By the 1920s, most cities had a variety of for-profit parking lots. The first zoning ordinance which required off-street parking was introduced in Columbus, Ohio, in 1923; by 1949, 185 U.S. cities had parking provisions in their zoning requirements. The first metered space was introduced in Oklahoma City in 1935 when a survey found that 80% of all parked cars in the downtown were from employees; the trend quickly caught on nation-wide to enable faster turn-over of parking and thus more potential customers for downtown businesses. Regularized parking signs became the norm by 1940s.

The process of clearing old buildings was systematically used as a form of cleansing downtown: "Redundant buildings with inadequate demand and low profitability were best demolished, it was argued, and the land turned to more profitable use, even that of car parking. Land thereby 'cleansed' stood available both for short-run profit taking and long-run recycling. In the latter instance, parking lots came to be considered a kind of land banking... They were readily passed off as merely transitory between old and new. Accordingly, parking lots were made out to be a form of progress. This progress has not been as transitory as anticipated; many places still bear the scars of torn down buildings and surface lots.

In Detroit’s 1972 city plan, it was noted that “the automobile has an insatiable appetite for space”; at that point land devoted to vehicles occupied 74% of downtown Detroit.

The following chart shows how many buildings in downtown Detroit were destroyed for parking lots between 1925 and 1936, and their worth.
The following diagrams illustrate the successive usurpation of land for parking in downtown Detroit between 1922 and 1999; the darkest coloring represents surface parking, the grey as parking garage or deck, the outlined parcels as underground garages and the hatched as rooftop parking.

Figure 2.4: The increasing presence of parking in Detroit: 1922, 1936, 1965, 1975 and 1999

Jackle and Sculle lament the resulting form: "The downtown parking lot was of questionable pedigree. Most parking lots did not reflect acts of creation so much as acts of destruction, developed, as they were, largely though demolition. They resulted from violent action, with infrastructure of the traditional pedestrian city destroyed in accommodating the automobile."  

Jackle and Sculle decry the magnitude of these transformations: "The clearing away of buildings for car storage became, after 1920, the single-most important 'urban renewal' activity in America's central cities." The case of Detroit is a fine illustration of this point.

The authors describe how they view parking as more than 'adjuncts of architecture' but as something more:

"...also landscape expressions with intrinsic physicality and functionality of their own. They stand with clear spatial and temporal dimensions they are usually clearly bounded, with their boundaries requiring appropriate entrance and exit behaviors. They open and close, functioning cyclically day to day and week to week over set durations of time. They are deliberately constructed, furnished, and signed in ways facilitative to narrow ranges of activity, and their programming is conducive to repeated ongoing human behavior. The parking lot, as a ubiquitous form, has proven no mere temporary aberration...The life expectancy of the typical lot [over 70 years] may equal, if not exceed, the life expectancy of the average newborn American male or female."

Put succinctly, parking lots are very much designed, intentional spaces with all intentions of moderate permanency. The authors lament the impact this has had: "Most downtown parking lots, thought to be only temporary when created, in fact survived for decades. And it was not foreseen just how heroic the effort would be to fill

Source: Lots of Parking. pp. 64, 66, 174, 177 and 180.

12 Ibid. p.95.
13 Ibid. p.48.

Chapter 2: Contemporary research on parking
them up again with something other than cars.”

We are still working on that last part.

Historically, the scale of the parking lot determined success; larger parking lots were more successful business enterprises. In 1961, 90% of the 19,000 off-street parking enterprises in downtowns throughout the nation were privately owned and 11,700 of them were surface lots. In 1966, in comparison, the number of lots stood at 16,000, about half of them privately owned, with the majority of the public lots operated by private companies. The revenue produced on these lots was above $5 billion annually throughout the 1990s.

Many cities originally became involved in parking because of land holdings that weren’t be used for anything and the examples the private companies were demonstrating that it could be a profitable business.

In Baker and Funaro’s 1958 book Parking, the beginning of the inclusion of off-street parking standards is discussed in the theoretical: “Probably the easiest way out for the harassed, hard-up city is a zoning provision which makes each building owner provide a specified amount of parking space matched to the parking demand which his building is likely to generate. This makes each property owner directly responsible for his share of the parking load… and parking space once installed cannot be lost by conversion to some more profitable use. It becomes just as legally essential a part of the building as the fire exits and heating system.” How right they were! And to what different expectations, have we reached the current situation.

THE COST OF PARKING AND ITS CONNECTION TO LAND USE PATTERNS

Donald Shoup’s book The High Cost of Free Parking is widely lauded as the seminal book on the cost of parking and strategies for creating a more equitable distribution of costs. His main thesis argues that parking lots and curb side spaces are grossly underpriced to the consumer, and are vastly subsidized by everyone else. The Nationwide Personal Transportation Survey found that 99% of all trips end at a free parking space. Though this means there is no literal transfer of payment at the time of parking, the more intricate cost distribution of the space is a hidden cost that gets passed on to consumers. This is further complicated by the pollution and environmental degradation around the site (for which the tax payer also ultimately pays). In all of our roles as a citizen “as consumers, investors, workers, residents, and taxpayers—we pay a high price [for parking]. Even people who don’t own a car have to pay for free parking.” And Shoup is alluding to just the dollar cost of parking, nevermind the mental and physical pains also born by the pedestrian from the massive proliferation of widely available parking.

The high prevalence of plentiful free parking is an historical remnant of pre-automobile times. In the beginning of the automobile society, cars simply took the space where their horses once stood. As cars became more widespread in the 1910s and 1920s, finding a parking space became a challenge; zoning laws soon required off-street parking. As downtowns felt the competition from commercial establishments that had the space to provide free parking, municipalities started to implement parking requirements to be able to attract the same customers. A mayor in one town claimed: “We consider zoning for parking our greatest advance… It is working out exceptionally well, far better than we had expected. In brief, it calls for all new buildings to make a provision for parking space required for its own uses.” It became standard practice to provide free parking; a system which is only now starting to be challenged in places such as Seattle, San Francisco and Portland, where development does not necessarily require the

15 Ibid. p.94.
16 Ibid. p.51.
17 Ibid. pp.51-52.
18 Ibid. p.52.
19 Ibid. p.79.
22 Ibid. p.2.
23 Ibid. p.1.

44 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
provision of parking spaces. A major issue related to the price of parking is that most developers use formulas required by municipal authorities for minimum parking standards based on peak demand for free parking. Demand is estimated on the appetite for free parking spaces (not paid parking spaces), and then the results are considered a “need” that must be met. The Institute of Transportation Engineers (ITE) plays a crucial role in the current implementation of how we construct parking and urban form in our cities, mainly through two main texts: Parking Generation and Trip Generation. The cycle of providing free parking through ITE’s manuals is explained by Shoup as the de-facto “six-step process for planning for free parking”. The cycle is self-reinforcing, based on a suburban landscape with ample free parking and little or no public transport, which is not the condition in all of the places this process is used.

Step 1. Transportation engineers survey the peak parking demand at a few suburban sites with ample free parking but no transit service, and ITE publishes the results in Parking Generation with misleading precision.

Step 2. Urban planners consult Parking Generation to set minimum parking requirements. The maximum observed parking demand thus becomes the minimum required parking supply.

Step 3. Developers provide all the parking that planners require, and the ample supply of parking drives the price of most parking to zero, which increases vehicle travel.

Step 4. Transportation engineers survey vehicle trips to and from suburban sites with ample free parking but no transit service, and ITE publishes the results in Trip Generation with misleading precision.

Step 5. Transportation planners consult Trip Generation as a guide to design the transportation system with adequate capacity to bring cars to the free parking.

Step 6. Urban planners limit density so that development with ample free parking will not generate more vehicle trips than nearby roads can carry. This lower density spreads activities farther apart, further increasing both vehicle travel and parking demand.

This cycle has given many of the cities throughout the United States their patchwork pattern of buildings and lots, evolving from what was once a more dense, pedestrian-focused pattern of buildings into the more familiar hodge-podge smattering of parking lots and buildings. The adherence to the Trip Generation and Parking Generation manuals, and the zoning laws which support these standards, have historically led to the raising of many older buildings in favor of more parking. This then helps spur outward-based development and perpetuates the cycle of an auto-dominated culture and the resulting built form. As Shoup describes eloquently, “Almost like a religion, parking requirements are expected to solve the problems they create.”

Availability of parking and cost of parking affect the choice to drive, and thus park, at a location. Mark Childs describes the oversight in the standard national procedures for setting parking requirements (such as ITE’s Trip Generation and Parking Generation manuals), “…the interaction between buildings, alternative transit systems, and the economy is not well addressed. The attractiveness and the time and monetary costs of parking affect the demand for parking, as do the availability and quality of alternative travel modes and the socioeconomic characteristics of the expected users.” The ITE process and equation misses a critical point: context.

Beyond the cost of paying for the actual time spent parking, there is also the cost of construction and maintenance. Secondary costs

---

29 Ibid. pp.9-10.

Chapter 2: Contemporary research on parking
of excessive parking, on top of construction costs, include the externalities of the “erosion of the quality of the pedestrian system, demand on the road network, water and air pollution, and ugly cities.” In this sense, we again pay in our role as citizens.

The impact of zoning is also explored. Donald Shoup explains the lack of logic inherent in required zoning regulations for off-street parking: “Off-street parking requirements are an elaborate structure with no foundation.” Zoning, however, is what ensures there are ample surface parking lots throughout cities in the United States. Parking requirements are a part of every city’s zoning code. “These [off-street parking] requirements have put the parking supply on automatic pilot: all new development routinely comes with abundant free parking, as if it were predestined, just as everything in the Emerald City looked green because everyone was required to wear green spectacles.” There are few instances where this is challenged. It is the zoning code which dictates how many spaces need to be included for each land use, and once the parking has gone in, it is often difficult to reverse what has been done. The required spaces often limit the size of the development and affect the ultimate layout, design and use of the building. The level of disregard for humans in relation to vehicles funnels much energy and research around the topic of zoning, as Shoup decrives: “Cars have replaced people as zoning’s real concern, and free parking has become the arbiter of urban form, with serious consequences that extend far beyond parking itself.”

The lack or provision of parking, as with everything else, is a situation to which everyone can adjust: people and businesses adapt to what is provided. Childs describes this pattern quite simply: “If there is virtually unlimited free parking, people will drive more often than if there is a fee to park. If, on the other hand, it is well known that it is difficult to park downtown during the week before Christmas, people will share rides, take the bus, shop after work, or shop earlier in the year.”

Project for Public Spaces puts it in different words, but it carries the same message, “Plan your community around cars...you get more cars. Plan your community around people...get more people.” This frames their whole approach to transportation projects and advocacy. A study done in Oakland CA supports this philosophy, as it measured the effects of a decision to require parking for new apartment buildings, and found that after new parking was required the construction cost of each unit increased 18%, the population density fell by 33%—housing became less affordable, and transit less feasible. In essence, the decision to require parking created a more car-dependent society.

Throughout, Shoup’s main goal is to deconstruct the system of bundled parking that has governed development. He poses solutions that aim toward free-market pricing policies to help regulate the abundance of free parking. He identifies three reforms to improve the situation: “charge fair-market prices for curb parking, return the resulting revenue to neighborhoods to pay for public improvements, and remove the requirements for off-street parking.” Following these “will align our individual incentives with our common interests, so that private choices will produce public benefits.” He concludes that this three-pronged strategy will result in social, economic and environmental benefits, at relatively little cost, “simply by subsidizing people and places, not parking and cars.”

Given adherence to these reforms, the following diagram explains what could happen.

---

34 Ibid.
35 Ibid.
36 Ibid. p.130.
46 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces

41 Ibid.
42 Ibid.
BEST PRACTICES: STRATEGIES FOR BETTER PARKING

"If a team of planners at any time had been given the task of doing what they could to reduce life between buildings, they hardly could have achieved more thoroughly what has inadvertently been done in the sprawling suburban areas, as well as in numerous 'urban' redevelopment schemes".43 In order to reverse this trend, there is a body of research exploring ways of handling the parking system in a more efficient and mindful way.

Todd Litman's book Parking Management Best Practices identifies strategies for determining the optimal number of parking spaces, the costs of constructing and maintaining parking facilities, and strategies for better management and implementation of an integrated parking plan. He lays out a broad sweep of reasons why there is often excessive parking supply, including: minimum parking standards; bundled pricing which makes buyers and renters pay for parking regardless of desire; low-priced, or free, parking by governments—which encourages businesses to do the same; favorable tax policies; zoning codes; subsidies for parking for customers; the fixed costs and perceived cheapness of auto travel; and limited municipal investment in alternative modes of transportation.44 Understanding these reasons help cities and towns, and those who manage parking lots, maneuver more effectively around certain parking standards or regulations, and ultimately help understand how to make better use of the excessive space and plan to reduce the excess in the future.

Parking Management Systems

Integrated management systems for districts to make more efficient use of existing parking are being developed. The Federal Department of Transportation has produced a report called "Advanced Parking Management Systems: A Cross-Cutting Study: Taking the Stress out of Parking"45, dealing with innovations in parking management solutions that can help cut down on the time a vehicle spends looking for a parking space. Much attention is given to reducing customer frustration, avoiding customer parking illegally, and poor driving habits.46 This contrasts on a very theoretical level with the solution proposed by Shoup and shown in Figure 2.5.

Transit-oriented development and overlay districts

Parking standards can be reduced as more access to transit is provided. For example, the Transit Oriented Development overlay district in Somerville's Union Square zoning allows a reduction of required spaces in the area to promote transit oriented development. In a presentation given to the Board of Aldermen on February 18, 2009, an explanation of the parking strategies promoted in the new zoning

46 Ibid. p.3-1.

Chapter 2: Contemporary research on parking
is described in the following ways: “parking requirements simplified by use cluster; parking requirements reduced; parking ‘freeze’ for existing structures; payment in lieu of parking; leasing of parking; parking optimization plan; and compact parking.” As described in the staff report to the Planning Board “varied requirements for parking provision constitute one of the biggest barriers to desirable changes of use,” thus, one of the goals of the new zoning is to provide a more sensible parking plan for the area. Establishing TOD areas and allowing a reduced parking requirement based on proximity to a train or bus station is an effective way to encourage more context-sensitive solutions to the actual parking demand in the projected development, rather than rely on city-wide requirements and assumptions that no transit exists.

Shared Parking

The main idea behind shared parking is that parking spaces are in demand at various times of the year, the day, or the week. Pairing up complimentary uses, such as a church and a movie theatre, can reduce the surface demand for lots as both uses are able to share the same lot. Table 2.1 shows some sample pairings of uses that could use shared parking facilities.

Table 2.1: Shared Parking Companions

<table>
<thead>
<tr>
<th>Main Use</th>
<th>Companion Uses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Daytime employment (e.g. office)</td>
<td>Weekend and nighttime uses (e.g. church, theater) and residential</td>
</tr>
<tr>
<td>Park-and-rides</td>
<td>Weekend and nighttime uses</td>
</tr>
<tr>
<td>Restaurant and retail</td>
<td>Large employment centers</td>
</tr>
<tr>
<td>Primary and secondary schools</td>
<td>Weekend and summer uses (e.g. camps)</td>
</tr>
</tbody>
</table>

Sources: ITE 6F-52, and Weant and Levinson 1990.

The problem with shared parking is not a conceptual one but rather is that “while developers and public officials recognize the existence of shared parking, typical zoning codes do not provide for it.” The Urban Land Institute’s (ULI) study, Shared Parking was undertaken in the early 1980s because they believed shared parking did occur in the world, and they were afraid that if it “is a widespread phenomenon, then most of the existing zoning regulation based on single-use parking demand would be inappropriate for mixed-use/multiuse developments and would result in excessive parking requirements for such projects.” Though it was their hope to gain more widespread recognition of the shared parking concept, the incorporation of their findings into modern zoning code has not been fully realized even decades later; there is more work to be done.

As Kevin Lynch observes about all form, but which we can relate to the practice of shared parking lots: “Many of our physical facilities are congested while in use, and yet are grossly underused. Here is an obvious opportunity for increasing fit without increasing cost.” Shared parking seems a natural fit. Jane Jacobs also

---

51 Ibid. p.v.
commented on the inefficiencies of the way parking facilities are generally managed: “Like parks and consumer shops, parking and traffic facilities are innately inefficient and wasteful without time spread of users”\textsuperscript{53} Shared parking allows us to reduce many of these inefficiencies.

**Parking maximums, not minimums**

Strategies to reduce parking through parking maximums instead of parking minimums help to reduce overall presence of parking lots. This caps the total number of parking spaces required as opposed to setting a base number which a developer is free to go above. This strategy is only helpful going forward in new development, or redeveloped areas, unless incorporated into a rezoning effort, with provisions to deconstruct parking lots (not allow excess capacity to be grand-fathered into conformance with the standards).

Shoup argues a way to realize the true cost of parking would be to get rid of the standards which dictate minimums for off-street parking and let the market decide.\textsuperscript{54} Inevitably, there would be fewer parking spaces and parking prices would be higher, reflecting the cost of the development potential on the land. Shoup purports that: “Parking spaces that remained empty for too many hours a day would likely be redeveloped for more productive uses, and the price of parking would increase”\textsuperscript{55}

Speaking with conviction, Shoup claims: “In the future we will look back at minimum parking standards as a colossal mistake. Change will be slow, but it’s happening now”.\textsuperscript{56} A city planner in San Francisco, speaking about the changes in their development standards which revoked parking minimums, which still require the presence of parking, said: “The city’s modus operandi is ‘transit first.’ Everyone recognized the existing rules didn’t match the policy.”\textsuperscript{57} Change is coming, and making the cost of the parking explicit is a key step towards appropriating the ‘right’ amount of land for parking.

**Tax policies and lost development potential**

Municipal tax structures tax actual development on site, not what the area is zoned for. If the municipal tax system taxed landowners based on the highest potential development possible on their site, we would likely see a decrease in the number of surface parking lots, and an increase of development and parking garages in dense areas with high real estate values (as well as changed zoning districts, perhaps). This is similar to the approach of eliminating parking requirements and letting the market decide—a strategy described above. As Enrique Peñalosa said: “Surface parking is an indicator that the price of land is too low.”\textsuperscript{58} While this strategy is not intimately investigated as a part of this research, let it be noted that this policy change could have major affects on the way in which land is used. This policy would be a complicated strategy to implement, but the results could be quite dramatic.

**Reduced demand through more walking, bicycling, transit-riding and car sharing**

“Without places to park, driving remains most inconvenient”\textsuperscript{59}

A more effective way of reducing the impact of parking on the landscape in the long-term is to decrease demand. Though that won’t automatically get rid of parking lots, parts of those lots can be used for other uses until there is sufficient lack of demand as to redevelop or reduce the parking lot’s size. Reducing demand is a complex goal, but one that can be supported by encouraging more ride sharing, walking, bicycling and transit-riding. In order to support these activities, there must be safe streets for people to walk and bicycle on, secure places to store bicycles, an efficient and reliable public

\textsuperscript{55} Ibid. p.91.
\textsuperscript{56} Baker. (2006).
\textsuperscript{57} Ibid.
transportation system, and incentives for ride sharing such as closer parking spaces or high-occupancy vehicle (HOV) lanes. Many cities have adopted Walk/Ride days the last Friday of the month, encouraging people to walk or ride their bicycle to school or work as a way to change travel patterns and also promote more healthy lifestyles. Eventually, if at a grand enough scale, these habits could induce change in the city form.

**Design attempts to rectify the lot: the standards approach**

"Planners should stop requiring more parking spaces and start requiring better parking design".\(^6^0\) – D. Shoup

The *Wiley Graphic Standards*, a guidebook typically used as a reference for practitioners and students, publishes in its Student Edition a section on parking lots. The first sentence on parking lot design is: "Parking lots should offer direct and easy access for people walking between their vehicles and the building entrances".\(^6^1\) There is no mention of the interaction with the street, and little is said about pedestrian comfort or the aesthetic quality of the parking lot. It is noted that "when possible, parking lots should be designed to have reduced paved areas, to minimize runoff problems, and to provide areas for trees and other vegetation".\(^6^2\) This is the guidance given to students in a 436-page book on urban design and planning. Diagrams occupy four pages, for a total of 0.92% of the book's pages. Less than 1% of the manual is dedicated to the design of parking lots, which can occupy up to 40% of our urban areas. We are not teaching students how to design better parking lots; we disregard them, so it is understandable why parking lots are oftentimes disregarded in practice.

Mark Childs comments on the disregard given to parking lot design: "The typical design of parking lots as simply a mono-functional expanse of cheap asphalt and a net of white lines is wasteful and destructive...The standard design aims to provide for the safety of cars and their drivers, but once drivers step from their vehicles and become pedestrians, the lot turns into an unfriendly place".\(^6^3\) We ignore the fact that the parking lot is a place the pedestrian and the motorist meet, and focus mainly on the auto.

The Assembly Square Unifying Design Guidelines, produced in 2002 for the future development of Assembly Square in Somerville, is an example of the type of design control over parking areas which is currently being practiced in more forward-thinking (in terms of including design requirements in their zoning codes) communities.

![Figure 2.6: Selection of page from Assembly Square Unifying Design Guidelines, on parking lot design](source.png)

These design guidelines call for minimizing curb cuts and driveways, and parking lot landscaping is described as "being used to reinforce pedestrian and vehicular circulation at entrances, islands and walkways. Trees should be interspersed among parked cars at a rate of one tree per 10 spaces, in addition to trees located at lot perimeters. Trees create shade to moderate the parking lot microclimate in the summer".\(^6^4\)

\(^6^2\) Ibid. p.166.
\(^6^4\) City of Somerville. (2002, March). *Unifying Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces*
This type of design guidelines ensures there is 'adequate' coverage of the lot. What is interesting is the extent to which these, or other design guidelines, may actually support or detract from certain types of use.

**SmartCode's Transect**

The SmartCode Manual, an effort rooted in New Urbanism philosophies and released by Duany Plater-Zyberk and Company (DPZ) in 2003, has created a system of planning for different types of built landscapes, ranging from the rural to the urban. They call this description of the range of urbanized zones The Transect. The seven zones—natural, rural, sub-urban, general urban, urban center and urban core, and one 'special district'—are shown in Figure 2.7.

*Figure 2.7: A Typical Rural-Urban Transect*

While less demanding in terms of space than typical zoning standards, parking is still the only limiting factor on land use, in some cases more limiting than other cities' current standards which require no parking in the downtowns. Shoup decries this irony of what is supposedly some of the most progressive thinking among urban planners: "Even at the fountainhead of New Urbanist Thinking, parking requirements dictate density, and cars rule the city".

Within this framework, they prescribe different parking requirements for each zone; *Figure 2.8* summarizes the parking requirements... for each site or, conversely, the amount of building allowed on each site given the parking available. In this framework, parking still dictates development potential.


*Chapter 2: Contemporary research on parking*
The SmartCode does give a reduction factor for mixed uses, but it still reinforces the notion that parking must be provided for, like a basic necessity—a sewer hook up, electricity, windows in all bedrooms, and a place to park your cars.

Speaking in the abstract, Childs says: "It is the design professional’s responsibility not just to build for the client at hand but to protect and enhance the commonwealth." This moral imperative speaks to the heart of the matter, that we cannot accept a standard of ugliness just because it is the bare minimum required; we must design parking lots as part of the public realm.

MANUALS FOR LOT CONSTRUCTION + ECOLOGICAL CONSIDERATIONS

There is a wealth of manuals that describe dimensions of parking, how to get the most spaces into certain areas, and the current state of the art in terms of environmental mitigation strategies. Examples of manuals abound for the environmental and design of parking structures and lots, some titles include: The Dimensions of Parking, the Urban Land Institute and the National Parking Association; Shared Parking, Urban Land Institute; Parking, A Handbook of Environmental Design; and The Architecture of Parking, Simon Henley.

Sustainable parking lot design is as vogue a fashion as sustainable design in any design-related fields. The parking lots in our cities and towns have a dramatic impact on our natural systems; designing to mitigate their impact is an important and ever-growing practice. Measures to treat stormwater runoff and reduce the heat island effect are at the forefront of parking lot design and construction, such as these permeable paver systems used below in a commercial lot in Austin, TX and another example of brick pavers in a residential lot in Somerville, MA.
more pedestrian friendly, parking lots will still remain. Focusing on those spaces that can be used as both a parking resource as well as a space for public events and public use is the goal in ‘reusing’ a space. Reusing parking lots is the focus of this investigation; putting together a set of strategies to get more use out of existing parking lots, which are not being redeveloped.

There is a wealth of knowledge about how to construct parking lots in ways that are less damaging to the environment than asphalt. Parking lots can act as stormwater detention ponds during heavy rains through the use of pervious construction materials and catchment tanks, and give visual relief from our built landscape. Another option is to think of parking lots as places that can naturally flood as a type of extra reservoir for periods of high rains. This line of research is in response to the problems the surface parking lot typically exacerbates, such as heat island effect, loss of permeable surface, and stormwater runoff.

Parking lot planning and design should follow the three R’s of the environmental mantra: reduce, reuse, recycle. While reduction happens through redevelopment of lots and less construction of lots in new developments, recycling happens through changing the land use to something different, such as the parking lot in DUMBO, Brooklyn (shown in Figure 2.12) which was converted into a small plaza as part of New York City Department of Transportation's plaza program. While recycling of land may be the most laudable example in terms of making a city

70 Ibid.

McCluskey devotes his book Parking: A Handbook of Environmental Design to the pursuit of showing “how the parked vehicle can be integrated into our surroundings without loss of environmental quality.” He describes part of the ecological consideration to parking lot design as the environmental impact of seeing the cars. The diagrams in Figure 2.13 show how the placement and barriers between the parking and pedestrians can be developed to minimize the visual impact of the parking.

Figure 2.13: Ways to separate pedestrians from cars

very small differences in level, say kerb height, helps to define territory (Fig. 2.37a);

larger differences, say 600 mm, enable the viewer to see over the tops of cars but the vehicles are still prominent (Fig. 2.37b);

with the same level difference as in 2, but with the pedestrian distanced from the change of level the cars can be totally obscured (Fig. 2.37c);

with very large differences in level the cars are simply not noticed (Fig. 2.37d);

when the car is at a slightly higher level the pedestrian precinct is defined but the cars are liable to be prominently in view (Fig. 2.37e);

even low screening, which distances the car from the pedestrian, will obscure them from view (Fig. 2.37f);

with a large change in level the cars become inconspicuous (Fig. 2.37g).


The diagrams demonstrate how screening cars from view can make the automobile blend into environment.

McCluskey’s book deals with how to make the parking inoffensive, but does not deal with how to make it more efficient, which is the current standard of sustainability and environmental design. Perhaps the twenty-year perspective on the nature of ecological considerations is what accounts for some of these differences.

The example at Google’s Mountain View, CA headquarters of installing solar panels in their parking lot helps to reduce the wasted space typical of a surface lot and turn it to more efficient uses (Figure 2.14). A reporter on the story comments that “Parking lots are the traditional wasteland of the suburban biosphere — flat, ugly, resistant to landscaping and immune to whatever aesthetic ideals animate the adjoining architecture”; adding solar panels provides both
utility and makes a statement. An added benefit is the shaded space, which keeps cars cooler and people more comfortable on their walk to and from their cars and the complex. The amount of energy produced on the installed panels will supply 30% of the complex's needed energy; an amount equivalent to powering 1,000 homes; 3,000 of the 9,000 panels will be on parking lots, the rest on buildings.

There are efforts to 'green' the lot, and consider parking lots more as parking gardens. Design guidelines which screen the parking lot from the edge, and requirements for a certain percentage of the lot to be shaded with tree coverage, as well as placement requirements, are examples of such practices. Using pervious pavers (Figure 2.16) is another popular method. Design guidelines are successful at creating these greener parking lots to varying degrees, depending on the specificity of the requirements. Some of these strategies are especially relevant for those lots which are serving activities such as churches which are used on a weekly or otherwise limited basis.

Another effort to make parking lots more efficient is shown in Figure 2.15, in Maple Grove, Minnesota. A windmill has been installed in the parking lot; there is enough space to install the windmill and no buildings in close proximity will obstruct the rotation of the turbine.

Source: Kathy Ziegenfuss

Figure 2.14: Google complex in Mountainview with solar panels over the parking lot


Another effort to make parking lots more efficient is shown in Figure 2.15, in Maple Grove, Minnesota. A windmill has been installed in the parking lot; there is enough space to install the windmill and no buildings in close proximity will obstruct the rotation of the turbine.


Another effort to make parking lots more efficient is shown in Figure 2.15, in Maple Grove, Minnesota. A windmill has been installed in the parking lot; there is enough space to install the windmill and no buildings in close proximity will obstruct the rotation of the turbine.


Another effort to make parking lots more efficient is shown in Figure 2.15, in Maple Grove, Minnesota. A windmill has been installed in the parking lot; there is enough space to install the windmill and no buildings in close proximity will obstruct the rotation of the turbine.


Chapter 2: Contemporary research on parking
**Greening autos, but still parked**

The ecological implications of parking will need to be addressed regardless of the advancements made in the fuel economy of the fleet we drive and the percentage of electric or hybrid cars we have on the road. No matter the efficiency of our fleet or the pollution emitted, “we will always need somewhere to park them, and the average cars spend about 95 percent of its life parked.” The method Shoup uses to determine the amount of time an average car is parked is to determine the approximate amount of time they are driven each day and then subtract that from 100%. The Nationwide Personal Transportation Survey (NPTS), (now called the National Household Travel Survey (NHTS)) found that the average time spent driving on a typical day in 1995 was 73 minutes, or 1.2 hours. Assuming there is a one to one correlation between driver and car, that means that the car is parked 95% of the time (1.2/24 = 0.05 = 5%). Similar studies have found typical patterns for trucks, though the range of time in motion can be as great as 16%. Despite all the attention given to car and truck accidents, and the pollution these vehicles emit, Shoup sums up the predicament quite succinctly: “Cars and trucks clearly create serious problems when they are moving, but they spend most of their time at rest, creating less visible but equally serious problems.” The efforts to make parking lots less offensive to our natural systems continue to be a needed and essential practice.

Unless the technology unveiled in the Jetsons of a fold-up automobiles becomes omnipresent, parking will continue to be a problem. Though we are moving in that direction with the MIT SmartCar, and other smaller, fold-up vehicles, this is as of now largely a conceptual model, and not part of the vernacular use of automobiles.

---

76 Ibid. p.624.
77 Ibid.
78 Ibid.
79 Ibid. p.625.
80 Ibid.
56 **Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces**
FLEXIBLE LOTS: A GROWING INTEREST

Despite the somewhat dire picture presented above, there is a growing interest in treating parking lots as something other than a holding space for vehicles. Parking lots are sometimes used to host plays, concerts or movies, or a place to have fairs and markets. Some parking lots are being designed as nice places to be in or walk through, and are developed in a ecologically more appropriate ways. There are, however, few studies which call for widespread reconsideration of how we approach parking lot design and usage.

One influential piece is Mark Child’s book, *Parking Spaces: A Design, Implementation, and Use Manual for Architects, Planners, and Engineers*, which is intended to help those who design parking lots construct more meaningful, efficient and appropriate places. The great irony or designing better parking lots, however, is that “You don’t go somewhere to park your car; you go there because you want to be there, and large parking lots in an area reduce the desire to be there.”

People, and companies, are beginning to realize it is important to have active spaces, not just parking lots: the parking lot informs the first impression, as it is often your point of entry. In his book, Childs lays out a laudable goal for how to reconsider our parking lots: “Perhaps the most fundamental way to integrate the parking lot into a town or city is to realize that they have multiple uses and to make physical improvements to support these other uses”.

The goal to produce flexible spaces is three-fold: “Designers must show not only that they can provide a judicious supply of parking, but that (1) the space can be used for multiple purposes, including revenue generation, (2) the attractiveness, safety, and security of the site for clients and employees will be improved, and (3) neighborhood and governmental acceptance of proposed developments can be increased”.

He proposes fundamental changes to the way things are typically done with regard to parking.

---

He suggests the incorporation of “a simple system to release land occupied by excessive parking should be part of a city’s zoning code. This system could include both permanent and seasonal or periodic releases.” Albeit this statement is a bit vague in terms of guidance, this type of zoning code alteration would allow for more flexible, usable lots.

The parking lot can be a stage for public life. Childs describes the intention of his book as highlighting just that point: “This book is about farmers’ markets and public speech, alley basketball and public safety, children’s chalk drawings and civic art. This book is about parking lots.” Essentially, it is about public spaces where multiple people can engage in the world and with each other. And, it is also fundamentally about where people can park.

It is within this context that this thesis will explore strategies for increased use; looking at the barriers to using parking lots for more public events as well as informal uses and searching for strategies cities and towns and developers can undertake to help facilitate this use.

**Design competitions**

The Carscape Competition was hosted in downtown Columbus, Indiana in the early 1980s, in the efforts to create a more interesting parking lot. The challenge was to design a municipal 300-spot parking lot (2.5 acres) into a more interesting place, which continued to operate as a functional parking lot. They competition received 130 entries, from 31 states and Washington D.C.

The book categorized the entries in terms of the approaches the entries took for improving the parking lot: multiple uses; landscaping; screens/trellises; parking patterns; and sculptures/monuments. As described in the beginning of *Carscape*, the reason the book was produced was to “share the parking-lot design with other cities and towns to show what a truly wide range of possibilities there are for the seemingly mundane.
ubiquitous parking lot".

Underlying the competition was the desire to affect change and provide new ways to think of surface parking lots. "Critics have said that the [parking lot] problem is too small and that there is not too much more to say about the design of surface parking lot. We think that a glance around your city or town...will prove otherwise." The majority of parking lots are free to affect change and provide new ways to think of consumers; this causes an abundance of parking. Critics have said that the parking problem is too small and that there is not too much more to say about the design of surface parking lot. We think that a glance around your city or town...will prove otherwise.

One of the top winners of the competition spaced the parking to allow for tennis courts between the stalls. Although this idea was not implemented, the idea surfaced; the vision was created. This thesis explores the numerous approaches of extrapolating from this vision to create strategies for more use upon parking lots. The research builds upon the interest in creating more flexible lots, best management practices, and the public actions which have questioned the efficiency of land used by parking lots.


Figure 2.19: Carscape Competition entry showing tennis courts in parking lots

SUMMARY OF MAIN POINTS

- The majority of parking lots are free to consumers; this causes an abundance of parking.
- Parking lots have dramatically transformed our landscapes; often claimed to be 'temporary' strategies for ushering in new development, they can remain for decades.
- Typical 'best practices' for parking lots manage the existing parking resources in ways which help reduce demand or provide a better flow, though they do not considered shared use with the exception of shared parking facilities.
- There is an increasing interest in looking at a wider range of the impacts of parking on physical and social realms.
CHAPTER THREE

PUBLIC SPACES, THE PUBLIC REALM, AND PARKING LOTS

Source: Kathleen Ziegenfuss
SUMMARY:

Public spaces are vital to the economic, social and physical health of neighborhoods, towns and cities. They provide a space for the unplanned yet rewarding interactions of daily life. Moreover, public spaces can potentially improve the health of an area through creating conditions conducive to increased walking and biking. Another important benefit of public spaces is improving the image or aesthetics of a place; increased activity areas support the perception that a place is lively and interesting. A survey of current uses of parking lots as part-time public spaces, via both formal and informal uses, demonstrate the potential for these spaces to contribute more explicitly to the public life of a neighborhood, town or city.

"There are pressing needs that public space can help people to satisfy, significant human rights that it can be shaped to define and protect, and special cultural meanings that it can best convey". —Stephen Carr

"Empty parking spaces are not only a waste of land and money, but by separating buildings from one another with uninhabited spaces, they undermine the ability of cities to be social places".—Mark Childs

"Places are not merely what they are, but what we perceive them to be". —Kevin Lynch

"Because they have been designed simply to hold cars and not to support their use as public space, parking lots have eaten away at cities in the United States like moths devouring a lace wedding gown".—Mark Childs

Much of the debate in the parking realm revolves around four issues: how much provision is optimal, how you can provide the most number of spaces given a certain area, the cost of parking, and what size development can be constructed given certain parking dimensions. Though important to why we are in the current situation (in terms of abundant lots, etc) those issues do not address how we should improve the current situation. What is of interest here is not how much is optimal, or how a parking lot might ultimately be redeveloped into a higher and better use, but what can be done in the meantime to revive a space which is often bare and underutilized. The four quotes that begin the chapter speak to the current potential of parking lots' ability to function as public spaces.

It is not the newly constructed lot that is at the forefront of this discussion, but the existing parking lot and the way which land is devoted to parking for everyday consumption. How can we reconsider our surface parking lots now, without an abundance of capital flow and investment? That parking lots exist is a good thing, and is not challenged here, as they are providing a needed element of our mobility network. The focus of the thesis is not on why supplies are as abundant as they are, but rather what is being challenged is what happens when the lot is not being used for car parking—why do we lock it up, post up a "no trespassing" sign, and leave it empty?

Evaluating the role of public spaces in a city helps to establish a motive for why we should be bothered by putting energy into managing and designing parking areas differently than we currently do. This research accepts that public spaces are a positive element of city design and a realm or mechanism through which public services are essentially delivered to citizens. The following research and trends expand upon this idea and give support to the economic, social, physical and aesthetic-related benefits that public spaces contribute to our cities and towns.

SPACE OCCUPIED BY PARKING

An Austrian civil engineer developed a 'walkmobilie' in 1975, highlighting the space that motorists, via the cars they occupy, take up in our landscapes. With simple materials, Hermann Knoflacher makes a statement with his
appropriation of space.

Figure 3.1: The ‘walkmobile’ shows how much space is taken up by a car compared to a person


He also uses the walkmobile to show that many people can occupy the wall-less space occupied by a car, as indicated by the chairs in Figure 3.2.

Figure 3.2: The ‘walkmobile’ can hold many people


Christopher Alexander speaks to the overall issue of size of a parking lot: “The problems [of vast parking lots] stem essentially from the fact that a car is so much bigger than a person. Large parking lots, suited for the cars, have all the wrong properties for people. They are too wide; they contain too much pavement; they have no place to linger.” And so Christopher Alexander argues for small parking lots, hosting no more than seven cars as the ideal size for a lot.6

Surface parking lots occupy vast amounts of land in urbanized areas and are relatively free of structural impediments—they are as close to a blank slate, physically, as can be found in urbanized areas. They are ripe for use. And as Childs claims: “Design [of parking lots] should not simply allow public use, but should facilitate public use and reflect the fundamental dignity of civic space.”7 Access to public space is a quality of life issue; parking lots have the potential to provide greater amenity for surrounding areas.

THE DESIRE FOR COMMUNAL PLACES

Clare Cooper Marcus, a professor at Berkeley in the Department of Landscape Architecture and a world-renowned scholar on public spaces and people’s psychological relationship to them, believes semi-public ‘communal spaces’ are ever more important in people’s everyday lives.8 She argues the outdoor, shared spaces create a needed and predictable source of social interaction, which should be explicitly designed for.9 In the intro to her book People Places: Design guidelines for urban open space she argues for more attention to these details: “we realize that to use human behavior or social activities to inform and shape the designed environment is not the approach of some designers…But we feel this must be the approach. An approach based almost exclusively on visual form leads either to the reproduction of previously used ‘solutions’ or to the proliferation of artistic statements that pertain more to current design fashion than the needs of the public. We believe that aesthetic goals must be balanced and merged with

6 Ibid. p. 506.
9 Ibid.
ecological needs, contextual issues, and user preferences”. She argues that the oft-lamented lack of outdoor public life may actually be greater today than it was in the 1950s, citing a range of adaptation of spaces sponsored by both public and private interests such as: hiking and biking trails; community gardens; schoolyards as environmental yards; woonerfs (shared streets); and parking lots when used for events like flea markets. She claims that throughout the U.S. the media reports an increasing number of outdoor activities and events such as bike-a-thons and farmers markets. The book outlines four reasons to push forward a public space/people place agenda: “first, that private life is thriving in the contemporary industrialized city; second, that an important measure of the success of public open space is its use; third, that the use and popularity of a space depend greatly on its location and the details of its design; and last, that we must communicate what is currently known about the linkages between design, location and use.”

Illustrating the desire for more communal space alluded to above, a man in Palo Alto, California recently decided to take matters into his own hands as he was unsatisfied with the amount, design and quality of the public spaces in his neighborhood. Mike Lanza is converting his suburban front yard (Figure 3.3) into a ‘playborhood’ to help create the conditions of his favorite childhood memories for his sons, which occurred “not in any official space designated for ‘play’ but in the informal open spaces of the neighborhood: in front of houses, behind them, between them, and in the streets connecting them.” He is tearing up his front yard and installing a hard-scaped, plaza-like area with seating, a fountain, a sandbox, and picnic table with a built in computer that will project neighbors’ photographs. He is creating “a suburban version of a little pocket park” that will hopefully host planned events like neighborhood birthday parties as well as unplanned activities.

In the abstract, he is taking an underutilized piece of land and making the area a more social, open and productive area. And though it took some maneuvering to get proper approval from city officials, he feels the payoffs are worth all the effort: “We’re kind of ringleaders -- we’re getting people out there.”

Figure 3.3: A suburban home before transform of the front yard into a usable public space for neighborhood

Both Cooper Marcus’ work and Lanza’s efforts indicate public spaces are crucial to our social interactions in our neighborhoods, cities and towns. The provision of public spaces is an ever-important amenity of the built environment.

THE ROLE OF PUBLIC SPACES

Enrique Peñalosa, in his talk “Urban Happiness: what happens when you give street space back to people?” began his presentation with a discussion of the public realm, land ownership and right of presence in a space. He said that of all the land on earth, the majority is off-limits; it is privately-owned space we cannot enter, and...
cannot be in. What is left are our streets and our public open spaces such as parks and rivers. This is true across the globe, though there are many places where (some) people have controlled access to, such as stores, schools and government buildings. Most of the places which are vacant and potentially available to use are open, un-built upon places, such as surface parking lots; though they may be privately owned, they form part of the public realm from a visual perspective. This is not to say there are not laws and regulations governing use in these spaces, but at a minimum they provide spaces open and available for human presence. Potentially, by freeing our idea of what a parking lot is, we could open up more lands to public use, and increase the area where humans have the right of presence.

David Engwicht, in his book *Mental Speed Bumps* discusses two basic types of space, exchange spaces and movement spaces (for getting to the exchange spaces): “Ancient city builders quickly realized that the more of the city given over to movement space, the less efficient the city became at performing its most basic function, facilitating exchange” 19 He poses that this could dictate city form; turning movement spaces into exchange spaces, by means of the creation of plazas and interactive streets, and thus enhance efficiency of the city. However, he asserts this has not happened: “By giving space a single, rationalized function, modern planners made the city less efficient because it dramatically reduced the number of spontaneous exchanges that could be transacted. It also made the city a much less stimulating place to be”.20 Overcoming this pattern of development is deemed worthy; parking lots are a great reservoir of untapped lands to reverse this trend.

Childs delineates between the use and the built form of public spaces, saying: “Public places are created by public life...it is fundamentally an occasion taking place, not a space, that dictates behavior” 21 Thereby, if an event or a behavior were to occur in a space which was private, it could still be considered by many to be within the public realm. Oftentimes, when a public event is occurring on a parking lot, it is not obvious if it is on public or private land—what is important is that it is within the public realm.

McCluskey’s book on environmental design is “primarily concerned with the environmental and visual quality of the ambience of parked cars”.22 He describes the spaces between buildings (parking lots included) as outside rooms for the urban inhabitant: “there has been a tendency in the recent past for those responsible for the quality of the environmental design to concentrate their attention on the rooms inside, and at best on the facades of buildings; the design of the spaces between the buildings being left to the municipal and highway engineers…. the quality of the space as experienced by the citizens has been overlooked; the responsibility for this aspect of design apparently falling into some unoccupied gap between the professions of planner, architecture, and engineer” 23 Regaining focus and attention on those gaps can help to refine the quality of the urban realm, from a physical, environmental and social perspective.

The Street Life Project, run by William Whyte and a small group of researchers in the 1970s, documented the role of public spaces in New York City through direct observation over a period of three years. Intrigued by the lack of use in many of the city’s plazas, the team investigated what was working in spaces throughout the city. As the introduction to The Social Life of Small Urban Spaces concludes: “zoning is certainly not the ideal way to achieve better design of spaces. It ought to be done for its own sake. For the economics alone, it makes sense. An enormous expenditure of design expertise, and of travertine and steel, went into the creation of the many really bum office-building plazas around the country. To what end? ...It is far easier, simpler to create spaces that work for people than those that do not—and a tremendous difference it can
make to the life of a city”24 The Street Life Project found through studying plazas “an elemental point about good urban spaces: supply creates demand”25 Whyte goes on to say that people begin to alter their patterns, take breaks in places they beforehand did not, and alter their travel patterns in order to take advantage of good travel routes.26 Another somewhat obvious conclusion is that “people tend to sit most where there are places to sit.” Whyte addresses the simplicity of this finding by unapologetically stating, “this may not strike you as an intellectual bombshell”27 Though this may seem obvious now, thirty years ago the normative design was producing otherwise. As a test for good spaces Whyte suggests letting vendors find the places most seeded with activity: “vendors have a good nose for spaces that wok. They have to. They are constantly testing the market”.28 Whyte and his team conclude with 11 principles and a number of tools to use for direct observation to improve public spaces and their functionality.

Based on his work observing public spaces, Jan Gehl outlines three necessities for public spaces: desirable conditions for the necessary outdoor activities; desirable conditions for the optional, recreational activities; and desirable conditions for the social activities.29 He describes the ‘humble nature’ of the demand for better public spaces as “modest demands that aim for a better and more useful framework for everyday activities”.30 They are the framework for what happens in the public realm, who we meet and how we interact with other human beings. “Life between buildings is both more relevant and more interesting to look at in the long run than are any combination of colored concrete and staggered building form”.31 The focus on the life between buildings is aptly suited for the parking lot. 

BENEFITS OF PUBLIC SPACES

In a review of the literature on research documenting the benefits of public space, Carmona, de Magalhães and Hammond summarize in their book Public Space: The Management Dimension the prevailing types of benefits:

Economically, public spaces:
- Positively impact property prices; ranging from 5-34%;
- Boost business up to 40%;
- Increase land value and investment; and
- Improve regional economic performance.

For human health, public spaces can:
- Encourage exercises with known health benefits;
- Increase longevity;
- Provide space for recreational activities;
- Reduce stress and improve mental health;
- Improve childrens’ health.

Socially, public spaces:
- Provide space for learning and creative play for children;
- Promote social and cognitive skill development;
- Reduce potential for crime;
- Increase neighborliness and social interaction;
- Offer place for events;
- Through non-auto spaces, reduce child mortality; and
- Support social exchange and vitality.

Environmentally, public spaces:
- Support the use of sustainable transport modes;
- Improve air quality and mitigate pollution, heat island effects and stormwater run-off; and
- Provide places for urban wildlife.32

25 Ibid. p.16.
26 Ibid.
28 Ibid. p.50.
30 Ibid.
31 Ibid. p.24.
32 Carmona, Matthew, Claudio de Magalhães, Chapter 3: Public spaces, the public realm, and parking lots
Though not every public space will provide all of the above documented benefits, as an agglomeration of spaces, the network may provide all the above, with each space contributing its own benefits.

Essentially, these benefits can be used to promote a strategy to extract untapped value from existing resources. Value, though hard to define, can be more open space, more people being active, a place to have lunch, a place to walk around during a break from work, or a visual relief from asphalted landscapes. It can be a number of things; what I shall call it here is an added use in a parking lot. How to ensure that this use is legal and accepted is what I call constructing the use; calling it a construction implies that people have the ability to create the conditions necessary for a new idea to flourish. As many of the people I spoke with for interviews remarked, “it is better/easier to ask forgiveness than permission”. The intent here is how to figure out a method in which to give permission for those actions which need no forgiveness.

INCREASED ACTIVITY, PUBLIC HEALTH AND PUBLIC SPACES

“If given a choice between walking on a deserted or a lively street, most people in most situations will choose the lively street”. –Jan Gehl

Christopher Alexander defends his ‘nine percent rule’ as the maximum amount of parking in any area through the impacts on the health of an area:

We suspect that when the density of cars passes a certain limit, and people experience the feeling that there are too many cars, what is really happening is that subconsciously they feel that the cars are overwhelming the environment, that the environment is no longer ‘theirs’; that they have no right to be there, that it is not a place for people, and so on...if it turns out to be true [the nine-percent pattern rule], it may be that this pattern, which seems to be based on such slender evidence, is in fact one of the most crucial patterns there is, and that it plays a key role in determining the difference between environments which are socially and psychologically healthy and those which are unhealthy.  

As noted earlier, many areas have more than 9% off their land area devoted to parking.

Advocating that parking lots should be reconsidered as a new type of space, a flexible space which supports both active and passive activities, and that they should be transformed into places for people to be outside and recreate, could encourage more active lifestyles. Having more publicly available space is a goal touted by many open space and recreation departments and advocacy groups. In cities where open space is scarce, using parking lots as recreation spaces could increase the inventory of open space to help reach national standards.

Tufts University has teamed up with the City of Somerville for a three year environmental design intervention aimed to lower obesity for in high-risk population of children. One of the strategies is a “Safe Routes to School” program, which encourages students to walk to school; the tools used include maps, pedestrian trainings for policy makers, changing the markings on the crosswalks, bike racks at elementary schools and initiatives to extend the community bike path and “create open spaces and policies supporting pedestrians and bicyclists”. The link between the number of open spaces and health is promoted as a policy initiative in this program.

In an article titled “Addressing Issues: Health and Community Design”, Project for Public Spaces laid out the connection between public spaces and increasingly inactive lifestyles:

---

36 Ibid.
Most researchers agree that even a moderate amount of regular physical activity and social interaction could have a dramatic effect on these [obesity] statistics. However, there are a number of disincentives to Americans getting out and about more often - and recent studies from both the planning and public-health professions locate many of them in the places where we live and work. The way these places look (boring) and the ways in which they function (they don't) do not create the need, the desire, or the opportunity for people to walk - let alone get more active types of exercise. What happens when people do venture outside? A lack of sidewalks and safe places to cross streets discourages walking or bicycling; where sidewalks exist, the surrounding environment is usually so uninteresting that no one wants to use them anyway. Blank walls and bleak landscapes are best viewed from a speeding car rather than on foot. Equally dull parks lie fallow much of the time. In short, in most of our communities "there's no 'there' there," as Gertrude Stein said.

The article continues to describe typical solutions for these issues, including putting in sidewalks, transit infrastructure and greenways; the article proposes that “these solutions, to be successful, need to go farther and incorporate two critical factors...the design of communities should focus on creating social, public places." At a basic level, it is hard to challenge the fact that if you changed a parking lot, even temporarily, from a single-use space to a recreational or pedestrian-oriented space, you would be promoting a more active lifestyle. You are altering something whose sole function promotes travel via car to something where the possibility for other travel modes is encouraged and some event or activity could happen on the space. By adding any elements that would encourage people to use the space for something other than a driving destination, the stock of spaces to be active in would grow. This would in theory support more active lifestyles, unless the city or town is so well equipped with open spaces that they have reached the point where the utility of another space does nothing to encourage use.

In the book *Health and Community Design*, Frank, Engelke and Schmid explore the connections between the built form in American's cities, suburbs and rural areas and the connections with population health. The introduction states: “The cities and suburbs that we inhabit are not now, and have not been for a long time, places that encourage some critically important forms of physical activity. In short, our physical environment inhibits many forms of activity, such as walking, and has become a significant barrier to more active lifestyles”.

The city of the 1800s, they claim, was blamed for many of the epidemics that arose during the industrialization era due to crowded centers; the engineers of the 20th century planned for a more dispersed system of building in the name of creating a healthier place to live. In commenting on the multiple factors that dissuade people from walking, including the dispersed pattern of land uses and dangerous or unpleasant conditions from the predominance of the automobile, it is mentioned that “to make matters worse, most developers and retailers have long given up on the profitability of designing places that are visually attractive to people who might want to walk from place to place, favoring instead designs that attract motorists”. Despite all the efforts in the media and other outlets regarding gym memberships and other rigorous physical activity, the results are in: “what is old, then, is new: public health agencies now endorse those forms of moderate physical activity such as walking and bicycling that used to be very commonplace in American cities and towns”.

Given this consensus on the public health officials' agenda, “the door has been opened for an examination of the environmental influences of moderate physical activity...incidentally, increasing physical activity

---

38 Ibid.  
40 Ibid.  
41 Ibid. p.2-3.  
42 Ibid. p.5.
in this way [through moderate levels] may also be a way to reduce automobile use and lessen its attendant problems, such as air pollution and congestion. Creating environments that are more conducive to walking and biking, then, may increase health. The strategies of getting to this point are to make more safe and attractive environments in which to walk, and creating places nearby that people may want to walk to. The authors include a diagram (Figure 3.4) showing the links between the built environment, physical activity and health outcomes.

Figure 3.4: Connections between the built environment, physical activity and public health

Frank, et al describe the importance of urban design to people's decision on mode choice:

Urban design characteristics influence how an individual perceives the built environment. In making a decision about whether or not to walk or bicycle, people will factor into their decision not only considerations related to distance and accessibility... but also a slew of intangibles as well, including safety and attractiveness. The number and width of traffic lanes, the type of pavement used for surfacing, the location and marking of crosswalks, the size and extensiveness of sidewalks, and the type and siting of miscellaneous objects on and around the street—tree plantings, benches, and so forth—all come into play in influencing how a person views the street.... Some design treatments will create streets that are better for automobile travel than for nonmotorized travel, and vice versa.

What buildings surround and vehicles travel through a street will affect the type of behavior on a given street.

Frank outlines four conceptual and practical problems with understanding the complex relationship between the built environment and public health, including:

1. 'Divergent activity types, which means different activities require different amenities within the built environment; for example, pedestrians need "highly detailed, interesting spaces along their route" while bicyclists do not have the same requirements;

2. 'Collected effects' of density, mixed uses and traditional design elements (all of which are believed to induce more walking, and are often found in the same space and compound any efforts to distinguish which elements actually provide the condition to promote more walking;

3. The debate around adding trips versus replacing them through more activities in smaller, walkable clusters;

4. The issue of residential self-selection which means the degree to which people who want to live in a walkable community moves to one in order to do so, versus the idea that the way a neighborhood is built can influence behavior choices.

He also discusses the issue of values and differences in income, household size, age and other socio-economic characteristics which inform travel choices; he is clear to point out that "The built environment of course, cannot explain everything."
Part of the reason we have gotten to such a tragic condition for pedestrians (in many areas throughout the country), Frank claims, may be rooted in the shift from the city beautiful movement to the city efficient, when the focus of planners shifted energy toward urban function and away from urban form. Frank claims "The individual is powerfully influenced by the design characteristics of their immediate surroundings." The lack of attention to detail in the built landscape continues to have profound effects.

Frank, Engelke and Schmid's research has shown that some of the same characteristics that improve conditions for physical activity also can make a community more desirable in other ways: "Environments that encourage moderate physical activity may also have features that make them more livable in other ways, by improving one's quality of life—they may generate more social interaction, foster less dependency on the automobile, be safer for their inhabitants, and give people more choices with respect to how they get around and spend their time."

Frank traces the preoccupation of many disciplines with the reorganization of the city based on the automobile, as seen with architects and transportation engineers: "The singular focus on the automobile that developed within transportation engineering resulted in a consensus about design that, among other things, down-graded streets from multifaceted instruments of urban design to cogs in a functional machine with a single purpose, to move automobile traffic as efficiently as possible." The results on the common street has been profound. Frank continues: "Street design influences physical activity by shaping one's desires to engage in such activity within the built environment. Here, desirability can be defined in two ways: in terms of how the street's basic design influences one's perception of the physical and social attractiveness of the street and the areas immediately adjacent to the street." The design of a street can significantly impact a person who wants to use the street for physical activity; it can be "either dangerous and unpleasant, meaning that a person would be less likely to want to walk, jog, or bicycle along it, or safe and pleasant, which would encourage such activity."

The above concept is illustrated in Figure 3.5, which shows how the same street can be articulated in two vastly contrasting ways, which would affect one's decision whether or not to travel via walking, bicycling, driving or some other means.

What this diagram implies is that people don't want to walk along the sidewalk in the upper image, where you would literally be within a sea of cars. In that top diagram, surface parking abuts the street on both sides. The two diagrams are a great visual description of the functionality of streets: "Streets can be said to have at least two core purposes: first, to move people and goods between destinations and, second, to serve as a stage for social interaction in a public setting."

Through considering surface parking lots as a part of a strategy to deal with broken landscapes, it may become possible to create a more active street edge without large amounts of investment or physical infrastructure improvements.

Frank describes the interplay between street environments and design, claiming there is "a direct interaction between the street and the environment adjacent to the street." "Sites, in other words, are important for activity along the street: streets designed with the nonmotorist in mind need to have certain types of buildings and private spaces on their edges, otherwise the fullest potential of the street as a space for physical activity will not be realized." This has implications on the social activity that occurs on the street, which is correlated with physical activity: "Socializing, both planned and

---

50 Ibid. p.153.
51 Ibid. p.152.
52 Ibid. p.8.
54 Ibid. p.154.
55 Ibid. p.155.
56 Ibid. p.155-156.
57 Ibid. p.172.
58 Ibid.
spontaneous, tends to occur in environments that are place-specific, where people identify with a particular space and where they feel comfortable being around other people in that space. [socializing] is also tremendously important with respect to physical activity. Streetscapes that encourage socializing also tend to be perfect environments for walking.\textsuperscript{59}

Frank describes the uniformity of new development as a result of regulatory or financial systems that influence highly the construction and site plans of new development.\textsuperscript{60}

Accordingly, banks and real estate investors partially determine eligibility for funding based on proven development projects.\textsuperscript{61} He continues by saying that oftentimes developers will only receive the necessary financing by conforming to such standards as having a parking lot placed in front of the development as to be recognizable by motorists.\textsuperscript{62} Obstacles from more difficulty in obtaining loans to higher lending rates are often coupled with a project that lends itself to greater pedestrian amenity.\textsuperscript{63}

\begin{footnotesize}
\begin{itemize}
\item \textsuperscript{59} Ibid. p.160.
\item \textsuperscript{60} Ibid. p.174.
\item \textsuperscript{61} Ibid.
\item \textsuperscript{62} Ibid.
\item \textsuperscript{63} Ibid.
\end{itemize}
\end{footnotesize}
The difficulty in proving the link between health and design

Frank talks of the nebulous nature of urban design and links to behavior choices: “urban design is qualitative in nature, rigorous studies of the influence of design characteristics on behavior are rare...many of the theories about design and behavior...are the result of insights provided from direct observation of how people react to specific surroundings.” Because much of the research is based on direct observation, it is difficult to scientifically prove the link between health and the design of the built environment.

Though there is no study that can ultimately prove with 100% certainty the connections between the built environment and health effects, the research done by Frank and his team in Atlanta suggests quite highly the connection. He says: “Data...support the hypothesis that supportive built environments can have direct health-related benefits in terms of an increased likelihood of being active and reduced likelihood of being obese and predisposed to known health risks associated with obesity. Yet the exact nature of the connections between these phenomena remains unclear.”

Frank recognizes the marginalized role of linking the built environment and physical health has had in health research; with focus traditionally concentrating on vigorous physical health activities until a more recent recognition of the spatial context and more moderate activity as a vital contributor to health. This trend, along with transportation practices which traditionally de-prioritized walking and bicycling, has placed the whole conversation of linked health benefits tied to urban design in a marginal role. He suggests that transportation projects ought to include a ‘health impact statement’ much like an environmental impact statement in order to understand and mitigate the consequences of the built environment on the moderate physical activities a population undertakes. Though this may seem like a long-shot, he uses history as a way of explaining the rapid transformation of how we contextualize problems and solutions: “We are only a generation or two removed from the most thorough reorganization of space in the history of this country, a reorganization created by a relatively small group of planners, engineers, architects, bureaucrats, reformers, and public health officials who seized upon a small number of ideas and applied them, successfully, right across the country...the example set by [Robert] Moses and the planners of his generation speaks to the lasting and powerful influence of public policies on the built environment.” He finishes his book by claiming “we have neglected thousands of years of historical precedent with respect to building healthy, enjoyable, and sustainable places. A major reason why is that we have relegated to the periphery the basic physiological and even psychological need that people have to move under their own power in the built environment. However, major policy tools are in place that can be used effectively to once again support this basic need for ‘healthy transportation.”

Parking lots and public health

Companies often pay for employees’ health coverage, and sometimes pay for part or all of an employee’s gym membership as a preventative health care measure. This means they value the decreased cost of the health care, presumably due to increased health, that is awarded by more active employees who frequent a gym. To this end, perhaps a more economically feasible strategy is to have a basketball court painted onto the office park parking lot and allow for league games after office hours. Or, a walking path along the perimeter of their parking lot, nicely landscaped, that encouraged people to effectively ‘do laps’ during a break to achieve similar results. Either in addition to or instead of the aforementioned benefits, these small efforts could also contribute to office morale and social

64 Ibid. P.175.
65 Ibid. p.187.
66 Ibid. p.197.
67 Ibid.
68 Ibid.
69 Ibid. p.198.
70 Ibid. p.199.

Chapter 3: Public spaces, the public realm, and parking lots
networks. Though this option does not provide as many options as a gym membership, it could either support that benefit or be a first step for companies which are trying to promote healthier employees, and thereby reduced health care costs.

As documented above with the work of Frank, et al, people are likely to walk more (versus drive) if there are destinations and interesting places along their journey. An active parking lot could be one of these spaces, as bland, dead spaces have been documented as keeping people from walking between places or from one place to another. Jan Gehl explains in the context of social interactions, which I assert holds equally true for any physical use of outdoor public spaces: "Examples have been given of the direct correlation between the scope of outdoor activities and frequency of interaction among neighbors...More than architecture is needed for these interactions to develop". Therefore, it can be gleaned that the design of parking lots will indeed affect the outcome upon them.

When speaking of how far the average human will walk to different destinations or for enjoyment, Jan Gehl says: "Crucial to determining the acceptable distance is not only the actual physical distance, but also to a great degree the experienced distance". He goes on to describe dull paths as being experienced as longer than paths that can be broken into segments or the quality of the route is high.

Adding a humanizing activity to otherwise car-dominated expanses of asphalt will make for a more interesting place to pass by, or perhaps even become a destination in its own right. Furthermore, if supported by the design and/or management of the lot, it will attract activity to and encourage activity along its intersection with the street. This will contribute to the overall 'feeling' of the street, and presumably more walking. The popular website Walkscore indicates that having places to go to makes for a more walkable neighborhood, which is presented as something desirable. Parking lots, functioning as public spaces, can potentially increase the livelihood of a street, as well as the number of people who walk to and by the space.

Southworth, in his article “Walkable suburbs” quotes various researchers in determining the distance typical Americans will walk for everyday trips; results varied from 400 feet to about 1/4 mile, with one study finding 70% of people will walk up to 500 feet for errands, 40% will travel 1/5 mile; and 10% will travel up to 1/2 mile. In his study of neo-traditional suburbs, he says the above research shows that some of the constructed “walkability” of the commercial areas in places like Kentlands and Laguna West are still too far to get people to actually walk to (which doesn’t say anything about the walking distance once they are at the town center). Southworth extols the virtues of well-connected streetscapes: “Fine-grained and well-connected pedestrian routes that offer visual interest help to make walking and bicycling enjoyable.” To this end, parking lots can play an important role.

NEW USE VISIONS FOR THE PARKING REALM

It is clear that the discussion on how parking lots might be better used in their dormant periods is related to their design, ownership, and management. And, it has a lot to do with how we might imagine parking lots to function in the public realm.

Perhaps the most visible display of looking at parking in a new light comes from the efforts put forth by the San Francisco-based art and design collective, REBAR, with their annual PARK(ing) event. At this event, participants ‘rent’ out a metered curbside parking space for the two-hour meter limit to create a small park. Though considered an acceptable form of street protest...
which is usually not met with any legal recourse, the occupancy of a metered parking space is often legally limited to vehicles. Also, it is typically illegal to ‘feed the meter’, meaning you cannot continue to occupy the space after the posted maximum duration. But by limiting the event to two hours, at least one of these conditions is met (the time limit). Regardless of the legal subtleties of PARK(ing) day, the event continues to operate, and people continue to rent parking spaces to allow for a brief, alternative reality in our streets, while simultaneously getting others to realize the potential use of the space that is currently designated as curbside parking.

Originally produced in 2005, PARK(ing) Day events have quickly spread around the country, and around the globe. As stated on REBAR’s website, the initial event went without public interference on any institutional level, making the founders note that it “sort of makes you wonder what else you can do in a parking space.” Looking at this as a short term lease on scarce public land, it is conceived as an event that anyone can participate in. To that end, REBAR has created a manual to recreate the event, called “Turn a Parking Spot into a PARK(ing) Space!”, which is available for free from their website.

This ‘guerilla placemaking’ is similar to other actions promoted by those seeking to transform urban spaces. One such example is ‘park in a box’, which has everything you need to create a public park inside, containing the proper instructions and signage needed to “easily turn any size private property into public space”. Though this will by no means transform a space into a permanent park, it does bring attention to the issue of control of space and how our landscapes can be transformed.
The PARK(ing) day event has caused such publicity it has garnered the attention of Trust for Public Land, which now hosts a whole section of its website for the event. Resources on the website include links to the manual shown above and a YouTube video instructing you how to start your own PARK(ing) day event. In the manual, statistics such as “More than 70% of most cities’ outdoor space is dedicated to the private vehicle while only a fraction of that land is allocated to open space for people” encourage people to participate.

The vision behind the event is explained in the manual: “While Park(ing) Day may be temporary, the image of the possibilities it offers have lasting effects and are changing the way streets are understood. We challenge you to explore the dimensions of ecological sustainability, design and creative vision in the humble parking spot.” Figure 3.8 is known as ‘the photo that traveled around the world’ and depicts the first event held in San Francisco in 2005, which has helped publicize the event.

Figure 3.8: The photo that traveled around the world

Besides helping with the logistics of creating the

The types of installations range from the simple to the complex, as shown in Figures 3.10 and 3.11.

Figure 3.10: Simple PARK(ing) Day installation

Source: http://www.flickr.com/photos/13937780@N02/2890699128/in/pool-2008parkingday

84 Ibid.
85 Ibid. p.12.
74 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
Though REBAR does not extend its efforts to off-street parking lots, the potential is clearly envisioned through the proliferation of their ideas: some people who participated in PARK(ing) Day have taken the opportunity to make parks in surface parking lots, as the images from Upton, Charlotte and Brisbane show.

The Flickr photo-sharing site for PARK(ing) day photos has 1,870 images from the 2008 event—clearly, the event is popular and people are excited to share their efforts at transforming the landscape. PARK(ing) day is scheduled for September 18, 2009 and is advertised on its own website. In 2008, 86 cities in the USA participated, along with many international cities.

The value of the event is that it starts to question the distribution of land uses, and lets people realize the potential of altered, otherwise mundane spaces into brief, other-worlds where comfort and spontaneous enjoyment of the urban realm trump all other uses. Though the majority of surface parking lots are not public, but rather privately owned, they form a layer of the ‘public realm’ in just the same way private buildings frame the public realm. The brief experiments that have come from REBAR’s PARK(ing) day clearly show how much more use could be extracted from a parking lot, and how many people are excited to put their time, energy and resources into doing so.

THE USE OF PARKING LOTS

“It is easy, given the current compartmentalizing of knowledge, to focus on aspects of parking demand and capacity, the overwhelming preoccupation of traffic planners. It requires, perhaps, more subtlety of mind to consider how parking impacts the human habitat as landscape. It requires more subtlety, perhaps, to consider parking’s full place-making implications.”

The quote above from Jakle and Sculle begins to play with how parking lots can be manipulated for greater enjoyment. We can make the spaces which Gehl would consider dull into stimulating areas: “The trend from living to lifeless cities and residential areas that has accompanied industrialization, segregation of various city functions, and reliance on the automobile also has caused cities to become duller and more monotonous. This points up another important need, namely the need for stimulation.”

The unused surface parking lot is a blank slate for both planned and unplanned activities, such as playing basketball, holding a farmer’s market, setting up a lunch truck, or learning how to ride a bike. The way a parking lot is designed, and the rules which govern its use, can either prohibit or encourage these activities from occurring on any lot. The shaping of zoning and design standards can promote a more efficient use of these landscapes during their periods of low to zero car use. The following examples describe how and when parking lots are being used for formal and informal activities. Formal activities are those agreed upon by user and lot owner while informal uses are of a more casual nature and may not even be known by the lot owner. Examples include farmers markets, craft fairs, etc. (formal) and learning to bike ride, drive, dance, etc. (informal). Gehl puts it quite simply: “If the spaces are worth using, they are used.”

The following descriptions illustrate in more detail how parking lots function as these types of spaces.

Formal uses on surface lots

People and organizations are already using surface parking lots as public spaces—as places to play, shop, be entertained in, and show-off something unique. Some of the most exciting urban events happen on parking lots, such as festivals and markets. As an event space, a parking lot provides a nearly blank slate, and once the lot draws some people, more are attracted. Stated with proverbial wisdom, William Whyte observes, “What attracts people most, it would appear, is other people.” Similarly, Jan Gehl notes that “…people and human activity are the greatest object of attention and interest” in public spaces. These events certainly draw in people, which will only bring in more people.

Events/Public parties

In New York City, the Brooklyn Museum puts on a ‘Target First Saturdays’ event (sponsored by Target), where the museum is free all day and during the evening there is a large party—complete with live music, food and drinks. In the summer months, the party is hosted on the parking lot behind the building (Figure 3.14). The events bring out families, young and old alike. The parking lots are used as auxiliary space for the party to happen and party it certainly is, with live music and dancing throughout the evening, shown in Figures 3.15 and 3.16.

Figure 3.14: Parking lots surrounding the Brooklyn Museum

Source: Google Maps

---

90 Ibid p.52.
76 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
Circus uses the sparsely landscaped parking lot, for two and a half weeks during April. During this time, the lot is used entirely for the event. Figure 3.18 shows how the lot is situated within Prospect Park.

Surface parking lots can also host larger, more involved events such as the UniverSoul Circus that occurs every spring in Prospect Park, Brooklyn. The circus sets up in the Woolman Rink parking lot; Woolman Rink offers an ice rink in the winter and paddle boats in the summer. 


Source: Google Maps
Markets

ArtsUnion, a program developed by The Somerville Arts Council in Somerville, Massachusetts has been the steward of an arts-based economic development strategy for Union Square. Together with Union Square Main Streets (which organizes the farmers market) the organization coordinates a number of popular events in the square. ArtsUnion also promotes businesses in the square via walking tours and improved street furniture and other amenities. In 2006, its second year of the program, the Somerville Arts Council commissioned an Economic Impact Analysis of the effects that the festivals, events, and craft markets had on the square and surrounding area. At that point, crafts markets were held six times a summer and there were nine single-day events. 200 intercept surveys were administered at the arts and crafts markets and 196 were conducted at nine different special events. Highlights of the report include:

- A total economic impact of $352,470 and 3.5 full-time equivalent positions.
- Over half (58.7%) of surveyed respondents walked to the craft markets, while about a third (34.6%) of the respondents walked to special events; about 10% biked to each event.
- For people going to the crafts market, 42% said they had just or were about to visit a restaurant or café in the square, and 37% had just visited or planned to visit a grocery/bakery/specialty food store. For the special events, those numbers were 65% for restaurant or café, and 26% for the food related stores.
- 47% of respondents said a special event in the square changed their perception of Union Square, and many of those who did not respond said they already had a good impression of the square. These results clearly show the impact of hosting events in the square and parking lot, including economic and health-related benefits, and an improved perception of the area. While not all the events happened directly on the parking lot (many were held either entirely or partially on the plaza directly next to the parking lot), it is clear that there can be direct links between events and realized benefits to both attendees and spill-over effects into nearby restaurants and shops.

The farmers market in Union Square makes use of both the plaza and the parking lot. It was found that vendors having spaces not on the asphalt, and under the shade of trees, did better business as it was cooler, as heat was not radiating up from the asphalt. Mimi Graney, Executive Director of Unions Square Main Streets, said part of that reason is “it feels so much like a car space that we have to make do with [rather] than a pedestrian space that cars are sometimes on.” In response, Mimi advocates ‘reclaiming’ the parking space: “I think a big part of it is covering over the visual clues about it being a parking lot”; there was more success with the events that effectively made people not realize they were within a parking lot.

The Fluff Festival

ArtsUnion programs the Fluff Festival, held annually in Union Square, to celebrate the invention of Fluff. The event utilizes both the Union Square plaza and parking lot. The lot holds approximately 40 cars and is sandwiched between various buildings.

---

95 Ibid.
96 Ibid.
97 Ibid. p.vi.
98 Ibid.
99 Ibid. p.vii.
100 Graney, Mimi. (Personal interview, February 27, 2009). Executive Director, Union Square Main Streets; Somerville, MA.
101 Ibid.
102 Ibid.
78 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
During the event, part of the parking lot is taken over for stages, other parts for performers, and also for games such as Fluff tug-o-war.

Most businesses appreciate when events happen as they tend to do better during the events; the parking that usually brings them their customers is not missed.\textsuperscript{103} This depends on the type of business in the Square, but overall economic activity has increased in the square since the Somerville Arts Council began promoting and programming the square (the area around the plaza and parking lot).\textsuperscript{104}

\textit{MIT swap meet and loading dock sale}

Every third Sunday from April to October, a swapfest known as “The Flea at MIT” is held on the annex parking lot of MIT’s campus, on Albany Street just south of Main Street.\textsuperscript{105} The system is set up so that every seller pays $20 for a space, while every buyer pays $5 to enter the market. The focus of the market is old computers and electrical equipment, a fitting theme given the context. The parking lot and abutting garage gives ample space for all sorts of wares to be displayed.

\textsuperscript{103} Jenkins, Greg. (Personal interview, February 26, 2009). Executive Director, Somerville Arts Council; Somerville, MA.
Another market-based activity held on a parking lot (weather permitting) on MIT's campus is the loading dock sale of the MIT Press bookstore. By having this event outside, people who otherwise might not know of the event become more aware of it due to the surrounding activity and visual connection with the sale.

Flea Market at Ashby BART station
The Ashby BART (Bay Area Rapid Transit) rail station parking lot is used for a flea market on the weekends, on Saturday and Sunday from 7:00 am to 7:00 pm. The northern part of the parking lot is transformed into a flea market, and has been at this location for 31 years. Current conditions in the lot exemplify one of the main issues in considering parking lots as places for temporary uses; that of attachment and unwillingness to

Source: Kathleen Ziegenfuss

Source: Kathleen Ziegenfuss

Source: Kathleen Ziegenfuss

Source: http://www.berkeleyfleamarket.com/

107 Ibid.
alter the lot due to the success or popularity of the alternate use. The South Berkeley Neighborhood Development Corporation is planning to develop the west parking lot into residential buildings and the flea market organizers are opposing the development.\textsuperscript{108} As warned on their website, “The Berkeley Flea Market is in danger”, as development would displace the market.\textsuperscript{109}

The operations at the flea market are straightforward and transparent on their website: the flea market has a lease with BART; the flea market rents out 8’ x 21’ slots (the size of a parking space) to willing vendors; vendors pay a $25 fee per day; sellers who sell less than twice a year are exempt from the city’s seller’s permit from the State Board of Equalization; and there is a strict policy against selling food, alcohol, firearms, counterfeit goods, stolen merchandise, etc. on site.\textsuperscript{110}

\textbf{Figure 3.26: The flea market at Ashby Station, Berkeley}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{flea_market.jpg}
\caption{The flea market at Ashby Station, Berkeley}
\end{figure}

\textsuperscript{Source: http://www.flickr.com/photos/frubix/530603623/}

\textbf{Other markets}

There are more rural examples of farmers markets that take place in parking lots off interstate highways. Childs asserts that coming to solutions for parking lots in rural or suburban centers is vital: “the public life of parking lots should not be ignored in the suburbs, small towns, or rural centers. Suburbs and smaller settlements are often in even greater need of public places than are cities, and studies in these settings indicate that both municipal parking requirements and the actual supply of stalls far exceeds demands.”\textsuperscript{111} These events often try to draw their customers from the road with large, auto-speed signs announcing the markets.

\textbf{Figure 3.28: Highway sign announcing farmers market}

\begin{figure}[h]
\centering
\includegraphics[width=\textwidth]{farmers_market_sign.jpg}
\caption{Highway sign announcing farmers market}
\end{figure}

\textsuperscript{Source: http://www.southeastroads.com/i-075c qa.html}

\textsuperscript{109} Ibid.
\textsuperscript{110} Berkeley Flea Market. (n.d.). How to Sell.
\textsuperscript{111} Childs. (1999). p.xxi.
Vendors and small commercial endeavors

When discussing the potential for a more permanent-yet temporary (weekly variety) event to make use of the parking lot in Union Square and encourage activity in the area, Somerville Arts Council Executive Director Greg Jenkins saw the potential of creating an event such as “Brunch in the Square”, where local food truck vendors would come into the square from 10:00-3:00 on Sundays (when less businesses activity happens in the square) and set up some small movable chairs and tables for people to come and have brunch, using part of the parking lot as the outside dining room. This would be a brand-able event which could draw people to the area on a regular basis. And, as Whyte says, “If you want to seed a place with activity, put out food”.112

Mark Childs expands upon the benefits of vendors and provides simple incentives for attracting vendors to a space. He says “Cart vendors have a direct interest in the civility of public space...They can watch over the space and may be engaged to clean lots, plant flowers, and maintain a place”.113 He goes on to describe how planning for push cart vendors can help their success, through such things as providing access to electricity and potable water and providing enough spaces for a few vendors, in order to promote a more safe and vital place”.114 Childs final comment on vendors is that they should be allowed to move their location to adjust to the market conditions, and be in spaces where there are places to sit, lean and stand.115

Figure 4.1: Flower stand in shopping area, Mineola, NY

Another flower shop, run out of a truck, is located at the corner of Alewife Brook Parkway and Broadway in Somerville, MA, in the corner of a Foodmaster parking lot. The shop has been in operation at that spot for 31 years. The shop occupies the corner of the lot, an otherwise unusable space due to lot geometry. This location in effect buffers the customers from the traffic of the parking lot. The flowers are placed on boxes which line the sidewalk; giving an edge and definition to the streetscape. Evidently, the stall is doing quite well; it has maintained the same lease for years. When asked if lower overhead cost had anything to do with the decision to the business out of the parking lot, a man working there replied it was ‘all about location’.

82 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces

Flower shops

Along an otherwise non-descript strip mall parking lot in Mineola, Long Island, a single stall in the parking lot is occupied by a rose vendor kiosk. The structure seemed fairly permanent; it appeared the rose vendor leased space from the parking lot owner. This strategy is a simple but profound way of increasing the activity on the lot, incubating small businesses, and providing a

114 Ibid. p.141.
115 Ibid.
performances, says the production “is more than one organization or artist, it is a movement, it happens because people want it to continue” despite the effort to put on the production.\textsuperscript{117} The production currently runs Thursday through Saturday evenings, at 8:00, during July and the first part of August; two shows are playing in 2009—Twelfth Night and Henry V.\textsuperscript{118} The production carries a sense of sacredness to Clancy, it is “remarkable...[it] mysteriously attracts an incredible energy and support.”\textsuperscript{119} Drawing over 200 people a night, he says the performance reinvigorates the entire community, and brings people to the community who wouldn’t otherwise be there.\textsuperscript{120} He says that because it is in a parking lot, there is something “so democratic about it, so unlike other theatre experiences”; the free and open platforms lets those who otherwise might not be exposed to Shakespeare enjoy the performance.\textsuperscript{121} The lot is a municipal parking lot, run through the NYC Department of Transportation. The permit for use is a formal arrangement, though in the beginning the performances were not officially sanctioned, the original producer “never asked for permission...she told everyone she had” and just started performing.\textsuperscript{122}

When describing what draws people to his events, Clancy says: “Most of the time our competition is parked cars. We are better than parked cars”; food, on the other hand, is often more attractive—and thus being in an isolated lot as opposed to a street fair is a better fit for his production.\textsuperscript{123} He claims that neighborhood restaurants definitely do better the night of the performances, yet it is tough to get people to financially support the production because of the fact it is in a parking lot, it is a “blue collar space... no one wants to stick their flag in it.”\textsuperscript{124} In terms

\begin{itemize}
\item [117] Ibid.
\item [119] Clancy. (2009).
\item [120] Ibid.
\item [121] Ibid.
\item [122] Ibid.
\item [123] Ibid.
\item [124] Ibid.
\end{itemize}

\textbf{Performances}

\textit{Shakespeare in the Parking Lot}

Shakespeare in the Parking Lot began 16 years ago in the Lower East Side of Manhattan, when a producer of Shakespeare saw a window of opportunity at the parking lot at the corner of Ludlow and Broome Streets, and decided to use the space to host her production.\textsuperscript{116} Hamilton Clancy, the current director of the production, says the production “is more than one organization or artist, it is a movement, it happens because people want it to continue” despite the effort to put on the production.\textsuperscript{117} The production currently runs Thursday through Saturday evenings, at 8:00, during July and the first part of August; two shows are playing in 2009—Twelfth Night and Henry V.\textsuperscript{118} The production carries a sense of sacredness to Clancy, it is “remarkable...[it] mysteriously attracts an incredible energy and support.”\textsuperscript{119} Drawing over 200 people a night, he says the performance reinvigorates the entire community, and brings people to the community who wouldn’t otherwise be there.\textsuperscript{120} He says that because it is in a parking lot, there is something “so democratic about it, so unlike other theatre experiences”; the free and open platforms lets those who otherwise might not be exposed to Shakespeare enjoy the performance.\textsuperscript{121} The lot is a municipal parking lot, run through the NYC Department of Transportation. The permit for use is a formal arrangement, though in the beginning the performances were not officially sanctioned, the original producer “never asked for permission...she told everyone she had” and just started performing.\textsuperscript{122}

When describing what draws people to his events, Clancy says: “Most of the time our competition is parked cars. We are better than parked cars”; food, on the other hand, is often more attractive—and thus being in an isolated lot as opposed to a street fair is a better fit for his production.\textsuperscript{123} He claims that neighborhood restaurants definitely do better the night of the performances, yet it is tough to get people to financially support the production because of the fact it is in a parking lot, it is a “blue collar space... no one wants to stick their flag in it.”\textsuperscript{124} In terms

\begin{itemize}
\item [117] Ibid.
\item [119] Clancy. (2009).
\item [120] Ibid.
\item [121] Ibid.
\item [122] Ibid.
\item [123] Ibid.
\item [124] Ibid.
\end{itemize}
of provisions, the Drilling Company (the acting troupe that Clancy manages) provides about 60-90 chairs, available on a first-come, first-served basis, and others are free to bring their own. And so, as it stands, Clancy is a self-proclaimed 'de facto owner and manager of the lot.' According to blogs, the parking lot is still operational during the performance.

**Figure 3.31:** Shakespeare in the Parking Lot logo takes after road sign

![Shakespeare in the Parking Lot logo](http://www.drillingcompany.org/images/SPL_LogoBig.jpg)

**Figure 3.32:** The crowd gathers, cars remain in the lot

![Crowd gathering](http://scoboco.blogspot.com/)

**Figure 3.33:** The parking lot is framed by an abutting building

![Parking lot framed](http://blog.pentagram.com/SPL_Overview.jpg)

Union Square Smell-O-Rama

This event, hosted by ArtsUnion, showed a movie screening of Charlie and the Chocolate Factory. The images show how the event folds into the space around it, using the abutting buildings as a backdrop for the event. The screen and chairs make the space.

**Figure 3.34:** Tables were brought to the parking lot to dispense materials

![Dispensing materials](http://www.drillingcompany.org/images/SPL_LogoBig.jpg)

**Figure 3.35:** Folding chairs are used for comfort while watching the movie

![Folding chairs](http://blog.pentagram.com/SPL_Overview.jpg)

---

125 Ibid.
126 Ibid.
84 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
South by San Jose

As part of the South by Southwest music festival held every spring in Austin Texas, the Hotel San Jose converts its parking lot into the venue for the South by San Jose, the 'coolest day party' (as described on their website). The lot hosts a stage for performances, vendors selling clothes, records and other goods, beer stands, and some movable seating. The hotel also owns and operates Jo's Coffee that borders the lot in one corner. The entire parking lot becomes an outdoor party. Evidently, the economic benefit of hosting the event outweighs any risk or liability concerns.

Figure 3.36: All-aged event at the parking lot

Informal uses on surface lots

There are many virtues to non-programmed space, and parking lots are no exceptions. Kevin Lynch describes the inherent benefits of having uncontrolled, marginal spaces, where kids are allowed to play and more marginalized activity is accepted. The way people use spaces when they are not being supervised and there are no rules to dictate behavior can show what currently is not provided for in our urban areas. From informal anecdotes, it is apparent that people use parking lots for learning how to drive, learning how to ride a bike, playing sports such as broomball, and going to "park", or rather, be intimate. This shows that while the parking lot may not be formally programmed, a fair amount of activity can happen under the radar.

Undoubtedly, some of this activity is undesired,


such as robberies, or worse, like assault or abductions. While these safety concerns are legitimate, what is of interest here is that people are adjusting the potential space by using it for the reasons they best see fit. For instance, Hamilton Clancy explained the origin of Shakespeare in the Parking Lot as when the original producer looked out from her performance space onto a larger space, a parking lot, and thought her performance would be better situated there. She observed a period of low-use, from about 6:00 pm to 10:00 pm and decided to host her performance then. Basically, she saw an underutilized resource and seized the opportunity to improve her production; she took matters into her own hands and while not only improving her conditions began a wonderful tradition of outside Shakespeare in the Lower East Side of Manhattan—a neighborhood traditionally underserved by such cultural programming.

**Basketball**

A school yard in Oakland has a basketball court painted on its parking lot, or, phrased differently, the school allows parents to drop off their children by temporarily parking on the basketball court, which is used during recess and after school by the children. Figures 3.38 and 3.39 show the transformation of this space depending on the time of day.

*Figure 3.38: The parking lot with cars parked on it*

*Figure 3.39: The same lot shown previously, used for basketball*

Source: Sandra Padilla

**Unstructured play and use**

Unstructured play can also be supported in parking lots. Simple design elements can provide much richer play environments for children—during vacant times or even while a parent parks and stops for an errand or to conduct business. Many games need a flat, unobstructed surface to conduct play—parking lots can be ideal spaces for recreational activities such as basketball, broomball and four-square. In Figure 3.40, Childs shows how a functioning parking lot can also provide space for court games. Other, more stationary games such as chess can also be provided for, as shown in Figure 3.41.


130 Ibid.
86 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces.
Another informal use is when parking lots are used for staging areas for parades. In New Orleans, during Mardis Gras, for example, whole parking lots are taken over by marching bands as they prepare for the parade. The same occurs in Mobile, AL for marching bands during the Mardis Gras festival.

Socializing

Socializing is another unstructured, but vitally important, interaction which happens on parking lots. A group of elderly Armenian men in Glendale, Los Angeles, often go to one parking lot on Glen Oaks Street, folding chairs in hand, to meet their friends and play cards. The reason for this particular space? Aseem Inam says it's due to a large tree that provides shade for the men to gather under. Having spaces such as this where immigrants who may be more used to an outdoor lifestyle can go to socialize provides an important place. Inam says we don't see this often, because the spaces conducive the social gathering aren't typically found. But, he argues, one of the wonderful things about the United State is so many people come here with different traditions and lifestyles; providing for the range of public spaces is a powerful idea.

Making change on parking lots

Childs claims “the most fundamental way to integrate the parking lot into a town or city is to realize that they have multiple uses and to make physical improvements to support these other uses. Generally, parking lots have excess capacity that can be shared.” He describes that a typical standard for parking lot design is to design for the 20th busiest hour of the year, which means that some of the lot will be vacant 99% if the time, and according to a ULI publication, at least half the spaces are vacant 40% of the time.

These activities on existing lots show that the existing conditions already are supportive of a certain type of activity. For example, riding a bike on a commuter rail parking lot, empty during the weekends, is a natural fit which a parking lot is ideally situated for, as proven by the mere activity of witnessing this event.

While the above examples show that there are plenty of people making use of parking lots for a range of various activities, there is still room to increase their use in a more systematic, pervasive manner. It is the exception, not the norm, that parking lots provide the backdrop of our public lives.

The major challenges to the types of events illustrated above concern funding and managing the events. It was expected that liability issues would be a larger concern, but it was a minor topic in the conversations, and at that mainly

---

131 Masters, Madeleine. (Personal interview, February 24, 2009). Planning Director, Office of Strategic Planning and Community Development, City of Somerville; Somerville, MA.
132 Inam, Aseem. (Boston Urban Design Studio class lecture, March 16, 2009). Visiting Lecturer, City Design and Development Group, MIT Department of Urban Studies and Planning; Cambridge, MA.
133 Ibid.
134 Ibid.  
136 Ibid.
137 Ibid.
when I broached by the author. Other obstacles highlighted include getting the necessary permits to host an event and climatic-related challenges such as a stage performance competing with a thunderstorm. Over-arching issues or concerns with parking lots and public spaces will be addressed in Chapter 5.

Expanding the public realm through increased spatial flexibility

David Engwicht claims it is the paradoxical nature of finding things in unexpected places such as events in parking lots which is the most rewarding types of experiences to have in the public realm: “The most interesting and engaging public spaces are those that connect us to the most fundamental paradoxes in our minds: the clash between our need for order and our need for spontaneity; our need to stay still; our need for solitude and our need for intimacy; our need to be known and our need to be anonymous; our need for the sacred and our need for the profane; our need for reason and our need for absurdity...In these spaces we are forced to pause and dance with the impossible for a moment.”138 When parking lots are used in the ways described above they potentially create the type of space Engwicht is describing.

Clearly, designing parking lots with any of the aforementioned uses in mind would alter the way in which the lot is designed. Seating could be provided for, shade trees would be accommodated but strategically placed; if games were the intention, tables would be intermittent. Beyond the physical design, the design of use regulation and the ease of permitting for formal and informal activities can also encourage new and increased types of uses on parking lots.

Engwicht explains the paradox of efficiency and the rational form of city-building: “Our modern cities were built on an assumption that cities would be more efficient if spaces had a clearly defined, rationalized function. Streets are for moving cars and parks are where children play. If you mix these two functions in the same space the space becomes less efficient. But this is only true if you look at the street in isolation from the city as a whole and if you only consider the movement function of the street and not its social function. If you look at the city as a total system, then the exact opposite is true”.139 It is within this context that parking lots may be able to find a new ground.

PRINCIPLES AND MAIN POINTS

- Public spaces are increasingly important to people’s lives for social interaction.
- Public spaces can bring economic, health, social, environmental and aesthetic-related benefits to a place.
- Design of public spaces can encourage more active lifestyles.
- Examples of activities and uses on parking lots demonstrate the potential for these spaces to become ever-more important places in our landscapes.

---

88 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
CHAPTER FOUR

LAND USE PATTERNS AND PARKING LOT TYPOLOGIES

Source: Kathleen Ziegenfuss
SUMMARY:

Different parking lots occupy different types of sites and have different physical, use and zoning-related conditions. A matrix of typical conditions is presented that explores the details within each of the three aforementioned categories. The matrix can be used to understand the makeup of different types of lots and help determine which type of lot is best suited to which type of use-related possibilities.

“Very simply—when the area devoted to parking is too great, it destroys the land”. – C. Alexander

OBSERVATIONS ON PARKING’S LAND USE PATTERNS

Catherine Miller, in the Carscape handbook, marvels at the elusiveness of the parking lot: “Although we have provided easy access to every conceivable place, the problem of accommodating the automobile in American communities—without creating a wasteland—is, for the most part, unresolved. Each of us uses parking lots constantly, but these essential parts of the urban landscape are so commonplace and so ugly they seem to elude consideration. The automobile culture has led to vast acreage in the heart of each community which exists unnoticed”. She claims some of this is due to the scant attention given to the design (a broader reflection of the importance of the given landscape).

There are those scholars who believe a major factor contributing to the disconnect between parking lots and ‘nice’ places to be are the size differential between humans and cars. Miller observes that “The problem stems from the fact that a car is so much bigger than a person. Large parking lots, while suited for cars, have the wrong properties for people...they simply do not feel comfortable on a human scale”.

The same large dimension of a car has done more than just make humans uncomfortable, but rather it shapes disparate land uses: “The large, inflexible dimensions of a parked car seem destined to become the basic unit in our planning, and liable eventually to set the scale and pattern of future city development.” This quote, published in a 1958 book on parking, seems to be a wise foresight of the future; 50-years ago it was already predicted that parking standards would become the standard, regulating policy in planning and the vision has largely been realized. The mere potential that the automobile might not set the scale and pattern of future development seems somewhat implausible to imagine. Jakle and Sculle write 50 years later and confirm Baker and Funaro’s suspicion: “Ultimately, the automobile, both in motion and at rest, fostered nothing less than a total remaking of American geography, especially the nation’s urban geography. It did so by making claim on land use”. Miller agrees and backs up this statement with an example of how the size of vehicles and the rules which govern its use and storage end up shaping downtowns: “Parking lots have been relegated to the mechanical application of zoning regulations and engineering solutions on vacant lots and other residual spaces. Unfortunately, because of the physical size of cars (a parking space represents about 300 square feet whereas a typical office represents 150 to 200 square feet) their requirements can mean half of the land area in some cities is devoted to parking”.

And finally, during a lecture on urban happiness, Enrique Peñalosa commented on the value and impact of surface parking lots by claiming: “Parking is not a constitutional right.” This statement illustrates the strong reaction parking lots generate in even those who spend much of their life considering urban form and function. Though not a constitutional right, the pervasiveness of lots throughout the landscape almost could convince one of this claim, and the regulations which guide their construction typically work to ensure this pattern continues.

3 Ibid. p.22.
Deconstructing the elements of various parking lots will allow a better understanding of how to intervene on the most appropriate level.

**ALLOCATION OF SPACES AND EFFICIENCY**

The reason for the car’s predominance in the American landscape is, according to Baker and Funaro, not solely due to its usefulness but is magnified because of its limited efficiency: “Compared with a pedestrian, the modern American car is extremely limited in its movements. It cannot even move sideways, let alone walk up stairs or jump across a ditch. Largely because of this limited usefulness the car spends a very large part of its life in storage. It has been calculated (on doubtless insufficient evidence) that the average car is in motion only 500 hours per year. The remaining 8,260 hours it is left parked on a paved surface”8 This percentage, 5.7%, is roughly equivalent to the percentage Shoup determined; giving further validity to the approximate time an automobile spends parked. Though speaking of mid-1950s conditions, this description demonstrates that for at least half of the history of the automobile’s history, people have been cognizant of the disproportionate amount of space needed to store automobiles. To put it in perspective, the actual space allocated to a parked car is approximately 200 square feet, or roughly 40 times the size of a standing pedestrian, at 5 square feet.

*Figure 4.1* illustrates the dramatic difference in space taken up by different modes of travel to illustrate a point about mode of travel. The images were originally produced in Delft, the Netherlands; this comparison has been imitated a number of times, including in New York City and more recently in the city of Munster, Germany.9 Though aimed at influencing commuting patterns, the images relate to parking because as more cities strategize how to move towards public transportation, bicycling and walking, there will potentially be even more space in parking lots. The images, if imagined on a parking lot instead of a street, show what the magnitude of this transformation could feel like. On a conceptual level, it also illustrates the amount of space cars take up compared to the amount of pedestrian activity which could occur in the same space— theoretically in small temporary plazas, lunch spots, or recreation areas—all of which can happen on parking lots.

It is important to look at the space a car takes up is because this is the size that dictates the size of a parking lot. Though a car typically occupies a 10’ by 20’ space, the amount of land when the car is at rest; the actual amount of land dedicated to each vehicle is approximately 330’ given travel lanes, turning areas and entrances and exits.10 Though parking lots are standardized, there are a variety ways in which they are formed and different footprints that lie upon the landscape. The way in which cars, in the aggregate, are parked have as much to do with parking’s current scant role in the urban design realm (meaning little attention is paid to such a large resource) as does the quantity of parking spaces. The image below shows how little investment is typically given to parking lots—this section of the lot is a simple asphalt investment (the trees in the image are from abutting residential backyards).

*Figure 4.3: Typical parking lot*

---

10 Shoup. (2005). p.185  
92 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
Figure 4.2: Inefficiencies of mono-modal transportation, Delft, the Netherlands

Source: Image taken in the Netherlands around 1980s; original source unknown, courtesy of Eran Ben-Joseph
1958 book Parking shows how land is divided between parking on curb spaces, in parking lots and in parking garages versus how much parking is actually divided between the three types of places to park. As cities become larger, more land area is devoted to surface parking lots, but more than half of the people are still parking on curbside spaces.

Figure 4.4: Parking systems and land allocation (left) in cities versus where people park (right)

Kenneth Frampton describes projected trends of urban design and infrastructure redevelopment: “there is a pressing need to transform certain megalopolitan types such as shopping malls, parking lots and office parks into landscaped built forms....These new types may well become the foci of future design interventions in the urbanized region.”

Kenneth Frampton describes projected trends of urban design and infrastructure redevelopment: “there is a pressing need to transform certain megalopolitan types such as shopping malls, parking lots and office parks into landscaped built forms....These new types may well become the foci of future design interventions in the urbanized region.”

Parking lots, though dispersed, form a core of our urban infrastructure. To harness their potential we must first know what we are dealing with, what types of spaces typically exist. The following analysis attempts to analyze the types of parking lots which scatter throughout our built landscape. In deconstructing the types of lots, we are able to see at which point it is most logical to intervene, and then create strategies for those points of intervention.

THE TYPOLOGIES

The constructed matrix on typical conditions of surface parking lots is a framework for understanding the possibilities for different conditions in various types of built environments. Its usefulness can be obtained by looking at the number of different types of lots existing in a given area, and analyzing where within the matrix different types of parking lots differ or become more similar. Through this analysis, the opportunity to reshape or add use on top of the existing lots can be understood.

Organization of matrix

The matrix identifies a cross-section of what types of parking lots one can expect to find in different realms of rural to suburban and urban areas, starting from the smallest footprint to the largest. To a certain degree, this is similar to the Transect model developed in the SmartCode. There are thousands of ways any one ‘type’ of lot can be realized, the chart is intended to give a typical example of each. The matrix is divided into physical characteristics (such as layout and type of abutting street); use considerations (exploring current and potential types of use); and zoning or regulatory frameworks (evaluating the potential for the institutionalization of multi-functionality). Some geographic and environmental considerations, such as shade coverage standards and drainage requirements, are not explored here—the focus is on elements which more directly contribute to the possibility of multi-use.

The final row of the matrix evaluates a parking

---

94 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
lot in Somerville, MA that is used as a trial to test some of these ideas. More details are described in Chapter 6, page 144. Following the matrices (which begin on p.97) are detailed diagrams and images of each type of lot in the typology.

Lot types best suited for alternate uses

A major outcome of this matrix is framing the types of lots best suited for public use. The decision was based on the surrounding areas and street conditions, the time of vacancy, the potential users of a space, and what type of effort would have to be expelled to make a successful public use on the lot. The following list describes the criteria used to determine the overall 'use suitability' ranking system on a scale of 1-5.

1. Not suitable for public use; the nature of the space lacks the critical mass of potential users or is too difficult a space to regulate for public use (such as private residences).
2. Potentially suitable for public use; these lots need a special reason to be considered for public use. The ability to use them exists, but the demand will not likely support the effort.
3. Suitable for public use; given the right conditions, such as specific location or nature of the event, these lots could be used for public use. They may lack a location where there is a constant stream of people, but they could be suitable for certain fairs or other events.
4. Good conditions for public use; these lots are well positioned to be adapted for public use. Their location and management structures provide necessary support for the intended uses.
5. Ideal conditions for public use; the space is located in an area where many people would benefit from public-oriented uses upon the lot, and the temporal variations in car use support using the lots in a multitude of ways.

The table at right shows that small urban commercial and city blocks are best suited for additional uses, while single family residential and industrial lots are most difficult to rationalize for creating additional uses on the parking lots.

Figure 4.5: Ranking of suitability for public use on different parking lot types

<table>
<thead>
<tr>
<th>Ranking</th>
<th>Lot type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1: Not suitable for public use</td>
<td>Residential (single family to three family) Industrial</td>
</tr>
<tr>
<td>2: Potentially suitable for public use</td>
<td>Residential (multi-family and group home) Big box commercial</td>
</tr>
<tr>
<td>3: Suitable for public use (Somerville Avenue)</td>
<td>Strip mall Office park Sports stadium Experimental lot</td>
</tr>
<tr>
<td>4: Good conditions for public use</td>
<td>Public institution Campus</td>
</tr>
<tr>
<td>5: Ideal conditions for public use</td>
<td>Small urban commercial City block</td>
</tr>
</tbody>
</table>

The above table shows that it is not desirable—though it may be potentially possible—to create public use on all parking lots. Challenges that arise at some parking lots, such as who would want to hang out in the middle of a big box parking lot during the evening, de-prioritize these types of spaces in terms of the efforts that should be expended to create more interesting uses. Strategies to improve parking lot conditions on these sites may focus more on ecological and image-oriented improvements. On the other side of the spectrum, there are some lots, such as those in mixed use neighborhoods, and in areas of significant amounts of population, which are much better suited to accommodate more use upon the parking lots. Efforts to create more use should be focused on those lots which exhibit the conditions more suitable for public use.
SUMMARY OF MAIN POINTS

- Parking’s impact on the land is often unnoticed, or under-developed in terms of design.
- Parking lots exhibit different types of characteristics based on the land use attached to the parking.
- Creating a typology of parking lots help to understand places and types of prime intervention.
- The types of lots most suitable for public use are small urban commercial lots and city block lots, followed by public institutions and campuses. Strip malls, office parks and sports stadium lots are suitable for alternate use considerations given certain conditions, though they are not as natural a fit as the lot types above.
- Commercial and industrial lots are least suitable for public use.
<table>
<thead>
<tr>
<th>TYPE OF LOT</th>
<th># OF SPACES</th>
<th>LOT SIZE</th>
<th>CONSTRUCTION COST</th>
<th>RELATIVE REAL ESTATE VALUE</th>
<th>LAYOUT</th>
<th>EDGE CONDITION</th>
<th>ABUTTING STREET TYPE</th>
<th>ABUTTING NEIGHBORHOOD</th>
<th>PRESENCE OF TREES</th>
<th>MATERIALS</th>
<th>LAYOUT STRENGTHS</th>
<th>LAYOUT WEAKNESSES</th>
<th>AERIAL</th>
<th>TYPICAL IMAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESIDENTIAL Single family to three family</td>
<td>1-3</td>
<td>330-990 sq ft</td>
<td>$4,000-$12,000</td>
<td>Medium</td>
<td>Sidewalk, driveway, yards, trees, road</td>
<td>Local (both abutting and entering street)</td>
<td>Residential neighborhood, urban or suburban</td>
<td>Likely</td>
<td>Concrete, asphalt, brick, grass</td>
<td>*Proximity to destination +Personalized space</td>
<td>+Proprietors with driveways</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RESIDENTIAL Multi-family and group home</td>
<td>10-100+</td>
<td>3,300-33,000 sq ft</td>
<td>$40,000-$400,000</td>
<td>Medium</td>
<td>Fence, sidewalk</td>
<td>Local or collector (both)</td>
<td>Urban residential neighborhoods</td>
<td>Depends</td>
<td>Asphalt</td>
<td>*Close access for users +Visibile from apartments</td>
<td>-Not often landscaped + Mundane pattern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMALL URBAN COMMERCIAL</td>
<td>5-20</td>
<td>1,650-6,600 sq ft</td>
<td>$20,000-$80,000</td>
<td>High</td>
<td>Curbs, fence, landscaped area</td>
<td>Collector or arterial (both)</td>
<td>Neighborhood business districts</td>
<td>Usually not</td>
<td>Asphalt</td>
<td>*Usually near retail uses</td>
<td>-Entrance to store can be dominated by lot location</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STRIP MALL</td>
<td>30-300</td>
<td>9,900-99,000 sq ft</td>
<td>$120,000-$1,200,000</td>
<td>Medium</td>
<td>Buffer, landscaped area</td>
<td>Arterial and collector or arterial</td>
<td>Suburban commercial</td>
<td>Depends</td>
<td>Asphalt</td>
<td>Store set back +Good visibility +Equal access to each store</td>
<td>+Creates unpleasant road/sidewalk experience</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PUBLIC INSTITUTION Schools, religious, museums, etc</td>
<td>40-400</td>
<td>13,200-132,000 sq ft</td>
<td>$160,000-$1,600,000</td>
<td>High</td>
<td>Sidewalk, fence, landscaped area</td>
<td>Varied, usually collector or arterials (both)</td>
<td>Varied, residential, urban, suburban</td>
<td>Likely</td>
<td>Asphalt</td>
<td>*Proximity to institution</td>
<td>+Space could be used for play areas (school)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OFFICE PARK</td>
<td>100-400</td>
<td>33,000-132,000 sq ft</td>
<td>$400,000-$1,600,000</td>
<td>Medium</td>
<td>Road, landscaped area</td>
<td>Arterial or highway or arterial or collector</td>
<td>Suburban commercial</td>
<td>Usually not</td>
<td>Asphalt</td>
<td>*Marks territory? +Defines building?</td>
<td>+Cut workers off from stress +Promotes car usage</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIG BOX COMMERCIAL</td>
<td>&gt;150</td>
<td>&gt;45,500 sq ft</td>
<td>&gt;$500,000</td>
<td>Low</td>
<td>Road</td>
<td>Arterial and arterial or collector</td>
<td>Suburban or urban commercial</td>
<td>Usually not</td>
<td>Asphalt</td>
<td>*Enough parking +Store setback +Good visibility</td>
<td>+Large empty spaces often +Environmental issues</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CAMPUS</td>
<td>20-200</td>
<td>6,600-66,000 sq ft</td>
<td>$90,000-$500,000</td>
<td>Medium-High</td>
<td>Road, landscaped area</td>
<td>Collector and local</td>
<td>Residential</td>
<td>Usually</td>
<td>Asphalt</td>
<td>+Allows easy access to all buildings</td>
<td>-Disrupts campus setting</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>30-200+</td>
<td>9,000-66,000+ sq ft</td>
<td>$120,000-$800,000</td>
<td>Medium - Low</td>
<td>Highway/ road</td>
<td>Arterial, collector or highway (both)</td>
<td>Industrial</td>
<td>Usually not</td>
<td>Asphalt</td>
<td>*Easy access to building</td>
<td>+Surrounds buildings with lots</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CITY BLOCK</td>
<td>&gt;200</td>
<td>&gt;66,000 sq ft</td>
<td>&gt;$800,000</td>
<td>High</td>
<td>Sidewalk, plantings, fence</td>
<td>Collector or arterial (both)</td>
<td>Downtown, Central business district</td>
<td>Maybe at edge</td>
<td>Asphalt</td>
<td>*Easily identifiable +Close to many offices</td>
<td>+Clusters of services on one impervious lot</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SPORTS STADIUM/ARENA</td>
<td>&gt;500</td>
<td>&gt;165,000 sq ft</td>
<td>&gt;$2,000,000</td>
<td>Low</td>
<td>Highway</td>
<td>Highway and collector</td>
<td>Suburban commercial</td>
<td>Usually not</td>
<td>Asphalt</td>
<td>*Accommodates many spectators +Social value +Tailgating</td>
<td>+Huge land use +Environment +Creates dead zone in off-use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EXPERIMENTAL LOT At Somerville Ave and Medford St in Somerville, MA</td>
<td>321</td>
<td>160,000 sq ft</td>
<td>$1,284,000</td>
<td>High - Medium</td>
<td>Road and right landscaping</td>
<td>Arterial and arterial or collector</td>
<td>Residential, urban commercial</td>
<td>A few at edge &amp; between A1 Wright &amp; Target</td>
<td>Asphalt</td>
<td>*Presence of trees</td>
<td>+Building at back of lot in an urban, at-edge street condition</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTES: ** Depending on transect zone; * In the event of a mixed use building, the total amount of parking is reduced by a predetermined "sharing factor"; *** Depending on district and type of service; ++ Depending on transect zone - office or retail; +++ Apart from economic benefits via rents. If applicable; ++++ Apart from liability and maintenance issues; +++ Series: Section 9.5.2 http://www.municode.com/Resources/gateway.asp?pid=11580&sid=21; *Estimated cost at $4,000/space. Image credits: Google Earth, Deepinder Mayell, Kathleen Ziegenfuss, Kathy Ziegenfuss.
<table>
<thead>
<tr>
<th>TYPE OF LOT</th>
<th>CURRENT USES / USERS</th>
<th>TIME OF VACANCY</th>
<th>POTENTIAL PUBLIC USES</th>
<th>STAKEHOLDERS</th>
<th>SPECIAL USE-RELATED ISSUES</th>
<th>ADVANTAGES OF FLEXIBLE USE</th>
<th>DRAWBACKS OF FLEXIBLE USE</th>
<th>EXAMPLES</th>
<th>PUBLIC USE POTENTIAL?</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESIDENTIAL</td>
<td>Personal vehicle storage, deck/patios</td>
<td>Varies on work and commute</td>
<td>Personal—relax, porch, small play areas</td>
<td>Home owners, tenants, city regulatory offices</td>
<td>More living space</td>
<td>Has complete control over access to space</td>
<td>On-site management</td>
<td>Private decks and patios</td>
<td>1: Not suitable</td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>Personal vehicle storage</td>
<td>Mainly daytime</td>
<td>Small patio, basketball, car share</td>
<td>Condo association, tenants, management company</td>
<td>Potential draw for residents</td>
<td>Could help business through complimentary uses or more activity</td>
<td>Worries about ill effect on business due to parking constraints</td>
<td>2: Potentially suitable</td>
<td></td>
</tr>
<tr>
<td>SMALL URBAN COMMERCIAL</td>
<td>Customers, employees, loading</td>
<td>Early morning and late evening</td>
<td>Commercial stalls, farmers markets, car share</td>
<td>Manager, owner</td>
<td>Potential to support business</td>
<td>Could help business through complimentary uses or more activity</td>
<td>Worries about ill effect on business due to parking constraints</td>
<td>Farmers market</td>
<td>5: Ideal conditions</td>
</tr>
<tr>
<td>STRIP MALL</td>
<td>Employees, shoppers, loading</td>
<td>Evenings</td>
<td>Commercial stalls</td>
<td>Manager, owner</td>
<td>Can draw potential customers into parking lots</td>
<td>Lighting and safety due to lack of proximity to other uses</td>
<td>Potential competition</td>
<td>Rose stand</td>
<td>3: Suitable</td>
</tr>
<tr>
<td>PUBLIC INSTITUTION</td>
<td>Patrons, drop-off, employees, teachers, students</td>
<td>Varies</td>
<td>Lunch spots, basketball, 4-square, etc.</td>
<td>City, institution, manager, owner</td>
<td>More space to program</td>
<td>Sole authority: If space is popular but eventually redeveloped, only can blame the institution</td>
<td>Court games</td>
<td>Basketball court school lot</td>
<td>4: Good conditions</td>
</tr>
<tr>
<td>OFFICE PARK</td>
<td>Employees</td>
<td>Evenings</td>
<td>Basketball, court games, walking loop</td>
<td>Manager, owner</td>
<td>Can bring employees together in new ways</td>
<td>Lighting and safety due to lack of proximity to other uses</td>
<td>Potential competition</td>
<td>Court games</td>
<td>3: Suitable</td>
</tr>
<tr>
<td>BIG BOX COMMERCIAL</td>
<td>Customers, employees</td>
<td>Some parts always open, others just at evening</td>
<td>Basketball, learn to ride bike, car share</td>
<td>Manager, owner</td>
<td>Could be a draw (i.e. kids play as parents shop, i.e. McDonald's play areas)</td>
<td>Uses excess land</td>
<td>Lighting and safety due to lack of proximity to other uses</td>
<td>Farmers markets, Christmas tree lots, flower stands</td>
<td>2: Potentially suitable</td>
</tr>
<tr>
<td>CAMPUS</td>
<td>Employees, faculty, students</td>
<td>Varies, mainly evenings</td>
<td>Basketball, court games, walking loop</td>
<td>Institution, community members</td>
<td>More space to program</td>
<td>Sole authority: If space is popular but eventually redeveloped, only can blame the institution</td>
<td>Court games and campus festivals</td>
<td>Basketball court school lot</td>
<td>4: Good conditions</td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>Employees, neighbors</td>
<td>Varies</td>
<td>Basketball, court games, walking loop</td>
<td>Company, community members</td>
<td>Safety</td>
<td>Isolation, environmental dangers?</td>
<td>Safety</td>
<td>1: Not suitable</td>
<td></td>
</tr>
<tr>
<td>CITY BLOCK</td>
<td>Employees, shoppers, event-goers</td>
<td>Evenings</td>
<td>Lunch trucks, small patio, basketball, fair festivals, car share</td>
<td>City, manager, owner</td>
<td>Could support nearby businesses by creating off peak activity</td>
<td>Lighting and safety due to lack of proximity to other uses</td>
<td>Block party</td>
<td>5: Ideal conditions</td>
<td></td>
</tr>
<tr>
<td>SPORTS STADIUM/ARENA</td>
<td>Spectators, employees</td>
<td>Off-game days and seasons</td>
<td>Soccer and sports fields, fair festivals, car share</td>
<td>Manager, owner</td>
<td>Usually quite isolated</td>
<td>Promote active sports</td>
<td>Lighting and safety</td>
<td>Tailgating</td>
<td>3: Suitable</td>
</tr>
<tr>
<td>EXPERIMENTAL LOT</td>
<td>Shoppers and employees</td>
<td>Non-operating hours; late evening and early mornings</td>
<td>Recreation: basketball, court games</td>
<td>Target, A/Weight, community members, surrounding businesses</td>
<td>Increases recreation opportunities in city</td>
<td>Promote active sports</td>
<td>Unpleasant edges, Pollution concerns with recreation opportunities</td>
<td>r/a</td>
<td>3: Suitable</td>
</tr>
</tbody>
</table>

**NOTES:** * Depending on transect zone; ** Depending on event of a mixed-use building, the total amount of parking is reduced by a predetermined factor; +++Depending on type of use—office or retail; +++ Depending on type of use—office or retail; + Apart from economic benefits via rents, if applicable; +++++: Apart from liability and maintenance issues; +++: Source: Section 9.5.2 http://www.municode.com/Resources/gateway.asp?pid=11-008860=21; * Based on 330 sq/ft per stall (includes lanes, etc.); ** Estimated cost at $4,000/space
<table>
<thead>
<tr>
<th>TYPE OF LOT</th>
<th>TYPICAL STANDARDS</th>
<th>TYPICAL STANDARDS</th>
<th>IMPLEMENTATION STRATEGY</th>
</tr>
</thead>
<tbody>
<tr>
<td>RESIDENTIAL</td>
<td>1-2 per dwelling unit*</td>
<td>2 per unit of 3+ bedrooms</td>
<td>Resident's initiative</td>
</tr>
<tr>
<td>Single family to three family</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RESIDENTIAL</td>
<td>1-2 per dwelling unit*</td>
<td>1 per studio, 2 per units of 3+ bedrooms, plus 1 per 6 units for visitors + services</td>
<td>Tenant organization or management impetus; use visitor parking area for recreational activities</td>
</tr>
<tr>
<td>Multi-family and group home</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SMALL URBAN COMMERCIAL</td>
<td>3-4 per 1,000 sq ft*</td>
<td>1 per 250 sq ft -- 1 per 500 sq ft ***</td>
<td>Off-business hours or complimentary uses to commercial enterprise</td>
</tr>
<tr>
<td>STRIP MALL</td>
<td>2-4 per 1,000 sq ft* +</td>
<td>1 per 250 sq ft -- 1 per 575 sq ft ***</td>
<td>During main business hours, to draw in customers</td>
</tr>
<tr>
<td>PUBLIC INSTITUTION</td>
<td>To be determined by warrant (governing body)</td>
<td>1 per employee (school) or 1 per 600 sq ft (library, public art gallery, etc.)</td>
<td>Educational and recreational uses to compliment activities and after-school programs</td>
</tr>
<tr>
<td>School, religious, museums, etc</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>OFFICE PARK</td>
<td>2-3 per 1,000 sq ft*</td>
<td>1 per 300 sq ft -- 1 per 575 sq ft ***</td>
<td>Active spaces such as walking loop, court space for lunch or after-work activities</td>
</tr>
<tr>
<td>BIG BOX COMMERCIAL</td>
<td>3-4 per 1,000 sq ft*</td>
<td>1 per 250 sq ft -- 1 per 500 sq ft ***</td>
<td>Farthest corner from entrance, or at entrance if it is promotional in any way</td>
</tr>
<tr>
<td>CAMPUS</td>
<td>To be determined by warrant (governing body)</td>
<td>0.4 spaces per student</td>
<td>During special events</td>
</tr>
<tr>
<td>INDUSTRIAL</td>
<td>To be determined by warrant (governing body)</td>
<td>1 space per 1,000 sq ft plus 1 per business vehicle on site</td>
<td>Active spaces during off-hours for employees</td>
</tr>
<tr>
<td>CITY BLOCK</td>
<td>Not applicable; all space dedicated to parking</td>
<td>Not applicable; does not exist</td>
<td>At edge, during lunchtime or other active times</td>
</tr>
<tr>
<td>SPORTS STADIUM/ARENA</td>
<td>To be determined by warrant (governing body)</td>
<td>1 per 10 seats</td>
<td>Off-game time (except tailgating) to create activity and economic benefits</td>
</tr>
<tr>
<td>EXPERIMENTAL LOT</td>
<td>3 per 1,000 sq ft</td>
<td>1 per 425 sq ft street level; 9'x 18' stalls with 20' maneuvering lane</td>
<td>Engage Target to organize Summer Saturdays tournament or evening basketball series</td>
</tr>
<tr>
<td>At Somerville Ave and Medford St in Somerville, MA</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**NOTES:**
* Depending on transect zone; ** In the event of a mixed use building, the total amount of parking is reduced by a predetermined sharing factor; *** Depending on district and type of service; + Depending on type of use--office or retail; ++ Apart from economic benefits via rents, if applicable; +++ Apart from liability and maintenance issues; ++++ Source: Section 9.5.2 http://www.municode.com/Resources/gateway.asp?pid=11580&sid=21; ^ Based on 330 sq/ft per stall (includes lanes, etc.); ^^ Estimated cost at $4,000/space
PHYSICAL DESIGN DETAIL: PUBLIC INSTITUTION

DIAGRAM OF LOT

AERIAL IMAGE

EXAMPLE LOT

Source: Kathleen Ziegenfuss

EXAMPLE LOT

Source: Google Earth

Source: Kathleen Ziegenfuss

Source: Kathleen Ziegenfuss
PHYSICAL DESIGN DETAIL: OFFICE PARK

DIAGRAM OF LOT

EXAMPLE LOT

AERIAL IMAGE

EXAMPLE LOT

Source: Kathleen Ziegenfuss

Source: Google Earth

Source: Deepinder Mayell

Source: Kathy Ziegenfuss
PHYSICAL DESIGN DETAIL: CAMPUS

DIAGRAM OF LOT

EXAMPLE LOT

AERIAL IMAGE

EXAMPLE LOT

Source: Kathleen Ziegenfuss

Source: Google Earth

Source: Kathleen Ziegenfuss
PHYSICAL DESIGN DETAIL: CITY BLOCK

DIAGRAM OF LOT

EXAMPLE LOT

Source: Kathleen Ziegenfuss

EXAMPLE LOT

Source: Kathleen Ziegenfuss

AERIAL IMAGE

EXAMPLE LOT

Source: Google Earth

EXAMPLE LOT

Source: Kathy Ziegenfuss
PHYSICAL DESIGN DETAIL: SPORTS STADIUM/ARENA

DIAGRAM OF LOT

AERIAL IMAGE

EXAMPLE LOT

EX haacile Lot

Source: Kathy Ziegenfuss

Source: Kathy Ziegenfuss

Source: Kathleen Ziegenfuss

Source: Google Earth

PARKING

$300 MON-FRI 8:30 AM - 5:30 PM

EVENTS 5-40

As Posted

Source: Kathy Ziegenfuss
PHYSICAL DESIGN DETAIL: EXPERIMENTAL LOT (SOMERVILLE)

DIAGRAM OF LOT

AERIAL IMAGE

EXAMPLE LOT

EXAMPLE LOT

Source: Kathleen Ziegenfuss

Source: Google Earth

Source: Kathleen Ziegenfuss

Source: Kathleen Ziegenfuss
Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
CHAPTER FIVE

OVERCOMING OBSTACLES INHERENT TO CONSTRUCTING USE ON SURFACE PARKING LOTS

Source: Kathleen Ziegenfuss
Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
This chapter covers major issues inherent to using parking lots as public spaces, as identified through research and interviews. Approaches to address the obstacles are identified. Strategies for creating use on surface lots are given, and the woonerf (shared streets) example from the Netherlands is presented as a model in terms of the adaptability of its guidelines.

"The amount of creativity, energy, and planning that goes into the design of these parking places, especially compared to other elements of the built environment, is minuscule. Yet in terms of their visual impact, their land usage, or any other measure, there is almost no other piece of the public environment that people experience more in their daily lives." – Catherine Miller

The quote above illustrates the biggest obstacle to changing the ‘way things are’: getting people to notice in a critical way the parking lots all around us, and the effects of that landscape on our actions and perceived images of certain areas. Why are parking lots typically treated as unworthy of design details or aesthetic considerations? How is it that there is not public outcry or discourse on their blandness? As a comparison, contemporary vinyl-siding housing construction is criticized and held up against the great architectural traditions of the past; is it that there is no ‘great tradition’ within parking lot design for us to hold a typical lot up against? Is it because of the sheer quantity of lots and of spaces—of their enveloping size? Their design? The monotonous use of the space? Perhaps the damaging element of the lot is that cars subconsciously effect the psyche of a people. When space dedicated to cars is consistently prioritized over space for people, it makes a statement that cars are more important than people.

Several questions should arise when developing new parking spaces, or rehabilitating existing ones. At a very basic level, the answers to these questions decide how a city is to function and for whom it will best function.

- Do regulations limit the space of development because of parking minimums?
- Does zoning consider burgeoning mode choices in cities that are trying to move away from auto-dependency?
- Are tax dollars equally split between creating more public spaces versus paving roads?
- Should parking lots function as a place of convenience for people in their cars, with abundant parking wherever their final destination may be?
- What if a city decided to reconsider the way their land was dedicated?
- What if those in power decided to not get rid of the parking lots, but make them more functional? More pleasant to be in? A more efficient use of land resources?
- What if developers acknowledged the economic benefit of investing more in the ‘entrance’ to their development (the parking lot) and the potential of bringing others to their development?

These questions bring up a series of issues that, if addressed properly, can create parking lots which are more useful and enjoyable.

ISSUES + APPROACHES TO ADDRESS CONCERNS

If those designing, developing and managing cities were to go about systematically reconsidering the surface parking lot to extract more value from these spaces (value meaning economic, social and physical value), there are a number of issues that would have to be answered that stem from the questions raised above. If these issues can be dealt with, the possibilities for surface lots open up to new realities. The issues are broken into four categories of issues in order to understand the root of the concern: economic concerns, safety and additional risk, process-oriented issues and issues surrounding the introduction of change.

Economic concerns

**Issue: Businesses who depend on the parking will suffer if alternate uses are allowed in parking spaces**

Possible approaches: It is important to stress the temporary nature of the alternate uses. People won’t want to be in the only empty space of a parking lot, surrounded by cars. The would more likely want to be in a parking lot that is not full (for informal uses). For more formal uses, the event is more all-encompassing, such as a day-long festival, advertise alternative parking lots or spaces where people can park in the area. In terms of the businesses whose customers regularly use the parking spaces, it was found in the case of Union Square’s events that festivals and markets brought more foot traffic to the neighborhood and for businesses such as restaurants and pubs, business increased.\(^2\) Increased pedestrian traffic will be beneficial for certain businesses, but not all. Even though people may not patronize businesses such as a drycleaner during an event, those businesses gain exposure and people may return at a later date once knowing of the business.\(^3\) For ArtsUnion, the collective impact on Union Square businesses has been significant (discussed on page 78). What the Union Square example highlights is that using a parking lot for alternate uses, at least partially or during certain times, can be part of an area-wide effort to bring new economic and social activity to an area.

**Issue: Investing in parking lots takes away from the ‘bottom line’**

Possible approaches: Though it may seem difficult to defend investing more money in a space that isn’t ‘necessary’, developers do this all the time. They do it when they build beautiful, glamorous lobbies or fancy facades; they do it when the work-out room in the development is designed to lure people to buy into the building, or when the cafeteria of the office building feels more like a restaurant than a food court. The developer knows that investing in common spaces can have positive economic gains. The developer, as one of the sole deciders of how a city is ultimately shaped, needs to believe that improving the parking facilities can be beneficial to both buyers and lessees of the building as well as the long-term viability of the surrounding area. As discussed previously, creating additional uses can also bring economic development potential into the lot through small commercial establishments.

**Issue: The cost and effort are not worth the anticipated results**

Possible approaches: Many of the ideas for using parking lots more intensively can be profit-generating. Allowing food trucks into a parking lot to create ‘brunch in the square’ brings revenue to those vendors, the city through permitting fees, and other local businesses (non-competing) through increased foot traffic caused by the event. As for the more purely social or recreational spaces, figuring out ways to allow economic activity will make people more apt to participate. Marketing uses which can be revenue-generating will help the initial interest in investing more time and energy in how we treat surface parking lots. “It is these specially attractive activities [social activities] that disappear when conditions are poor and that thrive where conditions are favorable”\(^4\) if people are being social, they are also often patronizing businesses.

In terms of effort, Madeleine Masters of Somerville suggested using soft incentives such as publicity to help increase foot traffic, removing obstacles to obtaining temporary occupancy permits, and providing police detail, etc. as strategies for lessening the burden for a private lot owner to open up his/her lot to more public uses.\(^5\)

---


\(^3\) Ibid.


118 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
Upsetting the balance

Issue: People rely on this parking

Possible approaches: Design a lot in a way that acknowledges that pedestrian movement and activity on the site do not preclude the opportunity of parking. Allowing or promoting other uses on the lot does not mean the parking will not be available when needed by motorists. As MIT visiting lecturer in City Design and Development Aseem Inam said “why not consider a parking lot a landscaped courtyard that has parking on it some of the time?” The solution is not to permanently create public spaces but to design lots in a way that allows uses other than parking in periods of vacancy. Reassure those that may want to use that parking during times when ‘other’ uses are occurring: because of the oversupply of parking in most places, it can be assumed that most of the time there will be a supply of parking nearby. Assure people this is not a place or opportunity to reduce used parking, but can be an added layer of use on top of the parking, such as on the lot shown at below.

Figure 5.1: Food trucks park on the edge of parking lot, Portland, OR

Source: Sarah Snider

Issue: People will be angry if events happen on parking lots near their home or business

Possible approaches: You have to sell them the vision. You have to show through example that providing more social spaces will not be dangerous, will not lower property taxes, and will not be in vain. Having a short experiment allowing certain types of use may let people become comfortable with the idea before they ‘allow’ the use permanently. In zoning, this type of ‘sunset clause’ would be valid for a set time period and then would be up for evaluation, at which point the regulation could be renewed, revoked or made permanent. If noise or other issues are disruptive, people will have the opportunity to address these concerns. Finding a good fit between the type of use and the abutting neighborhood context is important; and will vary considerable from place to place. Stephanie Groll, from the City of Cambridge, says the best thing to do when proposing changes is to anticipate problems and protect neighbors.

Issue: Parking is already such an issue—tampering with it will only cause more problems

Possible approaches: In Somerville, where parking is one of the most difficult issues (from a zoning perspective) due to the non-conformity of existing uses, one approach is to consider that by loosening the standards on what is conforming or not, new development potential may open up. Maybe parking is already such an issue because it hasn’t been ‘tampered with’ enough.

Issue: People will become attached to the use on the parking lot and won’t want to see the parking lot developed into a ‘better’ use

Possible approaches: This is a valid concern and was mentioned by municipal planners interviewed in both Minneapolis and Somerville. The best approach to this issue is to create redundancy within the multiple-use parking lots, so people don’t become attached to the only parking lot that hosts a fair, market,
Christopher Alexander explains that no pattern should stand alone; multiple use on parking lots are no exception—they should not be considered in the singular case but rather in the plural. "In short, no pattern is an isolated entity. Each pattern can exist in the world, only to the extent that is supported by other patterns: the larger patterns in which it is embedded, the patterns of the same size that surround it, and the smaller patterns which are embedded in it...when you build a thing you cannot merely build that thing in isolation, but must also repair the world around it, and within it, so that the larger world at that one place becomes more coherent, and more whole; and the thing which you make takes its place in the web of nature, as you make it." 9

No pattern is a unique thing. What is currently happening at the Ashby BART station is an issue because that space is the anomaly. There isn't another market nearby to support the vendors or patrons of the flea market. If there were, it perhaps wouldn't be seen as such a negative thing that instead of a parking lot that land will be filled by housing. Housing near a rapid rail station no less. It is not proposed that every lot be a market, but only that the model which is used to consider use in parking lots is adaptable enough to allow for change to happen without upsetting the entire balances of uses.

Safety and additional risk

Issue: It is too difficult to cover liability issues

Possible approaches: "What is more dangerous? A parking lot with free-for-all traffic or a theatrical production?" 10 It was noted in many of the interviews that liability issues were not a major concern. Every parking lot has insurance on it. If it is a public lot, umbrella insurance coverage usually is substantial enough. For private landowners, this may be a different story, as they would be open to tort liability for public use of their lands. Any risks must be forewarned (i.e. a sign on basketball play area warning of cars) and proper precautions must be provided, such as slight physical variations or texture differentiation which would point to varying uses. On a case by case basis, mitigation measures would need to be addressed.

Through a logical process that takes due precautions, there is usually design immunity for changes in a design that protects the designer of space. As long as it is a well thought-out process, the liability is likely to be low from a designer’s perspective. In addition, there are things one can do when curating the event, such as placing a stage as a boundary or barrier in part of the parking lot to delineate what space is being used by the events, as ArtsUnion does during events in Union Square such as the Fluff Festival. 11 Furthermore, for all planned events, the organizers already have some sort of event insurance policy.

The issue: The lot will be less safe if additional activities occur

An approach of addressing the issue: Many indicators point to the fact that safer places tend to attract more people; it is the places where not many venture that people tend to feel unsafe or crime actually happens. Creating more use in parking lots when they are normally vacant has the potential to put more people on the streets, and increase overall perceptions of safety. Also, as Hamilton Clancy said from Shakespeare in the Parking Lot, the odds of something happening with a car in a parking lot are greater than those of someone watching a performance in a parking lot."

According to the U.S. Department of Justice, approximately 40% of all violent crimes (assault, robbery and rape) occurred in a parking lot in 1994. 12 One of every six vehicle accidents occurred in parking lots during the same year. 13 So, parking lots aren't exactly 'safe'

---

13 Ibid.

now. Maybe it is time to try a new strategy, like bringing more life and activity into these spaces. "Without assuming some risk we could do nothing"—no farmers markets, play areas, or Shakespeare performances. Is that the type of places we want to live? Life is more interesting than that. "When we seek to eliminate risk we often unduly restrict the possibilities for fun and profit". This is not the direction our towns and cities should be headed.

"Uncertainty, like intrigue, keeps us engaged with our immediate surroundings". If things are happening in the lot, more people will be drawn to it, and more people will be concerned with what happens there. Under normal conditions, because drivers know that pedestrians will often be in the driving lanes in a parking lot, they are more aware of what is going on than compared to normal streets. Only 1% of the accidents in parking lots involve pedestrians; this low-rate is due to either drivers’ awareness of pedestrians, caution taken by pedestrians, or the fact there are relatively fewer pedestrians in the space compared to the amount of car traffic that passes through the lots.

Undoubtedly, the safety concerns combined with liability issues present one of the largest challenges to the whole idea of re-purposing parking lots. Either rent from space (for a commercial endeavor), personal satisfaction as payment enough for providing recreation or social opportunities for others, or civic duty from a municipal perspective will need to provide the right impetus to promote someone to action.

The issue: Bringing ‘others’ into a private space can be dangerous

Possible approaches: This is a conceptual issue. While ‘no trespassing’ signs do warn off some, people are not always deterred by them. If the parking lot is a pedestrian short-cut or is attractive for some other reason, people will use it. The proverbial ‘safety in numbers’ may give rationale as to why it may not be as dangerous as originally perceived to allow others onto private lands. Additionally, more people provide more ‘eyes on the street’ that Jane Jacobs advocated for. As Childs postulates: "Although crime certainly does happen in well-inhabited places, the presence of people serves as a deterrent to assault, rape, auto theft, and vandalism...On the other hand, the more people use a place the more likely that the absolute number of accidents and crimes will increase. The presence of people may reduce the rate of aggressive crime but could increase the number of incidents occurring at a given place".

Since many of the lots where potential activities could occur are private (there are fewer and fewer public lots in cities), this issue is an important one. Bicycle and hiking trails, which often pass through private property provide an example; public easements which allow access to these areas are one way of thinking of how to help lessen the risk taken by individual landowners.

The rationale behind the Dutch woonerf example, often translated as ‘shared streets’, sheds light on how behavior is learned and blame for accidents is parceled out when an incident occurs on a typical street:

Children are now taught to keep on the footpath and it is impressed upon them that they must take a good look both ways before crossing the street. When accidents occur, the driver often escapes all blame, the justification being that he could not foresee that the child would run out. The child ought to have known that you have to keep your eyes about you when crossing the street. The parents ought to have impressed that upon the child more strongly and therefore it is their own fault.

But is it really a question of guilt on the part of the parents or on the part of the child?

14 Ibid. p.166.
15 Ibid. p.165.
18 Ibid. p.174.
Neither—it is the community, it is society, we are the ones who ought to be in the dock for allowing these potential sources of conflict to continue to exist in old and new areas alike. For we know with absolute certainty that such accidents will continue to happen—accidents which cannot be prevented simply by erecting a sign, even though this is a cheap and much favored solution.19

Though it is not the typical way in which accidents are conceptually perceived of in the United States, the simplicity by which it is described above points to the fact that we have over-regulated and over-controlled our spaces to such a degree because of the fear of things we know will happen. Admitting this, we can move forward with strategies for getting more value out of parking lots.

Process-oriented issues

The issue: Uses other than parking are not allowed by zoning regulation

Possible approaches: Zoning is a tool. It is flexible based on changing demand. Political pressure can change zoning; it is not a stagnant framework. Madeleine Masters, Director of Planning and Zoning at the City of Somerville agrees that zoning is a tool—it is rigid within its rules but open to change. She claims that “if you can make people comfortable with desire[d use], it can find its way into public [discourse].”20 Also, the example from REBAR shows that if an activity is popularly received, public officials often find a way to make the situation work and be legally acceptable. Further, Masters also said that if the hours of use are complimentary, there is even greater chance of allowing the use through a regulatory process.21

Issue: Adding use to parking lots require additional, effective management of the space

Possible approaches: There are a variety of options for managing a place, depending on intensity of use and scale. The land owner can manage the space, a city can, an organization can take management over the space, or it can be an informal management (little to none) through design or neglect. As Lynch postulates, “formalizing the control of a succession of uses in a place may be a good way of reducing spatial waste,”22 there can be multiple management strategies for the same space with the division of management delineated by time, as well as by space. In this way, greater efficiency can be reached.

It may be that we need different answers to different types of conditions in parking lots. Lynch proclaims that “the complex and the controlled, and the simple and the free, tend to associate with each other.”23 A formal event such as a market may need a complex management structure, while providing a place for kids to learn to ride a bicycle may not require any additional management other than someone giving a clue that it is allowed to ride a bike there.

Issue: The best point of intervention is in new lot construction; it is too hard to tinker with existing lots

Possible approaches: The inclusion of new regulatory measures on pre-existing parking lots is difficult to implement. There can be soft incentives given, such as publicity and other promotional actions to help encourage lot owners to do something more with their parking lots. Incentives such as tax breaks are not possible given the fiscal constraints of most municipalities, however, calls for innovations or other competitions can engage existing lot owners. Once certain uses have proved able to co-exist alongside parking, the ability to transform codes and regulations for future parking lot construction becomes more plausible.

---

21 Ibid.
23 Ibid. p.422.
122 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces.
Introducing change

Issue: People think of parking lots as places to park; they will not know of the additional intended uses

Possible approaches: The design of a multi-functional space requires a sensitivity that allows for adaptability over time. As Lynch says about design in general, “Design must provide for overlapping territories, shifting use, and rules of tolerance.” This can be done subtly, without explicitly stating via a sign, “yes, come here and play!”. Engwicht has decried the use of excessive signage: “Signs depersonalize a space, make it feel anonymous. Similarly, traffic signs depersonalize the street as socializing space. Ironically, the subtext of official signs and traffic control devices is that no one in particular owns a space, so motorists no longer have to act like a guest.” Allowing the space to draw attention to itself via word of mouth, or promotional materials such as flyers for an event, will help create energy around the intended event.

Issue: Parking lots are designed for single uses; there are no models to design parking lots as spaces for multiple use

Possible approaches: The idea of how to build a more functional multi-use space is simply put by Project for Public Spaces, “If you build your city for cars, you get more cars. If you build your cities for people, you get more people.” Intrinsically, many designers may know what to do if the problem is put to them in a certain way. So, at a certain point it is important to point out what you are designing for—for example, time management—as Lynch says “The idea of scheduling the time of an action is itself an important concept… Activity timing is as essential a part of city design as activity spacing, but it is less often consciously manipulated.” It is important to make explicitly known that the intention of

24 Ibid. p.160.
26 Project for Public Spaces. (n.d.) Transportation is about places.
The complication comes from the physical combination of what Hans Monderman terms the traffic world and the social world: “In the traffic world, there are always simple solutions—more exams, more rules, more police, more regulations, more lanes, more signs. But in the social world things are not this simple.”²⁹ The design solution for multi-functionality is perhaps a bit more complex, but not overwhelmingly so. Monderman continues “The real problem is that motorists feel divorced and isolated from their social surroundings. The design signals confuse the motorists about how they should behave in the space.”³⁰ We need to develop spaces that can be ‘read’ by both pedestrians and vehicles as shared space, like a woonerf or the vehicle and pedestrian network in Granville.³⁰

²⁹ Engwicht. (2005). p.46
³⁰ Ibid. p.50.

Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
Island, Vancouver, which puts pedestrians and vehicles on the same plane throughout the island, and in Figure 5.3.

**Figure 5.3: The lack of distinction between the vehicle plane and the pedestrian plane creates a shared space**

The lack of distinction between pedestrian and vehicular space shown above is not typical. The hyper-specialized use of parking lots is a strict deviation from this model above, and does detriment to the social world, as Hans Monderman describes: “When we try to eliminate conflict by over-regulating physical design we actually weaken the evolution of a robust and vibrant social world.” This seems a statement that easily describes surface parking lots.

In terms of design as well as space management, we must teach and be taught how to effectively manage and design a space for multiple activities.

**Issue: ‘Good idea; but it is too difficult to approach the change**

Possible approaches: As Jan Gehl explains, “Just as it is possible through choice of materials and colors to create a certain palette in a city, it is equally possible through planning decisions to influence patterns of activities, to create better or worse conditions for outdoor events, and to create lively or lifeless cities.” It is within the realm of possibility to plan and design better spaces, not just from a planner’s perspective but also a development and landowner’s perspective.

As Somerville Director of Planning and Zoning stated, the city is “open to anything that makes sense”. Understanding all the elements at play and how we ended up in this sea of asphalt parking is a good first step. Outlining strategies to overcome obstacles and ways to move forward provides more structure to the idea. Similarly, the Parking and Transportation Demand Management Officer from the City of Cambridge agreed that if the idea supports the goals of the city, the city will be behind the idea.

**STRATEGIES FOR CREATING FLEXIBLE PARKING LOTS**

Parking lots can be designed better. They can be utilized better. There can exist better parking design standards which help support these stated intentions. All of this is technically possible. What has to happen is a shift in how we view surface parking lots within our landscape. Inam agrees, saying he “firmly believes that if you are going to change parking in any fundamental way, it has to be a conceptual shift.”

**The woonerf as an example**

Looking at the woonerf as an in-depth study of how to approach a large-level change in the construction and use of a space as prevalent as the residential street is akin to the challenge posed by designing, and regulating through policy, a new type of parking lot. An investigation into the woonerf’s inception, implementation, policies, faults and successes helps to create a framework for implementing a similar process for surface parking lots.

---

31 Ibid. p.54.
33 Groll (2009).
34 Inam. (2009).
In the 1970s traffic engineers, designers, lawyers and public officials in the Netherlands started experimenting with new ways to design and improve residential districts, and what resulted was the now popular woonerf model. As explained in the brochure “Woonerf” produced in 1980, in the efforts to improve residential areas, the woonerf is “in accordance with the idea that communal and individual activities should be possible in residential areas...The basic idea has been to avoid residential streets in which: motorized traffic has priority; playing is forbidden on the roadway; cars are parked on footpaths; there is a maximum speed of 50 kph; the design is geared toward these factors. After five years of experiments involving close co-operation between traffic engineers and lawyers, special traffic legislation embodying a novel approach has now been passed in the Netherlands.”

Through experimentation, they reached a loose enough model that worked in a number of different areas. The regulation set up a framework which was flexible enough for multiple realizations, all bearing similar traits or values.

Though widely disseminated as a concept and a practice, the woonerf is not intended to be implemented everywhere, particularly not on high-traveled streets. Similarly, not every parking lot should have a mix of uses that happen on it, there is a hierarchy of lots which would be more important to focus on given the social and economic context, the landscape, the abutting land uses, the demographics and density surrounding a particular parking lot.

The brochure defends against a major complaint of the slower speeds on a woonerf by asserting that the loss of time due to “the lower speed limit in a woonerf results in time being lost is of little significance.” The actual time lost is little, and the benefit gained by others great. This balance or trade-off of conveniences or other annoyances is an important element to consider when thinking of re-constructing use in surface parking lots.

The woonerf guidelines outline a minimum set of design standards to set the stage for the functionality of the woonerf, including clear arrival and departure areas, breaks in the straight right of ways, a lack of curbs, and nothing high enough as to restrict visibility from a car, specific locations for car parking, and provision of adequate street lighting. The regulations clearly state that drivers may not drive faster than a walking pace (Article 88b RVV), drivers cannot hinder pedestrians and pedestrians cannot stall drivers (Article 88d RVV). Similar to what would have to happen in order to restructure the way parking lots function, the conversion of a traditional street into a woonerf “demands both professional skill and an ability to improvise.”

The skills are there, it is the ability to improvise which I believe to be a more critical component when it comes to the realm of re-envisioning the parking lot.

Finally, when drawing on the woonerf for a conceptual model for strategizing about creating more flexible use on surface parking lots, looking at the benefits and drawbacks of the woonerf sheds light on some potential similarities for the

---

126 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces.
parking lot\textsuperscript{41}:

Figure 5.5: Benefits and drawbacks of the woonerf model

<table>
<thead>
<tr>
<th>Benefits</th>
<th>Drawbacks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Greater inherent safety</td>
<td>It is difficult to create a woonerf, it demands a great deal of discussion and the residents concerned must support the idea.</td>
</tr>
<tr>
<td>More optimal uses for residential areas, children can more readily play in the street and adults have more social contact</td>
<td>A woonerf is not cheap, especially in the case of old streets.</td>
</tr>
<tr>
<td>Greater scope for children to develop their personalities</td>
<td>The moped remains a problem within woonerven as the features designed to limit the speed of motor vehicles scarcely affect it.</td>
</tr>
<tr>
<td>Limiting the function of the street as part of a traffic system</td>
<td>The type of solution supplied in woonerven can create unreasonable expectations on the part of residents of areas that are not suitable as woonerven; the reasons could include an excessive demand for parking, too high a traffic volume or the unavoidable presence of through traffic.</td>
</tr>
<tr>
<td>More scope for the other uses to which public space can be put</td>
<td>Probably improving the absolute safety although reliable figures are not yet available.</td>
</tr>
<tr>
<td>Probably improving the absolute safety although reliable figures are not yet available</td>
<td></td>
</tr>
</tbody>
</table>


Reprinting this list of benefits and drawbacks

is powerful in that the process of creating a woonerf was not easy, there was much effort put into experimenting with what could potentially work. Its widespread success, with examples found around the globe, demonstrate its effectiveness.

Figure 5.6: An example of a woonerf, where people cars and bikes share the road, Prague

Source: Kathleen Ziegenfuss

In the same way as was the case for the woonerf, it will take multiple iterations to ‘get it right’ for parking lots, assuming the desire to institutionalize implementation of multi-functional parking lots. Recognizing potential benefits and drawbacks for each particular type of parking lot (outlined in the matrix in Chapter 4) or type of neighborhood, some of which would be quite similar to those listed above (such as support from nearby residents), would be a needed strategy. The matrix in Chapter 4 has started to identify the advantages and drawbacks of use on each type of parking lot.

\textsuperscript{41} Ibid. Section 7: Benefits and drawbacks.
STRATEGIES FOR CONSTRUCTING USE IN SURFACE PARKING LOTS

Why are we still designing and using parking lots the same way we have been for fifty years? The research, supported by the insights from local planners, business owners, professors, and event planners, show there are a number of strategies to use when promoting parking lots as flexible spaces. The following list highlights some of the most often cited strategies, as well as some self-generated ideas, for creating more use on surface lots. The strategies are broken into three classifications—from the perspective of a municipality, event coordinators and lot owners, and developers—as well as one category of combined strategies—strategies that could potentially help any of the aforementioned stakeholders.

Municipal strategies

Inventory the parking.

In every city and town, an inventory should be undertaken to take stock of what type of resource surface parking lots occupy. For an effective strategy to work, the full extent of the possibilities must be identified. If, for example, a city finds they have four times as many parking spots as they do registered drivers, they may start to question why this is so, and what can be done with the excess. Knowledge is power, and this is no exception. An inventory could be thought of us a type of performance standard, in that it is measurable to quantitatively measure occupancy.

The ideal situation would be to have a standardized way of inventorying the parking areas so that comparisons can be made across cities, towns and states. In this way, effective strategies are more easily transferable and best practices emulated.

After inventorying, each city or town might set an ideal percentage of land dedicated to parking. Christopher Alexander, for example, concluded that the 9% rule was the best percentage of land dedicated to parking, as it “proposes radical limits on the distribution of parking spaces, to protect communities.” And, as he says, “Each pattern represents our current best guess as to what arrangement of the physical environment will work to solve the problem presented.” It may be that cities and towns will come to different conclusions, but the point is they will be aware of the magnitude of the land and make an informed decision about the vision.

Manage the space well.

A small scale strategies for private landowners or arts and cultural organizations which hosts events include ideas such as byoc (bring your own chair) for parking lot events; in Seattle, the Fremont District makes this fun by having awards for the weirdest chairs. The “informality of the parking lot encourages innovative relationships” with space and use, which leaves the idea of management fairly open to suggestion.

On a large scale, determining the best way to manage the space can have a variety of management options. At the extreme, a region, city, neighborhood, or business area could take on the management of all parking spaces. This could take the form of a requirement that all parking lots must be ‘turned-over’ to the managing organization, and businesses subsequently ‘rent-back’ the necessary spaces, with the over-flow being managed by the organization. Thus, in theory, the bare minimum would be rented back since companies would be more aware of the price of the parking, which is typically considered a sunk cost. The organization would manage the excess in a way that would not prohibit temporary parking when needed on those spaces, but in general provide more active public spaces.

Smaller scale iterations of this general concept could be experimented with, such as

128 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
as requirement that in a certain area 10% of all parking spaces in any lot with ten or more spaces must be managed by the local management company for public use, much like an inclusionary housing requirement for apartments over a certain size-threshold. This group would take on the liability issues though their non-profit or management entity umbrella policy.

This larger-scale strategy may seem a bit involved, but if proper weight is given to the massive amounts of land parking occupies, it is a modest attempt to manage the space better. At a certain level it could be compared to efforts by Trust for Public Land, as in a Trust for Public Parking, or in the words of MIT Professor Emeritus John de Monchaux, in an organization named “Parking Lives”.

This strategy would have to be more completely thought out, as issues such as lost tax revenue (if a non-profit is managing the parking) would have to be considered. Income stream would also have to be identified for the non-profit, though effective management of the spaces not leased back could be an economic generator through small-scale business opportunities, fairs, etc. as mentioned above. Also, there would need to be an arrangement so that there is some sort of protection on a city’s or non-profit’s part if their ultimate goal is to develop the parking lot, so that there is not broad public opposition to a new project.

Strategies for event coordinators and lot owners

Copy your neighbor.

There is no need to reinvent the wheel. If an interesting event or use happened in a parking lot somewhere, try to recreate it. If you organized it, spread the word.

Start simple.

Simple, inexpensive elements can add much intrigue to a space. The inclusion of public art, or interactive surfaces can create an attractive space, and one which will be memorable. The idea of having a bouncing pad in the ground (a built-in trampoline) or a musical pad in the surface of the asphalt can draw people to the space without taking away from the functionality of the lot. Figures 5.7 and 5.8 show a hypothetical bouncing pad designed for an international ideas competition for the sidewalks of Copenhagen and a music pad in Bratislava, Slovakia—both create intrigue. According to the artist who conceived of the bouncing pad, the idea was to let people explore a new, vertical plane and thereby enter the world of play: “While you are up in the air, everything changes. People start to smile at each other”.

The music pad was a simple way of creating a meeting spot, and a small spectacle for people as everyone was susceptible to the noise emanating from the pad. It gathers people to it and creates fun, unusual experiences. As John de Monchaux described, interventions such as the music pad are ‘the gift of the city and of good urban design’; something we are grateful to come into contact with. Putting elements such as these into parking lots are simple, small ways to begin to transform a space. Designing a ‘call to artists’ or others in your town or city can be a way to both include folks in the transformation of a space but also have the space reflect a vision from the community.

Figure 5.7: Bouncing pad to change interaction with surfaces


46 de Monchaux, John. (Personal communication, April 15, 2009). Professor of Architecture and Planning, Emeritus, MIT School of Architecture and Planning; Cambridge, MA.


Learn from previous experiences.

Start with one parking lot, learn what works and what does not, and improve upon initial ideas with the second implementation. This philosophy is espoused in the woonerf model: “If, however, the work is tackled on a street by street [read, lot by lot] basis, one can learn from one’s mistakes at each stage and make the necessary adjustments”.


Make people comfortable: include food and seats.

Much has been written on the benefits of public open space. According to Jay Walljasper in The Great Neighborhood Book, “a key ingredient of lively, sage, fun neighborhoods is public spaces where people will spontaneously gather. People out on the streets bring a community magically alive. You get to know your neighbors, you feel secure, and you have a place to hang out. And there’s one simple way to do this: give everyone a spot where they can sit down. A bench or a chair can transform a lonely space into a lively space”. While it may not be as simple as just providing a place to sit, it is incredible what a lack of seating there typically is in many towns and cities. Not all people are as resourceful as the card players in Glendale, and have a chair to bring to their favorite spot. Elders who don’t typically go on walks and those who prefer to linger in a place will be more inclined to do so if there are places where they can actually be or rest. The raised curb that functions as a stopping mechanism in all parking lots can be built higher to the level of a seat, and provide a two-pronged opportunity for the space—to provide seating and stop vehicles from running into a building or out onto the sidewalk.

Strategies aimed at developers and new lot construction

Design for intended use.

Standards which require trees every ten parking stalls are not appropriate for a place that is intended to be used as a basketball court when not in use for car parking. But an open lot with no shade coverage is not ideal for people playing cards, for example. The flexibility of the space is highly influenced through the design. Not every space can be both a spot for a lunch truck to create a midday lunch spot as well as a perfect spot for a craft fair—but each parking lot which could potentially host these events can be designed with the potential uses in mind and thus accommodate their potential.

Use zoning to your advantage.

If the conceptual framework is agreed upon, and support from nearby residents and other stakeholders have been given, zoning should be used to support use. While there is no one specific way zoning codes should be re-written, the use conditions on parking lots should be re-examined to include a variety of acceptable uses. The City of Cambridge has recently introduced zoning language changes to their code, to increase the ability for car sharing vehicles to be parked in residential


130 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
This stipulation basically would allow 10% of parking spaces (rounding up the next whole number) to be used for shared parking vehicles without being penalized for falling below set standards. One of the major concerns when drafting the language for the zoning amendment was the response from residential sectors in the city; there was caution about changed behavior patterns due to the new provision and potential disruptions to the existing nature of the neighborhood.

This example in Cambridge is an important illustration when considering any major change of the use stipulations for surface parking lots in any administrative way. The efforts on the part of the City of Cambridge’s municipal staff have been large, the process lengthy and the proposal was backed with much research as the qualitative effects of car sharing programs (such as each shared car takes 15-20 cars off the road). While the City is in the midst of determining whether to include the new language into the zoning code (a public hearing is scheduled for May 19) it is noteworthy in that given a vision and desired policy alteration, the city was able to construct zoning language to reflect their vision. To the extent they may change a use of required parking spaces as-of-right, an example has been given which may pave the way forward for other municipalities to do similar or slight variations thereof.

The City of Minneapolis, Minnesota also recently changed their zoning code to facilitate the easier use of parking lots for farmers markets. The code had originally constrained the amount of days a temporary permit could be used in any given year (the permit necessary to host a farmers market); the regulations were changed to say that a temporary permit allowed the event to happen up to 75 times a year. This allows farmers markets, which typically exceeded the previous number, to use the parking lots throughout the season. The City had a difficult time explaining why a regulation prohibited something they were happy to see happening; changing the zoning to accommodate the desired uses was a solution to the issue.

As Frank highlights, “modern zoning, like the early history of zoning in the United States, has its constitutional basis in health, safety, and welfare considerations, a fact that makes this tool one of the most powerful for changing land use development practices; what is required is not an elimination of zoning but, rather, a reform of the zoning codes themselves.” That which constrains us now may help shape the future we want to see.

**Blur the lines between the traffic and pedestrian worlds.**

The difference between a private and a public space can be blurred to create more intrigue through nebulous control of the space. Similarly, the difference between the traffic world and the social world can be blurred in order to create a space with more spontaneity, and more life. Figure 5.9 poses the characteristics of the social world across from that of the traffic world, showing the dichotomy that currently exists; using a space thought of as a ‘traffic’ space and using it for ‘social’ purposes can help the social life a neighborhood and reconfigure this dichotomy.

---

52 Ibid.
53 Ibid.
54 Ibid.
55 Elliott, Beth and Rob Clarksen. (Personal interview, March 25, 2009). Principal Planner and Zoning Specialist, City of Minneapolis; Minneapolis, MN.
56 Ibid.
57 Ibid.
58 Ibid.
Figure 5.9: The distinctions between the traffic and social worlds

<table>
<thead>
<tr>
<th>TRAFFIC WORLD</th>
<th>SOCIAL WORLD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uniform</td>
<td>Diverse</td>
</tr>
<tr>
<td>Predictable</td>
<td>Unpredictable</td>
</tr>
<tr>
<td>Planned</td>
<td>Spontaneous</td>
</tr>
<tr>
<td>Controllable</td>
<td>Voluntary</td>
</tr>
<tr>
<td>Anonymity</td>
<td>Personal</td>
</tr>
<tr>
<td>Vehicle-Oriented</td>
<td>People-Oriented</td>
</tr>
<tr>
<td>Technical-Oriented</td>
<td>Relationship-Oriented</td>
</tr>
<tr>
<td>Government-Oriented</td>
<td>Community-Oriented</td>
</tr>
<tr>
<td>Avoids conflict</td>
<td>Embraces conflict</td>
</tr>
<tr>
<td>Speed-Oriented</td>
<td></td>
</tr>
</tbody>
</table>

Source: Mental Speed Bumps. p.43.

During the South by Southwest music festival in Austin, Texas, a local taco shop took over part of their parking lot to have picnic tables set up for patrons to enjoy lunch. Ironically, this was done for the increased ‘traffic’ that was expected at the restaurant; evidently, it was determined more effective to have more space for people to sit than cars.

Figure 5.10: Parking lot used for temporary expansion for the taco shop, Austin, Texas

Flip the idea on its head.

The idea of proving to people that flexible lots can work can be achieved by making a public space and then sometimes allowing cars to park on it. This reverse strategy, according to Inam, “shows it [multi-uses] can be done and this is how it works”.

COMBINED STRATEGIES

Sell the vision.

The critical thing when considering the use of parking lots in a new way is to gain support from people who live in the community. From a regulatory perspective, according to Madeleine Masters, changing the expectations of people is a crucial part of the process. Zoning is a tool that is responsive to the needs and desires of a population; making people comfortable with having parking lots as multi-functional spaces is an important first step. In order to get around the plethora of regulations or zoning codes which may dictate the use of a space, the most important thing is to have support from residents, local officials and other interested parties.

Publicize the use.

It is important to get the word out about what is happening on site. As Hamilton Clancy said about the challenges of getting sponsorship for Shakespeare in the Parking Lot, what business or foundation wants to stick their flag in a parking lot and say they support what is going on? Announcing the event in a way that highlights more than the fact it is in a parking lot may be the way to get around some of the inherent difficulties of luring people to a parking lot.

Champion and support the change agents.

Many city officials interviewed have stressed that at least initially, many of the active parking lot successes would have to come from a ‘local hero’ or ‘change agent’ in town; someone to champion the cause and make the space something more than it is currently. This would then prove by example how something on a larger scale could be advocated for. Through whatever way possible, supporting people in this endeavor and encouraging the creative use of those

62 Ibid.
spaces are important.

**Take advantage of the small nature of these spaces.** Whether the parking lot itself is large or small, what is being promoted here is to use at least part of it as an addition to the public realm of the area. As Whyte's research found in The Street Life Project, "for the foreseeable future the opportunities in the center city are going to be for small spaces. And there are great opportunities. True, costs are prodigious—even in the case of incentive zoning, expensive trade-offs are included. But the costs are high because so many people are to be served...Some of the most felicitous spaces, furthermore, are leftovers, niches, odds and ends of space that by happy accident work very well for people." Parking lots, or even a few parking spaces, are no exception.

**Celebrate the small victories.** Things take time and the initial accomplishments must be celebrated to keep energy and interest in the endeavor. "Admittedly, culture changes slowly, so it is reasonable to believe that alterations to the built environment will change attitudes and behavior across a wide spectrum of the population only over the longer term. Nonetheless, it can be done and, in fact, has been done once already in the history of this country—people used to walk, bike and take transit in droves before the world was rebuilt to make driving as convenient as possible". Maybe it is time for the built environment to change once again.

Obstacles do exist in creating more flexible use on parking lots. Of all of them, the most profound is the conceptual one. The technical aspects, even the legal ones, can all be overcome if there is the political will or the economic incentive. There is a plethora of ways these obstacles can be overcome. As William Whyte makes his simple plea, he highlights the fundamental need for even considering this topic: "What I am suggesting, simply, is that we make places friendlier. We know how. In both the design and management of spaces, there are many ways to make it much easier for people to mingle and meet. It would be no bad idea to move more in this direction."**

**PRINCIPLES AND MAIN POINTS**
- Take action from examples, there are good events and activities happening in parking lots and with zoning codes to emulate.
- The strategies presented here can be combined in the nature that best suits an individual context of the parking lot.
- The conceptual framework, rather than the technical or the legal issues, is the main burden to overcome in order to create more use on surface parking lots.

**Chapter 5: Overcoming obstacles inherent to constructing use on surface parking lots**

CHAPTER SIX

IMPLEMENTATION:
THE FUTURE OF MULTI-FUNCTIONAL PARKING LOTS

Image source: Sarah Snider
Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces
SUMMARY:

This chapter builds upon the last by providing detailed strategies for formalizing multi-functionality on parking lots through zoning codes; addressing the use aspect of parking lots through design standards; and reinforcing the need to publicize or brand the use of parking lots as interesting places to be and as an innovative land use in the particular neighborhood, town or city. A brief discussion centers on the level of difficulty of implementing different ideas, and where some ideas might work best. The chapter concludes with thoughts on the unanswered questions raised in this research.

In Rem Koolhaus' interpretation of the future, new urbanism “will no longer be obsessed with the city but with the manipulation of infrastructure for endless intensifications and diversifications, shortcuts and redistributions—the reinvention of psychological space. Since the urban is now pervasive, urbanism will never again be about the ‘new’, only about the ‘more’ and the ‘modified’. It will not be about the civilized, but about underdevelopment. Since it is out of control, the urban is about to become a major vector of the imagination.”

Parking lots, as one of the most prevalent land uses in urbanized areas, and as an integral part of the transportation infrastructure, have the opportunity to be a large part of that envisioned future. Whether Koolhaus' view of the future is right, he points to two pertinent issues: the psychological reinvention of space and the modification of existing spaces that will continually occur. Parking lots are positioned quite strategically within this framework.

In her own words, Clare Cooper Marcus agrees, stating the purpose of her book People Places is not just to help guide design of new area, but “in the redesign of parks, plazas and the like that no longer serve the needs of their potential users because of changing trends in the use of outdoor public spaces or the changing demographic makeup of the surrounding neighborhood. Indeed, with the limited budgets and spiraling land costs of many cities, the redesign of urban spaces may soon become as significant to landscape architects and urban designers as is the design of such spaces on vacant lots.”

Reuse of space and vacant lots again place parking lots at the forefront.

Interesting things already happen on parking lots. They will continue with or without this research. Making it easier for people to use parking lots for alternate uses, to host events, and to gain more value from their parking lots can be supported by decision made by municipalities, developers and private landowners. Just because ‘that’s not the way it is now’ doesn’t mean a decision isn’t being made to make parking lots single-use enterprises throughout the nation; it certainly doesn’t mean that it won’t change in the future.

If a city, through the forces which govern its development and current use, were to want to encourage, or even require the multi-functionality of surface parking lots, government officials, developers and landowners can strategically go about doing so. To add to the list of strategies developed in the last chapter, three major policy-level points of intervention are explored in more detail here. These opportunities directly tie into the comments above by Koolhaus and Cooper Marcus regarding new strategies to take advantage of pre-existing spaces in the urban core and seeking low-hanging opportunities such as re-interpreting vacant lots and other underutilized resources. Essentially, these strategies aim to make greater use of existing infrastructure through policy and design. The points of intervention include:

1. Bring multi-functionality into zoning;
2. Have design guidelines which reflect the real needs of a multi-functional space; and
3. Sell the vision and use the space.

In her own words, Clare Cooper Marcus agrees, stating the purpose of her book People Places is not just to help guide design of new area, but “in the redesign of parks, plazas and the like that no longer serve the needs of their potential users because of changing trends in the use of outdoor public spaces or the changing demographic makeup of the surrounding neighborhood. Indeed, with the limited budgets and spiraling land costs of many cities, the redesign of urban spaces may soon become as significant to landscape architects and urban designers as is the design of such spaces on vacant lots.”

Reuse of space and vacant lots again place parking lots at the forefront.

Interesting things already happen on parking lots. They will continue with or without this research. Making it easier for people to use parking lots for alternate uses, to host events, and to gain more value from their parking lots can be supported by decision made by municipalities, developers and private landowners. Just because ‘that’s not the way it is now’ doesn’t mean a decision isn’t being made to make parking lots single-use enterprises throughout the nation; it certainly doesn’t mean that it won’t change in the future.

If a city, through the forces which govern its development and current use, were to want to encourage, or even require the multi-functionality of surface parking lots, government officials, developers and landowners can strategically go about doing so. To add to the list of strategies developed in the last chapter, three major policy-level points of intervention are explored in more detail here. These opportunities directly tie into the comments above by Koolhaus and Cooper Marcus regarding new strategies to take advantage of pre-existing spaces in the urban core and seeking low-hanging opportunities such as re-interpreting vacant lots and other underutilized resources. Essentially, these strategies aim to make greater use of existing infrastructure through policy and design. The points of intervention include:

1. Bring multi-functionality into zoning;
2. Have design guidelines which reflect the real needs of a multi-functional space; and
3. Sell the vision and use the space.

---

BRING MULTI-FUNCTIONALITY INTO ZONING

Portland's zoning code is a fairly progressive code in terms of parking requirements, allowing for provisions such as no minimum parking requirements when a building is within 500 feet of a transit stop, the ability to replace a required parking spot with five bicycle parking spaces, or the option of creating a transit-supportive plaza with 10% of the space required for parking. As the code states, it creates maximum standards because "limiting the number of spaces allowed promotes efficient use of land, enhances urban form, encourages use of alternative modes of transportation, provides for better pedestrian movement, and protects air and water quality." It is working toward reducing parking demand, and creating more people-oriented spaces.

The provision in the zoning code which dictates use in parking lots is as follows, under Motor Vehicle Parking, 33.266.100 General Requirements, Section D:

*Use of required parking spaces.* Required parking spaces must be available for the use of residents, customers, or employees of the use. Fees may be charged for the use of required parking spaces. Required parking spaces may not be assigned in any way to a use on another site, except for joint parking situations [joint parking as in shared parking]...Also, required parking spaces may not be used for the parking of equipment or storage of goods or inoperable vehicles.

The code does not explicitly state that only vehicles are allowed on parking lots. But it does not promote alternate uses either. Though Portland has some of the most well-known, progressive land use regulations, it falls silent on use in parking lots, except in terms of who can use the parking. This zoning section would be the framework from which to develop the language to include alternate uses as acceptable in the zoning provisions.

Mark Childs argues for a system to release land restrictions on parking lots if it is clear the land is not needed, in both permanent and temporal timeframes. He argues that if during design review a developer knows (or suspects) there will be excessive parking, they should suggest alternate uses for the land at that point. Going farther (for new development) he suggests a municipality lets the developer build the amount of parking they think necessary, with bonds assuring monies necessary for additional parking if the city deems it necessary after a period of one year—a strategy he calls 'phased-in parking.'

What Childs does not suggest is how to implement some of the conceptual ideas into an existing parking lot (in terms of his regulatory suggestions described above). The following ideas are to be used as a framework for dealing with ways to implement use considerations into a regulatory framework:

- Do not include use restrictions on parking for vehicles. Include vague language in order to entertain other uses and not pose as 'illegal' the cases where alternate use happens naturally;
- Provide a review provision which requires an audit of existing use of parking lots every five years; if a certain threshold of spaces are 'underutilized' (on pre-conditioned terms), additional spaces can be permanently or temporarily released from parking requirements;
- Get rid of minimum parking standards. This assumes there is a maximum. Retro-actively "allow" uses to be 'non-compliant' in traditional terms, meaning there will be no regulatory burdens by having too few spaces dedicated to parking. It is assumed market economics will provide enough spaces for those willing to pay for them, and some mechanism will deal with issues of equity that this might raise;

5 Ibid. Section 33.266.100. D p.266-2.
7 Ibid.
8 Ibid.
138 Constructing Use in Surface Parking Lots: Strategies for enhancing lots as part-time public spaces.
• For those properties which want their parking to remain as parking (estimated to be the vast majority of cases), establish a formula that fits the context which ensures 'public use' of the land given a certain condition. For example, a city could include in its zoning code parking requirements: “Should the parking lot not be utilized at 70% occupancy rates on a typical weekday/weeknight/weekend basis, at least 25% of the lot must be open for some type of public activity, such as recreational or social uses. Landscaping guidelines will be in accordance with this requirement to not block-off potential users via fences, dense vegetation or physical barriers”.

• Streamline permitting process for temporary use permits on parking lots, as to lessen the burden on event organizers to acquire the required permits for occupancy;

• For public lots, have the municipal umbrella insurance policy cover events, and let this policy be advertised.

• For private lots, help offset additional risk associated with new uses on parking lots by advertising uses in promotional brochures for “Park(ing) lot fun!” or other such slogans. Other promotional materials, such as maps and nearby attractions should promote businesses nearby the parking lot, and any sponsoring businesses (i.e. if the Food Master grocery store parking lot is hosting an event), should be highlighted for supporting such events;

• At public events and in other lots which have ‘bought in’ to a more active parking lot, advertise participation through promotional literature, and include extra police presence to ensure safety, and assuage any fears of nearby landowners. This can be arranged through the temporary permitting process.

These ideas can be picked through and adapted as best fit for each specific municipality.

DEVELOPMENT GUIDELINES WHICH REFLECT NEEDS OF MULTI-FUNCTIONALISM

Design guidelines are a potential way to dictate the use of the parking lot, through designating the type of ‘palette’ created upon a lot’s surface. The majority of design guidelines regulate pervious surface to reduce stormwater runoff, the shading of the lot to reduce heat associated with the lot, and screening the lot from the sidewalk and road to mitigate the negative visual impact of the parking lot.

Sacramento, CA, has off-street parking standards in their zoning code which both allow reduction in parking numbers through on-site shower and locker facilities, bike parking and designated carpool parking spaces.9 Beyond reducing the number of parking spaces needed through the aforementioned venues, the code requires screening at the sidewalk edge, and the inclusion of trees into the design at a varying rate (5-24 spaces, 30% minimum; 25-49 spaces, 40% minimum; 50+ spaces, 50% minimum) to ensure proper shade; the percentage is dictated by size of tree crown at 15 years, and must be in a 15 gallon container when planted.10 The actual placement of the trees is not dictated, the design of the space can vary as long as it adheres to the given percentage of tree coverage. This flexibility in terms of implementation can serve as a good model for use requirements as well; the non-prescriptive nature of the requirement allows creativity in reaching a solution which works for a particular lot.

The parking requirements in Lowell, MA provide a unique way of addressing shared parking requirements. For each use, the percentage of required spaces that must be available for that use are broken down into temporal categories: weekdays 8am-5pm; weekdays 6pm-12am; weekdays 12 am-6am; weekends 8am-5pm; weekends 6pm-12am; weekends 12am-6am.11


Chapter 6: Implementation: The future of multi-functional parking lots
This ensures that the uses match up in a complementary way for the maximum efficiency of shared parking. A formula dictates the parking requirements; the largest number of parking spaces required during any one time period will dictate the total requirement for the shared lot, which is shown below.

*Figure 6.1: Shared parking worksheet*

<table>
<thead>
<tr>
<th></th>
<th>Req. Spaces</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Use A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use B</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Use C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The largest of the totals is the combined parking requirement for the shared lot to serve all uses.

*Source: City of Lowell, MA Zoning Code, p.43.*

The City of Lowell also describes their landscaping requirements through the following diagram, which describes the requirements for lots with more than 10 spaces. They specify both percentage and placement of tree coverage, as well as screening requirements.

*Figure 6.2: Landscaping requirements, City of Lowell*

A combination of these two approaches, being both vague enough to allow flexibility around certain requirements and building in a temporal reference, is a model for constructing design guidelines for shared use of parking lots. For example, requiring that various textures or visual indications of different use sections are apparent within parking lots of more than 10 spaces (high use parking areas versus low use parking areas, which are better suited for other uses), and having a temporal timeframe for understanding when the uses might prevail would be a way to approach this issue. Though no standard design guidelines are presented here, the following ideas will help create a framework for considering how to use design guidelines for increased use on a lot:

- Design the parking lot in use-related zones; have high-impact parking areas which are normally full of cars, areas of occasional use, and areas of rare vehicle use. These areas can be delineated by landscaping and paving materials. The entire space may be used for parking, but normally people would use the areas of rare parking use while parking would occur in the high-vehicle impact area.
- Do not shield the areas intended for public uses in parking lot from the street; the barrier will not create a place where people will want to gather because it is out of sight, isolated, and can be perceived as dangerous.
- Be aware of how landscaping may prohibit or make more attractive certain types of use. Evenly spaced trees, for example, would prohibit a circus like that in Prospect Park, while it might attract small vendors for a craft fair as they would potentially be shaded from the sun.
- Combine curb requirements (which ensure car overhangs don’t extend into the sidewalk) with useful pedestrian amenities such as benches. This will serve a dual-purpose and provide greater opportunities for people to congregate or stop at a lot’s edge.
- Instead of having a buffers from parking lots and sidewalks that is filled with vegetation, consider requiring that the buffer must be a ‘use buffer’ which includes...
amenities such as places to sit, places for vendors to set up shop, a spot to read the newspaper, etc. This buffer could still include some landscaping; the requirement however should focus on use of the buffer, not materials used to construct the buffer condition (see Figure 6.3).

- Understand the temporal variations of car use in parking lots; if you are designing a lot for increased people activity during the evening hours, make sure the lighting is appropriate for the intended use (i.e. not highway-style lighting but a more warm, pedestrian-level lighting).
- Be vague enough to allow lots to develop in unique ways, providing opportunities for uses not currently identified as potential activities in lots.

The ideas can help to construct a design framework that is appropriate for the intended use. As cities and towns experiment with ways of constructing use in parking lots, lessons can be shared and mistakes avoided. To date, I have not found any examples of zoning codes or design guidelines which address the potential of mixed use in an explicit way.

**SELL THE VISION AND USE THE SPACE**

As well as using zoning and design guidelines to create greater chances for multiple uses to exist on parking lots, it is equally important to promote the intended use.

1. Stress that the parking lots are not being overtaken and converted to parks; the parking lot will remain.
2. Promote the uses that can happen in the lots around the city. For private developers, this can take the form of saying there is a walking loop, court games, etc. available on site on all but an average of ten days a year, for example, when the visitor parking is typically full. Cities can distribute promotional brochures of open space opportunities, complete with pictures of these new spaces to help advertise the new use and show city support.

*Figure 6.3: Creating edges of lots that double as places to stop and rest*

*Source: Kathleen Ziegenfuss*
3. Encourage users in the space. Events such as “First Fridays” or “Third Thursdays” that typically highlight artists’ studios or local restaurants could be used to promote parking lot activities—much in the vein of block parties, national night outs, and PARK(ing) days. Making the space of interest will help create hype around the events or possible activities and draw new people to the space.

HIERARCHY OF LEVEL OF DIFFICULTY IN IMPLEMENTATION

It is helpful to understand the degree of difficulty which some of the various types of proposed interventions can be implemented. The following list is roughly a reverse-pyramid in nature, starting with the most easily implemented, broad-based strategies ranging down to the most specific, most difficult to implement strategies. The list is taken from the vantage-point of a private lot owner; from a municipal or developers’ perspective options are more straightforward. The degree to which one strategy may be above or below another based on actual location and the political nature of the place of implementation is not covered here, but it is known that this framework would definitely shift depending on real conditions.

Easy strategies, no major infrastructural improvements needed

1. Let people play/socialize in a lot (i.e. do not enforce ‘no trespassing’ signs;)
2. Create play courts in the yard (i.e. four square, basketball);
3. Arrange for lunch trucks or other small vendors to be in a space on a temporary basis;
4. Host an event in a parking lot;

Strategies which require greater means of intervention

5. Introduce small-scale design changes such as raised bollards at seat height instead of low-lying curbs, or increased street edge planters (again at seat height) to encourage stopping on site and socializing;
6. Create a plaza through different surface textures or colors in one part of lot that functions as a socializing space;

Implementation of strategies requires a substantial level of financial or time commitment

7. Create a plaza or ‘natural’ (park-like, green, rain garden, etc) landscape in the lot to function as a pocket park/plaza in a part of the lot, which can occasionally be used for parking; and
8. Install small-scale, ‘temporary’ shells for small businesses along the edge of the lot.

The list is not complete with all the possible ideas or exact in its delineation, but it does provide a framework for understanding the complexity of types of possible interventions.

WHERE WOULD THIS WORK BEST?

The types of places any of these strategies would work best varies. In general, there are some places that have a greater incentive to make more use out of the parking lots than others. The following list highlights qualities of a place that may have more of an impetus for creating more adaptable parking lots.

- **Places which lack open space.**
  Introducing more open spaces, even on a part-time basis, would affect the overall inventory and provide desired amenities.

- **Places with large amounts of young children/teenagers and elderly.**
  There are often few places for teenagers to play or socialize in engaging and creative ways. The somewhat desolate parking lot may be an attractive spot to this group, as well as an ideal place for activities such as skateboarding, which often is undesired in other spaces in the city. Elderly people, on the other hand, would benefit from more places to rest along a journey, or to
congregate with friends.

- **Highly visible, strategic locations.**
  Some of the best real estate is ‘frozen’ in parking lots; working out an arrangement to have a flower stand or other small commercial business on site is an impetus to take advantage of that space.

- **Places where committed visionary has influence and energy.**
  Vision and political will carry much weight, and these people often prove that ideas can work anywhere.

- **Places with limited resources for economic development.**
  The incremental changes which can be accomplished through using parking lots in creative ways can have great spillover effects on a struggling downtown area. Where parking lots abound and vacant storefronts dot the street, focusing on creating temporary, low-scale improvements along the edges of parking lots can help to revitalize the area. Food trucks or other small market stalls can bring needed activity to an area without having to expend large amounts of capital. This can be used as an interim strategy for new business development as well, and is especially important for those areas which are struggling for economic development. Figure 6.4, showing food vendor trucks in Portland provides an example of how this can be accomplished. The quick-scale of implementation can help change the perception of a place in a short time frame.

Figure 6.4: Food trucks line the edge of a parking lot in Portland, Oregon

Source: Sarah Snider
POTENTIAL IMPLEMENTATION

A short analysis on a parking lot in Somerville, MA, shows the multiple options for enhancing a parking lot, and potential ways to initiate and fund the changes. The typology matrix from Chapter 4 includes this lot (on the bottom line); that analysis has helped to form this analysis.

Existing conditions

The parking lot is located at the corner of Somerville Avenue and Medford Streets, and is directly west of McGrath Highway/Route 28. The parking lot services Target, AJ Wright, and Advance Auto Center, which have operating hours from 8:00am-10:00pm Monday-Saturday and 8:00am-9:00pm on Sundays; 9:30am-9:30pm Monday-Saturday, and 11:00am to 8:00pm on Sunday; and 7:30am-9:00pm Monday-Saturday and 9:00am-8:00pm Sunday, respectively. Though the stores are open for much of the day and weekend, the combined parking lot is rarely full. The parking lot holds approximately 321 spaces (based on Google Earth imagery). There tends to always be open spaces in the northeast corner of the lot. There are a number of trees on the northern edge, and along the main 'drive' that splits the parking lot east to west. There are two trees along the eastern edge of the parking lot. The southern edge is the storefronts of Target and AJ Wright, the western is the entrance to Advance Auto Center and a residence, to the north is Somerville Avenue which has a number of small businesses across the street, and to the east is McGrath Highway/Medford Street, which host a car recycling center and a trash-transfer station to the northeast (across McGrath Highway). The Fitchburg commuter rail line runs south of the store complex. Three to four blocks to the west is Union Square, a popular neighborhood with small businesses and many multi-family residences. Union Square is home to the parking lot which hosts such events as the Fluff Festival, the Smell-O-Rama and the Somerville farmers and craft market.

Existing zoning and required spaces

This area is currently zoned as Commercial District (BA), which has the stated purpose: "To establish and preserve business areas bordering main thoroughfares that are attractive to a wide range of uses, including retail business and services, housing, government, professional and medical offices, and places of amusement. While it is anticipated that most users will arrive by motor vehicle, it is intended that the area should be safe.
for and conducive to pedestrian traffic.” Based on casual observations, the development in question attracts customers that arrive via private auto, bus, walking, car sharing and bicycling (in relative order of frequency). The area is also part of an Industrial Park (IP) zoning overlay district, with the stated purpose: “To provide opportunity for development in an environment free of excessive noise, odor, smoke, dust, glare, heat, visual disarray, or other nuisance. The specific goals of the Industrial Park Zoning District are as follows: Encourage the development of light intensity, clean industry, serving the expansion and diversification of the local economy; Provide quality employment opportunities for Somerville residents; Provide appropriate locations with adequate transportation access for light intensity industry; Reduce conflicting land uses which detrimentally affect surrounding properties and neighborhoods. Provide appropriate buffers of greenspace, structural screens between industrial and residential areas; and insure that industrial development is an aesthetic compliment to the City of Somerville.” The development here has taken the tone of the BA district rather than the IP overlay district; the buildings in question are all retail outlets.

The zoning requires the following amount of parking given each use and square footage:

<table>
<thead>
<tr>
<th>Use</th>
<th>Space regulations</th>
<th>Sq ft street level (apprx)</th>
<th>Spaces required</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
<td>1/425 sq ft</td>
<td>85,000 sq ft</td>
<td>200 spaces</td>
</tr>
<tr>
<td>AJ Wright</td>
<td>1/425 sq ft</td>
<td>35,000 sq ft</td>
<td>82 spaces</td>
</tr>
<tr>
<td>Advance Auto</td>
<td>1/425 sq ft</td>
<td>12,500 sq ft</td>
<td>29 spaces</td>
</tr>
</tbody>
</table>

Summing the total number of estimated required spaces, the total equals 311 spaces. Due to the estimation techniques (using Google Earth to approximate building square footages and number of parking spaces), this measures up quite well against the aforementioned 321 spaces. It is assumed that although the parking lot is ‘shared’, there are no benefits in terms of reduction of spaces in the lot.

As noted in the typology matrix, it is estimated that the approximately 320 spaces in the lot cost almost $1.3 million (assuming each spot costs $4,000). The matrix also points out the negative effects of the heavy traffic on Somerville Avenue, Medford Street and Route 28 as potential drawbacks to programming the space.

Existing design guidelines

The city-wide landscaping design regulations govern landscaping on site, whose stated purpose is to: “aid in the separation of incompatible uses from one another so as to reduce negative impacts of glare, noise, dust, odors, and unsightly views, especially on residential areas, and enhance the visual character of the City and its neighborhoods by providing greenery, landscaping and open space.” In theory, this should be of most importance to the west of the lot, where residential buildings border the parking, and where there is no landscaping.

Section 10.4 describes the specific landscaping requirements required for parking lots, and was last amended on August 22, 1991.

Section 10.4. Parking Lot Landscaping Requirements. Where the provision of off-street parking for twenty (20) or more cars is required under the terms of this Ordinance, some of a lot’s minimum landscaped area (as stipulated in Article 8) shall be located so that there shall be landscaped areas within the parking lot and/or immediately adjacent to and within five (5) feet

13 Ibid.
of the perimeter of said parking area(s) in the minimum amount of twenty-four (24) square feet for each parking space. The minimum width of each said area shall be three (3) feet, and the minimum area shall be twenty-four (24) square feet. The required landscaped area need not be contiguous, but it is recommended that no parking space be located more than ninety (90) feet from a landscaped area.

Additionally, there shall be at least some plant material meeting the specifications of Section 10.6 within each separate landscaped area, preferably trees; said trees may be included in computing any total number of trees required in the landscaped area of a lot per Section 10.3. All plant materials in parking areas shall be kept pruned so as to create not hazard to drivers or pedestrians. Some form of water facility or irrigation should be provided to establish and maintain the plants within the parking lot area.

This requirement is met (partially, if not entirely) by the trees along Somerville Avenue and in the center corridor of the parking lot.

Potential changes: zoning and design guidelines
In order to use the excess amount of space (estimated by the author to be about 20% on average), a number of ideas could be explored:

- Allow 20% of the land (potentially in the northeast corner of the lot) to be landscaped in a different way (with different colored asphalt and/or planters) to designate a space of lower automobile use; benches along the perimeter could prove useful for people sitting, as well as provide an amenity for those walking along Somerville Avenue and Medford Streets. This strategy could permit a prototype of deck or patio furniture, provided by Target, which both promotes their products but also provides a space for people to gather.

- Paint a basketball court (or other court game) on top of the stall lines in the northeast, and sponsor a summer basketball mini-tournament for kids or adults in Somerville. The event could be marketed as “Summer Saturdays on Somerville Ave” or another catchy title, much like ‘First Fridays’ art-related events. The event has the potential to attract much attention as the area is heavily trafficked by pedestrians and motorists. The court could also be available for use during off-hours, and basketballs could be raffled off or given away as a way to promote Target’s commitment to the communities they are located within.

- Release a portion of the parking lot to allow small retail establishments (such as a coffee stand or flower shop) to set up shop—temporarily—bordering the sidewalk in the northeast corner of the lot. These structures could be moved if necessary if the parking was needed at a peak time, such as the Friday after Thanksgiving.

These ideas would be attractive to the landowner because of the additional traffic that may come into their lot and stop in for something extra, as well as to the city as any increased revenue translates into increased tax revenues. Also, programming for youth, particularly in an environmental justice area, would be something the city would likely look favorably upon.

Achieving any of the above would first require a change in the management strategy for the land. There are at least two ways of implementing this: from the landowner’s perspective or upon the initiative of the City. The strategy initiated by the landowner may come in the form of a special permit or of the “ask forgiveness, not permission” nature, demonstrating through the action the potential for what is possible on the lot.

As opposed to the landowner-initiated strategy, the City could approach the property owner (through a city-wide call for innovations, or something of that nature) and introduce the idea of creative management for parking lots as a six-month or year-long experimentation.
Is there an ideal physical condition for parking lots to be used as multi-functional spaces?

Some interesting highlights emerge from the examples referenced in this thesis—many successful, formal events tend to happen in lots connected to a strong identifiable place (i.e. a museum, transit station or known square). Also, parking lots which are bounded by buildings seem to reappear as active spaces; the edges of buildings frame the space and make the lots more comfortable. For informal uses, it seems as if deserted spots (i.e. under/near highways, or weekends at rail stations) seem to be popular. It appears that events are able to adjust to the presence of trees or their absence, with some types of events preferring the shade and some needing a more open ‘floorplan’.

Is it possible to have design standards which require flexibility?

The woonerf example gives the greatest example of what could develop. This model creates principles or guidelines and lets the model unfold in each place it is implemented. This type of model is the most desirable because each parking lot varies in use, size, shape, etc. More prescriptive design guidelines would favor one type of use over another and thus limit potential. To summarize: to the extent possible, a set of design guidelines could encourage increasing use, but having a very strict template would deny the full potential of possibilities for the lot.

The closest thing to a design guideline which I believe could work on a general level is the idea of having a phased design; one third (or other predetermined fraction) of the lot would be designed for heavy car parking and would most closely resemble parking lots we see today; another third could be designed as moderate use; this could include such things as grass pavers, a basketball court, or other simple interventions that could be used when not occupied by parking; the final third could be designed more like a park or plaza that would be available for parking should the need arise, though it would clearly be the last resort as suggested by the landscaping and intended use. This could be

Chapter 6: Implementation: The future of multi-functional parking lots

AN IDEAL CONDITION FOR REALIZATION?

After looking at the issue of use in surface parking lots from many different angles, a few theoretical questions remain: Is there an ideal physical condition for parking lots to be used as multi-functional spaces? Is it possible to have design standards which require flexibility? What is the most effective strategy for creating more engaging, well-used and multi-functional parking lots?
accomplished by ‘street’ furniture, planters, materials, and edges. This three-tiered system would both be a more inviting aesthetic resource with added environmental benefits, but also be a way to systematically extract more use out of this vast resource. This type of intervention is most applicable to the lots identified in Chapter 4 as having the greatest potential for multiple use--small urban commercial lots and city block lots.

What is the most effective strategy for creating more engaging, well-used and multi-functional parking lots?

I think the main strategy is to lead by example. Hype up the possibilities and spread the word. Make it happen, again and again. Then strategize for change at a regulatory level if that is deemed necessary, or spend time attracting funds to run events, make small design changes and other small improvements. There is no one effective strategy because the nature of the results are still yet to be imagined—who knows the full extent of what else might happen on parking lots. The interviews conducted for this research alone has sparked new ideas, such as the idea of the Union Square ‘brunch in the square’ with local food vendors.

Without much organized effort people have already created much from little, as the examples in Chapter 3 illustrate. With some additional effort, it may surprise us what parking lots may do to transform our landscapes.

The idea of creating a branding strategy is also key. Considering the potential of what parking lots can become and advertising their social, economic and aesthetic worth has the power to change people’s minds. Whether from a developer’s perspective, a landowners, a business persons, or a municipal perspective, the ability to look at a blank parking lot, a (usually) empty slate, and imagine the possibilities will create more usable and interesting places, in ways both small and large, individual and collective.

IDEAS FOR FURTHER RESEARCH

This research could be continued through investigating the following ideas:

- Temporary ‘bureaucratic-free’ zones and their effectiveness. Track experimental areas and determine if they resulted in permanent changes either in transportation, land use, or regulatory frameworks.
- ‘Sunset clauses’ in zoning and their success. An analysis of the practice and efficiency of using sunset clauses as a way to introduce change in a regulatory framework.
- Liability issues. A more in-depth analysis of the liability issues associated with shared use on parking lots is needed. Though it wasn’t highlighted as a huge issue by those I interviewed, the legality of large-scale implementation would need to be flushed out for many of these ideas to take hold. Public easements on private properties (such as those used on waterfronts, along recreational paths along railroad lines, or on plazas in or surrounding private buildings) are examples of how to frame the land occupied by parking in certain areas as a part of the public realm.
- Shared management structures for communal parking lands. Understand how a management structure such as a Parking Improvement District (PID), modeled after a Business Improvement District (BID), could be funded, managed, and operational. Are there other models to consider? Who would own the land? Would inclusion in a PID be optional, or would some regulatory framework govern its creation?
SUMMARY OF MAIN POINTS

- Keep zoning and design guidelines focused on goals and let the details be worked out by each municipality.
- Lead by example; spread the word on the possibilities of use on parking lots.
- It is better to ask forgiveness than permission. We are still at a point of needing to prove that use on surface parking lots can work well in order to change the regulatory framework. Given this, sometimes you need to bend the norms of how things are usually done and experiment with new ideas.

* * *

It starts with an idea, which catches the imagination of some, and moves forward from there. It is not “if you build it, they will come”. They have not come, to every parking lot, in anticipated numbers. Rather, the saying might go ‘if you use it, it will become’. And so, here is to using it.
REFERENCES

INTERVIEWS, PERSONAL COMMUNICATION AND PUBLIC LECTURES

de Monchaux, John. (Personal communication, April 15, 2009). Professor of Architecture and Planning, Emeritus, MIT School of Architecture and Planning; Cambridge, MA.

Elliott, Beth and Rob Clarksen. (Personal interview, March 25, 2009). Principal Planner and Zoning Specialist, City of Minneapolis; Minneapolis, MN.

Groll, Stephanie. (Personal interview, March 24, 2009). Parking and Transportation Demand Management (PTDM) Planning Officer, City of Cambridge; Cambridge, MA.

Graney, Mimi. (Personal interview, February 27, 2009). Executive Director, Union Square Main Streets; Somerville, MA.


Inam, Aseem. (Personal interview, April 1, 2009). Visiting Lecturer, City Design and Development Group, MIT Department of Urban Studies and Planning; Cambridge, MA.

Inam, Aseem. (Boston Urban Design Studio class lectures, Spring 2009). Visiting Lecturer, City Design and Development Group, MIT Department of Urban Studies and Planning; Cambridge, MA.

Jenkins, Greg. (Personal interview, February 26, 2009). Executive Director, Somerville Arts Council; Somerville, MA.


Madden, Kathy. (Personal interview, March 23, 2009). Senior Vice President, Project for Public Spaces; New York City.

Masters, Madeleine. (Personal interview, February 24, 2009). Planning Director, Office of Strategic Planning and Community Development, City of Somerville; Somerville, MA.

Peñalosa, Enrique. (2009, February 6). What happens when you give street space back to people? Presentation given at MIT’s Center for Transportation and Logistics Lunchtime Lectures: A Distinguished Speaker Series. Cambridge, MA.

Zewde, Sara. (Personal communication, April, 2009). Houstonite.

WORKS CITED


Project for Public Spaces. (n.d.) Transportation is about places. Retrieved March 5, 2009 from http://www.pps.org/transportation/


"IT IS BETTER TO ASK FORGIVENESS THAN PERMISSION".

--Hamilton Clancy, Shakespeare in the Parking Lot