

# **Auto-Oriented Western Cities: Parking Mitigation Techniques and Strategies to Create Better Urban Environments**

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# Abstract

Western American cities struggle with the effects of sprawl; excessive parking lots define the sunbelt city and landscapes still develop to accommodate automobiles. One of the most damaging aspects of auto-oriented cities is the oversupply of parking lots. In order to create more vibrant, multi-modal cities, planners must address current parking lot supply and establish methods to mitigate excessive parking. Through a comprehensive parking inventory, planners may begin to target key areas in the city with high concentrations of parking. Using the parking inventory, revisions can be made to current parking standards to facilitate parking reductions in key areas and city-wide. Further, cities can use parking inventory analyses to revise and update zoning documents to lower parking minimums, establish parking maximums, and create reductive incentives in planning documents. The city of Albuquerque, NM is used to explore the possibilities of parking mitigation within a typical, mid-sized automobile-oriented city. Overall, creating methods to quantify parking spaces can assist planners to realign supply with demand and create better urban landscapes.

## Introduction

Across the United States, cities have expanded and grown in ways unique to their geographic limitations, economic forces, and individual tastes. Many cities along the sunbelt took advantage of ample space and technological advances to build large sprawling cities. The growing prevalence of the automobile not only allowed developers to build well outside of city centers, the automobile drastically changed the scale of the built environment, leading to urban landscapes that sprawled outwards in low-density

structures designed to accommodate a single use. Suburbia may have been born on the east coast, but it thrived in the west. Despite recognition of the negative consequences to auto-oriented development, cities are reluctant to transition away from the urban environments that reinforce their dependence on automobiles. Even with a shift within the transportation planning paradigm towards multi-modal systems, the remnants of automobile-oriented cities are still dominant fixtures in the landscape. Among narrow sidewalks and wide unwalkable streets, surface parking lots are some of the most damaging elements of automobile-oriented landscapes in cities.

Of the many sunbelt cities that exist within the American west, the city of Albuquerque can be representative of many sprawling auto-oriented cities. Like many sunbelt cities, Albuquerque's auto-oriented sprawling development pattern has created vast surplus of parking lots and structures across the city. From shopping centers to sporting venues, structures are surrounded by parking infrastructure that create barriers between pedestrians and destinations. Parking lots have made traveling by other modes incredibly difficult and often makes traveling by car the most convenient option. Parking also creates impermeable surfaces incapable of absorbing stormwater, consumes valuable land that could be used for development, and costs millions of dollars in maintenance and operations far into the future.

Despite long-present growth patterns, transportation planning trends suggest a shift in the planning paradigm towards greater access through multi-modal systems serving all types of travelers. With this shift, cities will no longer need miles of surface parking to meet demand. Other cities began shifting towards policy and regulations, transitioning from traditional automobile-dominated landscapes towards multi-modal

transportation-oriented development. Specifically, dozens of cities have moved towards lowering or removing minimum parking requirements from zoning codes, implementing parking maximums, changing parking design layout, and utilizing parking lots for other uses. These policy changes have allowed cities to reclaim underutilized land occupied by parking for more productive uses.

Western cities previously dominated by automobiles have taken steps towards implementing policy changes that may change how cities develop. Albuquerque has recently made great steps toward reducing parking in the city. After rewriting the city's zoning code --the Integrated Development Ordinance (IDO) --the city has removed parking minimums completely from historic district overlays like Downtown, Nob Hill, Old Town, McClennan Park, and Barelás as a means to maintain physical character and reduce impacts made by personal vehicle use. The city based parking requirements off land use, implemented maximum parking requirements, and reduced minimums for some land uses. Moving forward, the city must address not only future parking construction, but create plans to reuse oversized or unutilized parking lots. In order to create a more equitable, walkable city, Albuquerque needs to create pleasant walking environments which make walking and biking accessible and convenient. Removing and adapting unnecessary parking, the city can work towards the greater goal of walkable, equitable landscapes.

Albuquerque – and western cities like it - can pursue this grander goal through many methods proposed by academics and tested in other cities. First, the city should conduct a parking inventory in order to understand the grander scope of the problem, identify key areas for redevelopment, and estimate land value for surface parking to

contextualize the problem for stakeholders. When the scope of the problem is better understood and contextualized, there is greater possibility for change to occur. Second, parking minimums and maximums should be applied more broadly, especially within key areas identified by the parking inventory. Finally, cities may benefit from exploring flexible use and establishing flexible zoning code requirements within establish parking infrastructure. Through pop-up events, shared parking, or conversion of surface parking into parklets, cities could create vibrant public space where it has never existed before. There are multiple methods to approach excess parking but this effort requires collaboration between city officials and developers. However, the benefits of creating vibrant public space within previously inactivated areas may transform underutilized parking into valuable community space.

This paper explores methods to identify and mitigate excessive parking lots using the city of Albuquerque as representative of many western sprawling cities in the United States. In order to address sprawl and transform auto-oriented landscapes, surface parking needs to be reimagined through a multi-faceted approach which intends to address supply and demand city-wide.

## Parking and Its Problems

Current parking design practices carried into present day development from former development patterns of the 1950s automobile-dominated America where cities-- provided huge investments in infrastructure. Popular destinations were surrounded by large swaths of asphalt, parking garages, wide streets, and other road infrastructure. America's huge investment in the automobile still manifests itself in the built environment today. However, with the threat of climate change and the effects of

sprawl, the world is beginning to see the consequences of an automobile oriented landscape. Cities continue to adhere to remnants of America's enthusiastic investments into the automobile in the forms of parking minimum requirements and construction of roads, however, new policy strives to establish a new paradigm in transportation.

## Literature Review

Donald Shoup is the leading scholar in the market impacts of surface parking and has written the cornerstone book *The High Cost of Free Parking* (2011) in which Shoup discusses the consequences of excessive parking in cities. In his research he finds many cities produce excessive amounts of parking that is not only detrimental to people and businesses, but costs cities millions of dollars. Shoup proposes three changes to reduce the amount of created parking: charge fair market prices for on-street parking, spend revenue to benefit metered neighborhoods, and remove off-street parking requirements (Shoup, 2016, 20). These proposals have been used by multiple cities to some degree and have been met with varying degrees of success, which is discussed in his newest book *Parking and the City* (2018). In his analysis, Shoup claims parking lots should adjust pricing to continuously remain at 85% capacity and cities should determine, based upon peak hours and use, how much parking should cost at different time of the day to optimize supply and demand (Shoup, 2011). Shoup argues market forces are the best instrument to mitigate parking needs in cities and, by providing free parking, cities continue to reinforce car usage and surface lots will continue to destroy the urban landscape by creating car-dominated public space. Shoup's market analysis illustrates the problem and provides methods to combat negative outcomes.

Along with Donald Shoup, the Victoria Transit Policy Institute (VTPI) has conducted research to identify different costs generated by parking. In its document *Transportation Cost and Benefit Analysis--Parking Cost* (2018), VTPI calculates land area and value, construction and maintenance costs, environmental costs, and equity and efficiency among other analyses. In the document, VTPI found approximately 4.97% of urban land is dedicated to parking and is especially concentrated in Central Business Districts (CBDs). The construction and maintenance costs of parking depend upon the size, shape, topography, design, and location of parking. On average, surface parking spaces can cost anywhere from \$670 to \$4,000 per space annually depending on its location (VTPI, 2018, 28). In a study conducted in twelve cities in the United States, they calculated parking cost on average \$103 and \$74 per square foot for spaces underground and above ground respectively (Shoup, 2016). Per parking space, construction costs averaged around \$34,000 and \$24,000 underground and above ground respectively (Shoup, 2016). Beside construction costs, the VTPI also researched the social costs of parking spaces. “There is some debate among economists as to whether unpriced parking should be considered a *subsidy*,” VTIP states, “since most of these costs are ultimately borne onto motorists through ‘housing costs, taxes, retail purchases and as a portion of employment benefits’ as a bundled good” (VTIP, 2018, 28). This rises the question; who pays for parking? Based on subsidy analysis, everyone does, regardless of use. When costs are externalized, it becomes apparent much of the costs are not just held by motorists, but by non-motorists as well.

*Table 1 Sharnhorst (2018) compares parking spaces to population and household value in five cities*

	New York City	Philadelphia	Seattle	De Moines	Jackson Hole
Population	8,537,673	1,567,872	704,352	215,472	10,529
Parking Spaces	1,965,377	2,172,896	1,596,289	1,613,659	100,119
Spaces Per Household	0.6	3.7	5.2	19.4	27.1
Total Value	\$20.55 billion	\$17.46 billion	\$35.46 billion	\$6.42 billion	\$711 million
Value Per HH	\$6,570	\$29,974	\$117,677	\$77,165	\$192,138

Recently, Eric Sharnhorst (2018) in conjunction with the Research Institute for Housing America, conducted a parking inventory in five cities around the country: New York City, Philadelphia, Seattle, Des Moines, and Jackson Hole. Sharnhorst compared parking stall density to housing density to not only evaluate excess parking, but quantify land value and the costs externalized onto homeowners. All cities, excluding New York, illustrate extremely dense parking in key parts of the city that often do not reflect housing density. The inventory suggests cities and homeowners are paying for parking whether they need it or not. In Seattle, the total value of parking is estimated to be \$35.79 billion, despite the fact that the city has 1,596,289 parking spaces for a population of 704,352. This translates to 5.2 spaces per household and an externalized cost of \$117,677 per household (Sharnhorst, 2018). Des Moines and Jackson Hole have dramatically higher parking densities with 19.4 and 27.1 spaces per household respectively. Although this inventory was only conducted on five cities, it is not unreasonable to believe this pattern persists in other cities across the country. Further, this analysis did not study auto-oriented cities from the southwest. Regardless, Sharnhorst's inventory presents a truth known but never quantified: cities have too much parking.

## Parking Management Strategies

VTPI proposed ten parking management principles to create better parking management strategies in the document *Parking Management: Strategies, Evaluation, and Planning* (Litman, 2016). These strategies are listed in the table below.

*Table 2 Litman (2016) Ten parking management strategies.*

Consumer choice	People should have viable parking and travel options.
User Information	Motorists should have information on their parking and travel options.
Sharing	Parking facilities should serve multiple users and destinations.
Efficient utilization	Parking facilities should be sized and managed so spaces are frequently occupied.
Flexibility	Parking plans should accommodate uncertainty and change.
Prioritization	The most desirable spaces should be managed to favor higher-priority uses.
Pricing	As much as possible, users should pay directly for the parking facilities they use.
Peak management	Special efforts should be made to deal with peak-demand.
Quality vs. Quantity	Parking facility quality should be considered as important as quantity, including aesthetics, security, accessibility, and user information.
Comprehensive analysis	All significant costs and benefits should be considered in parking planning.

Through these management strategies, VTPI describes a new parking paradigm which “strives to provide *optimal* parking supply and price” in a manner that maximizes supply and minimizes price for motorists and property owners (Litman, 2016, 7). The new parking paradigm is reflective of individual parking needs of building use and traffic while encouraging the shift towards a wider definition of “transportation” that is multi-

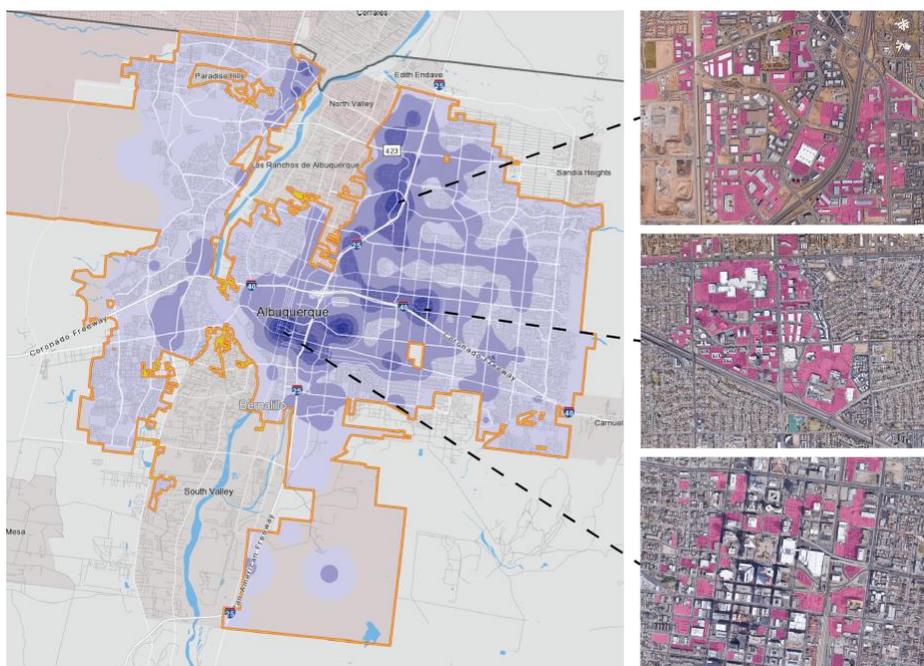
modal and accessible. Litman discusses a variety of parking management strategies including shared parking, more accurate and flexible standards, updated parking regulations, and other policy changes (Litman, 2016). Overall, parking management supports flexible systems which value land use efficiency over automobile-oriented landscapes.

Using the ten management strategies, western cities like Albuquerque can begin to mitigate parking excess while taking into account future growth and development. This next section provides further context into Albuquerque's parking, its zoning ordinances' role in excessive parking creation, and how the city intends to address the problem in the future.

## Parking in Albuquerque

In the city of Albuquerque, sprawling development patterns lend itself to excessive surface parking. Characteristically, the city's primary residential areas are separated from major employment centers. Thus, employees must commute long distances in their personal vehicles to get to work, necessitating high levels of parking near high employment centers. In an initial aerial analysis of high employment centers, there appears to be a high concentration of surface parking surrounding places of employment (see Figure 1).

Figure 1 A surface parking analysis of the three highest employment concentration centers in Albuquerque (from top to bottom): Journal Center, Uptown, and Downtown



The Journal Center is one of the primary employment centers in the city and accommodates anticipated parking needs, yet many lots sit empty and underutilized. Uptown suffers from similar circumstances; however, the area features a wider mix of uses. Regardless, most of the parking created in Uptown remains empty and underutilized throughout the year. Downtown has benefitted from the historic overlay zoning ordinance and has succeeded in keeping large lot development at bay, yet structures farther away from Central Ave (the city's core transit corridor) tend to provide larger lots. Although this is not a comprehensive analysis of all parking spaces, these figures still illustrate some of the large surface parking spaces that developed based upon parking standards in the city's former zoning code.

## Regulatory Documents

In 2017, the city implemented a new zoning code, the IDO. The IDO intends to facilitate transportation-oriented development while guiding the city towards greater

density in some places and more sustainable growth patterns. However, much of the development patterns seen today are the product of previous land use practices and the Comprehensive City Zoning Code written in the 1970s and used until 2016. Comparing the Comprehensive Zoning Code and the IDO illuminates the source of Albuquerque's development patterns and shows how the latter intends to change land use patterns to create better outcomes.

Both planning documents regulate parking requirements based upon land use and size; however, the IDO is more specific in both use and size requirements. The Comprehensive City Zoning Code is more general with its definition of use and did not specify a wide variety of uses. The IDO on the other hand, is more specific with uses and parking need calculations. The specificity of use allows some land uses to construct parking amounts that reflects projected traffic. On average, the IDO does not require as much parking as the Comprehensive Zoning Code requires.

In addition to parking minimums, the IDO applies parking maximums in some uses and removes parking minimums for others. The Comprehensive City Zoning Code did not require off-street parking in Downtown and Old Town historic overlay zones but the IDO expands this exemption to other districts (the McClellan Park area, Barelas, and Nob Hill). The IDO also provides ways for developers to reduce parking requirements: general reductions for Urban Centers and Main Street Areas, shared parking reductions, reduction for proximity to transit, electric vehicle charging station credit, van and car pool parking credit, on-street parking credit, off-site parking allowance, public parking allowance, and parking study allowances. The

Comprehensive City Code on the other hand, only offered transit reductions, mixed use shared parking reductions, and on-street parking credits.

Overall, the IDO made great steps towards reducing parking requirements for the city and integrates more alternatives for developers to reduce their required parking when accounting for mass transit services, historical context, alternative modes of transit, and flexible use of parking. Figure 4 provides a comparison of parking requirements for selected land uses for both documents.

*Table 3 Comprehensive City Zoning Code Compared to the Integrated Zoning Ordinance*

Comprehensive City Zoning Code	Integrated Development Ordinance
Retail and services (unless otherwise specified in this section): <b>one space per 200 square feet</b> for the first 15,000 square feet of net leasable area; then, <b>one space per 250 square feet</b> for the next 45,000 square feet of net leasable area; then, <b>one space per 300 square feet</b> for the net leasable area that exceeds 60,000 square feet.	Adult retail/Bakery goods: <b>4 spaces/ 1,000 sq. ft. GFA</b>
	Building & home improvement materials store: <b>2 space/1,000 sq. ft. GFA</b>
	General retail/Grocery Spaces: <b>4 space/1,000 sq. ft. GFA</b> UC-MS-PT: 2.5 spaces / 1,000 sq. ft. GFA Maximum (UC-MS-PT): 4 spaces / 1,000 sq. ft. GFA for primary buildings with more than 100,000 sq. ft. GFA
	Liquor retail: <b>4 spaces/1,000 sq. ft. GFA</b>
	Pawn Shop: <b>4 spaces/1,000 sq. ft. GFA</b>
Manufacturing and wholesaling: <b>one</b>	Artisan manufacturing: <b>3 spaces / 1,000</b>

<b>space for each three employees</b> on the largest shift or <b>one space per 1,000 square feet of net leasable area</b> , whichever requirement is greater.	<b>sq. ft. GFA</b>
	Light Manufacturing: <b>1 space / 1,000 sq. ft. GFA</b>
	Heavy manufacturing: <b>1 space / 5,000 sq. ft. GFA</b>
	Natural resource extraction: No requirement
	Special manufacturing: <b>1 space / 1,000 sq. ft. GFA</b>
Office: <b>one space per 200 square feet of net leasable area on the ground floor</b> and <b>one space per 300 square feet</b> of net leasable area in the basement areas and on all floors above the ground.	Office: <b>3.5 spaces / 1,000 sq. ft. GFA</b> UC-MS-PT: <b>2.5 spaces / 1,000 sq. ft. GFA</b> <u>Maximum</u> (UC-MS-PT): <u>4 spaces / 1,000 sq. ft. GFA</u> for primary buildings with more than 100,000 sq. ft. GFA

In addition, this comparison illuminates a dissonance between perceived need and actual need. In order to prepare for actual need, cities must maintain an up-to-date comprehensive code which reflects needs for the city.

## Recommendations

To create more multi modal cities and continue aspirations to reduce surface parking, cities like Albuquerque must see parking as flexible space with variable use and design. These recommendations provide methods to mitigate future parking growth and apply new use to surplus parking.

## Parking Inventory and Evaluation

A parking inventory should be considered to determine areas most affected by excessive parking. By quantifying the amount of existing parking in the city, the land can be valued and assessed for potential future use. Placing value on parking may motivate city officials, businesses, developers, and citizens to work towards more efficient use of space that reflects intended future development patterns.

Once an inventory is complete, Sharnhorst's methods may be applied to evaluate conditions in Albuquerque. First, Sharnhorst established a study area based on the U.S. Census 2017 place geometry (Census Shapefile) to find boundaries, population, and land area. Second, Sharnhorst separated parking type into three categories: on-street parking, off-street surface, and off-street structured. However, in the case for Albuquerque, there appears to be no existing parking data either with the city or with Bernalillo County. To calculate land value and estimated replacement cost, Sharnhorst combined parcel geometries with an assessed land value, then summarized price based on a 0.5 square kilometer hexagon. Sharnhorst then compared hexagon parking densities with hexagon land values to calculate estimated land value.

### *Benefits*

With an in-depth parking inventory, the city could have a better understanding of parking over-supply issues and may identify key areas where intervention is most needed. In addition, placing a monetary value on parking space gives proper context to the problem and allows people to comprehend how much land value is lost with surface parking. The inventory and evaluation also provide land owners with an estimated land value for parking spaces that they may consider for future redevelopment.

## *Challenges*

Sharnhorst's analysis received funding from the Mortgage Bankers Association and utilized existing GIS resources from all five cities. Albuquerque does not have such existing resources and must conduct the inventory using other means, or by building a comprehensive database.

## **Review and Revise Parking Standards**

Removing parking minimums was the primary recommendation made by Donald Shoup in an attempt to minimize parking lot spaces. Shoup (2016) found developers are often forced through parking minimums to construct large parking lots that are unlikely to reach full capacity and cost more to build. Therefore, Shoup theorized if parking minimums were removed, developers will allow market forces to determine how much parking they really need. The city of Buffalo, NY was the first city in the United States to remove minimum parking requirements completely from their zoning code (Poon, 2017). Their zoning code was a representation of automobile-oriented code, originating in 1953 but now utilizes a new form-based code system that intends to make the city of Buffalo more sustainable (Poon, 2017).

Albuquerque has also moved towards removing minimum parking requirements in Downtown, Old Town, and Nob Hill. By removing parking minimums, developers are not held liable to provide parking for customers, considering there is already plenty of on-street and off-street parking options in these districts.

Using the parking inventory, Albuquerque should continue efforts to remove minimum parking requirements in key neighborhoods and districts around the city. Large shopping districts like Uptown and the Northeast Heights, and large office centers

like Journal Campus may be potential candidates for parking reductions based on satellite imagery vast amounts of underutilized parking. In emerging communities, parking minimums should be removed completely to allow market forces to determine need. Currently, the IDO provides multiple ways for developers to avoid excessive parking but it should expand these efforts to key areas identified in the inventory.

For example, the city could implement more parking maximums. In the IDO there are two uses with parking maximums--office and general retail--which cap parking at 4 spaces/1000 sq ft of GFA (Gross Floor Area) for primary buildings with more than 100,000 sq. ft. of GFA. However, a study in London by Guo and Ren (2012) implied removing minimums is still more effective than implementing maximums; their study found minimums almost double the amount of parking developers would've voluntarily provided. Although parking maximums may help ensure parking remains below particular boundaries, the removal of parking minimums may still be the most effective measure for parking reductions.

### *Benefits*

If parking minimums are further revised, developers will be incentivized to conduct their own site context analyses and provide only the necessary amount of parking based upon market needs. Businesses will be enabled to negotiate with adjacent businesses to determine how much parking is needed to supply both businesses with needed parking. Businesses will also save money in initial build-out costs and long-term maintenance costs on unnecessary surface parking.

### *Challenges*

Having too little parking may cause just as many problems as it solves.

Businesses will still need to provide parking to comply with ADA accessibility and must consider future growth in their assessments. Right-sizing parking space will take trial and error on the developer's part and may require additional parking construction in the future. However, at the moment, Albuquerque is still an auto-centric city with excessive parking. Gaining the political will to withstand pushback and challenge parking norms may be the biggest challenge in advocating for revised parking standards.

## Encourage Flexible Parking Lot Use

Wherever surface parking exists, that land is dedicated solely to parking use. Many of these prior recommendations require time, political will, money, and education to implement. But in the short-term, parking spaces can be used by local vendors and host events for pop-up purposes. Parking located near heavily trafficked areas hold the opportunity for local vendors to use parking as a place to congregate and operate. Popular pop-up uses across the country include: food truck parks, parklets, markets, and hosting large events. In Albuquerque, designating areas for food trucks along employment hubs may create greater use of parking lots.

Some destinations can be more successful than others in establishing food truck parks. Activity hubs like Journal Center have high concentrations of jobs with a very low concentration of food options. Figure 5 shows food options as red icons. As illustrated, there are little food options near offices located between Masthead Rd and Paseo del Norte. During lunch time, this causes high congestion on streets and nearby restaurants. If food trucks were given a designated area in Journal Center to gather and

provide services, this will help curb congestion, provide services to an underserved area, and activate underutilized space.

Figure 2 Journal Center food options



Along with pop-up use, flexible use of parking based on peak hours will allow adjacent businesses to share parking rather than requiring individual lots. Shared parking requires partnerships between businesses with different peak hours like office buildings operating on weekdays 9-5 pm and restaurants and theaters which tend to be busy during the evenings and weekends (Litman, 2016). Although Albuquerque does allow shared parking credits,

they could use the parking inventory to determine key areas where shared parking would operate best.

Table 4 Different peak demand times for various uses (VTIP, 2016)

Weekday	Evening	Weekend
Banks and public services	Auditoriums	Religious Institutions
Offices and other worksites	Bars and dance halls	Parks
Park & Ride facilities	Meeting halls	Shops and malls
Schools, daycare centers and Colleges	Restaurants	
Factories and Distribution centers	Theaters	
Medical clinics	Hotels	
Professional services		

## *Benefits*

Creating space specifically for pop-up activities invites users to activate a space that is being underutilized. It allows local businesses to access markets they have not been able to and spur business. It may also reduce congestion during lunch period as employees may opt to frequent food trucks rather than drive to surrounding restaurants. Peak use management will allow businesses with complementary hours of operation to share parking rather than building their own infrastructure. This will save both businesses money and facilitate collaborative mixed use.

## *Challenges*

It may be difficult to convince office building owners to allow food trucks to frequent parking lots and food truck owners will have to negotiate with businesses to determine best place for operation. Shared parking will also require negotiation between businesses. This option can utilize governmental assistance in permit creation but overall, requires private investment of time and resources.

## **Summary**

Although these methods are demonstrated within the context of Albuquerque, many of these methods can be widely applied to other cities, especially along the sunbelt. Within western cities, a comprehensive parking inventory, evaluation, and revision of parking standards could make an immense impact on the urban landscape for years to come. This summary presents the primary goals each mitigation method.

### *Parking Inventory*

- Conduct a parking inventory to target key areas and determine highest concentration of parking

- Utilize On The Map analysis to determine if housing or work concentration correlate with parking inventory
- Place monetary value on parking lots to incentivize parking reductions
- Evaluate parking inventory to target key areas in the city with excessive parking

#### *Revise Parking Standards*

- Use parking inventory to determine key districts and neighborhoods in the city to remove parking minimums. Implementation should target locations.
- Use parking maximums as supplemental tools to keep parking below a determined limit but still rely upon minimum removals. Implementation should target land use.

#### *Encourage Flexible Use in Parking Lots*

- Encourage pop-up use by local vendors for markets, vending, and events
- Establish larger shared parking practice using peak management methods
- Recalculate parking needs using new IDO requirements and allow developers to redevelop excess parking

## Next Steps

Overall, creating parking standards based upon supply and demand depends upon city and regional context: growth rates, existing development patterns, existing zoning code, future goals and aspirations for the city. First and foremost, cities could benefit from revisiting their comprehensive plans and determine if their parking requirements reflect how they wish for land development to occur and surface parking to be provided in the future. However, a parking inventory may illuminate other opportunities for cities to pursue in the future. Based upon the resources available to

cities, they should consider conducting a parking inventory to determine where to concentrate their efforts. Growth is an essential consideration when determining best course of action. Rapidly growing cities may see better results with modifications to their zoning code first before conducting a parking inventory. Cities with slower growth like Albuquerque may wish to begin with the parking inventory as it allows cities to analyze existing infrastructure rather than prepare for new development. Using regional context and future goals, western cities can begin to shape their environments in ways that compliment multi-modal transportation and facilitate efficient land use.

## Conclusion

The new transportation paradigm, as articulated by Todd Litman of VTPI, calls for new innovative ways to increase multi-modal transportation access for everyone. Although cities have made great strides in mass transit systems, bicycle infrastructure, and pedestrian safety, not much emphasis has been placed on excessive surface parking lots. For the past century, cities have shaped themselves around automobile needs and other modes of transportation have suffered the consequences. In order to create a more robust urban environment, the City of Albuquerque needs to consider densification through reutilization of parking space, prevention of excessive parking, and activation of underutilized space. Through this new planning method, western cities can prepare for multi-modal urban landscapes while addressing issues from past transportation planning paradigms.

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