

City Fleet Vehicles and Car-Sharing: A Fiscal and Philosophical Case for the City of Los Angeles

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Abstract

The current conditions in Downtown Los Angeles make it the perfect site for implementation of new strategies in mobility. A rapidly growing residential population is being densely placed next to existing City of Los Angeles office buildings, many of which have fleet vehicles that lie dormant overnight and on weekends. By taking the lead in car-sharing uptake, the city would be able to cut costs while at the same time providing environmentally friendly mobility for new Downtown residents.

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Background

What is Car-Sharing?

The concept of car-sharing is a simple one: not all people need to own a car all the time, but most need a vehicle some of the time. Car-sharing services provide the partial ownership to fill this gap. Users will pay some fee to become a member of the program, and then are able to reserve time, usually by the hour, in one of a number of cars placed around a metropolitan area. In this way cars are available to individuals who need them, and who may not find it economically worthwhile to own a personal automobile. A car-sharing service might place cars next to residential clusters, office clusters, retail, public transportation infrastructure, or any combination of the above. Since users have to travel to the vehicle before being able to use it, high density and strategic placement of vehicles are usually seen as requirements for a car-sharing service to be successful.

Though Europe was the place where car-sharing first caught on, similar services in the United States have taken root more recently. The first modern car-sharing service started in Switzerland in 1987. In 1997 the concept was taken national and Mobility CarSharing was formed. As of January, 2004, the service had 52,000 members sharing 1,700 vehicles nationwide¹. The service has created efficiencies by partnering with the public transportation and retail sectors. The Swiss railway company SBB provides Mobility CarSharing with parking spaces at its stations. Grocer Migros has a similar partnership to provide spaces. These relationships offer Mobility CarSharing better access

¹<http://www.carclubs.org.uk/carclubs/international-carclubs.htm>

to likely use locations, while providing the partnering groups with higher utilization rates by the car-share's customers².

In the 1990's several car-share companies started in the United States. Most started as projects of the regional public transportation provider and then were spun off to become their own corporations. Flexcar, the United States largest car-sharing company, started as a project of the King County Department of Transportation in the Seattle, Washington, area. It now operates as a for-profit corporation with cars in six major United States metropolitan areas, including Los Angeles. Other non-profit car-sharing corporations include Berkeley's City CarShare and Philadelphia's PhillyCarShare.

The Urbanization of Downtown Los Angeles

Los Angeles has long been thought of as the city of sprawl. After World War II the city rapidly invaded the previously-unpopulated San Fernando valley. In the process the city went from having 2500 miles of roads to nearly 6500 miles. The footprints of many major United States cities could all fit inside the city of Los Angeles together. Though the city used to have one of the world's greatest public transit systems and the county Metropolitan Transportation Authority (MTA) today operates thousands of miles of bus and train routes, the vast nature of Los Angeles has almost indelibly associated it with the automobile in the minds of the world.

It is in this context that Downtown Los Angeles stands alone in the city as a location for density. After its peak in the 1940's, Downtown spent decades on the decline. The late 1980's and the early 1990's found the area with scores

²Bharma, Tracy, and Frank van der Zwan. "Services marketing: Taking up the sustainable development challenge." *The Journal of Services Marketing* 7.4/5 (2003): 341-357.

of empty and underutilized office buildings. Though a building boom of the 1980's left Downtown's new central business district with a high-rise skyline, the other older areas of Downtown suffered. Various civic projects to resurrect the area failed to achieve any measure of success.

In 1999 the pendulum swung back toward progress with the passage of the Adaptive Reuse Ordinance. This gave developers the incentive to resurrect old buildings by offering expedited review of plans and exemption from many of the requirements placed on new construction. Developer Tom Gilmore pioneered the redevelopment of historic Downtown with his Old Bank District project, a mix of ground-floor retail and housing that encompassed multiple buildings all centered around a single city block. Gilmore's pioneering success brought an impressive surge in residential development Downtown. In the past five years close to five thousand units of housing have opened, and in the works are thousands more.

Market Forces and Transit Use

One of the requirements relaxed by the Adaptive Reuse Ordinance concerned the number of parking spaces required to be provided for residential development. The construction of extensive parking facilities in historic buildings would have added immense costs to conversion projects, so the lifting of these requirements was instrumental in spurring development. However, the resulting influx of residents who brought with them their existing habits of automobile ownership has led the cost of parking Downtown to rise quickly. Monthly parking spaces in the Historic Core area of Downtown average between \$110 and \$150 per month. This expense quickly adds to the already high price of

Downtown apartments and condominiums.

Downtown is also uniquely positioned in Los Angeles at the core of the city and county's public transportation network. Bus routes and rail lines all converge on Downtown. Many who work in the area already use public transportation to avoid the overcrowded freeways and arrive at their offices car-free. Much of this infrastructure is geared toward the business world. Many bus routes stop running in the evening, particularly the well-liked Downtown DASH routes serviced by the Los Angeles Department of Transportation (LADOT). Missing is the infrastructure to enable Downtown residents to make trips to the grocery store and shopping malls without owning an automobile. For residential users, this is a void that could be serviced through car-sharing services.

The Cost of City Fleet Usage

The City of Los Angeles operates an extensive fleet made up of vehicles that come in all shapes and sizes. The Department of General Services, which procures and maintains city fleet vehicles, lists the total fleet size at 9,000 vehicles³. Though that number includes many specialty vehicles, a good number of the fleet vehicles are typical passenger cars used by city employees to get around during the day. A large number of these cars are used only a few hours out of the day. Many sit unused each evening and weekend in parking levels underneath city offices.

These fleet vehicles are not cheap to own and operate. The City of Los Angeles annually budgets thirty million dollars for fleet replacement. Of that

³<http://www.lacity.org/GSD/fleetabout.htm>

it recovers only a fraction in scrap sales. The city has made the environmentally sound decision to purchase hybrids as its standard replacement sedan, but that choice comes with a price tag of \$22,000 per vehicle. Once the vehicle is purchased, it then must be kept maintained and full of gas. These expenses total approximately \$1,200 per year for each vehicle. The vehicle must then be parked. Depending on the office, the parking structure may be owned by either the city or a private entity. In the former case there is no direct charge, while in the latter the city negotiates parking spaces into its lease arrangements. Regardless of whether the cost is direct or indirect, there is a cost involved in having the vehicle parked and occupying a precious space.⁴ Insurance is another expense that does not appear directly in the financial books. The City of Los Angeles, like many cities, self-insures. It must still budget a certain amount per vehicle to cover the city's liability in the case of an accident involving a fleet vehicle.⁵ Standard sedans are assumed to have a five to six year lifetime, after which point they are replaced. Totalled, these costs come to \$36,400 per vehicle over a five year lifetime, or \$39,280 over six years. When multiplied out over the number of sedans in the city fleet, these costs quickly form a substantial drain on the budget.

⁴For the purposes of cost comparison, a parking cost of \$90 per month has been used.

⁵The City of Los Angeles does not break out insurance costs on a per-unit basis. The \$600 per year cost used in this analysis is an estimation based on conversation with other municipalities.

A Fiscal Case

The Basics of Fleet Replacement

Several cities around the United States have begun to explore the advantages of replacing select city fleet vehicles with subscriptions to a car-sharing service. These subscriptions can take one of two forms: either the agency can utilize the normal cars provided by the car-sharing service, or it can pay extra to have cars dedicated to its use during certain hours and released to the public during times when agency usage would be minimal or non-existent. In either case the car-sharing company takes the expense of maintenance and gasoline, giving the city either a flat monthly rate or a cost per hour.

The simple model of subscribing to use cars already placed in the area is quite predictably the one which results in lowest costs to the city. Only the hours used are paid for, eliminating inefficiencies that result from an idle dedicated car. However, this model requires specific conditions to exist in order for it to be executed successfully. First, the local area must have a well-established car-sharing agency. There must be a variety of vehicle choices in the immediate area of participating offices, in order to assure that an employee in need of a vehicle does not find all choices unavailable. Second, city usage of the vehicle should be casual and able to be planned well in advance. A city employee is undoubtedly going to be left with a bad impression of car-sharing if she find that the one vehicle she relies on has been reserved for the entire day by a local resident. If however, her only use of the vehicle is to attend a monthly meeting on the other side of town, that usage can easily be accommodated by making a reservation well in advance. Similarly, if there are several other vehicles

within an easy walk of her office, she is unlikely to resist taking a different vehicle. When these conditions exist, a simple subscription can provide very reasonable mobility to city agencies.

In Los Angeles the conditions to allow a simple subscription model do not exist, meaning that the city is better served to examine a model that provides dedicated vehicles. Car-sharing company Flexcar does operate in the Los Angeles area, but only on a highly limited basis. A tiny handful of cars are located in the Downtown area, but not in locations or numbers that are amenable to use by those working in city offices. Therefore, the city would need to look at vehicles dedicated for its use during the day. Since the city would be the primary user of such vehicles, it would be able to place them in the locations where they would be most useful. The terms for these dedicated vehicles are flexible. Some vehicles could be dedicated for city use from the start of business on Monday until its close on Friday, while others could be made available to the public on weeknights. In either case the vehicle is only available to designated personnel for reservation during the dedicated period.

The efficiencies that can be realized through the use of a modern reservation system allow agencies moving to car-sharing to greatly reduce the number of vehicles they need to have available. Typically the usage of three well-selected fleet vehicles can be combined into one car-sharing vehicle. This combination has direct financial impact through the reduction in required parking spaces. As mentioned earlier, parking prices in the Downtown area have risen greatly in the past years. Combining three fleet vehicles into one car-sharing vehicle not only cuts out the cost of two parking spaces, it in turn opens those spaces to revenue use⁶. For structures owned by the city, this opens more

⁶In fact, such an arrangement can often result in cutting the cost of all three spaces, as some

spaces for employee and public use.

Selecting Vehicles for Replacement

Some fleet vehicles are much better candidates for car-sharing consolidation than others. Car-sharing relies on extracting efficiencies through smarter use of limited resources, and vehicles in constant use have little to offer. In any given fleet there are always vehicles less used than others, however, and these are the targets that should be focused on when looking to engage a car-sharing model. The City of Berkeley, for instance, looked for fleet vehicles that were getting around three thousand miles per year put on them. It was able to realize a 3-1 reduction in required vehicles by combining usage into vehicles then expected to average ten thousand miles per year. The reservation system allows users to easily schedule a vehicle for the times they require, while high-tech entry systems allow users to access the vehicle using individual membership cards.

Car-sharing membership can also be used to replace expensive leased vehicles. Typically the city purchases fleet vehicles through General Services, but some funding sources such as short-term grants do not allow such capital expenditures. Car-sharing, since it can be costed as a normal business expense, can allow departments with such funding sources to meet their mobility demands without wasting funds on lease vehicles that add non-standard maintenance demands to General Services. In the car-sharing model all maintenance becomes the responsibility of the company, lifting that burden from the city.

car-sharing agencies such as Flexcar pay for the parking themselves.

Case Studies in the United States

Several cities in the United States offer interesting case studies that show findings applicable to car-sharing replacement of city fleet vehicles Downtown.

City of Berkeley, CA

The City of Berkeley in 2004 launched a program to replace fifteen fleet vehicles with five cars from local service City CarShare. Over the course of three years the city expects to save \$400,000.

City of Pasadena, CA

The City of Pasadena just this year launched a pilot program, looking to replace some use of fleet vehicles with service from Flexcar. The first phase of the project was limited to a simple subscription model, and was deemed insufficient. Currently the city's Department of Transportation is working to get departments involved in another pilot program that would make a dedicated Flexcar available to the city during working hours.

City of Philadelphia, PA

The City of Philadelphia has the most ambitious program in the United States to replace city fleet vehicles with car-sharing cars. Announced in April of last year, the program is designed to replace four hundred fleet vehicles with cars from local provider PhillyCarShare. Thanks to the dense placement of vehicles operated by PhillyCarShare, the city was able to utilize a simple subscription model.

A Sample Cost Comparison

Consider the following cost comparison, showing a program that would take thirty city fleet vehicles and replace them with ten dedicated vehicles from Flexcar⁷. Here a six-year lifetime is assumed for purchased fleet vehicles. Only direct costs are considered, though there are certainly other indirect costs in personnel time and recovered parking revenue that should be considered in a more thorough analysis.

Table 1: Sample Cost Comparison

	City Ownership	Flexcar
Car Acquisition	\$660,000	
Operation/Maintenance	\$216,000	
Contract Fees		\$756,000
Parking	\$194,400	
Insurance	\$108,000	
Total	\$1,178,400	\$756,000
Savings		\$422,400

As can be seen in Table 1, city ownership would result in a total six-year cost of \$1,179,400. Using a Flexcar-provided number of \$1,050 per month for a weekday dedicated vehicle, ten vehicles over six-years would total \$756,000. Using car-sharing instead of fleet vehicles even on this limited basis would result in a six-year savings of \$422,400, or \$70,400 per year. If the fleet vehicles were assumed to have a five-year lifespan instead of six, the total savings would rise to \$462,000, or \$92,400 per year. In either case, the potential for fiscal benefits from car-sharing is readily apparent.

⁷While the numbers used here are from Flexcar, sufficient interest from the city would indubitably lead other companies to become interested in Los Angeles, offering the potential for competitive bidding.

A Philosophical Case

The Need for Urban Mobility

New Residents and Their Automobiles

Though Los Angeles has over the course of the last twenty years greatly improved its transit system through the addition of both subway and light-rail lines, its vast footprint often requires the use of an automobile. Even those individuals able to structure their lives in order to greatly lessen their need for a vehicle still require one at times. Though Downtown's revival has occurred at a tremendous pace, some necessary amenities have not yet appeared. The first supermarket scheduled to open Downtown – a Ralph's at 9th and Flower – suffered long delays before construction began just recently. Residents often ask when such stores as Target, Trader Joe's and Barnes and Noble are going to open Downtown locations. Even when stores such as these do arrive Downtown, residents will still desire the mobility to go enjoy entertainment options in various parts of the city.

Currently the lack of effective forms of alternative mobility necessitates individual vehicle ownership. A December article in the LA Times told how new Downtown residents are bringing their automobiles with them, and finding parking hard to locate⁸. The article focuses on how Downtown is having to act quickly to add more parking to dense urban areas. "Tom Gilmore, the developer whom many credit with starting the residential boom downtown, is turning an old city office building into a garage for a cluster of three loft build-

⁸Bernstein, Sharon. "Give Up the Suburb? Yes. Give Up the Car? No Way." *Los Angeles Times* 27 Dec 2004: A1

ings that he owns on Main and Spring streets.” the article reads. “He was surprised, Gilmore said, by how much parking was needed – not just by residents but also to attract retail businesses to the renovated storefronts.” While more effective parking is part solution to this problem, just as important is to provide residents alternatives to ownership. The article addresses efforts to extend transit, but notes that “most people, even if they live and work downtown, will still need an automobile to visit family, go to the doctor or take a trip to the beach, experts say.” These trips are ideal for being serviced by car-sharing.

Residential Car-Sharing: The Chicken and the Egg

One way to provide mobility to residents is through car-sharing services. These services are uniquely suited to individuals who are able to structure their lives to reduce, but not eliminate, automobile dependence. The problem, however, is that no car-sharing service seems overly anxious to position themselves to service the incoming residential population. The car-sharing companies, having suffered financially in instances where they have expanded too quickly, are loath to move heavily into an area where they do not have a solid existing membership base. Residents, meanwhile, have no incentive to sign up for a service that is not convenient to them. There the cycle sits, in a proverbial situation of the chicken and the egg: the services will not come before they have members, but residents will not become members until the service is available.

The City's Role in Breaking the Ice

The City of Los Angeles stands uniquely positioned as the organization to kick-start car-sharing's adoption in Downtown. By bringing cars to Downtown as fleet vehicle replacements, the city creates a stock of cars available to residents on nights and weekends. These vehicles, conveniently located very near to new residential development, gives residents the ability to subscribe to a service that is now accessible to them. Increased membership should then provide the hard numbers that car-sharing companies need to understand the Downtown market and begin to provide resident-oriented service. In a short time the car-sharing market should become self-sufficient, and resilient enough to handle changes in city operation such as office relocation.

The city's adoption of car-sharing as a replacement for fleet vehicles can also serve as a model to be followed by other governmental and corporate groups. The County of Los Angeles, the city's Department of Transportation, Caltrans, and many other governmental agencies operate fleets of vehicles Downtown. Large corporations housed in Downtown's high-rise office buildings operate similar fleets. Through implementation of a car-sharing plan, the City of Los Angeles could act as a role model to these organizations, proving to them that the numbers do work in practice.

The Environmental Incentive

Aside from cost-savings, the city's incentive to encourage the adoption of car-sharing should come from the environmental impact. In 1996 the City of Los Angeles joined the Clean Cities program operated by the United States Department of Energy. Programs created under the resulting Los Angeles

Clean Cities Coalition have brought air quality funding to the city from sources such as AB2766 and the federal government. One of the main goals of Clean Cities is to promote the deployment of alternative fuel vehicles and reduce mobile source emissions. As mentioned previously, the City of Los Angeles has started to purchase hybrids as their standard fleet sedan. This both offers environmental benefits and brings the city into compliance with South Coast Air Quality Management District fleet rules. A car-sharing partnership offers the city to the chance to offer others a method to similarly contribute to environmental efforts.

Car-sharing services promote an environmentally conscious lifestyle. Often the service is the key ingredient that allows an individual to forgo personal vehicle ownership. In other cases perhaps the service is the difference between a couple owning one car and owning two. The vehicles, usually gasoline-electric hybrids and occasionally electric, are classified as ultra-low emission. Often car-sharing companies promote an environmental agenda as well. For instance, in September of 2003 Flexcar announced a partnership with conservation group American Forests: "Flexcar, the nation's oldest and largest provider of car-sharing programs, today announced a landmark commitment that makes it the first company in the United States to be completely carbon neutral – effectively offsetting 100% of the emissions it generates."⁹ The availability of car-sharing services has the potential to be a key part of a comprehensive strategy for mobility. Car-sharing allows residents to reduce vehicle ownership while still allowing for the off-hour and odd-destination trips that are an inevitable part of everyday life.

⁹<http://flexcar.com/company/pr/pr092203.asp>

Conclusion

Despite Los Angeles' sprawling nature, Downtown has remained a vital part of the city's business fabric. It is home to one of the largest concentration of government workers in the country. And now the last few years have seen the residential fabric of Downtown start to be restored. This residential explosion has brought with it associated challenges that few expected. Downtown Los Angeles, which devotes more of its real estate to parking than perhaps any other major city, has a parking problem. Creative solutions to the problem of mobility are required if Downtown is to become the thriving, dense, urban environment that civic leaders wish it to be.

Car-sharing provides an innovative solution to the problems of vehicle ownership. If it is to take root quickly and effectively, the City of Los Angeles needs to provide leadership and initiative in adopting a car-sharing strategy for fleet vehicle replacement. Such a strategy offers the city the ability to cut costs, increase resident mobility, and obtain international recognition all at the same time.