



transportation PLANNING

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From the Chair...

by Larry Lennon, P.E., AICP

Spring is finally here and our thoughts have turned to the APA National Planning Conference. This year it will be held in San Antonio, TX, from April 22 through 26, at the Henry B. Gonzalez Convention Center.

The Conference will feature a wide variety of technical sessions, mobile workshops, local tours, technology showcases, business meetings, classes and social functions. Of special interest are TPD’s two sessions:

- Planning it Safe (Session S414) on Sunday, April 23 at 10:30AM, and
- Sustainability in Public Transportation (Session S651) on Tuesday, April 25 at 4PM.

TPD’s business meeting and reception will be held on Monday, April 24 from 6 to 9PM at the Marriott Rivercenter in Conference Room 15. Please join us in celebrating another successful year.

I’d like to report on our last Business Meeting held on January 24, 2006 at the annual Transportation Research Board (TRB) meeting in Washington, DC.

We started the meeting with a review of TPD’s Draft FY 2006 Work Program. I summarized our mission statement, goals and four primary work areas: communications, programs, legislative/policy and administration. The Work Program is available for review on the TPD web site.

Vice Chair Hilary Perkins then reported on her TPD work with a TRB committee on safety in transportation. Its scope includes issues of elderly driving, accident data analysis, enforcement, and safe routes to school. Hilary will soon

see “Chair”, page 4

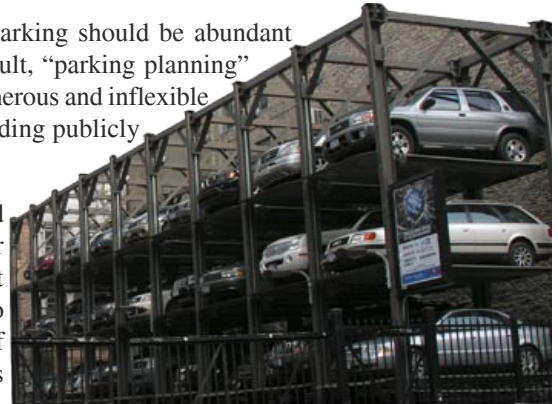
Parking Management

Innovative Solutions To Vehicle Parking Problems

By Todd Litman

Conventional planning assumes that parking should be abundant and free at most destinations. As a result, “parking planning” currently consists primarily of apply generous and inflexible minimum parking standards, and providing publicly subsidized parking facilities.

These efforts to provide abundant and free parking contradict many other planning objectives. It is inefficient and unfair, because it forces people to pay for parking facilities regardless of how much they use them, and results in inefficient use of parking facilities, inefficient land use patterns, and inefficient travel patterns.



It’s time to change the way we approach parking problems. A paradigm shift (a fundamental change in the way a problem is defined and solutions evaluated) is occurring with regard to parking planning. Many planners are developing better solutions based on more efficient parking management. There are many specific reasons for this shift, including growing concerns about housing inaffordability, traffic problems and sprawl, and rising land prices that make management solutions more cost effective.

To understand the inefficiency of current parking standards, and the potential benefits from improved management, it helps to know a little about how conventional parking standards

see “Innovative Solutions”, page 2

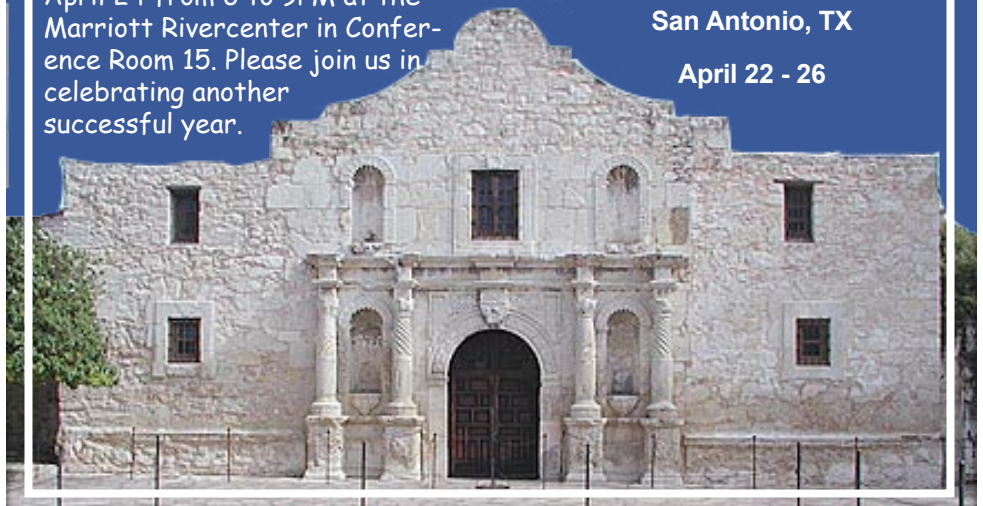
“Remember the Alamo!”

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APA National Planning Conference

San Antonio, TX

April 22 - 26



The Impact of Vehicle Accidents on Regional Planning

By Donald J.G. Chiarella, Ph.D., CISM, CDMP

Vehicle accidents in the nation happen at a rate of 1.5 per BVMT (Billion Vehicle Miles Traveled) or 42,000 people killed a year. The rate has been declining over the years due to increased VMT and exposure. The real number of people killed has also decreased in recent years. Regional planners need to consider vehicle accidents when presenting regional and county master plans to the public, executives, and their agencies. For example, the BMC (Baltimore Metropolitan Council) uses accident data to make informed decisions concerning transportation and traffic engineering. Howard County government uses accident data for the county master plan or general plan as well as trip generation and other techniques to predict county traffic patterns and flows.

Accidents must be considered for planning to occur by engineers and other staff members. The primary result of this planning for accidents is improving the safety of the new highways that are to be built in the transportation section of the regional or county master plans and eventually the real construction projects will be safer (in theory). One of the problems is that as accidents go up the need for newer and better safety methods also goes up. Many state safety organizations counteract this with new human behavior modification programs aimed at the public drivers and newer legislation aimed at various driving populations such as young and older drivers. These



two methods provide a hard science answer (highway engineering) and a behavioral science (behavior modification) answer to the problem of fixing highway accident problems. The third leg of the model is to provide EMS services that serve the public well. In Maryland, this is done very well by the University of Maryland Shock Trauma center and nine helicopter pads around the state for quick response anywhere in the state highway system within the “Golden Hour”.

The various areas of accidents that need to be addressed are large trucks, older drivers, younger drivers, motorcycles, passenger cars, light trucks, railroad crossings, and buses. The best we can do is improve or reduce the number of accidents determined to be the problem in each of these sub-areas of human health concern. We are hopefully producing new drivers who are better instructed than they once were and new laws help to reduce the distractions in vehicles to young drivers in Maryland. The new primary seat belt law also helps us keep passengers and drivers safer. We can do more such as a motorcycle helmet law in all states that requires everyone to wear a helmet. This would reduce the thinking required at the state border when traveling interstate on a motorcycle, and it would definitely save lives. But every state is different and the congress and national law defers to each state on many transportation issues such as this. In fact most transportation issues are considered state issues delegated by the federal government and grants process.

The good news is that we are winning the battle in some areas of accident reduction. Regional planners help design improved highways, sidewalks, bike paths, and train stops, bus stops etc. that help us to improve the local systems. The bad news is that in some accident categories we often see increases in accident numbers slightly each year and we act to control these areas legislatively, in engineering, in human behavior modification of drivers, and in general public

“ The good news is that we are winning the battle in some areas of accident reduction. ”

see “Vehicle Accidents”, page 6

Chair, continued from page 1

be resigning from the committee and is looking for a replacement. Please contact her if you are interested in serving on the Committee.

Canadian researcher and author of a new book on parking policies, Todd Litman, spoke of the factors affecting parking demand and contingency-based planning (see his article on p.1). His new book has been published by APA Planners Press and covers a wide range of parking analysis and innovative approaches to better parking management.

Secretary Larry Fabian reported that Glen Duke is again maintaining the TPD website. Any submissions or comments for it should be communicated to him at lfabian@airfront.us. Fabian also described progress with Airports in the Region (AIR) issue identification and invited comments on a variety of related planning issues.

Treasurer Todd Ashby reported that the Division account had a balance of around \$8000. He described the proposed FY 2006 Budget. It was moved, seconded and passed to approve the 2006 Work Progress and Budget. They are posted on the TPD website.

Newsletter Editor Ruth Fitzgerald reported that there were three issues in 2005 and a just-published issue (January 2006). Digital distribution is going well: the biggest problem is handling faulty email addresses. Ruth welcomes article ideas and submissions.

I reported that Ruth Steiner has the Student Paper Competition underway with awards at the National Conference in San Antonio. Ruth will be on sabbatical next year and is resigning from this responsibility. Volunteers should contact me.

Membership Chair Noel Comeaux reported on the membership campaign "2,006 in 2006". He is working towards a TPD presence at the Divisions Council Booth at National Conference. Noel and Past Chair Whit Blanton are

see "Chair", page 5

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Table 1 - Parking Management Strategies (Litman, 2006)

Management Strategy	Description	Typical Reduction	Traffic Reduction
Shared Parking	Parking spaces serve multiple users or destinations, including sharing rather than assigning reserved spaces to users, and sharing facilities among multiple destinations.	10-30%	
Parking Regulations	Regulations that favor higher-value uses such as service vehicles, deliveries, customers, quick errands, and people with special needs.	10-30%	
More Accurate and Flexible Standards	Parking standards are adjusted to more accurately reflect demand in a particular situation taking into account various geographic, demographic and management factors.	10-30%	
Parking Maximums	Establish maximum parking standards.	10-30%	
Remote Parking	Provide off-site or urban fringe parking facilities, and encourage their use.	10-30%	
Smart Growth	Encourage more compact, mixed, multi-modal development, which encourages sharing of parking facilities and use of alternative modes.	10-30%	✓
Walking and cycling Improvements	Improve walking and cycling conditions to expand the range of destinations serviced by a parking facility and reduce automobile trips.	5-15%	✓
Increase Capacity of Existing Facilities	Increase parking supply by using otherwise wasted space, smaller stalls, car stackers and valet parking.	5-15%	
Mobility Management	Encourage more efficient travel patterns, including changes in mode, timing, destination and vehicle trip frequency.	10-30%	✓
Parking Pricing	Charge motorists directly for using parking facilities, with efficient prices that include lower rates during off-peak periods and higher rates during peak times and locations.	10-30%	✓
Improve Pricing Methods	Use better charging techniques to make pricing more convenient and cost effective.	NA	✓

see "Innovative Solutions", page 5

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Financial Incentives	Provide financial incentives to shift mode, such as parking cash-out and transit benefits, often as an alternative to parking subsidies.	10-30%	✓
Unbundle Parking	Rent or sell parking facilities separately from building space.	10-30%	✓
Parking Tax Reform	Various tax policy changes that support parking management objectives.	5-15%	✓
Bicycle Facilities	Provide bicycle storage and changing facilities.	5-15%	✓
Improve User Information and Marketing	Provide convenient and accurate information on parking availability and price, using maps, signs, brochures and electronic communication.	5-15%	✓
Improve Enforcement and Control	Insure that parking regulation enforcement is efficient, considerate and fair.	NA	
Transportation Management Associations	Establish member-controlled organizations that provide transport and parking management services in a particular area.	NA	✓
Overflow Parking Plans	Establish plans to deal with periods of peak parking demand.	NA	
Address Spillover Problems	Use management, enforcement and pricing to address spillover problems, such as undesirable use of nearby parking facilities.	NA	
Parking Facility Design and Operation	Improved parking facility design and operations to help solve problems and achieve parking management objectives.	NA	

This table summarizes the parking management strategies described in this report. It indicates the typical range of reductions in parking requirements a strategy provides, and whether it reduces vehicle traffic, thereby providing additional benefits. NA = Not Appropriate.

Most of these strategies are well known but they are not being implemented to the degree justified because current planning practices treat management solutions as a last resort to be implemented only when it is particularly difficult to expand parking facilities. Also, current planning tends to overlook many of the indirect costs of abundant and free parking, such as increased stormwater management costs and increased vehicle traffic, and so underestimates the full benefits from management solutions.

Not every strategy is appropriate in every situation. Actual impacts vary depending on geographic and demographic factors, how a strategy is implemented and other factors. Although individual parking management strategies often have modest impacts, their effects are cumulative. A cost-effective, integrated parking management program can often reduce parking requirements by 20-40%, while improving user convenience and helping to achieve other planning objectives, such as supporting more compact development, encouraging use of alternative modes, and increasing development affordability.

Parking management allows greater design flexibility “contingency-based planning,” which means that planners identify specific solutions that will be implemented if problems develop

see “Innovative Solutions”, page 6

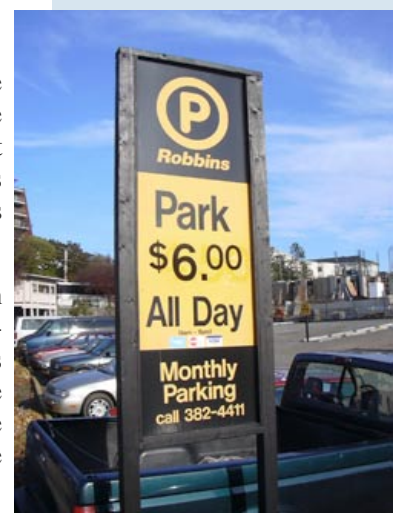
Chair, continued from page 4

also updating the TPD brochure for distribution in San Antonio.

Cindy Hoyle described APA’s effort to identify planning assistance teams for large-scale disasters and emergencies. Planners can submit their names with specialties, mostly on a *pro bono* basis. She referred to the APA website for more information.

That’s all for now. Looking forward to seeing everyone in San Antonio.

— Larry Lennon





Vehicle Accidents, continued from page 3

awareness. Hopefully, new regional plans will contain the vital statistical information they need from agencies to make better decisions in the process of building new communities. This is a noble goal which has been done in new towns such as Reston and Columbia, Maryland. Portland Oregon is an example of the best bike friendly city in America. Chicago Lake Shore Drive is an example of a very pedestrian friendly walkway. The new metro system in Washington DC is a prime example of how good a local metro-rail system can be developed and implemented. New magnetic levitation trains offer a new way to speed up transportation in high density corridors similar to those in Japan. Hopefully, by 2020 our old cities will be retrofitted with the latest transportation technologies at least cost and our new towns and suburban counties will have the best designs possible based on the usage of accident data and other safely designed transportation projects.

God bless the local regional and county planners who use accident data for improving their transportation systems and designs through America to make this the best country in the world and the highest quality of life.

Don Chiarella is a career civil servant for Maryland and retired Federal manager Computer Specialist. Don also teaches Data Communications at Aspen University online (DETC accredited). He is certified in Urban Planning, Computer Security, Government Contract Law, and IT Management. He can be reached at 410-787-5889 in Hanover, Maryland.

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Innovative Solutions, continued from page 5

in the future. For example, rather than building 100 parking spaces at a particular destination, a contingency-based plan might initially build 60 spaces, and identify various management strategies that will be implemented as needed if that proves to be inadequate the future.

Reducing parking requirements can provide huge direct savings. Most people never directly purchase a parking space, and so they have little idea what they cost or the savings that can result from better parking management. A typical urban parking space has an annualized value of \$600 to \$1,200. There are estimated to be about five parking spaces per automobile, totaling approximately \$3,000 in annual costs. In other words, for each dollar consumers spend on an automobile somebody devotes about 50¢ to parking.

Here are examples of some successful parking management programs:

Downtown Pasadena Redevelopment

During the 1970s Old Pasadena's downtown had become run down, with many derelict and abandoned buildings and few customers, in part due to the limited parking available to customers. Curb parking was restricted to two-hour duration but many employees simply parked in the most convenient, on-street spaces and moved their vehicles several times each day. The city proposed pricing on-street parking as a way to increase turnover and make parking available to customers. Many local merchants originally opposed the idea. As a compromise, city officials agreed to dedicate all revenues to public improvements that make the downtown more attractive. A Parking Meter Zone (PMZ) was established within which parking was priced and revenues were invested.

With this proviso, the merchants agreed to the proposal. They began to see parking meters in a new way: as a way to fund the projects and services that directly benefit their customers and businesses. The city formed a PMZ advisory board consisting of business and property owners, which recommended parking policies and set spending priorities for the meter revenues. Investments included new street furniture and trees, more police patrols, better street lighting, more street and sidewalk cleaning, pedestrian improvements, and marketing (including production of maps showing local attractions and parking facilities).



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The Last Century of American Parking, Planning and its Future Synergies

by Shannon McDonald, AIA

The emerging 20th century city, its growth and struggles was defined by movement, separation, and speed; however it was the car at rest that posed the greatest challenge to architecture and urban planning. Paris had more automobiles, a parking facility under the Louvre and a mechanized garage by Auguste Perret in 1905, and England had explored planning solutions earlier, but the automobile had the most dramatic impact in the United States. Our country was at the “right” moment in its development to construct, on a large scale, many of the ideas and issues of the twentieth century. We are now currently assessing the planning and architecture issues of city, suburbia, automobiles, and transit created over the last century. We must not forget the key lessons learned as we seek new solutions.

According to Robert Fogleson, the author of *Downtown*, the concept of a downtown as a place of work, commerce and leisure, with uptown as a place to live, only arrived on the scene at the turn of the 20th century. Previously all activities of urban life were integrated within one place. The challenges of industrialization and mechanization changed our living patterns. They are changing again due to technology and communication and we need to continue to adapt to the new possibilities. As technology matures and develops it is showing us ways to handle the environmental issues created by the initial solutions of the 20th century. However, planning as related to how we live, move and store our movement device is still challenged. Unless one is walking or the movement system of choice is in constant motion, a vehicle at rest will always exist, and parking will be required. This is not the time to choose between solutions, but to embrace multiple solutions in order to continue to have change equated with positive progress as the deepest understanding of who we are as Americans.

Few of us can remember what many streets of the American city looked like at the end of the 19th century. No order was evident, there were no stop signs, traffic lights or parking regulations to manage the main transportation method – the horse - as steam, electric, and gasoline transportation arrived. Dirty, crowded streets were frequently the norm, with carcasses and animal feces lying alongside the carts of street-food vendors. Disease was common, easily spread by the splashed mud of the street. The city was often a difficult, crowded, and unhealthy place to live, especially in America. The quickly rising immigrant population and the changes to a manufacturing society were too quickly placing demands, on the newly emerging American city, which it could not accommodate. Concurrently, the automobile arrived on the scene, promising a better future. The automobile was considered the environmental savior for many American cities, and the first commercial parking garage for it was an electric cab station. Very shortly, clean and healthy places emerged across America created around the needs and potentials of this new means of transportation. The automobile and the freedom it provided also became an increasingly important emotional issue related to our country’s historic reason for being – freedom for all. It developed our country, expanded lifestyles, and created the large middle class that provided greater stability for many people in the United States. Over the century we have become emotionally attached to this mechanized device.

The peak year for travel by horses was 1909. The ascendance of the automobile was already underway, and there were thousands of parking garages for automobiles in the United States alone, such as the Motor Mart Garage in Boston, 1904. The construction of parking garages was required before the turn of the 20th century to store these new transportation vehicles, as automobiles were not constructed to be left out in the weather and large numbers of cars were starting to gather in certain locations. Parking for automobiles appeared in the converted cycloramas of Boston and Washington DC, they were so needed. Parking hotels, stations or garages as they were alternatively called immediately became a construction type that was

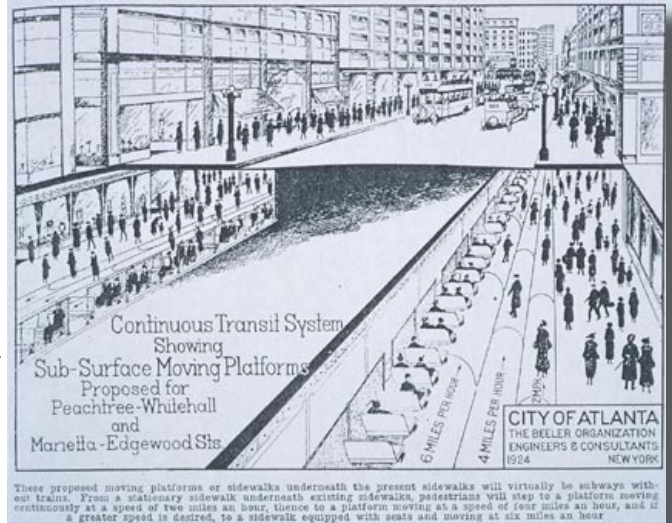


Image 1 - Beeler Engineers and Consultants - Proposal for the City of Atlanta

Source: American City Magazine, February 1925, p.149.

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researched by academics and built by architects, engineers, and entrepreneurs; however the issue of standing vehicles (as they were called) and traffic was an expanding and never ending problem discussed even before 1910.

At the beginning of the 20th century, one of the first persons to address the issues of the street and traffic was William Phelps Eno, an American citizen, who spent his entire life and personal funds establishing safe traffic and road patterns all over the world, even acting as a consultant for the city of Paris, France. He created the Eno Foundation for Highway Traffic Regulation which is still in existence today. In 1908, Chicago had a “City Beautiful” plan designed by Burnham and Bennett, addressing the emerging issues of movement, the street, and city planning, suggesting multi-level streets for different movement purposes. However, movement and planning, in most cities, was dealt with on a piece by piece basis often banning automobiles from city parks and local streets. As noted in a paper delivered at the Fifth National Conference on City Planning in Chicago 1913, there was a lack of consideration of transportation facilities (parking was considered part of this), in city planning at that time. However, many entrepreneurs, businessmen, and professionals had and were constructing parking garages in every city and town across America, never keeping up with demand, so that by the 1920’s the issue was acute. Parking was occurring everywhere, as the pervasive parking lot had appeared with the changing automobile.

For the first time in our history, 1921, the urban population was exceeding the rural, and transportation now became the *Keynote of Prosperity*, as the title of an article by F.W. Fenn, secretary of the National Motor Truck Committee stated, with our clogged city streets viewed as impeding this progress. The traffic and parking issue was discussed in every major city in our country. It was noted, by Robert H. Whitten of the Cleveland City Plan Commission, in *The American City Magazine*, October, 1920, that when the population doubled, the street traffic tripled, and the number of car rides quadrupled. This was a conservative estimate, as the record was on “Massachusetts highways during the period of 1909-1918, where, traffic increased 14.5 times as fast as the population.” Planners, architects, engineers, and entrepreneurs everywhere were focusing on how to best design, construct, afford, and plan for the automobile and the parking spaces it required. In the United States, in general, the more costly three-dimensional urban solutions of the Chicago City Beautiful Plan seemed less practical and necessary since land was abundant and its cost was not a deterrent. We were a developing country spreading across our land.

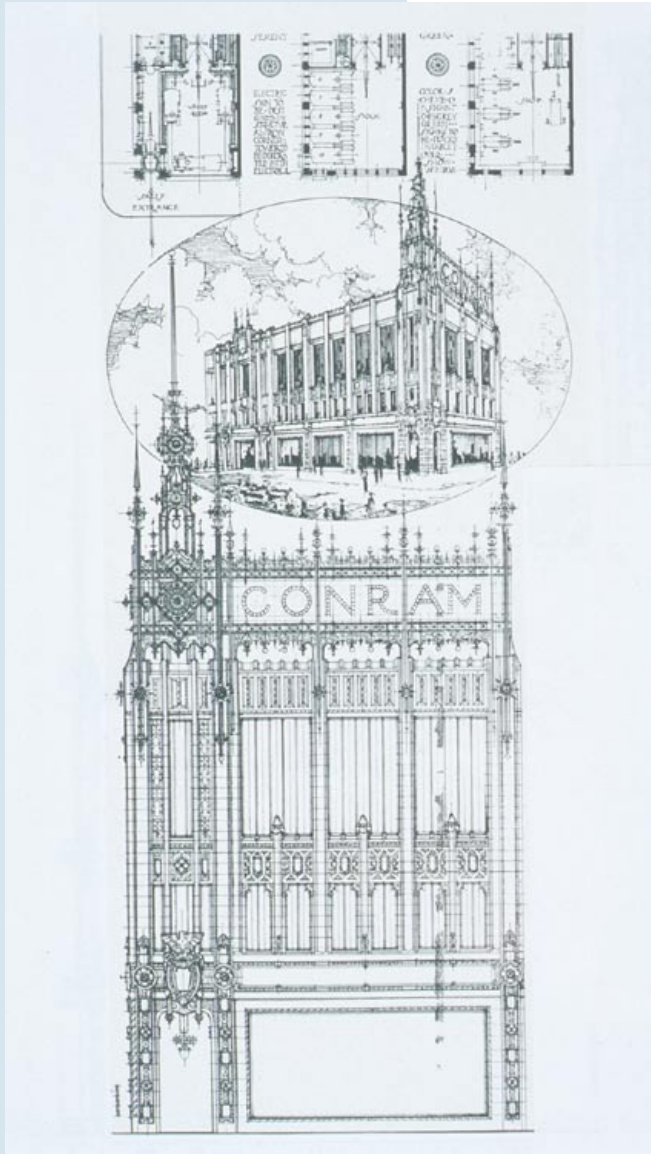


Image Two - Brickbuilder Magazine Competition for an Automobile Showroom and Garage

Source: The Brickbuilder Supplement, March 1913, vol XXII no3, entire supplement

All modes of transportation became part of the issue. During rush hour in late afternoon in Los Angeles, the streetcars were often rendered immobile due to standing cars and traffic. From a survey, mentioned by G. Gordon Whitnall, the Secretary of the Annexation and Consolidation Commission of the City of Los Angeles in the *American City Magazine* May 1920 issue, it was discovered that Los Angeles was the second worst city for traffic, Cincinnati, Ohio the first, as they had the smallest percentage of street area to built-up area along with the largest per capita ownership of motor vehicles. The problem was acute and the only solution was to ban parking on the streets. Los Angeles in May of 1920 enacted a law called the “No Parking Ordinance” due to the congested and impassable streets. There were different rules for standing autos at different times of the day and night and in different locations, so parking was not completely eliminated, but it was becoming controlled. At this time, in response to this crisis, a City Planning Commission was formed in Los Angeles.

Parkways first created by Frederick Law Olmstead had begun across the country in Boston, Kansas City and Chicago; however the Long Island Motor Parkway of 1906-11 by William

Innovative Solutions, continued from page 6

This created a “virtuous cycle” in which parking revenue funded community improvements that attracted more visitors which increased the parking revenue, allowing further improvements. This resulted in extensive redevelopment of buildings, new businesses and residential development. Parking is no longer a problem for customers, who can almost always find a convenient space. Local sales tax revenues have increased far faster than in other shopping districts with lower parking rates, and nearby malls that offer free customer parking. This indicates that charging market rate parking (i.e., prices that result in 85-90% peak-period utilization rates) with revenues dedicated to local improvements can be an effective ways to support urban redevelopment.

Tri-Met Parking Management

Portland, Oregon’s Tri-County Metropolitan Transportation District has implemented various parking management strategies around transit stations to minimize costs and support transit oriented development. These include:

- Sharing parking with Park & Ride and other types of land uses, including apartments, churches, movie theaters and government buildings near transit stations.
- Using lower minimum parking requirements around transit stations.
- Allowing Park & Ride capacity near transit stations to be reduced if the land is used for transit oriented development, thus allowing walk/bike trips to replace car trips.

More Accurate Parking Requirements in Vancouver

Vancouver, BC is developing a more flexible approach to parking requirements for multi-family dwellings to support efficient transportation, smart growth and housing affordability objectives. The program is loosely based on the LEED TM Green building rating system. Developers receive credits for reducing the number of parking stalls, providing parking spaces for carshare vehicles, and providing annual transit passes to building occupants.

Rich Sorro Commons, San Francisco, California

Rich Sorro Commons is a mixed-use project with 100 affordable units and approximately 10,000 square feet of ground floor retail. Conventional standards would require 130 to 190 parking spaces for such a building, but it was constructed with only 85 parking spaces, due to proximity to high quality public transit services, the provision of two carshare parking spaces in the building, and the fact that the building provides affordable housing, with tenants who are less likely to own a car. Reduced parking supply freed up space for a childcare center and more ground-level retail stores. Just 17 avoided spaces allows the project to generate \$132,000 in additional annual revenues (300 square feet per space at \$25.80 per square foot in rent), making housing more affordable. Two carshare vehicles are available to residents, giving them access to a car without the costs of ownership – a particularly important benefit for low-income households.

Austin Parking Benefit District

Many neighborhoods experience parking spillover problems, including difficulty finding parking for residents and visitors, concerns that public service vehicles cannot pass two lanes of parked vehicles on the street, or that parking on the street reduces neighborhood attractiveness. These problems become an opportunity with the establishment of a *Parking Benefit District* (PBD) A PBD is created by metering the on-street parking (either with pay stations on the periphery of the neighborhood or with the traditional parking meters) and dedicating



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the revenue, less City expenses for maintenance and enforcement, towards improvements in the neighborhood that promote walking, cycling and transit use, such as sidewalks, curb ramps, and bicycle lanes. Charging for parking and promoting alternatives reduces parking in neighborhoods and helps fund neighborhood benefits. The PMD may be used in conjunction with a Residential Permit Parking program to ensure that parking is available for residents and their visitors.



Using Parking Revenue to Support Transit

Faced with a shortage of parking for customers, Boulder, Colorado developed a program to encourage downtown employees to use alternative commute modes. The city uses revenue from downtown parking meters to subsidize bus passes for 7,500 downtown employees and to support other commute trip reduction activities. The city also offers discounted bus passes to residents and non-downtown businesses. The program has freed up customer parking spaces and reducing parking costs, congestion, accidents and pollution emissions.

- Employee carpooling increased from 35% in 1993 to 47% in 1997.
- The district’s employees require 850 fewer parking spaces.
- More available parking has increased retail activity in downtown Boulder.

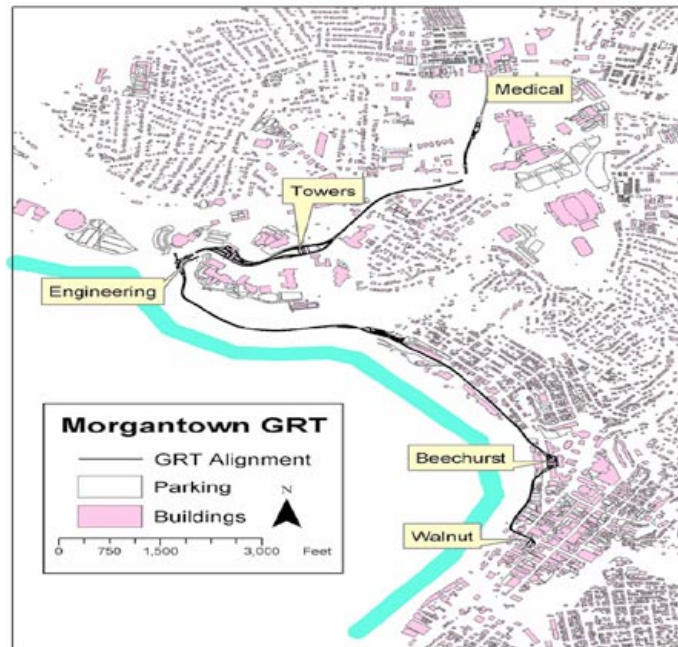
*Todd Litman is the founder and executive director of the Victoria Transport Policy Institute (www.vtppi.org), an independent research organization dedicated to developing innovative solutions to transportation problems. He is author of **Parking Management Best Practices**, published by the American Planning Association’s Planners Press (www.planning.org/bookservice). For more information see his free summary report, *Parking Management: Strategies, Evaluation and Planning* (http://www.vtppi.org/park_man.pdf).*

PRT:

George Jernstedt Seminar

URBAN IMPACTS OF THE MORGANTOWN PRT

July 14-15, 2006 in Morgantown, West Virginia, one hour south of Pittsburgh



Organized by **ATRA** - www.advancedtransit.org
 In cooperation with West Virginia University, operator of a 1970s *Personal Rapid Transit* (PRT), interconnecting campuses and CBD.

- Helped or hurt downtown Morgantown?
- Impact on land values, housing?
- Future options for WVU and Metro Morgantown?

Registration: \$75, **\$45 for ATRA members**

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K. Vanderbilt and then a New York State Act of 1924 endorsed by Robert Moses, popularized the solution of speed for motorized vehicles alone. Lower speeds, however were considered by many to help solve the problem. When the car and the streetcar became equal in efficiency it typically allowed both to coexist. However, where the congestion was the greatest and where no standing rules (no parking) on streets were in place, rapid transit became more efficient and the auto was only used for pleasure and business outside of the area serviced by rapid transit. This effect was observed in New York and Chicago. However, people everywhere were demanding broad thoroughfares whenever possible. The people in Detroit and Los Angeles voted against large scale transit after an intense lobbying by everyone. So that “at the end of the 1920’s...already in some cities – Washington, Kansas City, St. Louis – downtown commuters by automobile outnumbered those coming by transit.” Robert Whitten stated: “For Cleveland the present cost of the necessary street widenings and extensions to provide a complete throughfare system will during the next fifty years be saved many times over in lessened expenditure for rapid transit subways.” Therefore, the cost of a highway system was considered a more practical investment than mass-transportation for the city’s long term future, and so became America’s future.



Image Three – Typical City Street early in the 20th Century

Source: Herbert S. Swan, “Our City Thoroughfares – Shall They Be Highways or Garages?”, *American City*, December 1922, pp. 496-300

However, how people moved was also considered a political issue such that “During the 1920’s Chicago’s business community worked with others to depoliticize mass transit and remove it from the arena of controversy over social policy ... however by 1920 large amounts of private capital were not to be had for mass transit.”, as written by Paul Barrett in *The Automobile and Urban Transit*, 1983. Mr. Bennett, of the original Chicago Plan argued the following in 1926:

“this is in reality a humanitarian question before an economic one. Conditions of today cheapen life, cheapen human relations and generally breed a carelessness and lack of consideration, and lack of dignity that is vastly injurious to the citizenry and does not augur well for the future of our civilization.”

Harold Slauson, M.E. of the Motor and Accessory Manufacturers Association, in October 1923, speculated that: a nearby “parking garage would not be the answer, for it would occupy valuable land area and would not be used by those who came to work early enough to find parking space near the building.” So the street and its regulation was seen as the key to the solution of the parking problem in the early years; although many parking garages continued to be built by those who realized the dilemma and the need.

Dr. Miller McClintock of Harvard, an expert on transportation issues, believed that streets were not for parking – certainly not to provide storage for cars. In his *Remedies for Traffic Congestion* dinner address published in the Society of Automotive Engineering, November 1928, one of his many articles on the topic, he highlighted what he thought were excellent solutions: The University Club Building and Pacific Mutual Life Insurance Building in Los Angeles. They jointly provided a two-story basement space, to store the cars of its officials



Image Four – F. C. Cullen Garage – Denver, CO J.B.Benedict - Architect

Source: The Architectural Forum, March 1927, Plate 41, p.241.

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and employees. Other solutions that he championed were grade separation providing different street levels for pedestrian and car, super highways as currently found in three cities, broad vision solutions such as tunneling the Hudson River, uniform traffic codes, traffic control, using streets around the clock for delivery vehicles, and a change in public psychology.

In an article, *And This From Los Angeles*, quoting Mr. Dykstra the Efficiency Director of Los Angeles Water and Power, in the September 1926 issue of *The American City*, Los Angeles was suggested as a good example of how to solve the problem:

“The history of rapid-transit development in American cities carries with it its warning to Los Angeles. The chief argument for rapid-transit-congestion relief - is a delusion and a snare as far as sound city planning is concerned. A population can be spread out without rapid transit or streetcar facilities. The private automobile and the bus have turned the trick so far as transportation is concerned. The development of the motor truck and the availability of electric power for manufacturing will continue to decentralize the industrial district. There can be developed in Los Angeles area a great city population which for the most part lives near work, has its individual lawns and gardens, finds its market and commercialized recreation facilities right around the corner, and which because of these things can develop a neighborhood with all that it means.

Under such conditions city life will not only be tolerable but delightful - infinitely more desirable and wholesome than the sort induced and super induced by the artificially stimulated population center which constantly must reach higher and higher into air for light, air and a chance to see the sun. It will be a city in which children will not be discriminated against.”

By 1922 an article published in “The American City” - *Our City Thoroughfares – Shall They Be Highways or Garages?* by Herbert Swan, City Planner of New York, describes a very scientific approach in an attempt to understand the problem. The City Plan Commission of Paterson, N.J. studied their parking by creating a table based upon observation showing duration and quantity of cars parked on certain streets in their city. From this study, they determined that the key issue was to provide parking privileges to shoppers while excluding non-shoppers, however all-day business parking was not mentioned as a separate issue. Many garages of this type had been constructed. Merchants, who had fought to abolish no parking

Image Five – Typical Early Parking Lot

Source: “Pioneers in Parking”, PARKING, Spring 1954, p.8.

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rules in many cities, feared it would detract from their business and they were the focus of the study. However, by 1924, this study provided the information to address the problem, *or so they thought*.

In Boston, it was estimated that 10,000 cars would be removed from the streets by a parking prohibition. Boston simultaneously struggled with parking on the historic commons of Cambridge. It was even suggested that cars be parked under the parks, an idea well ahead of its time. Publicly owned plots of land were converted into massive parking lots, such as Chicago's Grant Park. Nevertheless, as the population moved further away from the city center, driving downtown for work, entertainment and shopping became a difficult proposition during this period and still is today. Dr. Carol Aronovici, a city planning consultant for Berkeley California in 1928 stated: "A ten-story building, covering two acres of land, will accommodate four thousand cars, or the equivalent of five miles of parked cars on both sides of the street." Therefore, with all of these factors entering into the equation of how to design for our emerging fast growing cities, the faster moving auto and clearer streets quickly made the streetcar obsolete.

Parking lots were usually just that, cars parked on land, but some were well planned and incorporated other features, such as the Stop and Shop Market in St. Louis, Missouri, 1924. Heavily landscaped around its perimeter with a glass conservatory and stage for civic entertainment it provided free parking, however these well designed lots were rare. Country Club Plaza Development in Kansas City was another that also linked its parking "stations" to public transportation. Automobile hotels, as early garages were often called, were considered more viable solutions by Dr. McClintock:

"there are a number of such structures, and it is understood they have been uniformly profitable at moderate fees, and with proper building laws, there is no reason why such a structure should either add to the fire hazard of the business district or detract from its appearance."

Parking meters were invented in the mid 1930's and found a place on city streets, however not without their own controversy. Cities thought that the future would bring parking completely restricted on their city streets. Commercial and private garages could meet many public parking needs; however cities also realized that they should provide space for parking before it became too difficult or costly. This created many legal issues of private versus public that centered on the construction of the parking garage. However, it was not until after WWII that all of the movement visions for the automobile could be put into place at a large scale across the country.

The issues of parking and planning after WWII focused on the challenged city as suburban patterns of living and new highways were taking hold, providing a new affordable lifestyle for many. Work, entertainment and shopping frequently moved to the suburbs along with the people; the car at rest dilemma was now taken care of with acres of parking. Downtown was left to struggle with how to survive, believing that parking was the "problem" – even believing that if they provided it for free that would address the issue. Programs started such as park and shop, and all types of services such as baby sitting and package delivery could be found within the parking facility. Urban redevelopment, with parking often the center of plans, and all of its controversial issues, did not help with the problem at that time. Connecting parking to transit on the outskirts of the city, an idea from the twenties, was reinvigorated in several cities. Concurrently the built form of the parking ramp or deck became the stripped down version that we visually understand it as today, although it had first appeared in 1933 in Boston. Most parking garages before the end of WWII were designed as beautiful Beau-Arts buildings fitting into the urban fabric or under city parks, such as Union Square in San Francisco, having limited aesthetic impact on the city. Aesthetics along with the quantity of parking required for all the emerging drivers, the new codes and requirements for parking, and the psychological competition of the suburbs as the new exciting place to live and its affordability combined to challenge the viability of downtown, an issue we are still struggling with today.

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The parking facility as we now call it today has always been an integral part of planning and design and continues as a focus for the planning issues facing us today.

The environment and all of the pollution and traffic issues as we currently understand them arose soon after this pattern of development was taking hold, while the historic preservation movement began to make some inroads in preserving and protecting our downtown. Charleston is an excellent example of a city that integrated many of the issues of parking and the urban environment successfully in a holistic manner. By the late 1980's, the American Planning Association published, "The Aesthetics of Parking" by Thomas P. Smith. This began to recognize one piece of the problem. Currently, new books and research on the topic are exploring and uncovering the entire complex set of issues related to parking, the parking facility, planning, environment, and design with transit becoming a focus again.

The parking facility as we now call it today has always been an integral part of planning and design and continues as a focus for the planning issues facing us today. Constantly changing work patterns and our aging society are newer phenomena that we are attempting to address. Designing to provide as many affordable options as possible for people to seek solutions to their unique situations is the key to successful movement, architecture, planning and parking issues. Analyzing all the options and not excluding any automobile or transit option, seeking the best solution for balancing movement, the environment, and affordability, taking into account all of the issues - is no small feat to accomplish. Walking, parking for bicycles and all movement devices, the changing automobile, transit for larger groups as well as the more flexible personal rapid transit are all a piece of the current planning and development puzzle. So, even as industrialization and mechanization brought us pollution and other environmental issues, so it is also pointing the way to solving many of these key issues, while also encouraging us to value ourselves and low-tech solutions as part of a healthy and vibrant mix in solving these issues.

Now that technology is "correcting" its own shortcomings with lower or no emission automobiles and different energy sources, affording us new futures, how will we all allow technology to continue to improve our built world and its relationship to movement? Automobiles with similarities to transit and new destination based elevators? The older planning relationships integrating work, entertainment, and home again with newer forms of transportation? The Chicago Beautiful Plan version of the multi-dimensional city with five stories of road connecting to buildings at each level now as a complete built reality? Combining the home and the car, parking the car inside your home – integrated with the energy system of the building - such as Hennard, a Frenchman, envisioned in 1910? Connecting everyone with a constantly moving stream of movement vehicles or pods (as they were named in the 1970's) along with walking and bicycles as a totally integrated place? Does it sound like a movie? How about an even better solution, an American place, which provides density along with suburbia as affordable choices without the traffic? Progress is a belief in a better future, creating new paradigms and jobs – The American Dream - with all participating. We can have this future if we embrace the future.

Shannon McDonald is a Practicing Architect in Atlanta, GA and a graduate of Yale University who has lectured extensively and written a book about the evolution of parking facilities over the last century, to be published by the Urban Land Institute. She can be contacted at: S1027arch@aol.com



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