

The Ohio State
ENGINEER

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The Future of Mass Transit

Plus:
New Urbanism
Sidewalk Culture
The Modern Art Museum

FROM THE EDITOR

BUILDING CHARACTER

One can argue that Camden Yards in Baltimore started it all—the birth of the new age ballpark. Since that warm Maryland day in 1992, Major League Baseball has seen a perpetual increase in new, unique stadiums in a successful attempt to woo fans with distinct, special ambiances as they enjoy America's pastime. However, this *new* idea is really not *new* at all, but just a rehashing of the ideas that the creators of Fenway Park and Wrigley Field originated decades ago.

Let's sweep across a warm humid night of summer in America: In San Francisco, fans watch the towering shots of Barry Bonds fall graciously into McCovey's Cove at Pacific Bell Park. Atop the whispering waters of the San Francisco bay, fans await by any means—canoe, boat, or raft, in anticipation for a Barry Bonds splashdown.

"Marco!" "Polo!" can be heard in Phoenix as kids slash in the pool in right-center field while their parents enjoy their bratwursts and beers. Watching Curt Schilling strike out the side with floaties on each arm—priceless in the desert.

In the city of Houston, Lance Berkman rushes backwards for a deep fly ball in center worrying about the treadmill-like inclined field and gigantic pole that looms by the wall.

Finally, on the east coast, fans cheer on their Baltimore Orioles with the Baltimore & Ohio Warehouse lying in the backdrop of right field.

Not only are avid baseball fans interested in cheap hot dogs and cold beverages, but also an experience filled with character. Take a look at the prospering "older" stadiums that are still thriving and true baseball fans everywhere wish to visit, Boston's Fenway Park and Chicago's Wrigley Field. In Boston, you have the "Green Monster" in left field, providing hitters with off-the-wall shots you can see no where else. Similarly, the ivy brick walls that surround Wrigley's outfield are nightmares to outfielders who sacrifice their bodies, crashing into the walls in attempts to save extra-base hits. Sure, they are historic parks, but they offer a unique experience in the way they are built.

People don't just like *new* things; they like different, unique things. Maybe this theory explains why my childhood friends built a "Green Monster" in left field of their wiffleball field using green construction fencing. Maybe, this is the reason is why foul balls plummeting into the garden that lays adjacent to the field spark words of the corn fields in the baseball classic, *Field of Dreams*. Finally, maybe this thought explains why the orange-bricked Kroger's building behind left field at my hometown high school field spurs words of Camden Yards.

Structures are not popular because they are *new* and improved, but because they are unique, each permeating fans with their own distinct character. Years down the road, adults will nostalgically reminisce while little leaguers still make reference of ivy walls and "Green Monsters." Wrigley and Fenway will still be there while other stadiums are finally catching up with what the people want, a unique experience. Now, let's just hope we can buy a hot dog and Coke at a reasonable price.



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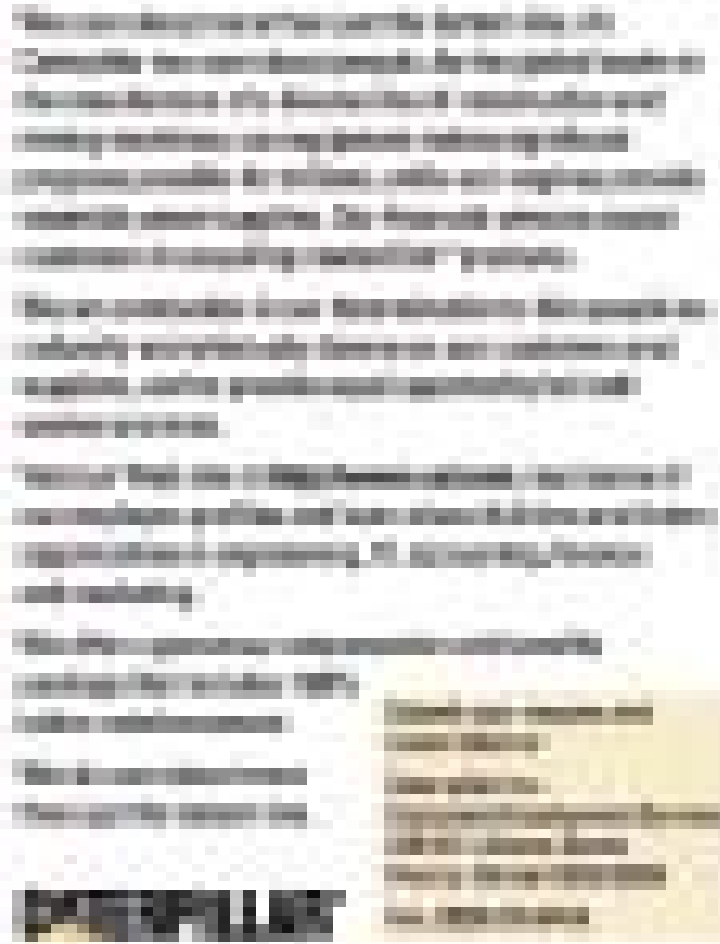
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*Front cover: New York subway's F line courtesy
www.glue.umd.edu/~chaohwa/nycsubway/. Back cover: Ford Focus taken by John Howarter.*





Landscape Architecture Licensure Act

by Monette Delong

The Ohio Chapter of the American Society of Landscape Architects (OCASLA) is working on passing a House bill to change Ohio's licensing program for Landscape Architects from a "title act" to a "practice act." It will update the Ohio definition of Landscape Architecture.

Currently, the Ohio Landscape Architects are being denied the opportunity to independently bid on many projects for which they are educated, tested and trained. These are projects that landscape architects may bid on and perform in other states. The Bill will allow Ohio landscape architects to do the same.

What do landscape architects do? "Landscape architects specialize in design and planning projects which involve both natural environments and construction. Some examples are parks, golf courses, zoos, school campuses, residential developments, commercial and industrial sites, and urban projects such as streetscapes and entertainment districts," (www.ocasla.org). Landscape architects complete a university education similar in scope, but different in

concentration, to that of engineers. The comprehensive national examination tests the skills landscape architects must possess, as determined by the national standard-setting and testing organization.

Ohio has three licensed design professions: architecture, engineering, and landscape architecture. There is by necessity, some overlap in the work landscape architects do with that of architects and engineers. However, landscape architects do not perform work that is exclusively within the scope of engineers and architects-such as the design of large dams or high-rise buildings. The bill will not preclude architects or engineers from doing any work they are currently licensed to perform.

Supporting the bill will create a "level playing field in Ohio for professional design services; result in lower costs and better value for Ohio consumers; and increase protection of the public health, safety and welfare through improved educational, internship, and enforcement standards.

Ford Focuses on the Future

by Mike Krantz

What is 3800 pounds, runs off of compressed hydrogen, and releases zero emissions? According to Th!nk, an enterprise of the Ford Motor company devoted to environmentally friendly transportation, it will be your next car.

In 2004, Ford will begin producing the Ford Focus FCV. FCV stands for Fuel Cell Vehicle, a fuel source that creates energy from hydrogen and oxygen reacting in a battery cell. The result of the reaction creates energy with water as its only byproduct of the reaction. This energy is then delivered to an electric motor, which in turn engages the motion of the car. The Focus FCV weighs a hefty 3,800 pounds, but is able to produce a peak torque of 140 ft-lbs, has a max speed of 80 mi/hr and a range of 160 to 200 miles to date. The 2002 prototype also cost \$4 million in production, which is better compared to its \$6 million predecessor, the Ford P2000. However, the price of the production models should be well within consumer price range by 2004.

What else can you expect from the Ford Focus FCV? Perhaps the question is what NOT to

expect. When turning the ignition to the car, don't wait to hear the rush of the engine turning over. Instead, wait a few moments for the



The truck full of fuel cells means this car can't take much cargo.

hydrogen pressure to build up before pulling out of the drive-way. The electric engine will also provide you the equivalent power of a typical four cylinder engine. This simply means you will have to give up your dreams of peeling out at light changes. Think twice about revving the engine as well, unless you intend to intimidate annoying pedestrians with a soft electric buzzing sound. However, be satisfied that your daily commute released zero emissions into the atmosphere, and in fact created little more than water

vapor. For many, this is a breath of fresh air.

Don't place your orders yet, however. There are some issues that still remain unsettled for the future of the Focus FCV. For instance, there is a lack of infrastructure for fueling stations of hydrogen based cars. It may be years before you see hydrogen fuel incorporated into your local gas stations. It is very difficult to distribute compressed hydrogen, and



Under the hood is the strange looking electric motor.

extensive as well as expensive systems of pipelines would have to be established. The current prototype also houses a pressurized hydrogen fuel tank in the trunk of the car, which may

cause problems in the event of rear end collisions. For instance, a common traffic accident may result in a much more harmful explosion. However, be reminded that there would be fear in incorporating highly explosive gasoline into cars, if it were also a new technology. Finally, environmentalists must be reminded that there is a trade off for running a zero-emissions car. That is simply that the hydrogen must be



Ford's new Focus externally looks the same.

produced using conventional techniques, which may in turn harm the environment. Does the end justify the means? It will be the consumers that will be the judge of that.

Photo credit: Olivia Miller
Mike Krantz is a sophomore in mechanical engineering; he can be reached for comment at krantz.15@osu.edu.

Suburbia Gets a Face-lift

by Alex Iams

Every few years, the idea wells in the business world run dry. In the case of such drought, companies often rely on the standby technique of recycling an “old” product and making it look “new.” This philosophy has given us products like the Chrysler PT Cruiser, Coca-Cola Classic, and Original Coors. Now it appears the development sector is joining the nostalgic parade with a “new” product of its own.

New Urbanism buzzed our vocabularies in the 1990s. Though the concept is well known to planners and architects, most people escaped the decade without grasping its exact definition. So what is it? The New Urbanist Charter defines a series of design principles aimed at creating mixed-use neighborhoods conducive to pedestrians, rather than the large single-use developments friendly to the automobile.



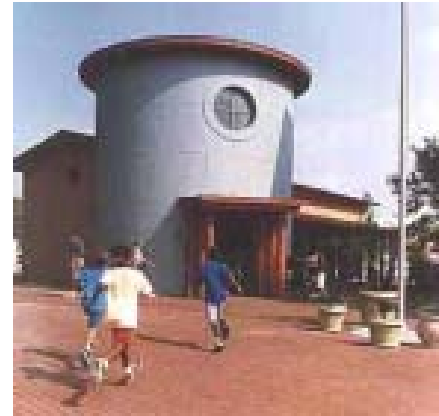
A developer promotes the bright new urban future.

The resulting projects provide an alternative to urban sprawl through use of existing sites, mass transit, and smaller lots. Still can't picture it? Many New Urbanists would point you to Seaside, Florida, (re: The Truman Show) a new town crafted by renowned architect Andres Duany. Seaside summons the days of yore through its historic architecture and commercial town center within walking distance of residences. New Urbanists like Duany herald this town as a success; indeed, many other developments have followed in Seaside's footsteps.

Critics, however assert that towns like Seaside are not what New Urbanism is supposed to be. Their contention is that some developers have contorted New Urbanism's well-meaning principles into little more than the next-best way to sell a

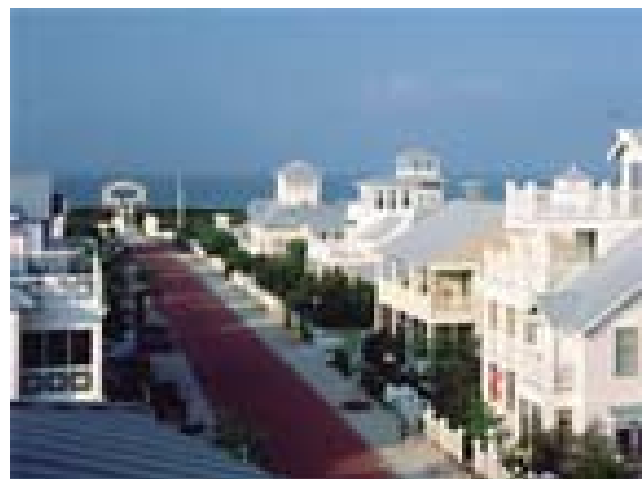
residential subdivision. These developers stand accused of borrowing the New Urbanism label without making good on its principles in practice. They are leaving valuable ingredients of the New Urbanism recipe out of many projects in the name of profits. What remains, critics say, is no different than the subdivisions we've been building since the end of World War II.

Their criticism deserves some merit. Developers locate many New Urban towns beyond the beltways of major cities, constructed atop undeveloped farmland, with no access to public transportation. This contributes to suburban sprawl and auto-dependency, contrary to New Urbanism's guidelines. Towns like Celebration, Florida (near Orlando), and Kentlands, Maryland (DC) fit the description.



This bizarre Post Office is a fixture in the pseudo-new urban town of Celebration, Florida.

A typical street in Celebration, Florida.





A typical street in Victorian Gate.

These towns also feature exclusively high priced residences (New Urbanism calls for a mix of prices). The cost is so high that few of the town's commercial employees can afford to live there. This perpetuates the cycle of auto-dependency, because those working in a New Urban town have to drive in from the distant (real) city. Meanwhile, those living in a New Urban town must drive to higher paying jobs located in that same real city in order to afford their "urban" home.

Critics also note that many commercial centers in New Urban towns are struggling. They struggle because businesses require a larger consumer base than these developments can supply. In addition, most businesses willing to locate in a New Urban town provide only non-essential products. Residents must drive elsewhere to get most of their goods, unless they can subsist on cappuccinos and trendy clothing.

So where does this grim critique leave New Urbanism? Is it doomed to be labeled a sprawl scheme in disguise? Not necessarily. New Urbanism is not perfect, but it does represent an improvement over the conventional subdivision. For one, true New Urban developments consume less land by building housing units closer together. The increased density allows for additional open space that a conventional subdivision would engulf. Secondly, even if the typical citizen in a New Urban town cannot walk to work, they can at least walk to a destination. As noted, most towns come equipped with a few stores, and may even include a school or a recreation center. This is preferable to a featureless "cul-de-sac-ville" that may not even have sidewalks.

Perhaps the truest New Urbanism projects are built on vacant lots in existing urban areas. Using a defunct industrial site, parking lot, or other unused property is called infill development. These projects

come closest to achieving the New Urbanism ideal. They can connect to existing utilities and public transportation, and do not contribute to suburban sprawl. The best local example may be High Street's Victorian Gate in the Short North. Originally constructed on a vacant lot, the prosperous development fits in well with the older surrounding neighborhood. Most residents live in apartments above commercial establishments that occupy the street level. The development offers connections to COTA, and there are numerous destinations within walking distance. Pedestrians breathe life into the neighborhood as they stroll to local restaurants, galleries, and parks.

Urban infill projects like Victorian Gate provide the best chance for a true New Urbanism, but must cope with trends leading in the opposite direction. Today the prevailing patterns of development



Victorian Gate is a new urban development surrounded by old neighborhoods.

cater to automobiles, land-use separations, and low-density housing arrangements. So where in this picture is there room for a philosophy that hinges on connections by foot, bicycle, and mass transit? The options lie in the older cores of cities that were originally developed in a compatible fashion. New Urbanism achieves its ideal form when complemented by urbanism.

Suburbs dressed in New Urbanism's clothes will continue to spring up around the beltway, bearing titles reminding us of their urban nature. When you see one, remember to investigate beyond its title and compare it to conventional suburban development. What you find may be similar to the difference between a Coca-Cola, and a Coca-Cola Classic.

Photo Credit: www.celebrationfl.com/;
www.continental-communities.com/vg/

Busting Perceptions of Mass Transit

by Jim Melton

Los Angeles, with its enormous population, is in need of a transportation fix. City planners are considering modeling the subway and bus system of population-dense Brazil.

For the first half of the 20th century, Los Angeles had one of the best public transit systems in the world. Streetcars, including a line residents called the “Red Car,” took thousands of people to their destinations quickly, comfortably, and with almost no air pollution. However, beginning in the 1940s, a consortium of companies including General Motors, Firestone Tires, and the oil company SoCal bought the Los Angeles streetcar lines and, despite the protests of residents, by 1961 had completely shut

down the system. Beyond the destruction of the actual trolley cars, the infrastructure and right-of-way required to operate the streetcar system—worth billions of dollars—was also lost. The result was just what the companies had hoped for: Los Angelenos had no other transportation option but the automobile. Other U.S. cities experienced a similar destruction of transit systems at the hands of the consortium.

In 1956, Congress passed the Federal Aid Highway Act, making large funds available to states for freeway construction. Since by law none of these funds could be used for any kind of mass transportation project (a provision the automakers and oil companies had lobbied for), transit was at a competitive disadvantage when compared to subsidized automobile travel. Although Congress passed a federal highway law in 1973 that allowed states to use a portion of their highway funds on transit, Los Angeles had by this time already built the most extensive freeway system in the world. By contrast, the only

One of Los Angeles’ red cars, which haven’t been seen since the 1960’s.





An extended bus, meant to mimick the features of the more expensive light rail.

transit left in the area—the county bus system—served only a small proportion of the population.

During the 1950s and 1960s, Los Angeles developed one of the worst smog problems in the world, and vehicle speeds on many freeways slowed to a crawl. Various attempts were made to reduce traffic, including the introduction of carpool lanes and organized rideshare programs. But these efforts did little to relieve the overall volume of traffic. In fact, the number of automobiles on the road continued to grow. It was apparent that an alternative to automobile travel was needed.

A potential way to reduce traffic was to increase transit ridership, but the bus system was unattractive to most residents. Not only were buses caught in the same traffic as cars, they traveled even more slowly because they had to stop at each block to load and unload passengers. An additional obstacle to increasing the number of bus riders was the perception (and reality) that the bus was only ridden by poor people who had no other option. These same problems persist today.

The first major effort to re-install rail transit in Los Angeles County occurred in the early 1990s. At that time, the Los Angeles County Metropolitan Transit Authority (Metro) began construction of a 22-mile north-south subway. However, the project exceeded its \$7 billion budget before it was finished. Lacking additional funds, and with public sentiment

turning against the project, Metro was forced to abandon the north-south subway line, leaving it incomplete. A planned extension of the subway to the east and west was also discarded. Again, residents' only viable mass transit option was still the slow bus system.

In 1997, Martha Welborne, an architect and city planner, was given a grant from the W. Alton Jones Foundation to study solutions to the problem.

The challenge was to create a rapid transit system for Los Angeles County, whose population of 9.8 million was larger than all but eight states. Tight budget constraints did not allow for a solution with high start-up costs such as light rail. Welborne had to find an inexpensive way to move more people more rapidly.

Welborne looked for answers in Curitiba, Brazil, a city that had built a world class transportation network on a low budget. Beginning in the 1970s under the leadership of Mayor Jaime Lerner, Curitiba successfully installed a

rapid bus transit system for a fraction of the cost of light rail. The system was simple: Rather than investing in all of the elements required for light rail, Lerner created a bus system that mimicked many of the features of rail. He purchased extended buses with two to three movable sections, which allowed for about as many passengers as a light rail train. In addition, these extended buses were designed to create the long, sleek look of a train. Instead of

...it looks as though Los Angeles has found a way to solve its half-century-long transportation headache at a relatively low cost.



tions to their destinations if necessary. Another key element in the design of the system was land use; the city of Curitiba passed a zoning code that clustered development around the rapid bus stations to increase the number of people within walking distance of the system.

After considering Curitiba's success, Welborne decided to convince the leaders and citizens of Los Angeles County that such a system could work for them as

boarding one at a time, passengers saved time by boarding the buses all at once through multiple doors from a covered, elevated platform. Passengers were able to board immediately because fares were collected at the entrance to the platform. The buses only made stops every mile or so and had their own separate thoroughfare (a dedicated lane rather than rail tracks).

These features solved many of the problems of a regular bus system without the high costs of rail. The extended buses could efficiently carry several hundred more passengers per trip than regular buses. Multiple doors and pre-paid fares allowed passengers to board quickly, reducing stops to an average of only a few seconds. The less frequent, mile-apart stops allowed rapid coverage of longer distances. Use of a dedicated lane allowed the buses to cruise through traffic. And the sleek design made passengers feel like they were riding a modern train rather than an antiquated bus.

This rail-like transit system was laid out in a spoke pattern across the city and integrated with a regular bus system. Passengers could travel the bulk of their trip on the rapid bus system, then use a regular bus or taxi to make the final connec-

well. In 1999, she led two groups of leaders, including Metro supervisors, state representatives, and Los Angeles Mayor Richard Riordan, to Curitiba to see the system for themselves. They returned from the trip enthusiastic about installing a similar system in Los Angeles.

A short time later, Metro started a pilot project of a single route on one of the major streets in the county, Wilshire Boulevard. Installing a dedicated lane proved too difficult a task in a short period of time, so Metro went for the next best thing: a device that turned the traffic light green as the bus approached an intersection. This device, coupled with the rail-like features of less frequent stops and fast boarding, allowed the new buses to move much more

Above and Below: Passengers board and exit the extended buses through special terminals.



rapidly than regular buses, even without the benefit of the dedicated lane. Ridership was approximately 50% higher than expected, and nearly 30% of passengers were new transit riders.

In speculating about the reasons for the pilot project's success, Welborne notes that the project provided fast, reliable service from the beginning. Aesthetics and marketing are also important, she believes. For example, the sleek, futuristic design of

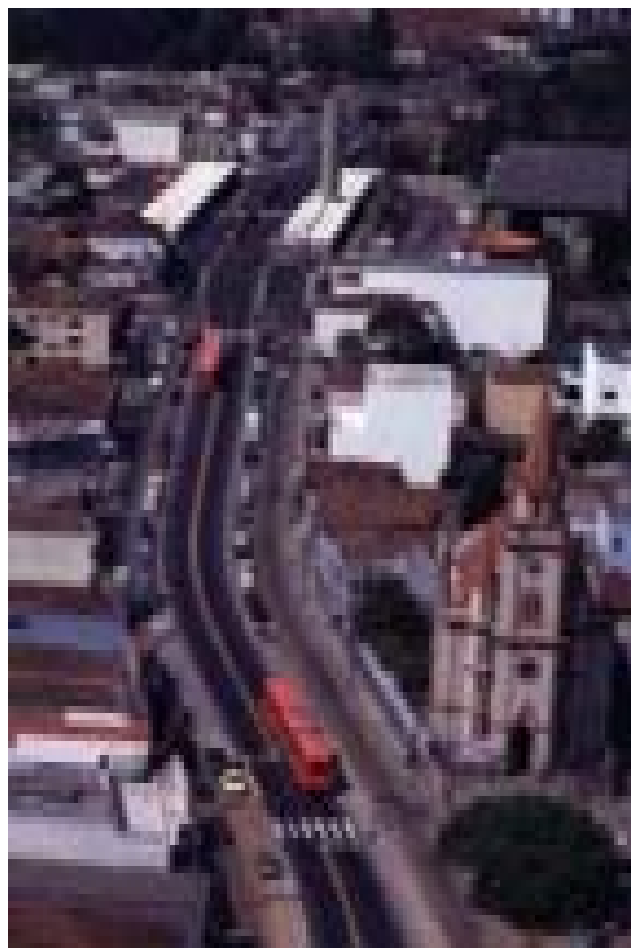
The challenge was to create a rapid transit system for Los Angeles County, whose population of 9.8 million was larger than all but eight states.

the buses combats long-held assumptions that only the poor ride the bus. And, in a deliberate decision, the new buses are painted red to evoke nostalgia for the Red Car. Welborne believes changing perceptions is as much a part of the chal-

lenge of creating successful transit as building busways.

Not only is the public learning to change its perceptions about buses, but so are county officials. L.A. County Supervisor and Metro Boardmember Zev Yaroslavsky is fond of quoting Curitiba Mayor Lerner who says, "You have to have the courage to try simple solutions." Yaroslavsky, who went on Welborne's Curitiba tour, points out that a system built on the Curitiba model would cost just \$20 million per mile compared to \$300 million per mile for a subway.

And so, at last, it looks as though Los Angeles has found a way to solve its half-century-long transportation headache at a relatively low cost. Metro is now in the process of acquiring dedicated lanes for the buses and extending the system from Wilshire Boulevard to other routes. While Welborne's work seems to be just getting off the ground after five years of effort (Curitiba has been at it for 28 years), citizens' enthusiasm is helping fuel



An aerial view of the extended bus.

continued planning and implementation.

Looking ahead, Welborne says that concepts for future systems include buses powered by an electric current running underneath the street. These buses would be equipped with a diesel engine to be used for short departures from the electrified route, further combining the characteristics of regular bus and light-rail systems and allowing the buses to transport passengers efficiently with minimal air pollution.

These plans seem high-tech when compared to the bus systems Americans have become accustomed to. Yet Welborne would be the first to admit that the success of the rapid bus system will not be founded on technological wizardry but on the courage to try simple solutions. In a recent interview with Los Angeles' Metro Investment Report, Welborne emphasized her position: "I have known about Curitiba for a while. I never forgot the simplicity of their solution."

Photo Credit: <http://sustainable.state.fl.us/fdi/fscc/news/world/0003/curitiba.htm>;
<http://www.curitiba.pr.gov.br/pmc/index.asp>

German Sidewalk Culture

by Katrin Britta Anacker

I was born in Germany and spent my first 20 years there. Since September 1997 I have been at Ohio State University (OSU) where I study City and Regional Planning at the Austin E. Knowlton School of Architecture. Currently, I live in the North Campus area and part of my Sunday morning ritual is to buy the Sunday New York Times at a dairy store on High Street. On my way to the store I pass the Business School and the north dormitories. The Business School moved to their new campus several months ago and not only their facilities but also their sidewalks are new. They are white (still), smooth and immaculate. However, right next to the new Business School are the north dormitories, built about 30 years ago. The sidewalks adjacent to the dorms are old – gray, crumbling at the edges, and full of cracks. One has to watch carefully to keep from tripping. How long will it take for the Business School's sidewalks to look like those at the north dorms? The general condition of

sidewalks indicates that over time the materials used deteriorate and either become unsightly and potentially dangerous or require expensive replacement and repair. Is this type of construction the only option available? Is it sustainable? Are there other options?

This summer, 12 students from the Austin E. Knowlton School of Architecture participated in an exchange program between Ohio State University and the Technical University of Dresden/Germany (TUD). This exchange program has been in existence since 1997/1998 and has been quite successful. It has been coordinated by Professor Dr. Bernhard Mueller on the German side and Dr. Hazel Morrow-Jones on the U.S. side. Each school year the exchange program starts with a jointly taught class in the spring. The students are introduced to each other across the international border using video conferences, e-mail

and a web site. The Ohio State University students, faculty and sometimes planners from the City of Columbus travel to Dresden in June. The German students, along with their faculty, come to Columbus in August. The students work on joint papers by communicating via video conferencing, e-mail, on the telephone, and finally in person. During the trips to each country student teams, consisting of two Germans and two Americans, work on poster projects as well as their papers. These poster projects are intensive field projects that culminate in presentations to open workshops in Dresden and Columbus. In

addition to these activities, field trips, lectures, visits to important sites, talks with planning professionals and many other activities fill the days.

Over the past few years students have come from a variety of disciplines. At TUD the disciplines were geography, spatial planning, traffic engineering, cartography and education. At OSU the disci-

plines were city and regional planning, geography, natural resources, sociology, agricultural economics and computer science. This year's topic was "Improving the Livable Environment in the Urban Region: An Investigation of Environmental Issues in Columbus, Ohio and Dresden, Germany." Dr. Maria Manta Conroy was in charge of the class. Some of the lecture topics included Spatial Planning, Public Finance, Landscape Planning, Land Use and Sustainability and other topics related to planning in Germany. Although each class is targeted towards a specific topic, the field trips, often walking trips, offer some opportunity for general observations: for example, Germany's sidewalk "culture."

Due to high land prices, cities in Germany as well as other parts of Europe are often quite dense. In major metropolitan areas people may refrain from

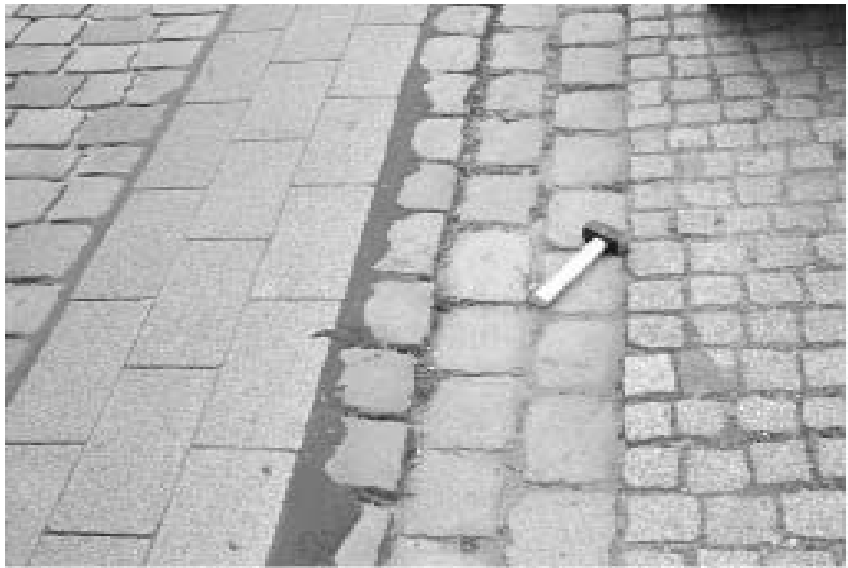


Skilled German bricklayers creatively placed bricks around this lamp post.

using their cars because of traffic congestion, immense parking problems, exorbitant gasoline prices and high taxes for cars. Unlike the United States, living downtown is desirable because there are not very many major issues with respect to school quality and other socio-economic factors of the neighborhood. Therefore, people often use the public transportation system, bike or walk to work. Traffic on sidewalks, especially in inner city neighborhoods, is so high that sidewalks are on the minds of city planners and engineers. In comparison with the United States, most sidewalks are in good repair and are also aesthetically pleasing. This is due to the fact that Germans do not always use concrete or asphalt to construct sidewalks but instead use bricks, cobblestones and other materials. Although pouring concrete is a fast way of constructing a walkway, it is not the only option.

The pictures show there is a great variety of materials that are very durable and also aesthetically pleasing, when it comes to covering surfaces in Germany. Germans pay a lot of attention to detail when it comes to building sidewalks. Within the area to be paved, there are no spaces left out. Even the very small areas are covered with specially tailored bricks and other materials as shown in the pictures below. Bricklayers who are trained for three years do not seem to mind working around obstacles such as

Bricks are used for sidewalks and also for streets.



A different type of brick, which is less slippery in the rain is used for a narrow bike path.

poles, fire hydrants, masts and other objects. Using bricks, cobblestones and similar materials is an excellent way to reduce the speed of cars – theoretically there is no need to put up speed bumps and other traffic calming devices because most drivers slow down when driving on brick or cobblestone. Also, bricks with a different color can be used in order to avoid thermoplast as lane markers – in many cases thermoplast is not very durable. It is also easy to get access to infrastructure below these alternative materials — simply remove the area needed, do the project and put the bricks, cobblestones or plaster back in. No traces of the project will remain. Depending on the type of material, this kind of paving can last decades; a tour in the City of Goerlitz showed us that after 100 years the paving was taken out, adjusted and most pieces were put back in again. Clearly these materials are more sustainable than concrete. In addition, they adjust more easily to pressures so cracks happen less often and are less unsightly than cracks within a concrete sidewalk.

There are some disadvantages as well: some types of paving might be slippery in inclement weather and bicyclists and pedestrians might not be safe. My home town in Germany used cobble stones for a downhill street downtown. After the first winter, bikers complained that the surface was too slippery in the rain. After some discussions the city decided to take out a line of cobblestones in the area that was used by bikers and used plain bricks. Now everyone



seems to be happy. Another disadvantage is that bricks, cobblestones and similar materials are expensive in the short run. This is true but in the long run – concrete or asphalt needs to be replaced after several decades – bricks, cobblestones and similar materials are quite inexpensive.

It seems that the advantages of brick and cobblestone sidewalks clearly outweigh the disadvantages of concrete and asphalt sidewalks. So why does the U.S. use concrete? Because Americans are used to doing things by habit, using the famous time saver standards publications? Are we not aware of other options? Maybe the short run cost is more important than the long run usability? Maybe we do not use our sidewalks as often as the Germans so we do not pay attention to their quality? Maybe?

Buying a newspaper on Sunday morning, walking to a dairy store would be a more pleasant experience if sidewalks were in better repair and aesthetically more pleasing. Since a lifecycle of a walkway seems to get shorter and shorter, using bricks and cobblestones might be worth considering. Walking around on aesthetically pleasing bricks was

one of the more general experiences that students typically gain during the excursions to Germany. And there are many more.

Next year's class will focus on economic redevelopment in the context of sustainability and will be taught by Dr. Jennifer Evans-Cowley (cowley.11@osu.edu). Funding for the program has been provided by the Institute of Ecological and Regional Development in Dresden/Germany (IOER), the Technical University of Dresden, Dresdner Bank Kulturstiftung in Frankfurt/Germany, Huntington Bankshares, Inc. in Columbus/Ohio, the Ohio State University and private donors. If you have questions about the exchange program or related issues please contact Dr. Hazel Morrow-Jones (morrow-jones.1@osu.edu), Dr. Jennifer Evans-Cowley (cowley.11@osu.edu), Dr. Maria Manta Conroy (conroy.36@osu.edu) or Katrin Anacker (anacker.2@osu.edu).

Photo Credit: Katrin Anacker

It Was Thought Driving Over Oil Reserves Was Fun...



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Try Driving One Of These



Developing an Antidote for Suburban Sprawl

by Evan Scurti

For decades suburbia has subscribed to the philosophy that a strict separation of land uses is the development pattern that most Americans desire. Environmentalists and advocates for “smarter growth” often cite the following problems associated with this type of land development pattern: (1) suburban zoning codes, with their myriad of single land use zones, promote the sprawl of suburbia into outlying farmland where developments will not interfere with any adjacent land use; (2) sprawl strains municipal resources by requiring roads, sewer, and water lines to extend into the countryside to serve these new developments; and (3) sprawl increases traffic on the new roads and, therefore, increases pollution.

The Columbus suburb of Gahanna is no exception. The grid street pattern in the center of the map represents the original town of Gahanna, known as Olde Gahanna today. Since that time the City has abandoned a compact urban form in order to provide the suburban lifestyle of relatively isolated residential subdivisions.



The community enjoys a summer festival at Creekside.

Gahanna, however, has recently joined the quiet revolution that is occurring in many American suburban communities. Suburbs are recognizing that perhaps the greatest problem created by sprawl is the loss of a sense of community that comes with compact urban form. As a result, the City is now focused on revitalizing Olde Gahanna.

The process began back in 1999 with the creation of Creekside Park, a passive recreation area

located on the west side of Olde Gahanna around Big Walnut Creek. The City’s vision of a public park around the Big Walnut can be traced all the way back to 1988 when the Waterfront Center of Washington D.C. conducted a study of Gahanna’s waterways and found that the Big Walnut was an extremely under-utilized resource. Consequently, throughout the



Peaceful waterfalls are characteristic of the Creekside development..

In the 1990s, city leaders developed grand visions of plazas near the creek and upscale mixed-use development throughout Olde Gahanna. As time passed and citizen participation became active, “Creekside Park” became scaled down to a wonderful community focal point without overpowering the Olde Gahanna neighborhood with potential tourism.

Creekside Park opened in 1999 and it continues to gain recognition as a public space development that truly represents the planning philosophy of “smart growth” by ensuring that the Creekwalk, a paved walkway that winds throughout the park, has many connections to street-level areas throughout the Olde Gahanna neighborhood, thereby promoting the park as an amenity that is accessible to pedestrians throughout Olde Gahanna. Consequently, the smart growth principle of reduction of suburban automobile traffic is served. Other improvements include highlighting unique architecture and adding an ornate arch that re-orient residents to downtown Gahanna.

As future phases of the Creekside project are implemented, the park and adjacent Olde Gahanna neighborhood will become more refined into a town center that functions as an urban village.

Autumn In New York

by Dan Huynh

Printed server boards and military aircraft were definitely part of my life during my last two internships at IBM and Lockheed Martin, respectfully. I learned a lot about electrical engineering, thinking on my feet, and the differences between a corporate ambience and a military/contractor atmosphere. However, the most memorable moments that my internships offered were not the work I performed, but the events I witnessed, the places I traveled, and the people I met.

The day started out just like any other day—working in my cubicle at IBM in the village of Endicott, New York. A fellow Ohio State intern, Matt Beerman, wandered into my cubicle to describe to me the latest news of the day, “A plane just flew into the World Trade Center,” he stated.

I automatically assumed it was a small commuter plane and was merely an accident, quickly thinking nothing of it until Matt came quickly back. “Another plane hit the World Trade Center,” he remarked in shock.

Soon enough, the internet servers were jammed and the telephone lines were congested. All I could do was rely on the scratchy voices of the radios that echoed in the now-silent halls, describing the terror that occurred in New York City. Immediately, my fellow employees stopped working and sat, huddled around little radios listening to the play by play on what was unfolding in front of us. Men and women with deer-in-headlights gazes, graphically zombie-like, stared blankly into the air while others could not help but shed a few tears. Being only a short three hour drive to New York City, many IBM employees had friends and family in Manhattan and worried deeply for the safety of their loved ones.

Before too long, a gloomy voice came over the public announcement system: “Please do not use the phone lines. All the phone lines are jammed up and need to be freed up in case of an emergency.” Everyone was trying to call their loved ones from work, but due to the massive flood of phone calls, no one could get through. We were told to continue working like normal, but how could we?

In a meeting, I witnessed a fellow co-worker, a big, middle-aged man whom you never thought

would ever shed a tear just lost it—right there in the middle of the meeting—but understandably so. No one’s minds were there, just a work force of hollow souls wandering up and down the halls.

During lunch time, a group of co-workers and I walked down to the local pizzeria to watch Tom Brokaw narrate the story that was unfolding. At roughly the same time, high school students were swarming in the local eatery to grab their lunch before heading back to class. Increasing the volume on the television to drown out the gossiping high schoolers was only mildly successful. Some of them seemed to care, but most of them just turned their indifferent heads and began their conversations about whom Jen was dating and why Brad broke up with Kate. I guess most of them were still too young to understand.

The owner and his wife had a different point of view. Glued to the television as much as my counterparts and I, they were greatly interested about the attack on the country to which they had immigrated. The owner had a hard Italian accent and spent much of his days behind the big pizza ovens, occasionally coming out to run the cashier when his wife was busy waiting on the tables. I still remember the hard Italian voice asking for “five-a doll-a.”

After lunch, I returned back to my cubicle, hoping to sense some normalcy in my life, but then my officemate arrived. Neal Driver was a fellow intern that worked part-time as he continued his pursuit of an electrical engineering degree from Binghamton University, the local university in town. Immediately, Neal described the scene at this public institution. “I was standing in the food court after class. I watched the second plane hit the building. Everyone watched in disbelief. Shortly after, no one could use their cell phones to call home. Girls were outside their classrooms, faces in their hands, crying, and the internet was all congested with students and faculty trying to receive more information. It’s just crazy. Most of the students at Binghamton are from the City and a lot of their parents and friends work in Manhattan, including many close friends of mine,” Neal vividly remarked. I spent a portion of the remaining part of the day talking to Neal about the day’s events.

Having previously scheduled an appointment to get a new muffler, I somberly drove to the muffler shop after work. There, a small television displayed much of what I had seen from the day—tragedy in New York and Washington, D.C. The mechanic tried not to make eye contact with the screen, trying to continue his normal life. A middle-aged woman sitting across the room from me grimaced, her hand supporting her face as she viewed the dreadful

Defense, Donald Rumsfeld as he was questioned by the press. Honestly, I do not remember the exact words he spoke, but I finally lost it. Yes, even I shed a tear that dreary day. All day long, my composure was kept, but no more. It finally got to me.

A few weeks later, two friends and I drove back into New York City to catch the last New York Yankees home game. After the game, we were curious about Ground Zero and drove through the



replays. A blue-collared man who had just had his truck fixed stopped mid-step as he walked toward the door. He turned to the mourning woman and I and said, “I was just there this morning. It’s crazy over there.” He just shook his head and left.

What was ironic about the whole day was that it was September 11th, the day Bob Dylan’s new album, “Love and Theft” was released. I had been waiting eagerly, like a child on Christmas, in anticipation of this date. Who knew the day would be filled with catastrophe and despair. Instead of feeling content on the day for which I had yearned, I did not know what I felt. I was empty. I didn’t know what to say or what to do. I just turned on the AM radio and listened to the latest in the coverage while I drove home.

A moment I will never forget came next. Driving along Vestal Parkway just outside of Endicott, I heard the scrappy voice of Secretary of

darkened city from the Bronx to Manhattan, weaving gingerly through traffic through the somber rain. Unfortunately, we could not get close enough to Ground Zero to pay homage to the newly formed vigil. After driving through the remaining Burroughs, we crossed over the Manhattan Bridge. To our left, we saw embers burning and smoke rising from where the World Trade Center Towers once stood; even weeks after the fact, the sight sent a chilling reminder of what took place just a few weeks ago.

As ghastly as the events were last September, I am glad that I was able to be close to New York City and see how it affected my friends and co-workers, whom all knew loved ones in Manhattan. I am glad I took a trip to the City—as the New Yorkers refer to it—before and after the haunting date of September 11th. What I saw and felt those days will always be instilled within me. I saw the world in a different way those months in New York.

The Modern Art Museum: Economic catalysts or generic masterpieces?

by David Knapp

Over the past few decades we have witnessed the decline of the American city and the rise of urban sprawl. In recent years we have also noticed the movement to revive our older urban centers such as Baltimore and Cleveland. In attempts to revive themselves, cities often resort to the construction of attractive, luring and sometimes controversial buildings. Some build lavish casinos while others construct record breaking skyscrapers. Some cities take other related approaches by building innovative and often controversial buildings such as the Guggenheim Museum in Bilbao, Spain.

Bilbao, a city in northeastern Spain that was recently noteworthy only for its shipbuilding, commercial and manufacturing industries as well as for being home for the infamous terrorist group E.T.A., has made a name for itself as a leading cultural destination among European cities with its construction of the Guggenheim Museum and ensuing developments. The plan to revitalize the recession-plagued economy and create a European cultural hotbed had been a vision of local political and business leaders for the past few decades and is beginning to be realized as tourism has noticeably diverted from Barcelona and Madrid to Bilbao.

The opening of the Frank Gehry designed building was a highly anticipated moment as many visitors had been flocking there to see the building rise during the last two years of construction, and the

fact that it was the most published building in the 1990s. The building far surpassed its expectations, as the first year it was open drew nearly 2 million visitors. And much like the opening of the original Guggenheim Museum in New York City designed by Frank Lloyd Wright, Gehry's museum drew an

onslaught of controversy. Many question the efficiency of the building as it is supposed to house art, while many question the value of the \$100 million price tag.

The mere \$100 million is now an envious sum, as many cities are now realizing the current cost to build such a similar attraction is around \$260 million such as the Walt Disney Concert Hall, Los Angeles,

by Frank Gehry. Los Angeles is trying to revive its cultural/theatrical image with a similar approach that Bilbao took by also commissioning Gehry to design a building within the city. This project however hit a brief halt in the planning stages as the budget needed to be adjusted.

Another architect that was part of the complete plan for Bilbao's cultural revitalization project was Spanish architect Santiago Calatrava.

Calatrava was recently commissioned to build an addition to Eero Saarinen's Milwaukee Art Museum. Not only was this project commissioned to Calatrava to fulfill specific programmatic demands, it was also to provide a centerpiece for the city, spawning economic development and attracting valuable tourist spending. It's to be a catalyst for sustainable



Milwaukee's Museum of Art



Guggenheim Museum in Bilbao, Spain

economic health and prosperous developments having similar impacts on Milwaukee that the Guggenheim has had on Bilbao.

The original building dubbed as the city's "masterpiece on the lakefront" has reinvented itself. From its opening in 2001, the building has drawn close to 375,000 visitors up from the nearly 165,000 that typically visited the few years prior to the addition's opening. The new addition has gone so far as to be the symbol of Milwaukee to the rest of the world.

It turns out that many cities are trying this exact same approach to lure tourism capital into their local economy. I was in New York City this summer to see the Frank O. Gehry exhibition at the Guggenheim museum. What I saw there was that

many of his current commissions are projects aimed at reviving cities just like Bilbao and what is projected in Milwaukee.

But when will the products of this movement be realized as being generic? Sure they are unique and controversially meaningful symbols, but when will they become redundant regardless of the credibility of the artist/architect? Sure, site and other contextual influences may alter the design approach slightly, but when the commissions are ultimately all out to synthesize the same end result, how much variance can there be? How much of an economic and generally positive impact will these buildings create should they continue to be built? Should cities continue to construct iconic pieces to an ultimately generic state?

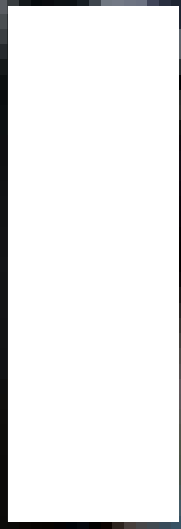
Scenes from the College of Engineering

compiled by John Howarter



OSU Future Truck is in its third year of a four year competition. The goal is to reduce emissions of a 2002 Ford Explorer by 25%. Upper left is the 2000 Chevy Suburban being tested in Arizona. Upper right is the Future Truck on display in front of the 'Shoe'. To the left, team members are dropping a hybrid engine into the truck.

For more information: <http://turbo.eng.ohio-state.edu/~future/>




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