

Taking a Transit-First Look at New Commercial Development

By Bill Valentine, FAIA
President, HOK Group, Inc.

Bill Valentine
President, HOK Group, Inc.
One Bush Street, Suite 200
San Francisco, CA 94104 USA
Tel: 415.243.0555
Fax: 415.882.7763
bill.valentine@hok.com

The United States: Land of the free, home of the brave, and the country with the world's worst land-use patterns. As Americans seek out bigger and better homes for their housing dollar, urban sprawl is speeding past our cities' suburbs and eating away at the country's farmland and open space at the alarming rate of two million acres each year.¹ Once claimed, of course, this land is lost forever.

The 2000 U.S. Census revealed that the country is growing much faster than expected. *The Economist* reports that by about 2040, America will overtake Europe in population. In 1950, Europe had twice as many people as the U.S. If this surprising trend continues, by 2050 Europe will have a population of 360 million and America will have more than half a billion people — double its current size.²

Yet according to a Brookings Institution study of 281 U.S. metropolitan areas, land development on greenfield sites actually is outstripping population growth so much that population densities are declining in all but 17 of the areas examined.³

The impact of sprawl gobbling up our countryside is devastating. It creates horrendous traffic and environmental problems, stresses the interstate highway system, and fragments communities. Financially, taxpayers must foot the bill to create infrastructure and services for each new far-flung suburb.

HOW THE EDGE CITIES AFFECT OUR ENVIRONMENT

Transportation, buildings, and industry each generate about 1/3 of U.S. energy usage. In the sprawling state of California, where buildings require less energy but people love their cars, the transportation segment accounts for more than 50 percent. As a country, highway transportation requires more imported oil than we even produce domestically. Yet the pace at which Americans are purchasing cars is accelerating at a faster rate than the population is growing.

The impact of sprawl on our environment is frightening. In addition to destroying the natural landscape and threatening our bodies of water through runoff, the Natural Resources Defense

Council⁴ reports that motor vehicle use that comes with increased reliance on cars in these edge cities contributes:

- 32 percent of total U.S. carbon dioxide emissions
- 62 percent of our carbon monoxide emissions
- 26 percent of our volatile organic compounds (VOCs)
- 32 percent of our nitrogen oxides
- Half our carcinogenic and toxic air pollutants

Researchers studying the effects of sprawl believe there may even be a link between the suburban lifestyle and our country's appalling rate of obesity, which leads to a variety of health problems. A recent study co-authored by Lawrence D. Frank, associate professor of urban planning at the University of British Columbia, determined that people who live in areas of low building density — where they can't walk to their destinations and spend many hours in their cars — tend to weigh more than people in higher-density, mixed-use areas.⁵ Think about older cities like New York or Chicago: People walk. Think about the typical new cul-de-sac suburb: There's no sidewalks, nowhere to walk, vast parking lots, and busy highways around the corner. Even people non-plussed by the negative environmental impacts of sprawl tend to take note when we start talking about threats to their health.

In the near future, urban sprawl is going to worsen as the population grows and people continue to move further from where they work – and have no choice other than to use their cars for transportation. Maybe we can't put an immediate halt to the march away from our city centers, but who's to say we can't slow it down by planning our existing suburban areas in a more intelligent, transit-first way?

STUCK IN THE MIDDLE: THE LAND BETWEEN OUR URBAN CORES AND OUTER LIMITS

How will we accommodate our swelling population? We can't continue to grow outward indefinitely. As sprawl reaches its outer limits, I believe we'll begin to see the infill of existing communities.

According to the U.S. Census Bureau⁶, about 80 percent of our population currently resides in metropolitan areas. Only 13 percent of that group live in places with 1 million or more people. While there's still much room for improvement and city cores need our attention, these urban areas generally are already dense in terms of the amount of people per square mile.

Considering the projected population increase, the real action is going to be in the 67 percent of our land that makes up the suburbs. There are roughly 100 acres of suburban land for every acre of urban space. Increasing that density and making these suburban areas more livable and transit-oriented would go a long way toward alleviating our land-use crisis. We are at a watershed in which suburban land — the “inside” land compared to sprawl developments — could become extremely valuable.

A NEW DREAM ABOUT THE AMERICAN DREAM

With apologies to Martin Luther King, Jr., I also have a dream. Instead of condemning and abandoning suburbia, my dream involves transforming and making it work. Let's make the best out of what we have — and it's certainly not going away — by changing the formula. As an architect, my focus is on creating great places where people can interact in a positive way. Why can't we create great places for suburbanites to live? Why can't the suburbs be smart, appealing, human-scale places rather than a "necessary evil." Using transit as a trigger, planners and designers have an incredible opportunity to perform alchemy on our suburbs.

We can rethink suburbia by reorganizing and making it more dense. The big problem in suburbia is the fringe of green space surrounding nearly everything. Increasing density in our suburbs involves building right up to existing buildings. We can create pedestrian-friendly, compact developments by adding courtyards, open spaces, town centers, and interconnected streets, pathways, and buildings. This will improve the quality of life while also making smarter use of less space. Bigger doesn't always have to mean better in American culture.

Achieving density doesn't mean building tall towers. It simply is a challenge of building spaces close together where land is valuable. When conjuring a vision of San Francisco — the densest U.S. city — many people picture a downtown skyline. But 95 percent of the city is actually made up of buildings that are about 40 feet high.

When I slip on my rose-colored glasses and gaze around the suburbs, I see vast parking lots as land banks for future infill or green areas. I envision townhouses built on top of strip mall parking garages. Instead of looking at the suburbs and saying "woe is us," let's use design to make it work.

DENSITY SPAWNING TRANSIT

The key to making the suburbs better revolves around creating effective ways to move people around on local public transportation systems instead of in their private cars. We can create prominent community nodes linked by transit.

Density historically has developed around transit systems — look at what happened as our highway and railroad systems were built. Now, if we start with community and create connectivity nodes in the suburbs, we can turn that equation around and show how density can spawn transit. Transit-first designs don't simply accommodate transit solutions as part of a development. Instead, they make transit appealing and convenient as an integral part of the solution.

The good news is that the American Dream has room for transit — it's not just a niche solution for people who can't afford cars or who are too old to drive. Who wants to spend two hours a day, or 500 hours a year, commuting to and from work in an automobile? The idea of creating convenient transit systems in the suburbs isn't a hard sell to this fed-up and captive (literally) audience.

New rail and bus projects are thriving in cities all over the U.S. In my home state of California alone, there are relatively new light rail systems in San Diego, Los Angeles, Sacramento, and

San Jose; San Francisco has extended its system. In 2002, the city of Oakland adopted a pedestrian master plan to encourage its citizens to walk to bus transit stops. Dallas — the poster child for sprawl — has built a wildly successful light-rail system.

All over the country, states are reevaluating growth patterns and encouraging denser communities. Transit-oriented development (TOD) — transit-first’s “cousin” — is an important part of smart growth solutions. We can define TOD as “an effort to make the most efficient use of transit investments by creating vibrant centers of activity around stations and stops.”⁷ These stations can be for multimodal systems, light-rail, buses, subways, ferries, and vanpools.

An *Urban Land* article by Jim Miara (May 2001)⁸ describes a utopian vision of transit villages as “tightly clustered, mixed-use developments within a half-mile radius of a transit station. They include densely developed housing, stores, commercial buildings, entertainment facilities, social services offices, and public open spaces. Ideally, people who live in these villages can get to everything they need by foot. Those who come to the villages for work – preferably by mass transit – will be encouraged to use the surrounding amenities. Those who live in the village but work outside of it can use the transit system to travel to their jobs.” What a vision!

Many people move to the suburbs to escape density. But what if our new ideas for suburbia create denser living areas that are more convenient and less expensive? That encourage the social interaction with neighbors that’s all-too-often missing from today’s suburban experience? That are better places to live, work, and play? Instead of relying on zoning laws to force this to happen, architects should use our creativity to make strong cases for transit-first. Let’s make it appealing for people to live near town center amenities and attractive transit systems so that this becomes their living choice of preference. It’s a quality of life issue.

In addition to getting commuters out of traffic congestion and reintroducing them to their neighbors, building new and expanded mass transit nodes to link these more compact developments can help preserve our precious land and save energy.

When more people ride the trains, buses, and ferries, more transit lines get built, and more people ride — it’s a spiral effect. Frustrated automobile commuters will use these transit systems, but they must be convenient. Research shows that people who live within a quarter- or even a half-mile radius will walk to a transit stop.

THE MILL VALLEY MODEL

I live in the enlightened town of Mill Valley in Marin County, California. The public transit in Mill Valley, once a rail town, today consists of an extremely effective bus system that picks up people who can walk to various nodes.

Though Mill Valley is getting denser all the time, residents don’t feel it. People are making housing in apartments over stores. A town square and a series of pathways promote pedestrian activity from downtown into residential neighborhoods. Even with the increased density, there’s an abundance of open green space and trails — it has the whole spectrum. The town has a real soul. Admittedly, this San Francisco suburb is a rarified place. But we can apply many of the principles to any U.S. suburb.

TRANSIT-FIRST PROJECTS

Planners and designers need not wait for “big idea” transit-first opportunities. All shapes and sizes contribute to the solution. Every transit-first step we can take creates an incremental improvement to the quality of life in our country. And certainly a large segment of the world population, especially in Asia, looks to emulate U.S. living patterns. What we do here and the ideas we export are extremely important.

Meanwhile, we’re continuously learning from our clients and evolving our thinking. Recent clients in China and India, for example, have taught us about planning communities for high density from the outset.

Here are highlights of recent HOK projects of different scales and densities that feature a transit-first approach.

A Transit-Oriented Town Center

Triangle Metro Center

Research Triangle Park, North Carolina



Photo 1 Triangle Metro Center

More than 50,000 employees work in the 6,900-acre Research Triangle Park, which is experiencing severe traffic congestion because everybody has to live somewhere else. There’s even a noontime rush hour as people drive to lunch! While there currently is no alternative transportation, the Triangle Transit Authority will come online with a rail system station in 2007.

This Triangle Metro Center mixed-use centerpiece for future RTP growth will provide 700,000 square feet of office space, a hotel, residential, retail, and dining facilities while relieving the area’s tremendous traffic congestion by incorporating a new regional rail and bus system hub. In keeping with the town-making tradition, the streets are hierarchical, the center is clearly defined, and there is a complete mix of uses with a full range of building types. The hope is that this transit-oriented town center will be a prototype that begins to transform the land use and transit patterns in RTP.

Designing Suburban Headquarters Campuses Around Light Rail
Franchise Tax Board Headquarters
Sacramento, California



Photo 2 Franchise Tax Board Headquarters Master Plan

This is a 1.85-million-sq.-ft. state-owned office complex built around an existing Sacramento Regional Transit light rail station.

Enhancing quality of life and making the commuter experience convenient for daily transit users was the goal for this complex, which includes a town center that supports two new office buildings. All town center amenities — café, credit union, theater, newsstand, dry cleaning, and daycare facilities — are at the rail stop. People who drive their own vehicles must walk across a parking lot and through pathways to reach this building. The FTB also offers preferred parking for car- and vanpools.

The transit-first thinking allowed the FTB to cut the amount of parking spaces it would have needed by about 1,500.

VERITAS Software Campus
Mountain View, California

This 425,000-sq.-ft. Silicon Valley campus was built across the street from a heavily used rail station. Placing retail, restaurant, and other amenities open to the public on the edge of the campus, near the rail stop, encourages people to use the trains and makes life more convenient for the company's people.

A Paradigm for Transit-First Airports
Chek Lap Kok International Airport
Hong Kong

Trains are so convenient to terminals at this island airport that the vast majority of passengers choose this mode of transport over taxis or cars. Trains move directly into ticketing and directly out of baggage claim. The world-renowned West Kowloon railway station, where the airport trains link with the city's main system, is just a 20-minute train ride away.

Integrating Residential/Mixed-Use Redevelopments of Military Bases With Mass Transit
Alameda Point Master Plan
Alameda, California



Photo 3 Alameda Point Housing and Mixed-Use Community

The city of Alameda, California, is centrally located within the metropolitan Bay Area, just across the estuary from Oakland and across the bay from San Francisco. Planning the redevelopment of the former Alameda U.S. Naval Air Station as the “Alameda Point” housing and mixed-use community provided a unique opportunity to use smart growth principles while helping to relieve the area’s chronic demand for housing.

Alameda Point will include nearly 3,000 new homes and more than four million square feet of light industrial and commercial development. The intent is to provide a balance between the new homes and job opportunities. The commercial-retail hub is located next to the marina and a multimodal transit hub.

The main challenge to developing Alameda Point was the lack of accessibility. Situated on an island between Oakland and San Francisco in the shadow of the Bay Bridge, Alameda Point offers spectacular views. But the island’s only links to Oakland are two bridges and one tunnel, which already are congested.

To solve this accessibility challenge, the planning team developed an innovative transportation system. The centerpiece is a multimodal transit hub that links ferries, buses, parking, light rail, and a high-speed aerial tramway that will whisk up to 2,500 passengers an hour to the West Oakland BART station in less than two minutes. Alameda Point commuters can reach BART’s busiest transfer station in less than two minutes, downtown San Francisco in less than 10 minutes, and downtown Oakland in less than five minutes.

*Fort Bonifacio
Manila, Philippines*

HOK created a master plan for Fort Bonifacio, a completely new world-class city in metropolitan Manila. The 440-hectare site once housed a Philippine military base. HOK developed planning, urban design, and landscape guidelines for the city, which will accommodate a daytime population of more than 1 million people and 250,000 full-time residents.

The goal was to create an environmentally sensitive metropolis that would reduce sprawl, traffic congestion, and reliance on the automobile.

The team planned an urban environment with the density of Manhattan while synthesizing the most desirable characteristics of several cities around the world. These characteristics include a pedestrian network; an integrated public transit system; parks, plazas, and greenways; and dense mixed-use neighborhoods.

Planning New Towns for High Density

*Lake Town
Maharashtra, India*

The Lake Town master plan creates a new resort town in the beautiful Mose Valley in the state of Maharashtra, India. The Lake City Corporation is developing a 'Hill Station' resort town on the banks of the backwater lake behind the Warasgaon Dam, on 9,000 acres between the cities of Bombay and Pune.

The design concept encourages sustainable design through compact development, non-polluting land uses, protecting and enhancing water systems, and preserving large areas of natural open space. Organic urban patterns and circulation strategies respond to the dramatic topography.

*Changing Residential Development
Beijing, China*

This new town is located about 10 miles east of Beijing's Tiananmen Square, on the city's current development expansion ring.

The master plan recognizes that the city can no longer be considered a laboratory for urban experiments. This new development master plan creates buildings, streets, squares, civic and public buildings, community facilities, and open spaces.

Breathing New Life Into an Intermodal Terminal

St. George Intermodal Terminal

Staten Island, New York



Photo 4 St. George Intermodal Terminal

The revamped St. George Intermodal Terminal is a state-of-the-art gateway to Staten Island for commuters and tourists. Built to accommodate bus, car, and rail connections to the terminal and to move commuters to ferries, the existing terminal gave little attention to the site's aesthetic potential or impact on the adjacent waterfront development.

The new design incorporates more light and air, harbor and Manhattan views, usable exterior spaces, seamless commuter connections, connections to neighboring sites, and 12,000 square feet of destination retail space.

Sustainable design strategies for the multimodal center include a living roof, photovoltaics, water recycling, and recycled building materials. The team hopes the station will be the country's first LEED-certified intermodal transportation center.

MAKE IT A LIVING CHOICE OF PREFERENCE

According to the Federal Transit Administration⁹, public transit saved the country 1.5 billion gallons of fuel a year throughout the 1990s. But the FTA reports that there's much room for improvement. In the 1990s, the suburbs of our 100 largest metropolitan areas expanded twice as quickly as their central cities. Yet only 5 percent of the U.S. population rides transit on a typical workday and 40 percent of people in rural communities have no available public transportation services. As we strive to change land use and development patterns, we must take advantage of existing transit opportunities and lay the groundwork for future systems.

As impressive as the San Francisco Bay Area's BART system is, it's also an example of transit planning that doesn't support growth as well as it could. Unlike the historic East Coast railway stations, many BART stations parallel the highways. This means adjacent developments often are plagued by highway noise and pollution. It makes sense because it's the easiest land for BART to acquire and build on, but it's a poor model in terms of quality of life around the stations.

Despite the buzz around transit-first development, transit planning is too often taking place apart from urban planning. When it can be done in tandem and with transit as a priority, architects can become true partners by making a development appealing and integrating it into the pattern of the town and community at large.

Transit-first development solves a transit problem while also enlivening suburbia with interactive, social spaces. The synergy comes from solving these challenges together.

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