

Code. The plan received the APA Texas Chapter Comprehensive Plan Award.

Mesquite also approved a SmartCode in 2007 for an infill revitalization area called Truman Heights, and has hired and has hired Clarion Associates of Denver and 180 Degrees Design Studio of Kansas City to create a unified form-based code for the entire city based on the SmartCode and Transect but rewritten and with different graphics.

Mesquite is the first of 54 boomburb in the US that is in the process of completely

revamping its codes according to new urbanist principles. Others are moving in that direction. Centennial, Colorado, has a town center, Belmar, that is a national model for such projects. Mesa, Arizona, (see short article on page 18) has annexed five square miles where a new town center is planned.

The website smartcodecomplete.com lists 23 jurisdictions that have approved a SmartCode, and 67 more that are in the process of doing so. ♦

Encouraged by the Dilworth Neighborhood Association, which was intent on having East Boulevard function as the neighborhood's main street, CDOT reduced the travel lanes to one in each direction, and striped the street's center lane as a left-turn lane that could be used by vehicles going in either direction. Center islands were installed to help pedestrians cross safely. The space previously occupied by the fourth lane was converted into bike lane in each direction.

"We used to have people traveling 30 to 55 mph," Gallagher says. "Now the most prudent driver dictates the traffic speed. There's no hard acceleration and deceleration. The noise level came down. Now they can have outdoor cafes. It becomes really positive for placemaking. It's kind of become an active restaurant row. I think what we've achieved is sort of a 'park once' environment."

Gallagher points out that road diets are most commonly done on routes carrying 10,000 to 12,000 vehicles; thus, "20,000 was breaking new ground for Charlotte and for many places across the country." Because of the alterations, East Boulevard now accommodates about 22,000 vehicles, in a much calmer atmosphere. In the year after the project was completed, CDOT found that the 85th percentile speed (the speed of vehicles going faster than 84 percent of the traffic) had fallen about 5 mph, to about 37 to 38 mph. Accidents fell 20 percent. The

Charlotte becomes a transportation leader

Road diets, a streetcar to the airport, and transit-oriented development are all being pursued by North Carolina's largest city.

PHILIP LANGDON

It wasn't terribly long ago that Charlotte, North Carolina, was a typical Sunbelt city, happy with highways, office parks, and cul-de-sacs. But over the past several years, Charlotte's Department of Transportation (CDOT), with support from elected officials, has started adopting techniques associated with smart growth and New Urbanism.

A recent visit by *New Urban News* to the 672,000-population city found progress on these fronts:

- **Traffic-calming.** CDOT has implemented several "road diets" — on streets carrying up to 21,000 vehicles per day.

- **Street connections.** Connectivity standards that began taking effect in 2001 have enabled firefighters to get to emergencies faster, and they're seen as a partial answer to traffic congestion.

- **Mass transit.** Having inaugurated its first 10-mile light-rail line in November 2007, Charlotte is now looking toward installing a streetcar that will eventually run from downtown to the airport.

- **Transit-oriented development.** Approximately \$1.5 billion of TOD — not counting projects in the downtown — is under way, according to Interim Transportation Director Danny Pleasant.

ROAD DIETS

To evolve from an auto-oriented city to a balanced and more walkable com-

munity, some of Charlotte's broader, higher-speed roads have needed to be slowed down. Probably the best example is the redesign of a one-mile section of East Boulevard, in the Dilworth neighborhood adjacent to downtown.

Prior to being redone in 2006, East Boulevard carried about 21,000 vehicles a day and had four travel lanes, each 9.5 feet wide, plus many driveway cuts. Traffic speeds varied greatly, and drivers frequently made left turns into businesses from the two center lanes, resulting in "a lot of jockeying of travel lanes, a lot of accidents, sideswipes," says Dan Gallagher, manager of CDOT's planning section.

Housing goes up next to a light-rail station in Charlotte



results have been so well received that a road diet is now being planned for a second one-mile stretch of that road.

Gallagher says Charlotte pursues road diets for varied reasons, including neighborhood preservation, traffic-calming, addition of bike lanes, and reallocation of street space to other uses and modes, such as parking or transit.

CONNECTING STREETS

In 2001, Charlotte adopted a subdivision ordinance amendment requiring new streets to be more extensively connected than had been common in the 1980s and 1990s. As a result, "Response time on average has declined, after growing for many years," says Danny Pleasant.

A CDOT study prepared by Matt Magnasco found that over 38 years, as the street and road network took on a more suburban form, the average fire response time rose to 5.5 minutes from 4.5 minutes. Since the adoption of the new subdivision rule, which restricts the use of cul-de-sacs and promotes connectivity, average response time has fallen below the 5-minute mark again. (CNU President John Norquist points out that "with each minute, the size of the fire doubles," so a speedy response is critical to saving lives and property.)

Neighborhoods with many through streets are also easier on the city's budget, according to Pleasant, because a single fire station can reach thousands more households in a given amount of time, at no extra cost. Magnasco's study of eight fire stations found that the stations in the most-connected areas served 20,800 to 25,900 households, at an annual cost of \$159 to \$206 per household, while stations in the least-connected areas served 5,700 to 7,300 households, at a cost of \$586 to \$740 per household.

In 2007 the city built upon its subdivision regulation by adopting street design guidelines aimed at producing "a dense, well-connected network of streets and traffic-calmed route choices for all travel modes." Although the guidelines have not yet been incorporated into ordinances, they will require all streets to have planting strips at least eight feet wide and sidewalks at least five feet wide. (In some locations, hardscapes with trees in tree pits may be used instead of planting strips.) The streets must be designed and scaled for the abutting land uses. All thoroughfares in high-intensity areas will have



COURTESY OF CONFORMITY CORP.

An aerial view of the Southborough townhouses and flats that line the back and side of Lowe's.

to provide six- or eight-foot sidewalks. The guidelines also call for smaller block sizes and more street connections.

Pleasant says the city expects to implement a "centers, wedges, and corridors" plan, one of whose objectives will be "maintaining connectivity all over town." In the portion of Charlotte within about four miles of downtown — an area built mainly before 1970 — traffic movement is much less of a problem than it is in the areas just beyond. "You're ten times more likely to encounter congested intersections" in the newer area," Dan Gallagher points out. "Roads in much of the area built in the 1970s and 1980s are at capacity and heavily congested."

TRANSIT PROGRESS

Much of the improvement in the region's transit system is attributed to a half-percent Charlotte-Mecklenburg County sales tax that's dedicated to transit. The tax, which generates about \$71 million annually, "gives you resources for transit planning," says Gallagher. "Very few cities have that stable a funding source for their transit agency."

To entice more people to ride buses, "we designed buses with more comfortable seats, seats that recline," says Keith Parker, CEO of Charlotte Area Transit System (CATS). "There is individual control for the air that flows on your face. There's individually controlled lighting and a place for a briefcase." That has helped attract riders who otherwise would be driving their own cars.

Because CATS could count on having money from the sales tax, Charlotte was able to garner federal funds for its Lynx light-rail line when the leading applicant — Orlando, Florida — "wasn't able to get its system funded at the eleventh

hour," Gallagher says. (See Dec. 2008 *New Urban News* for commentary on the 10-mile light rail line, whose ridership has exceeded projections.)

Possibly as early as this year, CATS will introduce "enhanced" bus service with luggage racks on a dedicated, branded hybrid bus fleet. Amenities will include a contemporary shelter design, public art, pedestrian-scale lighting, and digital read-outs of the next arrival of the bus at key locations. The upgraded buses will run from the well-organized downtown transit center to the region's airport about 6.8 miles away. CATS has wanted to introduce bus rapid transit (BRT), but Parker says that's becoming more difficult because people "have seen rail now. Everybody wants rail, and they want it right away."

The next rails are likely to serve streetcars which would run from downtown and gradually be extended to the airport. There was talk of starting the streetcar line in 2018, but the city is now looking into getting it going much faster, Parker says.

One sign of the eagerness is that when a streetscape improvement project was begun on Elizabeth Avenue near downtown, the city decided to install the streetcar tracks right away. Better than return a few years later and rip up pavement in good condition.

TRANSIT-ORIENTED DEVELOPMENT

The light-rail line and its predecessor — a trolley that for about two years covered a short route through the downtown and the adjacent historic South End — have quickly made an impact on development. "Even on the *promise* of the trolley, you saw businesses moving into the South End and property

speculation occurring," says designer Terry Shook. His firm, Shook Kelley, conducted the first design charrette that was instrumental in getting the trolley established. The trolley, despite its limited service, turned out to be so popular that it motivated Charlotte to invest in light rail.

Economic turmoil has put many development projects along the light-rail line on hold, but some undertakings near the train stations are moving ahead. One of the most interesting is Southborough, a complex of 69 townhouses and flats wrapping around two sides of a new 145,000 sq. ft. Lowe's store.

When Lowe's was proposed, neighbors worried about its impact. Thus a neighborhood organization negotiated with Lowe's executives, planners, and a local developer — Conformity Corp. — to produce a design that would hide much of the store behind residential structures. "It was Lowe's first store with parking on the roof and the first with

such a close relationship to a residential mixed-use community," Mitch Garrett of Scott & Goble Architects of Tulsa, Oklahoma, told the *Charlotte Business Journal*. Other designers involved in the project included BB& M Architecture and LandDesign Inc.

Southborough's 33 flats back up against walls of the store — a technique that Monte Ritchey, head of Conformity, refers to as "veneering." The fronts of the flats look onto an internal street that's been constructed behind townhouses. The townhouses and a four-story mixed-use building (containing three restaurants on the ground floor and offices above) have become the public face of the project. The restaurants have outdoor seating to help animate the street and attract customers.

The flats, mostly one- and two-bedroom units with 650 to 1,050 sq. ft, have been selling from about \$180,000 to about \$284,000. The townhouses top out at more than \$400,000. The \$27 million project is

situated between two light-rail stations.

Shook Kelley principal Tom Goodwin points out that Charlotte has adopted "station-oriented zoning" that calls for mixed uses within a half-mile of the stations. "It works well in defining basic issues, such as parking ratios and heights, but there's nothing in it that effectively controls the quality of the pedestrian experience," Shook says. "Some projects are better than others. However, many do not engage the street in an acceptable urban manner."

Shook believes entitlements, which now are routinely given to property owners, should be awarded only when an acceptable development plan is submitted, in response to a more detailed form-based code and station area plans.

Flaws in some projects notwithstanding, officials seem pleased by the burgeoning interest in living downtown and in other areas linked to it by transit. Says Pleasant: "We're transforming and urbanizing at a fairly fast clip." ♦

Big cloverleaf is out, tighter urban interchange is in

To create an attractive gateway to downtown Charlotte, North Carolina, and to serve the future NASCAR Hall of Fame, a 30-acre Interstate highway interchange near the city's center is being replaced with a more compact urban interchange.

The \$21 million project will reduce the interchange's footprint, make the area accessible to bicyclists and pedestrians, and bring cars and trucks down to "speeds more appropriate for an urban environment," says Jim Kimbler, a transportation planner in the Charlotte Department of Transportation. The makeover should pay for itself through sales of 12 acres freed for development.

In August 2007 the city, in partnership with the state, began reconstructing several ramps on Interstate 277 and modifying nearby surface streets — largely because NASCAR decided to build its Hall of Fame adjacent to the interchange, a short distance southwest of Charlotte's center. By the time the hall opens in 2010, the new interchange should be complete.

The interchange was built in 1988 with the large looping ramps typical of suburban and rural expressway connections. Two of the loops are being removed, and a third is being altered. The new interchange will feature a tighter diamond configuration, which "allows the addition of a buffered pedestrian and bicycle path across I-277," Kimbler says. The changes will improve safety while making the area more aesthetically pleasing. Two one-way streets in the vicinity are being converted to two-way.

The dozen acres of land being made available for development lie between the downtown and the close-in Dilworth and South End neighborhoods. Last May the city indicated that it expected to reap approximately \$60 million from selling the land to developers interested in erecting hotels, retail, restaurants, housing, and possibly other kinds of buildings.

The national economic slowdown has temporarily inter-



The plan for the new interchange

fered with some of the land sales. Nonetheless, officials believe the interchange project will still generate considerably more money than it will cost. Some of the surplus will be used to contribute \$20 million toward construction of the \$158.5 million NASCAR hall.

The reconfigured interchange will not be as tight as some older controlled-access roads, like Memorial Drive and Storrow Drive in the Boston-Cambridge area of Massachusetts, but the changes mark a substantial shift for a Sunbelt metropolis where the suburban style of transportation planning had long reigned.

The land has been zoned for "urban mixed-use development." The City would like to study the entire I-77 / I-277 loop around the urban core with the idea making similar improvements, but the state currently has no funds for that purpose.