Streetcars are coming back as a light-rail alternative in a number of American cities.

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Streetcars Are Back

THE COST TO CONSTRUCT LIGHT-RAIL transit has soared during the present decade, pricing many medium-sized American cities out of the market for this mode of mass transit. As a result, a newer, less-expensive form of light rail, one that harkens back to the heyday of urban transit—the streetcar—is emerging and gaining popularity.

This is not the slow-moving streetcar system that dominated American cities in the first half of the 20th century. Nor is it made up of the vintage or heritage variety of streetcars that are enjoying a revival as downtown circulators in places like Tampa, Florida, and Little Rock, Arkansas. The streetcar systems being planned today look like light rail, run like light rail, and serve the same purposes as light rail, but cost roughly half as much as light rail, making them more affordable for medium-sized cities trying to start up or expand rail networks.

Going by many names—modern streetcar, rapid streetcar, even "light-rail light"—the newer streetcar basically is a sleek, trainlike vehicle that is smaller, lighter, and narrower than regular light rail. It runs on regular-gauge rails in city streets, making sporadic stops and reaching speeds of up to 45 miles (72 km) per hour.

Because it has the characteristics of light rail without the costs of light rail, the modern streetcar is poised to introduce a rail resurgence in urban landscapes. Cur-

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rently, only Portland, Oregon, and Tacoma, Washington, have modern streetcar lines. However, Seattle, Washington, and San Francisco, California, are opening streetcar lines, and more transit systems are in various planning stages in cities such as Albuquerque, New Mexico; Austin, Texas; Cincinnati and Columbus, Ohio; Grand Rapids, Michigan; Kansas City, Missouri; Miami, Florida; Omaha, Nebraska; and Tucson, Arizona.

All these cities missed out on the light-rail boom of the 1980s and 1990s. Their new planned streetcar systems are, for the most part, starter routes that are less than ten miles (6.2 km) long. But, officials in these cities say they hope the cities can achieve some of the same benefits derived from light rail—that is, a transit alternative that attracts many more riders, connects urban destinations, spurs economic development, and boosts the community's image.

"The rapid streetcar concept is intended to help facilitate a kind of reform in the whole approach to installing LRT [light-rail trains]—a downscaling, in effect, to provide additional options for different applications where appropriate," wrote Austin, Texas, transit analyst Lyndon Henry in a paper presented at an American Public Transportation Association (APTA) rail conference in 2004.

"It's kind of unusual to see cities embracing something that they took pains to get rid of years ago," comments Henry in a recent interview. A member of APTA's streetcar subcommittee, Henry observes, "They've kind of come full circle. . . . The problem had been that transportation planners had gotten away from the lower end of the rail transit scale," adds Henry, a member of APTA's streetcar subcommittee.

Some problems encountered in the streetcar renaissance include the stigma of slowness attached to streetcar travel and the reluctance of the federal government to help fund the newer systems that are being proposed so far.

Early 20th-century streetcar systems left indelible marks that are still visible in cities today. Buildings of all kinds—from apartments to restaurants, from dry cleaners to banks—sprang up at major intersections of streetcar lines outside of downtowns. Eventually, however, a combination of high operating costs, low flexibility in routing, declining ridership, and increased car ownership prompted transit agencies to favor the rubber-tire bus alternative. By the end of the 1950s, most streetcar systems had vanished from American cities.

It was two decades later in the United States that urban rail on city streets started making a comeback, in the form of "light" rail systems, which basically were a modern repackaging of the streetcar. The light-rail vehicles were larger, cooler, and faster, allowing systems to extend greater distances. The idea took flight. A number of cities jumped at the chance to build light-rail systems, despite the widespread cost overruns of early systems. Cities like Denver, Colorado, Portland, Oregon, and Dallas, Texas, were transformed.

In the current decade, the light-rail fad is beginning to slow. Since 2000, the per-mile price tag for building light-rail systems basically has doubled—the result of soaring costs for steel and concrete. Federal "new starts" transit funding has not kept up with increased demands for new light-rail systems. Although these new systems are still being developed, such as the system that opened last month in Charlotte, North Carolina, more cities are seeking lower-cost alternatives like streetcars. Recent technological advances have made these alternative systems virtual clones of light rail.

"The vehicles really aren't that different," explains John Dobies, associate vice president of HNTB Corp. in Kansas City, who is project manager of Kansas City's light-rail alternative analysis. "Most people probably can't tell the difference."

Like light rail, modern streetcars in Portland, Oregon, and Tacoma, Washington, which are manufactured by Inekon/Skoda in the Czech Republic, look like a sleek train, with a sloped front window. Also like the light-rail vehicles, they are double-sided vehicles powered by overhead wires and run on rails imbedded in city streets—sometimes even in dedicated, transit-only lanes with traffic signal priority.

But, from a technical standpoint, the comparisons end there. Modern streetcars are shorter than light-rail trains [66 feet (20.2 m) compared with 92 feet (28 m)], go more slowly [their top speed is 45 miles (72 km) per hour compared with 55 miles (88.5 km) per hour], have a smaller capacity (generally can carry about 150 passengers compared with more than 200), and weigh about half as much.

The modern streetcar is a sleek, trainlike vehicle that is smaller, lighter, and narrower than regular light rail. Only a few cities, such as Seattle, Washington (facing page, top), Portland, Oregon, (facing page, left), and Tacoma, Washington (facing page, right), currently have these modern streetcar lines, although more are in the making. They run on rails embedded in city streets and reach speeds of up to 45 miles (72 km) per hour. Other cities such as Little Rock, Arkansas (far left), and Tampa, Florida (left), have the vintage or heritage variety of streetcars that act as downtown circulators on short routes.

As a result, modern streetcar systems cost a lot less to construct. Light-rail trains require street excavation of at least two feet, which requires removing and relocating utility lines. Modern streetcars use about a one-foot (0.3-m) excavation for shallow slab construction, and utilities typically are avoided. In addition, light rail requires extra structural support for many bridges, whereas modern streetcars do not. The streetcars basically weigh the same as a semitrailer truck.

Because of these and other factors, light rail generally costs $50 million to $60 million per mile to construct, while modern streetcar systems are being developed for $20 million to $35 million per mile. Also, modern streetcar systems can be constructed more quickly—with streets in front of businesses typically blocked off for a couple of weeks, rather than months.

As a result of all these factors, more cities seeking an advanced transit alternative are concluding that when it comes to incorporating modern streetcar systems, the pros outweigh the cons. For example, Miami has included a $200 million, 10.6-mile (17-km) modern streetcar line in its capital improvement program to connect government, entertainment, and other downtown districts. Tucson, Arizona, is in the environmental assessment stage of building an $88 million, four-mile (6.4-km) streetcar route connecting downtown with the University of Arizona campus. A Cincinnati city council committee has recommended a $102 million, 3.9-mile (6.3-km) downtown line intended to spur more redevelopment in the Over-the-Rhine neighborhood.

In all these as well as other American cities, modern streetcars are viewed as serving trip purposes that differ from those of heavier rail systems. Newer streetcar routes are designed to link neighborhoods and downtown destinations, rather than provide long-haul commuter trips. Therefore, the streetcar systems typically include more frequent stops than do light-rail systems, and they tend to operate in streets with mixed traffic rather than in dedicated, transit-only lanes.

Some cities that already have light-rail systems—such as Los Angeles, California; Minneapolis, Minnesota; Atlanta, Georgia; and Washington, D.C.—also are considering modern streetcar connector routes. But, for the most part, modern streetcars are particularly attractive to communities that are trying to get rail transit started. For example, in metropolitan Cincinnati, Ohio, voters overwhelmingly rejected a $2.3 billion, light-rail system five years ago. Now, the city is pursuing a starter line that will cost one-twentieth of the cost of the light-rail system.

Perhaps the most surprising implementation of modern streetcars may have occurred in Kansas City. Last November, city voters approved a 27-mile-long (43.5-km-long), light-rail system that was on the ballot only because a transit activist had gathered enough signatures on a petition initiative. Soon after, transit consultants concluded the system was unworkable and underfunded because it was backed by a tax that did not raise enough money.

The city's transit agency formed a task force to devise an alternative light-rail plan. The 36-member citizens task force recommended a smaller starter line, using modern streetcars in dedicated, transit-only lanes of city streets so they would operate as fast as light rail. It would go half as far, roughly 12 miles (19 km), but cost one-third as much as the light-rail system while still serving as both a commuter and connector service. This plan is expected to go before voters next year.

"Part of the reason you want to build a streetcar line is transportation, but it's really about building compact, walkable, mixed-use development," says Gloria Ohland, who edited a book last year about the comeback of streetcars for Reconnecting America, a nonprofit organization headquartered in Oakland, California, which promotes transit-oriented development. "Streetcars are really about promoting economic development as much as they are about moving people from point A to point B," she notes.

Indeed, communities choosing modern streetcars expect the same kind of performance that cities have achieved from light rail: basically, they have made big gains in transit ridership and development investments. Other places employing modern streetcars have had the same results.

Tacoma's downtown route is only 1.6 miles (2.6 km) long, but it still has exceeded its long-term ridership projections from the day it opened. In Portland, where streetcars filled a gap downtown not served by light rail, the six-year-old system helped attract more than $2 billion in investment, mostly housing, within two blocks of the tracks. Even before Seattle's 1.3-mile (2.1-km) route opened, some 2,000 housing units were sprouting up along it.

For modern streetcars to gain even more momentum, they may have to break through one major barrier: the federal government. The Federal Transit Administration (FTA) has yet to approve funding for a modern streetcar system, for several reasons.

The FTA's criteria emphasize cost-effectiveness, mostly in terms of travel-time savings, which tends to favor longer-distance trips. The criteria also place little importance on potential development impacts, because development is difficult to predict. Finally, although Congress designed the Small Starts funding program earlier this decade, partially with streetcars in mind, that funding typically has gone to rapid-transit bus systems. "A lot of these rail plans are really not the best solution for a city," FTA administrator James Simpson told the *Kansas City Star* this past fall. "In many cases, quite honestly, bus rapid transit or a really good bus system is what's needed, but many cities like rail systems."

Streetcar advocates have complained in congressional hearings about what they consider the FTA's bias against streetcars, and some cities planning modern streetcar lines, such as Grand Rapids, have decided not even to apply for federal construction funding.

The funding environment will have to change if modern streetcars are truly going to spread in popularity and become the transit choice for cities seeking the ridership and development benefits of a permanent rail investment—but at a lower cost. **UL**

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