

SCENARIO DETAILS: DEVELOP PREMIUM SERVICES

STREETCAR SERVICE

After largely abandoning streetcars in the mid-20th century, cities across the country have recently reintroduced streetcar systems to drive both urban connectivity and economic development. This is in large part because streetcars can carry a certain status that makes them more appealing than bus service. Streetcars also provide a significantly smoother ride and more capacity than buses. Streetcar networks can generally be built much more quickly and cheaply than light rail.

FIGURE 1 | PORTLAND (OR) STREETCAR SERVICE



FIGURE 2 | DALLAS STREETCAR SERVICE



Streetcar service is similar to light rail in many respects, but with a few key differences. Three primary differences are:

1. Streetcars usually run in mixed traffic while light rail usually runs in dedicated lanes.
2. Streetcars usually serve short urban corridors while light rail provides service over much longer distances.
3. Streetcars service usually operates with single car trains, while light rail operates with multiple car trains (and often with slightly larger vehicles).

Other differences are summarized in Figure 3. It should also be noted, however, that these distinctions are “fuzzy” in that many light rail services operate more like streetcar in some areas, and some streetcar service run primarily in dedicated right-of-ways and for longer distances.

The development of streetcar service has become popular for many reasons, which include:

- **Development:** Streetcars support smart growth principles such as transit-oriented development and neighborhoods that are walk- and bike-friendly. In many cities, streetcars have shown significant economic development benefits.
- **Service Quality:** Streetcars tend to be implemented in compact, urban areas where rail can provide high-quality service. The convenience of frequent stops can attract casual riders or those who have other travel options.
- **Ride Quality/Comfort:** Streetcars tend to be more comfortable than buses and other road vehicles due to smooth acceleration that reduces lurching and fixed wheels that reduce swaying.

FIGURE 3 | DIFFERENCE BETWEEN STREETCAR AND LIGHT RAIL SERVICE

Service Element	Streetcar	Light Rail
Vehicles	Modern or historic streetcar	Modern light rail vehicle
Train Length	One	Two to three
Line Length	Shorter	Longer
Running Way	Mixed traffic	Dedicated right-of-way
Fare Collection	On station platform or on vehicle	On station platform
Stations	Short platforms; modest facilities	Long platforms; significant facilities
Station Spacing	2 to 3 blocks	½ to 1 mile
Speed	Slower	Faster
Development Benefits	Along line	Around stations
Construction Impacts	Minor to moderate	Major

- **Green Transit:** Streetcars are powered by electricity, eliminating vehicle emissions and providing quieter operations than diesel buses.
- **Lower Cost and Less Impact:** Streetcars are cheaper to build than light rail, have fewer construction impacts, and fit into an urban setting more easily than other forms of rail transit.

These measures work together to make service enjoyable, convenient, and comfortable, and to catalyze development along the streetcar line. More in-depth discussion of each of these elements is provided below. For additional information on streetcar service, see nmotion2015.com/wp-content/uploads/2015/10/nMotion-Streetcar-151015_FINAL.pdf.

SUMMARY OF SCENARIO SERVICES

Streetcar service is only included in Scenario 1. Key elements of streetcar services in Nashville would include:

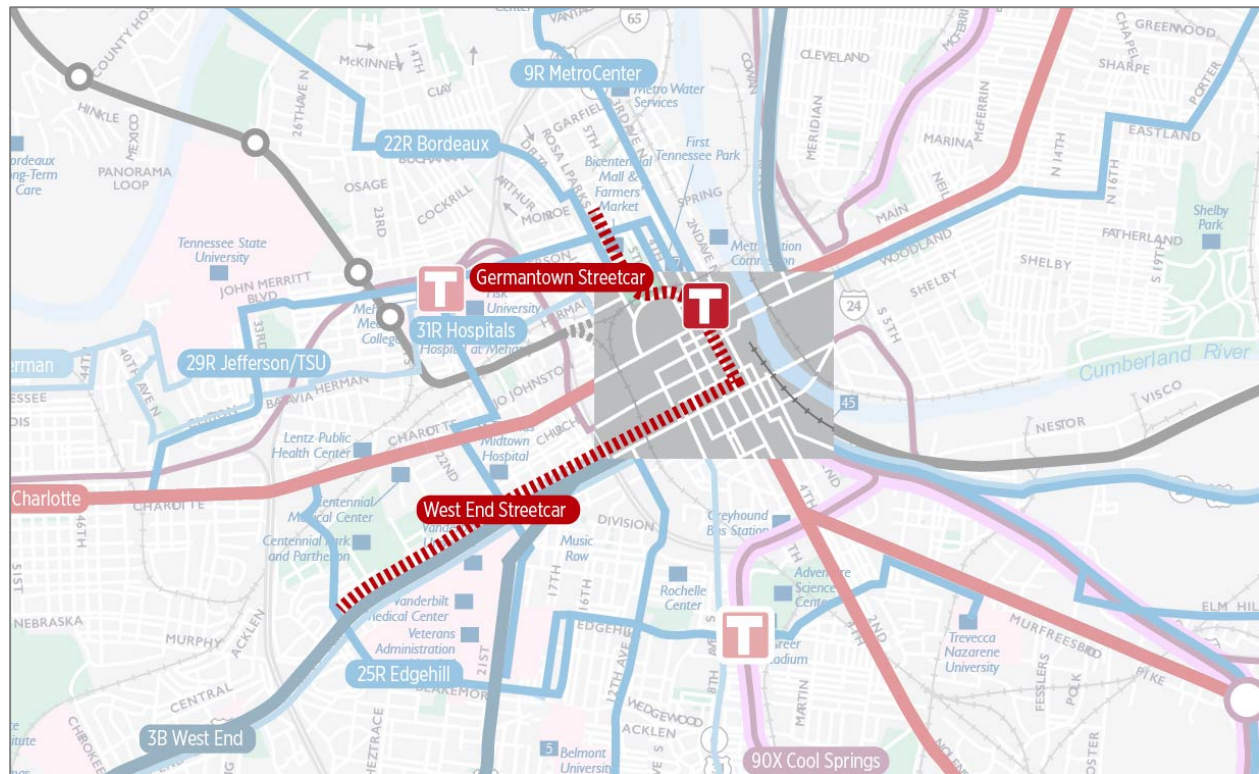
- **Unique branding** to emphasize the premium nature of the service that would be used on vehicles, at stations, and on other materials.
- **Special vehicles** that are more comfortable and have a greater carrying capacity than regular buses.
- **Streetcar stations** that provide features, amenities, and levels of passenger comfort than a bus stop but are more minimalist than a light rail or heavy rail station.
- **Level boarding** at stations to reduce dwell times and facilitate boarding and alighting by people with disabilities.
- **Off-board fare payment** to reduce dwell times.
- **Real-time passenger information** to inform passengers when the light rail vehicle will actually arrive or depart from stations, which reduces much of the uncertainty that is associated with transit service.
- **Effective Connections** with other transit and surrounding areas.

SCENARIO 1: COMPREHENSIVE REGIONAL SYSTEM

Scenario 1 includes two streetcar lines in urban core corridors that would not be served by light rail (see Figure 2):

- West End, which would provide service between downtown Nashville and Vanderbilt University via Broadway and West End Avenue or potentially 21st Avenue and would provide high quality service along one of Nashville's most heavily travelled urban corridors.
- Germantown, which would operate between Germantown and downtown, along Rosa Parks Boulevard. One important role of this line would be to provide connections between the inner end of Northwest Corridor commuter rail and downtown.

FIGURE 2 | POTENTIAL GERMANTOWN AND WEST END STREETCAR ALIGNMENTS



Streetcar service would operate with a very high levels of service, depending on the day, from 5 AM or 6 AM until 11 PM or 1 AM, and every 10 to 15 minutes for most of the day (see Table 2.)

TABLE 1 | SCENARIO 1 STREETCAR LEVELS OF SERVICE

	Span of Service	Service Frequencies (Minutes)			
		Peak	Midday	Evening	Early/Late
Streetcar					
Weekday	5 AM – 1 AM	10	10	10	20
Saturday	5 AM – 1 AM	15	15	15	30
Sunday	6 AM – 11 PM	15	15	15	30

Note: Peak = approximately 6 AM to 8:30 AM and 3:30 PM to 6:00 PM, Midday between those times, Evening from 6 PM to 11 PM, and Early/Late before 6 AM and after 11 PM.

SCENARIO 2: BUS-FOCUSED EXPANSION

Streetcar service is not included in Scenario 2.



SCENARIO 3: MODEST IMPROVEMENTS

Streetcar service is not included in Scenario 3.