Lee County MPO Rail Feasibility Study
Contract 2012-001

Technical Report

Preservation of Rail Corridors: Experience in Other Communities

August 15, 2013

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1. Report Summary

This report summarizes the experience of various other jurisdictions in preserving rail corridors.

The focus of this report is re-using rail corridors for high-capacity public transit, which is described in section 2 below.

This report also includes two examples where a government agency preserved a rail corridor for freight service and one where a rail corridor has been converted into a recreational trail.

2. High-Capacity Public Transit

As surrounding land urbanizes, some pre-existing rail corridors are suitable for expanded use to move large volumes of passengers on public transit vehicles. When a freight rail line is no longer needed, the corridor can sometimes be acquired or leased. When freight rail is still important, corridors can sometimes be reconfigured to be compatible with passenger service.

Underutilized freight rail corridors can be useful for passenger service to the extent that they connect places that passengers want to go. The type of passenger service that is viable depends largely on the existing and potential urban patterns around station locations and on connections that can be provided to other locations via transit, bicycling, and park-and-ride lots.

High-capacity transit is a general term for an array of transit technologies that can carry a large enough number of passengers to shape land-use patterns, for instance through transit-oriented development. High-capacity transit is sometimes called "premium transit," which includes rail transit such as streetcars, light rail, commuter rail, and intercity rail, in addition to certain rubber-tired bus services such as exclusive busways and bus rapid transit.

2.1 Bus Rapid Transit

Bus rapid transit (BRT) is an innovation from South America that is being introduced around the world. The vehicles use rubber tires but the service is more like "light rail" service, with characteristics such as:

- Frequent service (10- to 15-minute frequency).
- Less frequent stops than traditional buses (stops may be located about 1 mile apart).
- Level boarding (step on or off the bus without contending with steps, ramps, or lifts).
- Amenities at stops (such as real-time bus schedules).
- Signal prioritization (buses will have the ability to shorten red or lengthen green traffic signals).
- Fare prepayment (save time by paying fares before boarding).
- Local bus feeder network (circulators take passengers to BRT stops faster to reduce overall travel time).

Many new BRT systems have only some of these characteristics, reducing the initial cost but also reducing the benefits correspondingly.

2.2 Streetcars

Streetcars run on tracks embedded in streets and are powered by electricity, generally from overhead wires. Streetcars stop frequently and provide a service more similar to buses than modern "light-rail" service, which travels faster but makes fewer stops. Streetcars are not generally considered as high-capacity transit, although in dense corridors they can serve a very large number of passengers and intensify land use patterns along their routes.

2.3 Light Rail Transit

Many larger cities have electric-powered "light rail" systems which provide fast and frequent all-day service. Light rail stops are spaced more widely than streetcar stops, so light rail serves nodes of activity rather than linear corridors.

Light rail vehicles usually run on their own tracks, although there are several exceptions including parts of the San Diego Trolley where freight trains formerly shared the tracks but now use them only at night after passenger service has ended.

Light rail vehicles can also exit from dedicated rail corridors to travel through downtowns or other intensely developed areas. They become, in effect, streetcars, and are served by raised platforms in medians or adjoining sidewalks. Recent examples are in downtown Denver, San Diego, and Minneapolis.

Light rail transit is similar to what is sometimes called "heavy rail" transit, which provides a similar service but which always runs in separate rights-of-way that exclude all other vehicular and foot traffic. Heavy rail lines can be underground (a subway) or elevated, but they do not cross streets at grade level. This feature also allows heavy rail systems to get their power from an electrified third rail, avoiding costly overhead wires.

2.4 Monorail

Monorail trains operate along a single beam that is elevated above surface traffic, thus functioning like a heavy rail system but with less bulky supporting structures. The three monorail systems at Walt Disney World are the only monorails operating in Florida; however, the three Metromover lines in downtown Miami are similar, though technically not monorails.

2.5 Commuter Rail

Commuter rail service uses locomotives and cars similar to intercity (Amtrak) service, but covers shorter distances with more frequent service. Service is often concentrated during peak commuting hours from stations spaced four to eight miles apart, whereas light rail service operates all day and into the evening with stations spaced closer together.

Classic commuter rail lines converge on major downtown employments from several directions, providing convenient travel for suburban or exurban residents who work downtown.

Commuter rail lines are occasionally linear. The nearest example is Tri-Rail, which connects Miami, Fort Lauderdale, and West Palm Beach. SunRail is now under construction in Central Florida; the first phase will operate as a linear service connecting DeBary to Sand Lake Road in Orange County. Both are described later in this report.

Commuter rail lines often use the same tracks as freight trains, avoiding the expense of a separate right-of-way.

2.6 Intercity Rail

Existing rail corridors can add passenger service most easily when passenger trains simply share the rails with freight trains. Amtrak intercity trains operate in this manner; they are heavily built and pulled by locomotives similar to those used by freight trains, so they meet federal safety standards for sharing freight tracks. Freight trains usually retain priority but Amtrak trains are infrequent enough that they can coexist.

2.7 High-Speed Rail

Another rail technology for intercity service is high-speed rail, which runs on special tracks that avoid road crossings and other impediments to high-speed travel such as curves. High-speed service is already common in Europe and Asia and has been introduced by Amtrak on the Boston–New York–Philadelphia–Washington D.C. corridor, where it is known as the Acela Express.

High-speed rail is now being promoted by the federal government, which had offered to subsidize a new line from Tampa to Orlando (and ultimately on to Miami); this offer was rejected by Governor Scott in 2011 and the federal money has been reallocated to other states. A previous plan to offer high-speed rail from Tampa to Orlando and Miami, known as the Florida Overland eXpress, was cancelled by former Governor Bush in 1999. "All Aboard Florida," a privately financed plan for "higher-speed" passenger service from Miami to Orlando, is currently being promoted by the Florida East Coast Railway.

Because high-speed rail requires straight corridors with no road crossings, it would not be suitable on the Seminole Gulf rail corridor.

3. Experience of Other Jurisdictions Reusing Rail Corridors

3.1 Los Angeles

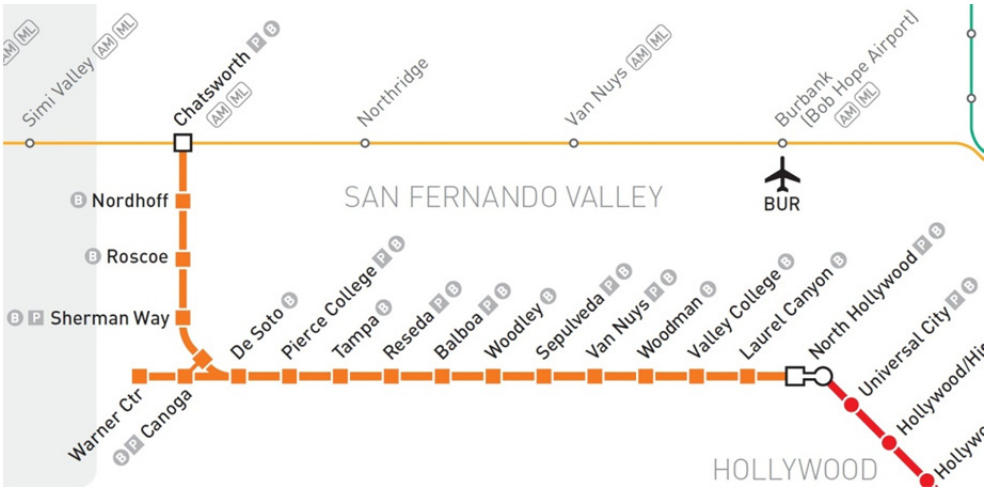
Despite its reputation as the epicenter of car culture, Los Angeles has a dense public transit network that includes every mode, including regular buses, express buses, bus rapid transit, light rail, subway, commuter rail, and intercity rail.

The Orange Line in the San Fernando Valley is a new BRT line that was designed to mimic and function within Los Angeles' expanding Metro Rail system.

The Orange Line began service in 2005 on a 14-mile-long dedicated right-of-way that runs east-west from Hollywood to Warner Center. Part of its route uses the former Southern Pacific

Railroad Burbank Branch Line, primarily a freight line but which had passenger service from 1904 to 1920 and was later used as a streetcar route. In 1991, the county transit agency purchased the Southern Pacific right-of-way with the intent of using it for a Metro Rail line; Southern Pacific then phased out the limited freight service it had operated on the line.

After years of delay and debate, the Orange Line was constructed as bus rapid transit instead of light rail. Some stations have large park-and-ride lots and others connect smoothly with other Los Angeles transit lines.



The Orange Line features nearly all the characteristics of bus rapid transit:

- The line only stops at dedicated stations that are reserved for Orange Line buses.
- Ticket vending machines allow quick boarding because passengers have already paid for their tickets at the station.
- Stations feature real bus time arrival, station art, and comfortable amenities.
- Service is frequent – every 10 to 12 minutes.

3.2 Santa Fe / Albuquerque

New Mexico's RailRunner Express is a linear commuter rail line that runs 97 miles from Santa Fe through Albuquerque to Belen. Beginning in 2006, diesel-powered trains have served commuters and others traveling to or from Albuquerque or Santa Fe.

Much of this route uses rail right-of-way purchased from Burlington Northern Santa Fe (BNSF), which continues to run freight trains when they won't interfere with commuter trains. One Amtrak passenger train also uses these tracks. This arrangement was possible because the BNSF line connected several important destinations, and freight service, while profitable to BNSF, was infrequent enough that it could be scheduled around peak commuting periods.

Because RailRunner Express is a commuter rail service, its trains can share the tracks with freight trains, whereas electrified light rail vehicles generally require separate tracks.

Public-sector negotiations with BNSF considered either purchase of the line, a lease of time on the line, or the purchase of an easement. The final arrangement included outright sale of 270 miles of right-of-way and track from Belen to the Colorado line to the state of New Mexico for a cost of $75 million. Through a simultaneous joint-use agreement, BNSF continues to operate freight trains, paying a fee for the privilege based on weight carried and distance traveled by freight trains.

3.3 San Diego

The San Diego Trolley (despite the name, a light-rail service) has the sixth highest light-rail ridership in the nation, following Boston, Los Angeles, San Francisco, Portland, and Philadelphia. The San Diego system includes three separate routes, all of which operate primarily on former freight rail lines. Through downtown, the light rail vehicles operate like streetcars.

Two San Diego Trolley routes have a distinguishing characteristic that could be relevant to southwest Florida: light rail vehicles share tracks with freight trains. Although not common, track sharing has considerable potential for public transit expansion because existing freight rail corridors often connect cities with their outlying areas.

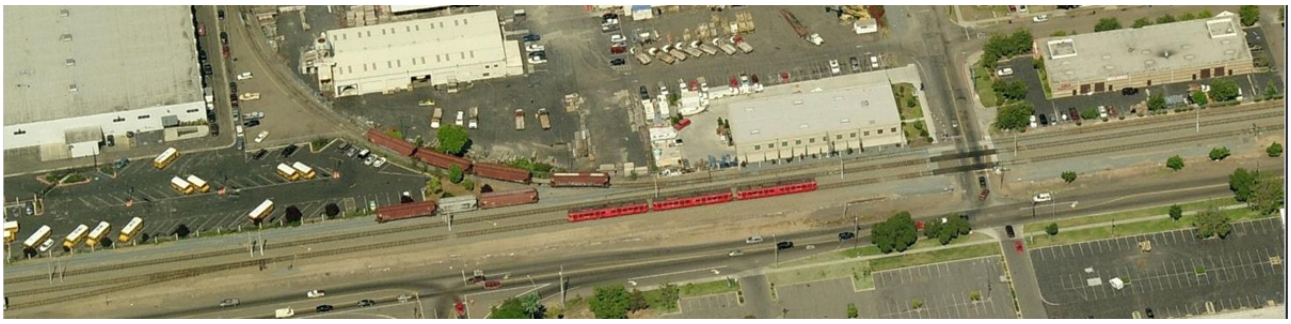
This form of track-sharing is normally not permissible under federal regulations because light rail vehicles are not built to the same heavy-duty standards as freight trains (as are commuter rail and intercity rail trains). Light rail trains often share a right-of-way with freight trains by using their own tracks, or they operate on an adjoining right-of-way; the San Diego blue and orange lines, however, share the same tracks.

In the 1980s, freight trains operated in time slots between passenger trains, but this practice was discontinued when passenger service became more frequent. Now, since passenger service is not provided overnight, freight trains use the tracks during that period. All track-sharing terms have required waivers from the Federal Railroad Administration (FRA).

Considerable effort is being put into identifying safe methods that could allow freight rail tracks to be shared with light rail vehicles even though they do not meet FRA crashworthiness standards.[1] Ideas include:

- Varieties of rigid temporal separation, such as used in San Diego, where all freight activities can be conducted overnight.
- Concurrent operations where some freight operations may take place during the day, protected by fail-safe train separation techniques that would even override operator errors.

At present, all track-sharing proposals continue to require a federal waiver from the FRA.



San Diego Trolley (three bright red vehicles), with freight cars on adjoining sidings

[1] *Shared Use of Railroad Infrastructure with Noncompliant Public Transit Rail Vehicles: A Practitioner's Guide, TCRP Report 130, Transportation Research Board, 2009.*

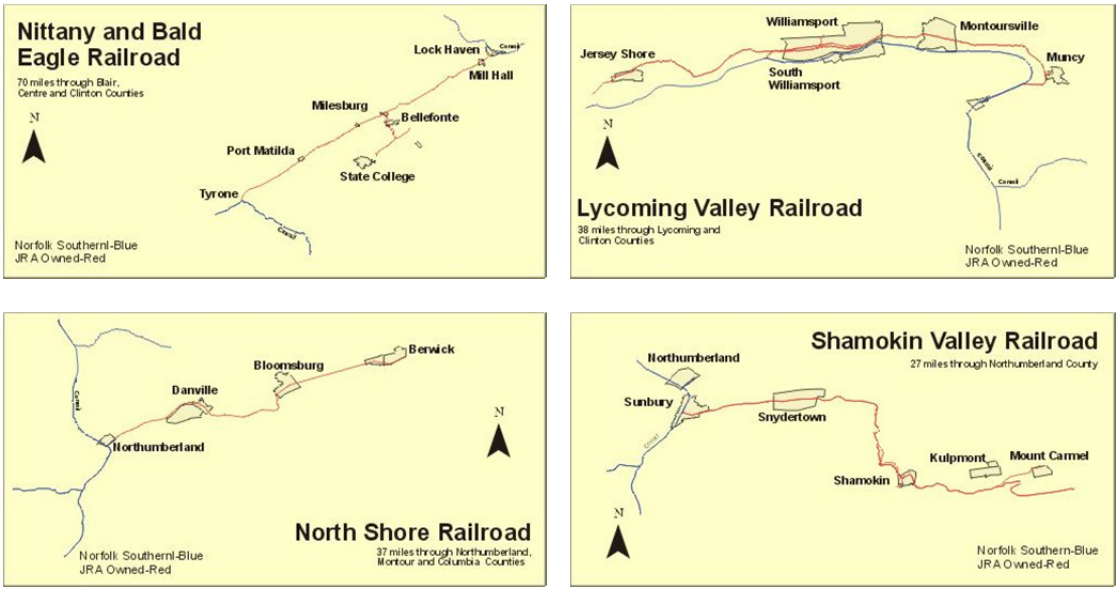
3.4 Central Pennsylvania

In the early 1980s, national railways began dropping their less-profitable lines, often selling or abandoning short-haul lines that served smaller freight customers.

At that time, a regional development organization in central Pennsylvania that served eleven counties was approached by business customers who feared losing their access to the national rail system. After confirming the likelihood of abandonment, SEDA-COG (council of governments) purchased its first two rail lines from Conrail in 1984 through a joint rail authority subsidiary, known as SEDA-COG JRA.

The authority then contracted with experienced railroad officials who formed a new company, the North Shore Railroad Company, to operate freight service on these rail lines. North Shore owns and operates the trains and maintains the tracks. The rail authority later bought three other short-line railroads, all now operated by North Shore. The five rail lines owned by the rail authority include about 200 miles of track. Freight traffic has increased from 1,900 carloads in 1986 to 25,000 carloads in 2006.

In western New York State, the Southern Tier Extension Railroad Authority has kept rail operations alive in its service area through a complex partnership of private, public, and nonprofit entities. Its system consists of 145 miles of track. Freight volume has increased dramatically, much of which is coal from western Pennsylvania and West Virginia.



So what if a railroad company plans to abandon an old stretch of track, overgrown with weeds and brush? Maybe it's time to add a "rails-to-trails" component to a new eco-tourism initiative.

That mind set, [Don] Rychnowski says, can be a terrible mistake. "Before you know it," he adds, "you've lost an asset. Unless you're absolutely convinced that a particular portion of a rail line has no future use, do not allow it to be abandoned. And do not allow it to go into rails-to-trails or any other public program. Once abandoned or used for a different purpose, it's impossible to get that right-of-way again."

What's at stake, he and other rail-savvy development professionals explain, may be no less than a region's capacity to retain or attract a diversified mix of industry. "Rail gives you options you don't otherwise have," agrees Jeff Stover, director of the SEDA-COG Joint Rail Authority in Lewisburg, Pennsylvania. "In some parts of the country, it's identified only with old smokestack industries, but we serve new high-tech industries. Without the rail, they'd be somewhere else."

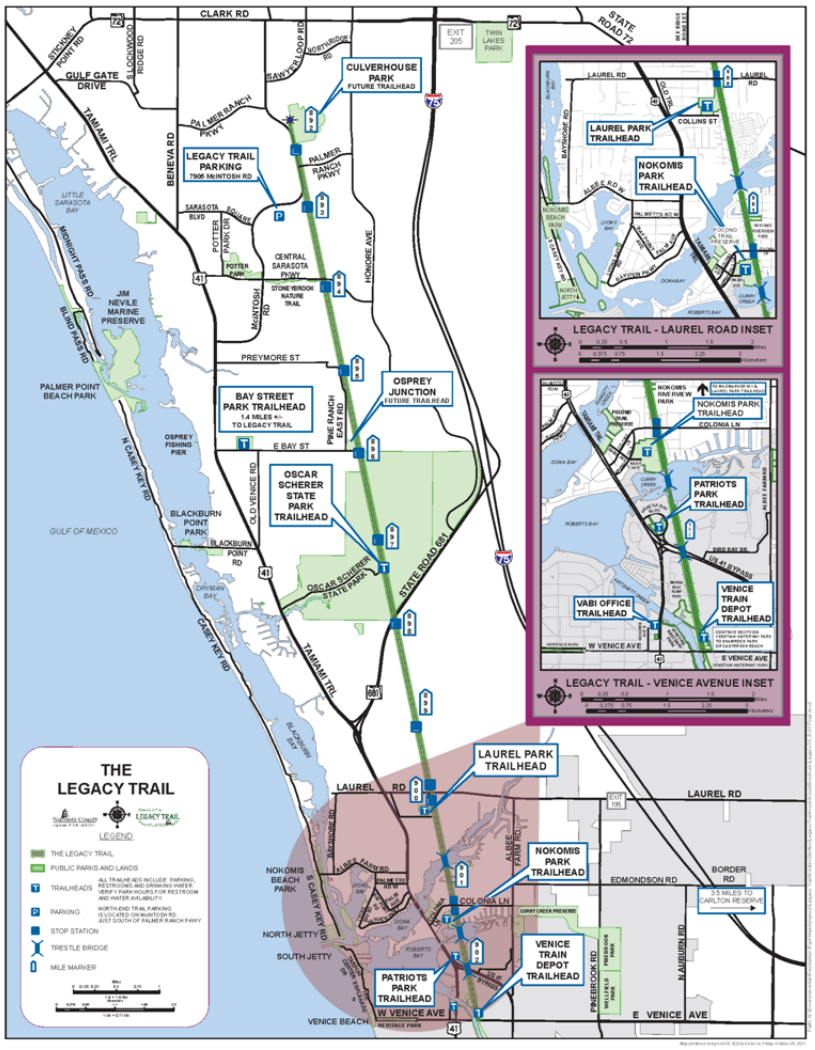
From "Short Line Railroads: Saving an Endangered Species," April 2008

3.5 Sarasota / Venice

When Seminole Gulf Railway leased the CSX rail corridor from Arcadia to northern Collier County in 1987, the lease included a second rail corridor that ran from Oneco south through Sarasota to Venice.

Seminole Gulf continues to operate freight service from Oneco to Clark Road in southern Sarasota. However, after a decade of planning, the southern end of this rail corridor was sold to Sarasota County for $11.75 million through a partnership with The Trust for Public Land (TPL). This corridor begins at Culverhouse Nature Park and is nearly 12.5 miles long and 100 feet wide, extending south through the Oscar Scherer State Park to Center Road in Venice.

Sarasota County had previously purchased and restored the Venice Train Depot, which now serves as a history museum, transit hub, and southern trailhead for the Legacy Trail. The multi-use Legacy Trail was constructed on 10 miles of the rail corridor and opened in 2008, as shown to the right.



In 2004, the federal Surface Transportation Board allowed Seminole Gulf to "rail bank" the portion of their rail line that became the Legacy Trail, beginning a 180-day period for Sarasota County to negotiate an interim trail use/rail banking agreement with Seminole Gulf. That agreement was reached, and that portion of the rail corridor was sold by CSX to TPL, the county's partner, and later transferred to Sarasota County. CSX and TPL have worked together on many other "rail-trail" projects around the state, including in Leesburg, Gainesville, and St. Petersburg.

Railbanking is a voluntary agreement between a railroad and a trail agency to use an out-of-service rail corridor as a trail until a railroad might need the corridor again for rail service. Because a railbanked corridor is not considered abandoned, it can be sold, leased or donated to a trail manager. Should a railroad may decide to re-establish rail service on a railbanked corridor, the railroad would have to reacquire the right-of-way from the trail agency.

3.6 West Palm Beach / Fort Lauderdale / Miami

Tri-Rail is a commuter rail line linking Miami, Fort Lauderdale, and West Palm Beach. This 72-mile system has 18 stations and includes direct links to Amtrak and to Miami's Metrorail.

Tri-Rail was begun in 1989 by the Florida Department of Transportation to provide temporary commuter rail service during the widening of I-95. Tri-Rail outlasted its temporary status due to higher than expected ridership and is now operated by the South Florida Regional Transportation Authority (SFRTA).

Tri-Rail currently uses CSX tracks, which it shares with Amtrak passenger trains and CSX freight trains. The state's original plan was to use the more urban Florida East Coast Railway (FEC) line, but FEC had declined the offer as they wanted freight to be their top priority. FEC officials now are interested in operating Tri-Rail service on their corridor.

Florida DOT purchased the railroad corridor from CSX in 1989. Under the terms of the agreement, CSX continued to provide dispatch services and track maintenance. SFRTA will take over both functions after current modernization efforts are complete.

Despite continuing strong ridership, Tri-Rail service has faced severe financial problems since 2009 as local governments sought to reduce their financial support. Schedules have been decreased slightly but service was never cut altogether as threatened in 2009.

3.7 Orlando Area

SunRail is a commuter rail system under construction in the Orlando area. The first phase will connect DeBary to Sand Lake Road in Orange County. The second phase will extend the line north to DeLand and south to Poinciana.

The SunRail system is being financed by the affected counties (Volusia, Seminole, Orange, and Osceola), the city of Orlando, the state, and the federal government. SunRail is expected to be complete by 2016, with the first phase operating as early as 2014. The system was formerly known as Central Florida Commuter Rail.

SunRail will run for 62 miles with 17 stations along the CSX tracks. Many stations will have park-and-ride lots; others will serve downtowns and major hospitals. Service will be primarily during commuting hours.

The total cost of the system is estimated at $615 million for construction plus $432 million to purchase the right-of-way. In 2011 the state of Florida purchased the "A-Line" and its tracks from DeLand to Poinciana from CSX. CSX will provide limited freight service at night, but most freight traffic will be rerouted to the west.

The project was nearly abandoned due to an extended dispute in the legislature over who would bear liability for incidents on Amtrak trains, which share the route.

Fifty percent of construction funding is to come from a federal transit "New Starts" grant. The local partners are responsible for 25 percent of the cost and another 25 percent is to be paid by the state. This includes the cost of track improvements, construction of train stations, and purchase of rail cars.

3.8 Miami-Dade County

In the late 1970s, freight rail service was abandoned south of Miami. This service had been provided by the Florida East Coast Railway (FEC) on a corridor that ran immediately parallel to overcrowded US 1. This corridor was then purchased from FEC for public transit purposes.

Today this corridor serves several functions. From downtown Miami south to Dadeland, Miami-Dade Transit operates the southern line of Florida's only "heavy rail" local passenger service, now known as Metrorail. This service uses a pair of elevated tracks that allow trains to avoid all grade crossings. A paved multi-use path (M-Path) runs on the ground below. Metrorail connects to Metromover, a free automated "people mover" service that runs throughout downtown Miami, and to Tri-Rail, the commuter rail line that runs to West Palm Beach. In 2012, Metrorail was extended to provide direct service to Miami International Airport.

South of Dadeland, Miami-Dade Transit operates seven city bus routes that use an exclusive busway that Florida DOT constructed to Florida City. Buses originally had extensive control over traffic signals, but the busway's proximity to US 1 confused many turning drivers, resulting in frequent crashes. Buses have now lost most of their anticipated speed advantage, but bus ridership still increased over 50% due to the busway. The paved South Dade Trail continues south to Florida City for walkers and cyclists. An extension of Metrorail south of Dadeland is planned, but funding has not been available to construct elevated tracks.

Metrorail, looking northeast from Dadeland. South Dixie Highway (US 1) is to the far right.

Busway, looking southwest. South Dixie Highway (US 1) is to the far left.