

9. Downtown Transit Plan

As part of the planning process for the TDP, an examination of downtown transit operations was conducted. The Downtown Transit Plan¹ is an important and fairly unique element of the KAT Transit Development Plan (TDP). KAT recognized, even before beginning a full TPD effort, that a downtown trolley study and bus routing analysis is needed to support the impending opening in 2010 of a new downtown transfer point, Knoxville Station. This report presents a Downtown Transit Plan that focuses on both the local/express fixed route and trolley route configurations. Conceived as a stand-alone document from the TDP, it focuses on KAT's existing route structure. It does not attempt to incorporate modifications to local and/or express routes outside the downtown area that are being contemplated as part of the TDP.

Trolley Recommendations

The downtown Knoxville trolley system has been in place since 1986 and has grown to serve downtown Knoxville, UT and its off-campus student housing, and the Fort Sanders neighborhood. Travel patterns have changed immensely over these past 20 years. Trolley service has been incrementally modified over this time period in response to these changing travel patterns.

KAT's trolley system serves a changing and different market from the local and express routes in the system. The market changes based on the time of day much more than the local routes serving downtown. In the morning and afternoon peak periods, trolleys are used to help downtown workers get from where they park, such as at the Coliseum Parking Garage, or from another bus route ending at the Downtown Transfer Point, to their work destinations. Downtown residents, such as people who live in Summit Towers and downtown apartment/condominium buildings, use the trolleys as then would any other bus route to get to work or shopping or to access other routes at the Downtown Transfer Point. During the midday, trolleys are used for quick trips to lunch or on personal errands. Throughout the day, trolleys may be used by visitors to get to tourist destinations or convention facilities. UT students, faculty, and staff also make use of the trolleys to travel between UT and Fort Sanders, downtown UT facilities, and downtown entertainment venues.

KAT's trolley system currently consists of four routes. Each of these routes is briefly described below.

- **Route 80 – Blue Line:** This trolley route operates from the Coliseum Parking Garage and connects the core of downtown south of Clinch Avenue, including the Downtown Transfer Point, and the attractions surrounding the Knoxville Civic Coliseum. It operates year-round on weekdays.

¹ Downtown Transit Plan Technical Memorandum, prepared for Knoxville Knox County Metropolitan Planning Commission, prepared by Connetics Transportation Group, subconsultant to The Corradino Group for the Transit Development Plan, prepared May 2009.

- **Route 82 – Orange Line:** This trolley route operates from the Downtown Transfer Point and connects downtown and the UT area along Cumberland Avenue. It operates year-round on weekdays.
- **Route 84 – Green Line:** This trolley route operates from UT’s student center and connects the UT campus, the Cumberland Avenue Strip, and the off-campus housing and hospital in the Fort Sanders neighborhood. This route operates on weekdays during UT’s Fall and Spring Semesters.
- **Route 86 – Late Line:** This route operates from the Historic Old City district and connects the restaurants and entertainment venues there with the downtown and UT. It operates on Friday and Saturday nights during UT’s fall and spring semesters.

This section presents recommendations for KAT’s trolley routes. Changes to the current system are proposed to address connections to Knoxville Station, respond to findings from the ridecheck survey and public comments, and better structure the trolley routes to serve as downtown circulators.

As discussed in the Downtown Transit Plan Technical Memorandum,² a trolley stop on Church Avenue near the main entrance is part of the Knoxville Station design. Proposed trolley routes serving the station have been designed to travel westbound on Church Avenue, so that all station boardings and alightings take place at the trolley stop. Three access movements have been identified as follows:

- Westbound on Howard Baker/Church Avenue from the Civic Coliseum area;
- Northbound on Hall of Fame Drive and westbound on Church Avenue; and,
- Southbound on Hall of Fame Drive and westbound on Church Avenue.

The downtown core has been defined in previous studies as being bounded by Interstate 40 on the north, the Civic Coliseum area on the east, the Tennessee River on the south, and Henley Street on the west. The preferred alternative discussed in the previous chapter would restructure local bus service to serve Knoxville Station and significantly reduce the level of local service within Knoxville’s traditional downtown area. Thus, the trolleys will need to play a larger role as transit circulators in the downtown core once KAT’s main transfer point moves from Main Street to Knoxville Station.

Circulator type transit services are those designed to complement the regular local bus network by featuring specialized services to smaller markets. Most circulator services are designed to connect to one or more transit centers where passengers can transfer to local transit services.

Fixed route circulators are differentiated from the regular local bus network by their configuration and purpose. The routes are generally shorter than regular route services and are non-linear, connecting multiple origins and destinations in the localized area and penetrating into the activity area where regular local routes often cannot physically travel. Often, smaller buses or vans are used to provide this degree of penetration and accessibility. Headways are frequent to ensure that the service is convenient to use, especially for midday trips among workers. Fares for these services are kept low to increase attractiveness and may be subsidized by employers or retail establishments.

² Ibid.

With short headways and running times and competitive pricing, these services are attractive alternatives to the short automobile trip with which they compete.

The current KAT trolley routings are proposed to be modified as shown in Figures 9-1 and 9-2. With the exception of the Late Line Trolley and future Gay Street Trolley, these routes would serve Knoxville Station and provide for timed transfers between local routes and the trolley routes.

Two issues should be noted. The work for the redesign included efforts to simplify the trolley route structure with a relatively simple east/west and north/south grid. The plan includes a grid like extension south of downtown via the Henley Street bridge as part of future trolley expansion. The overall design has been simplified but maintains some of its current features because of the network of one-way streets and other issues that exist in downtown. A second point of emphasis is that the route design emphasizes frequent service between Knoxville Station and downtown. Over the years the city examined multiple locations for the transit center and at least three locations in the core of downtown were given serious consideration, including preliminary engineering work. For a variety of reasons, each of these locations was eventually eliminated. Upon the selection of the Church Avenue site many people voiced concern about the location not being on the west side of the Church Street bridge. People also were concerned that, as currently scheduled, the trolley would not be operating during the evening hours while the transit center operates. During the public participation process, a commitment was made to provide frequent trolley service connecting the transfer center with downtown.

The cost to expand trolleys service to match that of the hours the Knoxville Station are open or to provide more frequent service throughout the day were not included in this report.

The trolley routing will undergo further review, including public meetings in early 2010. Therefore, further changes to the service could occur.

Figure 9-1
Proposed Weekday
Trolley Routes

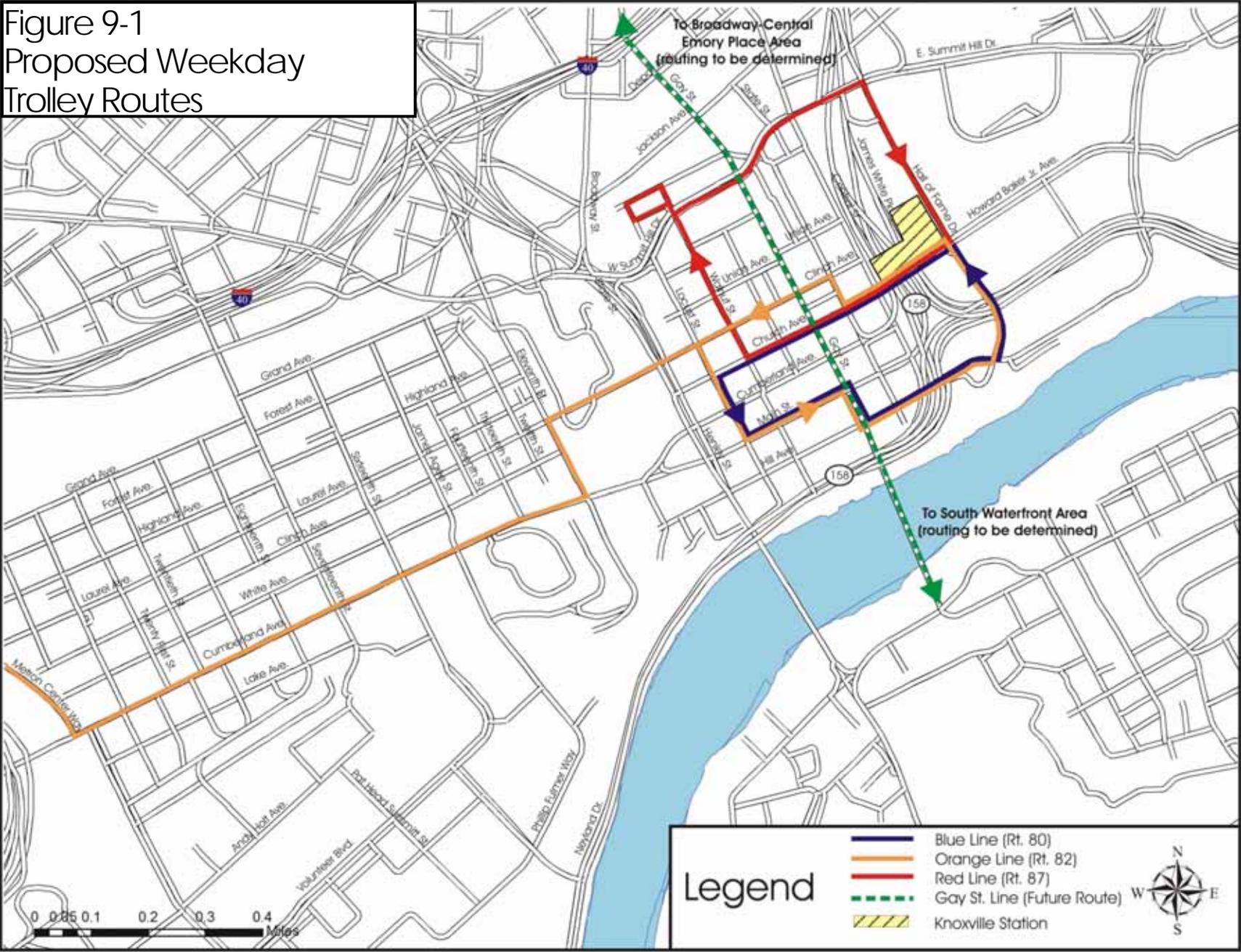
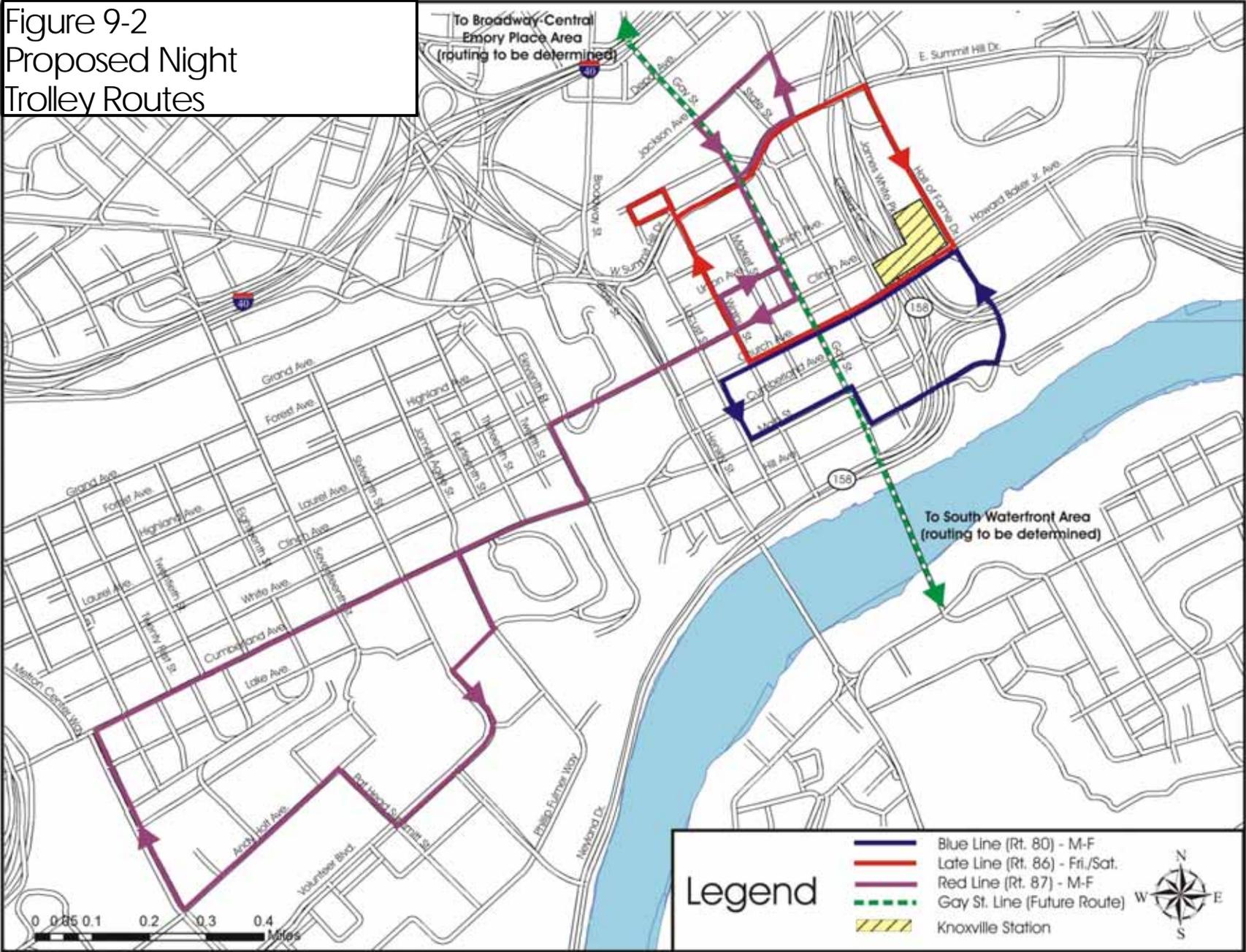


Figure 9-2
Proposed Night
Trolley Routes



Downtown Fixed-Route Operational Recommendations

Knoxville Area Transit (KAT) currently operates fixed route bus operations within downtown Knoxville to and from the Downtown Transfer Point located along Main Street between Locust Street and Gay Street, primarily in front of the City County Building. Amenities at the existing Downtown Transfer Point are limited, and consist of several covered shelters along the south side of Main Street. Buses operate on Main Street in mixed traffic and load and unload passengers along the curb.

KAT moved its on-street transfer operations to this location in 2004 after the Market Street Garage was constructed. However, it was never intended to be KAT's permanent downtown transfer point location, due to operational problems and potential safety hazards. Studies had been underway since the early 1990s to identify an appropriate site for a permanent central transit center that would house passenger waiting and transfer facilities for existing and future buses. These efforts are now coming to fruition with the construction of Knoxville Station on Church Avenue above the James White Parkway.

Bus service to and from the Downtown Transfer Point is currently operated using a pulse schedule with buses departing and arriving every 15 minutes throughout the day. Buses depart the Downtown Transfer Point on the hour (:00), quarter past the hour (:15), half past the hour (:30) and quarter to the hour (:45). Most inbound buses do not have layover time at the Downtown Transfer Point, allowing very little time for patrons to transfer between buses.

Several alternatives were examined. These included an alternative that routed the buses around downtown to the extent possible, an alternative that functioned much like the system does today, and finally a third alternative that combined elements of both.

After reviewing the alternatives presented above, City of Knoxville, TPO, and KAT staff indicated a preference for Alternative B-1³ with some modifications, as shown in Figure 9-3.

The recommended modifications to Alternative B-1 are as follows:

- Keep buses off of Gay Street to the greatest extent possible. To accomplish this, two of the routes from the northwest would access Knoxville Station via Summit Hill Drive and Hall of Fame Drive. As shown in Figure 9-4, buses currently coming into downtown from the north on Gay Street would be rerouted in the vicinity of the I-40 and James White Parkway interchange to Hall of Fame Drive. Similarly, routes from the west coming into downtown via Cumberland Avenue (i.e., Routes 10, 11, and 90) would turn south on Gay Street and access Knoxville Station via Hill Avenue and Hall of Fame Drive.
- Maintain some east-west coverage through the center of downtown via Church Avenue and Clinch Avenue to provide direct access to destinations in this area. To avoid having large buses pass by First Presbyterian Church on Church Avenue, the three routes providing this "through service" are ones which use small 20-passengers vehicles and do not operate on

³ Please refer to Technical Memorandum: Downtown Transit Plan, prepared for the Knoxville Knox County Metropolitan Planning Commission by Connetics Transportation Group (subconsultant to The Corradino Group) for detail on the downtown routing alternatives.

Sundays. Route 42 would utilize Clinch Avenue westbound and Church Avenue eastbound, while Route 13 and 21 would utilize Church Avenue in both directions through downtown. Westbound, Route 42 would avoid Gay Street by turning north onto State Street and west onto Church Avenue. Northbound and southbound, Routes 13 and 21 would operate on Walnut Street and Locust Street, respectively.

With this preferred configuration, Knoxville Station access/egress for these local routes would be as follows.

- Routes 13 and 21 from the northwest and Route 42 from the west:
 - Access – Left turn from Church Avenue into Knoxville Station; and,
 - Egress – Right turn from Knoxville Station onto Hall of Fame Drive and right turn onto Church Avenue.

- Routes 12 and 22 from the northwest, Routes 14, 20, 23, and 31 from the north, and Routes 30, 33, and 90 from the northeast:
 - Access – Right turn from Hall of Fame Drive into Knoxville Station; and,
 - Egress – Left turn from Knoxville Station onto Church Avenue and left turn onto Hall of Fame Drive.

- Routes 10, 11, and 90 from the west and Routes 40 and 41 from the south:
 - Access – Left turn from Hall of Fame Drive onto Church Avenue and right turn into Knoxville Station; and,
 - Egress – Right turn from Knoxville Station onto Hall of Fame Drive.

- Route 32 from the northeast:
 - Access – Right turn from Church Avenue into Knoxville Station; and,
 - Egress – Right turn from Knoxville Station onto Hall of Fame Drive and left turn onto Howard Baker Avenue or left turn from Knoxville Station onto Church Avenue.

Further evaluation of the routes is underway. The consultant is assisting in the timing, modification, and interlining of the routes. Plus, all routes will undergo further scrutiny during public meetings in early 2010. Therefore, recommendations in this report may be modified.

Figure 9-3
Proposed Local Route Bus Patterns
Weekday Service

