

ROUTE 22

SERVICE DESIGN

Route 22 operates between the Walmart on Main Street and Vista Ridge Mall, primarily along Fox Avenue, SH 121, Uecker Lane, Round Grove Road. Other key destinations served by the route include Lewisville High School, Terry's Supermarket and several multi-family housing complexes (see Figure 2).

ALIGNMENT/SERVICE PATTERNS

Route 22 operates along a consistent service pattern throughout the service day. From Walmart, buses travel south on Valley Parkway before turning east onto Fox Avenue. The route continues south along SH 121, Southwest Parkway, and Uecker Lane before turning east onto Round Grove Road. The route terminates at Vista Ridge Mall. Return trips following the same alignment, but in reverse.

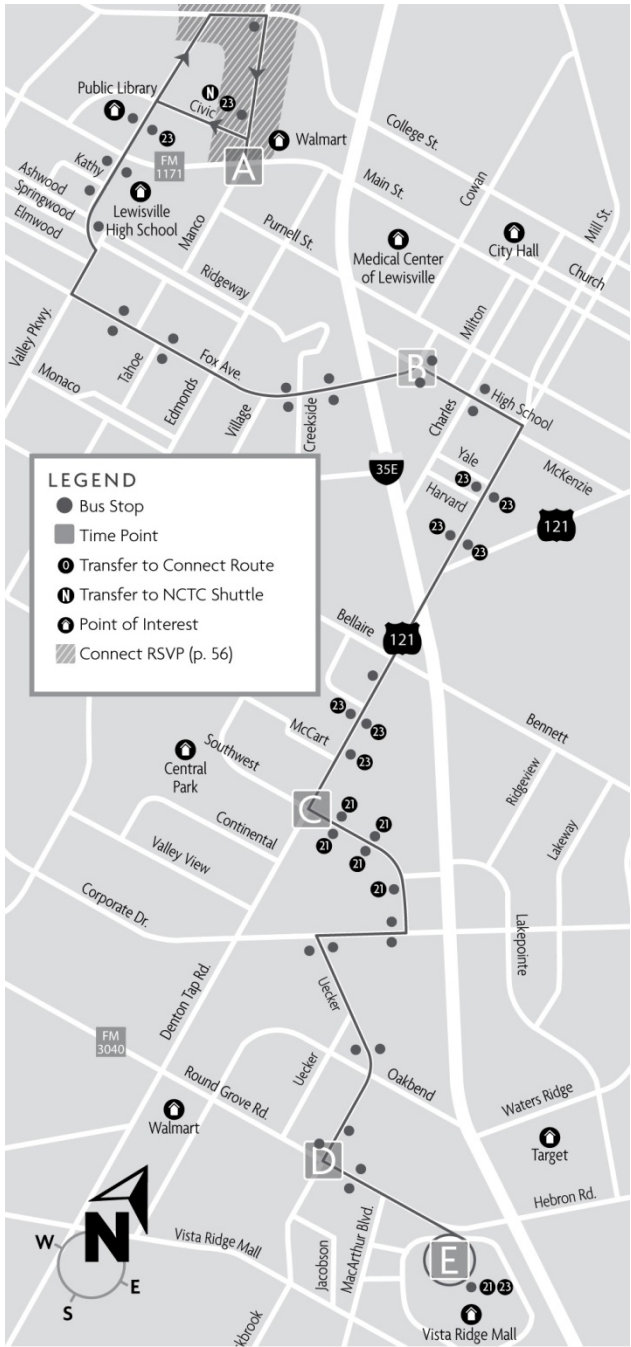
SYSTEM INTERACTION AND TRANSFER OPPORTUNITIES

Route 22 provides transfer opportunities to both of the other Lewisville Connect bus routes, as well as Connect RSVP and the NCTC Shuttle (see Figure 1).

Figure 1 | Transfer Opportunities

TRANSFER TO	LOCATION
Route 21	Walmart (Main St) Vista Ridge Mall Southwest Parkway (Btw Route 121 and Corporate Dr)
Route 23	Walmart (Main St) Vista Ridge Mall Mill St/Route 121 (Btw Purnell St and Southwest Parkway)
Connect RSVP	Walmart (Main St)
NCTC Shuttle	Walmart (Main St)

Figure 2 | Route Map



Note: Map has been rotated and does not point north
Source: DCTA Maps and Schedules

SERVICE SCHEDULE

Route 22 operates every half hour Monday through Friday, from 6:30 am to 9:00 pm. On Saturday, service is reduced, running hourly from 9:30am to 5:30pm (see Figure 3).

Figure 3 | Schedule Statistics

SERVICE DAY	SPAN OF SERVICE	FREQUENCY (MIN)	DAILY TRIPS (Northbound/Southbound)
Monday-Friday	6:30 AM – 9:00 PM	30	30/29
Saturday	9:30 AM – 5:30 PM	60	9/9
Sunday	-	-	-

Source: DCTA Maps and Schedules

RIDERSHIP

On average, Route 22 carries 144 passengers on weekdays, or 2.4 passengers per trip. This is 33.3% lower than the Lewisville Connect Bus system average for weekday riders per trip (see Figure 4). Saturday ridership is approximately half that of weekday ridership, but with higher ridership per trip than on weekdays (Figures 5-8).

Figure 4 | Ridership Statistics

SERVICE DAY	TYPICAL DAILY RIDERSHIP	TRIPS	AVERAGE RIDERSHIP PER TRIP	SYSTEM AVERAGE RIDERSHIP PER TRIP
Weekday	144	59	2.4	3.6
Saturday	78	18	3.7	4.4

Source: Manual ride check, Spring 2015

Figure 5 | Weekday Ridership by Route

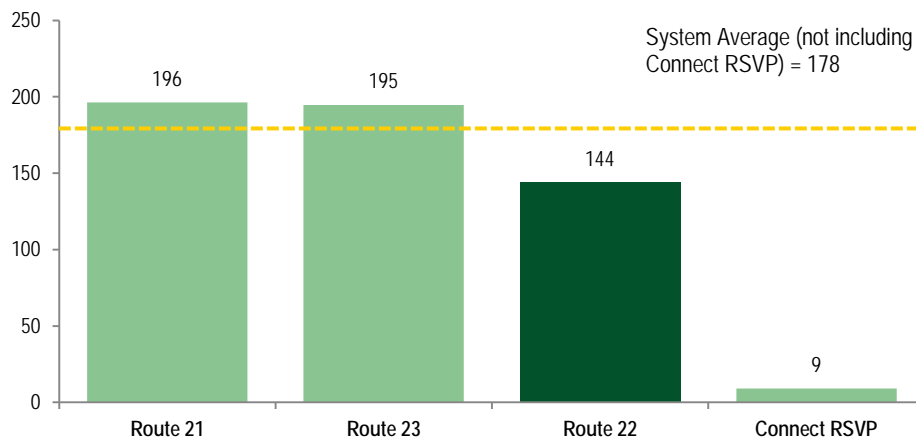
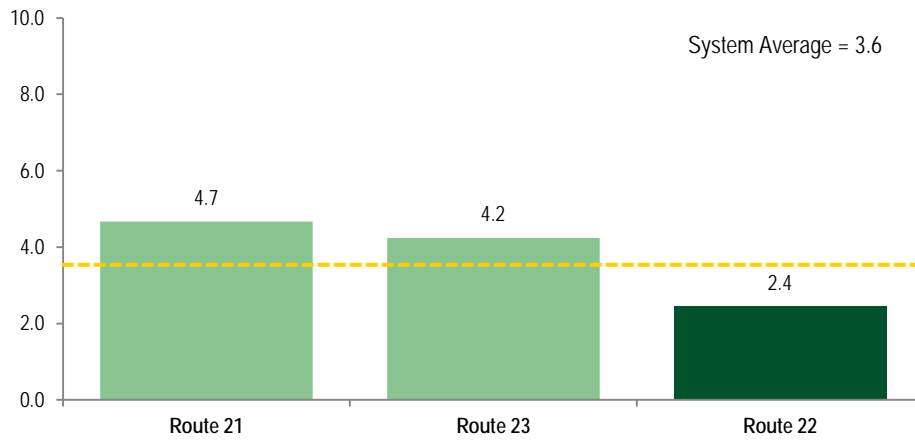


Figure 6 | Weekday Ridership per Trip by Route



Note: Ridership per Trip is not available for Connect RSVP

Figure 7 | Saturday Ridership by Route

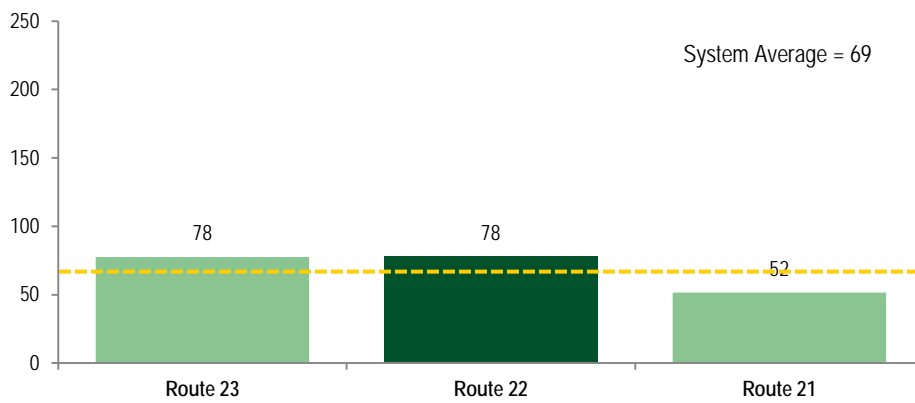
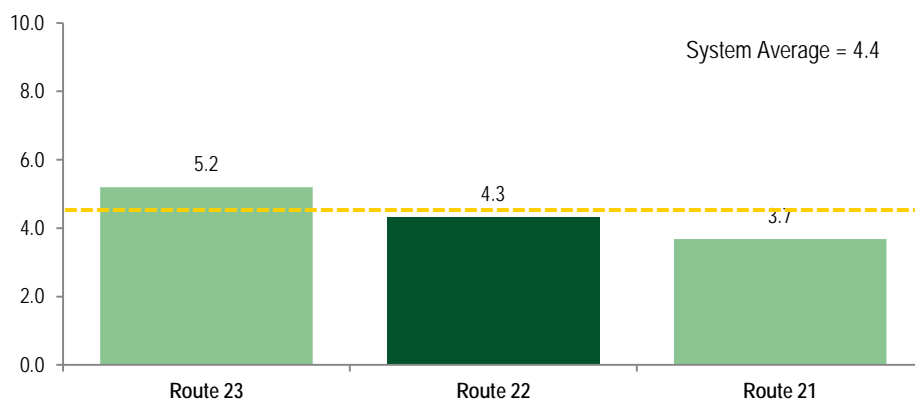


Figure 8 | Saturday Ridership per Trip by Route



RIDERSHIP BY STOP

The heaviest boarding and alighting activity for Route 22 occurs at Vista Ridge Mall and the Walmart on Main Street. These are the only two stops with at least 15 weekday boardings or alightings per day (see Figures 9-12). Saturday ridership follows a similar pattern to weekday ridership, but with lower overall volumes (Figures 15-18).

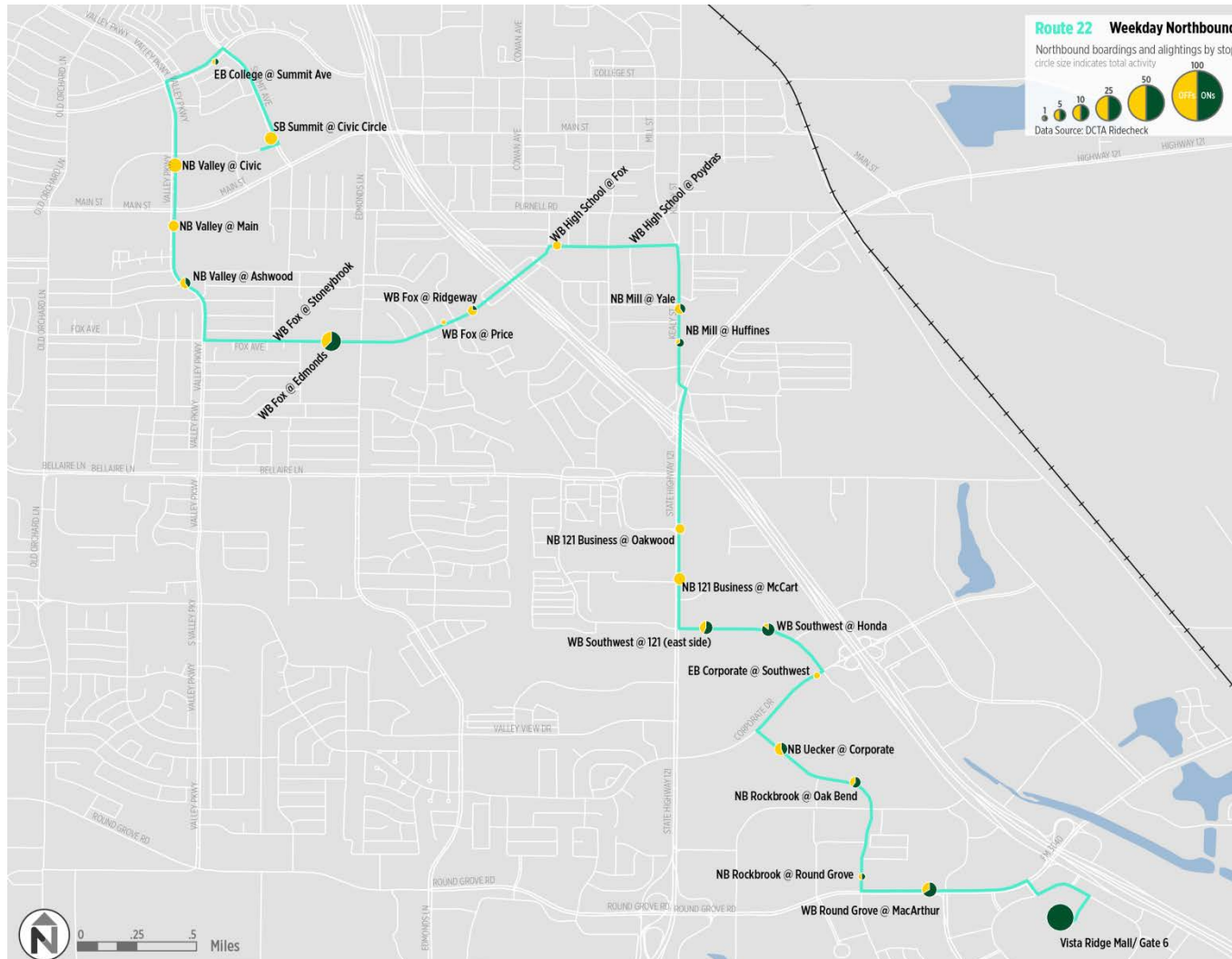
RIDERSHIP BY TRIP

On weekdays, Route 22 experiences ridership fluctuation throughout the service day, rather than well-defined peaks during traditional commuting periods. This is likely a reflection of the fact that Route 22 does not directly connect to the A-train, which is most heavily used during traditional commuting periods. While there are no maximum loads that exceed 15 passengers on any trip (indicating that over-crowding is not an issue on Route 22), there are several trip where maximum loads exceed boardings. This can occur when passengers board a bus at the most convenient stop in one direction, knowing that it will soon reverse directions at the end of the line. Thus, there may already be passengers on a vehicle at the start of a route, resulting in a higher maximum load than the total number of boardings for a trip. In the case of Route 22, many passengers who board at northbound stops along Valley Parkway and College Parkway may be staying on the vehicle past Summit and Civic to ride southbound (see Figures 13 and 14).

On Saturdays, ridership follows a similar pattern, although with a lighter overall volume than on weekdays, and no trips exceed 10 passengers on board at one time (see Figures 19 and 20).

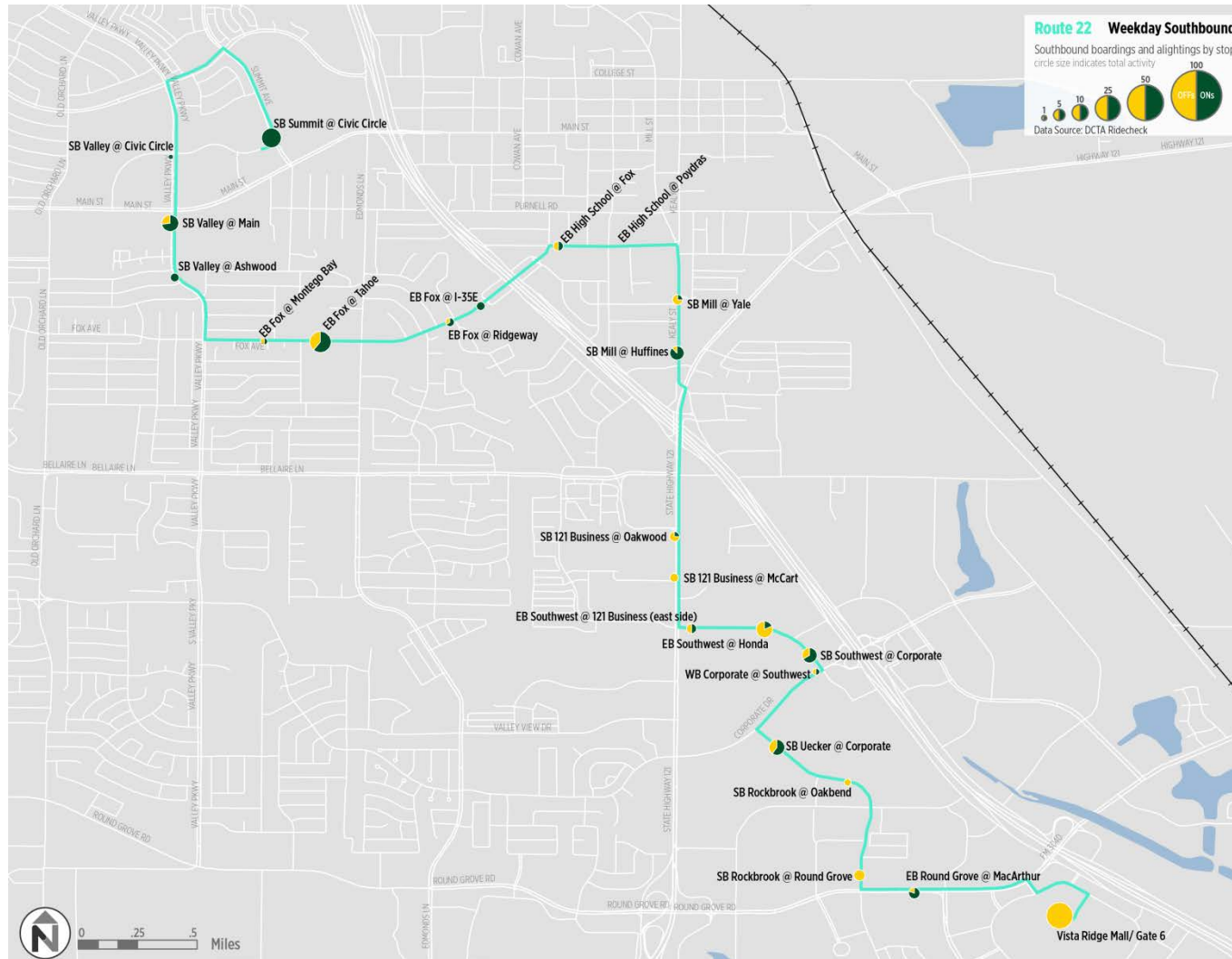
ROUTE EVALUATION | ROUTE 22 Denton County Transportation Authority

Figure 9 | Weekday Northbound Daily Ridership by Stop Map



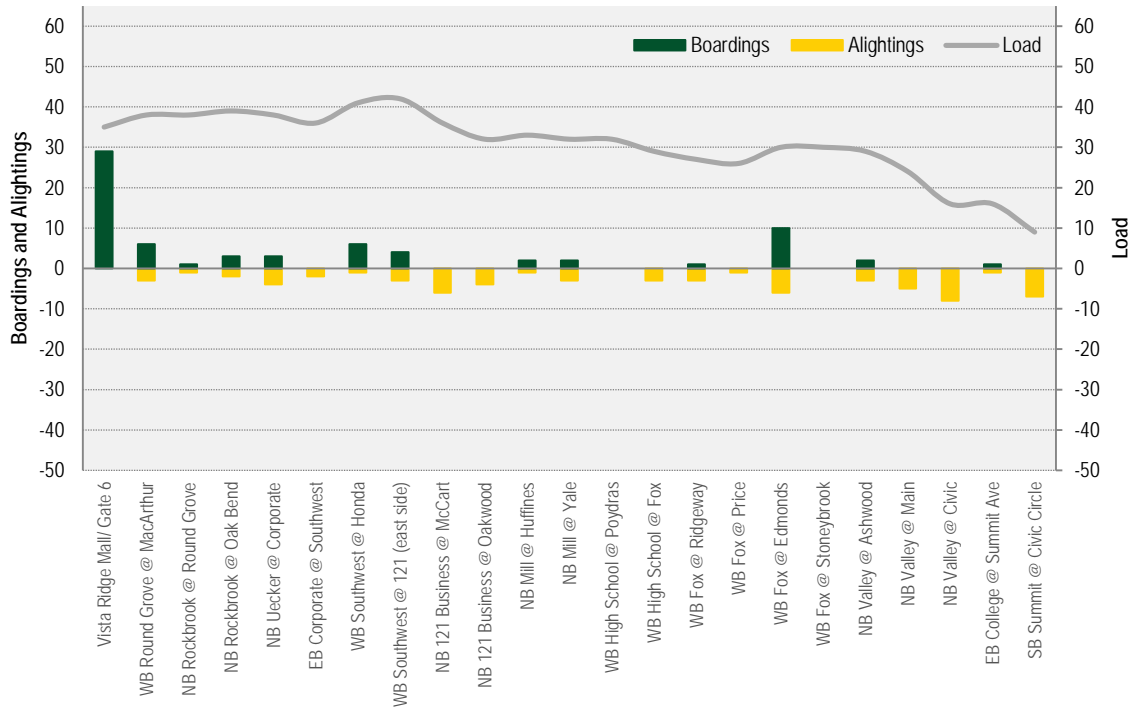
Source: Manual ride check, Spring 2015

Figure 10 | Weekday Southbound Daily Ridership by Stop Map



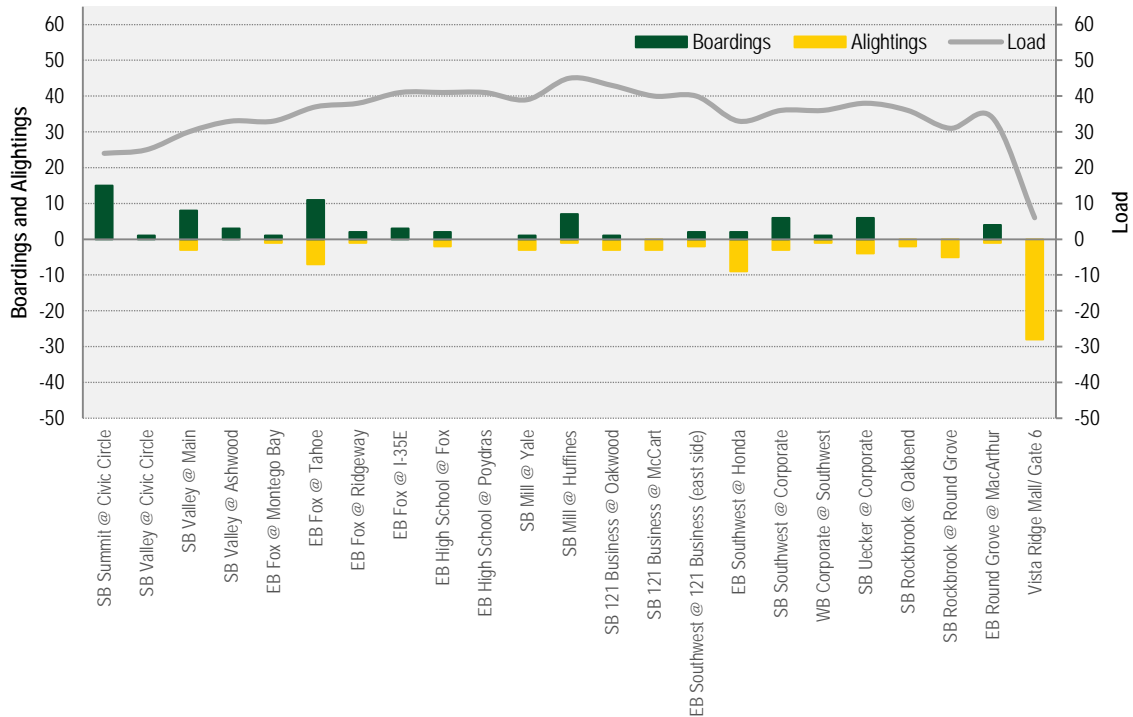
Source: Manual ride check, Spring 2015

Figure 11 | Weekday Northbound Ridership by Stop Chart



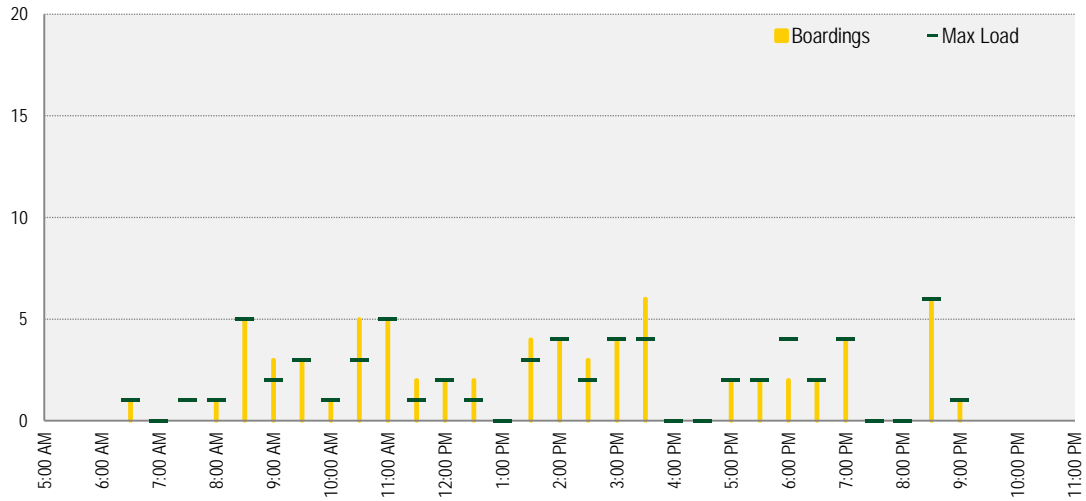
Source: Manual ride check, Spring 2015

Figure 12 | Weekday Southbound Ridership by Stop Chart



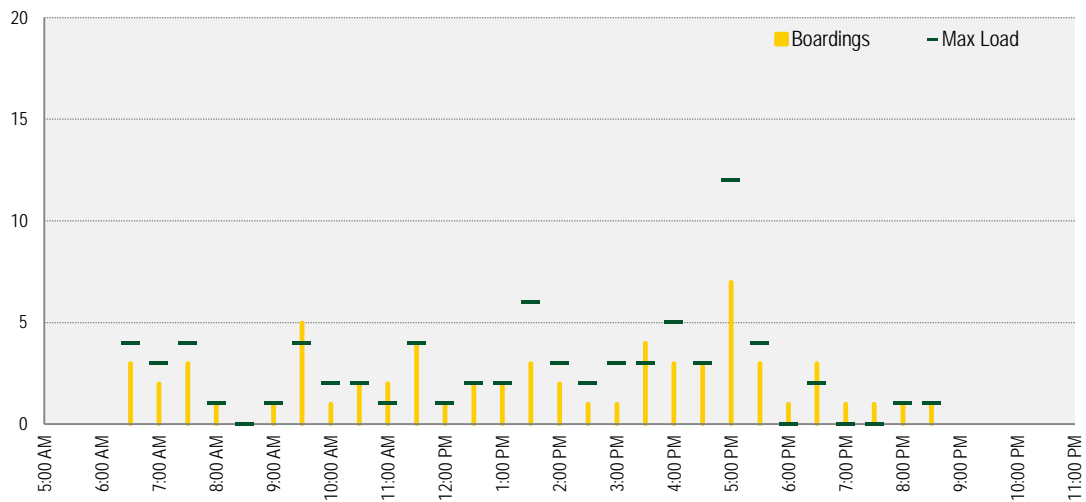
Source: Manual ride check, Spring 2015

Figure 13 | Weekday Northbound Ridership by Trip



Source: Manual ride check, Spring 2015

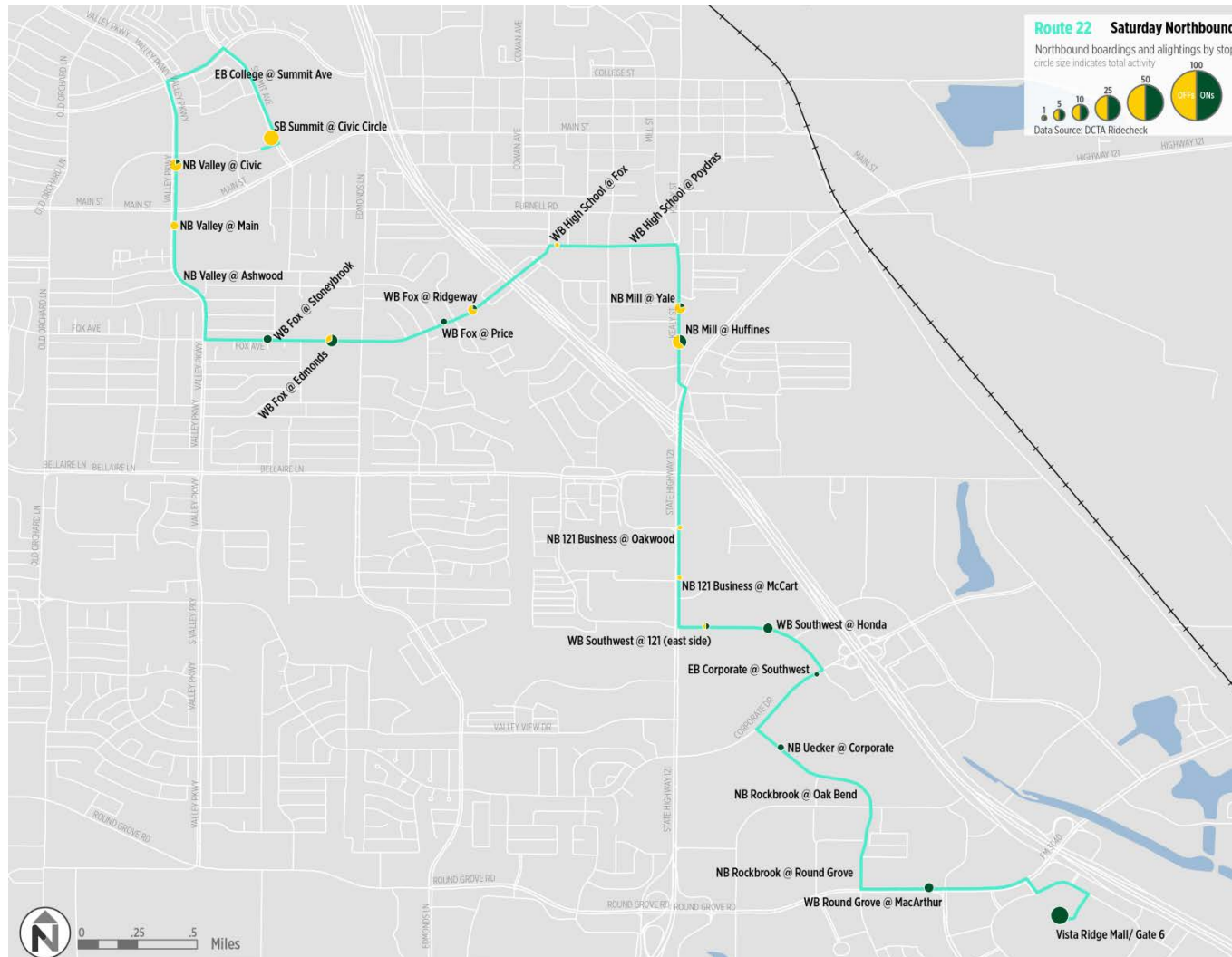
Figure 14 | Weekday Southbound Ridership by Trip



Source: Manual ride check, Spring 2015

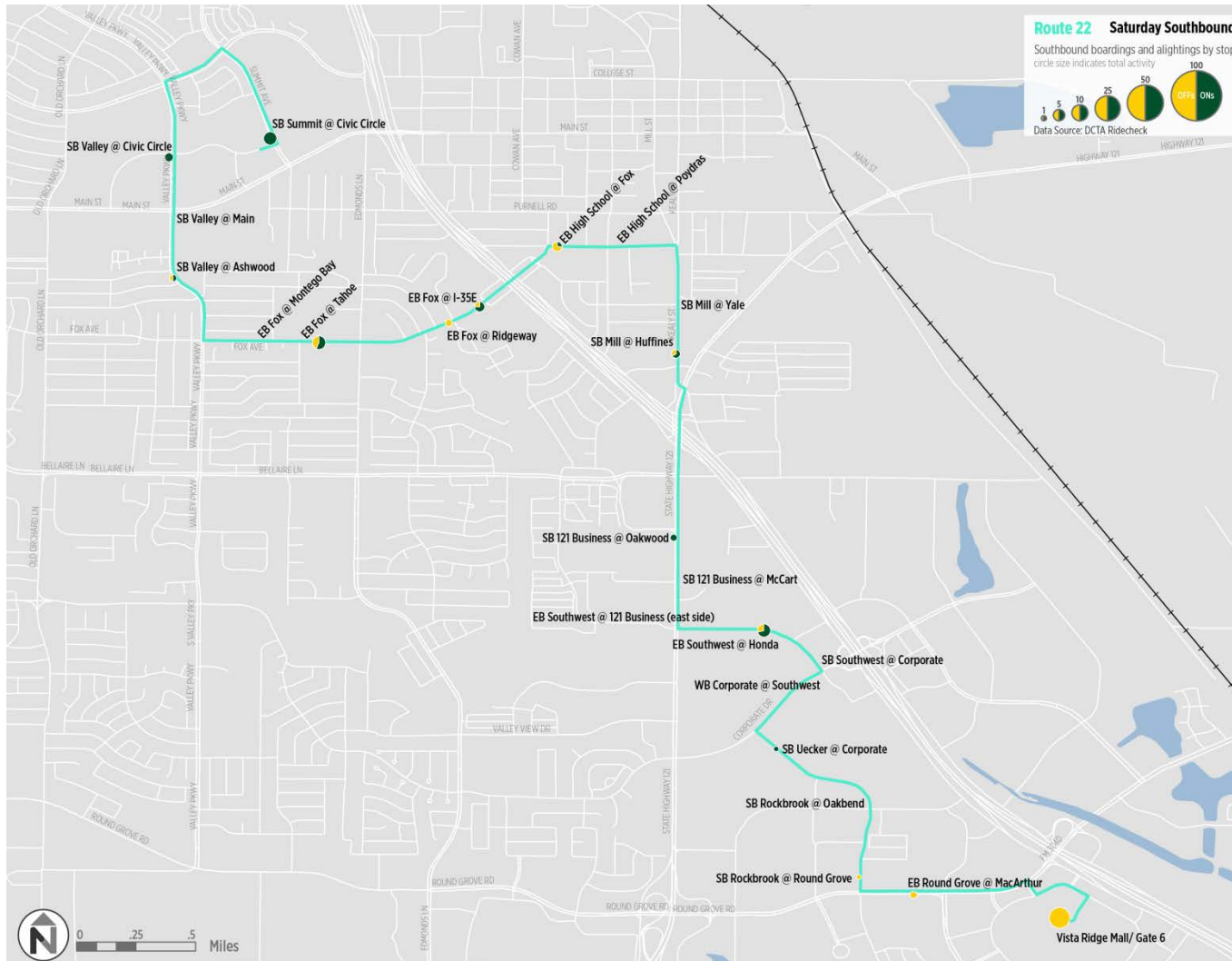
ROUTE EVALUATION | ROUTE 22 Denton County Transportation Authority

Figure 15 | Saturday Northbound Daily Ridership by Stop Map



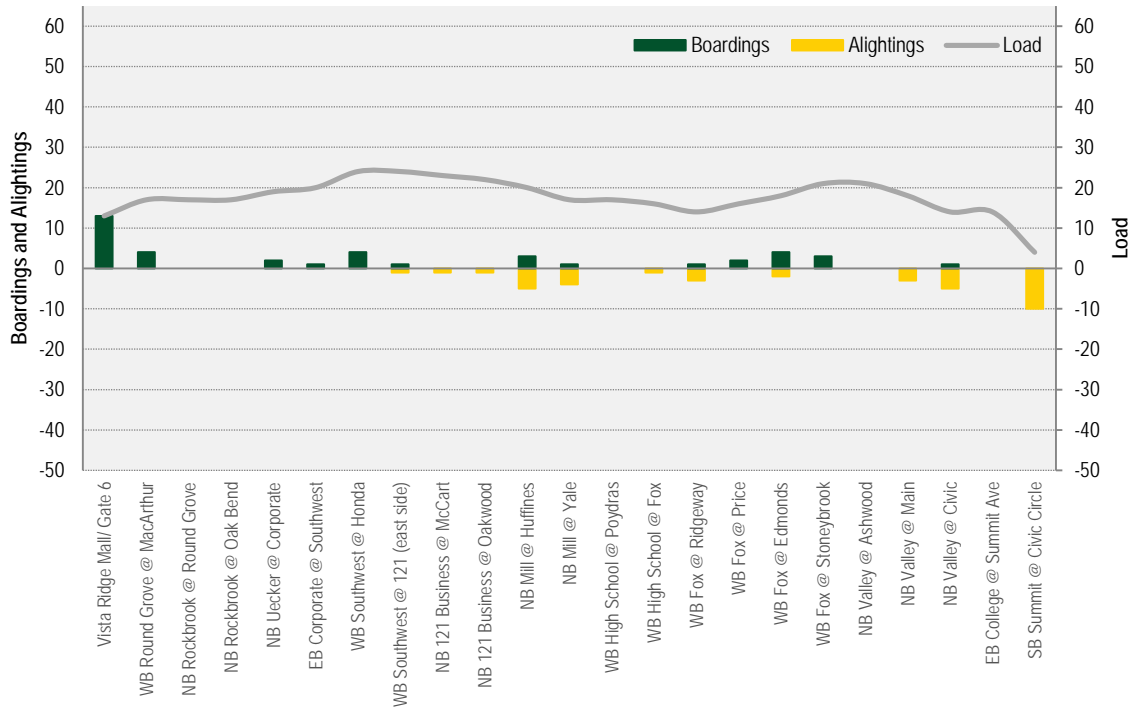
Source: Manual ride check, Spring 2015

Figure 16 | Saturday Southbound Daily Ridership by Stop Map



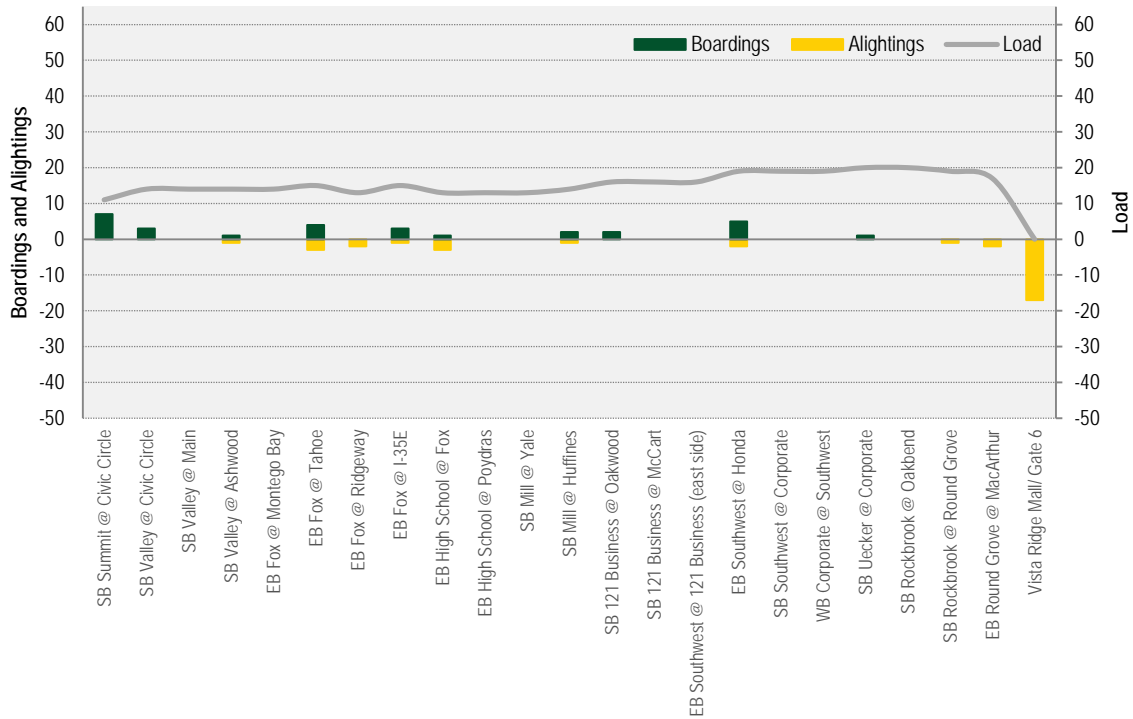
Source: Manual ride check, Spring 2015

Figure 17 | Saturday Northbound Ridership by Stop Chart



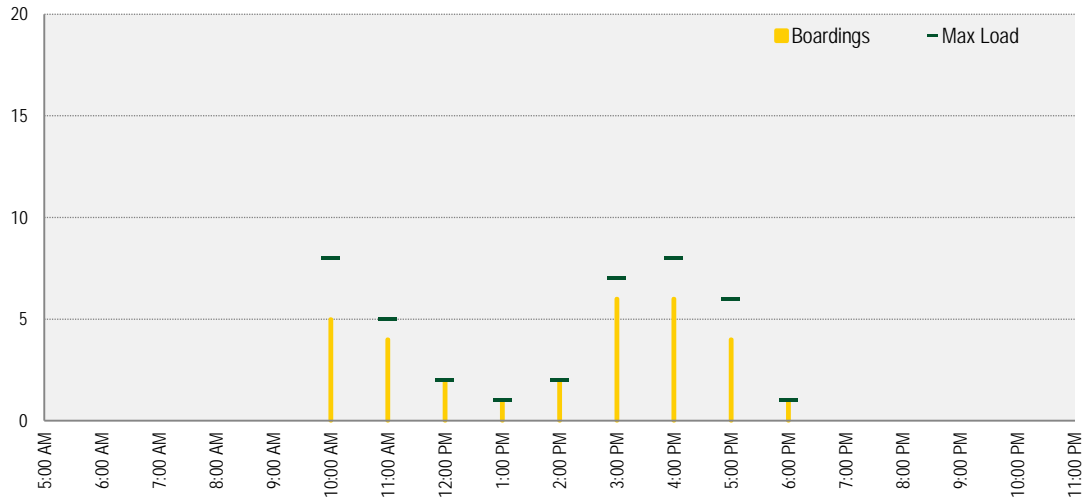
Source: Manual ride check, Spring 2015

Figure 18 | Saturday Southbound Ridership by Stop Chart



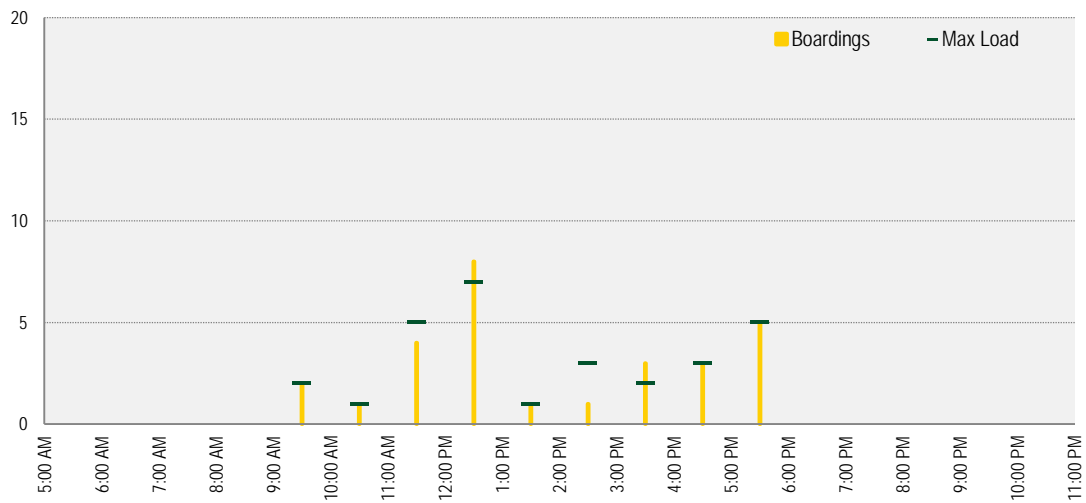
Source: Manual ride check, Spring 2015

Figure 19 | Saturday Northbound Ridership by Trip



Source: Manual ride check, Spring 2015

Figure 20 | Saturday Southbound Ridership by Trip



Source: Manual ride check, Spring 2015

SERVICE PRODUCTIVITY

Route 22 carries 4.9 passengers per service hour on weekdays, which is 18% less than the system average (see Figures 21 and 22). However, on Saturdays, the route serves 8.6 passengers per service hour, which is 19.5% above the system average (see Figures 21 and 23). The above-average weekend productivity can be explained by two factors: Compared to other routes in the Lewisville Connect System, Route 22 has slightly fewer service hours on Saturday. In addition, Saturday ridership generally includes more shopping trips, and fewer commuter connections to the A-train, which makes Route 22 more competitive with other routes than on weekdays.

Figure 21 | Service Productivity

SERVICE DAY	TYPICAL DAILY RIDERSHIP	SERVICE HOURS	AVERAGE PASSENGERS PER HOUR	SYSTEM AVERAGE PASSENGERS PER HOUR
Weekday	144	29.3	4.9	6.0
Saturday	78	9	8.6	7.2

Source: Manual ride check, Spring 2015

Figure 22 | Weekday Ridership per Revenue Hour by Route

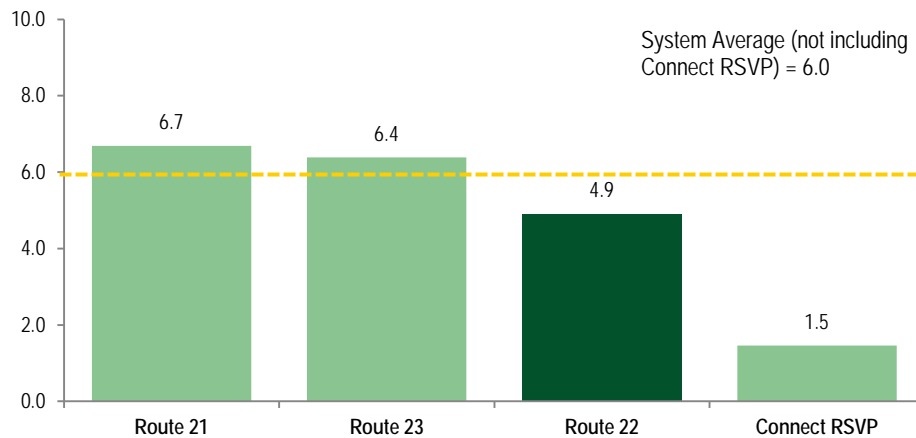
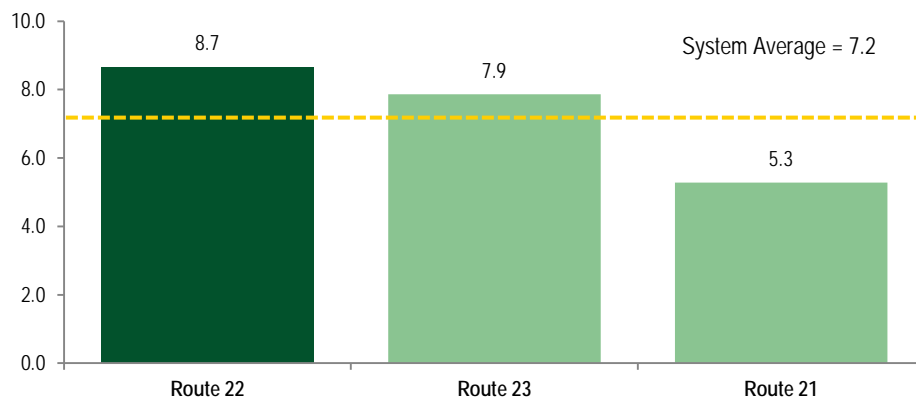


Figure 23 | Saturday Ridership per Revenue Hour by Route



ON-TIME PERFORMANCE

During the survey period, over three quarters of Route 22 time points were served “on-time.” This is a significantly higher rate than other Lewisville Connect bus services (Figure 24). Buses are considered early when they depart a time point before their scheduled departure time. Buses are considered late when they arrive at a time point more than five minutes behind schedule. On weekdays, Route 22 trips are more likely to be late than early, with the majority of delays on southbound trips and the majority of early arrivals on northbound trips.

On Saturdays, Route 22 trips are somewhat more likely to be early than late. Almost all southbound trips arrive at Vista Ridge Mall about two minutes early, which is not problematic given that this is the end of the line. Late trips are scattered throughout the Saturday service period, suggesting that there is not a consistent cause for late arrivals.

Figure 24 | On-Time Performance

PERFORMANCE MEASURE	Weekday	Saturday
On-Time Performance (%)	76.4%	79.7%
Early (%)	7.6%	12.7%
Late (%)	16.0%	7.6%

Source: Manual ride check, Spring 2015

POTENTIAL SERVICE IMPROVEMENT OPTIONS

Opportunities to strengthen Route 22 are listed below. Some suggestions may be contradictory, as there is usually more than one approach to improving a route.

- **Create Connection to at Least One A-train Station.** Route 22 is the only Lewisville Connect route that does not have a direct connection to at least one A-train station. As a result, it lacks the morning and evening ridership spike seen on Route 21. One option for creating this direct connection is to transfer the Vista Ridge Mall to Hebron Station segment of Route 21 to Route 22. Thus, Hebron Station would be the designated start and end point of both Route 21 and 22.
- **Adjust Schedules to Match Demand.** Route 22 is the least productive route among Connect routes in Lewisville, yet it has the highest service frequency. To mitigate this situation, DCTA could offer higher service frequency during peak periods and lower frequency in the off-peak. For example, Route 22 service could operate every 30 minutes in the morning and afternoon peaks, and hourly at all other times. While there is not currently a strong peak-period ridership demand on the route, extending Route 22 to an A-train station would likely change this.
- **Extend service Further along Round Grove.** One of the largest concentrations of jobs in the City of Lewisville is in the Convergence Technology Center near Round Grove Road and Edmunds Lane. Linking this employment hub to Hebron Station could help facilitate regional commuter trips. Extending the service to Old Orchard Lane would also serve several apartment complexes and the Lewisville High School Harmon Campus.