

Greenlink Fixed Route Contingency Plan

Purpose

This document outlines service reduction options to alleviate strain on staff caused by **known** labor shortages. **Labor shortages occur when Greenlink has less operators available than what is needed to run service during a quarter.** A minimum of one (1) dispatcher and one (1) supervisor must remain to monitor operations at the Greenlink Terminal. **Table 1** outlines the Greenlink contingency plan, as well as the staff threshold at which the plan should be implemented. A detailed description of each stage is can be found after the table. Situational staffing issues will be addressed using the same reductions, but reductions may be implemented in a different order.

Contingency Plan Strategy

Table 1 below outlines the stage to be implemented for a given operator staffing level. Operator staffing level indicates the number of regular fixed route bus drivers and supervisor staff that are available to drive full time. Remaining supervisor staff will not drive. The sequence of implementation is designed to first introduce reductions that impact riders least, and reserve impactful reductions to be implemented last. *Each stage includes the measures of previous stages.* The “Total Operators” column is operator range and available supervisors combined to determine the staffing level for each service level. This staffing level is based on a maximum 25% overtime rate.

Table 1: Contingency Stage by Staffing Level

Stage	Description	Driver Range	Flexed Supervisors*	Total Operators
Normal	Standard Operation	38-28	3	41-31
1	Reduce 602 frequency	27-26	3	30-29
2	Route 550 & 551 PM Shift	25	3	28
3	Alternate 501 & 509 then 503 & 504 PM Shift	24	3	27
4	Route 551 All Day	23-22	3	26-25
5	Route 550 All Day	21	3	24
6	Alternate 510 & 601 All Day	20-18	3	23-21
7	Alternate 501 & 509 All Day	17-16	3	20-19
8	Alternate 503 & 504 All Day	15-14	3	18-17

**Flexed supervisors’ indicates the number of shifts covered by supervisors. The number provided above was calculated by subtracting 3 from the number of supervisors available (currently 6 full time supervisors).*

Service Reduction Alternatives

To accommodate reduced staffing levels, service reductions are necessary. These reductions encompass route reductions, frequency reductions, and adjustments to hours of operations. Alternatives considered are designed to prioritize the needs of Greenlink users and preserve access at the cost of convenience.

Stage 1: Reduce Route 602 Woodruff Connector frequency

This stage removes a bus along Route 602, increasing headways from 30 minutes to 60 minutes. Optionally, service can be stopped at 9:00 PM if helpful.

Stage 2: Implement Route 551 Wade Hampton/Rutherford initially and, if needed, implement Route 550 Woodside/White Horse – PM Shift

Route 502 White Horse and Route 506 Woodside are combined to form Route 550, a route that serves portions of both 502 and 506 with a single bus. Route 550 can be seen in [Appendix A](#). Route 505 Rutherford and Route 508 Wade Hampton are combined to form Route 551, a combined route that serves portions of both 505 and 508 with a single bus. Route 551 can be seen in [Appendix B](#). At this stage, these two routes are operated 7:30 PM to 11:30 PM. **Implement 551 first** if only 1 combination is necessary.

Stage 3: Alternate service between Route 501 S Pleasantburg & Route 509 E North initially and, if needed, alternate between Route 503 Poinsett & Route 504 Anderson – PM Shift

Using a single bus, operators will alternate between Route 501 and Route 509 initially. Additionally, if needed, operators will use a single bus to alternate between Route 503 and Route 504. This stage results in 120-minute headways for each route. These adjustments are in effect from 7:30 PM to 11:30 PM.

Stage 4: Implement Route 551 Wade Hampton/Rutherford - Combine Routes 508 Wade Hampton & 505 Rutherford - All Day

Route 505 and Route 508 are combined to form Route 551, a route that serves portions of 505 and 508 with a single bus. Route 551 can be seen in [Appendix B](#). This route is operated for the entire service day.

Stage 5: Implement Route 550 Woodside/White Horse - Combine Routes 502 White Horse & 506 Woodside - All Day

Route 502 and Route 506 are combined to form Route 550, a combined route servicing both 502 and 506 with a single bus. Route 550 can be seen in [Appendix A](#). This route is operated for the entire service day.

Stage 6: Alternate service between Route 510 Laurens & Route 601 Simpsonville Connector – All Day

Using a single bus, operators will alternate between Route 510 and Route 601. This stage results in 120-minute headways for each route. These adjustments are in effect all day.

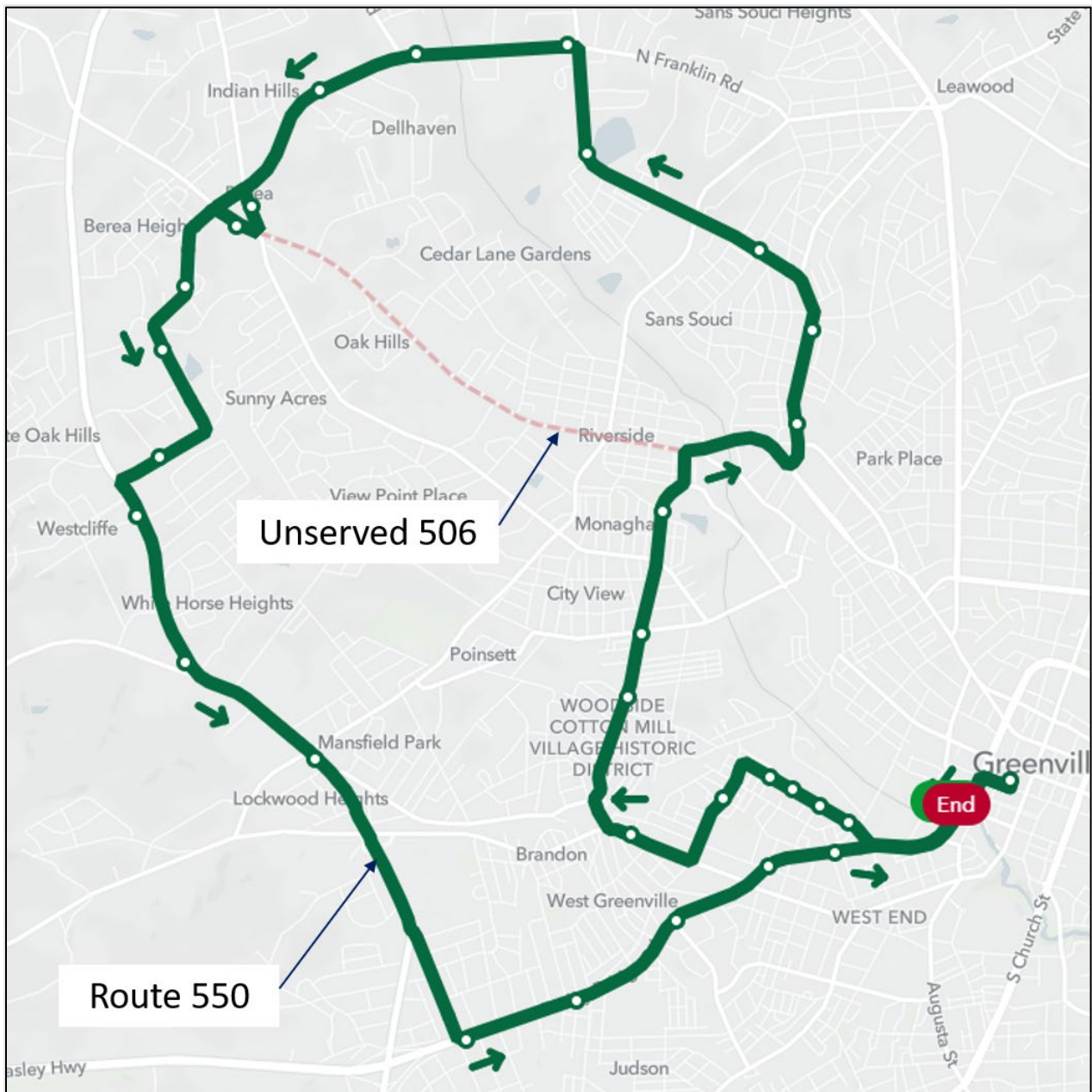
Stage 7: Alternate service between Route 501 S Pleasantburg & Route 509 E North – All Day

Using a single bus, operators will alternate between Route 509 and Route 501. This stage results in 120-minute headways for each route. These adjustments are in effect all day.

Stage 8: Alternate service between Route 503 Poinsett & Route 504 Anderson – All Day

Using a single bus, operators will alternate between Route 503 and Route 504. This stage results in 120-minute headways for each route. These adjustments are in effect all day.

Appendix A: Route 550 - Woodside/White Horse

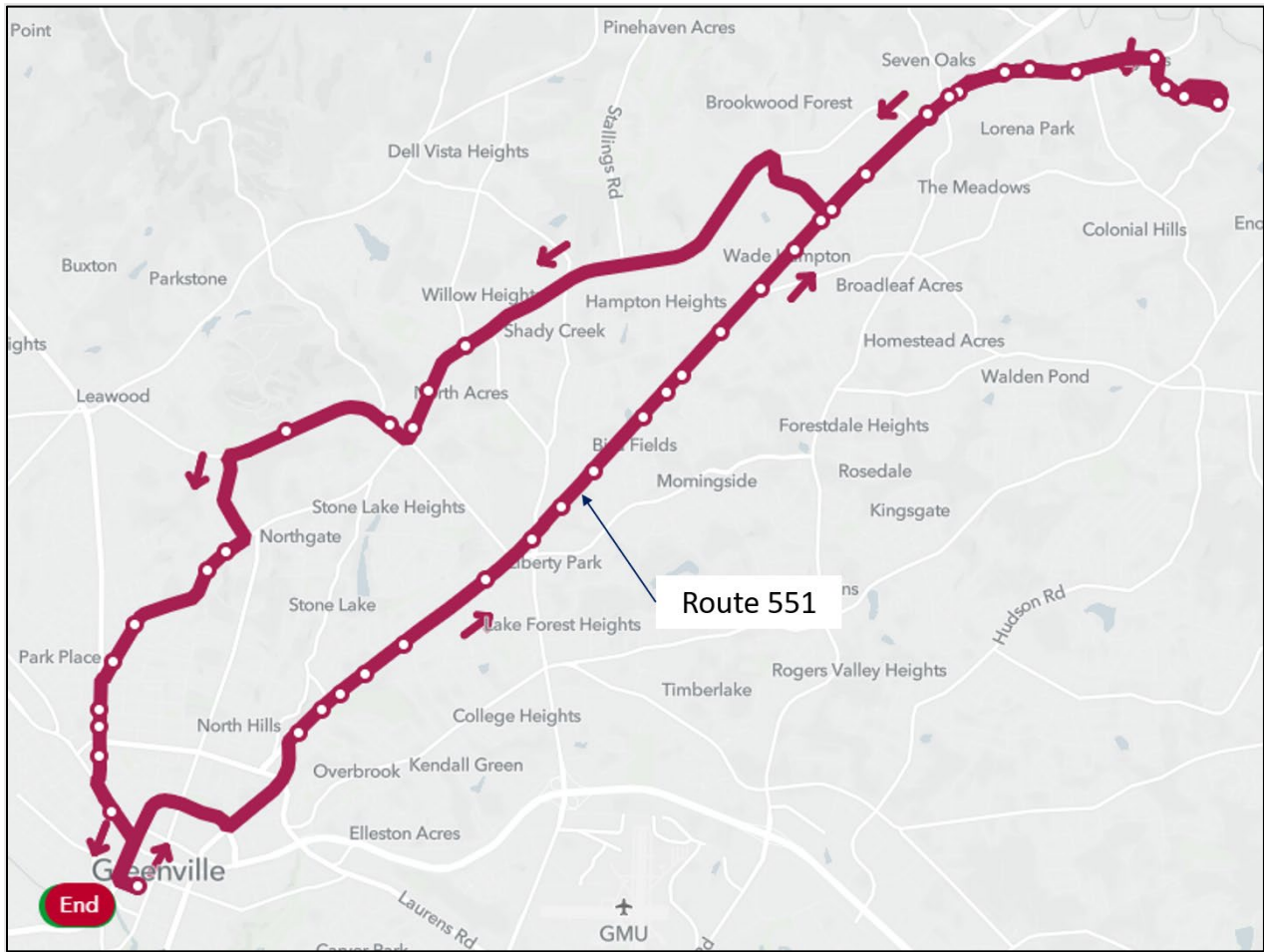


Missed Stops – All locations except the first two listed have an alternate bus stop across the road:

Bus Stop ID	Bus Stop Name
1393	1601 Cedar Lane Rd– No bus stop across the road
1394	Cedar Lane Rd & Clark Dr– No bus stop across the road
1395	Smythe St & Ravenel St (inbound)
1308	Woodside Ave & W Morgan St
1146	Woodside Ave & W Bramlett Rd

Bus Stop ID	Bus Stop Name
1145	Woodside Ave & W 8th St
1147	Woodside Ave & W Main St
1148	Woodside Ave & Woodlawn Ave
1138	Pendleton St & Burdett St
1139	Pendleton St & Mason St
1332	N Textile Ave & Perry Ave
1333	Queen St & Spencer St
1413	Birnie St Ext & Craven St
1334	Birnie St Ext & Howard St (inbound)
1132	Birnie St & N Calhoun St
1032	Easley Bridge Rd & Traction St
1031	Easley Bridge Rd & Star Dr
1028	Easley Bridge Rd & Dorsey Ave
1030	Easley Bridge Rd & Springside Ave
1029	Easley Bridge Rd & N Florida Ave
1038	N Washington Ave & Easley Bridge Rd
1039	N Washington Ave & Gordon St
1040	N Washington Ave & Jasmine Dr
1049	White Horse Rd & Page Dr
1050	White Horse Rd & Pendleton Rd
1052	White Horse Rd & Stanford Rd
1053	White Horse Rd & W Marion Rd
1046	White Horse Rd & Ashe Dr
1051	White Horse Rd & Rangeview Cir
1048	White Horse Rd & Claxton Dr
1047	White Horse Rd & Cherrylane Dr
1034	Lily St & White Horse Rd
1035	Lions Club Rd & Bayberry Ct
1027	Berea High School
1033	Eunice Dr & Singleton Cir

Appendix B: Route 551 - Wade Hampton/Rutherford



Missed Stops - All bus stops located on the inside edge of loop:

Bus Stop ID	Bus Stop Name
1227	Wade Hampton Blvd & Tappan Dr
1206	Wade Hampton Blvd & Artillery Rd
1215	Wade Hampton Blvd & Donnan Rd
1230	Wade Hampton Blvd & Woodland Ln
1209	Wade Hampton Blvd & Banking Way Dr
1190	2000 Block Wade Hampton Blvd (IB)
1222	Wade Hampton Blvd & N Pleasantburg Dr
1212	Wade Hampton Blvd & Brookside Cir
1416	700 Block Wade Hampton Blvd (IB)
1214	Wade Hampton Blvd & Chick Springs Rd
1306	Buncombe St & Heritage Green Pl
1074	Rutherford St & Harvley St

Bus Stop ID	Bus Stop Name
1075	Rutherford St & W Stone Ave
1324	Rutherford St & W Earle St
1329	Rutherford Rd & Cotton St
1326	600 Block Rutherford Rd (outbound)
1056	2500 Block N Pleasantburg Dr
1055	2400 Block N Pleasantburg Dr
1054	2300 Block N Pleasantburg Dr
1327	2111 N Pleasantburg Dr
1066	Rutherford Rd & Hillrose Ave
1068	Rutherford Rd & N Acres Dr
1071	Rutherford Rd & Pine Knoll Dr

Appendix C: Methodology

Greenlink Service Parameters

The ability for Greenlink to offer fixed route service can be thought about in terms of demand and supply. The offered service level (number of routes, frequency, hours of operation) is demand, while the hours worked by bus operations staff is the supply that meets this demand. Below is a breakdown of current demand (service level), as well as an overview of the staffing required to supply.

Labor Hours Needed for Current Service

The current staff labor hours needed for the fixed route (excluding trolley) level of service provided as of November 2021 are outlined below in **Table 1**. This is the number of labor hours necessary to ensure all routes are serviced by Greenlink buses, and includes deadhead (non-service) hours, such as those required to drive the bus to and from storage. These numbers were determined by consulting the November 2021 schedule and operations management. Examples of these calculations can be seen in **Attachment 1** to Appendix C.

Table 1: Labor Hours for Standard Schedule

Week Hours	Weekend Hours	Deadhead Hours	Total Hours
1150	120	134	1404

Staffing Requirements for Current Service

The amount of labor hours worked on a given week per bus operator staff is shown below in **Table 2**. This number accounts for paid leave (approximately 150 hours per year) and floater holidays (88 hours per year). Operations management was consulted to determine these numbers. In order to determine the average hours that staff is able to devote towards bus service, these amounts were divided by 52 and subtracted from the standard 40-hour work week. **Table 2** also indicates the staff necessary to operate the service hours outlined in **Table 1**. This number is a baseline and does not account for overtime.

Table 2: Avg Labor Hours per Staff and Required Staff for Service w/o Overtime

Labor Hours per Staff per Week	Total Hours Needed per Week	Staff Needed
35	1404	40

Considering these numbers, it is apparent that a decrease in supply (staffing) means that Greenlink must investigate ways to reduce demand (service). Additional information regarding methodology and calculations can be found in **Attachment 1** to Appendix C. This attachment also outlines all calculations for service reduction.

Appendix C Attachment 1: Staffing Calculations

Weekly Total Operation Hours Breakdown			
WK Hours	WKND Hours	Deadhead Hours	Total Hours
1150	120	134	1404

18 hr x 11 routes x 5 days
 12 Routes x 10 Hours (602 runs regular headways)
 32 hr x 1 route (602) x 5 days
 33 shift changes x 45 min x 5 days
 13 shift changes x 45 min x 1 day (Saturday)

Individual Staff Hours per Week Breakdown				
Effort Level	Work Week (40 x Effort)	PTO Hours (2.9 x Effort)	Holiday Hours (Constant)	Labor Hours (Work Week - PTO/Holiday)
100%	40	2.9	2.2	35
115%	46	3.3	2.2	40
120%	48	3.5	2.2	42
125%	50	3.6	2.2	44
130%	52	3.8	2.2	46

Hourly conservation found by calculating service hour and deadhead hour reductions per scenario.

Stage	Action	Timeframe	Conserves Total Hours	Conserves Additional Hours
1	Remove 602B	PM	39	39
2	Remove 602B	All Day	102	63
3	Route 551 & 550	PM	152	50
4	Alternate 501 & 509, 503 & 504	PM	202	50
5	Route 551	All Day	284	82
6	Route 550	All Day	366	82
7	Alternate 510 & 601	All Day	473	107
8	Alternate 501 & 509	All Day	555	82
9	Alternate 503 & 504	All Day	637	82

Stage	Operating Hours	Staff Needed at 100% Effort	Staff Needed at 125% Effort
Full Service	1404	40	32
1	1365	39	31
2	1302	37	29
3	1252	36	28
4	1202	34	27
5	1120	32	25
6	1038	30	23
7	931	27	21
8	849	24	19
9	767	22	17