



# Loudoun County Transit

## Title VI Service Equity Analysis

### Fiscal Year 2022 Metro Connection Service Modifications

Spring 2022

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Loudoun County Transit

With assistance from:



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## EXECUTIVE SUMMARY

### Introduction

Loudoun County Transit (LCT) has developed this Service Equity Analysis to evaluate major service changes necessary to accommodate Metrorail's Silver Line extension into Loudoun County, which is currently scheduled to open in Spring/Summer 2022. LCT has proposed a complete redesign of its Metro Connection service centered on connections to Loudoun County Metrorail stations and extending transit service into neighborhoods.

Once Metrorail opens in Loudoun County, LCT will operate new fixed-route service across the following communities:

- Ashburn Farm.
- Ashburn Village.
- Brambleton.
- Broadlands.
- George Washington University (GWU).
- One Loudoun.
- Leesburg.
- Moorefield and Westwind Farms.
- Potomac Falls.
- Purcellville and Harmony.
- South Riding.
- Sterling.
- Stone Ridge.

This Service Equity Analysis provides a summary of all proposed service changes, which collectively qualify as a major service change in accordance with LCT's Title VI major service change policy. The analysis portion of this document evaluates service changes against Loudoun County thresholds for disparate impact and disproportionate burden, in accordance with Federal Transit Administration Circular 4702.1B. However, given the system-wide nature of these changes and the absence of direction on how to assess system-wide service equity in the Circular, our methodology for conducting this service equity analysis is an interpretation of how best to assess the changes within the framework of FTA C 4702.1B.

### Findings and Conclusions

In this Service Equity Analysis, all new routes were evaluated for disparate impact, disproportionate burden, and adverse effects using LCT's Title VI policies and procedures. The methodology is summarized as follows:

- To assess for service reductions, the combined area of Census Block Groups within one-quarter (0.25) mile of all street-side stops proposed for complete discontinuation and within three (3) miles of all Park and Ride stops proposed for complete discontinuation was analyzed in comparison to LCT's cumulative policies for disparate impact and disproportionate burden.

Under this methodology, the following stops were considered discontinued:

- Russell Branch and Commonwealth (0.25-mile service area buffer).
- Sally Ride Drive and Glenn Drive (0.25-mile service area buffer).
- Dulles North Park and Ride (3-mile service area buffer).
- Broadlands 772 Park and Ride (3-mile service area buffer).
- Loudoun Station Park and Ride (3-mile service area buffer).

- To assess for service improvements, the combined area of Census Block Groups within one-quarter (0.25) mile of all entirely new street-side stops and within three (3) miles of all entirely new Park and Ride or Metrorail stops was analyzed in comparison to LCT's cumulative policies for disparate impact and disproportionate burden. Entirely new stops served by Metro Connection service were identified as:
  - Harmony Park and Ride (3-mile service area buffer).
  - All new Metrorail stations in Loudoun County (3-mile service area buffer).
  - All new street-side Metro Connection stops not within 0.05 miles of current Metro Connection local stops (0.25-mile service area buffer).
- Each individual new route's entirely new stops were also assessed (as service improvements) for potential route-level disparate impacts in comparison to LCT's policies. To complete this analysis, span of service and frequencies of each new route were compared to previous service levels at common transit stops in the same Metro Connection service area. No potential adverse effects were found:
  - 1) All proposed routes either maintained or improved the span of service hours; and
  - 2) All proposed routes either maintained or improved the service frequency.

**Table 1** summarizes all findings based on this assessment. No route changes resulted in findings of disparate impact or disproportionate burden. Furthermore, route service levels (spans and frequencies) are proposed to increase or be maintained at current levels. In conjunction with no findings of potential disparate impact at the route level, adverse effects to riders are not anticipated via this service change.

*Table 1: Service Equity Analysis Results Summary*

Analysis	Service Change Type	Level	Result
<b>Disparate Impact</b>	Service Reduction	All Removed Stops (Combined)	No Finding of DI (Composite)
	Service Addition	All New Stops (Combined)	No Finding of DI (Composite)
		All New Stops (by Route)	No Finding of DI on Any Individual Route
<b>Disproportionate Burden</b>	Service Reduction	All New Stops (Combined)	No Finding of DB (Composite)
	Service Addition	All New Stops (Combined)	No Finding of DB (Composite)
<b>Adverse Effects</b>	Service Addition (Metro Connection Redesign)	All New Stops (by Route)	No Finding of Adverse Effects

## BOARD OF SUPERVISORS APPROVAL OF SERVICE EQUITY ANALYSIS

In accordance with the Federal Transit Administration Circular 4702.1B, upon completion of a service or fare equity analysis, the transit provider shall brief its appropriate governing entity responsible for policy decisions regarding the service and/or fare change(s) and the equity impacts of the service and/or fare change(s). The transit provider shall submit documentation with the Title VI Program as evidence of the consideration, awareness, and approval of the analysis.

The Loudoun County Board of Supervisors (Board) is the governing entity responsible for policy decisions regarding Loudoun County Transit (LCT) transit services. On **May 3, 2022**, the Department of Transportation and Capital Infrastructure (DTCI) presented the results of the Service Equity Analysis to the Board at their regular business meeting. Documentation of the Board's consideration, awareness, and approval of the analysis is provided in **Figure 1**.

Figure 1: Board of Supervisors Approval of Service Equity Analysis



Loudoun County, Virginia

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At a business meeting of the Board of Supervisors of Loudoun County, Virginia, held in the County Government Center, Board of Supervisors' Meeting Room, 1 Harrison St., S.E., Leesburg, Virginia, on Tuesday, May 3, 2022, at 5:00 p.m.

IN RE: Loudoun County Transit Title VI (Six) Service Equity Analysis for Fiscal Year 2022 (Countywide)

Supervisor Buffington moved that the Board of Supervisors approve the Loudoun County Transit Title VI Service Equity Analysis, Fiscal Year 2022 Metro Connection Services Modifications and that the Board acknowledge awareness and consideration of the analysis of the planned service changes as presented in the May 3, 2022, Board of Supervisors Business Meeting Action Item.

Seconded by Vice Chair Saines.

Voting on the Motion: Supervisors Briskman, Buffington, Glass, Kershner, Letourneau, Randall, Saines, Turner, and Umstattd – Yes; None – No.

COPY TESTE:

DEPUTY CLERK TO THE LOUDOUN COUNTY  
BOARD OF SUPERVISORS

Item 03 Loudoun County Transit Title VI (Six) Service Equity Analysis for Fiscal Year 2022

## INTRODUCTION

### Overview of Service Changes

This Service Equity Analysis evaluates a proposed redesign of the Metro Connection system aimed at serving the Metrorail Silver Line extension into Loudoun County. Metrorail is currently scheduled to open Spring/Summer 2022. This report profiles Metro Connection service proposed in 17 service areas against thresholds for disparate impact and disproportionate burden.

### Service Equity Analysis Components

The FTA C 4702.1B states that a Service Equity Analysis should include:

- A statement of the agency's "major service change" policy and corresponding numerical standards along with a threshold for determining whether a major service change results in a "disparate impact" to minority populations or a "disproportionate burden" to low-income communities, as well as how the public was engaged in developing those policies across all transit modes.
- A clear explanation of how the proposed service changes meet or exceed the operator's major service change policy.
- A description of the public engagement process for setting the major service change policy.
- Inclusion of a copy of the operator's Board of Directors meeting minutes or a resolution demonstrating the Board of Supervisor's consideration, awareness, and approval of the major service change policy, disparate impact policy, and disproportionate burden policy.
- An analysis that takes into effect any adverse effects related to a major service change. Demonstration that the operator has analyzed service between the existing and proposed service and has considered the degree of adverse effects when planning service changes.
- Description of data and methodology used in Service Equity Analysis.
- Overlay maps and tables showing how the proposed service changes would impact minority and low-income populations. If a disparate impact is found, the operator will clearly demonstrate substantial legitimate justification for the proposed service change and analysis of alternatives for disparate impacts or that they have sought to avoid, minimize, or mitigate the impacts of a finding of disproportionate burden.

In examining for potential disparate impacts, disproportionate burdens, and adverse effects, this analysis evaluates proposed changes to transit bus services that connect with Metrorail stations.

### Loudoun County Transit Title VI Policies

In accordance with the Federal Transit Administration's Title VI Requirements and Guidelines for Federal Transit Administration Recipients, Circular FTA C 4702.1B, dated October 1, 2012, and the Loudoun County 2020-2023 Title VI Program, Loudoun County has established the following policies to evaluate service changes and their impact on minority populations.

### Major Service Change Policy

The Loudoun County Transit Title VI Program defines a major service change as:

- Any change that adds or eliminates a bus route.
- Any change in service on any individual bus route that would add or eliminate 20 percent or more of the route's weekly revenue miles (the number of miles a bus operates while carrying paying passengers).



- Any change in service on any individual bus route that would add or eliminate 20 percent or more of the route's weekly revenue hours (the number of hours a bus operates while carrying paying passengers).
- Any change in service on any individual bus route that would add or eliminate 15 percent or more of the average daily ridership.

To supplement the major service change policy, any change to fares or fare media qualifies for a fare equity analysis.

### *Exemptions*

The major service change thresholds exclude any changes to service that are caused by the following:

- Initiation of temporary services that will be in effect for less than one year.
- Discontinuance of temporary or demonstration services that were in effect for eighteen months or less.
- Natural or catastrophic disasters that may force the suspension of transit service for public safety or technical events.
- Temporary route detours, meaning any short-term change to a route caused by road construction, routine road maintenance, road closures, emergency road conditions, fiscal crisis, civil demonstrations, or any uncontrollable circumstance.

### Disparate Impact Policy

Disparate impact refers to a facially<sup>1</sup> neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin. Loudoun County Transit's Disparate Impact Policy is:

**A disparate impact occurs when the difference between the percentage of minority populations in the service area affected by a proposed fare or service change is five percent or greater than the average percentage of minority populations across the system-wide service area. Impacts will be reviewed on a cumulative basis.**

### Disproportionate Burden Policy

Disproportionate burden refers to a neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations. Loudoun County Transit's Disproportionate Burden Policy is:

**A disproportionate burden occurs when the difference between the percentage of low-income households in the service area affected by a proposed fare or service change is five percent or greater than the average percentage of low-income households across the system-wide service area. Impacts will be reviewed on a cumulative basis.**

### Public Engagement and Board of Supervisors' Approval of Policies

As part of the development of its most recent Title VI Program update, Loudoun County Transit updated its policies with regard to major service changes, disparate impacts, and disproportionate burdens. These policies were reviewed by the public through an outreach effort that included a stakeholder meeting with representatives from community-based organizations and an opportunity to comment on proposed policies via the Loudoun County website.

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<sup>1</sup> A facially neutral practice is one that does not appear to be discriminatory on its face against a particular group.

Ultimately, the policies were finalized and approved by the Loudoun County Board of Supervisors. The official Board of Supervisors approval of these policies is shown in **Figure 2**.

Figure 2: Board of Supervisors Approval of Major Service Change, Disparate Impact, and Disproportionate Burden Policies



Loudoun County, Virginia

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At a business meeting of the Board of Supervisors of Loudoun County, Virginia, held in the County Government Center, Board of Supervisors' Meeting Room, 1 Harrison St., S.E., Leesburg, Virginia, on Tuesday December 3, 2019 at 5:00 p.m.

IN RE: Loudoun County Transit 2020-2023 Title VI (Six) Program (Countywide):

Vice Chairman Buona moved that the Board of Supervisors acknowledge their awareness and consideration of the Loudoun County Transit 2020-2023 Title VI Program, and approve the 2020-2023 Program as presented within in the December 3, 2019, Board of Supervisors Business Meeting Action Item.

Vice Chairman Buona further moved that the Board of Supervisors acknowledge their awareness and consideration of the results of the monitoring program of service standards and polices, and approve the Monitoring Results as presented within the Loudoun County Transit 2020-2023 Title VI Program included in the December 3, 2019, Board of Supervisors Business Meeting Action Item.

Vice Chairman Buona further moved that the Board of Supervisors acknowledge their awareness and consideration of the Major Service Change Policy, the Disparate Impact Policy, and the Disproportionate Burden Policy as presented within the Loudoun County Transit 2020-2023 Title VI Program included in the December 3, 2019, Board of Supervisors Business meeting Action Item.

Seconded by Supervisor Volpe.

Voting on the Motion: Supervisors Buffington, Buona, Higgins, Meyer, Randall, Saines, Umstatt, and Volpe – Yes; None -No; Supervisor Letourneau – Absent for the vote.

COPY TESTE:

  
DEPUTY CLERK FOR THE LOUDOUN  
COUNTY BOARD OF SUPERVISORS

Item 11 Loudoun County Transit 2020-2023 Title VI (Six) Program

## DESCRIPTION OF PROPOSED SERVICE CHANGES

The extension of the Washington Metropolitan Area Transit Authority (WMATA) Metrorail Silver Line will provide three new rail stops in Loudoun County: Ashburn, Loudoun Gateway, and Dulles International Airport. Current Metro Connection bus routes serve the Wiehle-Reston East and West Falls Church Metrorail stations in Fairfax County. With the new, closer rail stations, Loudoun County is proposing to restructure Metro Connection service to extend service hours and expand service coverage with more street-side bus stops in neighborhoods.

In all, 17 service areas are planned for transit bus connection to the new Metrorail stations when rail service opens in Loudoun County. **Table 2** summarizes the new services, which, by nature of the redesign, is collectively considered a major service change and therefore worthy of a Service Equity Analysis.

Table 2: Proposed Service Changes: Metro Connection Restructured Service

Service Area	Route	Route Number	Service Description	Weekday Level of Service (Unless Noted)	
				Span	Frequency
Ashburn Farm	Ashburn Farm Direction A	343	These routes will replace Route 923/924/927; routes will serve the Ashburn Metrorail station in place of Wiehle-Reston East station. Ashburn Farm routes will provide morning and evening service to Goose Creek Village, The Village Center at Belmont Greene, Ashburn Library, Ashburn Farm Plaza, Broadlands Village Center, the Shoppes at Ryan Park, the new Ashburn Metrorail station, and neighborhoods in-between. Two routes will serve the same stop locations and provide bidirectional service, which will provide passenger flexibility and decrease wait and travel times.	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 40-55 minutes
	Ashburn Farm Direction B	344		5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	
Ashburn Village	Ashburn Village Direction A	341	These routes will provide street-side bus stops for neighborhoods that are within a three-mile radius of the Goose Creek Village Park and Ride. Ashburn Village routes will provide morning and evening service between Belmont Chase, Ashbrook Marketplace Plaza, Ashburn Village Sports Pavilion, Ashburn Village Center, Ashburn Town Square, the Shoppes at Ryan Park, the new Ashburn Metrorail station, and neighborhoods in between. Two routes will serve the same stop locations and provide bidirectional service, which will provide passenger flexibility and decrease wait times and travel times.	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 45-60 minutes
	Ashburn Village Direction B	342		5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 40-55 minutes
Brambleton	Route A – Creighton /Evergreen Ridge	374	This route will replace Route 923/924/927 service between the Silver Line Metrorail and Broadlands Park and Ride by providing neighborhood-level, street-side bus service to the Ashburn Metrorail station (in place of Wiehle-Reston East). The Broadlands Park and Ride will be closed once rail service begins at Ashburn Station, which is within ½ mile and has a parking garage. Route A includes stops along Ryan Road, the Brambleton Town Center, Creighton Road, and Evergreen Ridge Drive.	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 25-40 minutes
	Route B - Evergreen Mills	375	This route will replace Route 923/924/927 service between the Silver Line Metrorail and Broadlands Park and Ride by providing service to the Ashburn Metrorail station (in place of Wiehle-Reston East) and adding street-side bus stops in neighborhoods, including Brambleton Town Center. The Broadlands Park and Ride will be closed once rail service begins at Ashburn Station, which is within ½ mile and has a parking garage. Route B has stops at Zion Chapel Drive and Firefly Sonata Terrace, along Evergreen Mills Road and Northstar Boulevard, and on Ryan Road.	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 30-45 minutes

Service Area	Route	Route Number	Service Description	Weekday Level of Service (Unless Noted)	
				Span	Frequency
Broadlands	Broadlands	373	This route will replace Route 923/924/927 service between the Silver Line Metrorail and Broadlands Park and Ride by providing service to the Ashburn Metrorail station (in place of Wiehle-Reston East) and adding street-side bus stops in neighborhoods. The Broadlands Park and Ride will be closed once rail service begins at Ashburn Station, which is within ½ mile and has a parking garage. This route will connect the neighborhoods around the Broadlands Retail & Office Center, Belmont Run, Windermere, Marburg Terrace, Village Drive, Stillwater Terrace, and Southern Walk Plaza with the Ashburn Station.	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 20-35 minutes
GWU	DTC P&R - Innovation Station North AM & PM	321	These routes will replace Route 72 service between the George Washington University Virginia Science and Technology Campus (GWU) and the Wiehle-Reston East Metrorail station, as well as Route 87X service between Dulles Town Center Park and Ride and Wiehle-Reston East Station. The route will provide weekday service between GWU, Innovation Center Metro Station, and the Dulles Town Center Park and Ride. Express service from the Dulles Town Center Mall will no longer be available; however, service between the Dulles Town Center Mall and the Silver Line Metrorail will be available on the replacement service for the former Route 84.	7:00 a.m.-3:00 p.m. 3:00 p.m.-11:00 p.m.	Peak: 20-30 minutes Off-Peak: 40-55 minutes
	DTC P&R - Innovation Station North	320	Early morning service between the Dulles Town Center Park and Ride and Innovation Center Metro Station will start at approximately 5:00 a.m. At approximately 7:00 a.m., when GWU opens, service will operate between the Park and Ride, Metro, and GWU.	5:00 a.m.-7:00 a.m.	Peak: 15 minutes
One Loudoun	One Loudoun Direction A	331	These routes will replace Route 72 service between One Loudoun and the Silver Line Metrorail by serving Ashburn Metro Station in place of Wiehle-Reston East Station. The One Loudoun Park and Ride will be used for bus service instead of Ashburn North Park and Ride. Service to Russell Branch Parkway & Commonwealth Center Dr. will no longer be provided. New service to Ashby Ponds Senior Living Community and Potomac Green Community Center will be added. These One Loudoun routes will provide continuous service throughout the day. Both routes will run during peak periods providing bidirectional service for passenger flexibility.	5:00 a.m.-9:30 a.m. 3:30 p.m.-11:00 p.m.	Peak/Off-Peak: 45-60 minutes
	One Loudoun Direction B	332		5:00 a.m.-8:00 p.m.	Peak/Off-Peak: 45-60 minutes

Service Area	Route	Route Number	Service Description	Weekday Level of Service (Unless Noted)	
				Span	Frequency
Leesburg	Leesburg AM & PM	351	The Leesburg route will provide all day service between the Leesburg II Park and Ride, the Ashburn Metrorail Station, and the Loudoun County Government Center in downtown Leesburg. The Loudoun County Government Center is a transit hub that connects routes from Purcellville, Leesburg, and Sterling. The bus stop sequence changes between the morning and evening service to accommodate anticipated travel direction preferences.	5:00 a.m.-11:00 p.m.	Peak: 25-35 minutes Off-Peak: 50-65 minutes
Moorefield	Moorefield Leg A	371	These routes will replace Route 923/924/927 service between the Silver Line Metrorail and Broadlands Park and Ride. In place of Wiehle-Reston East Metro Station, the Ashburn Metrorail station will be served, and new street-side bus stops within the surrounding neighborhoods, including Inova Ashburn HealthPlex, will be added to the route. The Broadlands Park and Ride will be closed once rail service begins at the Ashburn Metro Station, which is within ½ mile and has a parking garage.	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 30-40 minutes
	Moorefield-Westwind Farm Leg B	372		5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 30-40 minutes
Potomac Falls	Potomac Falls - Reston Town Center Metro AM & PM	312	This new route will provide service between the existing stops in the Potomac Falls region and the Silver Line Metrorail (Reston Town Center Station). Service between Potomac Falls and West Falls Church Metro Station will no longer be provided.	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak: 25-30 minutes Off-Peak: 50-65 minutes
South Riding	South Riding AM & PM	381	This route will replace Route 88X service between the Silver Line Metrorail and East Gate Park and Ride, moving the service from Wiehle-Reston East Metro Station to Loudoun Gateway Metro Station. The East Gate Park and Ride will continue to be served on this new route and additional street-side bus stops will be added.	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak: 25-30 minutes Off-Peak: 50-65 minutes

Service Area	Route	Route Number	Service Description	Weekday Level of Service (Unless Noted)	
				Span	Frequency
Stone Ridge	Stone Ridge AM & PM	382	This route will replace Route 88X service between the Silver Line Metrorail and Dulles South Park and Ride and StoneSprings Hospital, moving the service from Wiehle-Reston East Metro Station to Loudoun Gateway Metro Station. The Dulles South Park and Ride and StoneSprings Hospital will continue to be served on this new route and additional street-side bus stops will be added.	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak: 25-30 minutes Off-Peak: 50-65 minutes
Sterling	Atlantic Connector - Innovation Sta. North Weekday	322	This route will replace Route 84 service to the Silver Line Metrorail by moving the service from Wiehle-Reston East Metro Station to Innovation Center Metro Station. Additionally, the bus stop midblock on Sally Ride Drive will be removed to improve bus operability. This route will provide both weekday and Saturday service.	7:00 a.m.-11:00 p.m.	Peak/Off-Peak: 50-65 minutes
	Atlantic Connector - Innovation Sta. North (Saturday)	322		8:00 a.m.-10:00 p.m. (Saturday)	Peak/Off-Peak: 35-50 minutes
	Sterling - Innovation Station North	323	This route will replace Route 985 service to the Silver Line Metrorail by moving service from Wiehle-Reston East Metro Station to Innovation Center Metro Station. Additionally, the service area will be extended to include more of the Sterling community.	5:00 a.m.-11:00 p.m.	Peak/Off-Peak: 30-45 minutes
	Quantum - Pacific - Gateway Loop AM & PM	333	This route will replace Route 990/992 service to the Silver Line Metrorail by moving service from Wiehle-Reston East Metro Station to Loudoun Gateway. All other existing stops will continue to be served.	6:30 a.m.-9:30 a.m. 3:30 p.m.-7:00 p.m.	Peak: 20-40 minutes
Purcellville	Purcellville/Harmony AM & PM	391	This route will replace Route 931/932 service to the Silver Line Metrorail by moving service from Wiehle-Reston East Metro Station to Ashburn Metro Station and adding the Harmony Park and Ride.	4:20 a.m.-9:00 a.m. 3:00 p.m.-8:00 p.m.	Peak: 35-40 minutes

## ANALYSIS FRAMEWORK

### Data Sources

For this Service Equity Analysis, the primary data source was the U.S. Census Bureau, American Community Survey (ACS) five-year estimates from 2015 to 2019, measured at the Census Block Group level. Geographic data provided by Loudoun County Transit (LCT) was also used to determine the current Metro Connection service area. Current Metro Connection service consists of the following routes:

- Route 72.
- Route 84.
- Route 87X.
- Route 88X.
- Route 901/902.
- Route 923/924/927.
- Route 925/926/927.
- Route 931/932.
- Route 985.
- Route 990/992.

For the disparate impact analysis (minority population percentage), the primary ACS table utilized was Table B03002, "Hispanic or Latino Origin by Race." This table identifies all minority and non-minority populations within a block group, including Hispanic or Latino. For the disproportionate burden analysis (low-income households percentage), the primary ACS table utilized was Table B19001, "Household Income in the Past 12 Months (In 2015 Inflation-Adjusted Dollars)."

### Calculation of Metro Connection Service Area (for Reference)

#### Minority Population Percentage

Total population estimates, minority population percentage estimates (total population minus non-Hispanic White population) for Census Block Groups, bus stop point shapefiles, and route line shapefiles were used to determine minority population for the entire LCT Metro Connection service area, which includes the routes listed above. Using a geographic information system (GIS), a one-quarter mile buffer was placed around each existing Metro Connection street-side stop, and a three-mile buffer was placed around each existing Metro Connection Park and Ride stop. The resulting area (including all Census Block Groups in Loudoun County contained either partially or wholly) was considered the Metro Connection service area. To calculate the minority population percentage in the Metro Connection service area, the number of residents identified as minority was divided by the total estimated population; the resulting figure was multiplied by 100.

#### Low-Income Households Percentage

To determine the percentage households identifying as low-income in the LCT Metro Connection service area (the sum of households reporting incomes under half of the area median income, aggregate of all income categories under \$50,000), the same methodology described above for the minority population was used to determine the Metro Connection service area. To calculate the low-income households percentage in the Metro Connection service area, the number of households identified as low-income was divided by the total estimated households; the resulting figure was multiplied by 100.

### Service Equity Analysis Methodology

To assess proposed Metro Connection service for potential disparate impacts, disproportionate burdens, and adverse effects, this Service Equity Analysis takes into account that the majority of modified or discontinued service is slated to be replaced by renewed Metro Connection service.



- To assess for service reductions, the combined area of Census Block Groups within one-quarter mile of all street-side stops proposed for complete discontinuation and within three miles of all Park and Ride stops proposed for complete discontinuation was analyzed in comparison to LCT's cumulative policies for disparate impact and disproportionate burden.

A bus stop was considered completely discontinued if it met the following criteria.

- A bus stop at a Park and Ride lot was considered completely discontinued if there were no other Park and Ride lots with transit service and free parking within a three-mile radius.
- A street-side bus stop was considered discontinued if no alternative bus stops were proposed within a 0.05-mile radius.

Under this methodology, the following stops were considered discontinued:

- Russell Branch and Commonwealth (street-side stop).
- Sally Ride Drive and Glenn Drive (street-side stop).
- Dulles North Park and Ride (Park and Ride stop).
- Broadlands 772 Park and Ride (Park and Ride stop).
- Loudoun Station Park and Ride (Park and Ride stop).

- To assess for service improvements, the combined area of Census Block Groups within one-quarter mile of all entirely new street-side stops and within three miles of all entirely new Park and Ride or Metrorail stops was analyzed in comparison to LCT's cumulative policies for disparate impact and disproportionate burden. Entirely new stops served by Metro Connection service were defined as:

- Harmony Park and Ride.
- The new Metrorail stations in Loudoun County: Ashburn Station and Loudoun Gateway Station.
- All street-side Metro Connection stops that were not within 0.05 miles of a current Metro Connection stop.

- To assess for potential adverse effects as a result of service changes, including significant reductions in span or frequency that could adversely impact riders, this Service Equity Analysis also examined each new route's entirely new service area for potential route-level disparate impacts. This analysis used the following steps:

- 1) By new route, entirely new stops (determined via the methodology above) were designated as service improvements.
- 2) Each new route's service area consisted of all Census Block Groups within 0.25 miles of street-side stops and three miles of Park and Ride stops.
- 3) The combined minority percentage within each new route's service area (defined in Step 2) was evaluated against LCT's threshold for service improvement disparate impacts.
- 4) Simultaneously, spans and frequencies for new routes were assessed against previous routes' spans and frequencies serving new service areas.
- 5) Potential adverse effects were identified in cases where a) a potential disparate impact was found at the route level; and b) significant changes to spans and frequencies were proposed, as compared to previous service.

## Adverse Effects Definition

Adverse effects are measured by reductions in service between the existing and proposed service levels when major service changes are planned. Reductions in service include decreasing span of service, reducing the frequency of trips, or discontinuing a route. Loudoun County's Title VI Program requires that major service changes be evaluated to determine whether adverse effects could disproportionately impact minority populations and low-income households.

## SERVICE EQUITY ANALYSIS

### Metro Connection Service Area Demographics

**Table 3** summarizes service area demographics for the Metro Connection service area. Minority populations comprise approximately 48.04 percent of the population in the LCT Metro Connection service area. The LCT disparate impact (DI) policy for service improvements or reductions is five percent. Therefore, the disparate impact threshold calls for service improvements to impact areas with a minimum 43.04 percent minority population (48.04 percent minus five percent), and to limit service reductions in areas with a minority population percentage exceeding 53.04 percent (48.04 percent plus five percent).

Low-income households comprise approximately 11.66 percent of households in the Metro Connection service area. The LCT disproportionate burden (DB) threshold is also five percent. Likewise, the disproportionate burden threshold calls for service improvements to impact areas with a minimum 6.66 percent low-income households percentage (11.66 percent minus five percent), and to limit service reductions in areas with a low-income households percentage exceeding 16.66 percent (11.66 percent plus five percent).

Table 3: Metro Connection Disparate Impact and Disproportionate Burden Thresholds (2015 – 2019 ACS)

Disparate Impact				
Service Area Population	Minority Population	Percent Minority Population	Service Reduction Disparate Impact Threshold (+5%)	Service Improvement Disparate Impact Threshold (-5%)
305,048	146,560	48.04%	53.04%	43.04%
Disproportionate Burden				
Service Area Households	Low-Income Households	Percent Low-Income Households	Service Reduction Disproportionate Burden Threshold (+5%)	Service Improvement Disproportionate Burden Threshold (-5%)
97,805	11,401	11.66%	16.66%	6.66%

**Figure 3** and **Figure 4** show which Block Groups in Loudoun County are above or below, respectively, the average minority population and low-income household percentages in the existing Metro Connection service area. The Metro Connection existing service area is outlined in dark green for reference.

Figure 3: Minority and Non-Minority Block Groups in Loudoun County

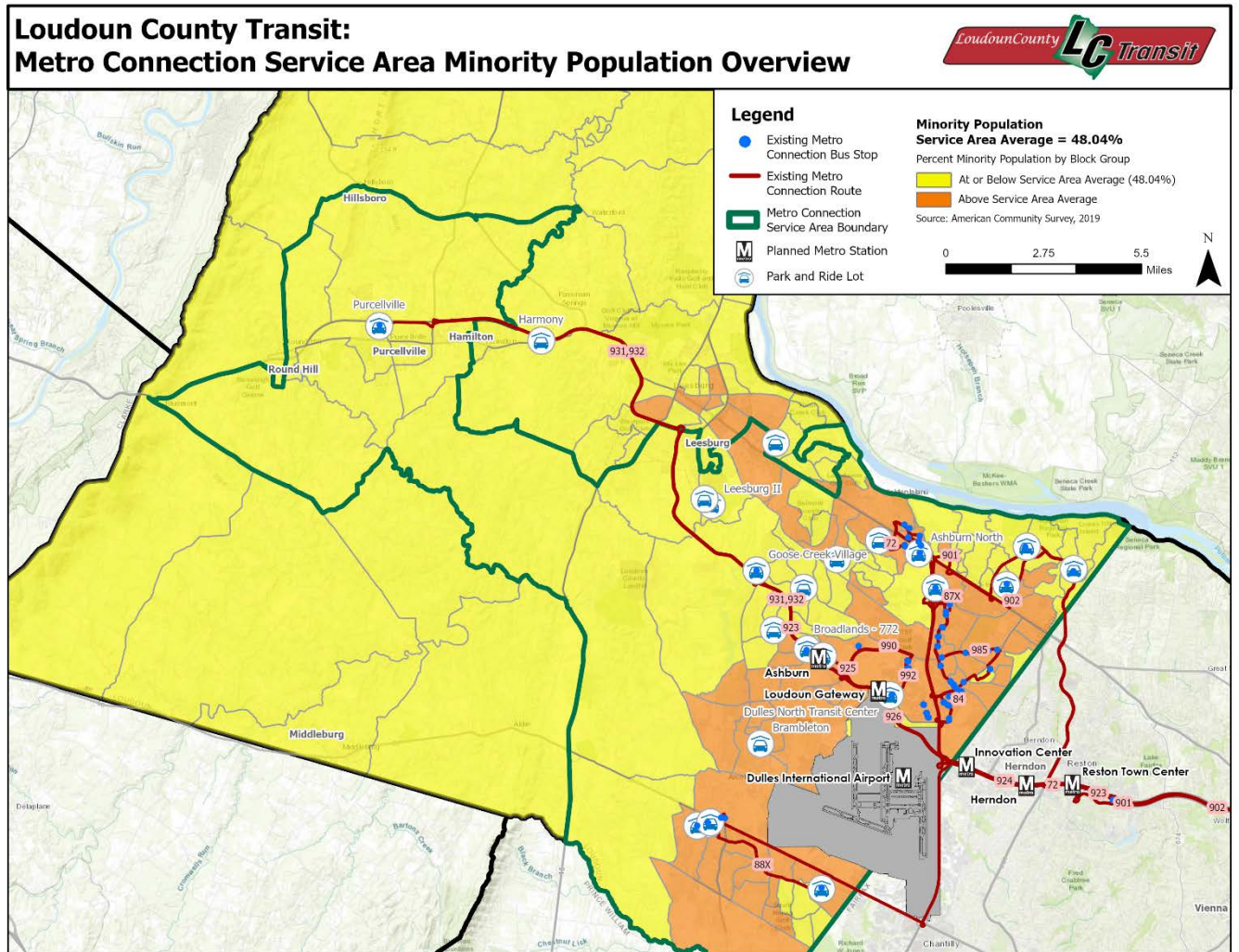
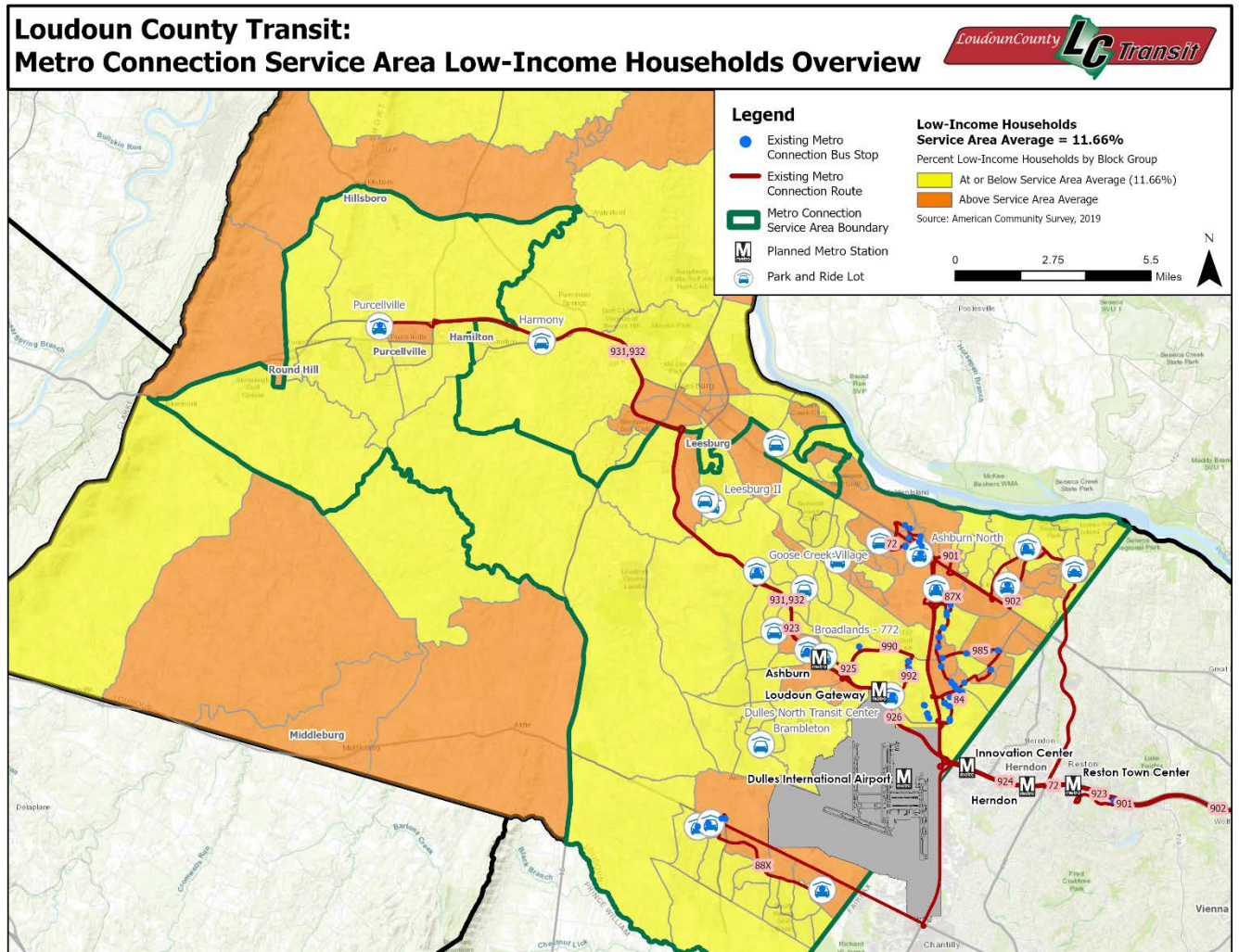




Figure 4: Low-Income and Non-Low-Income Block Groups in Loudoun County



## Disparate Impact Analysis

A disparate impact occurs when the difference between the percentage of minority populations in the service area affected by a proposed fare or service change is five percent or greater than the average percentage of minority populations across the system-wide service area. To assess for disparate impacts, this Service Equity Analysis reviews the combination of all entirely removed (service reduction) stops as well as all entirely new (service improvement) stops.

## Eliminated Service Stops

The majority of stops served by current Metro Connection will also be served in the new Metro Connection service. Eliminated stops that will not receive replacement service fall into at least one of the following categories:

- Street-side stops that will not have replacement service within 0.05 miles.
- Park and Ride lots with free parking that will not be served in the future network **and** do not have a proposed Park and Ride lot stop within three miles that will offer free parking in the future network.

Under this methodology, stops without a replacement service identified are:

- Russell Branch and Commonwealth (street-side stop).
- Sally Ride Drive and Glenn Drive (street-side stop).
- Dulles North Park and Ride (Park and Ride stop).
- Broadlands 772 Park and Ride (Park and Ride stop).
- Loudoun Station Park and Ride (Park and Ride stop).

**Table 4** displays the disparate impact analysis for Metro Connection eliminated service stops. Made up of 53 Block Groups in all, the statistics quoted in this table encompass the Census Block Groups within three miles of eliminated Park and Ride stops and 0.25 miles of eliminated street-side stops, combined.

The combined area surrounding Metro Connection stops proposed for elimination has a minority population percentage of 52.35 percent, just below the disparate impact threshold for service reductions (53.04 percent). Thus, no disparate impact is identified as a result of eliminated service stops.

*Table 4: Metro Connection Disparate Impact Analysis: Eliminated Service Stops*

Total Population	Total Minority Population	Percent Minority Population
131,982	69,097	52.35%
Disparate Impact Threshold for Service Reductions		53.04%
Does this package of changes meet the disparate impact threshold for service reductions?		No

## New Service Stops

### Composite Analysis

In this Service Equity Analysis, new service (service improvements) is assessed for disparate impacts at the composite level (all new service combined) as well as at the route level. However, the route level analysis is conducted for the purpose of identifying potential inequalities resulting from new service and does not definitively identify potential disparate impacts.

New service stops are defined as:

- All new Metrorail stations in Loudoun County receiving Metro Connection service.
- Harmony Park and Ride.
- All new street-side stops not within 0.05 miles of current Metro Connection stops.

**Table 5** displays the disparate impact analysis for Metro Connection new service stops. Made up of 112 Block Groups in all, the statistics quoted in this table encompass the Census Block Groups within three miles of new Park and Ride lot and Metro stops and 0.25 miles of new street-side stops, combined.

The combined area surrounding new Metro Connection stops has a minority population percentage of 48.56 percent, falling above the disparate impact threshold for service improvements (43.04 percent). Thus, no disparate impact is identified as a result of new service stops.

*Table 5: Metro Connection Disparate Impact Analysis: New Service Stops (Composite Level)*

Total Population	Total Minority Population	Percent Minority Population
279,398	135,682	48.56%
Disparate Impact Threshold for Service Improvements		43.04%
Does this package of changes meet the disparate impact threshold for service improvements?		No

### Route Level Analysis

**Table 6** summarizes the route level disparate impact analysis completed for each new service area. For this analysis, Census Block Groups within three miles of new Park and Ride lot and Metro stops and 0.25 miles of new street-side stops comprise each route's new service area. The percent minority population across each route's new stops was then compared to the disparate impact threshold for service improvements (43.04 percent).

This analysis was completed as a first step for analysis of adverse effects. If a route level disparate impact is combined with a significant decrease in span or frequency (as compared to current Metro Connection service), adverse effects could result. However, the analysis shown below does not identify disparate impacts at the composite level, which ultimately identifies whether a service plan adjustment is warranted.

As shown, all new routes' minority population percentages (across entirely new stops) are above the disparate impact threshold for service improvements, meaning that no route is at risk for adverse effects from changes to service span or frequency.

Table 6: Metro Connection Disparate Impact Analysis: New Service Stops (Route Level)

Service Area	Route / Number(s)	Total Population (New Stops)	Total Minority Population (New Stops)	Percent Minority Population (New Stops)	Disparate Impact Threshold for Service Improvements	Potential Route-Level Disparate Impact Found
Ashburn Farm	Ashburn Farm A: 343 Ashburn Farm B: 344	93,236	46,431	49.80%	43.04%	No
Ashburn Village	Ashburn Village A: 341 Ashburn Village B: 342	104,201	51,226	49.16%	43.04%	No
Brambleton	Creighton/Evergreen Ridge: 374	93,245	46,858	50.25%	43.04%	No
	Evergreen Mills: 375	97,221	48,933	50.33%	43.04%	No
Broadlands	Broadlands: 373	93,245	46,858	50.25%	43.04%	No
GWU	DTC P&R - Innovation Station North AM: 320 DTC P&R - Innovation Station North - GWU AM/PM: 321	24,742	16,898	68.30%	43.04%	No
One Loudoun	One Loudoun A: 331 One Loudoun B: 332	129,968	61,567	47.37%	43.04%	No



Service Area	Route / Number(s)	Total Population (New Stops)	Total Minority Population (New Stops)	Percent Minority Population (New Stops)	Disparate Impact Threshold for Service Improvements	Potential Route-Level Disparate Impact Found
Leesburg	Leesburg: 351	151,810	68,386	45.05%	43.04%	No
Moorefield	Moorefield: 371	93,245	46,858	50.25%	43.04%	No
	Westwind Farm: 372	93,245	46,858	50.25%	43.04%	No
Potomac Falls	Potomac Falls-Reston Town Center: 312	N/A (No New Stops in Loudoun County)				
South Riding	South Riding: 381	75,498	43,783	57.99%	43.04%	No
Stone Ridge	Stone Ridge: 382	84,261	49,218	58.41%	43.04%	No

Service Area	Route / Number(s)	Total Population (New Stops)	Total Minority Population (New Stops)	Percent Minority Population (New Stops)	Disparate Impact Threshold for Service Improvements	Potential Route- Level Disparate Impact Found
Sterling	Atlantic Connector: 322	24,742	16,898	68.30%	43.04%	No
	Sterling-Innovation: 323	34,071	23,022	67.57%	43.04%	No
	Quantum-Pacific- Gateway: 333	54,372	31,369	57.69%	43.04%	No
Purcellville	Purcellville/Harmony: 391	102,185	46,482	45.49%	43.04%	No

## Disproportionate Burden Analysis

A disproportionate burden occurs when the difference between the percentage of low-income households in the service area affected by a proposed fare or service change is five percent or greater than the average percentage of low-income households across the system-wide service area. To assess for disproportionate burdens, this Service Equity Analysis reviews the combination of all entirely removed stops (service reduction) as well as all entirely new stops (service improvement).

### Eliminated Service Stops

The majority of stops served by current Metro Connection will also be served in the new Metro Connection service. As mentioned above, stops without a replacement service identified are:

- Russell Branch and Commonwealth (street-side stop).
- Sally Ride Drive and Glenn Drive (street-side stop).
- Dulles North Park and Ride (Park and Ride stop).
- Broadlands 772 Park and Ride (Park and Ride stop).
- Loudoun Station Park and Ride (Park and Ride stop).

**Table 7** displays the disproportionate burden analysis for Metro Connection eliminated service stops. Made up of 53 Block Groups in all, the statistics quoted in this table encompass the Census Block Groups within three miles of eliminated park and ride stops and 0.25 miles of eliminated street-side stops, combined.

The combined area surrounding Metro Connection stops proposed for elimination has a low-income households percentage of 11.44 percent, which falls below the disproportionate burden threshold for service reductions (16.66 percent). Thus, no disproportionate burden is identified as a result of eliminated service stops.

*Table 7: Metro Connection Disproportionate Burden Analysis: Eliminated Service Stops*

Total Households	Total Low-Income Households	Percent Low-Income Households
43,002	4,921	11.44%
Disproportionate Burden Threshold for Service Reductions		16.66%
Does this package of changes meet the disproportionate burden threshold for service reductions?		No

### New Service Stops

#### Composite Analysis

In this Service Equity Analysis, new service (service improvements) is assessed for disproportionate burden at the composite level (all new service combined).

**Table 8** displays the disproportionate burden analysis for Metro Connection new service stops. Made up of 112 Block Groups in all, the statistics quoted in this table encompass the Census Block Groups within three miles of new park and ride lot and Metro stops and 0.25 miles of new street-side stops, combined.

The combined area surrounding new Metro Connection stops has a low-income households population percentage of 12.89 percent, falling above the disproportionate burden threshold for service improvements (6.66 percent). Thus, no disproportionate burden is identified as a result of new service stops.

Table 8: Metro Connection Disproportionate Burden: New Service Stops (Composite Level)

Total Households	Total Low-Income Households	Percent Low-Income Households
91,544	11,800	12.89%
Disproportionate Burden Threshold for Service Improvements		6.66%
Does this package of changes meet the disproportionate burden threshold for service improvements?		No

## Analysis of Adverse Effects

Loudoun County considers decreases in span of service, reduced frequency of trips, or the discontinuation of a route as adverse service changes. **Table 9** compares the currently operating Metro Connection service with the proposed level of service (weekday span and frequency) for each new Metro Connection service.

The final columns of the table indicate whether each new service would represent a span or frequency improvement or reduction; a status of “maintained” indicates that span or frequency is not proposed to change significantly. However, as demonstrated in the route-level disparate impact analysis, all new routes’ minority population percentages individually surpass the LCT disparate impact threshold for service improvements. This finding, coupled with the finding that no service changes profiled in **Table 9** show span or frequency reductions, indicates that adverse effects are not anticipated through LCT’s Metro Connection system redesign.

Table 9: Analysis of Adverse Effects

Proposed Metro Connection Service (Weekday)				Current Metro Connection Service (Weekday)			Proposed Changes Summary	
Service Area	Route Number(s)	Span	Frequency	Route	Span	Frequency	Span	Frequency
Ashburn Farm	343/344	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 40-55 minutes	923	5:05 a.m. – 8:56 a.m.	51 minutes	Peak: Improvement	Peak: Improvement
				924	3:25 p.m. – 6:39 p.m.	54 minutes	Off-Peak: Improvement	Off-Peak: Maintained
				927	7:45 p.m. – 8:49 p.m.	1 Trip		
Ashburn Village	341/342	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 40-60 minutes	N/A (New Service Area)			Peak: Improvement	Peak: Improvement
Brambleton Route A	374	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 25-40 minutes	923	5:05 a.m. – 8:56 a.m.	51 minutes	Peak: Improvement	Peak: Improvement
				924	3:25 p.m. – 6:39 p.m.	54 minutes	Off-Peak: Improvement	Off-Peak: Improvement
				927	7:45 p.m. – 8:49 p.m.	1 Trip		
Brambleton Route B	375	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 30-45 minutes	923	5:05 a.m. – 8:56 a.m.	51 minutes	Peak: Improvement	Peak: Improvement
				924	3:25 p.m. – 6:39 p.m.	54 minutes	Off-Peak: Improvement	Off-Peak: Improvement
				927	7:45 p.m. – 8:49 p.m.	1 Trip		
Broadlands	373	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 20-35 minutes	923	5:05 a.m. – 8:56 a.m.	51 minutes	Peak: Improvement	Peak: Improvement
				924	3:25 p.m. – 6:39 p.m.	54 minutes	Off-Peak: Improvement	Off-Peak: Improvement
				927	7:45 p.m. – 8:49 p.m.	1 Trip		

Proposed Metro Connection Service (Weekday)				Current Metro Connection Service (Weekday)			Proposed Changes Summary	
Service Area	Route Number(s)	Span	Frequency	Route	Span	Frequency	Span	Frequency
GWU	321	7:00 a.m.- 11:00 p.m.	Peak: 20-30 minutes  Off-Peak: 40-55 minutes	72	7:01 a.m. – 8:04 p.m.	70-73 minutes	Peak: Maintained  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Maintained/ Improvement
	320	5:00 a.m.-7:00 a.m.	Peak: 15 minutes	87X	4:40 a.m. – 9:10 a.m. 4:00 p.m. – 8:08 p.m.	40-56 minutes		
One Loudoun	331/332	5:00 a.m.- 11:00 p.m.	Peak/Off-Peak: 45-60 minutes	72	7:01 a.m. – 8:04 p.m.	70-73 minutes	Peak: Improvement  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Improvement
Leesburg	351	5:00 a.m.- 11:00 p.m.	Peak: 25-35 minutes  Off-Peak: 50-65 minutes	N/A (New Service Area)			Peak: Improvement  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Improvement
Moorefield Leg A	371	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 30-40 minutes	923	5:05 a.m. – 8:56 a.m.	51 minutes	Peak: Improvement  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Improvement
				924	3:25 p.m. – 6:39 p.m.	54 minutes		
				927	7:45 p.m. – 8:49 p.m.	1 Trip		
Westwind Farm Leg B	372	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak/Off-Peak: 30-40 minutes	923	5:05 a.m. – 8:56 a.m.	51 minutes	Peak: Improvement  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Improvement
				924	3:25 p.m. – 6:39 p.m.	54 minutes		
				927	7:45 p.m. – 8:49 p.m.	1 Trip		

Proposed Metro Connection Service (Weekday)				Current Metro Connection Service (Weekday)			Proposed Changes Summary	
Service Area	Route Number(s)	Span	Frequency	Route	Span	Frequency	Span	Frequency
Potomac Falls (Reston Town Center)	312	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak: 25-30 minutes  Off-Peak: 50-65 minutes	901/902	5:30 a.m.-9:00 a.m. 4:00 p.m.-7:30 p.m.	Peak: 80 minutes	Peak: Improvement  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Improvement
South Riding	381	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak: 25-30 minutes  Off-Peak: 50-65 minutes	88X	4:50 a.m. – 9:03 a.m. 3:00 p.m. – 7:58 p.m.	68-94 minutes	Peak: Maintained  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Improvement
Stone Ridge	382	5:00 a.m.-9:00 a.m. 3:00 p.m.-11:00 p.m.	Peak: 25-35 minutes  Off-Peak: 50-65 minutes	88X	4:50 a.m. – 9:03 a.m. 3:00 p.m. – 7:58 p.m.	68-94 minutes	Peak: Maintained  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Improvement
Atlantic Connector Weekday	322	7:00 a.m.-11:00 p.m.	Peak/Off-Peak: 50-65 minutes	84 (Weekday)	7:00 a.m. – 8:14 p.m.	60-70 minutes	Peak: Maintained  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Improvement
Atlantic Connector Saturday	322	8:00 a.m.-10:00 p.m.	Peak/Off-Peak: 35-50 minutes	84 (Saturday)	8:00 a.m. – 8:55 p.m.	60 minutes	All-Day: Improvement	All-Day: Improvement

Proposed Metro Connection Service (Weekday)				Current Metro Connection Service (Weekday)			Proposed Changes Summary	
Service Area	Route Number(s)	Span	Frequency	Route	Span	Frequency	Span	Frequency
Sterling	323	5:00 a.m.-11:00 p.m.	Peak/Off-Peak: 30-45 minutes	985	7:20 a.m. – 7:18 p.m.	60-74 minutes	Peak: Improvement  Off-Peak: Improvement	Peak: Improvement  Off-Peak: Improvement
Quantum - Pacific - Gateway	333	6:30 a.m.-9:30 a.m. 3:30 p.m.-7:00 p.m.	Peak: 20-25 minutes  Off-Peak: 35-40 minutes	990/992	6:20 a.m. – 9:37 a.m. 3:30 p.m. – 6:10 p.m.	45 – 58 minutes	Peak: Improvement	Peak: Improvement
Purcellville	391	4:20 a.m.-9:00 a.m. 3:00 p.m.-8:00 p.m.	Peak: 35-40 minutes	931/932	5:45 a.m. – 9:30 a.m. 3:00 p.m. – 6:45 p.m.	90 minutes	Peak: Improvement	Peak: Improvement



## Maps

As demonstrated in the previous section, in terms of span and frequency, all Metro Connection service changes represent a service improvement or at the very least, a level of service quite similar to current service.

The maps below show new Metro Connection service:

- New routes are displayed in purple.
- Existing stops that will be preserved in the future network are displayed in solid green.
- Entirely new stops are displayed in green with black dots. This excludes Metrorail stations, which are displayed as WMATA's Metro icons.
- Entirely discontinued stops are displayed in red with black dots.

**Figure 5** depicts this information with Block Groups displayed as being below or above the service area minority population average; **Figure 6** depicts this information with Block Groups displayed as being below or above the service area low-income households average.

Figure 5: New and Discontinued Service (Minority/Non-Minority Block Groups)

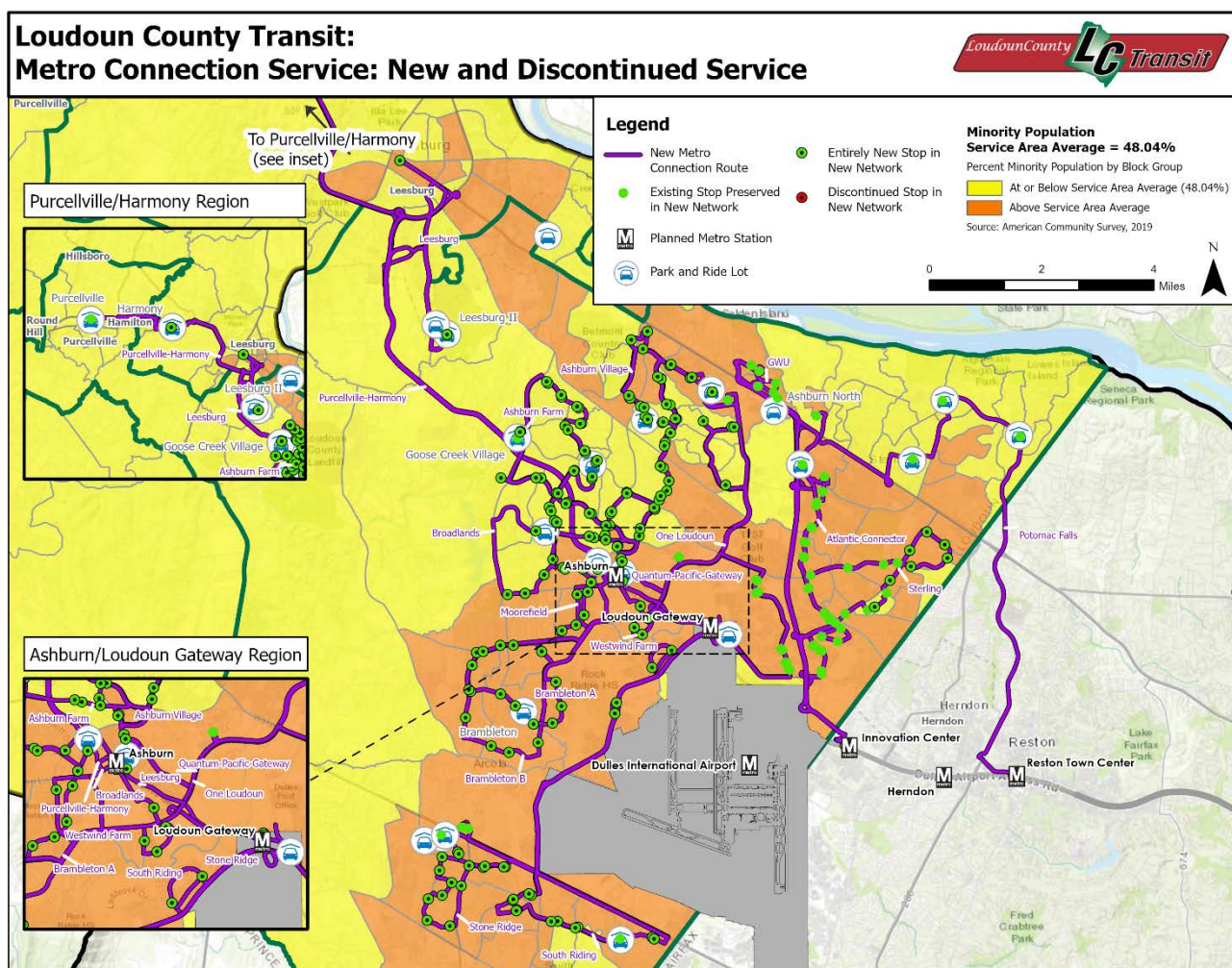
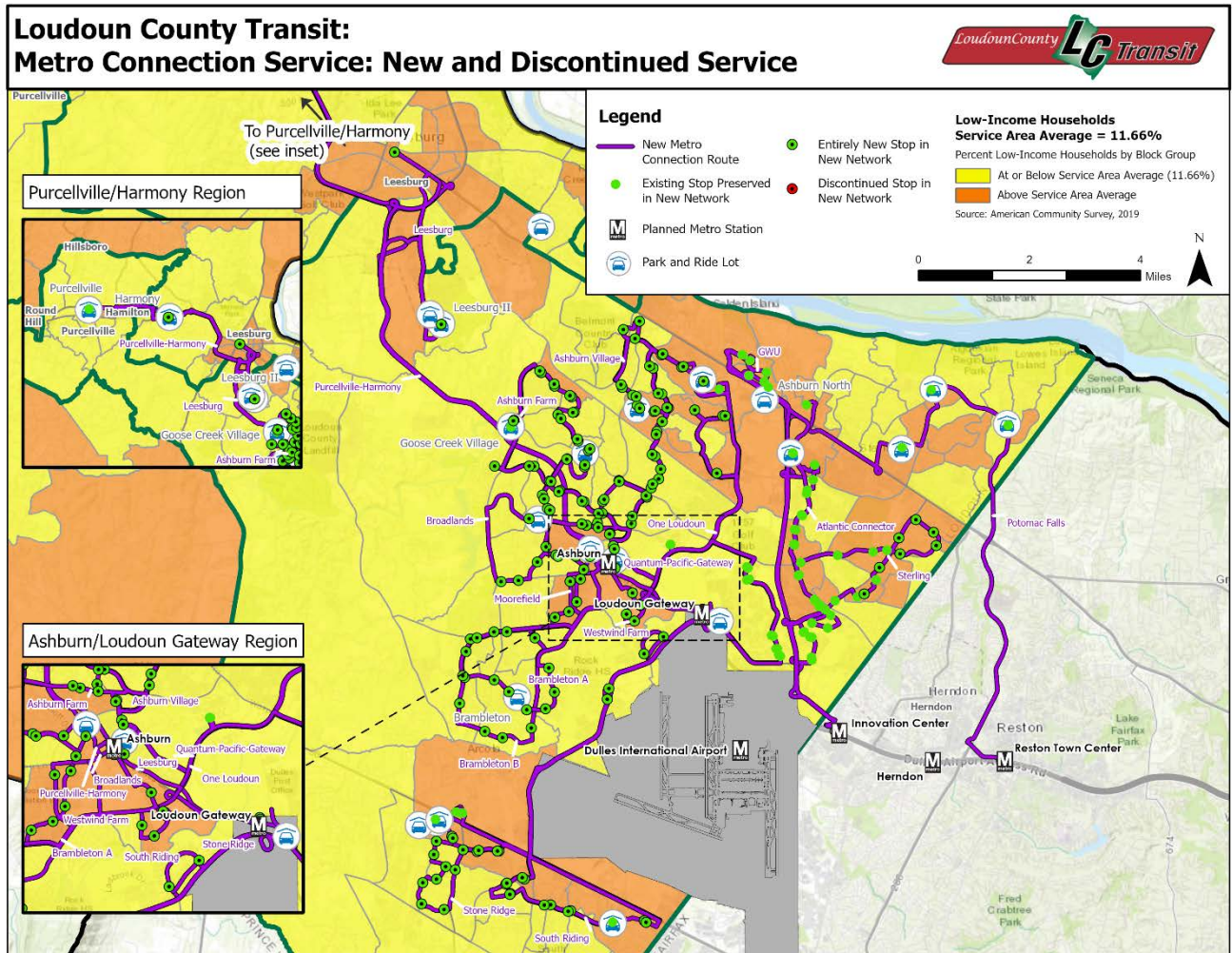


Figure 6: New and Discontinued Service (Low-Income/Non-Low-Income Block Groups)



## SUMMARY OF FINDINGS

Loudoun County Transit (LCT) developed this Service Equity Analysis to evaluate major service changes planned to accommodate Metrorail's Silver Line extension into Loudoun County. In this Service Equity Analysis, all new routes were evaluated for disparate impact, disproportionate burden, and adverse effects using LCT's Title VI policies and procedures.

**Table 10** summarizes all findings based on this assessment. No route changes resulted in findings of disparate impact or disproportionate burden. Furthermore, route service levels (spans and frequencies) are proposed to increase or be maintained at current levels. In conjunction with no findings of potential disparate impact at the route level, adverse effects to riders are not anticipated via this service change.

*Table 10: Service Equity Analysis Results Summary*

Analysis	Service Change Type	Level	Result
<b>Disparate Impact</b>	Service Reduction	All Removed Stops (Combined)	No Finding of DI (Composite)
	Service Addition	All New Stops (Combined)	No Finding of DI (Composite)
		All New Stops (by Route)	No Finding of DI on Any Individual Route
<b>Disproportionate Burden</b>	Service Reduction	All New Stops (Combined)	No Finding of DB (Composite)
	Service Addition	All New Stops (Combined)	No Finding of DB (Composite)
<b>Adverse Effects</b>	Service Addition (Metro Connection Redesign)	All New Stops (by Route)	No Finding of Adverse Effects