Complete Streets Design Manual, Public Works Board, 12/14/21

Changes to the Complete Streets Design Manual since 11/9/21 (highlighted yellow in subsequent pages)

- 1. Chapter 1: A placeholder was replaced with text detailing the public input process.
- 2. Chapter 5: The distance to public schools that requires a developer study of multimodal connections was changed from 0.5 miles to 1 mile for Elementary Schools and 1.5 mile for High Schools.
- 3. Chapter 4 and Chapter 5: Assumed background growth rate for motor vehicle traffic was changed from 3% to 2% to align closer with data from the 2011 to 2019 period.
- 4. Volume IV Details: Notes were added regarding stabilization of medians where they are used on Town Center Connector and Neighborhood Connector Streets for compliance with fire code.

Fiscal Impact for Developers

- Over 90% of developer-built roads over the past 5 years have been local access streets (which will
 now be known as neighborhood yield streets). The Complete Streets Design Manual specifies 5foot-wide sidewalks for these streets. Previously, some sidewalks were built at 4-foot width.
 Construction cost difference between 4 foot and 5-foot-wide sidewalk is estimated to be \$9 per
 linear foot.
- The larger classification roads built by developers in the last 5 years (in Downtown Columbia, Turf Valley and Westmount Parkway) most closely resemble Neighborhood Street 1 and would cost slightly less under Complete Streets Design Manual standards due to narrower lane widths.
- Rural development streets are standardized at 24 feet wide under the Complete Streets Design Guide (previously 22 to 28 feet wide), resulting in potential minor cost increase or decrease.
- Analysis is for roads built by development projects and dedicated to the county from 2016 through 2020, assuming 2020 construction prices.

Fiscal Impact for the County

- Long term fiscal impacts of the updates to the Howard County Design Manual to implement Complete Streets are expected to be manageable. When all benefits are considered, a Complete Streets approach may have a net positive economic impact for Howard County.
- Long term cost savings are due to improvements in public health, air quality and safety as well as avoiding road capacity expansions.
- Complete Streets improvements to existing roads will be made incrementally as opportunities arise, such as marking bike lanes and crosswalks when roads are resurfaced. This process is already incorporated into the Howard County capital budget, with budget areas for Complete Streets improvements such as sidewalks, pathways, bicycle lanes and intersection improvements already receiving annual funding. In Fiscal Year 2022, approximately \$5 million was added to the capital budget for Complete Streets improvements across several budget areas, mostly in the "K" budget items, but also some in the "T" budget items.

1.1 Introduction

A. How to Use This Manual

The purpose of the Howard County Complete Streets Design Manual is to provide criteria and guidance for the design of a safe, efficient, and comfortable transportation network for all modes of travel.

The fundamental design principle for transportation facilities is Complete Streets, or streets that are safe, comfortable, and convenient for people of all ages and abilities, whether they are walking, bicycling, riding transit, or driving.

The guidance contained in this manual is compatible with that of the American Association of State Highway and Transportation Officials (AASHTO) and the Maryland Department of Transportation State Highway Administration (MDOT SHA). References are made to documents and criteria published by these and other agencies where appropriate. This manual is a supplement to those documents and is intended to substantially conform to their criteria. However, where differences exist, this manual shall govern.

The engineering requirements included in this manual are intended to guide land developers and Designers in the design and construction of transportation facilities within Howard County. Both Capital Projects and Land Development Projects, defined in this chapter, must conform to the procedures, requirements and criteria set forth in this manual. Allowable exceptions, and procedures for obtaining approval of those exceptions, are described in Section 1.2.E.

The manual is not intended to restrict the Designer's opportunity to create innovative and practical designs for transportation improvements. Rather, it is intended to assist the Designer in completing the projects efficiently and economically in a manner that supports safety, quality of life, equity, economic sustainability, and the environment. In particular, the Designer should look for additional opportunities to improve safety and comfort for vulnerable travelers such as pedestrians and bicyclists.

B. How This Manual Was Developed

The Howard County Complete Streets policy. described and included as an appendix to this established Complete Streets chapter. а Implementation Team (CSIT) composed of an equal number of County staff and external stakeholders. Updates to the Design Manual to incorporate the provisions of the Complete Streets policy were required by the policy and were undertaken by staff of the Department of Public Works (DPW), the Office of Transportation (OOT), and the Department of Planning and Zoning (DPZ) in collaboration with the CSIT. The goal of this process was to ensure the Design Manual fully addresses all modes of travel. Accordingly, street design criteria and processes in the Manual are based on national best practices.

The Design Manual reflects input from technical experts, stakeholders, and the broader community. CSIT meetings were open to the general public, and meeting materials and minutes were posted to the CSIT website for public review. Public workshops were held on October 14 and 21, 2021 to generate input. Throughout the revision process, close to 1,000 comments on the draft Design Manual were submitted by members of CSIT. transportation professionals. advocates. and other members of the public. All the comments were considered for the submitted Design Manual. The draft Complete Streets Design Manual was also reviewed through a public process with the Public Works Board, the Multimodal Transportation Board and County Council.

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4.3 Traffic Volumes

An Adequate Facilities Test Evaluation will be conducted in accordance with the procedures and technical standards identified in Chapter 5. Specific reference is made to the latest editions of the following publications: ITE Trip Generation Handbook, ITE Transportation Impact Analysis for Site Development, and ITE Trip Generation. Each intersection is required to be analyzed for the end of each scheduled phase and/or scheduled completion year of the project. The intersection will be tested with the traffic volumes that consist of the following components:

A. Existing Traffic Volumes

Existing traffic volumes that have been field counted at the intersection as of the date the developer submits the application for approval of the project to the Department of Planning and Zoning.

B. Projected Site-Generated Traffic Volumes

The project's projected site-generated traffic volumes at the intersection in the scheduled phase and/or completion years. Site-Generated Peak Hour trips shall be estimated based on the latest edition of Trip Generation, published by the Institute of Transportation Engineers (ITE) or trip generation studies approved by Howard County staff.

C. Projected Background Development

1. Unrecorded Previously Approved Development

Traffic volumes projected for the intersection from other proposed subdivisions and site development plans that have passed the test for adequate transportation facilities prior to the submission of the application for approval of the project but <u>not</u> yet recorded (if not previously counted).

2. Recorded Previously Approved Development

Traffic volumes generated by subdivisions or site development plans that were recorded or approved prior to submission of the application for approval of the project and are scheduled to be completed before or during the scheduled phase and/or completion year of the proposed project (if not previously counted).

3. Background Traffic Growth Rate

Background traffic growth of 2% per year compounded shall be used unless adequate traffic data exists to support a different growth rate. The developer may propose or the Department may require different background traffic growth rates if validated field counts and other traffic data about the intersection support a different rate.

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- f. T (Truck Percentage) percentage of trucks in the DHV. The truck percentage shall be applied when appropriate. In residential and other areas not strictly influenced by commercial or industrial land use, the truck percentage shall be assumed to be 5%. In commercial and industrial areas or in any location with a large number of trucks, the truck percentage shall be determined by actual counts.
- g. Counts of pedestrians and bicyclists during peak periods.

Sources of traffic information include:

a. MDOT SHA

b. Department of Public Works

If traffic data are not available from the above sources, counts will have to be made and converted to an ADT and DHV. A useful source to convert is MSHA Highway Information Services Division's "Maryland Highway Traffic Trends." The factors for the station in "Maryland Highway Traffic Trends" nearest to the study site should be used unless the nearest station is on an interstate route.

Though the Department of Public Works will furnish any current data available in its files, the assembly of the data for analysis is the responsibility of the applicant.

3. Projection of Future Traffic Volumes

To ensure that an intersection will be capable of accommodating the demand imposed on it at an acceptable level of service for a number of years beyond its construction, it is necessary to predict future traffic volumes. Changes in the trends of development and income are but a few of the factors that can alter traffic patterns and consequently change projected volumes. Therefore, a necessary requirement is to carefully consider the anticipated future needs in determining traffic volumes for the scheduled phase and/or completion year of the project.

Existing traffic volume, background traffic growth, and traffic volume generated by new development must be analyzed individually and then combined for their total impact on a facility.

Existing traffic volumes can be determined by methods set forth in the previous section.

Background motor vehicle traffic growth shall be projected at 2% per year compounded for the first three years of a project, concurrent with the date of the first submission of Sketch, Preliminary Equivalent Sketch, or Site Development Plan Submission. Other background traffic growth rates may be proposed by the developer or required by the Bureau of Engineering or Department of Planning and Zoning if validated field counts exist and other traffic data exists to support a different projection. Use of higher than necessary growth rates may result in unnecessarily wide roads, which reduce safety for pedestrians and bicyclists and create additional impervious surface.

Motor vehicle traffic volumes generated by new development shall be based upon the median values in the most current edition of the Institute of Transportation Engineers (ITE) publication "Trip Generation" that most closely reflect proposed subdivisions and land development plans (Ref. 5). These volumes shall be based on those projects which have been recorded but not yet built and any other projects which have been submitted to the County at the time of submission of the traffic study to the County.

Because trip generation data for walking and bicycling trips is not as readily available as the similar data for motor vehicle trips, caution and judgment must be exercised in applying the trip generation rates. The availability of transit, extensive carpooling, high-quality pedestrian and bicycle facilities, schools within walking distance of homes, and multiple shift industries may warrant their modifications. The goal of the County is to provide additional walking, bicycling, and transit connections to reduce the number of motor vehicle trips generated by the development. In addition, the orientation of trips must be considered.

The use of trip generation rates other than those in ITE's "Trip Generation" is subject to review and approval by the Chief, Bureau of Engineering or Department of Planning and Zoning.

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D. Bicyclist Studies

Overview

Level of Traffic Stress (LTS) is a methodology outlined by Mekuria, Furth, and Nixon in *Low-Stress Bicycling and Network Connectivity* (Ref. 10). This methodology uses readily available criteria including number of lanes, shoulder width, bike lane width, parking lane width, speed limit or prevailing speed, and motor vehicle traffic volume to evaluate the generalized stress levels that bicyclists are expected to experience. This methodology can be used to analyze existing streets and proposed designs.

Once applied to all of the streets in an area, the LTS methodology shows the total connectivity of a network and facilitates an evaluation of destinations served by low-stress routes. LTS analysis often reveals "islands" of low-stress connectivity that are separated from one another by higher-stress corridors. These higher-stress corridors prevent people who ride bikes from safely getting from one low-stress area to another.

2. Definitions

- a. LTS 1: The level that riders of all ages and abilities can tolerate; this category includes very low-speed and very low-volume neighborhood streets, all separated bike lanes, and all shared use paths.
- b. LTS 2: Tolerated by the mainstream adult population; streets with low volume and low speed motor vehicle traffic.
- c. LTS 3: Tolerated by riders who are "enthused and confident" but still prefer having their own dedicated space for cycling.
- d. LTS 4: Only tolerated by riders who are characterized as "strong and fearless."

Criteria

Designers should refer to the criteria below to determine the LTS of existing and proposed roadways. Separated facilities such as separated bike lanes and shared use paths are classified as LTS 1. As a result, those infrastructure types are not included in the below tables.

As noted in Chapter 1, Designers will use LTS 2 as the minimum standard for accommodation of bicyclists in their projects. In addition, designers will strive to provide LTS 1 connections to county schools, county parks and county libraries within half a mile of the project (defined by a one-half mile radius from the site of the proposed development).

For development projects in proximity of a county school, county park, or county library, a multimodal transportation study will be submitted to DPZ along with the first submission of the Sketch, Preliminary Equivalent Sketch Plan, or Site Development Plan if subdivision is not proposed. Specifically, the study shall investigate connections to:

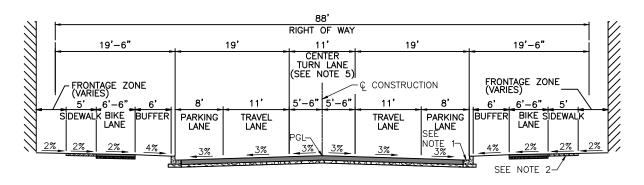
- County parks and libraries within a 0.5 mile radius of the development and include recommendations/concept level design for improvements for a connection to each identified park and library
- Each elementary and middle school within

 a 1 mile radius of the development and include recommendations / concept level design for a connection to each identified school which would result in a route of 1 mile or less from the development
- Each high school within a 1.5 mile radius of the development and include recommendations / concept level design for a connection to each identified school which would result in a route of 1.5 miles or less from the development

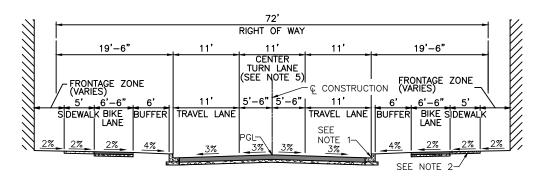
The multimodal transportation study will include concept level design for continuous pedestrian connection suitable for an elementary school student to walk to the school, park, and/or library and an LTS1 connection to the school, park, and/or library within the study areas defined above. Approved concepts will be incorporated into updates to Howard County planning documents, including the Bicycle and Pedestrian Master Plans.

Design guidance for bicycle facilities is provided in Chapter 2, Section 2.2.D.1, and guidance for selecting the appropriate bicycle facility is provided in Section 2.2.D.2. For the design of bicycle facilities along new streets, Designers should use the Street Types described in detail in Section 1.3.C.

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TOWN CENTER CONNECTOR WITH PARKING



TOWN CENTER CONNECTOR NO PARKING

NOTES:

- 1. 7" COMBINATION CURB AND GUTTER.
- 2. 4" CONCRETE SIDEWALK.
- TRAFFIC BARRIER W-BEAM AS REQUIRED (SEE DESIGN MANUAL VOLUME III).
- 4. USE PAVING SECTION P-5.
- 5. MOUNTABLE MEDIAN MAY BE PROVIDED WHERE TURN LANE IS NOT NEEDED. MEDIAN MUST BE STABILIZED FOR VEHICLE LOADING (75,000 POUNDS PER INTERNATIONAL FIRE CODE) AND REMAIN PERVIOUS TO THE MAXIMUM EXTENT POSSIBLE.

Revised

Revised

X/X/XXXX
Approved

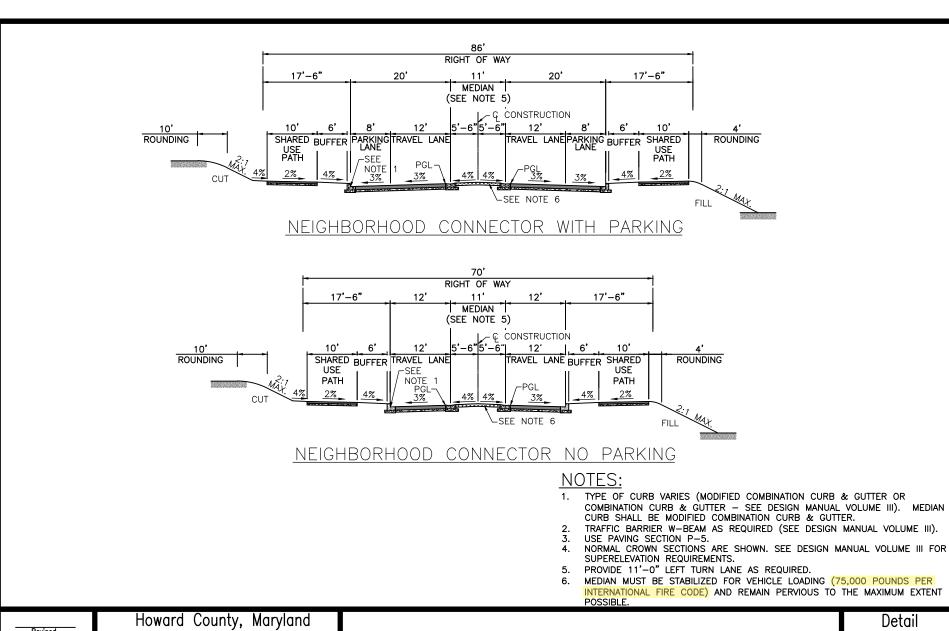
Howard County, Maryland
Department of Public Works

Approved:
Chief, Bureau of Engineering

TYPICAL SECTIONS
Town Center Connector

R-1.02

Detail



Revised

Revised

Revised

Approved:

Chief, Bureau of Engineering

TYPICAL SECTIONS Neighborhood Connector

R-1.05



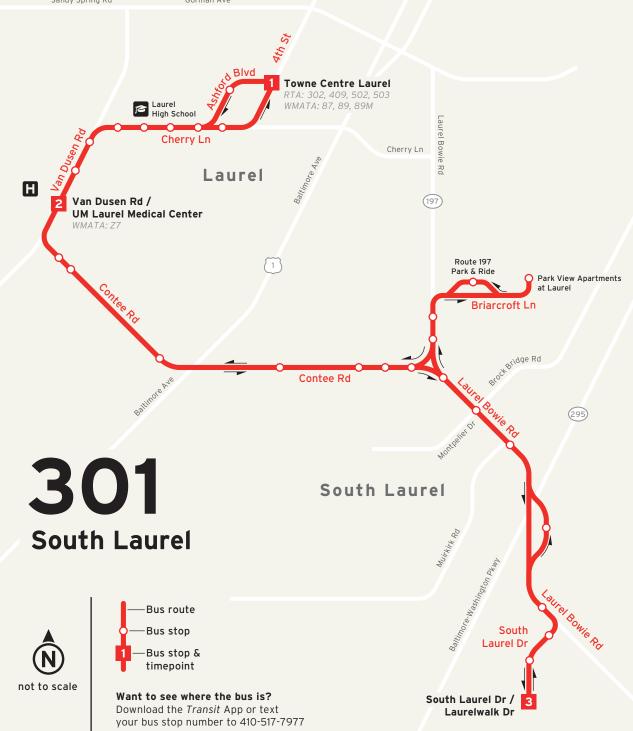
Service Reductions Proposal

- Route 301 Towne Centre Laurel to South Laurel Operate on a Saturday schedule (Attachment 1 – Note: Trips highlighted in yellow are proposed to be eliminated)
- 2. Route 403 Columbia to Executive Park Drive Reduce weekday and Saturday service hours
 - (Attachment 2 Note: Trips highlighted in yellow are proposed to be eliminated)
- 3. Route 404 Columbia to Hickory Ridge Reduce weekday and Saturday service hours (Attachment 3 Note: Trips highlighted in yellow are proposed to be eliminated)
- 4. Route 406 Columbia to Columbia Gateway Discontinue service (Attachment 4 Note: Trips highlighted in yellow are proposed to be eliminated)
- 5. Route 405 Columbia to Ellicott City Eliminate 6:00 a.m. morning trip (Attachment 5 Note: Trips highlighted in yellow are proposed to be eliminated)
- 6. Route 503 Columbia to Towne Centre Laurel Reduce number of trips throughout the day

(Attachment 6 - Note: Trips highlighted in yellow are proposed to be eliminated)

of service hours reduced: 13,571 # of operators "gained": 11 operators

ATTACHMENT 1



Fare Information

Paying onboard

Onboard fare purchases are cash-only. They are required in full, and no refunds or exchanges are available. Please provide exact change.

One-Way Trip	\$2.00
Children, age 5 and under	Free
Seniors age 60 and older,	Free*
or persons with a disability	

*With valid ID. ID must be shown to driver when boarding. Valid forms of ID include state driver's licenses, state ID cards, Medicare cards, passports, or RTA Mobility certification cards.

Paying with your phone

New in Spring 2021, riders can use the *Transit* App to purchase bus fares and passes. When you board your RTA bus, show your phone screen to the driver.

90-minute Pass	\$2.00
Day Pass	\$5.00
Month Pass	\$40.00

Other ways to pay

Certain pass products are available online and at walk-up locations. When boarding, simply present the pass to your driver. For more information, visit transitRTA.com/tickets



All RTA buses are accessible. RTA also operates paratransit services. To apply for certification, visit transitRTA.com or call us at 800-270-9553.

Speech/hearing-impaired riders are encouraged to dial **7-1-1** for Maryland Relay.



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301 South Laurel

Weekdays and Saturdays Effective July 25, 2021

Towne Centre Laurel

Van Dused Rd / UM Laurel Medical Center

South Laurel Dr / Laurelwalk Dr



to South Laurel to Towne Centre Laurel				
Towne Centre Laurel (depart)	Van Dusen Rd / UM Laurel Medical Center	South Laurel Dr / Laurelwalk Dr	Van Dusen Rd / UM Laurel Medical Center	Towne Centre Laurel (arrive)
1	2	3	2	1
6:25	6:29	6:43	7:01	7:05
7:25	7:29	7:43	8:01	8:05
8:25	8:29	8:43	9:01	9:05
9:25	9:29	9:43	10:01	10:05
10:25	10:29	10:43	11:01	11:05
11:25	11:29	11:43	12:01	12:05
12:25	12:29	12:43	1:01	1:05
1:25	1:29	1:43	2:01	2:05
2:25	2:29	2:43	3:01	3:05
3:25	3:29	3:43	4:01	4:05
4:25	4:29	4:43	5:01	5:05
5:25	5:29	5:43	6:01	6:05
6:25	6:29	6:43	7:01	7:05

Saturdays

to South Laurel to Towne Centre Laure					re Laurel
Towne Centre Laurel (depart)	Van Dusen Rd / UM Laurel Medical Center	South Laurel Dr / Laurelwalk Dr		Van Dusen Rd / UM Laurel Medical Center	Towne Centre Laurel (arrive)
1	2	3		2	1
9:25	9:29	9:43		10:01	10:05
10:25	10:29	10:43		11:01	11:05
11:25	11:29	11:43		12:01	12:05
12:25	12:29	12:	43	1:01	1:05
1:25	1:29	1:4	13	2:01	2:05
2:25	2:29	2:4	43	3:01	3:05
3:25	3:29	3:4	43	4:01	4:05
4:25	4:29	4:4	43	5:01	5:05
5:25	5:29	5:4	43	6:01	6:05
6:25	6:29	6:43		7:01	7:05

No Sunday service

On all timetables, **bold numerals** indicate PM times.

ATTACHMENT 1

Where is my bus?

RTA + Transit



Transit is RTA's officially endorsed app. Plan your trips, pay for your ride, and get alerts about your favorite routes - all in the same app. It even works with nearby systems, like MDOT MTA and Metro. Available on Android and iOS.

No smartphone? No problem.



All RTA bus stops have a unique 5-digit stop number on them. When you text that number to 410-517-7977, we'll text you back a list of live arrival predictions for that stop.

How to ride

First, find the schedule for the day of the week you wish to travel. Underneath, find the "timepoints", or scheduled departures, closest to your origin and destination locations. The schedule only lists the bus stops with scheduled departures. Bold numerals indicate PM times.

Then, look below the timepoints to see when buses depart that location. Please try to arrive to your bus stop 5-10 minutes early so that we don't miss you!

Have your fare or pass ready as you board the bus, and find a seat. Please refrain from eating, drinking, smoking and using profanity while on board. Please use earphones when listening to music.

As we approach your destination, pull the yellow stop request cord (or alert your driver). They will let you off at the next available stop.

Holidays

RTA does not operate on **Thanksgiving Day**, **Christmas Day**, and **New Year's Day**.

RTA operates a Sunday schedule on Memorial Day, Independence Day, and Labor Day, and limited service on Christmas Eve.

Guaranteed Ride Home

ATTACHMENT 2



Columbia

403
Executive Park Drive





Want to see where the bus is?

Download the *Transit* App or text your bus stop number to 410-517-7977

Fare Information

Paying onboard

Onboard fare purchases are cash-only. They are required in full, and no refunds or exchanges are available. Please provide exact change.

One-Way Trip	\$2.00
Children, age 5 and under	Free
Seniors age 60 and older,	Free*
or persons with a disability	

*With valid ID. ID must be shown to driver when boarding. Valid forms of ID include state driver's licenses, state ID cards, Medicare cards, passports, or RTA Mobility certification cards.

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90-minute Pass	\$2.00
Day Pass	\$5.00
Month Pass	\$40.00

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403 Executive Park Drive

Weekdays, Saturdays and Sundays Effective July 25, 2021

Mall in Columbia

Selborne House of Dorsey Hall

Columbia 100 Pkwy / Blue Wing Ct



to Columbia 100 Pkwy to Mall in Columbia Selborne House of Dorsey Hall Mall in Columbia (depart) Columbia 5 t Mall in (arrive) Colun Blue 2 3 2 5:50 ---------5:37 6:20 6:29 6:42 6:00 7:20 7:42 7:00 7:11 7:29 8:00 8:11 8:20 8:29 8:42 9:00 9:11 9:20 9:29 9:42 10:00 10:11 10:20 10:29 10:42 11:00 11:20 11:29 11:42 11:11 12:11 12:20 12:29 12:42 12:00 1:42 1:00 1:11 1:20 1:29 2:00 2:11 2:20 2:29 2:42 3:00 3:20 3:29 3:42 3:11 4:00 4:11 4:20 4:29 4:42 5:00 5:20 5:29 5:42 5:11 6:00 6:11 6:20 6:29 6:42 7:42 7:00 7:11 7:20 7:29 8:00 8:11 8:20 8:29 8:42 9:00 9:11

Saturdays

to Columbia 100 Pkwy to Mall in Columbia				
Mall in Columbia (depart)	Selborne House of Dorsey Hall	Columbia 100 Pkwy/ Blue Wing Ct	Selborne House of Dorsey Hall	Mall in Columbia (arrive)
1	2	3	2	1
			7:37	7:50
8:00	8:11	8:20	8:29	8:42
9:00	9:11	9:20	9:29	9:42
10:00	10:11	10:20	10:29	10:42
11:00	11:11	11:20	11:29	11:42
12:00	12:11	12:20	12:29	12:42
1:00	1:11	1:20	1:29	1:42
2:00	2:11	2:20	2:29	2:42
3:00	3:11	3:20	3:29	3:42
4:00	4:11	4:20	4:29	4:42
5:00	5:11	5:20	5:29	5:42
6:00	6:11	6:20	6:29	6:42
7:00	7:11	7:20	7:29	7:42
8:00	8:11			

On all timetables, **bold numerals** indicate PM times.

ATTACHMENT 2

Sundays

to Columi	bia 100 Pkw	y to I	Mall in Colu	mbia
Mall in Columbia (depart)	Selborne House of Dorsey Hall	Columbia 100 Pkwy/ Blue Wing Ct	Selborne House of Dorsey Hall	Mall in Columbia (arrive)
1	2	3	2	1
			9:37	9:50
10:00	10:11	10:20	10:29	10:42
11:00	11:11	11:20	11:29	11:42
12:00	12:11	12:20	12:29	12:42
1:00	1:11	1:20	1:29	1:42
2:00	2:11	2:20	2:29	2:42
3:00	3:11	3:20	3:29	3:42
4:00	4:11	4:20	4:29	4:42
5:00	5:11			

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Guaranteed Ride Home

ATTACHMENT 3 Wilde Lake High School Columbia Howard County General Hospital Mall in Columbia TA: 401, 402A, 403, 405, 406, 407 Community College 408, 414, 501 503 MTA: 203, 305, 310, Hickory Ridge Rd Hickory Ridge Place Owen Brown Rd Cedar Ln Hickory Ridge Village Center / Giant Quarterstaff Rd **12** Freetown Rd / 3 Atholton High School -Bus route -Bus stop 404 —Bus stop & timepoint not to scale Want to see where the bus is? **Hickory Ridge** Download the *Transit* App or text your bus stop number to 410-517-7977

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Seniors age 60 and older,	Free*
or persons with a disability	

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Month Pass	\$40.00

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404
Hickory Ridge

Weekdays, Saturdays and Sundays Effective July 25, 2021

Mall in Columbia

Hickory Ridge Place

Freetown Rd / Atholton High School

Hickory Ridge Village Center (at Giant)



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to Hick	to Hickory Ridge Village Ctr to Mall in Columbia				
Mall in Columbia (depart)	Hickory Ridge Place	Freetown Rd / Atholton High School	Hickory Ridge Village Center / Giant	Hickory Ridge Place	Mall in Columbia (arrive)
1	2	3	4	2	1
6:00	6:08	6:14	6:22	6:25	6:34
7:00	7:08	7:14	7:22	7:25	7:34
8:00	8:08	8:14	8:22	8:25	8:34
9:00	9:08	9:14	9:22	9:25	9:34
10:00	10:08	10:14	10:22	10:25	10:34
11:00	11:08	11:14	11:22	11:25	11:34
12:00	12:08	12:14	12:22	12:25	12:34
1:00	1:08	1:14	1:22	1:25	1:34
2:00	2:08	2:14	2:22	2:25	2:34
3:00	3:08	3:14	3:22	3:25	3:34
4:00	4:08	4:14	4:22	4:25	4:34
5:00	5:08	5:14	5:22	5:25	5:34
6:00	6:08	6:14	6:22	6:25	6:34
7:00	7:08	7:14	7:22	7:25	7:34
8:00	8:08	8:14	8:22	8:25	8:34
9:00	9:08	9:14	9:22	9:25	9:34

Saturdays

to Hickory Ridge Village Ctr to Mall in Columbia					
Mall in Columbia (depart)	Hickory Ridge Place	Freetown Rd / Atholton High School	Hickory Ridge Village Center / Giant	Hickory Ridge Place	Mall in Columbia (arrive)
1	2	3	4	2	1
8:00	8:08	8:14	8:22	8:25	8:34
9:00	9:08	9:14	9:22	9:25	9:34
10:00	10:08	10:14	10:22	10:25	10:34
11:00	11:08	11:14	11:22	11:25	11:34
12:00	12:08	12:14	12:22	12:25	12:34
1:00	1:08	1:14	1:22	1:25	1:34
2:00	2:08	2:14	2:22	2:25	2:34
3:00	3:08	3:14	3:22	3:25	3:34
4:00	4:08	4:14	4:22	4:25	4:34
5:00	5:08	5:14	5:22	5:25	5:34
6:00	6:08	6:14	6:22	6:25	6:34
7:00	7:08	7:14	7:22	7:25	7:34

On all timetables, **bold numerals** indicate PM times.

ATTACHMENT 3

Sundays

to Hick	ory Ridge	tr to	Mall in Co	olumbia		
Mall in Columbia (depart)	Hickory Ridge Place	Freetown Rd / Atholton High School	Hickory Ridge Village Center / Giant	Hickory Ridge Place	Mall in Columbia (arrive)	
1	2	3	4	2	1	
9:00	9:08	9:14	9:22	9:25	9:34	
10:00	10:08	10:14 11:14	10:14	10:22	10:25	10:34
11:00	11:08		11:22	11:25	11:34	
12:00	12:08	12:14	12:22	12:25	12:34	
1:00	1:08	1:14	1:22	1:25	1:34	
2:00	2:08	2:14	2:22	2:25	2:34	
3:00	3:08	3:14	3:22	3:25	3:34	
4:00	4:08	4:14	4:22	4:25	4:34	
5:00	5:08	5:14	5:22	5:25	5:34	

Where is my bus?

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Holidays

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Guaranteed Ride Home



Fare Information

Paying onboard

Onboard fare purchases are cash-only. They are required in full, and no refunds or exchanges are available. Please provide exact change.

One-Way Trip	\$2.00
Children, age 5 and under	Free
Seniors age 60 and older,	Free*
or persons with a disability	

*With valid ID. ID must be shown to driver when boarding. Valid forms of ID include state driver's licenses, state ID cards, Medicare cards, passports, or RTA Mobility certification cards.

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,	\$2.00
Day Pass	\$5.00
Month Pass	\$40.00

Other ways to pay

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405
Ellicott City

Weekdays, Saturdays and Sundays Effective July 25, 2021

Mall in Columbia

Court House Dr /
Government Center

Ellicott City Walmart (Carls Ct / Ridge Rd)

Ellicott City Senior Center



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Weekdays and Saturdays

to Ellicot	t City Walm	art, EC Sen	ior Center	to Mall in Columbia					
Mall in Columbia (depart)	Court House Dr / Government Center	Ellicott City Walmart (arrive)	Ellicott City Walmart (depart)	Ellicott City Senior Center	Ellicott City Walmart (arrive)	Ellicott City Walmart (depart)	Court House Dr / Government Center	Mall in Columbia (arrive)	
1	2	3	3	4	3	3	2	1	
						6:15*	6:24*	6:43*	
6:00*	6:17*	6:25*	6:40*	6:49*	6:56*	7:15*	7:24*	7:43*	
7:00*	7:17*	7:25*	7:40*	7:49*	7:56*	8:15	8:24	8:43	
8:00	8:17	8:25	8:40	8:49	8:56	9:15	9:24	9:43	
9:00	9:17	9:25	9:40	9:49	9:56	10:15	10:24	10:43	
10:00	10:17	10:25	10:40	10:49	10:56	11:15	11:24	11:43	
11:00	11:17	11:25	11:40	11:49	11:56	12:15	12:24	12:43	
12:00	12:17	12:25	12:40	12:49	12:56	1:15	1:24	1:43	
1:00	1:17	1:25	1:40	1:49	1:56	2:15	2:24	2:43	
2:00	2:17	2:25	2:40	2:49	2:56	3:15	3:24	3:43	
3:00	3:17	3:25	3:40	3:49	3:56	4:15	4:24	4:43	
4:00	4:17	4:25	4:40	4:49	4:56	5:15	5:24	5:43	
5:00	5:17	5:25	5:40	5:49	5:56	6:15	6:24	6:43	
6:00	6:17	6:25							
7:00		7:20				7:30		7:45	
8:00		8:20				8:30		8:45	
9:00		9:20				9:30		9:45	

On all timetables, **bold numerals** indicate PM times. Asterisks (*) denote weekday-only service.

On Weekdays and Saturdays, riders may request pickups drop-offs at Howard County Circuit Court. Please call 800-270-9553 or alert your driver in advance so that we know to deviate from route. This option is only available on trips before 7:00 PM.

On Weekdays and Saturdays, Ellicott City Healthcare Center is serviced until 6:30 PM.

ATTACHMENT 4

Sundays

to Ellicott Walmart	City	to Mall in (Columbia	
Mall in Columbia (depart)	Mall in Columbia (depart) Ellicott City Walmart (arrive)		Mall in Columbia (arrive)	
1	3	3	1	
9:00	9:21	9:30	9:46	
10:00	10:21	10:30	10:46	
11:00	11:21	11:30	11:46	
12:00	12:21	12:30	12:46	
1:00	1:21	1:30	1:46	
2:00	2:00 2:21 3:00 3:21		2:46	
3:00			3:46	
4:00	4:21	4:30	4:46	
5:00	5:21	5:30	5:46	

Where is my bus?

RTA + Transit



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Have your fare or pass ready as you board the bus, and find a seat. Please refrain from eating, drinking, smoking and using profanity while on board. Please use earphones when listening to music.

As we approach your destination, pull the yellow stop request cord (or alert your driver). They will let you off at the next available stop.

Holidays

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Guaranteed Ride Home

ATTACHMENT 5



406
Columbia Gateway





Want to see where the bus is?Download the *Transit* App or text your bus stop number to 410-517-7977

Fare Information

Paying onboard

Onboard fare purchases are cash-only. They are required in full, and no refunds or exchanges are available. Please provide exact change.

One-Way Trip	\$2.00
Children, age 5 and under	Free
Seniors age 60 and older,	Free*
or persons with a disability	

*With valid ID. ID must be shown to driver when boarding. Valid forms of ID include state driver's licenses, state ID cards, Medicare cards, passports, or RTA Mobility certification cards.

Paying with your phone

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90-minute Pass	\$2.00
Day Pass	\$5.00
Month Pass	\$40.00

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406 Columbia Gateway

Weekdays Effective July 25, 2021

Mall in Columbia

Snowden Square

Columbia Gateway Dr / Howard County Complex



to Colui Gatewa		to	Mall in Co	olumbia		
Mall in Columbia (depart)	Snowden Square (Eastbound)	Columbia Gateway Dr / Howard County Complex	Snowden Square (Westbound) (arrive)	Snowden Square (Westbound) (depart)	Mall in Columbia (arrive)	
1	2	3	2	2	1	
				7:05	7:20	
7:30	7:45	7:50	7:57	8:02	8:17	
8:30	8:45	9:50 5 10:50 11:50	9:50	8:57	9:02	9:17
9:30	9:45			9:57	10:02	10:17
10:30	10:45			10:50	10:57	11:02
11:30	11:45		11:57	12:02	12:17	
12:30	12:45		12:57	1:02	1:17	
1:30	1:45		1:57	2:02	2:17	
2:30	2:45	2:50	2:57	3:02	3:17	
3:30	3:45	3:50	3:57	4:02	4:17	
4:30	4:45	4:50	4:57	5:02	5:17	
5:30	5:45	5:50	5:57	6:02	6:17	

No Saturday or Sunday service

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ATTACHMENT 5

Where is my bus?

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Holidays

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RTA operates a Sunday schedule on Memorial Day, Independence Day, and Labor Day, and limited service on Christmas Eve.

Guaranteed Ride Home



Fare Information

Paying onboard

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One-Way Trip	\$2.00
Children, age 5 and under	Free
Seniors age 60 and older,	Free*
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Please reuse this schedule as often as possible. When you are done, recycle it. 503
Laurel / Columbia

Weekdays and Saturdays Effective July 25, 2021

Mall in Columbia

Owen Brown Village Center

Vollmerhausen Rd (at Birchwood and Willowwood Ways)

North Laurel Community Center

Towne Centre Laurel



to Towne Centre Laurel						to Mall in Columbia				
Mall in Columbia (depart)	Owen Brown Village Center	Vollmerhausen Rd / Birchwood Way	North Laurel Community Center	Towne Centre Laurel (arrive)	Towne Centre Laurel (depart)	North Laurel Community Center	Vollmerhausen Rd / Willowwood Way	Owen Brown Village Center	Mall in Columbia (arrive)	
1	2	3	4	5	5	4	3	2	1	
					5:30	5:40	5:57	6:16	6:32	
					6:30	6:40	6:57	7:16	7:32	
6:00	6:14	6:29	6:40	6:55	7:30	7:40	7:57	8:16	8:32	
7:00	7:14	7:29	7:40	7:55	8:30	8:40	8:57	9:16	9:32	
8:00	8:14	8:29	8:40	8:55	9:30	9:40	9:57	10:16	10:32	
9:00	9:14	9:29	9:40	9:55	10:30	10:40	10:57	11:16	11:32	
10:00	10:14	10:29	10:40	10:55	11:30	11:40	11:57	12:16	12:32	
11:00	11:14	11:29	11:40	11:55	12:30	12:40	12:57	1:16	1:32	
12:00	12:14	12:29	12:40	12:55	1:30	1:40	1:57	2:16	2:32	
1:00	1:14	1:29	1:40	1:55	2:30	2:40	2:57	3:16	3:32	
2:00	2:14	2:29	2:40	2:55	3:30	3:40	3:57	4:16	4:32	
3:00	3:14	3:29	3:40	3:55	4:30	4:40	4:57	5:16	5:32	
4:00	4:14	4:29	4:40	4:55	5:30	5:40	5:57	6:16	6:32	
5:00	5:14	5:29	5:40	5:55	6:30	6:40	6:57	7:16	7:32	
6:00	6:14	6:29	6:40	6:55	7:30	7:40	7:57	8:16	8:32	
7:00	7:14	7:29	7:40	7:55						
8:00	8:14	8:29	8:40	8:55						

On all timetables, **bold numerals** indicate PM times.

Route 503 provides service directly to Woodside Ct Humanim on weekdays. On weekends, buses turn around in the Woodside Ct cul-de-sac.

ATTACHMENT 6

Saturdays

to Towne Centre Laurel						to Mall in Columbia				
	Mall in Columbia (depart)	Owen Brown Village Center	Vollmerhausen Rd / Birchwood Way	North Laurel Community Center	Towne Centre Laurel (arrive)	Towne Centre Laurel (depart)	North Laurel Community Center	Vollmerhausen Rd / Willowwood Way	Owen Brown Village Center	Mall in Columbia (arrive)
	1	2	3	4	5	5	4	3	2	1
						8:30	8:40	8:57	9:16	9:28
						9:30	9:40	9:57	10:16	10:28
	9:00	9:13	9:28	9:41	9:56	10:30	10:40	10:57	11:16	11:28
	10:00	10:13	10:28	10:41	10:56	11:30	11:40	11:57	12:16	12:28
	11:00	11:13	11:28	11:41	11:56	12:30	12:40	12:57	1:16	1:28
	12:00	12:13	12:28	12:41	12:56	1:30	1:40	1:57	2:16	2:28
	1:00	1:13	1:28	1:41	1:56	2:30	2:40	2:57	3:16	3:28
	2:00	2:13	2:28	2:41	2:56	3:30	3:40	3:57	4:16	4:28
	3:00	3:13	3:28	3:41	3:56	4:30	4:40	4:57	5:16	5:28
	4:00	4:13	4:28	4:41	4:56	5:30	5:40	5:57	6:16	6:28
	5:00	5:13	5:28	5:41	5:56	6:30	6:40	6:57	7:16	7:28
	6:00	6:13	6:28	6:41	6:56	7:30	7:40	7:57	8:16	8:28
	7:00	7:13	7:28	7:41	7:56					

No Sunday service

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Holidays

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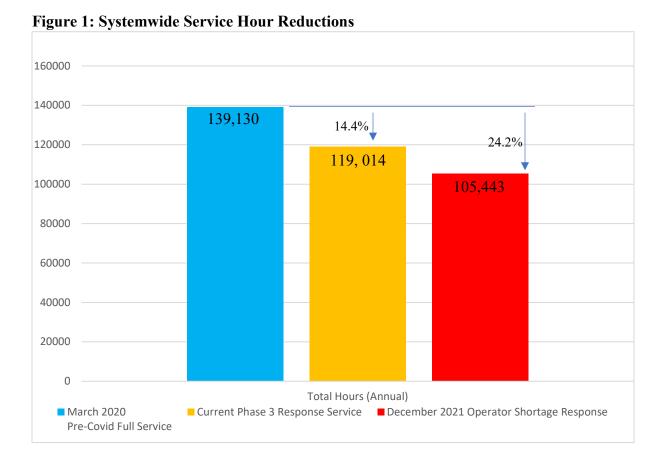
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Guaranteed Ride Home

Proposed Interim Service Hour Reduction

The service cuts have been designed to minimize the impact on riders while the RTA management focuses on driver recruitment and retention. Figure 1, *Service Hour Reductions*, illustrates how total service operating hours systemwide differ between conditions pre-COVID, today, and what is being implemented on a temporary basis while driver recruitment continues. The blue bar represents "full" service as it last operated in March 2020 before the COVID-19 pandemic began. The yellow bar represents the service level RTA is currently operating. The red bar represents the level of service that allows for maximum continuity of service with a suboptimal number of bus operators.

The service reductions below will allow the RTA to better manage the deployment of drivers daily to minimize unscheduled missed trips which are frustrating passengers and reducing confidence in the system.



Service Hour Reduction by Route

Figure 2, Service Hour Reductions, per route, illustrates how total service operating hours on each route are impacted by this round of modifications, within the context of the current reduced schedule RTA has already been operating. The total size of each bar represents how many annual operating hours were dedicated to that route in March 2020, the last full service change RTA undertook before the COVID-19 pandemic. The yellow color represents what service RTA is still not operating as per the latest service change in July 2021. The red color represents what would be removed as part of the proposed changes to accommodate the driver shortage. The blue color represents the service hours that would be run were the proposed changes to take effect.

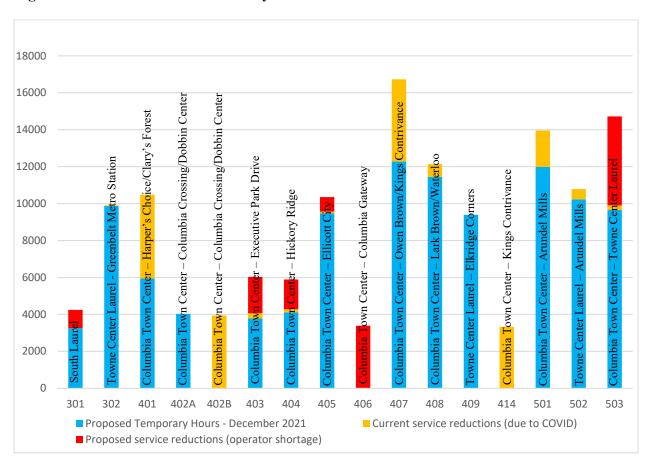


Figure 2: Service Hour Reductions by Route

Ridership Impacts:

Figure 3, *Estimated Ridership Impacts*, *systemwide*, uses September 2021 trip-level ridership counts to estimate, as a percent of total systemwide ridership, the total number of unlinked passenger trips that would not have occurred if the proposed cuts to service had taken place.

For example, the largest service reduction would be to eliminate one of the three vehicles that operates on route 503. In September 2021, that third vehicle on route 503 carried approximately 2.7% of all one-way passenger trips for the month. Overall, it is estimated that less than 4.9% of ridership will be impacted.

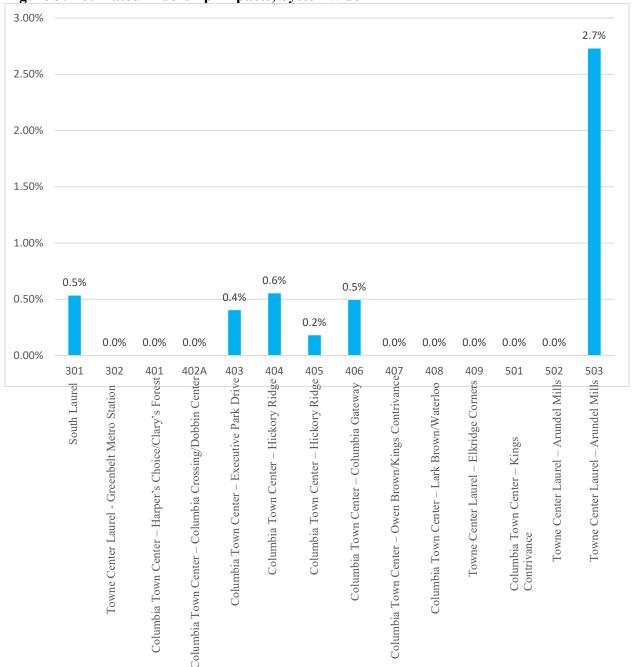


Figure 3: Estimated Ridership Impacts, Systemwide

Routes Impacted by Proposed Cuts

- Route 301 Towne Center Laurel to South Laurel Adjust to Saturday Hours
- Route 403 Columbia to Executive Park Drive Reduce Service Hours
- Route 404 Columbia to Hickory Ridge Reduce Service Hours
 - o (modified from original plan to preserve 6am trip serving Atholton HS; now 0.4% of total)
- Route 405 Columbia to Ellicott City Eliminate 6:00 am trip
- Route 406 Columbia to Columbia Gateway Eliminate route
- Route 503 Columbia to Towne Center Laurel Reduce to 2 buses instead

	Rid	ership	by Hou	ır			
Time Range:	Septemb	•	•				
Routes:	301 South Laurel						
noutes.							
	403 Columbia Town Center - Executive Park Drive						
	404 Columbia Town Center - Hickory Ridge						
	405 Columbia Town Center - Ellicott City						
	406 Colum	bia Town Ce	enter - Columbia	a Gateway			
	503 Columbia Town Center - Towne Center Laurel						
Route 301	Boardings	% of route	% of system	Route 403	Boardings	% of route	% of system
5 AM	07	1 050/	0.070/	5 AM - cut	0	0.00%	0.00%
AM - cut	37 105	1.95%	0.07%	6 AM - cut	41	2.57%	0.08%
7 AM - cut 3 AM - cut	105 137	5.53% 7.21%	0.20%	7 AM - cut 8 AM	59 163	3.70% 10.21%	0.11%
AM	161	8.47%	0.31%	9 AM	112	7.02%	0.21%
LO AM	205	10.79%	0.39%	10 AM	150	9.40%	0.21%
L1 AM	192	10.11%	0.37%	11 AM	164	10.28%	0.31%
L2 PM	159	8.37%	0.30%	12 PM	169	10.59%	0.32%
LPM	131	6.89%	0.25%	1 PM	167	10.46%	0.32%
2 PM	167	8.79%	0.32%	2 PM	131	8.21%	0.25%
3 PM	183	9.63%	0.35%	3 PM	122	7.64%	0.23%
1 PM	155	8.16%	0.30%	4 PM	93	5.83%	0.18%
PM	160	8.42%	0.31%	5 PM	73	4.57%	0.14%
5 PM	108	5.68%	0.21%	6 PM - cut	41	2.57%	0.08%
7 PM				7 PM - cut	52	3.26%	0.10%
3 PM				8 PM - cut	39	2.44%	0.07%
PM				9 PM - cut	20	1.25%	0.04%
Route 404	Boardings	% of route	% of system	Route 405	Boardings	% of route	% of system
AM - cut	61	2.30%	0.12%	5 AM	0.1	2.240/	0.400/
AM	102	3.84%	0.19%	6 AM	94	3.94%	0.18%
7 AM	151	5.68%	0.29%	7 AM	143	5.99%	0.27%
BAM	237	8.92%	0.45%	8 AM 9 AM	159	6.66%	0.30%
O AM	149 195	5.61% 7.34%	0.28%	10 AM	210 194	8.79% 8.12%	0.40%
L1 AM	254	9.56%	0.49%	11 AM	220	9.21%	0.42%
L2 PM	277	10.43%	0.53%	12 PM	233	9.76%	0.45%
LPM	358	13.47%	0.68%	1 PM	208	8.71%	0.40%
2 PM	234	8.81%	0.45%	2 PM	248	10.39%	0.47%
3 PM	248	9.33%	0.47%	3 PM	208	8.71%	0.40%
I PM	160	6.02%	0.31%	4 PM	160	6.70%	0.31%
5 PM	105	3.95%	0.20%	5 PM	130	5.44%	0.25%
PM - cut	73	2.75%	0.14%	6 PM	74	3.10%	0.14%
7 PM - cut	32	1.20%	0.06%	7 PM	56	2.35%	0.11%
BPM - cut	21	0.79%	0.04%	8 PM	40	1.68%	0.08%
PM				9 PM	11	0.46%	0.02%
				* Reducing fre	* Reducing frequency in the morning		
Route 406 - cut	Boardings	% of route	% of system	Route 503	Boardings	1	% of system
AM				5 AM	28	0.52%	0.05%
AM				6 AM	118	2.20%	0.23%
7 A B A	15	F 010/	0.030/				0.72%
	15	5.81%	0.03%	7 AM	375	7.00%	
3 AM - cut	33	12.79%	0.06%	8 AM	273	5.09%	0.52%
3 AM - cut 9 AM - cut	33 24	12.79% 9.30%	0.06% 0.05%	8 AM 9 AM	273 356	5.09% 6.64%	0.52% 0.68%
3 AM - cut 3 AM - cut .0 AM - cut	33 24 23	12.79% 9.30% 8.91%	0.06% 0.05% 0.04%	8 AM 9 AM 10 AM	273 356 395	5.09% 6.64% 7.37%	0.52% 0.68% 0.75%
AM - cut AM - cut 0 AM - cut 1 AM - cut	33 24 23 21	12.79% 9.30% 8.91% 8.14%	0.06% 0.05% 0.04% 0.04%	8 AM 9 AM 10 AM 11 AM	273 356 395 295	5.09% 6.64% 7.37% 5.50%	0.52% 0.68% 0.75% 0.56%
AM - cut AM - cut O AM - cut 1 AM - cut 2 PM - cut	33 24 23 21 27	12.79% 9.30% 8.91% 8.14% 10.47%	0.06% 0.05% 0.04% 0.04% 0.05%	8 AM 9 AM 10 AM 11 AM 12 PM	273 356 395 295 381	5.09% 6.64% 7.37% 5.50% 7.11%	0.52% 0.68% 0.75% 0.56% 0.73%
AM - cut AM - cut O AM - cut 1 AM - cut 2 PM - cut	33 24 23 21 27 14	12.79% 9.30% 8.91% 8.14% 10.47% 5.43%	0.06% 0.05% 0.04% 0.04% 0.05% 0.03%	8 AM 9 AM 10 AM 11 AM 12 PM 1 PM	273 356 395 295 381 439	5.09% 6.64% 7.37% 5.50% 7.11% 8.19%	0.52% 0.68% 0.75% 0.56% 0.73% 0.84%
3 AM - cut 0 AM - cut .0 AM - cut .1 AM - cut .2 PM - cut .2 PM - cut	33 24 23 21 27 14 15	12.79% 9.30% 8.91% 8.14% 10.47% 5.43% 5.81%	0.06% 0.05% 0.04% 0.04% 0.05% 0.03%	8 AM 9 AM 10 AM 11 AM 12 PM 1 PM 2 PM	273 356 395 295 381 439 505	5.09% 6.64% 7.37% 5.50% 7.11% 8.19% 9.42%	0.52% 0.68% 0.75% 0.56% 0.73% 0.84% 0.97%
8 AM - cut 9 AM - cut 10 AM - cut 11 AM - cut 12 PM - cut 12 PM - cut 13 PM - cut 14 PM - cut	33 24 23 21 27 14 15 30	12.79% 9.30% 8.91% 8.14% 10.47% 5.43% 5.81% 11.63%	0.06% 0.05% 0.04% 0.04% 0.05% 0.03% 0.03%	8 AM 9 AM 10 AM 11 AM 12 PM 1 PM 2 PM 3 PM	273 356 395 295 381 439 505 489	5.09% 6.64% 7.37% 5.50% 7.11% 8.19% 9.42% 9.12%	0.52% 0.68% 0.75% 0.56% 0.73% 0.84% 0.97% 0.93%
8 AM - cut 9 AM - cut 10 AM - cut 11 AM - cut 12 PM - cut 12 PM - cut 13 PM - cut 14 PM - cut	33 24 23 21 27 14 15 30 30	12.79% 9.30% 8.91% 8.14% 10.47% 5.43% 5.81% 11.63%	0.06% 0.05% 0.04% 0.04% 0.05% 0.03% 0.03% 0.03% 0.06%	8 AM 9 AM 10 AM 11 AM 12 PM 1 PM 2 PM 3 PM 4 PM	273 356 395 295 381 439 505 489 467	5.09% 6.64% 7.37% 5.50% 7.11% 8.19% 9.42% 9.12% 8.71%	0.52% 0.68% 0.75% 0.56% 0.73% 0.84% 0.97% 0.93% 0.89%
3 AM - cut 0 AM - cut 10 AM - cut 11 AM - cut 12 PM - cut 12 PM - cut 12 PM - cut 15 PM - cut 15 PM - cut 15 PM - cut	33 24 23 21 27 14 15 30	12.79% 9.30% 8.91% 8.14% 10.47% 5.43% 5.81% 11.63%	0.06% 0.05% 0.04% 0.04% 0.05% 0.03% 0.03%	8 AM 9 AM 10 AM 11 AM 12 PM 1 PM 2 PM 3 PM 4 PM 5 PM	273 356 395 295 381 439 505 489 467 355	5.09% 6.64% 7.37% 5.50% 7.11% 8.19% 9.42% 9.12% 8.71% 6.62%	0.52% 0.68% 0.75% 0.56% 0.73% 0.84% 0.97% 0.93% 0.89% 0.68%
7 AM - cut 8 AM - cut 10 AM - cut 110 AM - cut 111 AM - cut 12 PM - cut 12 PM - cut 12 PM - cut 15 PM - cut 16 PM - cut 17 PM - cut 18 PM - cut 18 PM - cut 18 PM - cut 18 PM - cut	33 24 23 21 27 14 15 30 30	12.79% 9.30% 8.91% 8.14% 10.47% 5.43% 5.81% 11.63%	0.06% 0.05% 0.04% 0.04% 0.05% 0.03% 0.03% 0.03% 0.06%	8 AM 9 AM 10 AM 11 AM 12 PM 1 PM 2 PM 3 PM 4 PM 5 PM 6 PM	273 356 395 295 381 439 505 489 467 355 415	5.09% 6.64% 7.37% 5.50% 7.11% 8.19% 9.42% 9.12% 8.71% 6.62% 7.74%	0.52% 0.68% 0.75% 0.56% 0.73% 0.84% 0.97% 0.93% 0.89% 0.68% 0.79%
3 AM - cut 0 AM - cut 10 AM - cut 11 AM - cut 12 PM - cut 12 PM - cut 12 PM - cut 15 PM - cut 15 PM - cut 15 PM - cut	33 24 23 21 27 14 15 30 30	12.79% 9.30% 8.91% 8.14% 10.47% 5.43% 5.81% 11.63%	0.06% 0.05% 0.04% 0.04% 0.05% 0.03% 0.03% 0.03% 0.06%	8 AM 9 AM 10 AM 11 AM 12 PM 1 PM 2 PM 3 PM 4 PM 5 PM 6 PM 7 PM	273 356 395 295 381 439 505 489 467 355 415	5.09% 6.64% 7.37% 5.50% 7.11% 8.19% 9.42% 9.12% 8.71% 6.62% 7.74% 6.70%	0.52% 0.68% 0.75% 0.56% 0.73% 0.84% 0.97% 0.93% 0.89% 0.68% 0.79%
8 AM - cut 0 AM - cut 1.1 AM - cut 1.2 PM - cut 1.9 PM - cut	33 24 23 21 27 14 15 30 30	12.79% 9.30% 8.91% 8.14% 10.47% 5.43% 5.81% 11.63%	0.06% 0.05% 0.04% 0.04% 0.05% 0.03% 0.03% 0.03% 0.06%	8 AM 9 AM 10 AM 11 AM 12 PM 1 PM 2 PM 3 PM 4 PM 5 PM 6 PM	273 356 395 295 381 439 505 489 467 355 415	5.09% 6.64% 7.37% 5.50% 7.11% 8.19% 9.42% 9.12% 8.71% 6.62% 7.74%	0.52% 0.68% 0.75% 0.56% 0.73% 0.84% 0.97% 0.93% 0.89% 0.68% 0.79%
AM - cut AM - cut OAM - cut 1 AM - cut 2 PM - cut	33 24 23 21 27 14 15 30 30	12.79% 9.30% 8.91% 8.14% 10.47% 5.43% 5.81% 11.63%	0.06% 0.05% 0.04% 0.04% 0.05% 0.03% 0.03% 0.03% 0.06%	8 AM 9 AM 10 AM 11 AM 12 PM 1 PM 2 PM 3 PM 4 PM 5 PM 6 PM 7 PM 8 PM	273 356 395 295 381 439 505 489 467 355 415 359	5.09% 6.64% 7.37% 5.50% 7.11% 8.19% 9.42% 9.12% 8.71% 6.62% 7.74% 6.70% 2.05%	0.52% 0.68% 0.75% 0.56% 0.73% 0.84% 0.97% 0.93% 0.89% 0.68% 0.79%