CENTERING EQUITY:
MDOT MTA Service Equity Framework

Fall 2022
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Dear Maryland Residents, Riders, and Advocates,

Historic inequities in transportation and transit investment have affected how people move in the United States. For many people in Maryland, transit is a critical connection to jobs, schools, grocery stores, doctor’s appointments, and all of life’s opportunities. The Maryland Department of Transportation Maryland Transit Administration (MDOT MTA) is committed to addressing long-standing systemic issues by providing equitable transportation for Marylanders of diverse races, ethnicities, languages, ages, genders, abilities, and incomes.

MDOT MTA operates a large transit system with multiple modes serving diverse populations across Maryland. We value all riders and recognize that each of our transit modes serves an important role for the mobility of Maryland residents. The COVID-19 pandemic demonstrated that the essential employees in our core service area who work to provide food, healthcare, and other critical goods and services count on our service to meet their transportation needs. Equity must always be a key consideration in how we propose and make changes to transit service in our core service area and across our system.

Title VI of the Civil Rights Act of 1964 requires every public transit agency to account for equitable distribution of resources by race, color, and national origin, but we are committed to going beyond these minimum requirements to achieve equity for all. To fulfill our role in addressing these societal challenges, we must act proactively and assertively, continuing to go above and beyond what is required by law.

The MDOT MTA Service Equity Framework (the Framework) centers equity in how we plan transit service across Maryland. Being equitable by creating an environment that promotes fair and just outcomes is one of MDOT MTA’s Core Values. As such, equity must guide when, where, and how we make changes to transit service. Our commitment to equity builds upon Connecting Our Future: A Regional Transit Plan for Central Maryland, which includes 30 strategies towards the objective to ‘Be Equitable,’ and our strategic plan, Rebuilding Better: Committed to an Equitable Transit Future.

This Service Equity Framework will help us continue to invest resources and improve access for those who need transit most. By regularly applying this Framework, riders, elected officials, advocates, and the public can see how our service planning decisions are centered on equity.

Sincerely,

Holly Arnold
MDOT MTA Administrator
The Service Equity Framework describes the tools MDOT MTA uses to center equity in service planning and best serve the transit needs of our riders. Within this document, you will find descriptions of the processes and analyses we use to ensure that we continue to invest resources to improve access, mobility, and the customer experience of those who need transit most. The Service Equity Framework helps us better understand the relative importance of each of our services to our Core Values and ensuring our service planning decisions are centered on equity.

Specifically, this document explains how we plan and make service changes that consider equity throughout the process of developing, evaluating, revising, and implementing service proposals. It also highlights our customer focused efforts to enhance our plans and track our progress through public engagement and feedback from riders and operators.

MDOT MTA CORE VALUES

- **Customer Focused** – We deliver a positive customer experience by listening and responding to the needs of others.
- **Safe** – We maintain and promote safety in our policies, procedures, and daily actions.
- **Respectful** – We demonstrate civility, kindness, and empathy in all our interactions.
- **Equitable** – We create an environment that promotes fair and just outcomes.
- **Continuously Improving** – We use our experience, talent, skill, and creativity to adopt smarter and more efficient ways to get the job done.

CHAPTER 1

**EQUITY ACROSS MODES:**
How do we ensure equity across all MDOT MTA modes?

CHAPTER 2

**EQUITY IN THE SERVICE CHANGE PROCESS:**
How is equity incorporated into the Service Change Process?

CHAPTER 3

**EQUITY IN SERVICE DECISIONS:**
How does equity factor into MDOT MTA’s service decisions?

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**SERVICE EQUITY ANALYSES FOR BUS MODES:**
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EQUITY ACROSS MODES

Chapter 1

1

Mode Market and Resources

All of MDOT MTA's transit routes operate together as a network, but each mode and route serves a unique travel market and provides specific transportation, community, equity, and environmental benefits. MDOT MTA's fixed-route transit modes span urban, suburban, and rural communities, fulfilling four important but different kinds of mobility services:

• **Frequent** service, which includes 18 Core Bus routes, in addition to Metro Subway and Light Rail, provides 15-minute-or-better service to make spontaneous show-up-and-go trips possible.

• **Coverage** service is provided by nearly 50 additional Core Bus routes: these routes provide neighborhood coverage and connections to frequent transit.

• **Job Connector** service on some Core Bus routes connects people to key employment centers across the region. LocalLink 63, LocalLink 75, and Express BusLink 163 are examples of job connector services.

• **Commuter** services include Commuter Bus and MARC Train, which offer an alternative to driving into Washington, D.C. or Baltimore from a vast area spanning fourteen counties in Maryland and two in West Virginia.

Transit Critical Matrix

MDOT MTA follows a service change process which varies in complexity and time frame for each of its modes (detailed further in Chapters 3 and 4). We have also created a new tool to help us evaluate service changes and prioritize funding across modes: the Transit Critical Matrix. This tool will be used to visualize the relative importance of each transit route within our system and our goal of providing equitable service based on data about our riders and the region, helping us measure how each route supports equity across all our modes. The matrix compares two attributes of a route — an Equity Index (horizontal axis) and a Ridership Index (vertical axis).

A route’s **Equity Index** is based on three main factors:

- **WHO RIDES THE ROUTE?**
- **WHO LIVES NEAR THE ROUTE?**
- **WHAT JOBS AND ACTIVITIES DOES THE ROUTE SERVE?**

A route’s **Ridership Index** is represented by the amount of ridership a route produces per revenue hour. Specifically, one hour of service on a bus or rail car is a typical way of measuring productivity for the transit industry. This index is a way to compare the amount of ridership a route generates to the resources it takes to operate it, using a unit that is somewhat comparable across all modes.

You will find more information about the methods used to calculate the Equity and Ridership Indices in the appendix, including information on data sources used and definitions of key terms.
The systemwide Transit Critical Matrix visualizes Equity and Ridership Index by mode, helping us understand the role of each mode in the region and respond to the dynamic needs of our riders. To balance the diverse needs of the system, our analysis often groups Statewide Services (Commuter Bus and MARC Train) and Core Services (Core Bus, Metro Subway, and Light Rail) to reflect our two service areas.

In the Transit Critical Matrix, you will notice:

- Core Services generally have the highest Equity Indices because they serve many minority and low-income riders in and around Baltimore. Metro Subway, Light Rail, and some Core Bus routes also have high Ridership Indices.
- Statewide Services generally have lower Equity Indices than Core Bus routes, Metro Subway, and Light Rail. Although MARC Train lines have higher Ridership Indices than Commuter Bus routes, both services provide important alternatives to driving into the region’s dense urban cores.

Below: Systemwide Transit Critical Matrix for Fall 2019. The color-coded regions represent generalized results for each of MDOT MTA’s modes: Core Bus (CityLink, LocalLink, and Express BusLink), Metro Subway, Light Rail, MARC Train, and Commuter Bus. MobilityLink is omitted from the matrix since it is not a fixed-route service and cannot be analyzed with the same metrics as fixed-route service. Note that Fall 2019 data was used due to the uncertainty and volatility of post-pandemic data at the time of this analysis. MDOT MTA will continue to evaluate and update this matrix with newer data as the region recovers from the COVID-19 pandemic.
This Framework is new and many of its components, such as the Transit Critical Matrix, will be updated as new data becomes available. MDOT MTA will also periodically evaluate this Framework to ensure that it continues to align with our Core Values and that it meets our goal of providing equitable service.

**Improving a Route or Mode’s Ridership and Equity Index Positions**

The Transit Critical Matrix helps MDOT MTA identify ways to improve the Equity and Ridership Indices for each route or mode and provide access to more opportunities for more of the region’s residents. The Transit Critical Matrix also helps us adapt our service to the region’s needs as the region grows and changes over time.

Some routes and modes may have inherently higher Ridership Indices because they serve more dense areas. Others may have higher Equity Indices because they serve more low-income or minority populations. Regardless of where their Ridership and Equity Indices may currently position these routes or modes on the Transit Critical Matrix, we can explore ways to improve a route such as:

- Adjusting the levels of service, such as frequency and hours of operation, to better match rider demand, employee shift times, or school schedules, to improve the route’s placement on the Ridership Index.

- Modifying a route’s alignment (street routing) to include more destinations or to increase the number of minority, low-income, or car-free individuals living within the route’s service area, to improve the route’s placement on the Equity Index.

- Adding off-peak service to a peak-only route to increase the attractiveness of the service in connecting residents to jobs that start or end outside of daytime work hours to improve the route’s position on the Equity Index.
MDOT MTA’S TITLE VI IMPLEMENTATION PROGRAM

MDOT MTA’s Title VI Implementation Program is a set of policies and procedures developed by MDOT MTA in accordance with Federal Transit Administration (FTA) guidance, and concurred upon by the FTA. The Program outlines how MDOT MTA complies with our obligations under Title VI of the Civil Rights Act of 1964 and Maryland State law and regulations to provide service in an equitable manner.

MDOT MTA updates our Title VI Implementation Program every three years. Members of the public are afforded opportunities to provide feedback about the policies and processes that help ensure our outreach, services, facilities, and fares are equitable.

The Title VI Implementation Program guides the policies and procedures at MDOT MTA, as shown in the diagram below and described further on the facing page. We follow additional procedures and practices beyond what the Title VI Implementation Program requires to ensure that equity is considered throughout agency decision-making.

WHAT DOES THE TITLE VI IMPLEMENTATION PROGRAM INCLUDE?

- **LANGUAGE ASSISTANCE PLAN**
- **PUBLIC PARTICIPATION PLAN**
- **SERVICE STANDARD AND PERFORMANCE MONITORING POLICIES**
- **SERVICE AND FARE CHANGE EVALUATION**
- **FACILITY LOCATION SELECTION ANALYSES**
The Title VI Implementation Program Includes:

A LANGUAGE ASSISTANCE PLAN

• Lay out the strategies we use to ensure meaningful access to our programs and activities for community members with Limited English Proficiency.

A PUBLIC PARTICIPATION PLAN

• Set standards for the timing, length, and methods used for public outreach surrounding service and fare changes, projects, programs, and other public participation opportunities around proposed plans and decisions.

• Outline policies for performing public outreach and hearings, as required under the Federal and State laws and Code of Maryland Regulations that govern our operations.

SERVICE STANDARDS AND PERFORMANCE MONITORING POLICIES

• Set Systemwide Service Standards and Policies for service availability, frequency of service, on-time performance, and crowding on transit vehicles.

• Guide the assignment of transit vehicles and the distribution of transit amenities such as bus shelters to ensure amenities are distributed equitably across the service area.

• Establish a process to collect and report demographic data about our service area and our riders to ensure that service is provided in an equitable manner.

• Set policies for monitoring our transit service to ensure that our performance for each metric is equitable for minorities and low-income individuals.

A SERVICE AND FARE CHANGE EVALUATION

• Define Major Service Change thresholds for each mode of service that determine when a change is large enough that a Service Equity Analysis must be performed (see Chapter 4 for more information on the Service Equity Analysis).

• Outline policies for conducting a Service Equity Analysis on proposed service or fare changes.

• Set Disparate Impact and Disproportionate Burden thresholds based on the percentage of low-income and minority residents in each mode’s service area, which we use in the Service Equity Analysis to determine whether a service change is equitable.

FACILITY LOCATION SELECTION ANALYSES

• Review where to place some facilities (such as bus garages) to ensure that benefits or burdens are distributed equitably.

The Title VI Implementation Program is an important component of how MDOT MTA incorporates equity throughout our service planning processes. You can find more detailed information about our Title VI Implementation Program (updated in May 2020 and revised in October 2021) by visiting www.mta.maryland.gov/title-vi-civil-rights-act-1964
MDOT MTA is committed to centering equity in every step of the service change process. Throughout each service change, we analyze data to understand where residents with the greatest transit needs live, how riders use the system, how well the existing system serves riders, and who might be affected by any proposed service changes. This section outlines the steps we take to uphold our commitment to providing equitable service when considering service changes.

**Service Change Process For Core Bus**

MDOT MTA regularly implements service changes to Core Bus service to ensure the complex system adapts to our passengers’ changing travel needs and provides the best possible service with the resources available. Core Bus service changes take place three times per year, in winter, summer, and fall. MDOT MTA typically implements the most significant changes to Core Bus service during the fall period to coincide with the return to school and minimize the number of times in the year that riders’ routines may be disrupted by significant service changes.

The process of preparing for the fall Core Bus service change typically starts a full year before changes are implemented. We evaluate existing route performance, conduct market analyses of unmet needs, develop proposals, and conduct preliminary equity evaluations before we present proposals to the public.

A market analysis of unmet needs (part of the existing conditions analysis outlined on the following pages) identifies significant demographic changes and new developments throughout the service area, then determines whether any of these market changes may be accommodated through service changes. For example, a neighborhood not currently served by transit may become a candidate for new transit service if it experiences an influx of residents with a high propensity to take transit. Similarly, a dense infill development in a previously low-density area may also be a candidate for new transit service.

After we receive public feedback, we create new schedules and perform a formal Service Equity Analysis utilizing the final scheduled revenue hours and miles before implementing the changes. Winter and summer Core Bus service changes are generally smaller in scope, which shortens the process to plan and implement them.

This service change process is shown graphically on the facing page and outlined in more detail on the following pages.
Chapter 2

WHAT IS THE SERVICE CHANGE PROCESS?

1. **EXISTING CONDITIONS ANALYSIS**
2. **DEVELOP PROPOSALS**
3. **EVALUATE PROPOSALS**
4. **ENGAGE ADVISORY GROUPS**
5. **ENGAGE THE PUBLIC**
6. **INCORPORATE FEEDBACK INTO FINAL RECOMMENDATIONS**
7. **PREPARE SCHEDULES AND INFORMATIONAL MATERIALS**
8. **SERVICE EQUITY ANALYSIS**
9. **IMPLEMENT PROPOSAL**
10. **MONITOR PERFORMANCE**
Chapter 2

1. EXISTING CONDITIONS ANALYSIS
   • Evaluate significant demographic changes or new developments that require changes in service to accommodate.
   • Examine the efficiency, reliability, safety, and customer service performance of existing routes.
   • Consider new service requests from passengers, operators, stakeholders, and advisory groups.

2. DEVELOP PROPOSALS
   • Draft route proposals to address issues identified in the previous step.

3. EVALUATE PROPOSALS
   • Analyze equity impacts as appropriate for each route proposal, such as travel time and access.
   • Perform preliminary equity evaluation to identify proposals that could conflict with Disparate Impact and Disproportionate Burden policies outlined in the Title VI Implementation Program. If a potential Disparate Impact or Disproportionate Burden is identified during the preliminary equity evaluation, the least discriminatory alternative will be identified and this information will be shared during the public engagement period.

4. ENGAGE ADVISORY GROUPS
   • Before presenting proposals to the public, solicit input from MDOT MTA’s advisory groups such as the Citizen’s Advisory Committee (CAC), Citizen’s Advisory Committee for Accessible Transportation (CACAT), MARC Rider Advisory Council (RAC), and stakeholders like Amalgamated Transit Union (ATU) Local 1300.

5. ENGAGE THE PUBLIC
   • Publish proposed changes and solicit feedback from the public, including riders, operators, residents, businesses, community organizations, and other stakeholders. Outreach methods may include print and web materials and in-person and virtual meetings, including public hearings.

6. INCORPORATE FEEDBACK INTO FINAL RECOMMENDATIONS
   • Use feedback from the public and advisory groups to revise and update proposed route changes.
   • Publish revisions and implementation timeline using the same outreach methods from the previous step.
7. PREPARE SCHEDULES AND INFORMATIONAL MATERIALS

- Start creating schedules, maps, rider notices at bus stops, and other dependencies that will support the revised proposed changes. (For example, if new street routing and stops are proposed, begin setting up the new bus stops and other supporting infrastructure.)

8. SERVICE EQUITY ANALYSIS

- Confirm that the final scheduled changes comply with MDOT MTA’s Disparate Impact and Disproportionate Burden policies outlined in the Title VI Implementation Program.

9. IMPLEMENT PROPOSAL

- Put the revised proposed changes into effect, along with any supporting infrastructure.

10. MONITOR PERFORMANCE

- After service changes are implemented, monitor the route(s) closely and make adjustments in future service changes as needed.

Service Change Process For Other Modes

Changes to Light Rail, Metro Subway, MARC Train, and Commuter Bus service are made on an as-needed basis rather than on a regular schedule like with Core Bus. MDOT MTA continually monitors many factors that may trigger the service change process for these modes including significant changes in ridership, on-time performance issues, service requests from the public or stakeholders, the need to conduct track work or other major repairs, and/or changes to resources, including availability of operators, equipment, and funding.

When MDOT MTA identifies the need for a service change, we examine potential alternatives and evaluate their benefits, costs, and impacts to riders. This evaluation includes an analysis of who is impacted by the potential changes, with a focus on minority and low-income populations.

If changes are considered major according to MDOT MTA’s Title VI Program policies, service change proposals are created and vetted through public hearing processes and advisory committees, such as the MARC Rider Advisory Council (RAC). For Commuter Bus and MARC Train service changes, additional input may also be sought from local jurisdictions where the service is proposed to be reduced, added, or changed. As with Core Bus, a final Service Equity Analysis is conducted before implementation to ensure low-income and minorities are not disproportionately impacted or burdened by service reductions, or that they proportionally benefit when service is added as well.
Chapter 3

EQUITY IN SERVICE DECISIONS

MDOT MTA engages stakeholders and the public ahead of and throughout the service change process and performs analyses to identify equity-related concerns in the region. This section describes the analyses that we perform to ensure service change proposals address the area’s most significant transit needs in an equitable manner. The examples here are based on the process for Core Bus service changes, which is the most complex service in the MDOT MTA system and subject to the most frequent changes as we continually adapt service to better serve changing travel patterns and shifting rider demand.

Market Analysis

The purpose of the market analysis is to identify areas in the MDOT MTA service area that might be underserved by transit, now or in the future. We analyze factors including:

- Where do low-income, minority, and residents without cars in the service area live?
- Where do riders need or want to travel?
- Are areas of high transit demand adequately served by existing transit throughout the day and week?
- Where have major trip destinations such as large employers or schools opened, expanded, or relocated?
- What areas have local government partners designated for future growth?

New Service Requests

MDOT MTA engages with stakeholders about existing and requested service throughout the year. As part of the service change process, we review any feedback we receive from the public and from our transit operators while also engaging elected officials and community members to learn how our services could achieve more equitable access to key destinations. In recent years this community collaboration has led to increased resident access to health, education, and employment including:

- Increased service to Greater Baltimore Medical Center (GBMC) and Sheppard Pratt Hospital.
- Additional service to Baltimore City Public Schools.
- New service to Tradepoint Atlantic, a port and logistics center.
- Extended service to the North Frederick Park and Ride to serve new housing developments.

MDOT MTA continues to look for new opportunities to improve our transit system as a means of achieving greater equity in health, education, employment, and economic development.
Chapter 3

Route and Line Evaluations

In addition to MDOT MTA’s regular performance monitoring efforts, we take a route-by-route or a line-by-line look at the system with every service change to assess which routes/lines are performing well and which ones may benefit from changes to geographic alignments (street routing) or levels of service (frequency and hours of service). Using a diverse array of analysis methods, including the Transit Critical Matrix, we are able to evaluate the relative performance and impact of each route/line within the context of the larger system they operate within. Questions we ask include:

• How does the route/line compare to other routes/lines on the Transit Critical Matrix for its service type? When analyzing a route, we look at its position on the Transit Critical Matrix among routes of its service type. This is based on its overall ridership compared to the number of minority, low-income, people with disabilities, or people without access to a vehicle riding the bus or living near the service area, and the number of jobs in certain transit-oriented industries. See the appendix for more information about the Transit Critical Matrix.

• How does the route/line perform in terms of ridership, reliability, overcrowding, and customer satisfaction? The quality of a passenger’s experience is also an equity consideration. MDOT MTA continuously monitors routes/lines for their on-time performance, passenger loads, and customer satisfaction to identify and address issues through schedule or level of service adjustments. Routes/lines with consistent poor performance are flagged for potential significant service changes, while routes/lines with moderate reliability issues may receive minor adjustments.

Initial Route/Line Proposals

MDOT MTA uses the results of the market analysis, route/line evaluations, and any new service requests to develop an initial set of recommendations that are evaluated internally for resource requirements and their potential impact to existing riders.

During this brainstorming phase, we pay particular attention to addressing issues on existing services affecting low-income and minority riders, persons with disabilities, and riders without access to a vehicle. We also identify options to extend service to improve access to jobs and services for underserved communities.

For example, we may propose to increase service on a route with persistent overcrowding issues identified during route evaluations or realign a route to serve an emerging job or population center identified in the market analysis.
Chapter 3

RIDERSHIP INDEX:
Passengers Per Vehicle Revenue Hour in Fall 2019

EQUITY INDEX:
Rider Demographics + Residents With Access + Access to Destinations

FALL 2019 TRANSIT CRITICAL MATRIX, CORE MDOT MTA ROUTES
Core MDOT MTA routes include Metro Subway, Light Rail, CityLink, LocalLink, and Express BusLink service.

FALL 2019 TRANSIT CRITICAL MATRIX, STATEWIDE MDOT MTA ROUTES
Statewide MDOT MTA routes include MARC Train and Commuter Bus service.

1. Note that Fall 2019 data was used for both matrices shown here due to the uncertainty and volatility of post-pandemic data. MDOT MTA will continue to evaluate and update these matrices with newer data as the region recovers from the COVID-19 pandemic.
2. The position of a route on the Core matrix cannot be directly compared to the place of a route on the Statewide matrix, as the scales of axes in each graph are not identical. The placement of a route within its respective matrix is relative to the services within that specific matrix only.
Evaluating Route/Line Proposals

MDOT MTA analyzes the potential effects of service changes on system equity using a few methods during this stage of the service change process. Service changes are analyzed at the bus stop or station level to understand whether access across the system as a whole is reduced or increased. Some types of analysis that we may use to assess how well a proposal meets its goals include:

- **ACCESS ANALYSIS:** How does the proposal affect access to jobs and activities for transit-oriented populations?
  MDOT MTA measures access to jobs and activities (such as retail districts or medical facilities) based on the total number of jobs and the number of jobs in transit-oriented sectors accessible by transit within 30/45/60 minutes, especially from neighborhoods of high transit need identified in the market analysis and in plans by other local government organizations. We also consider access to essential services such as grocery stores and medical facilities when evaluating proposals.

- **TRAVEL TIME ANALYSIS:** How does the proposal affect travel times for riders?
  For proposals where travel time between origins and destinations might be impacted, MDOT MTA measures the potential travel time impacts for affected riders. Will a proposed change shorten or lengthen transit trips for riders, particularly for riders in areas of high transit need?

- **PRELIMINARY SERVICE EQUITY EVALUATION:** Are the benefits or burdens of a proposal shared equitably?
  Before advancing any proposals for public review, MDOT MTA performs a preliminary service equity evaluation using a model of the proposed system to determine whether the changes are likely to comply with the requirements of MDOT MTA's Title VI Implementation Program. See Chapter 1 for more information on MDOT MTA's Title VI Implementation Program.

  The preliminary service equity evaluation checks that proposed decreases would not disproportionately burden communities with a significantly higher proportion of minority or low-income residents than the mode's service area as a whole, and also verifies that proposed service increases would not disproportionately benefit communities with a significantly higher proportion of non-minority and non-low-income residents than the mode's service area as a whole.
The Service Equity Analysis is the process MDOT MTA uses to evaluate whether a Major Service Change disproportionately burdens minority and low-income riders or disproportionately benefits non-minority and non-low-income riders, in accordance with the policies outlined in our Title VI Implementation Program. The Service Equity Analysis is performed once proposals are finalized and changes have been fully scheduled to ensure that the service as scheduled complies with MDOT MTA Title VI policies and applicable Federal and State laws. See Chapter 1 for more information on MDOT MTA's Title VI Implementation Program.

The Service Equity Analysis is the final equity analysis performed to ensure that service changes comply with relevant agency and Federal policies. However, prior to presenting the public with any proposals for bus service changes, we also conduct a preliminary service equity evaluation that uses a model of the bus system to check that proposed changes would comply with our Title VI service change policies and would likely not be identified as inequitable by the Service Equity Analysis.

**The Service Equity Analysis Process**

The Service Equity Analysis tests whether the demographics of areas affected by a Major Service Change are significantly different from the demographics of the mode's service area as a whole. Service changes are analyzed based on the total number of trips serving each bus stop in a day. Evaluating changes in aggregate for each stop rather than evaluating route-by-route allows us to consider whether service reductions to a route serving a stop are offset by service increases to another route serving the same stop.

If the percentage of low-income or minority residents in the areas affected by a service change are significantly different from the mode's entire service area, the change is considered to present a potential Disparate Impact or potential Disproportionate Burden. According to FTA guidelines and our Title VI Implementation Plan, we can only implement a change that presents a Disparate Impact if (1) we have a substantial legitimate justification, such as correcting a safety issue; (2) we have examined alternatives to the proposed change to bus services; (3) the proposed change is the least discriminatory alternative; and (4) we have considered public input regarding alternatives.

You will find more details on our Service Equity Analysis methodology in the appendix. You can find detailed information about Major Service Change policies for MDOT MTA's other modes in our Title VI Implementation Program (updated in May 2020 and revised in October 2021 with modified and additional Major Service Change policies) by visiting [www.mta.maryland.gov/title-vi-civil-rights-act-1964](http://www.mta.maryland.gov/title-vi-civil-rights-act-1964)
What is a Major Service Change For Core Bus?

MDOT MTA’s Title VI Implementation Program defines thresholds at which service changes are considered Major Service Changes based on service characteristics. For Core Bus service changes, the thresholds include:

- Change to the span of service on a route by ninety (90) minutes or more on a given service day.
- Alteration of a route’s revenue miles or revenue hours on a given service day by twenty-five percent (25%) or more, including establishment or abandonment of a route.
- Addition or removal of at least fifteen percent (15%) of a route’s bus stops on a given service day.

Additionally, MDOT MTA looks at cumulative changes: if the alteration of at least fifteen percent (15%) of total Core Bus system revenue miles or revenue hours occur in a given service change, then the entire system is evaluated with a Service Equity Analysis. If a single route’s revenue miles or revenue hours are altered on a given service day by a cumulative twenty-five percent (25%) or more over one service year, then the route is flagged for a Service Equity Analysis.

If any proposed changes to a route exceed the Major Service Change thresholds for any service characteristic, MDOT MTA must perform a Service Equity Analysis to ensure that benefits or burdens are distributed equitably.

What is a Major Service Change For Commuter Bus?

Similar to Core Bus, MDOT MTA’s Title VI Implementation Program defines thresholds for which service changes for a Commuter Bus route are considered Major Service Changes based on the following criteria:

- Alteration of a route’s revenue miles or revenue hours on a given service day by twenty-five percent (25%) or more, including establishment or abandonment of a route.
- Change to the span of service on a route by ninety (90) minutes or more on a given service day.
- Elimination of service to a stop, unless there is another stop within three miles of its location.
- Establishment of a new stop.
- Cumulative alteration of at least fifteen percent (15%) of total Commuter Bus system revenue miles or revenue hours in a given service change.
Chapter 4

HOW IS A ROUTE PROPOSAL DEVELOPED?

1. EXISTING CONDITIONS ANALYSIS
   - MARKET ANALYSIS
   - EXISTING ROUTE EVALUATIONS
   - PUBLIC/OPERATOR FEEDBACK AND NEW SERVICE

2. DEVELOP PROPOSALS
   - INITIAL ROUTE PROPOSALS
   - INTERNAL REVIEW
   - SELECTION OF PROPOSALS FOR PUBLIC FEEDBACK

3. EVALUATE PROPOSALS
   - HIGH-LEVEL METRICS ANALYSIS
   - ANALYZE EQUITY IMPACTS
   - PRELIMINARY EQUITY EVALUATION
Chapter 4

WHAT IS TESTED IN A SERVICE EQUITY ANALYSIS?

SCENARIO 1
Level of service adjustments are proposed for two existing routes: Routes A and B.

ROUTE A
Proposed increase in frequency and span

ROUTE B
Proposed decrease in frequency and span

PASSES EQUITY ANALYSIS
Population affected by Route A’s increased service has a larger proportion of minorities than the whole system. Population affected by Route B’s reduced service has a smaller proportion of minorities than the whole system.

Proposal can proceed to Step 4 (Engage Advisory Groups)

SCENARIO 2
Route A is an existing route proposed for a service reduction. A new Route B would serve a new area.

ROUTE A
Proposed decrease in frequency and span

ROUTE B
Proposed new route in new area

FAILS EQUITY ANALYSIS
Population affected by Route A’s reduced service has a larger proportion of minorities than the whole system. Population affected by Route B’s new service has a smaller proportion of minorities than the whole system.

Proposal cannot proceed without substantial legitimate justification

“Minority” is defined as all residents not identifying as non-Hispanic/Latino white in ACS data.
MDOT MTA’s public outreach is guided by the Public Participation Plan for our Title VI Implementation Program. For each project or proposal, we:

• Identify affected populations and their racial, ethnic, income, and language characteristics. Identifying affected populations guides our strategies to ensure effective, accessible, and equitable outreach, which influences the format and content of outreach materials, the times of day and locations for meetings and workshops, and other outreach considerations.

• Solicit input from advisory groups such as the Citizen’s Advisory Committee (CAC), Citizen’s Advisory Committee for Accessible Transportation (CACAT), MARC Rider Advisory Council (RAC), and stakeholders such as ATU Local 1300 prior to public outreach.

• Engage with community-based organizations that represent or serve the affected populations described above to help extend our reach beyond what we can do with our own staff.

• Develop materials that are clear and easy to understand and available in languages other than English in cases where Limited English Proficiency (LEP) populations are impacted by the project or proposal.

• Gather input from a variety of methods including public hearings, open house events, pop-up events at transit hubs, community events, civic organization meetings, online and mail surveys, social media, and more.

We also follow specific timelines for gathering input via public hearings in accordance with Maryland law, as described in the appendix.

**How Does MDOT MTA Incorporate Public Feedback?**

As feedback is collected from the public, riders, operators, elected officials, and other stakeholders, we compile it in a unified database for qualitative and quantitative analysis. In cases where multiple options are presented to the public, the proposals receiving the most positive feedback are selected as the preferred alternatives for implementation. During this phase, we often receive other important feedback about the location of bus stops, connections to other services, or hours of service that are incorporated into the final service changes whenever possible.

**How Are Final Proposals Evaluated?**

Once proposals are finalized, we create detailed schedules to best incorporate proposed changes into the existing system. We finalize our Service Equity Analysis at this stage using actual service schedules to ensure that the service we plan to put into operation meets the requirements of our Title VI Implementation Program. We review the revenue hours and miles for each route and across the whole system, comparing the proposed service to the previous schedule and previous year to ensure our changes are equitable according to our Title VI program. See Chapter 4 and the appendix for more information on the Service Equity Analysis methodology.
Chapter 5

WHAT IS THE PUBLIC OUTREACH PROCESS?

GENERAL PRINTED NOTICES: Car cards • Rider notices • Flyers, posters, banners
POSTCARDS AND LETTERS: Geared to those not accustomed to digital materials
OFFICIAL SCHEDULES AND MAPS: Printed schedules and system/route maps

MDOT MTA WEBSITE AND E-ALERTS: mta.maryland.gov/servicechanges
SOCIAL MEDIA: Facebook • Twitter • Instagram • YouTube • Other platforms
MOBILE APPS: Transit App notices • CharmPass notices • Google Maps notices

RADIO: WTTZ 93.5 FM, which broadcasts transit, traffic, and BWI flight updates
TELEVISION: Notices and alerts sent to local television news stations
NEWSPAPERS: Notices and alerts sent to the Baltimore Sun and other newspapers

STATIC VISUAL DISPLAYS: Posters, banners, and signs (“sandwich boards”)
DIGITAL VISUAL DISPLAYS: LED and LCD screen displays (including on vehicles)
AUDIO ANNOUNCEMENTS: Loudspeaker announcements (including on vehicles)

ELECTED OFFICIALS: Federal, state, and local elected officials
ADVISORY COMMITTEES: ATU Local 1300 • CAC • CACAT • RAC
CIVIC AND NEIGHBORHOOD ORGANIZATIONS: Community associations

AT STATIONS/STOPS: Transit ambassadors at bus stops and rail stations
ON VEHICLES: Transit ambassadors on buses and trains
AT FESTIVALS AND EVENTS: Information booths at fairs, festivals, and other events

POP-UPS: Informal engagements where participants interact one-on-one with staff
OPEN HOUSES AND WORKSHOPS: Semiformal meetings with presentations
PUBLIC HEARINGS: Formal meetings where participants submit recorded testimony
Tracking Our Progress

MDOT MTA continues to monitor service changes after implementation to ensure they meet service standards. We track elements of service including:

- **Bi-weekly, monthly, and quarterly performance monitoring** of routes based on ridership, on-time performance, overcrowding, and customer service. Routes that consistently perform below expectations are flagged for potential service review at the next regular service change period.

- **The Transit Critical Matrix**, a new element in our process, will be updated after each service change so we can understand a route’s Equity and Ridership Indices using the most recent available data.

- **Reassessing and refining service on an ongoing basis** based on route performance and public feedback. New or modified routes often require adjustments in schedules or level of service to ensure service meets demand and can reliably operate on schedule, and they are adjusted as soon as possible. Minor adjustments to schedules to correct run times can be implemented during seasonal service change intervals, while significant changes require us to follow the complete Service Change Process as outlined in our Title VI Implementation Program (and described in this document).

Performance Improvement Dashboard

MDOT MTA publishes two key performance indicators that directly relate to how well we are delivering efficient and reliable transit service: ridership and on-time performance. At the website below, the public has access to the same data that MDOT MTA utilizes when developing schedules, planning routes, and monitoring service:

www.mta.maryland.gov/performance-improvement.

Regional Transit Plan Implementation

*Connecting Our Future: A Regional Transit Plan for Central Maryland* identifies measures and corresponding five-year and 20-year targets for each of its objectives. MDOT MTA evaluates service annually according to equity-focused metrics, such as the number of low-income residents, minority residents, and zero-car households with access to frequent transit, the number of bus shelters in low-income areas, and the percent of ADA accessible stops and stations. Baselines and targets can be viewed at the website below, which will be updated as we continue to track our progress:

This section demonstrates MDOT MTA's Service Change Process in action, through changes to LocalLink 63 and the introduction of Express BusLink 163 in Fall 2021.

The process described below is also shown in the diagram on the facing page:

- **Market Analysis:** Market analysis in advance of MDOT MTA's Fall 2021 Service Change for Core Bus service identified Tradepoint Atlantic (a port and logistics center) as an area of rapid employment growth, with employment growth expected to continue as more businesses added jobs.

- **Existing Route Evaluations:** LocalLink 63 retained more of its ridership during the pandemic than any other MDOT MTA route, due to the high concentration of essential supply chain sector employment at Tradepoint Atlantic and the site’s continued expansion.

- **New Service Requests:** Through outreach to passengers and local stakeholders, MDOT MTA received requests for improved connections to jobs at Tradepoint Atlantic, particularly for reduced travel times from West Baltimore and new connections to Northeast Baltimore.

- **Route Proposals:** MDOT MTA identified opportunities to improve connections to Tradepoint Atlantic by extending LocalLink 63 to Northeast Baltimore to open new transfer connections, and to reduce travel times from Downtown and West Baltimore by providing a more direct Express BusLink option.

- **Proposal Evaluation and Initial Equity Evaluation:** In evaluating the proposal to realign LocalLink 63 and introduce Express BusLink 163, MDOT MTA found that the proposal had the potential to significantly increase the number of low-income and minority residents within walking distance of a one-seat ride to Tradepoint Atlantic. The proposal also had the potential to reduce average travel times from key neighborhoods in West Baltimore to Tradepoint Atlantic by as much as 19 minutes in one direction. Before presenting options for the proposal to the public, MDOT MTA determined that the benefits or burdens of the change were distributed equitably by performing an initial service equity evaluation.

- **Public Outreach:** MDOT MTA presented to the public three routing options for connecting LocalLink 63 to Northeast Baltimore, and two routing options for Express BusLink 163 to travel between Downtown and Tradepoint Atlantic following the process outlined in Chapter 4. The options that received the most positive feedback from the public were selected as the preferred routes for each.

- **Final Recommendations and Evaluation:** Once service for the routes (based on the public’s preferred options) was fully scheduled, but before service was implemented, MDOT MTA performed a final Service Equity Analysis to ensure that changes would comply with MDOT MTA's Title VI Implementation Program. The new and modified routes were and continue to be monitored for ridership, on-time performance, and overcrowding to evaluate whether the scheduled service meets our service and performance standards.
EXISTING CONDITIONS ANALYSIS
More service was requested to Tradepoint Atlantic, which was also identified as a growing job center.

DEVELOP PROPOSALS
Developed ideas to extend LocalLink 63 to Northeast Baltimore and to create Express BusLink 163 to West Baltimore.

EVALUATE PROPOSALS
Analysis showed an increase in the number of minority and low-income riders with a faster ride to Tradepoint Atlantic.

ENGAGE ADVISORY GROUPS
Both routes were presented to ATU Local 1300, CAC, and CACAT for feedback, which was used to refine routing options.

ENGAGE THE PUBLIC
Several routing options for LocalLink 63 and Express BusLink 163 were presented to the public for feedback.

INCORPORATE FEEDBACK INTO FINAL RECOMMENDATIONS
The routing options with the most public support were selected as the preferred versions to implement.

PREPARE SCHEDULES AND INFORMATIONAL MATERIALS
Schedules, maps, booklets, and other informational materials describing the preferred versions were published.

SERVICE EQUITY ANALYSIS
Following the initial evaluation in Step 3, a formal analysis determined no populations were inequitably impacted.

IMPLEMENT PROPOSAL
The changes to LocalLink 63 and the new Express BusLink 163 went into effect on August 29, 2021.

MONITOR PERFORMANCE
After implementation, MDOT MTA monitors ridership, crowding and reliability of the new Express BusLink 163.
Ongoing Updates

This Equity Framework is new and many of its components, like the Transit Critical Matrix, will be updated as new data becomes available, such as language and disability status of riders. MDOT MTA will also periodically evaluate this Framework to ensure that it continues to achieve our goal of centering equity, and your feedback is critical in the evaluation process.

How Can I Provide Feedback On This Framework?

We encourage readers to provide feedback and/or questions regarding this Framework. Please reach out via the methods below:

SUBMIT COMMENTS ONLINE AT:
mta.maryland.gov/equityframework

EMAIL COMMENTS TO:
EquityFramework@mdot.maryland.gov

MAIL COMMENTS TO:
MDOT MTA Office of Planning
6 St. Paul Street, Suite 902
Baltimore, MD 21202

For print copies of this document, or to request this document in an alternate format or translated into another language, please contact the department listed below:

Para imprimir copias de este documento, o para solicitar este documento en un formato alternativo o traducido a otro idioma, por favor contacte el departamento enlistado abajo:

MDOT MTA TRANSIT INFORMATION CONTACT CENTER:
410-539-5000 or 866-743-3682
TTY 410-539-3497 (Maryland Relay Users Dial 7-1-1)
Appendix

Transit Critical Matrix

SERVICE AREA

A route’s service area is defined as all census block groups within a certain distance of a stop served by the route pattern, excluding water areas. The location of stops on all routes is calculated from MDOT MTA’s most recent available general transit feed specification (GTFS) feed. Stops location data from Fall 2019 was used for the analysis presented in this document in lieu of more recent feeds to avoid any effects from the COVID-19 pandemic’s impact on service.

Service areas vary based on the type of service (as shown on the right) because each type of service MDOT MTA operates attracts riders from slightly different areas around the stop or station:

- Riders on Metro Subway, Light Rail, and Core Bus services (CityLink, LocalLink, and Express BusLink buses) tend to live close to stops and get to the first stop of a journey by walking, bicycling, or use of another mobility device, so effective service areas are smaller.
- Riders tend to access commuter services such as MARC Train and Commuter Bus by car or local feeder transit service because commuter services are largely oriented toward park and ride facilities.

Calculating Riders with Access and Access to Destinations based on density per square mile allows us to compare service areas of different sizes.

Calculating indices by route pattern allows us to account for how much service is provided to each part of a route. For example, on a route with a trunk and branches, such as LocalLink 54, all of the buses serve the trunk portion, but only part of the service serves either branch. The number of trips on each route pattern is calculated from the most recent available GTFS feed, though MDOT MTA’s Fall 2019 GTFS feed was used for the analysis presented in this document due to the uncertainty and volatility of post-pandemic data. MDOT MTA will continue to evaluate and update this matrix with newer data as the region recovers from the COVID-19 pandemic.

A route’s final index is the average of all patterns on the route, weighted by the number of trips in a typical service week.

EQUITY INDEX

A route’s Equity Index is based on who uses a route and what people and jobs it serves. Equity Index is calculated by adding each route’s Rider Demographics, Residents with Access, and Access to Destinations indices together. If calculating a Rider Demographics index for a route is impossible due to missing Origin-Destination Survey data, the route’s Residents with Access and Access to Destinations indices will be multiplied by one and a half times to account for the missing data.

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1 Service areas used for the Transit Critical Matrix vary in some cases compared to the service area definition used in the Title VI program. MDOT MTA uses multiple tools throughout the service change process to incorporate equity considerations at every stage of the process. The service area definitions used here are meant to reflect typical industry-accepted access distances depending on the mode.
**EQUITY INDEX: RIDER DEMOGRAPHICS**

The Rider Demographics index is based on the percentage of riders on a route that identify as low-income, minority, and/or without access to a vehicle, based on responses from the most recent MDOT MTA Origin-Destination Surveys, collected from 2016 to 2018. This index may be updated as new data becomes available through the next Origin-Destination Survey.

- **Low-income riders** are defined as all riders who identify as living in a household with an annual income of less than $50,000, the nearest break point to the low-income threshold of $45,000 used for MDOT MTA's Title VI Implementation Program.
- **Minority riders** are considered all riders who identified as any race other than white in survey responses.
- **Riders without access to a vehicle** are defined as riders who reported not having access to a private vehicle as an alternative to making the transit trip they were surveyed on.

The final Rider Index is the average percentage of riders identifying in each of the three demographic categories in survey responses.

**EQUITY INDEX: RESIDENTS WITH ACCESS**

The Residents with Access index describes who lives near a route. This index rates routes (relative to other routes in the system) according to the demographics of residents living near the routes. Indices are based on the density of residents qualifying as low-income, minority, without access to a private vehicle, and/or with disabilities within a route’s service area.

Data for this analysis comes from American Community Survey (ACS) 5-Year Estimates for 2014 through 2018, the most recent demographic data available at the time of this analysis.

- **Low-income residents** are defined as residents living in a household with an income less than 185 percent of the Federal poverty line, the nearest available break point to the low-income threshold of $45,000 used for MDOT MTA's Title VI Program available in ACS data.
- **Minority residents** are defined for the purposes of this analysis as all residents not identifying as non-Hispanic/Latino white in ACS data.
- **Residents without access to a vehicle** was used in lieu of the Census' data on zero-vehicle households, since the latter is not available at the geographic level needed for this analysis. Residents without access to a vehicle were calculated by finding the percentage of households in each census block group without access to a vehicle and multiplying that number by the total population of the block group.
- **Residents with disabilities** are defined as all residents reporting a disability of any type in ACS data.

The Residents with Access index for each route is based on the total density per square mile of residents in each of these four demographic categories within the route’s service area. The final index is produced by normalizing the total density of populations within the identified demographic groups from 0 to 100. Indices are normalized to the 99th percentile density value to reduce the influence of the most extreme outliers in the data set.

**EQUITY INDEX: ACCESS TO DESTINATIONS**

The Access to Destinations index describes the destinations that a route provides access to. This index rates routes (relative to other routes in the system) based on the types of destinations within its service area, using jobs in certain sectors as a proxy for transit-oriented jobs, services, and destinations.
Data for this analysis comes from Longitudinal Household-Employer Dynamics data for 2018, released by the US Census Bureau, the most recent geographic data on the location of jobs available at the time of this analysis. MDOT MTA may add, change, or update data sources used in the methodology as they become available or more reliable. Job sectors used to represent transit-oriented destinations in this analysis and associated NAICS Codes are shown below:

<table>
<thead>
<tr>
<th>INDUSTRY</th>
<th>NAICS CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retail Trade</td>
<td>44, 45</td>
</tr>
<tr>
<td>Transportation and Warehousing</td>
<td>48, 49</td>
</tr>
<tr>
<td>Educational Services</td>
<td>61</td>
</tr>
<tr>
<td>Heath Care and Social Assistance</td>
<td>62</td>
</tr>
<tr>
<td>Arts, Entertainment, and Recreation</td>
<td>71</td>
</tr>
<tr>
<td>Accommodation and Food Services</td>
<td>72</td>
</tr>
</tbody>
</table>

The Access to Destinations index for each route is based on the total density per square mile of jobs in each of these categories within the route's service area. The final index is produced by normalizing the total density of transit-oriented jobs to an index from 0 to 100. Indices are normalized to the 99th percentile density value to reduce the influence of the most extreme outliers.

RIDERSHIP INDEX

A route’s Ridership Index represents the number of riders the route receives for one unit of service, in this case one hour on one bus or rail car. The Ridership Index is calculated as the average number of passengers per vehicle revenue hour for Fall 2019. Adjusting ridership based on the amount of service provided allows for comparisons between different modes at a roughly equivalent unit that costs similar amounts to operate — one bus or one rail car.

RIDERSHIP

Ridership by route for Core Bus (CityLink, LocalLink, and Express BusLink), Commuter Bus, and MARC Train comes from data collected by MDOT MTA’s Office of Performance Management during Fall 2019. Ridership by route for Metro Subway and Light Rail are based on ridership reported to the National Transit Database by MDOT MTA for 2019.

Ridership data sources include automatic passenger counter (APC) boarding data for Core Bus, exit turnstile records for Metro Subway, traffic checker samples for Light Rail, and operator counts for Commuter Bus and MARC Train.

VEHICLE REVENUE HOURS

A Vehicle Revenue Hour is one hour in which a transit vehicle — either one bus or one rail car — was in service to pick up passengers. Rail cars operating as part of a train but closed to passengers, as well as buses “deadheading” to reach starting points without picking up passengers, are considered to be not in service.

- Metro Subway, Light Rail, and MARC Train Vehicle Revenue Hours are calculated using data for 2019 reported by MDOT MTA to the National Transit Database.
- MARC Train Vehicle Revenue Hours for individual MARC Train lines were calculated from total MARC Train Vehicle Revenue Hours based on the average train length by service day for each MARC Train line.
- Core Bus and Commuter Bus Vehicle Revenue Hours are based on scheduled revenue hours for Fall 2019, as calculated by MDOT MTA’s Office of Performance Management using Trapeze scheduling software.
SYSTEM AVERAGES

Routes are assigned to quadrants on the Transit Critical Matrix by comparing their position on the Equity Index and Ridership Index to system averages:

- Routes that are above average on the Equity Index fall into Quadrants 1 and 2.
- Routes that are below average on the Ridership Index fall into Quadrants 1 and 3.
- Routes that are below average on the Equity Index and the Ridership Index fall into Quadrant 4.

System averages for Equity and Ridership Indices on the Transit Critical Matrix are calculated as the arithmetic mean of all routes shown on the matrix. System averages are not weighted based on the amount of service provided on the route.

For the systemwide Transit Critical Matrix in Chapter 1, system averages are based on Equity and Ridership Indices for all routes in the MDOT MTA system.

For the route-specific Transit Critical Matrix in Chapter 3, system averages are based on Equity and Ridership Indices for core routes only, including Core Bus (CityLink, LocalLink, and Express BusLink), Metro Subway, and Light Rail.

Service Equity Analysis

The Service Equity Analysis is the process MDOT MTA uses to evaluate whether a Major Service Change disproportionately burdens minority and low-income riders or disproportionately benefits non-minority and non-low-income riders, in accordance with the policies outlined in our Title VI Implementation Program.

We update the preliminary equity evaluation with final numbers once proposals are finalized and changes have been fully scheduled, to ensure that the service as scheduled complies with MTA Title VI policies and applicable Federal and State laws through the formal Service Equity Analysis process (as defined in our Title VI Implementation Program).

The sections on the following pages provide a more detailed look at the policies governing our Service Equity Analysis method. You can visit our Title VI Implementation Program website to learn more about the program: www.mta.maryland.gov/title-vi-civil-rights-act-1964

MAJOR SERVICE CHANGE

A Major Service Change is any change that exceeds MDOT MTA’s thresholds as defined in the Title VI Implementation Program. These policies, detailed on the following page, describe what constitutes a major change.

These standards are applied in the Service Equity Analysis method, as described in the following sections. For the Core Bus Service Equity Analysis, Major Service Change thresholds are applied at both the route level and stop level at different points in the process.

Changes implemented as a Demonstration Route to test new service concepts in practice for a period of less than one year are exempt from the Major Service Change policy and do not require a Service Equity Analysis, in accordance with FTA regulations. Demonstration Routes are still subject to Code of Maryland Regulations (COMAR) that govern when to perform public hearings.

Major Service Change thresholds vary for each mode of service MDOT MTA operates to reflect the different roles each mode fills in the regional transit network. Major Service Change thresholds for each mode are shown in the table on the next page:
## Major Service Change Policy

### Core Bus
- Alteration of a route’s revenue miles or revenue hours on a given service day by twenty-five percent (25.00%) or more, including establishment or abandonment of a route.
- Alteration of a route’s revenue miles or revenue hours on a given service day by a cumulative twenty-five percent (25.00%) or more over one service year.
- Change to the span of service on a route by ninety (90) minutes or more on a given service day.
- Addition or removal of at least fifteen percent (15.00%) of a route’s bus stops on a given service day.
- Cumulative alteration of at least fifteen percent (15.00%) of total Core Bus system revenue miles or revenue hours in a given service change.

### Metro Subway
- Alteration of a line’s revenue miles or revenue hours on a given service day by twenty-five percent (25.00%) or more, including establishment or abandonment of a line.
- Change to the span of service on a line by ninety (90) minutes or more on a given service day.
- Change to the number of stops at a station on a given service day by twenty-five percent (25.00%) or more.
- Establishment or abandonment of a station.

### Light Rail
- Alteration of a line’s revenue miles or revenue hours on a given service day by twenty-five percent (25.00%) or more, including establishment or abandonment of a line.
- Change to the span of service on a line by ninety (90) minutes or more on a given service day.
- Change to the number of stops at a station on a given service day by twenty-five percent (25.00%) or more.
- Establishment or abandonment of a station.

### MARC Train
- Alteration of a line’s revenue miles or revenue hours on a given service day by twenty-five percent (25.00%) or more, including establishment or abandonment of a line.
- Change to the span of service on a line by ninety (90) minutes or more on a given service day.
- Change to the number of stops at a station on a given service day by twenty-five percent (25.00%) or more.
- Establishment or abandonment of a station.
- Cumulative alteration of at least fifteen percent (15.00%) of total MARC system revenue miles or revenue hours in a given service change.

### Commuter Bus
- Alteration of a route’s revenue miles or revenue hours on a given service day by twenty-five percent (25.00%) or more, including establishment or abandonment of a route.
- Change to the span of service on a route by ninety (90) minutes or more on a given service day.
- Elimination of service to a stop, unless there is another stop within three miles of its location.
- Establishment of a new stop.
- Cumulative alteration of at least fifteen percent (15.00%) of total Commuter Bus system revenue miles or revenue hours in a given service change.
DISPARATE IMPACT AND DISPROPORTIONATE BURDEN

Disparate Impact refers to a facially-neutral policy or practice that disproportionately affects members of a group identified by race, color, or national origin. A Disparate Impact occurs in a Service Equity Analysis when the difference between minority riders and non-minority riders affected by a proposed fare or service change and the overall percentage of minority or non-minority riders within a mode’s service area is 10 percent or greater, per MDOT MTA policy.

Disproportionate Burden refers to a neutral policy or practice that disproportionately affects low-income populations more than non-low-income populations. A Disproportionate Burden occurs in a Service Equity Analysis when the difference between low-income riders and non-low-income riders affected by a proposed fare or service change and the overall percentage of minority or non-minority riders within a mode’s service area is 10 percent or greater.

SERVICE EQUITY ANALYSIS METHOD

The Service Equity Analysis for Core Bus service changes includes three main steps:

Identify Major Service Changes at the Route and System Level
- Any route that experiences a change exceeding our thresholds for revenue hours, revenue miles, frequency of service, and/or span of service, as defined in the Title VI Implementation Program is identified as experiencing a Major Service Change.
- State law and COMAR regulations require MDOT MTA to perform formal public hearings for specific significant scenarios, such as establishing or abandoning any route or changing the geographic alignment of a route, unless the change is needed because of temporary construction or changes in the road network. Other types of proposed changes, such as changes to fare policy, may also require public hearings under State law and COMAR regulations. MDOT MTA’s public outreach policies are described in detail in our Title VI Program’s Public Participation Plan.
- Due to the length of time required to perform public hearings and incorporate public feedback into a final service proposal, MDOT MTA must identify whether hearings are necessary before the Service Equity Analysis can be completed as the final step in the service change process. We use the preliminary equity evaluation to determine whether changes are likely to be deemed a Major Service Change and if so, whether they would potentially cause a Disparate Impact or Disproportionate Burden in the Service Equity Analysis. Proposed service changes that are projected to create disparate impacts are screened out early in the service change process, unless after examining all potential alternatives, the proposed change is the least discriminatory alternative for accomplishing MDOT MTA’s legitimate program goals. The public hearing process provides riders and stakeholders a meaningful opportunity for public comment on any proposed mitigation measures, including identifying any less discriminatory alternatives that may be available.

Identify Bus Stops Experiencing a Major Service Change
- Any stop where changes to the total number of trips in each service period or the total span of service for each service day exceeds the mode’s Major Service Change thresholds is identified as experiencing a major change for that service period or service day.

Identify Any Disparate Impacts or Disproportionate Burdens
- To determine whether service is provided equitably in accordance with our Disparate Impact and Disproportionate Burden policies, we compare the demographics of the overall service area for the mode to the demographics of the areas surrounding stops experiencing Major Service Changes in frequency and span for each service period and service day. If the difference between the demographics of an area affected by span or frequency changes and the entire service area for the mode is greater than 10 percent, the change could have potential Disparate Impacts or potential Disproportionate Burdens.
- According to Federal and State law, MDOT MTA can only proceed with implementing a change that presents a potential Disparate Impact if: (1) there is a substantial legitimate justification; (2) we have examined alternatives to the proposed change;
(3) the change we are proposing to implement is the least discriminatory alternative; and (4) we have considered public input regarding alternatives. Though no laws prevent MDOT MTA from implementing a change identified as a Disproportionate Burden, we are committed to avoid, minimize, and/or mitigate any changes that may produce or result in a Disproportionate Burden.

Prior to presenting any proposals to the public, we also perform a preliminary service equity evaluation that uses a model of the system representing the total number of daily trips and span of service on each route to check that proposed changes comply with our Title VI service change policies and will not be identified as inequitable by the Service Equity Analysis.

**Maryland Public Hearing Process**

Our public hearings must be advertised at least 30 days in advance, with materials describing service changes made available to the public in readily accessible formats. Maryland law also requires that public hearings take place at least six weeks but no more than six months before service changes are implemented. Once the public hearings have been conducted, a prescribed 30-day public comment period commences, during which MDOT MTA accepts oral comments in person and via a dedicated phone line with a message box, and written comments via mail, email, and in person.

The relevant text from Maryland law ([MD Transp Code § 7-506 (Replacement Volume 2020; Supp. 2022)](https://www.mgd.state.md.us/transp/metro/)) that governs our public hearing process is as follows:

**(d) (1)** The Administration shall give at least a 30-day notice before a hearing.

**(2) The notice shall be:**

**(i)** Published once a week for 2 successive weeks in two or more newspapers of daily circulation throughout the District;

**(ii)** Posted in all of the Administration’s offices, stations, and terminals and all of the vehicles and rolling stock used in revenue service by the mode of transportation that will be affected by the proposed action described in subsection (a) of this section; and

**(iii)** Provided to the governing body of each county or municipal corporation affected by a change in transit service or fare or rate described under subsection (a)(1) of this section.