

AGENDA MPO Technical Committee

Wednesday, March 21, 2023 @ 10:00 a.m.
Water Street Center, 407 E. Water Street
Charlottesville, VA 22902

For Remote Participation in Compliance with Adopted Remote Meeting Policy, Guest Speakers, and Members of Public
Zoom Meeting Link: <https://us02web.zoom.us/j/86124213896?pwd=VlpjeldNMFhmU0lwdkFQeVhRQ25GZz09>
Meeting ID: 861 2421 3896
Password: 800072

Item	Time	Description
0	10:00 - 10:05	Attendance
1	10:05 - 10:10	Matters from the Public Members of the public are welcome to provide comment on any public-interest, transportation-related topic, including items listed on this agenda – limit three minutes per speaker
2	10:10 - 10:15	General Administration* – Ryan Mickles, CA-MPO • Acceptance of agenda* • Approval of January 17, 2023 MPO Tech Cmte. Minutes*
3	10:15 – 10:30	Transportation Improvement Program – Ryan Mickles, CA-MPO • Draft FY24-27 TIP
4	10:30 - 10:40	Revisions to the FY 2023 Unified Planning Work Program* - Sandy Shackelford, CA-MPO • Memo • Amended FY 2023 Unified Planning Work Program
5	10:40 - 10:55	Draft FY 2024 Unified Planning Work Program – Sandy Shackelford, CA-MPO • Memo • Draft FY 2024 Unified Planning Work Program
6	10:55 - 11:30	Moving Toward 2050 Updates – Sandy Shackelford, CA-MPO; Ruth Emerick, CA-MPO • Project Prioritization Process Final Report • Stakeholder Discussion Group Technical Memo
7	11:30 - 11:45	SMART SCALE Round 6 – Sandy Shackelford, CA-MPO • Memo
8	11:45 - 11:55	Roundtable Updates • CA-MPO • City of Charlottesville • Albemarle County • Virginia Department of Transportation • Department of Rail and Transportation • CAT • Jaunt • UVA • RideShare
9	11:55 - 12:00	Matters from the Public Members of the public are welcome to provide comment on any public-interest, transportation-related topic, including items listed on this agenda – limit three minutes per speaker

(*) A recommendation to the MPO Policy Board and/or vote is expected for this item

MPO Technical Committee Meeting

Draft Minutes, January 17, 2023

A video recording of the meeting can be found here:

<https://www.youtube.com/watch?v=c7k-iCyrUQ4>

VOTING MEMBERS & ALTERNATES		STAFF	
James Freas, Charlottesville		Sandy Shackelford, TJPDC	x
Ben Chambers, Charlottesville	x	Lucinda Shannon, TJPDC	x
Rory Stolzenberg, Cville PC	x	Gretchen Thomas, TJPDC	x
Emily Irvine		Ryan Mickles, TJPDC	x
Jessica Hersh-Ballering, Albemarle	x		
Alberic Karina-Plun, Albemarle (alternate)	x	NON-VOTING MEMBERS	
Luis Carrazana, Albemarle PC		Tony Cho FTA	
Charles Proctor, VDOT *	x	Donna Chen, CTAC Liaison *	
Michael Barnes, VDOT (alternate)	x		
Christine Jacobs, TJPDC	x	GUESTS/PUBLIC	
Zadie Lacy, Jaunt	x	Sean Tubbs	x
Bill Palmer, UVA Office of the Architect	x		
Juwhan Lee, CAT	x		
Wood Hudson, DRPT *	x		
Taylor Jenkins, DRPT (alternate)			
Sara Pennington, Rideshare	x		
Richard Duran, FHWA			

* attended online via Zoom

1. CALL TO ORDER:

The MPO Technical Committee chair, Mr. Rory Stozenbrg, presided and called the meeting to order at 10:03 a.m. Ryan Mickles called roll. Mr. Stolzenberg asked for a moment of silence for the two people who lost their lived on MPO streets recently.

2. MATTERS FROM THE PUBLIC

a. Comments by the Public: None



City of Charlottesville

Albemarle County

Fluvanna County

Greene County

Louisa County

Nelson County

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Telephone (434) 979-7310 • Fax (434) 979 1597 • Virginia Relay Users: 711 (TDD) • email: info@tjpd.org • web: www.tjpd.org

b. Comments provided via email, online, web site, etc.: None

3. GENERAL ADMINISTRATION

November 15, 2022 Minutes

Motion/Action: Michael Barnes made a motion to approve the November 15th meeting minutes. Mr. Chambers seconded the motion and the motion passed with Christine Jacobs and Rory Stolzenberg abstaining.

4. REVIEW OF SAFETY PERFORMANCE TARGETS (MINUTE 2:50):

Sandy Shackelford presented the committee with the background of adopting safety targets and reviewed the existing targets vs the actual data.

It was noted that:

- Air quality measures do not apply because they are not in the non-attainment area, but there is a need to set standards in all other areas. The Secretary of Transportation sets Federal targets, and states set performance targets to support national targets. She noted that MPOs must set targets in support of state's targets.
- Targets are evaluated at state level, not the MPO level. CAMPO has historically adopted the state's targets. Projects and processes are influenced by state targets and priorities.
- Re: Safety targets, the data shows that the MPO area has a slightly different trend than state.

Transit Asset Management Targets (Minute 15:14)

Ms. Shackelford noted that these targets are set in conjunction with the transit agencies. The goals set for MPOs and smaller transit agencies, including Jaunt and CAT, have the opportunity to adopt targets.

Wood Hudson explained that the "age" category deals with assets only.

Re: the adoption of MPOs Performance Targets – Ms. Shackelford said that staff recommends the adoption of the state performance targets for safety, infrastructure and system performance, and transit asset management. Alternatively, the MPO Tech Committee could recommend adoption of safety performance targets based on regional trends: number of fatalities (9), fatality rate (0.76), number of serious injuries (108), number of non-motorized fatalities + serious injuries (13)

Motion/Action: Ben Chambers recommended the adoption of the alternative safety targets and the state targets for the other categories. Jessica Hersh-Ballering seconded and the motion passed unanimously.

5. MOBILITY MANAGEMENT RESOLUTION OF SUPPORT (MINUTE 23:25):

Lucinda Shannon explained the Mobility Management program from DRPT. She noted that there is a Foothills Area Mobility System and the CAMPO is considering applying for a grant similar to it.

The steps to implement the program are to 1) Introduce the concept, 2) start a call center website, 3) gather data on needs and, 4) build partnerships.

She continued by reviewing the start-up details and how to grow the program.

Ms. Shannon reported that CAMPO is applying for a grant due at the end of the month. If MPO were to get the grant awarded, it would begin in July and be implemented in December.

Motion/Action: Ben Chambers made a motion to amend the draft letter. Juwhan Lee seconded and the motion passed unanimously.

6. UPDATE ON MOVING TOWARD 2050, LRTP (MINUTE 32:20)

Ms. Shackelford noted that staff has met with VDOT on modeling on this project. She described the framework for the development of the needs and project prioritization process, how the goals were established, the process includes methodology for two thresholds for each measure, and they incorporated feedback from previous discussions, including equity and environmental factors.

She gave a general prioritization process overview, the draft goals, and gave an example of the calculation process.

Ms. Shackelford highlighted some differences in how roadway safety and pedestrian safety are considered.

She explained equity and accessibility and how it is measured.

She continued by explaining mobility and system efficiency, including travel time index, travel time reliability, and bus transit on-time performance.

She expounded on Land Use & Economic Development which identifies areas where there is access to non-work destinations to stimulate local economy, walk access to non-work destinations, and walk access to non-work destinations by disadvantaged populations.

Lastly, she described the environment and resiliency priorities.

She then reviewed the project prioritization scoring.

After some clarifying questions on the prioritization process, Ryan Mickles reviewed the demographics and land use trends using the American Community Survey (ACS) 5-year estimates using demographics maps and charts.

It was requested that the numbers be added to the charts, not just the percentages.

7. STAFF UPDATES (MINUTE 1:19:40):

Rideshare

Sara Pennington shared that DRPT grants are due Feb 1. Rideshare is applying for the operating grant in addition to a technical assistance grant. The Afton Express is going to be implementing some schedule changes, including an additional route. She said she could report on the additional route at the next committee meeting.

CA-MPO

Sandy Shackelford reported that staff is currently scheduling the LRTP discussion groups. Smart Scale projects are on the CTB's meeting agenda today. With the \$42 mil price tag, she assuming the pedestrian bridge won't be funded, but there is a RAISE grant that staff will be applying for to get a portion of the price tag covered. She said she will be asking the Policy Board to sign a resolution of support. She noted the application deadline for the RAISE grant is February 28.

8. ROUNDTABLE (MINUTE 1:19:40):

City of Charlottesville

Ben Chambers reported that there is a transportation working group in the City to make sure all parties are on the same page. He noted that part of their goal is to track all of the projects and make it public facing. That working group will need a bike/ped coordinator, a position that is currently open.

He also noted that CAT will be putting out an RFP for a transit strategic plan. They are working on getting that together because it has a quick turn around deadline.

Lastly, he reported that the City is in the midst of studying what fuel type CAT will be using moving forward.

Juwhan Lee said a consultant is working on micro-transit and that will determine what kind of transit will be needed.

Albemarle

Jessica Hersh-Ballering said they are having a Free Bridge lane public meeting next week.

Alberic Karina-Plun said there is a secondary 6-year plan update with a public meeting scheduled for a later date.

VDOT

Michael Barnes reported that VDOT is kicking off project selection process.

DRPT

Wood Hudson reminded the committee that grant applications close on February 1. If there are any questions, please reach out to him.

Jaunt

Zadie Lacey reported that Jaunt is wrapping up their TDP and alternative fuel study.

UVA

Bill Palmer reported that UVA is back to normal schedule this week because classes are back in session.

City

Rory Stolzenberg reported that the City will be creating their first draft of zoning rewrite next week.

TJPDC

Christine Jacobs reported that TJPDC's new transportation planner will begin on Monday, January 23.

9. ADDITIONAL MATTERS FROM THE PUBLIC:

None.

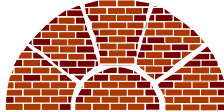
ADJOURNMENT: Mr. McDermott adjourned the meeting at 11:50 a.m.

DRAFT Transportation Improvement Program Fiscal Year 2024 - 2027

Charlottesville Albemarle Metropolitan Planning Organization

Public Hearing: 05 / 24 / 2023

Approved: / / 2023



City of Charlottesville
Virginia Department of Transportation
US Department of Federal Highway Administration

Albemarle County
Department of Rail and Public Transportation
Federal Transit Administration

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TIP Activity

Approved by the MPO Policy Board on / / 2023

Amendments

Amendment #	Date	Notes
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Adjustments

Adjustment #	Date	Notes
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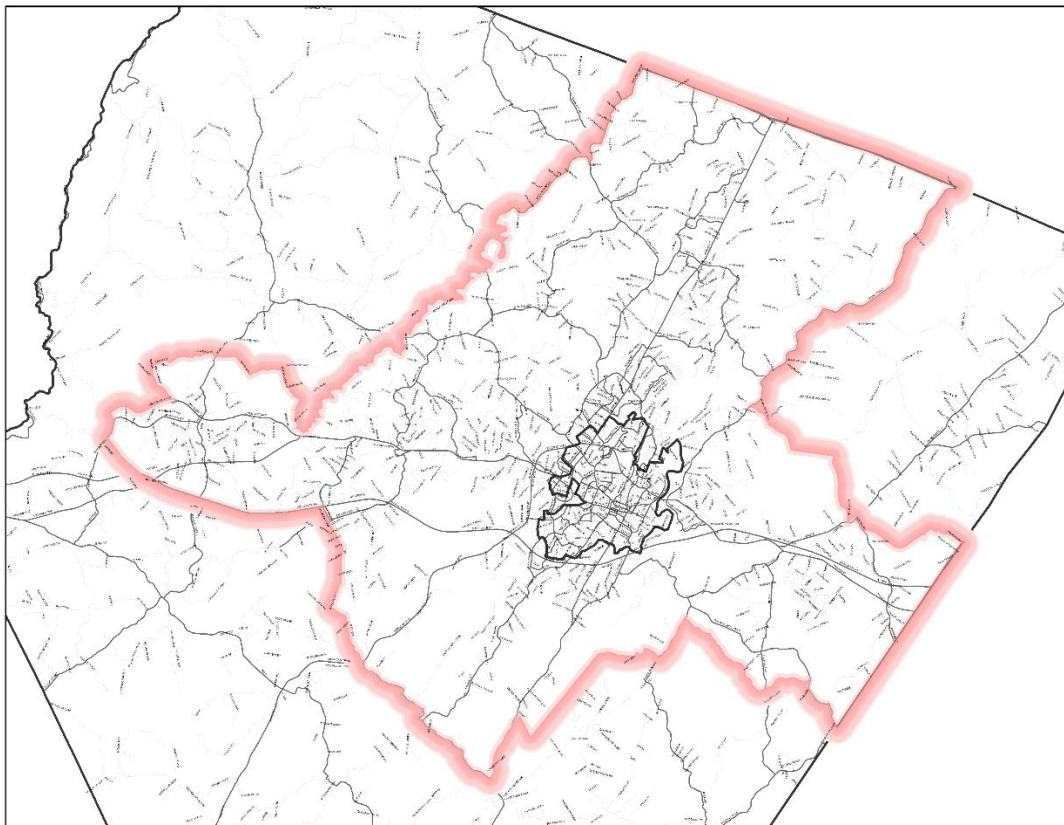
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Purpose of this Document

The Charlottesville-Albemarle Transportation Improvement Program (TIP) is a document used to schedule spending of federal transportation funds within the metropolitan region in coordination with significant state and local funds for the federal fiscal years 2024 through 2027. It also demonstrates how these projects comply with federal planning regulations. The TIP is a product of the Charlottesville-Albemarle Metropolitan Planning Organization (MPO) in compliance with federal requirements.

Introduction to the Charlottesville/Albemarle Metropolitan Planning Organization (MPO)

The Charlottesville-Albemarle Metropolitan Planning Organization is the forum for continued, cooperative and comprehensive transportation decision-making among Charlottesville, Albemarle, state, and federal officials. Federal law (23 CFR Part 450) requires urbanized areas in the United States with populations greater than 50,000 persons to establish an MPO to coordinate transportation planning. The boundary of the Charlottesville-Albemarle MPO includes the City of Charlottesville and the adjacent urbanized areas of Albemarle County (the rural areas of Albemarle County are outside the MPO boundary, as is illustrated on the map below).



The MPO considers long-range regional projects and combines public input, technical data, and agency collaboration to develop forward-thinking solutions to transportation related challenges.

The MPO is responsible for carrying out a continuous, cooperative, and comprehensive transportation planning process. This process includes reviewing transportation projects and preparing studies and plans.

The Charlottesville-Albemarle MPO is governed by the MPO Policy Board and staffed by the Thomas Jefferson Planning District Commission (TJPDC). MPO Policy Board membership consists of 13 representatives from the following organizations:

Voting Member Organizations (5)	(2) Albemarle County Board of Supervisors
	(2) Charlottesville City Council
	(1) Va. Dept. of Transportation (VDOT)
Nonvoting Member Organizations (8)	Charlottesville Area Transit (CAT)
	Citizens Transportation Advisory Committee (CTAC)
	Federal Transit Administration (FTA)
	Federal Highway Administration (FHWA)
	Jaunt
	Thomas Jefferson Planning District Commission (TJPDC)
	UVA Office of the Architect
	Va. Dept. of Rail and Public Transportation (DRPT)

Two committees support the MPO Policy Board: The MPO Technical Committee and a Citizens Transportation Advisory Committee (CTAC).

The MPO Technical Committee includes representatives from the following organizations:

- | | |
|---|---|
| • City of Charlottesville | • Charlottesville Area Transit |
| • Albemarle County | • Jaunt |
| • University of Virginia | • Federal Transit Administration (FTA) |
| • Virginia Department of Transportation (VDOT) | • Federal Highway Administration (FHWA) |
| • Department of Rail and Public Transportation (VRPT) | • Federal Aviation Administration (FAA) |

The Citizens Transportation Advisory Committee (CTAC) includes 13 citizen representatives. Albemarle County and the City of Charlottesville each appoint five members, and the MPO Policy Board appoints three members.

Introduction to Transportation Improvement Program (TIP)

What is a TIP?

The Charlottesville-Albemarle MPO Transportation Improvement Program (TIP) is a prioritized listing/program of transportation projects covering a period of four years that is developed and

formally adopted by an MPO as part of the metropolitan transportation planning process, consistent with the metropolitan transportation plan, and required for projects to be eligible for funding under title 23 U.S.C. and title 49 U.S.C. Chapter 53. It represents projects from the most recently adopted Long Range Transportation Plan, the 2045 LRTP. The fiscal year for the FY2024-2027 TIP begins on October 1, 2022 and is applicable until September 30, 2026. The Federal Highway Administration (FHWA) is a primary sponsor for many of the highway projects listed in the TIP.

Activities listed for Charlottesville Area Transit (CAT) and Jaunt are projects and programs expected to obligate federal funds over the coming four-year period. The primary sponsor of funding for these activities is the Federal Transit Administration (FTA).

The Purpose of the TIP

The TIP:

- Prioritizes transportation projects expected to be implemented during a four-year period, and describes the schedule for obligating federal funds.
- Contains a financial plan for all modes of transportation including roadways and transit capital and operating costs.
- Serves as a tool for monitoring progress in implementing the MPO's long range transportation plan.
- Is incorporated into the State Transportation Improvement Program (STIP), for its submission to FHWA, FTA, and the Environmental Protection Agency (EPA) for approval.
- Includes state and locally funded regionally significant transportation projects to provide a comprehensive view of transportation projects in the Charlottesville-Albemarle area.
- Includes regionally significant unfunded, visioning transportation projects that are significant to the region's transportation network improvement strategies.

Selecting Projects for the TIP

The FHWA tracks all federally funded projects in the Statewide Transportation Improvement Program (STIP), which incorporates each MPO TIP by reference, in total and without change. The STIP includes all transportation projects in the state of Virginia that are scheduled to receive federal funding over a four-year interval and must first be included in the Six Year Improvement Program (SYIP), developed by VDOT, in cooperation with local governments.

The SYIP is updated biennially and includes a listing of projects, their descriptions, funding sources, and cost estimates. The Commonwealth Transportation Board (CTB) approves the SYIP for the upcoming six-year period by June 30 of every other year.

All projects which appear in the SYIP and require federal approval are included in the TIP; state and locally funded projects are not included in the TIP, unless deemed regionally significant. The schedule and cost estimate for each phase of a project, as well as phase allocation and obligation information per project, can be found in the currently adopted VDOT SYIP, and is available at <http://www.virginiadot.org/projects/syp-default.asp>. Some projects in the TIP are not shown as individual projects. Rather, they are grouped together and shown as a single line item in the TIP. This single line-item represents a grouping of projects with similar funding categories, and displays a cumulative sum of obligations rather than obligations per project.

Transportation Goals and Priorities

The Charlottesville-Albemarle MPO has long-standing transportation goals and priorities that are defined in the regional long-range transportation plan. As required under federal regulations, the long range transportation plan is a listing of the most important projects for the MPO area over the next 20 years. Due to budget constraints, the 2045 LRTP focuses on a practical set of improvements that maximizes the effectiveness of existing transportation investments.

Primary Goal and Major Factors

The overarching regional transportation system goal is to create a balanced, multimodal transportation network, by 1) improving connections throughout the region; 2) improving mobility within neighborhoods, towns, and counties; and 3) making transportation choices that help foster livable communities. Several major objectives have been identified to help the MPO achieve these goals:

- Completion of a well-connected multi-modal networks with better connections within and between neighborhoods.
- Re-engineered intersection and corridor design to improve operational efficiency and safety.
- Fast, frequent, dependable transit service with seamless connections throughout the region.
- Well-executed design details for pedestrian-friendly streets, bike lanes and trails, transit stops, safer intersections, and pedestrian crossings.

All of these elements will also help complete the transit “customer delivery system” needed for efficient, cost-effective transit operations. By building new critical facilities and re-engineering existing roadways, overall system operations and safety will be improved.

The regional dynamics of interconnected roadway networks; coordinated transit systems such as Jaunt, CAT, UTS, and Park and Ride lots; varied commuting patterns; and regional destinations for shopping and recreation point to the need for a coordinated, multi-modal regional transportation plan. This plan must be effectively implemented if the region is to continue to flourish and grow in keeping with the quality of life we currently enjoy. Because the majority of local roadway construction is actually funded privately by developers building new subdivision streets, significant progress can be made through better planning and project coordination. By encouraging more interconnections between new developments, coupled with lower-speed and safer roadway design, a major portion of the roadway network can be completed with private funds. With careful planning, public funding can be maximized by “connecting the dots” between developments.

Specific Emphasis

A better-connected multi-modal network will help relieve traffic congestion along heavily used corridors, and reduce congestion at major bottlenecks and intersections. These systems will also provide for many safety improvements to the overall transportation network, allowing

people to access nearby destinations on smaller-scale, pedestrian-, bike-, and transit-friendly roadways.

While a major focus is expedited project implementation, several new roadways and improvement projects are completed or underway to provide better multi-modal connections and through movements. Some roadways require minor and/or spot improvements, widening, realignments, widened shoulders, or expanded lanes. These projects will improve safety and capacity.

To provide residents and businesses with safe, efficient and truly usable transportation options, the MPO Long Range Plan includes significant emphasis on bike, pedestrian and transit projects. Strategies include a focus on improvements around existing villages, coupled with better connections between neighborhoods, schools, and town centers. Other improvements for pedestrian safety can be made that do not require capital funding and include enhanced enforcement of safety laws.

Getting Involved in the MPO and the TIP Development

MPO Area Meetings

All meetings for the MPO Policy Board and the two other MPO committees are open to the public. Time is reserved at the start and finish of each meeting for comment from members of the public. All meetings are held at the TJPDC Office's Water Street Center, 407 E. Water St., Charlottesville, VA 22902. For more information about the MPO and its committees, please visit <http://campo.tjpd.org/>.

TIP Development

The MPO encourages public involvement in the TIP process. Time is also allotted for public comment concerning the SYIP at the Spring public hearings and the Fall public meetings. For more information about MPO Public Hearings, please visit <http://campo.tjpd.org/committees/>.

For more information about the CTB, please visit <http://www.ctb.virginia.gov/> For more information about the Six Year Improvement Program (SYIP), please visit https://www.virginiadot.org/projects/syip/virginia's_transportation_funding.asp.

Performance Based Planning and Programming

Performance Based Planning and Programming requirements for transportation planning are laid out in the Moving Ahead for Progress in the 21st century (MAP-21), enacted in 2012 and reinforced in the 2015 FAST Act, which calls for states and MPOs to adopt performance measures. Each MPO adopts a set of performance measures, in coordination with the Virginia Department of Transportation (VDOT) and the Virginia Department of Rail and Public Transit (DRPT), and these measures are used to help in the prioritization of TIP and Long-Range Transportation Plan projects.

Rollout of performance measures is ongoing. The MPO has been coordinating with VDOT and DRPT to adopt performance measures and targets as they become available. Once the initial

performance measures and targets are adopted, the MPO will continue to monitor and report progress at required intervals set forth in State and Federal guidance. To date the MPO has formally adopted the following adjusted performance measures and targets.

VDOT Adopted Measures

1. Safety Performance Measures

In accordance with the requirements of MAP-21 and the FAST Act, Virginia has established safety performance objectives as published in [Virginia's 2017 - 2021 Strategic Highway Safety Plan \(SHSP\)](#) and, starting in 2017, annual targets in the Highway Safety Improvement Program (HSIP) Annual Report. The SHSP performance measure objectives are indicated in Table 1 below. In Fiscal Year 2021, the performance measures were updated by CA-MPO to match the state's performance measures as illustrated in Table 2.

There are five measures that make up the safety category. These measures include the number of fatalities, fatality rate, the number of serious injuries, serious injury rate, and the number of crashes involving bike/ped. The MPO has adopted the state-wide Safety Targets for the five measures. For safety performance measures 1, 2, and 3, annual targets were developed collaboratively by the MPO, Department of Motor Vehicles (DMV) Highway Safety Office (HSO) and VDOT HSIP staff. The DMV HSO also includes these measures in their Highway Safety Plan submitted to the National Highway Traffic Safety Administration (NHTSA) every June.

The Commonwealth Transportation Board approves all five annual targets and VDOT includes these in the HSIP Annual Report submitted to FHWA every August. Within 180 days of VDOT's annual report submission to FHWA, The MPO has adopted the Statewide targets for 2022 and adopted regionally-specific targets in 2023 as shown in the tables listed below. The MPO will assess and update these targets annually.

Table 1: 2022 SHSP Safety Performance Objectives

Performance Measure	Five-year average annual reduction
Number of Fatalities	9
Rate of Fatalities per 100 Million Vehicle Miles Traveled	0.939
Number of Serious Injuries	127
Rate Serious Injury Million Miles Vehicle Miles Traveled	13.295
Number of Non-Motorized Fatalities & Serious Injuries	14

Table 2: 2023 SHSP Safety Performance Objectives

Performance Measure	Five-year average annual reduction
Number of Fatalities	9
Rate of Fatalities per 100 Million Vehicle Miles Traveled	0.76
Number of Serious Injuries	108
Rate Serious Injury Million Miles Vehicle Miles Traveled	9.204
Number of Non-Motorized Fatalities & Serious Injuries	13

2. Pavement and Bridge Condition (PM2)

There are three measures that make up the pavement and bridge condition category. These measures include; the percentage of pavement in good condition (interstate), percentage of pavement in poor condition (interstate), percentage of pavement in good condition (non-interstate National Highway System), percentage of pavement in poor condition (non-interstate National Highway System), percentage of deck area of bridges in good condition (National Highway System), and the percentage of deck area of bridges in poor condition (National Highway System).

The MPO has reviewed the state targets and the predicted trends for the MPO area and adopted the state targets for Fiscal Year 2023 (table 4).

Table 4: PM2 Targets for MPO and Virginia in 2023

Performance Measure	Scope	MPO 2021 Baseline	Adopted 4-Year Target
% Pavement in Good Condition	Interstate	73.50%	45%
% Pavement in Poor Condition	Interstate	0%	3%
% Pavement in Good Condition	NHS (non Interstate)	28.70%	25%
% Pavement in Poor Condition	NHS (non Interstate)	0.10%	5%
% of Bridge Deck Area in Good Condition	NHS (All)	10.80%	25.1%
% of Bridge Deck Area in Poor Condition	NHS (All)	7.80%	3.6%

3. System Performance (PM3)

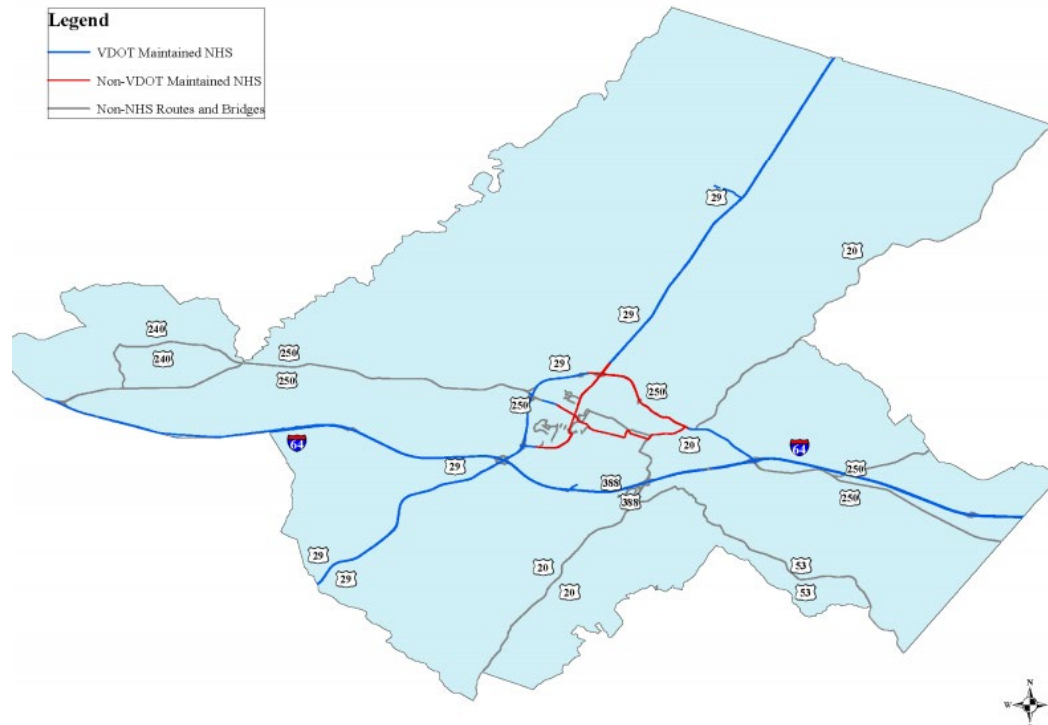
There are three measures that apply to the MPO in the System Performance category. These measures include; the percentage of person-miles traveled that are reliable (Interstates), Percentage of person-miles traveled that are reliable (National Highway System non-interstates), and truck travel times reliability index (Interstates).

The MPO has reviewed the state targets and the predicted trends for the MPO area and adopted the state targets for Fiscal Year 2021 (table 5).

Table 5: Proposed PM3 Targets for MPO and Virginia

Performance Measure	Scope	MPO 2021 Baseline	Adopted 4-year Targets
% Person-miles traveled that are reliable	Interstate	100%	85%
% Person-miles traveled that are reliable	NHS (Non Interstate)	90.70%	88.00%
Truck travel time reliability index	NHS (All)	1.15	1.64

CA-MPO Interstates and National Highway System Roadways



DRPT Adopted Measures

The Public Transportation Agency Safety Plan (PTASP) final rule (49 C.F.R. Part 673) intends to improve public transportation safety by guiding transit agencies to more effectively and proactively manage safety risks in their systems. It requires certain recipients and sub-recipients of Federal Transit Administration (FTA) grants that operate public transportation to develop and implement safety plans that, establish processes and procedures to support the implementation of Safety Management Systems (SMS). Agencies are required to fulfill this requirement through an individual or group plan. The PTASP rule provides two tiers of requirements for transit agencies based on size and operating characteristics:

- A Tier I agency operates rail, OR has 101 vehicles or more all fixed route modes, OR has 101 vehicles or more in one non-fixed route mode.
 - A Tier II agency is a subrecipient of FTA 5311 funds, OR is an American Indian Tribe, OR has 100 or less vehicles across all fixed route modes, OR has 100 vehicles or less in one non-fixed route
- Tier II** The Department of Rail and Public Transportation (DRPT) is the sponsor for the Statewide Tier II Group PTASP Plan.

The Charlottesville Albemarle Metropolitan Planning Organization (CA-MPO) programs federal transportation funds for Charlottesville Area Transit (CAT) and Jaunt. Charlottesville Area Transit and Jaunt are both Tier II agencies participating in the DRPT sponsored group PTASP Plan.

The CA-MPO has adopted the Tier II PTASP into its TIP by reference and integrated the goals measures and targets described in the 2022 Commonwealth of Virginia Tier II Group Transit Asset Management Plan, October 1, 2022 into the MPO's planning and programming process. Specific targets for the Tier II Group PTASP Plan are displayed in the tables below. CAT contracts with Jaunt to provide paratransit service for its fixed routes. Table 6 contains CAT's fixed route service and the paratransit numbers are for Jaunt's paratransit service provided to CAT. Table 7 is for fixed route commuter service provided by Jaunt like the Buckingham route and the 29 express.

Table 6: Charlottesville Area Transit PTASP Performance Targets by Mode:

Performance Measures	Targets by Mode	
	Fixed Route	Paratransit/ Demand Response
Fatalities (total number of reportable fatalities per year)	0	0
Fatalities (rate per total vehicle revenue miles by mode)	0	0
Injuries (total number of reportable injuries per year)	5	0
Injuries (rate per total vehicle revenue miles by mode)	Less than .5 injuries per 100,000 vehicle revenue miles	Less than .5 injuries per 100,000 vehicle revenue miles
Safety events (total number of safety events per year)	10	1
Safety events (rate per total vehicle revenue miles by mode)	Less than 1 reportable event per 100,000 vehicle revenue miles	Less than 1 reportable event per 100,000 vehicle revenue miles
Distance between Major Failures	10,000 miles	10,000 miles
Distance between Minor Failures	3,200 miles	3,200 miles

Table 7: Jaunt PTASP Performance Targets by Mode:

Performance Measures	Targets by Mode	
	Fixed Route	Paratransit/ Demand Response
Fatalities (total number of reportable fatalities per year)	0	0
Fatalities (rate per total vehicle revenue miles by mode)	0	0
Injuries (total number of reportable injuries per year)	9	0
Injuries (rate per total vehicle revenue miles by mode)	Less than .5 injuries per 100,000 vehicle revenue miles	Less than .5 injuries per 100,000 vehicle revenue miles
Safety events (total number of safety events per year)	17	0
Safety events (rate per total vehicle revenue miles by mode)	Less than 1 reportable event per 100,000 vehicle revenue miles	Less than 1 reportable event per 100,000 vehicle revenue miles
Distance between Major Failures	10,000 miles	10,000 miles
Distance between Minor Failures	3,200 miles	3,200 miles

Additional information and guidance on the Public Transportation Agency Safety Plan (PTASP) is available on FTAs Public Transportation Safety Plan webpage: <https://www.transit.dot.gov/PTASP> and in the PTASP final rule factsheet:

<https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/regulations-and-guidance/safety/public-transportation-agency-safety-program/117281/ptasp-fact-sheet-02-06-2019.pdf>.

Performance Based Planning and Programming in the TIP and LRTP:

As Performance Based Planning and Programming requirements are rolled out and targets are set, projects in the TIP have been assessed to connect project scopes, as identified in the TIP, to goals in the MPO Long Range Transportation Plan (LRTP 2045). The LRTP 2045 plan was developed with MAP-21 guidance and includes performance measures aligned with MAP-21. [These goals are set out in Chapter 4 of the 2045 Long Range Transportation Plan](#), and listed below.

LRTP 2045 Goals:

1. **ACCESSIBILITY & MOBILITY-** Improve inter and intra-regional access and mobility for all users (people, goods, and services) by integrating various modes of transportation in an effort to improve connectivity and coordination among stakeholders.
2. **ECONOMIC DEVELOPMENT & LAND USE-** Support the region's economic competitiveness by ensuring the integration of transportation and land use decisions in the planning process to enhance efficiency across all modes of transportation.
3. **OPERATIONS & MAINTENANCE-** Encourage and promote the cost-effective operations and maintenance of the regional transportation network that delivers optimal performance for all users.
4. **SAFETY-** Improve the geometric conditions and physical characteristics of the transportation network to reduce fatalities and serious injuries.
5. **CONGESTION-** Where appropriate, improve roadway design to reduce congestion for vehicles, freight, and transit.
6. **ENVIRONMENT & COMMUNITY-** Promote sustainable transportation improvements that avoid impacts on the environment and ensure nondiscriminatory planning in our region.

TIP linkage to adopted measures:

New TIP and LRTP projects are reviewed for their linkages to safety needs using the following steps:

- Safety deficiencies are identified by analyzing crash data provided by VDOT as part of the Highway Safety Improvement Program.
- Proposed projects are reviewed for their impact on safety using crash modification factors based on project design.

Resource Documents:

1	2045 Long Range Transportation Plan	http://campo.tjpd.org/process-documents/lrtp/
2	Albemarle County Places29 Master Planning Process	http://www.albemarle.org/departments.asp?department=cdd&relpage=3735
3	29H250 Phase II Report	http://campo.tjpd.org/reports-and-documents/us-29-hydraulic-250-bypass-intersections-study/
4	Eastern Planning Initiative	http://campo.tjpd.org/eastern-planning-initiative/
5	Hillsdale Drive	http://www.hillsdaledrive.org/
6	TJPD Transportation	http://tjpd.org/transportation-planning/
7	Environmental Review Reports	Copies are available in both the central Richmond Office and each District Office. They are sent to local residencies within 30 days of any public hearing about the project to which they relate. For additional information on Environmental Review for TIP projects, contact Rick Crofford (VDOT, Culpeper District Assistant Environmental Manager).

TIP User's Guide: Understanding the TIP Format

Project information appears for each project that currently receives federal funding through the Six-Year Improvement Program. The information for each of these projects appears in the chart format shown below and is provided to the MPO by VDOT. Terms are listed consistently in the grey boxes, while project-specific details are listed in the white boxes to the right of, or below, each term. Definitions for the numbered terms appear in the corresponding Glossary of Terms table. Project information will appear in the TIP if funding is necessary for miscellaneous follow-up costs (e.g. utility relocation, miscellaneous bill payment, etc.). Projects must be removed from the Six Year Program in order to be removed from the TIP.

1	UPC NO	77273	2	SCOPE	BRIDGE REPLACEMENT										
3	SYSTEM	Secondary	4	JURISDICTION	Albemarle County				5	OVERSIGHT	NFO	7	ADMIN BY	VDOT	10
6	PROJECT	RTE 743 - BRIDGE & APPROACHES OVER NORTH FORK RIVANNA													
8	DESCRIPTION	FROM: 0.11 Mi. W Int. Rte. 641 TO: Int. Rte. 641 (0.1100 MI)													
9	ROUTE/STREET	0743							TOTAL COST		\$4,017,516				
	FUND SOURCE	MATCH	FY09	FY10	FY11	FY12									
			\$0	\$0	\$0	\$0	\$0								

Glossary of Terms

	Term	Definition
1	Universal Project Code (UPC) Number	Number assigned to each project at its conception, remaining with the project until completion.
2	Scope	Includes notes about the work to be covered by the project.
3	System	Indicates which system, program, or mode of transportation the project falls within. E.g. Interstate, Primary, Secondary, Urban, Rail, Transportation Enhancements, or Miscellaneous.
4	Jurisdiction	The jurisdiction (City of Charlottesville or Albemarle County) in which the project will occur.
5	Federal Oversight Indicator (FO or NFO)	FO: Indicates Federal Oversight in the project construction, contracting, and management. NFO: Indicates No Federal Oversight in the construction, contracting, and management issues, and does not affect the standard environmental review process for transportation projects. All federally funded transportation projects must include the required environmental documents regardless of whether there is federal oversight required.

	Term	Definition	
6	Project/Project Phase	Name of the Project and Phase (i.e. <i>PE: Preliminary Engineering</i> - Preliminary field survey, utility location, environmental or historical studies, design drawings, final field inspections and public hearings will be done. This process can take several months to years to complete; <i>RW: Right of Way</i> - Negotiations with property owners take place, payments are made, and arrangements with utility companies are finalized to obtain the land necessary for the project; or <i>CN: Construction</i> - Project is advertised to prospective contractors for bids. Once the bids are opened and a contract awarded, construction can begin.)	
7	Admin By	Entity responsible for the project	
8	Description	Limits of the project	
9	Route/Street	Local street name	
10	Total Cost	The total estimated cost (TO) reflecting the best overall estimate available at the time. Estimated costs begin as rough estimates, usually based on historical data, and are updated at critical stages (e.g. the final field inspection), as plans are more defined.	
11	Fund Source <i>All designations except "State" indicate that federal funds are to be used for at least a portion of the project.</i>	FHWA funding sources are described below:	
		APD Appalachian Development	HPD TEA-21 Priority
		APL Appalachian Local Access	I Interstate
		BH Bridge Rehabilitation	IM Interstate Maintenance
		BOND Bonds/Interest	NHS National Highway System
		BR Bridge Replacement	OC Open Container
		CMAQ Congestion Mitigation & Air Quality	OT Off the Top
		DEMO Federal Demonstration	RO Repeat Offender
		DT Dulles Toll Facilities	RPT Richmond-Petersburg Turnp Tolls
		EN Enhancement	RS Rail Safety (100% Federal)
		FH Forest Highway	RSTP Regional Surface Transportation Program
		FRAN Federal Reimbursement Anticipation Notes	S State
		FTA Federal Transit Authority Grant	STP Surface Transportation
HES Hazard Elimination Safety (Sec. 152)	TFRA Toll Facilities Revolving Doc		
12	Match	Dollar amount matched to federally funded project. Most federal fund sources require a match of some sort; most often 20% of the total cost. The match is included in the obligations section for informational purposes. The match can come from local, state or other sources.	
13	Current and Future Obligations	The amount of funding which is obligated for the indicated phase of work. An obligation represents a commitment from the Federal government to reimburse the state for the Federal share (e.g. 80%) of a project's eligible cost. This commitment occurs when the project is approved and the Federal government executes the project agreement. The funding obligation listed is the dollar amount that a state may spend and expect reimbursement for during each Federal fiscal year.	

Additional Project Information Each ungrouped project summary includes additional detail provided by the MPO, the City of Charlottesville, and Albemarle County. This information

appears in a small chart beneath the project's cost estimates and obligations, and includes detail describing the project's location, purpose, MPO endorsement status, and environmental review information, including:

Environmental Impact Statement (EIS)	An Environmental Impact Statement is prepared for projects which are expected to have a significant impact on the environment
Categorical Exclusions (CE)	Categorical Exclusions apply to projects which will not individually or cumulatively cause a significant environmental impact. Most CEs require minimal administrative review.
Program Categorical Exclusions (PCE)	Program Categorical Exclusions are pre-determined actions which do not require administration review.
Environmental Assessment (EA)	An Environmental Assessment is prepared for actions in which the significance of the environmental impact is not clear.
Not Available (NA)	Not available or not undertaken is when any of the above have not yet been completed or are not needed.

TIP Financial Information

SYIP Allocations vs. TIP Obligations

The SYIP is an allocation document similar to a capital outlay plan. Allocations are funds that are available in current and previous years (i.e., "the budget") and those forecasted for future years over the period covered in the SYIP. For example, the FY 2015-2020 SYIP became effective on July 1, 2014; at that time, FY 2015 allocations were combined with any remaining previous allocations that were on each project and together, all previous allocations represent the current budget on the project; funds for FY 2016 through FY 2020 are funds projected to be available in each of those years based on the most recent revenue forecast. Allocations come from several sources, including state, federal, and local funds and represent the amount of funding the Commonwealth has set aside to fund the cost of each project.

The TIP is an obligation document. Obligations are not allocations, but instead represent commitments by the federal government to reimburse the state for the federal share of a project's eligible costs. Thus, states do not receive funding in advance of beginning a project or phase; instead, a project or phase is authorized in a federal agreement under which FHWA or FTA commits to reimburse the state for a share of eligible costs. Obligations are identified in the STIP/TIP by project and project phase (i.e., Preliminary Engineering (PE), Right of Way (RW), and Construction (CN)), and are forecasted across a three-year period.

To better understand the relationship between allocations and obligations, consider the allocation as the money in your checking account that you plan to spend; consider the obligations as the checks you plan to write to cover costs incurred. Like balancing a checkbook, a project's obligations should be equal to or less than the amount of funding allocated to it, generally speaking. Since the TIP is an obligation document, it identifies the amount of funding anticipated to be reimbursed by the federal government, while the SYIP is an allocation

document that identifies the total amount of funding expected to be expended to deliver the specified projects and programs.

TIP Financial Plan

MAP-21's planning regulation 23 CFR 450.324(h) specifies the inclusion of a financial plan in the TIP that shows how the projects or project phases identified can reasonably be expected to be implemented with the available public and private revenues identified. TIP projects and phases are required to be consistent with the long-range plan and must be fully funded in the TIP. To the extent that funding is available or is reasonably expected to be available, priority projects and phases have been selected for inclusion in this TIP. The MPO and its member organizations have cooperatively developed financial forecasts for the TIP based on the latest official planning assumptions and estimates of revenue(s) and cost(s). The financial information is given by funding category for the projects listed and expected to be implemented during the four-year period beginning in FY 2021.

Some projects listed in the TIP may show \$0 for planned obligations. Possible reasons for this include:

- Project is complete and is awaiting financial closeout;
- Subsequent phases beyond four years;
- Information only, funding being pursued; or
- Project to be funded from [category] group funding.

In addition to construction projects, revenue projections have been made for maintaining and operating the region's highway and transit systems during the same four-year period. Funded TIP actions typically include, but are not limited to:

- transportation studies;
- ground transportation system improvement projects (fixed-guide, highway, bicycle, pedestrian, commuter lots, etc);
- public transit systems and services, including the components of coordinated human service mobility plans;
- system maintenance (monitoring, repair and/or replacement of system facilities and support sites; snow removal; mowing; painting; rest area or weigh station sites; etc); and
- system operations (ITS-TSM applications; traffic operations such as signalization, signal coordination, ramp meters, or message signs; roadside assistance; incident management; for the urbanized TMAs, their Congestion Management Process activities; VDOT traffic management centers; bridge-tunnel management; toll road or congestion pricing management; etc).

Funding Sources

The following provides a general overview of funding programs utilized in the development of the TIP.

Highway Funding Program:

BR/BROS

Bridge Rehabilitation and Replacement program provides funding for bridge improvements. Eligibility for funding is based on a rating of bridge condition by VDOT as a candidate for upgrading.

DEMO The federal transportation acts include demonstration, priority, pilot, or special interest projects in various Federal-aid highway and appropriations acts. These projects are generically referred to as "demonstration" or "demo" projects, because Congress initiated this practice of providing special funding for these projects to demonstrate some new or innovative construction, financing, or other techniques on specific projects.

EB/MG The **Equity Bonus** (formerly known as **Minimum Guarantee**) ensures that each State receives a specific share of the aggregate funding for major highway programs (Interstate Maintenance, National Highway System, Bridge, Surface Transportation Program, Highway Safety Improvement Program, Congestion Mitigation and Air Quality Improvement, Metropolitan Planning, Appalachian Development Highway System, Recreational Trails, Safe Routes to School, Rail-Highway Grade Crossing, Coordinated Border Infrastructure programs, and Equity Bonus itself, along with High Priority Projects), with every State guaranteed at least a specified percentage of that State's share of contributions to the Highway Account of the Highway Trust Fund.

IM **Interstate Maintenance** (IM) program provides reconstruction, maintenance, and improvements to the National System of Interstate and Defense Highways. The Commonwealth Transportation Board (CTB) administers these programs.

NHS **National Highway System** (NHS) projects can be funded only if they are on the National Highway System, which is established by Congress.

RSTP **Regional Surface Transportation Program** (RSTP) provides funding for a broad range of capacity, operational, and congestion mitigation related improvements. Projects include road widening, rehabilitation, transit capital, research, environmental enhancements, intelligent transportation systems, planning, and others.

SAFETEA-LU **The Safe Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)** is the federal transportation bill that provides federal transportation funding to each state. The SAFETEA-LU funding category refers to funding earmarks that Congress included in the legislation for specific projects. This funding can only be used for the project(s) for which it is earmarked.

STP **Surface Transportation Program** (STP) can be utilized on any project located on a roadway that is classified higher than a minor collector. Projects eligible for funding under this program include construction, reconstruction, and rehabilitation, and bridge projects on any public road. Local STP funds are designated as L-STP.

Non-Federal Any funding that does not come from federal sources is grouped into the non-federal funding category.

EN **Transportation Enhancement** funds have been made available for bicycle and pedestrian facilities through the Surface Transportation Program of the TEA-21. A 10% set aside from each state's allocation of STP funds must be used for Transportation Enhancement activities. Projects are available for funding on a statewide competition basis for enhancement grants. The Enhancement program includes a set aside for the Roadscapes Program, which provides funding for local jurisdictions to

apply for landscaping projects on state and federally maintained rights-of-way.

SRS

Safe Routes to School is a competitive grant program to enable and encourage children to safely walk and bicycle to school. Funds can be used for infrastructure improvements and educational programs.

Transit Funding Programs:

Section 5307 Federal Transit Administration formula grants for transit operating assistance in urbanized areas.

Section 5311 Federal Transit Administration formula grants transit operating assistance outside urbanized areas.

Section 5317 Federal Transit Administration funds for Job Access and Reverse Commute grants to provide low-income individuals job access transportation.

Section 5309 Federal Transit Administration discretionary grant funding for capital assistance for major bus related construction or equipment projects.

Section 5310 Federal Transit Administration funds for private and non-profit organizations providing mass transportation services for the elderly and disabled.

Non-Federal Any funding that does not come from federal sources is grouped into the non-federal funding category.

Transit

Charlottesville Area Transit (CAT) uses the Transportation Improvement Program (TIP) development process of the TJPDC Metropolitan Planning Organization (MPO) to satisfy the public hearing requirements of 49 U.S.C. Section 5307(c). The TIP public notice of public involvement activities and time established for public review and comment on the TIP satisfies the program-of-projects requirements of the Urbanized Area Formula Program.

Table C: CAMPO Federal Funding Categories Fiscal Constraint by Year (Hwy 2024-2027)

Fund Source	FFY 2024		FFY 2025		FFY 2026		FFY 2027		TOTAL	
	Projected Obligation Authority	Planned Obligation	Projected Obligation Authority	Planned Obligation	Projected Obligation Authority	Planned Obligation	Projected Obligation Authority	Planned Obligation	Projected Obligation Authority	Planned Obligation
Federal										
BR	\$0	\$0	\$901,970	\$901,970	\$0	\$0	\$0	\$0	\$901,970	\$901,970
DEMO	\$0	\$0	\$7,368	\$7,368	\$0	\$0	\$0	\$0	\$7,368	\$7,368
HSIP	\$299,403	\$299,403	\$3,613,900	\$3,613,900	\$0	\$0	\$0	\$0	\$3,913,303	\$3,913,303
NHPP/E	\$0	\$0	\$644,319	\$644,319	\$2,158,332	\$2,158,332	\$0	\$0	\$2,822,651	\$2,822,651
NHS/NHPP	\$3,655,109	\$3,655,109	\$14,212,498	\$14,212,498	\$849,980	\$849,980	\$0	\$0	\$18,717,587	\$18,717,587
STP/STBG	\$1,985,902	\$1,985,902	\$8,882,013	\$8,882,013	\$4,109,922	\$4,109,922	\$0	\$0	\$14,977,837	\$14,977,837
Subtotal -- Federal	\$5,940,414	\$5,940,414	\$28,282,068	\$28,282,068	\$7,118,234	\$7,118,234	\$0	\$0	\$41,340,716	\$41,340,716
Other										
Non-Federal	\$6,160,904	\$6,160,904	\$0	\$0	\$0	\$0	\$0	\$0	\$6,160,904	\$6,160,904
State Match	\$7,730,306	\$7,730,306	\$5,908,389	\$5,908,389	\$1,779,557	\$1,779,557	\$0	\$0	\$8,184,408	\$8,184,408
Subtotal -- Other	\$13,891,210	\$13,891,210	\$5,908,389	\$5,908,389	\$1,779,557	\$1,779,557	\$0	\$0	\$14,345,312	\$14,345,312
Total	\$19,831,624	\$19,831,624	\$34,190,457	\$2,568,661	\$2,474,217	\$8,897,791	\$0	\$0	\$27,420,380	\$27,420,380

Federal - ACC (1)										
HSIP	\$139,196	\$139,196	\$0	\$0	\$0	\$0	\$0	\$0	\$139,196	\$139,196
NHPP/E	\$0	\$0	\$0	\$0	\$1,003,424	\$1,003,424	\$0	\$0	\$1,003,424	\$1,003,424
NHS/NHPP	\$0	\$0	\$380,421	\$380,421	\$1,046,362	\$1,046,362	\$316,432	\$316,432	\$1,743,215	\$1,743,215
STP/STBG	\$0	\$0	\$200,000	\$200,000	\$1,136,683	\$1,136,683	\$0	\$0	\$1,336,683	\$1,336,683
TAP	\$67,074	\$67,074	\$0	\$0	\$0	\$0	\$0	\$0	\$67,074	\$67,074
Subtotal -- Federal - ACC (1)	\$206,270	\$206,270	\$580,421	\$580,421	\$3,186,469	\$3,186,469	\$316,432	\$316,432	\$4,289,592	\$4,289,592

Statewide and/or Multiple MPO – Federal (3)										
NHS/NHPP	\$1,031,697	\$1,031,697	\$0	\$0	\$0	\$0	\$0	\$0	\$1,031,697	\$1,031,697
Subtotal -- Federal - ACC (3)	\$1,031,697	\$1,031,697	\$0	\$0	\$0	\$0	\$0	\$0	\$1,031,697	\$1,031,697

Maintenance - Federal (4)										
NHFP	\$1,877,503	\$1,877,503	\$1,877,503	\$1,877,503	\$1,877,503	\$1,877,503	\$1,877,503	\$1,877,503	\$7,510,012	\$7,510,012
NHS/NHPP	\$5,678,620	\$5,678,620	\$1,380,499	\$1,380,499	\$528,620	\$528,620	\$528,620	\$528,620	\$8,116,359	\$8,116,359
STP/STBG	\$14,706,804	\$14,706,804	\$14,766,739	\$14,766,739	\$14,827,694	\$14,827,694	\$14,889,684	\$14,889,684	\$59,190,921	\$59,190,921

Subtotal -- Maintenance - Federal (4)	\$22,262,927	\$22,262,927	\$18,024,741	\$18,024,741	\$17,233,817	\$17,233,817	\$17,295,807	\$17,295,807	\$74,817,292	\$74,817,292
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- (1) ACC -- Advance Construction -- Funding included in Federal Category based on year of AC Conversion
- (2) CMAQ/RSTP includes funds for TRANSIT projects
- (3) Statewide and/or Multiple MPO - Federal - Funding to be obligated in Multiple MPO Regions and/or Statewide for projects as identified
- (4) Maintenance Projects - Funding to be obligated for maintenance projects as identified

Interstate Projects

*None

Primary Projects

UPC NO		77383	SCOPE		Reconstruction w/ Added Capacity	
SYSTEM		Primary	JURISDICTION		Albemarle County	OVERSIGHT NFO
PROJECT		RTE 29 – WIDENING & CORRIDOR IMPROVEMENTS				ADMIN BY VDOT
DESCRIPTION		FROM: Route 643 (Polo Grounds Road) TO: Route 1719 (Town Center Drive) (1.8300 MI)				
PROGRAM NOTE		Linked with UPC 106136 & 106137				
ROUTE/STREET		0029				TOTAL COST \$50,235,940
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
PE	Federal – NHS/NHPP	\$0	\$(304,685)	\$0	\$0	\$0
RW	Federal – NHS/NHPP	\$0	\$(4,612,073)	\$0	\$0	\$0
CN AC	Federal = AC Other	\$0	\$9,758,749	\$0	\$0	\$0
MPO Notes		Part of the Route 29 Solutions Project. Complete waiting closeout.				

UPC NO		106136	SCOPE		Reconstruction w/Added Capacity	
SYSTEM		Primary	JURISDICTION		Albemarle County	OVERSIGHT FO
PROJECT		US-29 RIO ROAD GRADE SEPARATED INTERSECTION				ADMIN BY VDOT
DESCRIPTION		FROM: ROUTE 851 (DOMINION DRIVE) TO: ROUTE 1417 (WOODBROOK DRIVE) (1.0000 MI)				
PROGRAM NOTE		LINKED WITH UPC 77383 & 106137				
ROUTE/STREET		SEMINOLE TRAIL (0029)				TOTAL COST \$66,463,579
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
RW AC	Federal – AC OTHER	\$0	\$5,901,475	\$0	\$0	\$0
CN AC	Federal – AC OTHER	\$0	\$4,829,920	\$0	\$0	\$0
MPO Notes		Part of the Route 29 Solutions Project. Complete waiting closeout.				

Secondary Projects

UPC NO	111779	SCOPE	Bridge Replacement without Added Capacity			
SYSTEM	Secondary	JURISDICTION	Albemarle County	OVERSIGHT	NFO	
PROJECT	Rte. 702 – Bridge Replacement Str. 6401			ADMIN BY	VDOT	
DESCRIPTION	FROM: 0.04 MI. W. MOREY CREEK TO: 0.04 MI. E. MOREY CREEK (0.0800 MI)					
PROGRAM NOTE						
ROUTE/STREET	FONTAINE AVE EXT (0702)			TOTAL COST	\$3,499,960	
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
		\$0	\$0	\$0	\$0	\$0
MPO Notes	Part of the Route 29 Solutions Project. Complete waiting closeout.					

UPC NO	106137	SCOPE	New Construction Roadway			
SYSTEM	Secondary	JURISDICTION	Albemarle County	OVERSIGHT	NFO	
PROJECT	BERKMAR DRIVE EXTENDED (CONSTRUCTION OF NEW ROADWAY)			ADMIN BY	VDOT	

DESCRIPTION		FROM: HILTON HEIGHTS ROAD TO: TOWNCENTER DRIVE (2.3000 MI)				
PROGRAM NOTE		LINKED WITH UPC 77383 & 106136				
ROUTE/STREET		BERKMAR DRIVE EXTENDED (1403)			TOTAL COST	\$46,211,254
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
		\$0	\$0	\$0	\$0	\$0
MPO Notes		Part of the Route 29 Solutions Project. Complete waiting closeout.				

Urban Projects

UPC NO		110381	SCOPE			
SYSTEM		Urban	JURISDICTION	Charlottesville	OVERSIGHT	NFO
PROJECT		#HB2.FY17 EMMET ST. STR SCAPE & INTSECT GARVEE DEBT SERVICE			ADMIN BY	VDOT
DESCRIPTION						
PROGRAM NOTE		Includes \$1,552,308 GARVEE Debt Service Interest Prev, \$382,163 GARVEE Debt Service Interest FFY24, \$380,421 GARVEE Debt Service Interest FFY25, \$349,178 GARVEE Debt Service Interest FFY26, \$316,432 GARVEE Debt Service Interest FFY27, \$1,378,067 GARVEE Debt Service Interest FFY28-38. Total GARVEE Debt Service Interest \$4,358,569. Corresponding CN UPC 109551				
ROUTE/STREET		0000			TOTAL COST	\$8,138,624
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
PE	Federal – AC CONVERSION	\$0	\$0	\$380,421	\$349,176	\$316,432
	Federal – NHS/NHPP	\$0	\$382,163	\$0	\$0	\$0
PE	TOTAL	\$0	\$382,163	\$380,421	\$349,178	\$316,432
PE AC	Federal - AC	\$0	\$2,424,098	\$0	\$0	\$0
MPO Notes		Smart Scale project				

UPC NO		75878	SCOPE		Bridge Replacement w/o Added Capacity	
SYSTEM		Urban	JURISDICTION		Charlottesville	OVERSIGHT NFO
PROJECT		#SGR – RTE 20 – BRIDGE REPLACEMENT				ADMIN BY Locally
DESCRIPTION		FROM: GARRETT ST/LEVY AVE (0.173 mi south of Water St.) TO: EAST MARKET ST (0.095 north of Water St) (0.2680MI)				
PROGRAM NOTE						
ROUTE/STREET		9 TH ST NE (0020)				TOTAL COST \$38,078,180
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
PE	Federal-STP/STBP	\$44,502	\$178,006	\$0	\$0	\$0
RW	Federal-STP/STBG	\$0	(\$249,678)	\$0	\$0	\$0
CN	Federal – NHS/NHPP	\$0	\$4,280,739	\$0	\$0	\$0
	Federal – STP/STBG	\$0	\$0	\$2,656,780	\$0	\$0
	Other	\$6,160,904	\$6,160,904	\$0	\$0	\$0
CN TOTAL		\$6,160,904	\$10,441,643	\$2,656,780	\$0	\$0
CN AC	Federal – AC Other	\$0	\$13,745,208	\$0	\$0	\$0
MPO Notes						

UPC NO		60233	SCOPE		New Construction Roadway	
SYSTEM		Urban	JURISDICTION		Charlottesville	OVERSIGHT NFO
PROJECT		HILLSDALE DRIVE EXTENDED (3 LANES)				ADMIN BY Locally
DESCRIPTION		FROM: GREENBRIER DRIVE TO: HYDRAULIC ROAD (0.8500 MI)				
PROGRAM NOTE						
ROUTE/STREET		HILLSDALE DRIVE				TOTAL COST \$27,081,640
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27

RW AC	Federal – AC OTHER	\$0	\$548,132	\$0	\$0	\$0
CN AC	Federal – AC OTHER	\$0	\$13,605,896	\$0	\$0	\$0
MPO Notes		Rt 29 Solutions project. Finished, waiting financial close out. Added new road, realigned to tie into Hydraulic Rd.				

Project Groupings

GROUPING		Construction: Bridge Rehabilitation/Replacement/Reconstruction				
ROUTE/STREET					TOTAL COST	\$9,624,826
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
RW AC	Federal – AC OTHER	\$0	\$180,000	\$0	\$0	\$0
CN	Federal – BR	\$225,493	\$0	\$901,970	\$0	\$0
CN AC	Federal – AC OTHER	\$0	\$0	\$3,138,620	\$1,329,631	\$0
MPO Notes						

GROUPING		Construction: Safety/ITS/Operational Improvements				
ROUTE/STREET					TOTAL COST	\$243,333,199
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
PE	Federal – NHS/NHPP	\$359,838	\$1,439,351	\$0	\$0	\$0
	Federal – STP/STBG	\$188,821	\$0	\$	\$	\$0
PE TOTAL		\$548,659	\$1,439,351	\$558,344	\$196,940	\$0
PE AC	Federal – AC OTHER	\$0	\$0	\$1,358,602	\$1,020,168	\$0
RW	Federal – AC CONVERSION	\$8,500	\$76,500	\$0	\$0	\$0
	Federal – HSIP	\$7,339	\$66,051	\$0	\$0	\$0
	Federal – NHPP/E	\$116,080	\$0	\$464,319	\$0	\$0
	Federal – NHS/NHPP	\$1,167,127	\$683,924	\$3,984,583	\$0	\$0
	Federal – STP/STBG	\$1,062,923	\$658,812	\$574,453	\$3,018,427	\$0
RW TOTAL		\$2,361,969	\$1,485,287	\$5,023,355	\$3,018,427	\$0
RW AC	Federal – AC OTHER	\$0	\$1,076,520	\$472,543	\$0	\$0
CN	Federal – AC CONVERSION	\$656,127	\$62,696	\$0	\$2,596,643	\$0
	Federal - DEMO	\$1,842	\$0	\$7,368	\$0	\$0
	Federal – HSIP	\$427,472	\$233,352	\$3,613,900	\$0	\$0
	Federal – NHPP/E	\$589,583	\$0	\$200,000	\$2,158,332	\$0
	Federal – NHS/NHPP	\$3,215,896	\$1,785,690	\$10,227,915	\$849,980	\$0
	Federal – STP/STBG	\$365,300	\$319,784	\$246,860	\$894,555	\$0
CN TOTAL		\$5,256,220	\$2,401,522	\$14,296,043	\$6,499,510	\$0
CN AC	Federal – AC OTHER	\$0	\$28,744,480	\$11,105,149	\$2,967,848	\$0
MPO Notes						

GROUPING		Construction: Transportation Enhancement/Byway/Non-Traditional				
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ROUTE/STREET					TOTAL COST	\$10,365,594
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
PE	Federal – AC CONVERSION	\$16,769	\$67,074	\$0	\$0	\$0
RW	Federal – AC CONVERSION	\$110,162	\$0	\$200,000	\$240,648	\$0
	Federal – STP/STBG	\$269,745	\$1,078,978	\$0	\$0	\$0
RW TOTAL		\$379,907	\$1,078,978	\$200,000	\$240,000	\$0
RW AC	Federal – AC OTHER	\$0	\$550,811	\$0	\$0	\$0
CN	Federal – STP/STBG	\$1,211,394	\$0	\$4,845,576	\$0	\$0
	Federal – AC OTHER	\$0	\$0	\$0	\$300,811	\$0
MPO Notes						

GROUPING		Maintenance: Preventive Maintenance and System Preservation				
PROGRAM NOTE		Funding identified to be obligated districtwide as projects are identified.				
ROUTE/STREET					TOTAL COST	\$49,752,817
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
CN	Federal – AC CONVERSION	\$0	\$0	\$851,879	\$0	\$0
	Federal - NHS/NHPP	\$0	\$5,150,000	\$0	\$0	\$0
	Federal – STP/STBG	\$0	\$10,482,284	\$10,525,317	\$10,569,082	\$10,613,591
CN TOTAL		\$0	\$15,632,284	\$11,377,196	\$10,569,082	\$10,613,591
CN AC	Federal – AC OTHER	\$0	\$1,560,664	\$0	\$0	\$0
MPO Notes						

GROUPING		Maintenance: Preventive Maintenance for Bridges				
PROGRAM NOTE		Funding identified to be obligated districtwide as projects are identified.				
ROUTE/STREET					TOTAL COST	\$18,387,625
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
CN	Federal - NHFP	\$0	\$1,877,503	\$1,877,503	\$1,877,503	\$1,877,503
	Federal - NHS/NHPP	\$0	\$528,620	\$528,620	\$528,620	\$528,620
	Federal – STP/STBG	\$0	\$2,177,888	\$2,186,388	\$2,195,033	\$2,203,824
CN TOTAL		\$0	\$4,584,011	\$4,592,511	\$4,601,156	\$4,609,947
MPO Notes						

GROUPING		Maintenance: Traffic and Safety Operations				
PROGRAM NOTE		Funding identified to be obligated districtwide as projects are identified.				
ROUTE/STREET					TOTAL COST	\$8,237,514
	FUNDING SOURCE	MATCH	FY24	FY25	FY26	FY27
CN	Federal – STP/STBG	\$0	\$2,046,632	\$2,055,034	\$2,063,579	\$2,072,269

Transit Summary - CAT and Jaunt

Charlottesville MPO	Previous Funding	FY 2024	FY 2025	FY 2026	FY 2027	Total FY 2024-2027	
FTA 5307	\$5,410	\$4,566	\$8,492	\$8,337	\$6,817	FTA 5307	\$28,212
FTA 5307 ARPA	\$600	\$0	\$0	\$0	\$0	FTA 5307 ARPA	\$0
FTA 5310	\$0	\$0	\$0	\$0	\$0	FTA 5310	\$0
FTA 5311	\$2,455	\$2,641	\$2,667	\$2,694	\$2,721	FTA 5311	\$10,723
FTA 5337	\$0	\$0	\$0	\$0	\$0	FTA 5337	\$0
FTA 5339	\$1,667	\$1,985	\$1,529	\$1,265	\$3	FTA 5339	\$4,806
FTA ADTAP	\$0	\$0	\$0	\$0	\$0	FTA ADTAP	\$0
Flexible STP	\$0	\$0	\$45	\$0	\$720	Flexible STP	\$0
RSTP	\$0	\$0	\$0	\$0	\$0	RSTP	\$0
Other Federal	\$0	\$0	\$0	\$0	\$0	Other Federal	\$0
State	\$4,648	\$6,465	\$5,420	\$4,630	\$1,611	State	\$18,126
Local	\$6,309	\$7,630	\$7,927	\$7,795	\$7,835	Local	\$31,187
Revenues	\$0	\$0	\$0	\$0	\$0	Revenues	\$0
<i>Totals</i>	\$19,009	\$21,531	\$20,419	\$18,792	\$14,551		\$75,293

*The federal funding allocations identified above do not reflect the federal transit funds provided with the Coronavirus Aid, Relief, and Economic Security Act.

CAT Summary

The following tables are based on [CAT's FY 2020 Transportation Development Plan](#) (TDP). The TDP serves as a guide regarding the ongoing and future operations of CAT. It provides a review of CAT's operational performance and objectives to direct performance improvements and expansions. Please visit CAT's Transportation Development Plan webpage for more details.

Charlottesville Transit	Previous Funding	FY 2024	FY 2025	FY 2026	FY 2027	Total FY 2024-2027	
FTA 5307	\$4,453	\$463	\$4,210	\$4,514	\$3,042	FTA 5307	\$16,229
FTA 5310	\$0	\$0	\$0	\$0	\$0	FTA 5310	\$0
FTA 5311	\$0	\$0	\$0	\$0	\$0	FTA 5311	\$0
FTA 5337	\$0	\$0	\$0	\$0	\$0	FTA 5337	\$0
FTA 5339	\$1,667	\$1,985	\$1,529	\$1,265	\$27	FTA 5339	\$4,806
Flexible STP	\$0	\$0	\$0	\$0	\$0	Flexible STP	\$0
RSTP	\$0	\$0	\$0	\$0	\$0	RSTP	\$0
Other Federal	\$0	\$0	\$0	\$0	\$0	Other Federal	\$0
State	\$4,082	\$4,821	\$3,714	\$3,072	\$66	State	\$11,673
Local	\$421	\$284	\$218	\$181	\$4	Local	\$687
Revenues	\$0	\$0	\$0	\$0	\$0	Revenues	\$0
<i>Totals</i>	\$6,170	\$7,090	\$5,462	\$4,517	\$97		\$17,166

	Previous Funding	FY2024	FY2025	FY2026	FY2027	Total FY2024-FY2027	
TIP ID:	CAT0001	Title: Operating Assistance				Recipient:	Charlottesville Area Transit
FTA 5307	4,453,157	4,462,577	4,209,586	4,513,613	3,042,870	FTA 5307	16,228,646
Flexible STP	-	-	-	-	-	Flexible STP	-
State	3,231,065	3,105,580	2,971,936	2,839,383	2,896,171	State	11,813,070
Local	3,513,651	4,125,000	5,252,042	5,325,018	6,525,018	Local	21,227,078
Revenues	107,440	109,900	112,500	115,070	584,887	Revenues	922,357
Year Total	11,305,313	11,803,057	12,546,064	12,793,084	13,048,946	Year Total	50,191,151
Description:							
TIP ID:	CAT0002	Title: Expansion - Rolling Stock				Recipient:	Charlottesville Area Transit
Flexible STP	-	-	-	-	-	Flexible STP	-
FTA 5339	519,559	620,999	983,721	576,800	-	FTA 5339	2,181,520
State	1,261,786	1,508,139	2,389,038	1,400,800	-	State	5,297,977
Local	74,223	88,714	140,532	82,400	-	Local	311,646
Year Total	1,855,568	2,217,852	3,513,291	2,060,000	-	Year Total	7,791,143
Description:							
TIP ID:	CAT0003	Title: Replacement - Rolling Stock				Recipient:	Charlottesville Area Transit
Flexible STP	-	-	-	-	-	Flexible STP	-
FTA 5339	897,832	1,058,553	517,003	576,800	-	FTA 5339	2,152,356
State	2,180,449	2,570,773	1,255,580	1,400,800	-	State	5,227,153
Local	128,262	151,222	73,858	82,400	-	Local	307,480
Year Total	3,206,543	3,780,548	1,846,441	2,060,000	-	Year Total	7,686,989
Description:							
TIP ID:	CAT0007	Title: Passenger Shelters				Recipient:	Charlottesville Area Transit
Flexible STP	-	-	-	-	-	Flexible STP	-
FTA 5339	-	64,400	25,760	25,760	25,760	FTA 5339	141,680
State	-	156,400	62,560	62,560	62,560	State	344,080
Local	-	9,200	3,680	3,680	3,680	Local	20,240

Year Total	-	230,000	92,000	92,000	92,000	Year Total	506,000
Description:							
TIP ID:	CAT0009	Title: Purchase Support Vehicles				Recipient:	Charlottesville Area Transit
Flexible STP	-	-	-	-	-	Flexible STP	-
FTA 5339	25,277	14,000	-	28,000	-	FTA 5339	42,000
State	61,387	34,000	-	68,000	-	State	102,000
Local	3,611	2,000	-	4,000	-	Local	6,000
Year Total	90,275	50,000	-	100,000	-	Year Total	150,000
Description:							
TIP ID:	CAT0011	Title: Purchase Shop Equipment				Recipient:	Charlottesville Area Transit
Flexible STP	-	-	-	-	-	Flexible STP	-
FTA 5339	98,000	63,140	-	-	-	FTA 5339	63,140
State	238,000	153,340	-	-	-	State	153,340
Local	14,000	9,020	-	-	-	Local	9,020
Year Total	336,000	216,480	-	-	-	Year Total	216,480
Description:							
TIP ID:	CAT0012	Title: Purchase Vehicle Locator System				Recipient:	Charlottesville Area Transit
Flexible STP	-	-	-	-	-	Flexible STP	-
FTA 5339	-	154,000	-	-	-	FTA 5339	154,000
State	-	374,000	-	-	-	State	374,000
Local	-	22,000	-	-	-	Local	22,000
Year Total	-	550,000	-	-	-	Year Total	550,000
Description:							
TIP ID:	CAT0014	Title: Purchase Misc Equipment				Recipient:	Charlottesville Area Transit
Flexible STP	-	-	-	-	-	Flexible STP	-
FTA 5339	70,420	4,200	2,800	1,400	1,400	FTA 5339	9,800
State	171,020	10,200	6,800	3,400	3,400	State	23,800
Local	10,060	600	400	-	-	-	-
Year Total	251,500	15,000	10,000	4,800	4,800	Year Total	
Description:							

TIP ID:	CAT0017	Title: Purchase Surveillance/Security Equipment				Recipient:	Charlottesville Area Transit
Flexible STP	-	-	-	-	-	Flexible STP	
FTA 5339	55,567	5,880	-	56,000	-	FTA 5339	
State	134,948	14,280	-	136,000	-	State	
Year Total	190,515	20,160	-	192,000	-	Year Total	
Description:							
TIP ID:	CAT0020	Title: Purchase Transit Radio System				Recipient:	Charlottesville Area Transit
Flexible STP	-	-	-	-	-	Flexible STP	
FTA 5339	-	-	-	-	-	FTA 5339	
State	34,840	-	-	-	-	State	
Local	182,911	-	-	-	-	Local	
Year Total	217,751	-	-		-	Year Total	
Description:							

Jaunt Summary

JAUNT completed its 2022 Transit Development Plan in December of the same year to more closely align with operating changes and capital improvement projects. The 2022 Jaunt Transit Development Plan is available on the CA-MPO TIP webpage to provide explanations for the TIP budget requests.

Jaunt, Inc.	Previous Funding	FY 2024	FY 2025	FY 2026	FY 2027	Total FY 2024-2027	
FTA 5307	\$957	\$4,103	\$4,282	\$3,823	\$3,775	FTA 5307	\$15,983
FTA 5310	\$0	\$0	\$0	\$0	\$0	FTA 5310	\$0
FTA 5311	\$2,455	\$2,641	\$2,667	\$2,694	\$2,721	FTA 5311	\$10,724
FTA 5307 ARPA	\$600	\$0	\$0	\$0	\$0	FTA 5337	\$0
Mobility Manager	\$68	\$0	\$0	\$0	\$0	FTA 5339	\$0
Other Federal	\$0	\$0	\$0	\$0	\$0	Other Federal	\$0
State	\$566	\$1,644	\$1,706	\$1,558	1,545	State	\$6,453
Local	\$5,888	\$7,346	\$7,709	\$7,614	\$7,831	Local	\$30,501
Revenues	\$0	\$0	\$0	\$0	\$0	Revenues	\$0
<i>Totals</i>	\$12,839	\$14,441	\$14,957	\$14,275	\$14,454		\$58,126

	Previous Funding FY2023	FY 2024	FY 2025	FY 2026	FY 2027	Total FY 2024-2027
CHARLOTTESVILLE-ALBEMARLE METROPOLITAN PLANNING ORGANIZATION						
TIP ID:	JNT0001	Title: Operating Assistance		Recipient:	JAUNT, Inc.	
FTA 5307	957	952	962	971	981	FTA 5307 3,866
FTA 5311	2,455	2,641	2,667	2,694	2,721	FTA 5311 10,724
FTA 5307 ARPA	600	-	-	-	-	- -
Mobility Mgr (Fed)	68	-	-	-	-	- -
State	2,552	1,162	1,174	1,185	1,197	State 4,718
Local	4,632	6,276	6,527	6,788	7,060	Local 26,651
Revenues	590	396	297	309	321	Revenues 1,323
Year Total:	11,854	11,427	11,627	11,948	12,280	Total Funds: 47,281
Description:						
TIP ID:	JNT0002	Title: Replacement Rolling Stock		Recipient:	JAUNT, Inc.	
FTA 5311	1,576	956	914	923	960	FTA 5311 3,754
FTA 5339	-	-	-	-	-	FTA 5339 -
Flexible STP	-	-	-	-	-	Flexible STP -
State	520	315	302	305	317	State 1,238
Local	1,154	700	669	676	703	Local 2,748
Year Total:	3,250	1,971	1,885	1,904	1,980	Total Funds: 7,740
Description:	Replacement of revenue vehicles					
TIP ID:	JNT0006	Title: ADP Hardware		Recipient:	JAUNT, Inc.	
FTA 5311	139	99	115	43	38	FTA 5311 295
Flexible STP	-	-	-	-	-	Flexible STP
State	46	33	38	14	12	State 97
Local	102	72	84	32	28	Local 216
Year Total:	287	204	237	89	78	Total Funds: 608
Description:						
TIP ID:	JNT0009	Title: ADP Software		Recipient:	JAUNT, Inc.	
FTA 5311	-	320	455	27	11	FTA 5311 813
Flexible STP	-	-	-	-	-	Flexible STP -
State	-	106	150	9	4	State 268
Local	-	234	333	20	8	Local 595
Year Total:	-	660	938	55	23	Total Funds: 1,676
Description:						

TIP ID:	JNT0012	Title: Rehab Renovation Facility		Recipient:	JAUNT, Inc.		
FTA 5311	-	59	59	60	12	FTA 5311	18
Flexible STP	-	-	-	-	-	Flexible STP	-
State	-	19	20	20	4	State	62
Local	-	43	43	44	9	Local	138
Year Total:	-	121	122	123	24	Total Funds:	390
Description:	Various projects to improve the facility						
TIP ID:	JNT0013	Title:Spare Parts/ACM Items		Recipient:	JAUNT, Inc.		
FTA 5311	-	14	31	32	33	FTA 5311	110
Flexible STP	-	-	-	-	-	Flexible STP	-
State	-	4	10	11	11	State	36
Local	-	10	22	23	24	Local	80
Year Total:	-	28	63	66	69	Total Funds:	226
Description:							
TIP ID:	JNT0015	Title: Support Vehicles		Recipient:	JAUNT, Inc.		
FTA 5311	-	15	41	44	-	FTA 5311	99
Flexible STP	-	-	-	-	-	Flexible STP	
State	-	5	14	14	-	State	33
Local	-	11	30	32	-	Local	73
Year Total:	-	30	85	90		Total Funds	205
Description:							
TIP ID:		Title: Governance Study		Recipient:	Thomas Jefferson Planning District Commission/ Charlottesville Albemarle MPO		
401 Federal			0	0	0	Federal	122
1400 Local			0	0	0	Local	65
Year Total:						Total Funds:	187
Description:	Project start date: FY23. Project end date: 18 Months						
TIP ID:		Title: Mobility Manager		Recipient:	Thomas Jefferson Planning District Commission/ Charlottesville Albemarle MPO		
FTA 5310 Federal		103				Federal	
State		21				State	
1400 Local		5				Local	
Year Total:		129				Total Funds	
Description:							

Appendix A. Projects by Grouping

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Appendix A

Projects by Grouping

Charlottesville MPO

Construction : Bridge Rehabilitation/Replacement/Reconstruction

	System	UPC	Jurisdiction / Name / Description	Street(Route)	Estimate
Miscellaneous	T19276	Culpeper District-wide	0000		\$0
			BRIDGE REHABILITATION/REPLACEMENT		
Primary	110001	Albemarle County	CROZET AVENUE (0240)		\$2,331,560
			#SGR18VB - RT 240 CROZET AVE STR 589 OVER LICKINGHOLE CREEK		
			FROM: 0.084 MI. South of Lickinghole Creek TO: 0.031 MI. North of Lickinghole Creek (0.1150 MI)		
Secondary	110000	Albemarle County	FRAY'S MILL ROAD (0641)		\$1,912,044
			#SGR18VB - RT 641 FRAYS MILL RD STR 709 OVER MARSH RUN		
			FROM: 0.03 MI. FROM RTE. 743 TO: 2.37 MI. TO RTE. 606		
Secondary	111378	Albemarle County	RED HILL ROAD (0708)		\$5,381,222
			#SGR18VB - RT 708 RED HILL RD STRUCT 792 OVER N.F. HARDWARE		
			FROM: 0.022 MI. E. of North Fork Hardware River TO: 0.064 MI. W. of North Fork Hardware River (0.0860 MI)		
Construction : Bridge Rehabilitation/Replacement/Reconstruction Total					\$9,624,826

Construction : Safety/ITS/Operational Improvements

	System	UPC	Jurisdiction / Name / Description	Street(Route)	Estimate
Interstate	119329	Albemarle County	0064		\$183,000
			#I64CIP - CCTV Culpeper District		
			FROM: WB 102.4 TO: WB 102.4		
Interstate	119333	Culpeper District-wide	0064		\$1,000,000
			#I64CIP - CMS CULPEPER DISTRICT		
Interstate	119445	Statewide	0064		\$282,535
			#I64 CIP - CULPEPER DISTRICT SSP		
			FROM: Various TO: Various		
Interstate	119446	Statewide	0064		\$0
			I64CIP - PUBLIC SAFETY ADVISORY POINTS INTEGRATIONS		
			FROM: various TO: various		
Interstate	117790	Statewide	0081		\$382,000
			#ITTF21 STUDY OF ADVANCED TECHNOLOGIES -I-81		
			FROM: various TO: various		
Interstate	118193	Statewide	0095		\$5,744,292
			#I95CIP CRO SSP FY23-26		
			FROM: I95 Various TO: I-95 Various		
Interstate	119154	Statewide	0095		\$900,000
			#I95CIP PUBLIC SERVICE ADVISORY(PSAP) INTEGRATIONS STATEWIDE		
			FROM: Various TO: Various		
Interstate	119155	Statewide	0095		\$0
			#I95CIP WORK ZONE DEMONSTRATION SAFETY GRANT		
			FROM: various TO: various		

Appendix is for informational purposes only.

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Charlottesville MPO

Construction : Safety/ITS/Operational Improvements

	System	UPC Jurisdiction / Name / Description	Street(Route)	Estimate
Interstate	110551	Statewide TRAFFIC VIDEO EXPANSION (PSAP) - STATEWIDE FROM: Various TO: Various	9999	\$307,192
Interstate	110912	Statewide Statewide Truck Parking Management System - Phase 1 FROM: Various TO: Various	9999	\$813,019
Interstate	111613	Statewide STATEWIDE TRUCK PARKING MANAGEMENT SYSTEM - PHASE 2 FROM: Various TO: Various	9999	\$1,807,000
Interstate	111892	Statewide ATMS - PHASE 1, 2, 3, 4 FROM: Various TO: Various	9999	\$0
Interstate	115854	Statewide #ITTF20 ARTERIAL OPERATIONS PROGRAM DASHBOARD FROM: n/a TO: n/a	9999	\$0
Interstate	115856	Statewide #ITTF20 PARKING DEMAND MANAGEMENT SYSTEM FROM: Various TO: Various	9999	\$1,950,000
Interstate	119197	Statewide #ITTF22 OSPREY FIBER CONNECTIONS - STATEWIDE FROM: Various TO: Various	9999	\$1,500,000
Interstate	119198	Statewide #ITTF22 HIGH SPEED COMMUNICATIONS FOR SIGNALS (PHASE II) FROM: Various TO: Various	9999	\$25,040
Interstate	119199	Statewide #ITTF22 STUDY FOR SMARTER LIGHTING INITIATIVE STATEWIDE FROM: Various TO: Various	9999	\$500,000
Interstate	119332	Statewide #ITTF22 DATA-DRIVEN MGMT PROGRAM FOR PAVEMENT MARKING FROM: Various TO: Various	9999	\$300,000
Interstate	119379	Statewide #ITTF22 CONNECTED WORK ZONES PROGRAM STATEWIDE FROM: Various TO: Various	9999	\$0
Interstate	119401	Statewide #ITTF22 PROJECT EVALUATIONS STATEWIDE FROM: Various TO: Various	9999	\$250,000
Interstate	119402	Statewide #ITTF22 INCIDENT RESPONSE OPTIMIZATION -STATEWIDE FROM: Various TO: Various	9999	\$1,030,000
Interstate	119404	Statewide #ITTF22 GUIDE LIGHTS FOR SPEED MANAGEMENT STATEWIDE FROM: various TO: various	9999	\$1,000,000
Interstate	119406	Statewide #ITTF22 AUTOMATED SPEED ENFORCEMENT PILOT STATEWIDE FROM: Various TO: Various	9999	\$0

Charlottesville MPO**Construction : Safety/ITS/Operational Improvements**

	System	UPC Jurisdiction / Name / Description	Street(Route)	Estimate
Primary	111727	Albemarle County	MONACAN TRAIL (0029) I-64 / ROUTE 29 INTERCHANGE IMPROVEMENTS FROM: 0.22 MI NORTH OF ROUTE 1106 TO: 0.37 MI NORTH OF ROUTE 1106 (0.1500 MI)	\$2,080,207
Primary	111813	Albemarle County	ROUTE 29 (0029) #SMART18 - NB US 29 exit ramp to Fontaine Avenue FROM: 0.29 MILES N. of I-64 WB BRIDGE TO: Fontaine Avenue (0.3500 MI)	\$2,629,600
Primary	114299	Albemarle County	SEMINOLE TRAIL (0029) ROUTE 29 AND WOODBROOK INTERSECTION MODIFICATION FROM: Woodbrook Dr TO: Woodbrook Dr (0.0600 MI)	\$0
Primary	114666	Albemarle County	0029 PSAP - Pedestrian Facility Improvements in Albemarle County FROM: Various Locations TO: Various Locations	\$407,340
Primary	114401	Culpeper District-wide	SEMINOLE TRAIL (0029) Signal Performance Metric - ATSC FROM: Rte. 649 TO: Stone Ridge Drive	\$600,000
Primary	111729	Albemarle County	IVY ROAD (0250) ROUTE 250 / 240 / 680 ROUNDABOUT FROM: INTERSECTION OF ROUTES 250 / 240 / 680 TO: INTERSECTION OF ROUTES 250 / 240 / 680	\$3,550,000
Primary	111814	Albemarle County	RICHMOND ROAD (0250) #SMART18 - EXIT 124 (INTERSTATE 64) FROM: 0.32 MILES E. FR-179 (HANSENS MTN ROAD) TO: 0.02 MILES W. FR-179 (HANSENS MTN ROAD) (0.3400 MI)	\$18,102,653
Primary	115477	Albemarle County	RICHMOND ROAD (0250) #SMART20 - RTE. 250 & RTE. 20 INTERSECTION IMPROVEMENTS FROM: 0.10 M. E. RTE. 20 TO: 0.10 M. W. RTE. 20 (0.2000 MI)	\$8,800,000
Primary	115476	Charlottesville	5TH STREET (9999) #SMART20 - 5TH STREET SW CORRIDOR IMPROVEMENTS FROM: RIDGE STREET TO: E. AT UNDIVIDED 5TH STREET	\$6,103,034
Urban	109480	Charlottesville	E. MARKET ST. / 9TH. ST. N.E. / E. HIGH ST. (0000) #HB2.FY17 EAST HIGH STREETSCAPE IMPROVEMENTS FROM: INT. E. MARKET ST. / 7TH. ST. N.E. TO: E. HIGH ST. / LOCUST AVE. (0.3600 MI)	\$7,157,000
Urban	109551	Charlottesville	EMMET ST. N. (0000) #HB2.FY17 EMMET STREET CORRIDOR STREETSCAPE & INTERSECTIONS FROM: IVY ROAD / UNIVERSITY AVENUE TO: ARLINGTON BOULEVARD (0.5500 MI)	\$12,098,063
Urban	111796	Charlottesville	EMMET STREET (0029) #SMART18 - BARRACKS RD @ EMMET ST INTERSECTION FROM: 0.08 MI S OF INT. BARRACKS ROAD TO: 0.01 MI N OF INT. BARRACKS ROAD (0.0900 MI)	\$8,640,866
Urban	109484	Charlottesville	FONTAINE AVENUE (0000) #HB2.FY17 FONTAINE AVENUE STREETSCAPE IMPROVEMENTS FROM: RAY C HUNT DRIVE TO: JEFFERSON PARK AVENUE (0.4300 MI)	\$11,700,000
Urban	113916	Charlottesville	GRADY AVENUE (0250) 10TH & GRADY AVENUE BIKE PED FROM: 0.04 EAST OF ROUTE 3423 TO: 0.06 WEST OF ROUTE 3423 (0.1000 MI)	\$291,000

Charlottesville MPO

Construction : Safety/ITS/Operational Improvements

	System	UPC Jurisdiction / Name / Description	Street(Route)	Estimate
Interstate	121564	Statewide	9999	\$350,000
		#ITTF23 LEVERAGING CONNECTED CAR DATA FOR IMPROVED SAFETY FROM: Various TO: Various		
Interstate	121653	Statewide	9999	\$3,000,000
		#ITTF23 - COOPERATIVE FREEWAY MANAGEMENT STUDY- NOVA/FRED FROM: Various TO: Various		
Interstate	121654	Statewide	9999	\$1,000,000
		#ITTF23 OPERATIONALIZE TRAFFIC OPERATIONS SUPPORT CENTER FROM: Various TO: Various		
Interstate	121655	Statewide	9999	\$500,000
		#ITTF23 IMPLEMENT AI-BASED INTEGRATED SECURITY PREDICTION FROM: Various TO: Various		
Interstate	121666	Statewide	9999	\$500,000
		#ITTF23 ITTF PROJECT EVALUATIONS FROM: Various TO: Various		
Interstate	121667	Statewide	9999	\$3,575,000
		#ITTF23 RM3P DEP Data Services FROM: Various TO: Various		
Interstate	121668	Statewide	9999	\$1,000,000
		#ITTF23 REAL-TIME INFORMATION DISSEMINATION FOR CMVs FROM: Various TO: Various		
Interstate	121670	Statewide	9999	\$500,000
		#ITTF23 ADVANCED ROAD WEATHER INFORMATION SYSTEMS STUDY FROM: VARIOUS TO: VARIOUS		
Interstate	121712	Statewide	9999	\$650,000
		NETWORK OPERATIONS CENTER IMPLEMENTATION FROM: Various TO: Various		
Interstate	121776	Statewide	9999	\$1,000,000
		HARD SHOULDER RUNNING FEASIBILITY STUDY-Technology component FROM: Various TO: Various		
Interstate	121822	Statewide	9999	\$5,000,000
		#ITTF23 STATEWIDE FIBER NETWORK ENHANCEMENTS FROM: Various TO: Various		
Interstate	122048	Statewide	VARIOUS (9999)	\$500,000
		#ITTF23 - RM3P EVALUATION FROM: various TO: various		
Miscellaneous	T19275	Culpeper District-wide	0000	\$0
		CN: SAFETY/ITS/OPERATIONAL/IMPROVEMENTS		
Miscellaneous	121537	Culpeper District-wide	9999	\$0
		District-wide Flashing Yellow Arrows Installations FROM: VARIOUS TO: VARIOUS		
Miscellaneous	121643	Statewide	9999	\$1,000,000
		#ITTF23 SMART INTERSECTIONS DEPLOYMENT SUPPORT FROM: Various TO: Various		

Charlottesville MPO

Construction : Safety/ITS/Operational Improvements

	System	UPC Jurisdiction / Name / Description	Street(Route)	Estimate
Primary	111733 Albemarle County	STONY POINT ROAD (0020) #SMART18 - ROUTE 20/649 INTERSECTION IMPROVEMENT FROM: 0.119 MILE SOUTH OF RT. 649 TO: 0.058 MILE NORTH OF RT. 649 (0.3600 MI)		\$4,207,346
Primary	118875 Albemarle County	SCOTTSVILLE ROAD (0020) #SMART22 - RTE. 20/53 INTERSECTION IMPROVEMENTS FROM: .025 MILES S. RTE 53 TO: 0.10 MILES N. RTE 53 (0.3500 MI)		\$10,271,103
Primary	111727 Albemarle County	MONACAN TRAIL (0029) I-64 / ROUTE 29 INTERCHANGE IMPROVEMENTS FROM: 0.152 MILE SOUTH OF I-64 EB TO: 0.010 MILE SOUTH OF I-64 EB (0.1500 MI)		\$2,080,207
Primary	111813 Albemarle County	ROUTE 29 (0029) #SMART18 - NB US 29 exit ramp to Fontaine Avenue FROM: .208 Miles South of Fontaine Ave TO: .057 Miles South of Fontaine Ave (0.3500 MI)		\$2,621,469
Primary	114401 Albemarle County	SEMINOLE TRAIL (0029) Signal Performance Metric - ATSC FROM: Rte. 649 TO: Stone Ridge Drive		\$600,000
Primary	118868 Albemarle County	RTE. 29 BYPASS (0029) #SMART22 - US 29 AND FONTAINE AVE INTERCHANGE IMPROVEMENTS FROM: S. FONTAINE INTERCHANGE RAMP TO: N. FONTAINE INTERCHANGE RAMP (0.7000 MI)		\$13,440,089
Primary	118871 Albemarle County	SEMINOLE TRAIL (0029) #SMART22 - RTE 29 SHARED USE PATH FROM: CARRSBROOKE DR. TO: SEMINOLE LANE (0.5000 MI)		\$3,524,115
Primary	118867 Charlottesville	EMMET STREET (0029) #SMART22 - EMMET STREET MULTIMODAL PHASE II FROM: ARLINGTON BLVD TO: BARRACKS ROAD (0.4500 MI)		\$20,465,490
Primary	118880 Multi-jurisdictional: Charlottesville MPO	SEMINOLE TRAIL (0029) #SMART22 - HYDRAULIC ROAD AND RTE. 29 FROM: ANGUS ROAD TO: 0.24 MI North of HYDRAULIC ROAD (0.5300 MI)		\$28,254,264
Primary	111729 Albemarle County	IVY ROAD (0250) ROUTE 250 / 240 / 680 ROUNDABOUT FROM: INTERSECTION OF ROUTES 250 / 240 / 680 TO: INTERSECTION OF ROUTES 250 / 240 / 680		\$4,539,016
Primary	111814 Albemarle County	RICHMOND ROAD (0250) #SMART18 - EXIT 124 (INTERSTATE 64) FROM: 0.337 MILE WEST OF I-64 WB TO: 0.321 MILE EAST OF I-64 WB (0.3400 MI)		\$18,102,653
Primary	115477 Albemarle County	RICHMOND ROAD (0250) #SMART20 - RTE. 250 & RTE. 20 INTERSECTION IMPROVEMENTS FROM: 0.10 M. E. RTE. 20 TO: 0.10 M. W. RTE. 20 (0.2000 MI)		\$8,800,000
Primary	118879 Albemarle County	RICHMOND ROAD (0250) #SMART22 - RTE 250 EAST CORRIDOR IMPROVEMENTS FROM: STONEY POINT ROAD TO: ROLKIN ROAD		\$5,939,563
Primary	100548 Charlottesville	MCINTIRE ROAD BUSINESS (0250) Construct Multi-Use Path along McIntire Rd FROM: Route 250 Bypass TO: Harris Street		\$1,039,517
Secondary	118878 Albemarle County	5TH STREET EXTENDED (0631) #SMART22 - OLD LYNCHBURG RD/5TH ST EXT. INT IMPROVEMENTS FROM: 0.25 MILES S. RTE 780 TO: 0.25 MILES N. RTE 780 (0.5000 MI)		\$7,797,076

Charlottesville MPO

Construction : Safety/ITS/Operational Improvements

	System	UPC Jurisdiction / Name / Description	Street(Route)	Estimate
Secondary	118876 Albemarle County	RIO ROAD (0631)		\$10,887,626
		#SMART22 - RIO ROAD & JOHN WARNER PARKWAY ROUNDABOUT		
		FROM: 0.02 MILES N RTE. 631 TO: 0.02 MILES S. RTE 631		
Secondary	118877 Charlottesville	RIDGE STREET (9999)		\$8,738,020
		#SMART22 - RIDGE STREET SAFETY IMPROVEMENTS		
		FROM: DIVIDED SECTION TO: MONTICELLO AVE (0.2400 MI)		
Urban	115476 Charlottesville	5TH STREET (9999)		\$6,103,034
		#SMART20 - 5TH STREET SW CORRIDOR IMPROVEMENTS		
		FROM: RIDGE STREET TO: E. AT UNDIVIDED 5TH STREET		
Urban	109480 Charlottesville	E. MARKET ST. / 9TH. ST. N.E. / E. HIGH ST. (0000)		\$9,605,921
		#HB2.FY17 EAST HIGH STREETSCAPE IMPROVEMENTS		
		FROM: 0.15 mile s south of Route 250 Bus TO: 0.72 mile south of Route 250 (0.3600 MI)		
Urban	109551 Charlottesville	EMMET ST. N. (0000)		\$16,844,639
		#HB2.FY17 EMMET STREET CORRIDOR STREETSCAPE & INTERSECTIONS		
		FROM: 0.046 mile south of Ivy Road on Emmet Street TO: ARLINGTON BOULEVARD (0.5500 MI)		
Urban	111796 Charlottesville	EMMET STREET (0029)		\$8,640,866
		#SMART18 - BARRACKS RD @ EMMET ST INTERSECTION		
		FROM: 0.06 MI S OF INT. BARRACKS ROAD TO: 0.08 MI N OF INT. BARRACKS ROAD (0.0900 MI)		
Urban	109484 Charlottesville	FONTAINE AVENUE (0000)		\$12,276,431
		#HB2.FY17 FONTAINE AVENUE STREETSCAPE IMPROVEMENTS		
		FROM: 0.03 mi west of Westerly Avenue TO: JEFFERSON PARK AVENUE (0.4300 MI)		
Urban	113916 Charlottesville	GRADY AVENUE (0250)		\$291,000
		10TH & GRADY AVENUE BIKE PED		
		FROM: 0.04 EAST OF ROUTE 3423 TO: 0.06 WEST OF ROUTE 3423 (0.1000 MI)		
Urban	113861 Charlottesville	MADISON AVENUE (0000)		\$222,059
		WASHINGTON PARK/MADISON AVENUE BICYCLE CONNECTOR TRAIL		
		FROM: PRESTON AVENUE TO: ROSE HILL DRIVE		
Urban	113917 Charlottesville	MONTICELLO AVENUE (3402)		\$981,662
		PEDESTRIAN IMPROVEMENTS AT MONTICELLO AVE/2ND		
		FROM: 0.028 mi west of 2nd St SE TO: 0.022 mi east of 2nd St SE (0.0500 MI)		
Urban	113918 Charlottesville	PRESTON AVENUE (0250)		\$245,725
		PEDESTRIAN IMPROVEMENTS AT PRESTON AVE/HARRIS ST		
		FROM: 0.06 MI EAST OF HARRIS STREET TO: 0.04 MI WEST OF HARRIS STREET (0.1000 MI)		
Urban	113919 Charlottesville	RIDGE STREET (3405)		\$265,230
		PEDESTRIAN IMPROVEMENTS AT RIDGE/CHERRY		
		FROM: 0.07 MI SOUTH OF ROUTE 3400 TO: 0.03 MI NORTH OF ROUTE 3400 (0.1000 MI)		
Construction : Safety/ITS/Operational Improvements Total				\$243,333,199

Construction : Transportation Alternatives/Byway/Non-Traditional

	System	UPC Jurisdiction / Name / Description	Street(Route)	Estimate
Enhancement	111393 Charlottesville	EN17		\$419,500
		Rugby Avenue Shared Use Path		
		FROM: West McIntire Park TO: Sherwood Road		

Charlottesville MPO**Construction : Transportation Alternatives/Byway/Non-Traditional**

	System	UPC	Jurisdiction / Name / Description	Street(Route)	Estimate
Enhancement	121656	Charlottesville	EN22 CITY OF CHARLOTTESVILLE SRTS COORDINATOR/PROGRAM DEVELOPMENT FROM: VARIOUS TO: VARIOUS		\$104,804
Miscellaneous	T19273	Culpeper District-wide	0000 CN: TRANSPORTATION ENHANCEMENT/BYWAYS/OTHER NON-TRADITIONAL		\$0
Secondary	118870	Multi-jurisdictional: Charlottesville MPO	5TH STREET (0631) #SMART22 - FIFTH STREET HUB AND TRAILS FROM: 5th. St. Station development TO: 5th St. Parking Lot (0.2400 MI)		\$9,841,290
Construction : Transportation Alternatives/Byway/Non-Traditional Total					\$10,365,594

Maintenance : Preventive Maintenance and System Preservation

	System	UPC	Jurisdiction / Name / Description	Street(Route)	Estimate
Miscellaneous	T14710	Culpeper District-wide	0000 STIP-MN Culpeper: Preventive MN and System Preservation		\$49,752,817
Urban	118295	Charlottesville	DAIRY ROAD (9999) #SGR21LB - DAIRY ROAD OVER RTE 250 BYPASS (FED ID 20073) FROM: DAIRY RD OVER RTE. 250 BYPASS TO: DAIRY RD OVER RTE. 250 BYPASS		\$0
Urban	118882	Charlottesville	RTE 250 BYPASS (0250) #SGR22LP - RTE 250 BYPASS - CITY OF CHARLOTTESVILLE FROM: FIRE STATION TO: RUGBY AVE. (0.3400 MI)		\$0
Maintenance : Preventive Maintenance and System Preservation Total					\$49,752,817

Maintenance : Preventive Maintenance for Bridges

	System	UPC	Jurisdiction / Name / Description	Street(Route)	Estimate
Miscellaneous	T14709	Culpeper District-wide	0000 STIP-MN Culpeper: Preventive MN for Bridges		\$18,387,625
Maintenance : Preventive Maintenance for Bridges Total					\$18,387,625

Maintenance : Traffic and Safety Operations

	System	UPC	Jurisdiction / Name / Description	Street(Route)	Estimate
Miscellaneous	T14708	Culpeper District-wide	0000 STIP-MN Culpeper: Traffic and Safety Operations		\$8,237,514
Maintenance : Traffic and Safety Operations Total					\$8,237,514

Charlottesville MPO Total					\$339,701,575
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Appendix B. Transit Asset Management

Transit Asset Management Plans

The National Transit Asset Management System Final Rule (49 U.S.C 625) specifies four performance measures, which apply to four TAM asset categories: equipment, rolling stock, infrastructure, and facilities. Figure 2 describes each of these measures.

Figure 2: TAM Performance Measures by Asset Category

Asset Category	Relevant Assets	Measure	Measure Type	Desired Direction
Equipment	Service support, maintenance, and other non-revenue vehicles	Percentage of vehicles that have met or exceeded their ULB	Age-based	Minimize percentage
Rolling Stock	Buses, vans, and sedans; light and heavy rail cars; commuter rail cars and locomotives; ferry boats	Percentage of revenue vehicles that have met or exceeded their ULB	Age-based	Minimize percentage
Infrastructure	Fixed guideway track	Percentage of track segments with performance (speed) restrictions, by mode	Performance-based	Minimize percentage
Facilities	Passenger stations, parking facilities, administration and maintenance facilities	Percentage of assets with condition rating lower than 3.0 on FTA TERM Scale	Condition-based	Minimize percentage

FTA = Federal Transit Administration. TAM = Transit Asset Management. TERM = Transit Economic Requirements Model. ULB = Useful Life Benchmark.

Two definitions apply to these performance measures:

- **Useful Life Benchmark (ULB)**—“The expected lifecycle of a capital asset for a particular transit provider’s operating environment, or the acceptable period of use in service for a particular transit provider’s operating environment.” For example, FTA’s default ULB of a bus is 14 years.
- **FTA Transit Economic Requirements Model (TERM) Scale**—A rating system used in FTA’s TERM to describe asset condition. The scale values are 1 (poor), 2 (marginal), 3 (adequate), 4 (good), and 5 (excellent).

The National Transit Asset Management System Final Rule (49 U.S.C. 625) requires that all transit agencies that receive federal financial assistance under 49 U.S.C. Chapter 53 and own, operate, or manage capital assets used in the provision of public transportation create a TAM plan. Agencies are required to fulfill this requirement through an individual or group plan. The TAM rule provides two tiers of requirements for transit agencies based on size and operating characteristics:

- A Tier I agency operates rail, OR has 101 vehicles or more all fixed route modes, OR has 101 vehicles or more in one non-fixed route mode.

- A Tier II agency is a subrecipient of FTA 5311 funds, OR is an American Indian Tribe, OR has 100 or less vehicles across all fixed route modes, OR has 100 vehicles or less in one non-fixed route mode.

The Department of Rail and Public Transportation (DRPT) is the sponsor for the Statewide Tier II Group Plan. The Charlottesville Albemarle MPO programs federal transportation funds for Charlottesville Area Transit and JAUNT. Charlottesville Area Transit and JAUNT are Tier II agencies participating in the DRPT sponsored group TAM Plan. The MPO has integrated the goals measures and targets described in the [Federal Fiscal Year 2018 Group Transit Asset Management Plan and 2020 plan Addendum](#) into the MPO's planning and programming process specific targets for the Tier II Group TAM Plan are included in the table below.

Table 3: TAM Targets for rolling stock and facilities: Percentage of Revenue Vehicles that have met or exceeded their ULB by Asset Type.

Asset Category - Performance Measure	Asset Class	2020 Target*
Revenue Vehicles		
Age - % of revenue vehicles within a particular asset class that have met or exceeded their Useful Life Benchmark (ULB)	AB - Articulated Bus	15%
	BU - Bus	10%
	CU - Cutaway	10%
	MB - Minibus	20%
	BR - Over-the-Road Bus	15%
	TB - Trolley Bus	10%
	VN - Van	25%
Equipment		
Age - % of vehicles that have met or exceeded their Useful Life Benchmark (ULB)	Non-Revenue/Service Automobile	25%
	Trucks and other Rubber Tire Vehicles	25%
Facilities		
Condition - % of facilities with a condition rating below 3.0 on the FTA TERM Scale	Administrative and Maintenance Facility	10%
	Administrative Office	10%
	Maintenance Facility	10%
	Passenger Facilities	10%

Additional information and guidance is available on FTAs Transit Asset Management website:
<https://www.transit.dot.gov/TAM>

FTA TAM planning factsheet:

<https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/Planning%20for%20TAM%20fact%20sheet.pdf>

Appendix C. Self-Certification Statement



Charlottesville-Albemarle Metropolitan Planning Organization

POB 1505, 401 E. Water St, Charlottesville, VA 22902 www.tjpd.org

(434) 979-7310 phone; (434) 979-1597 fax; info@tjpd.org email

Metropolitan Transportation Planning Process Self-Certification Statement

In accordance with 23 CFR 450.336, the Virginia Department of Transportation and the Charlottesville-Albemarle Metropolitan Planning Organization for the City of Charlottesville and the urbanized area of Albemarle County hereby certify that the transportation planning process is addressing the major issues in the metropolitan planning area and is being conducted in accordance with all applicable requirements of:

- I. 23 U.S.C. 134 and 135, 49 U.S.C. 5303 and 5304, and this part;
- II. Title VI of the Civil Rights Act of 1964, as amended (42 U.S.C. 2000d-1) & 49 CFR part 21;
- III. 49 U.S.C. 5332, prohibiting discrimination on the basis of race, color, creed, national origin, sex, or age in employment or business opportunity;
- IV. Section 1101(b) of the SAFETEA-LU (Pub. L. 109-59) and 49 CFR part 26 regarding the involvement of disadvantaged business enterprises in USDOT funded projects;
- V. 23 CFR part 230, regarding the implementation of an equal employment opportunity program on Federal and Federal-aid highway construction contracts;
- VI. The provisions of the Americans with Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) and 49 CFR parts 27, 37 and 38;
- VII. In States containing nonattainment and maintenance areas, sections 174 and 176 (c) and (d) of the Clean Air Act, as amended (42 U.S.C. 7504, 7506 (c) and (d)) and 40 CFR part 93;
- VIII. The Older Americans Act, as amended (42 U.S.C. 6101), prohibiting discrimination on the basis of age in programs or activities receiving Federal financial assistance;
- IX. Section 324 of title 23 U.S.C., regarding the prohibition of discrimination based on gender; and
- X. Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794) and 49 CFR part 27 regarding discrimination against individuals with disabilities.

Charlottesville-Albemarle MPO

Virginia Department of Transportation

Signature

Signature

Printed Name

Printed Name

Title

Title

Date

Date

Memorandum

To: MPO Committee Members
From: Sandy Shackelford, Director of Planning & Transportation
Date: March 14, 2023
Reference: De-obligation of FY23 PL Funding

Purpose:

The Unified Planning Work Program (UPWP) for transportation planning identifies all activities to be undertaken in the Charlottesville-Albemarle Metropolitan Planning Organization (CA-MPO) area for each fiscal year. The UPWP provides a mechanism for coordination of transportation planning activities in the region and is required as a basis and condition for all federal funding assistance for transportation planning by the joint metropolitan planning regulations of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

Background:

In March of 2022, the CA-MPO Policy Board approved the de-obligation of PL funding in the amount of \$70,000 from the FY22 UPWP in order to actively roll that funding into FY23 with the intention of procuring consultant services to support the development of the Long Range Transportation Plan (LRTP). With the additional passive PL rollover funding from the FY21 UPWP, the CA-MPO procured the services of EPR and Kimley-Horn and entered into a contract of \$105,000 to support the LRTP efforts.

Based on the anticipated spend-down of the contract services, MPO staff anticipate that \$32,357 of the total contract amount will be expended in FY23, leaving a balance of \$72,643 for the consultant support to be provided in FY24 under the terms of the signed contract.

In September of 2023, the MPO approved a revision to the FY23 UPWP based on additional allocations of \$47,319 in PL funding beyond the original estimates provided when the original UPWP was adopted. At that time, the Policy Board approved adding that amount to the on-call services task with an understanding that the funding would be used to support project initiatives not yet identified. Due to the uncertainty in funding availability through some of the pipeline initiatives the TJPD staff is pursuing, MPO staff is recommending that an additional \$32,357 in PL funding be de-obligated from the on-call services task in the FY23 UPWP as a contingency fund in the event that some of these funding opportunities fall through.

The FY23 PL funding de-obligation requests do not reflect FY23 work program tasks that were planned but unable to be completed, but reflect maintaining the availability of funding consistent with decisions made in the approval of the revised FY23 UPWP in September of 2022.

The adjustments are requested for the FY23 FTA funding. A table summarizing the adjustments is attached for reference.

Recommendation:

Staff is requesting that the MPO Policy Board approve the de-obligation of PL funding in the amount of \$105,000 in PL funding as reflected in the draft amended FY23 UPWP and the attached resolution.

If there are any questions or comments, please contact Sandy Shackelford at sshackelford@tjpd.org.

FY23 - De-obligation Impacts					
	PL (Approved)	PL (Revised)	De- obligation	FTA (No change)	De-Obligation Total
Task 1: Administration	\$37,500	\$37,500	\$0	\$21,500	\$0
Reporting and Compliance with Regulations	\$14,000	\$14,000	\$0	\$8,000	\$0
Staffing Committees	\$14,000	\$14,000	\$0	\$8,000	\$0
Information Sharing	\$9,500	\$9,500	\$0	\$5,500	\$0
Task 2: Long Range Transportation Planning	\$261,338	\$156,338	\$105,000	\$81,596	\$105,000
2050 LRTP	\$161,335	\$88,692	\$72,643	\$33,000	\$72,643
OneMap	\$20,000	\$20,000	\$0	\$8,108	\$0
MPO Boundary Analysis	\$14,684	\$14,684	\$0	\$7,000	\$0
Transit Governance Study	\$0	\$0	\$0	\$30,488	\$0
On-call Services	\$65,319	\$32,962	\$32,357	\$3,000	\$32,357
Task 3: Short Range Transportation Planning	\$49,000	\$49,000	\$0	\$49,926	\$0
TIP	\$18,000	\$18,000	\$0	\$7,000	\$0
SMART SCALE	\$15,000	\$15,000	\$0	\$12,000	\$0
RTP, TDM, and Bike/Ped Support	\$4,000	\$4,000	\$0	\$8,500	\$0
Performance Targets	\$2,000	\$2,000	\$0	\$1,000	\$0
Regional Transit & Rail Planning	\$0	\$0	\$0	\$5,000	\$0
CTAC/Public Outreach/Title VI	\$10,000	\$10,000	\$0	\$16,426	\$0
TOTAL	\$347,838	\$242,838	\$105,000	\$153,022	\$105,000



Unified Planning Work Program (UPWP)

Fiscal Year 2023
July 1, 2022 – June 30, 2023
Approved May 25, 2022
Revised September 28, 2022
Revised March 21, 2023

 *Thomas Jefferson*
Planning District Commission
Charlottesville/Albemarle MPO



 **VDOT**
Virginia Department of Transportation

 **DRPT**
Virginia Department of Rail and Public Transportation

 U.S. Department of Transportation
Federal Highway Administration



Preface

Prepared on behalf of the Charlottesville-Albemarle Metropolitan Planning Organization (CA-MPO) by the staff of the Thomas Jefferson Planning District Commission (TJPDC) through a cooperative process involving the City of Charlottesville and the County of Albemarle, Charlottesville Area Transit (CAT), Jaunt, University of Virginia (UVA), the Virginia Department of Transportation (VDOT), the Department of Rail and Public Transportation (DRPT), the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA).

The preparation of this work program was financially aided through grants from FHWA, FTA, DRPT, and VDOT.

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INTRODUCTION

Purpose of the Unified Planning Work Program

The Unified Planning Work Program (UPWP) for transportation planning identifies all activities to be undertaken in the Charlottesville-Albemarle Metropolitan Planning Organization (CA-MPO) area for fiscal year 2022. The UPWP provides a mechanism for coordination of transportation planning activities in the region and is required as a basis and condition for all federal funding assistance for transportation planning by the joint metropolitan planning regulations of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

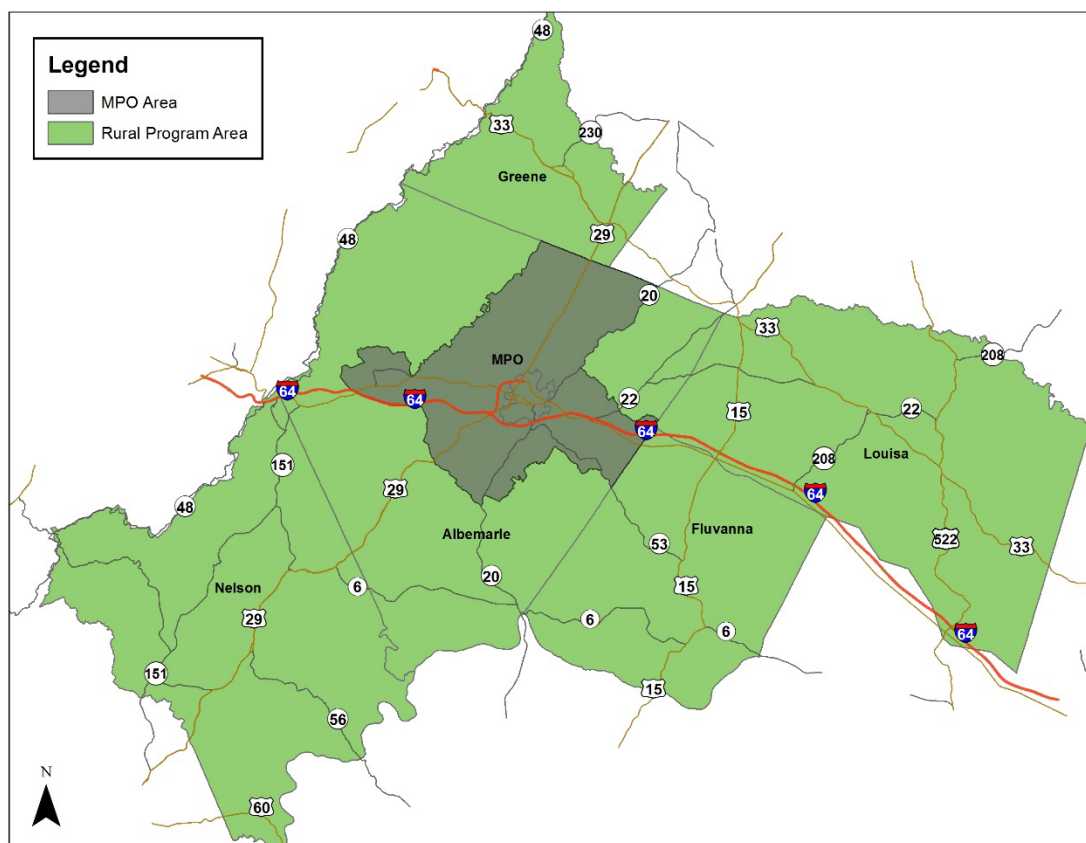
Purpose of the Metropolitan Planning Organization

CA-MPO provides a forum for conducting continuing, comprehensive, and coordinated (3-C) transportation decision-making among the City of Charlottesville, County of Albemarle, University of Virginia (UVA), Jaunt, Charlottesville Area Transit (CAT), Department of Rail and Public Transportation (DRPT) and Virginia Department of Transportation (VDOT) officials. In 1982, Charlottesville and Albemarle officials established the MPO in response to a federal mandate through a memorandum of understanding signed by the Thomas Jefferson Planning District Commission (TJPDC), Jaunt, VDOT and the two localities. The same parties adopted a new agreement on July 25, 2018 (Attachment B).

The MPO conducts transportation studies and ongoing planning activities, including the Transportation Improvement Program (TIP), which lists road and transit improvements approved for federal funding, and the 25-year long range plan for the overall transportation network, which is updated every five years. Projects funded in the TIP are required to be in the long-range plan.

The policy making body of the CA-MPO is its Board, consisting of two representatives from the City of Charlottesville and two representatives from Albemarle County. A fifth representative is from the VDOT Culpeper District. Non-voting members include DRPT, CAT, Jaunt, UVA, the Federal Highway Administration (FHWA), the Federal Aviation Administration (FAA), the Federal Transit Administration (FTA), and the Citizens Transportation Advisory Committee (CTAC). CA-MPO is staffed by the TJPDC, which works in conjunction with partner and professional agencies, to collect, analyze, evaluate and prepare materials for the Policy Board and MPO Committees at their regularly scheduled meetings, as well as any sub-committee meetings deemed necessary.

The MPO area includes the City of Charlottesville and the portion of Albemarle County that is either urban or anticipated to be urban within the next 20 years. In 2013, the MPO boundaries were updated and expanded to be more consistent with 2010 census data. The Commonwealth's Secretary of Transportation approved these new boundaries in March 2013. A map of the MPO area appears on the next page:



Relationship of UPWP to Long Range Transportation Planning

The MPO develops its UPWP each spring. It outlines the transportation studies and planning efforts to be conducted during the upcoming fiscal year (July 1 – June 30). The transportation studies and planning efforts outlined in the UPWP are guided by the regional transportation vision, goals, issues, and priorities developed through the extensive long-range planning process. Federal law requires the MPO to address eight basic planning factors in the metropolitan planning process. These eight planning factors are used in the development of any plan or other work of the MPO, including the Work Program, and are as follows:

- *Economic Vitality*: Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- *Safety*: Increase the safety of the transportation system for motorized and non-motorized users;
- *Security*: Increase the security of the transportation system for motorized and non-motorized users;
- *Accessibility/Mobility*: Increase the accessibility and mobility of people and freight;
- *Environmental Quality*: Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- *Connectivity*: Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- *Efficiency*: Promote efficient system management and operation; and,
- *Maintenance*: Emphasize the preservation of the existing transportation system.

MPO Transportation Infrastructure Issues and Priorities

In addition to the eight planning factors identified by FHWA and FTA, the issues listed below (in no particular order) have been identified by the MPO, its transportation planning partners, and the public throughout the metropolitan planning process. These issues are interconnected components of effective regional transportation planning, and collectively create the planning priorities facing the CA-MPO that will be addressed through the Work Program tasks and deliverables.

The following issues call for a need to:

- Expand and enhance transit, transportation demand management strategies including ridesharing services, and parking strategies to provide competitive choices for travel throughout the region;
- Improve mobility and safety for the movement of people and goods in the area transportation system;
- Improve strategies to make the community friendly to bicycles and pedestrians, particularly the mobility and safety of bicyclists and pedestrians, as well as access to transit, rail and transit/rail facilities;
- Take more visible steps to better integrate transportation planning with local government land use plans, with a goal of creating patterns of interconnected transportation networks and long-term multimodal possibilities such as non-vehicular commuter trails, intercity rail, and right-of-way corridors for bus ways;
- Ensure that new transportation networks are designed to minimize negative impacts on the community and its natural environment, and to save money;
- Encourage public involvement and participation, particularly addressing environmental justice and Title VI issues;¹
- Improve the understanding of environmental impacts of transportation projects and identify opportunities for environmental mitigation; and,
- Seriously consider budget shortfalls and its impediments to transportation projects and work to tap alternative sources of funding.

Public Participation/Title VI and Environmental Justice

The MPO makes every effort to include minority, low-income, and limited-English speaking populations in transportation planning. Throughout this document there are several tasks that specifically discuss the MPO's efforts to include these populations. In addition to the UPWP, the MPO also maintains a Public Participation Plan and a Title VI/Environmental Justice Plan. Both plans specify that the MPO must post public notices in key locations for low-income, minority and limited-English speaking populations. Both plans state that the MPO must make all official documents accessible to all members of our community. The Title VI/Environmental Justice Plan also outlines a complaint process, should a member of these specialized populations feel as though they have been discriminated against. These documents work in tandem with the UPWP to outline the MPO's annual goals and processes for regional transportation planning.

¹ The 1994 Presidential Executive Order directs Federal agencies to identify and address the needs of minority and low-income populations in all programs, policies, and activities.

Funding

Two federal agencies fund the MPO's planning activity. This includes FHWA's funds, labeled as "PL," and FTA, labeled as "FTA." The FHWA funds are administered through VDOT, while FTA funds are administered through the DRPT. Funds are allocated to the TJPDC, to carry out MPO staffing and the 3c's process. The CA-MPO budget consist of 10% local funds, 10% state funds, and 80% federal funds.

VDOT receives federal planning funds from FHWA for State Planning and Research. These are noted with the initials "SPR." The total budget for SPR items reflects 80% federal funds and 20% state funds. Attachment A shows the tasks to be performed by VDOT's District Staff, utilizing SPR funds. VDOT's Transportation and Mobility Planning Division (TMPD), located in the VDOT Central Office, will provide statewide oversight, guidance and support for the federally-mandated Metropolitan Transportation Planning & Programming Process. TMPD will provide technical assistance to VDOT District Planning Managers, local jurisdictions, regional agencies and various divisions within VDOT in the development of transportation planning documents for the MPO areas. TMPD will participate in special studies as requested. DRPT staff also participates actively in MPO studies and committees, although funding for their staff time and resources is not allocated through the MPO process.

The following tables provide information about the FY22 Work Program Budget. These tables outline the FY22 Program Funds by Source and by Agency. The second table summarizes the budget by the three Work Program tasks: Administration (Task 1), Long Range Planning (Task 2), and Short-Range Planning (Task 3). More detailed budget information is included with the descriptions of the task activities.

FY23 Work Program: Funding by Source

Funding Source	Federal	State	Local	Total
	80%	10%	10%	100%
FY-23 PL Funding	\$135,786	\$16,973	\$16,973	\$169,733
FY-21 PL Passive Rollover	\$28,370	\$3,546	\$3,546	\$35,462
FY-22 PL Active Rollover	\$56,000	\$7,000	\$7,000	\$70,000
FY-23 PL Total	\$220,156	\$27,520	\$27,520	\$275,195
FY-23 FTA Funding	\$102,026	\$12,754	\$12,754	\$127,534
FY-22 FTA Active Rollover	\$20,390	\$2,549	\$2,549	\$25,488
FY-23 FTA Total	\$122,416	\$15,303	\$15,303	\$153,022
PL+FTA Total	\$342,573	\$42,822	\$42,822	\$428,217
VDOT SPR	\$136,000	\$34,000	\$0	\$170,000
Total FY23 Work Program	\$478,573	\$76,822	\$42,822	\$598,217

FY23 Work Program: Funding by Task

Funding Source	Task 1	Task 2	Task 3	Active Rollover	Total
	11.78%	47.51%	19.75%	20.96%	100%
PL+FTA Total	\$59,000	\$237,934	\$98,926	\$105,000	\$500,860
FY-23 PL Funding	\$37,500	\$50,876	\$49,000	\$105,000	\$242,376
FY-22 PL Active Rollover	\$0	\$35,462	\$0	0	\$35,462
FY-21 PL Passive Rollover	\$0	\$70,000	\$0	0	\$70,000
PL Total	\$37,500	\$156,338	\$49,000	\$105,000	\$347,838
FY-23 FTA Funding	\$17,919	\$71,365	\$38,250	0	\$127,534
FY-22 FTA Active Rollover	\$3,581	\$10,231	\$11,676	0	\$25,488
FTA Total	\$21,500	\$81,596	\$49,926	\$0	\$153,022
VDOT SPR	\$50,000	\$60,000	\$60,000	0	\$170,000
Total FY23 Work Program	\$109,000	\$297,934	\$158,926	\$105,000	\$670,860

Highlights of FY22 UPWP

The CA-MPO conducted several projects and initiatives in FY22. Below are highlights from that year, helping to give context for the FY21 activities.

SMART SCALE

The SMART SCALE process scores and ranks transportation projects, based on an objective analysis that is applied statewide. The legislation is intended to improve the transparency and accountability of project selection, helping the Commonwealth Transportation Board (CTB) to select projects that provide the maximum benefits for tax dollars spent. In FY22, CA-MPO staff implemented a new process to increase public engagement opportunities for SMART SCALE projects prior to preparing applications. CA-MPO staff worked with County, City, and VDOT staff to identify project applications early, and conducted an engagement process around one project that was identified as needing additional outreach. CA-MPO staff also coordinated with County, City, and VDOT staff to conduct an information session to share the planned project applications throughout the MPO area with the public and receive preliminary feedback. CA-MPO worked to prepare and submit pre-applications for projects that will be developed into full applications that will be completed in FY23.

North 29 Corridor Study

In FY22, MPO and PDC staff coordinated with VDOT to retain consultants to support an analysis of the northern portion of Route 29 in coordination with the Rural Transportation Work Program. Consultants examined the operation of key intersections throughout the corridor and recommended alternatives that could be implemented to improve operations based on their analysis.

Regional Transit Planning

MPO staff has continued their involvement in overseeing the Regional Transit Partnership. In FY22, staff continued their support of two DRPT grants to study transit service and operations within the MPO region. The feasibility study and implementation plan to expand transit service in Albemarle County was completed, and was successfully leveraged into an application for a demonstration grant to pilot micro-transit services in two areas of Albemarle County. The second study is to develop a Charlottesville Area Regional Transit Vision Plan and is still under development. This projects kicked off in FY21 and will continue into early FY23.

Transportation Improvement Program (TIP)

MPO staff maintained the FY21-FY24 TIP in collaboration with VDOT, DRPT, and the various MPO committees, finalizing the updated plan that was completed by the CA-MPO in FY22.

National Transportation Performance Measures

Performance Based Planning and Programming requirements for transportation planning are laid out in the Moving Ahead for Progress in the 21st century (MAP-21), enacted in 2012 and reinforced in the 2015 FAST Act, which calls for states and MPOs to adopt targets for national performance measures. Each MPO adopts targets for a set of performance measures, in coordination with the Virginia Department of Transportation (VDOT) and the Virginia Department of Rail and Public Transit (DRPT), and these measures are used to help in the

prioritization of TIP and Long-Range Transportation Plan projects. In FY22, the MPO Policy Board voted to support the statewide safety targets, which are reviewed every year.

Long Range Transportation Plan Scoping

MPO Staff began developing the scope for the next update to the Long Range Transportation Plan which will be undertaken beginning in FY23. As part of this scoping process, staff was able to successfully apply and be awarded a Growth and Accessibility Planning Technical Assistance grant through the Office of Intermodal Planning and Investment to develop a project prioritization process to incorporate into the process of developing the plan.

Title VI/Public Participation

In FY22, MPO Staff updated the Title VI plan in conformance with feedback received from VDOT. In FY23, staff will work to implement to new policies and processes that were identified as being required in that plan.

FY23 UPWP Activities by Task

Task 1: Administration

Total Funding: \$59,000

PL Funding: \$37,500

FTA Funding: \$21,500

A) Reporting and Compliance with Regulations

PL Funding: \$14,000

FTA Funding: \$8,000

There are several reports and documents that the MPO is required to prepare or maintain, including:

- FY23 Unified Planning Work Program Implementation;
- FY24 Unified Planning Work Program Development;
- Monthly progress reports and invoices; and,
- Other funding agreements.

TJPD staff will also provide for the use of legal counsel, accounting and audit services for administering federal and state contracts.

End Products:

- Complete annual Unified Planning Work Program (UPWP) process;
- Administer Grants and other funding;
- Execute project agreements, along with related certifications and assurances; and,
- Complete invoicing, monthly billing, and progress reports.

B) Staffing Committees

PL Funding: \$14,000

FTA Funding: \$8,000

TJPD staff is responsible for staffing the MPO Policy Board and Committees. These efforts include preparation of agendas, minutes, and other materials for the committees listed below. The MPO continues to urge localities to appoint committee representatives from minority and low-income communities.

The CA-MPO staffs the following groups:

- MPO Policy Board;
- MPO Technical Committee;
- Regional Transit Partnership (RTP); and,
- Additional committees as directed by the MPO Policy Board.

End Products:

- Staff committees;
- Maintain memberships on committees;
- Issue public notices and mailings; and,
- Maintain committee information on the TJPD/MPO Website.

C) Information Sharing

PL Funding: \$9,500

FTA Funding: \$5,500

The MPO functions as a conduit for sharing information between local governments, transportation agencies, state agencies, other MPOs, and the public. MPO staff will provide data and maps to State and Federal agencies, localities and the public, as needed. Staff will also contribute articles to TJPDC's newsletters and Quarterly Report. The CA-MPO will continually monitor and report on changes to Federal and State requirements related to transportation planning and implementation policies. Staff will attend seminars, meetings, trainings, workshops, and conferences related to MPO activities as necessary. Staff will assist local, regional and State efforts with special studies, projects and programs. One ongoing project is a regional housing analysis that will include use of transportation data around housing centers and travel time to key destinations. Staff will also conduct ongoing intergovernmental discussions; coordinate transportation projects; and attend/organize informational meetings and training sessions. MPO staff will attend additional meetings with local planning commissions and elected boards to maintain a constant stream of information with local officials to include transportation, transit and environmental topics.

End Products:

- Continue to review and update facts and figures;
- Provide technical data, maps and reports to planning partners;
- Attend local planning commission meetings as needed;
- Attend City Council and Board of Supervisors meetings as needed;
- Ensure adequate communication between Planning District Commission and MPO Policy Board;
- Analyze available data to identify whether MPO boundaries may expand into additional counties after the 2020 census;
- Continue coordination of ongoing meetings with staff from Charlottesville, Albemarle and UVA regarding bicycle and pedestrian projects
- Participate and maintain membership with the Virginia Association of MPOs (VAMPO);
- Participate and maintain membership with the American Association of MPOs (AMPO); and,
- Hold annual joint-MPO Policy Board meeting with the Staunton-Augusta-Waynesboro MPO and propose meetings with Lynchburg MPO.
- Maintain the TJPDC's social media; and,
- Maintain the MPO Website.

Task 2: Long Range Transportation Planning

Total Funding: \$237,934

PL Funding: \$156,388

FTA Funding: \$81,596

A) 2050 Long Range Transportation Plan

PL Funding: \$88,692

FTA Funding: \$33,000

The CA-MPO will begin its development of the 2050 Long Range Transportation Plan (LRTP) in FY23. CA-MPO is planning to utilize rollover funding from FY21 and FY22 to procure a

consultant to support the development of the plan. In addition, CA-MPO staff was able to successfully apply for and receive a technical assistance grant through the Office of Intermodal Planning and Investment (OIP) to support the development of a project prioritization process to be incorporated into the plan methodology. The development of the LRTP is anticipated to take two years.

End Products:

- Complete the existing conditions analysis to update area demographic data, understand transportation network operations and deficiencies, and compile existing studies and plans that have been completed within the MPO region since the previous LRTP;
- Collaborate with MPO stakeholders to review existing transportation system goals/objectives/measures and revise as needed;
- Develop a public engagement strategy and process to be implemented during the plan update;
- Develop a Scope of Work for consultant support, and procure consultants;
- And continue to work with the OIP-procured technical consultants to develop a project prioritization process to be incorporated into the project prioritization process.

B) OneMap – Regional Bicycle and Pedestrian Infrastructure Map

PL Funding: \$20,000

FTA Funding: \$8,108

The OneMap project is an initiative that was identified during the development of the Jefferson Area Bicycle and Pedestrian Plan adopted in 2019. The purpose of OneMap is to develop a shared naming system for bicycle and pedestrian infrastructure, agreed upon definitions, and mapping format to develop a singular regional map showing all of the bicycle and pedestrian transportation infrastructure throughout the MPO region, including infrastructure in Albemarle County, the City of Charlottesville, and UVA. Developing OneMap has been taken up by both Charlottesville and Albemarle GIS and planning staff at different points since its original conception, but has lacked dedicated resources to complete.

End Products:

- An assessment of data to-date that has been compiled by localities and UVA;
- The compilation of all data into a uniformed format;
- Ongoing coordination meetings to determine purpose and goals for use of OneMap information;
- Processes to regularly update the information included in OneMap; and
- The development of a strategy for sharing the OneMap information either publicly or with stakeholders for ongoing use.

C) CA-MPO Boundary Analysis

PL Funding: \$14,684

FTA Funding: \$7,000

The 2020 Census data necessitates a need to review the MPO boundary and determine if any adjustments need to be made based on the most recent data and potential changes in rule-making for how MPO boundaries are determined. Staff will analyze the population data to determine if activity since the previous census merits adjustments to the MPO boundaries, meet with stakeholders to determine stakeholder preferences for adjustments if merited, and provide any

needed documentation to the Governor's office for consideration.

End Products:

- A map of the eligible boundary area based on 2020 Census data;
- A report summarizing a request to change the MPO boundaries, if merited by a review of data;
- Updates with the MPO Committees with findings;
- Coordination meetings with stakeholders if adjustments are merited;
- Formal request for action from the Governor's Office; and
- Any revisions to policies or by-laws needed based on outcomes from the boundary analysis.

D) Transit Governance Study

PL Funding: \$0

FTA Funding: \$30,488

The Thomas Jefferson Planning District Commission applied for a Technical Assistance grant from the Department of Rail and Public Transportation to conduct a governance study of the regional transit system. The governance study follows the completion of the Regional Transit Vision Plan and is intended to provide recommendations on the appropriate governance structure needed to implement the recommendations identified during the visioning process.

End Products:

- A review of the existing transit agencies and operations that participate in the regional transit system in the Thomas Jefferson Planning District;
- A review of the existing Regional Transit Authority legislation and an analysis of its strengths and weaknesses;
- A review of funding opportunities and recommended funding scenarios to support the implementation of recommendations identified in the Regional Transit Vision Plan; and
- Alternative governance structures that could be developed to oversee the implementation of recommendations identified as part of the regional transit visioning process.

E) On-call Services

PL Funding: \$32,962

FTA Funding: \$3,000

MPO, VDOT, and local staff will be available to conduct transportation studies, data collection, and planning efforts as requested by our planning partners, including projects focusing on transportation system improvements to improve mobility, safety, and security for area pedestrians, bicyclists, and motorists. All studies will ensure a working partnership with the surrounding area's businesses and neighborhoods. Costs will be incurred to identify and initiate contractual arrangements. MPO staff will also undertake the development of an on-call consultant program to provide efficient access to technical consultants as needed.

- Transportation study or planning effort, as requested, that can be used as a basis for implementing short-term and long-term transportation solutions; and
- Development of desired services that an on-call consultant program can provide; and
- A contract or contracts with consultant(s) procured to provide on-call services to the MPO, TJPDC, and/or partner localities.

Task 3: Short Range Planning

Total Funding: \$98,926

PL Funding: \$49,000

FTA Funding: \$49,926

A) Transportation Improvement Program (TIP)

PL Funding: \$18,000

FTA Funding: \$7,000

There are a number of federal-aid highway programs (i.e. administered by FHWA) which, in order to be eligible for use by the implementing agency, must be programmed in the TIP. Similarly, there are funds available under federal-aid transit programs (i.e. administered by FTA) which, in order to be used, must also be programmed in the TIP. In fact, any federally-funded transportation projects within the MPO must be included in the TIP, including transit agency projects. Project descriptions include: implementing agency; location/service area; cost estimates; funding sources; funding amounts actual or scheduled for allocation; type of improvement, and; other information, including a required overall financial plan.

The TIP is updated every three years, and this fiscal year, MPO staff will need to prepare the FY24-FY27 TIP to be adopted by the Policy Board in FY23.

End Products:

- Process the Annual Obligation Report;
- Process TIP amendments and adjustments;
- Monitor the TIP as necessary, ensuring compliance with federal planning regulations; and
- Prepare the FY24-FY27 TIP for adoption by the Policy Board.

B) SMART SCALE Planning and Support

PL Funding: \$15,000

FTA Funding: \$12,000

MPO staff will continue to work with VDOT, DRPT, City and County staff to identify appropriate funding sources for regional priority projects. In FY22, MPO staff conducted robust stakeholder and public engagement on one SMART SCALE project that was identified by the MPO Policy Board and prepared pre-applications for projects to be submitted in SMART SCALE Round 5. In FY23, staff will develop final applications for the MPO and TJPDC projects within the MPO region.

End Products:

- Gather information needed for SMART SCALE final applications;
- Coordinate sharing of economic development, and other relevant information, between the localities in support of SMART SCALE applications;
- Submit final funding applications;
- Review performance of applications submitted in Round 5 and review projects for consideration in Round 6; and
- Attend the Quarterly Transportation Meetings hosted by OIPI to ensure that MPO and locality staff have appropriate information about all funding programs.

C) Travel Demand Management (TDM), Regional Transit Partnership (RTP), and Bike/Ped Support

PL Funding: \$4,000

FTA Funding: \$8,500

The RideShare program, housed by the TJPDC, is an essential program of the MPO's planning process. The RTP has been established to provide a venue for continued communication, coordination, and collaboration between transit providers, localities and citizens. These programs, along with continued support for bike and pedestrian travel, support regional TDM efforts. TDM has been, and will continue to be, included in the long-range transportation planning process.

End Products:

- Continue efforts to improve carpooling and alternative modes of transportation in MPO;
- Staff Regional Transit Partnership meetings;
- Address immediate transit coordination needs;
- Formalize transit agreements;
- Improve communication between transit providers, localities and stakeholders;
- Explore shared facilities and operations for transit providers;
- Provide continued support to coordinating bike/ped planning activities between the City of Charlottesville, Albemarle County, UVA and with the rural localities;
- Continue to assess the need for a Regional Transit Authority; and
- Per the Strategic Plan, integrate TDM into all MPO recommendations and projects.

D) Performance Targets

PL Funding: \$2,000

FTA Funding: \$1,000

MPOs are asked to participate in the federal Transportation Performance Management process by coordinating with the state to set targets for their regions based on the state targets and trend data provided by the state. The CA-MPO will need to set and document the regional safety and performance targets adopted.

End Products:

- Prepare workbook and background materials for MPO committees and Policy Board to review;
- Facilitate discussion of performance targets with the MPO committees and Policy Board;
- Complete all documentation notifying the state of the adopted safety and performance targets; and
- Update the TIP when the FY23 safety and performance targets are adopted.

E) Regional Transit and Rail Planning

PL Funding: \$0

FTA Funding: \$5,000

MPO, VDOT, and local staff will be available to conduct transportation studies and planning efforts as requested by our planning partners, including projects focusing on transportation

system improvements to improve mobility, safety, and security for area pedestrians, bicyclists, and motorists. All studies will ensure a working partnership with the surrounding area's businesses and neighborhoods. Costs will be incurred to identify and initiate contractual arrangements.

End Products:

- Provide technical support and staffing to ensure the successful completion of two grants awarded by DRPT: the completion of the Regional Transit Visioning Plan and the Regional Transit Governance Study, if awarded; and
- Prepare and submit planning and implementation grant applications for transit and rail projects as opportunities are identified.

F) CTAC, Public Participation, and Title VI

PL Funding: \$10,000

FTA Funding: \$16,426

TJPD staff will participate in and help develop community events and educational forums such as workshops, neighborhood meetings, local media, and the MPO web page. Staff will also participate in and act upon training efforts to improve outreach to underserved communities, such as low-income households, people with disabilities, minority groups, and limited English-speaking populations, including maintenance and implementation of the agency Title VI Plan. The TJPD will continue to staff the Citizens Transportation Advisory Committee, which is an important conduit for receiving feedback and input on the efficacy of public outreach and engagement efforts.

End Products:

- Utilize a broad range of public engagement strategies to disseminate information on transportation planning efforts and processes;
- Develop programs to better inform the public about transportation planning and project development;
- Demonstrate responsiveness to public input received during transportation planning processes;
- Review Title VI/Environmental Justice Plan as needed;
- Review Public Participation Plan as needed;
- Implement processes in compliance with Title VI Plan, Environmental Justice Plan, and Public Participation Plan;
- Review information on website for accessibility and understandability;
- Continue to investigate methods to increase participation from historically underserved communities;
- Provide proper and adequate notice of public participation activities; and
- Provide reasonable access to information about transportation issues and processes in paper and electronic media.

Task 4: Contracted Projects and Studies

A) Coordinate and support the following projects:

- If awarded, coordinate, manage, and implement the Regional Transit Governance Study for the CAMPO and TJPDC region.
- Coordinate, manage, and implement the completion of the Regional Transit Visioning Plan for the CAMPO and TJPDC region, which will be completed early in FY 23.

B) Explore opportunities for contracted project and studies.

Topical areas may include:

- Environmental impacts of the local transportation system and mitigation strategies.
- Improving coordination with locality staff and elected officials.
- Implementing recommendations from the Albemarle Service Expansion Feasibility Study.

CA-MPO in FY23

Along with ongoing, required MPO tasks, staff anticipates work on the following efforts, some of which will carry-over from FY22.

SMART SCALE

- Explore ways to improve the success of funding for projects
- Strengthen applications submitted in Round 5 for final submission
- Monitor any changes and updates to the SMART SCALE process
- Integrate any changes in State process into MPO and local projects to strengthen funding applications

LRTP 2045

- Conduct annual review of Plan and performance targets as set forth in MAP-21
- Continue to coordinate procedures and efforts with neighboring MPOs

MPO Boundary Adjustment

- Follow outcomes from the 2020 Census and prepare for discussions regarding adjustments to the CA-MPO boundaries.

Other Studies

- Assess connections with other regions and MPOs
- Continue evaluation of the region's transit network and participate in creation of the transit strategic plan

Public Participation Process

Review and Approval of Tasks

MPO Policy Board:

- Initial Draft provided March 24th, 2022
- Final Approval May 25th, 2022

Online Posting

Posted as part of MPO meeting agenda for March 24th, 2022

Posted on TJPDC.org: May 2nd, 2022 for 15 day public comment period

State Review

Draft submittal for VDOT review/comment: March 7th, 2022

Draft submittal for DRPT review/comment: March 7th, 2022

Review of Final FY23 UPWP

MPO Technical Committee: May 17th, 2022

Citizen Transportation Advisory Committee (CTAC): May 18th, 2022

MPO Policy Board: May 25^h, 2022

Glossary of Acronyms

The following transportation-related acronyms are used in this document:

3-C Planning Process	Federal Planning Process which ensures that transportation planning is continuing, comprehensive, and coordinated in the way it is conducted
AADT	Annual Average Daily Traffic
BRT	Bus Rapid Transit
CAT	Charlottesville Area Transit
CTAC	Citizens Transportation Advisory Committee
CTB	Commonwealth Transportation Board
DRPT	Virginia Department of Rail and Public Transportation
EV	Electric Vehicle
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year (refers to the state fiscal year July 1 – June 30)
GIS	Geographic Information System
JAUNT	Regional transit service provider to Charlottesville City, and Albemarle, Fluvanna, Louisa, Nelson, Buckingham, Greene and Orange Counties
L RTP	Long Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21 st Century (legislation governing the metropolitan planning process)
MPO	Metropolitan Planning Organization
NHS	National Highway System
PL	FHWA Planning Funding (used by MPO)
RideShare	Travel Demand Management (TDM) services housed at TJPDC that promote congestion relief and air quality improvement through carpool matching, vanpool formation, Guaranteed Ride Home, employer outreach, telework consulting and multimedia marketing programs for the City of Charlottesville, and Albemarle, Fluvanna, Louisa, Nelson, and Greene Counties.
RLRP	Rural Long Range Transportation Plan
RTA	Regional Transit Authority
RTP	Rural Transportation Program
SAFETEA-LU	Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (legislation that formerly governed the metropolitan planning process)
SOV	Single Occupant Vehicle
SPR	FHWA State Planning and Research Funding (used by VDOT to support MPO)
SYIP	Six Year Improvement Plan
TAZ	Traffic Analysis Zone
TDP	Transit Development Plan (for CAT and JAUNT)
TDM	Travel Demand Management
TIP	Transportation Improvement Program
TJPDC	Thomas Jefferson Planning District Commission

TMPD	VDOT Transportation and Mobility Planning Division
UPWP	Unified Planning Work Program (also referred to as Work Program)
UTS	University Transit Service
UVA	University of Virginia
VDOT	Virginia Department of Transportation
VMT	Vehicle Miles Traveled
Work Program	Unified Planning Work Program (also referred to as UPWP)

Appendix

Attachment A: Tasks Performed by VDOT

Attachment B: Memorandum of Understanding (2019)

Attachment C: FTA Section 5303/PL Funding Breakdown

Attachment D: Resolution

ATTACHMENT – A
Charlottesville/Albemarle Urbanized Area
FY-2023 Unified Planning Work Program
VDOT Input

State Planning and Research (SPR) Funds Available \$ 170,000

Task 1.0 Administration of the Continuing Urban Transportation Planning Process (3-C) with the
Charlottesville-Albemarle MPO

Budgeted \$50,000

- Preparation for and attend:
 - MPO Policy Board Committee Meeting;
 - MPO Technical Committee as the VDOT Representative;
 - MPO Citizen Transportation Advisory Committee (CTAC), and
 - Various other local and jurisdictional committee meetings as necessary.
- Preparation of PL funding agreements and addenda.
- Review and process billing invoices and progress reports.
- Process adjustments and amendments to the FY-2021-24 TIP.
- Assist with the update of the TIP to FY 2024-2027.
- Review Performance Measure and assist with target setting.
- Review road plans for conformance with current transportation plan.
- Conduct Federal-Aid/Functional Classification System reviews.
- Coordinate multi-modal activities and maintain/update inventory datasets.
- Assist with the updates of the Public Participation Plan, Title VI/Environmental Justice Plan, and other regional plans as needed.
- Monitor regional travel.
- Review proposed enhancement projects as necessary.
- Review local and regional transportation planning activities and attend public hearings.

Task 2.0 Long-Range Transportation Planning with the

Charlottesville-Albemarle MPO

Budgeted \$60,000

- Respond to inquiries concerning the Year 2045 Long-Range Transportation Plan.
- Assist the MPO with the updates of the Year 2050 Long-Range Transportation Plan.
- Assist the MPO with model scenario development, review and runs to forecast traffic demand and develop multi-modal transportation needs for long-range plans and corridor studies.
- Evaluate and review comments and respond to concerns relative to transportation planning process.
- Evaluate and review comments and respond to concerns relative to corridors, pedestrian, multi-modal, and access management studies.

- Evaluate planning study efforts as they relate to the NEPA process.

Task 3.0 Short-Range Transportation Planning with the
Charlottesville-Albemarle MPO

Budgeted \$60,000

- Evaluate existing transportation system and identify deficiencies
- Recommend improvements to alleviate unacceptable conditions
- Coordinate recommended improvements with other plans and studies
- Coordinate planning activities with the private sector to identify mobility and commuter access issues such as additional commuter parking lots, etc.
- Review and comment on traffic impact studies, Rezoning's and Comprehensive Plan updates and changes
- Review environmental impact reports for impacts to existing and future transportation facilities
- Provide advice and support on freight issues and information compilation.

Provide advice and support on freight issues and information compilation. VDOT's Transportation and Mobility Planning Division (TMPD), located in the Central Office, will provide statewide oversight, guidance and support for the federally mandated Metropolitan Transportation Planning & Programming Process. TMPD will provide technical assistance to VDOT District Planning Managers, local jurisdictions, regional agencies and various divisions within VDOT, in the development of transportation planning documents for the MPO areas. TMPD will participate in special studies as requested.

**MEMORANDUM OF UNDERSTANDING
ON METROPOLITAN TRANSPORTATION PLANNING RESPONSIBILITIES
FOR THE CHARLOTTESVILLE-ALBEMARLE METROPOLITAN PLANNING
AREA**

This agreement is made and entered into as of _____, 2018 by and between the Commonwealth of Virginia hereinafter referred to as the State, the Charlottesville-Albemarle Metropolitan Planning Organization hereinafter referred to as the MPO; and the City of Charlottesville, the Charlottesville Area Transit Service, Albemarle County and JAUNT, Inc. hereinafter referred to as the Public Transportation Providers; and the Thomas Jefferson Planning District Commission serving as planning and administrative staff to the MPO, hereinafter referred to as the Staff.

WHEREAS, joint responsibilities must be met for establishing and maintaining a continuing, cooperative, and comprehensive (3-C) metropolitan transportation planning and programming process as defined and required by the United States Department of Transportation in regulations at [23 CFR 450 Subpart C](#), and

WHEREAS, the regulations at [23 CFR 450.314](#) direct that the MPO, State, and Public Transportation Provider responsibilities for carrying out the 3-C process shall be cooperatively determined and clearly identified in a written agreement.

NOW, THEREFORE, it is recognized and agreed that, as the regional transportation planning and programming authority in cooperation with the Staff, State and Public Transportation Provider, the MPO shall serve as the forum for cooperative development of the transportation planning and programming activities and products for the Charlottesville-Albemarle metropolitan area. It is also agreed that the following articles will guide the 3-C process. Amendments to this agreement may be made by written agreement among the parties of this agreement.

Article 1

Planning and Modeling Boundaries

The MPO is responsible as the lead for coordinating transportation planning and programming in the Charlottesville-Albemarle metropolitan transportation planning area (MPA) that includes the City of Charlottesville and a portion of Albemarle County. A map providing a visual and itemized description of the current MPA will be included on the MPO website. It is recognized that the scope of the regional study area used with the travel demand model may extend beyond the MPA. The boundaries of the MPA shall be subject to approval of the MPO and the Governor. The MPA shall, at a minimum, cover the U.S. Bureau of the Census' designated urbanized area and the contiguous geographic area expected to become urbanized within the 20 year long range plan forecast period. The boundaries will be reviewed by the MPO and the State at least after

each Census decennial update, to adjust the MPA boundaries as necessary. Planning funds shall be provided to financially support the MPO's planning activities under 23 CFR 450 and 49 CFR 613, and the latest applicable metropolitan planning funding agreement with the State for the metropolitan planning area. All parties to this agreement shall comply with applicable state and federal requirements necessary to carry out the provisions of this agreement.

Article 2

MPO Structure & Committees

The MPO shall consist of, at a minimum, a Policy Board and a standing advisory group, the MPO Technical Committee. The MPO shall establish and follow rules of order and record. The Policy Board and MPO Technical Committee each shall be responsible for electing a chairman with other officers elected as deemed appropriate. These committees and their roles are described below. Redesignation of an MPO is required when an existing MPO proposes to make substantial changes on membership voting, decisionmaking authority, responsibility, or the procedure of the MPO.

(A) The Policy Board serves as the MPO's policy board, and is the chief regional authority responsible for cooperative development and approval of the core transportation planning activities and products for the urbanized region including:

- the MPO budget and Unified Planning Work Program (UPWP); and
- the performance based Constrained Long Range Transportation Plan (CLRP); and
- the performance-based Transportation Improvement Program (TIP) including all regionally significant projects regardless of their funding source; and
- the adoption of performance measure targets in accord with federal law and regulations that are applicable to the MPO metropolitan planning area; and
- the reporting of targets and performance to be used in tracking progress toward attainment of critical outcomes for the MPO region [450.314]; and
- the Public Participation Plan

The Policy Board will consider, analyze as appropriate, and reflect in the planning and programming process the improvement needs and performance of the transportation system, as well as the federal metropolitan planning factors consistent with 23 CFR 450.306. The Policy Board and the MPO will comply and certify compliance with applicable federal requirements as required by [23 CFR 450.336](#), The Policy Board and the MPO also shall comply with applicable state requirements such as, but not limited to, the Freedom of Information Act requirements which affect public bodies under the Code of Virginia at [2.2-3700 et sequel](#).

Voting membership of the Policy Board shall consist of the following representatives, designated by and representing their respective governments and agencies:

- One representative participating on behalf of the State appointed by the Commonwealth of Virginia Secretary of Transportation, and
- Locally elected officials representing each County, independent City, Town or other appropriate representation within the metropolitan transportation planning area.

The individual voting representatives may be revised from time to time as designated by the respective government or agency. State elected officials may also serve on the MPO. Nonvoting members may be added or deleted by the Policy Board through a majority of all voting members. Voting and nonvoting designated membership of the Policy Board will be identified and updated on the MPO's website with contact information.

(B) The MPO Technical Committee provides technical review, supervision and assistance in transportation planning. Members are responsible for providing, obtaining, and validating the required latest official travel and socio-economic planning data and assumptions for the regional study area. Members are to ensure proper use of the data and assumptions by the MPO with appropriate travel forecast related models. Additional and specific responsibilities may be defined from time to time by the Policy Board. This committee consists of the designated technical staff of the Policy Board members, plus other interests deemed necessary and approved by the Policy Board. The designated voting and nonvoting membership of the MPO Technical Committee will be updated by the Policy Board, and will be identified online with contact information.

(C) Regular Meetings – The Policy Board and MPO Technical Committee shall each be responsible for establishing and maintaining a regular meeting schedule for carrying out respective responsibilities and to conduct official business. Meeting policies and procedures shall follow regulations set forth in 23 CFR §450.316. The regular meeting schedule of each committee shall be posted on the MPO's website and all meetings shall be open to the public. Any meetings and records concerning the business of the MPO shall comply with State Freedom of Information Act requirements.

Article 3

Unified Planning Work Program (UPWP)

Transportation planning activities anticipated within the Charlottesville-Albemarle Metropolitan Planning Area during the next one or two year period shall be documented and prepared annually by the Staff and the MPO Technical Committee in accord with 23 CFR 450.308 and reviewed and endorsed by the Policy Board. Prior to the expenditure of any funds, such UPWP shall be subject to the approval of the Federal Highway Administration (FHWA), Federal Transit Administration (FTA), and the State for funding the activities. Any changes in

transportation planning and related activities, regardless of funding source, shall be accomplished by amendments to the UPWP and adoption by the Policy Board according to the same, full procedure as the initial UPWP.

Article 4

Participation Plan

The Policy Board shall adopt and maintain a formal, written Public Participation Plan. The Participation Plan shall provide reasonable opportunity for involvement with all interested parties in carrying out the metropolitan area's transportation planning and programming process, providing reasonable opportunities for preliminary review and comment especially at key decision points. Initial or revised participation plan procedures shall undergo a minimum 45 day draft public review and comment period. The Participation Plan will be published and available on the MPO's website. The State may assist, upon request of the MPO and on a case by case basis, in the provision of documents in alternative formats to facilitate the participation of persons with limited English proficiency or visual impairment.

The MPO also shall, to the extent practicable, develop and follow documented process(es) that at least outline the roles, responsibilities and key points for consulting with adjoining MPOs, other governments and agencies and Indian Tribal or federal public lands regarding other planning activities, thereby ensuring compliance with all sections of [23 CFR 450.316](#). The process(es) shall identify procedures for circulating or providing ready access to draft documents with supporting materials that reference, summarize or detail key assumptions and facilitate agency consultations, and public review and comment as well as provide an opportunity for MPO consideration of such comments before formal adoption of a transportation plan or program.

Article 5

Inclusion and Selection of Project Recommendations

Selection of projects for inclusion into the financially Constrained Long-Range Plan (CLRP)

Recommended transportation investments and strategies to be included in the CLRP shall be determined cooperatively by the MPO, the State, and Public Transportation Provider(s). The CLRP shall be updated at least every five years, and address no less than a 20 year planning horizon. Prior to the formal adoption of a final CLRP, the MPO shall provide the public and other interested stakeholders (including any intercity bus operators) with reasonable opportunities for involvement and comment as specified in 23 CFR 450.316 and in accordance with the procedures outlined in the Participation Plan. The MPO shall demonstrate explicit consideration and response to public input received during the development of the CLRP.

Development of the Transportation Improvement Program (TIP)

The financially constrained TIP shall be developed by the MPO with assistance from the State and Public Transportation Provider(s). The TIP shall cover a minimum four year period and shall be updated at least every four years, or more frequently as determined by the State to coincide and be compatible with the Statewide Transportation Improvement development and approval process.

The State shall assist the MPO and Public Transportation Provider(s) in the development of the TIP by: 1) providing the project listing, planned funding and obligations, and 2) working collaboratively to ensure consistency for incorporation into the STIP. The TIP shall include any federally funded projects as well as any projects that are regionally significant regardless of type of funding. Projects shall be included and programmed in the TIP only if they are consistent with the recommendations in the CLRP. The State and the Public Transportation Provider(s), assisted by the state, shall provide the MPO a list of project, program, or grouped obligations by year and phase for all the State and the public transportation projects to facilitate the development of the TIP document. The TIP shall include demonstration of fiscal constraint and may include additional detail or supporting information provided the minimum requirements are met. The MPO shall demonstrate explicit consideration and response to public input received during the development of the TIP.

Once the TIP is compiled and adopted by the Policy Board the MPO shall forward the approved TIP, MPO certification, and MPO TIP resolution to the State. After approval by the MPO and the Governor, the State shall incorporate the TIP, without change, into the STIP. The incorporation of the TIP into the STIP demonstrates the Governor's approval of the MPO TIP. Once complete, the STIP shall be forwarded by the State to FHWA and FTA for review and approval.

Article 6

Financial Planning and Programming, and Obligations

The State, the MPO and the Public Transportation Provider(s) are responsible for financial planning that demonstrates how metropolitan long-range transportation plans and improvement programs can be implemented consistent with principles for financial constraint. Federal requirements direct that specific provisions be agreed on for cooperatively developing and sharing information for development of financial plans to support the metropolitan transportation plan (23 CFR 450.324) and program (23 CFR 450.326), as well as the development of the annual listing of obligated projects (23 CFR 450.334).

Fiscal Constraint and Financial Forecasts

The CLRP and TIP shall be fiscally constrained pursuant to 23 CFR 450.324 and 450.326 respectively with highway, public transportation and other transportation project costs inflated to reflect the expected year of expenditure. To support the development of the financial plan for the CLRP, the State shall provide the MPO with a long-range forecast of expected state and federal transportation revenues

for the metropolitan planning area. The Public Transportation Provider(s), similarly, shall provide information on the revenues expected for public transportation for the metropolitan planning area. The financial plan shall contain system-level estimates of the costs and the revenue sources reasonably expected to be available to adequately operate and maintain the federal aid highways and public transportation. The MPO shall review the forecast and add any local or private funding sources reasonably expected to be available during the planning horizon. Recommendations on any alternative financing strategies to fund the projects and programs in the transportation plan shall be identified and included in the plan. In the case of new funding sources, strategies for ensuring their availability shall be identified and documented. If a revenue source is subsequently found removed or substantially reduced (i.e., by legislative or administrative actions) the MPO will not act on a full update or amended CLRP and/or TIP that does not reflect the changed revenue situation.

Annual Obligation Report

Within 90 days after the close of the federal fiscal year the State and the Public Transportation Provider(s) shall provide the MPO with information for an Annual Obligation Report (AOR). This report shall contain a listing of projects for which federal highway and/or transit funds were obligated in the preceding program year. It shall include all federally funded projects authorized or revised to increase obligations in the preceding program year, and at a minimum include TIP project description and implementing agency information and identify, for each project, the amount of Federal funds requested in the TIP, the Federal funding that was obligated during the preceding year, and the Federal funding remaining and available for subsequent years. The MPO shall publish the AOR in accordance with the MPO's public participation plan criteria for the TIP.

Article 7

Performance-Based Metropolitan Planning Process Responsibilities

The MPO

The MPO, in cooperation with the State and Public Transportation Provider(s), shall establish and use a performance-based approach in carrying out the region's metropolitan transportation planning process consistent with 23 CFR 450.306, and 23 CFR 490. The MPO shall integrate into the metropolitan transportation planning process, directly or by reference, the goals, objectives, performance measures, and targets described in applicable transportation plans and transportation processes, as well as any plans developed under 49 U.S.C. Chapter 53 by providers of public transportation required as part of a performance-based program. The MPO shall properly plan, administratively account for and document the MPO's performance based planning activities in the MPO UPWP.

Attachment B: Memorandum of Understanding

The MPO shall develop, establish and update the federally required transportation performance targets that apply for the MPO metropolitan planning area in coordination with the State(s) and the Public Transportation Provider(s) to the maximum extent practicable. The Policy Board shall adopt federal targets of the MPO after reasonable opportunity for and consideration of public review and comment, and not later than 180 days after the date on which the relevant State(s) and Public Transportation Provider(s) establish or update the Statewide and Public Transportation Provider(s) performance targets, respectively. No later than 21 days of the MPO deadline for the selection of new or updated targets, for each federally required performance measure, the MPO shall formally notify the state(s) and Public Transit Provider(s) of whether the MPO: 1) has selected “to contribute toward the accomplishment” of the statewide target selected by the state, or 2) has identified and committed to meet a specific quantitative target selected by the Public Transportation Provider(s) or the MPO for use in the MPO’s planning area of Virginia.

In the event that a Virginia MPO chooses to establish a MPO-specific federal highway or transit performance measure quantitative target, then the Virginia MPO shall be responsible for its own performance baseline and outcome analyses, and for the development and submittal of special report(s) to the State for the MPO-specific highway and/or transit performance measure(s). Reports from the Virginia MPOs that choose their own MPO-specific highway or transit target(s) will be due to the State no later than 21 days from the date that the MPO is federally required to establish its performance target for an upcoming performance period. The special report(s) for each new or updated MPO-specific highway target shall be sent from the Virginia MPO to the VDOT Construction District Engineer. The special report(s) for each new or updated MPO-specific transit target shall be sent from the Virginia MPO to the Department of Rail and Public Transportation. The special report(s) shall include summary documentation on the performance analyses calculation methods, baseline conditions, quantitative target(s), and applicable outcome(s) regarding the latest performance period for the MPO-specific performance measure(s). For the Virginia MPOs which agree to plan and program projects “to contribute toward the accomplishment” of each of the statewide performance measure targets, the State will conduct the performance analyses for the MPO’s metropolitan planning area in Virginia and provide online summaries for each measure such that no special report to the State will be due from these MPOs.

If a Virginia MPO chooses to contribute to achieving the statewide performance target, the MPO shall, at minimum, refer to the latest performance measure analyses and summary information provided by the State, including information that was compiled and provided by the State on the metropolitan planning area’s performance to inform the development of appropriate performance targets. The MPO may use State performance measures information and targets to update the required performance status reports and discussions associated with each MPO CLRP and/or TIP update or non-administrative modification. The MPO’s

transportation performance targets, recent performance history and status will be identified and considered by the MPO's Policy Board in the development of the MPO CLRP with its accompanying systems performance report required per 23 CFR 450.324, as well as in the development of the TIP with its accompanying description of the anticipated effect of the TIP toward achieving the performance targets, linking their TIP investment priorities to the performance targets as required per 23 CFR 450.326. The MPO CLRP and its accompanying systems performance report, and/or the MPO TIP and its accompanying description of the anticipated effect of the TIP, shall directly discuss or reference the latest State performance measure status information available and posted online by the State regarding the metropolitan planning area at the time of the MPO's Technical Committee recommendation of the draft MPO long range plan or draft TIP.

The State

Distinct from the roles of the metropolitan Public Transportation Provider(s) with federal performance measures on transit (transit is the subject of the next section), the State is the lead party responsible for continuous highway travel data measurement and collection. The State shall measure, collect highway data and provide highway field data for use in federal highway related performance measure analyses to inform the development of appropriate federal performance targets and performance status reports. MPO information from MPO-specific data analyses and reports might not be incorporated, referenced or featured in computations in the Virginia statewide performance data analyses or reports. The State shall provide highway analyses for recommending targets and reporting on the latest performance history and status not only on a statewide basis but also on the Virginia portions of each of Virginia's MPO metropolitan planning areas, as applicable. The findings of the State's highway performance analyses will inform the development or update of statewide targets.

Information regarding proposed statewide targets for highway safety and non-safety federal performance measures will be presented to the Commonwealth Transportation Board (CTB) at the CTB's public meetings and related documents, including, but not limited to, presentations and resolutions, will be made publicly available on the CTB website. The MPO and Public Transportation Provider(s) shall ensure that they inform the State of any special data or factors that should be considered by the State in the recommendation and setting of the statewide performance targets.

All statewide highway safety targets and performance reports are annually due from the State to FHWA beginning August 31, 2017 and each year thereafter. The MPO shall report their adopted annual safety performance targets to the State for the next calendar year within 180 days from August 31st each year. The statewide highway non-safety performance two and/or four year targets are due for establishment from the State initially no later than May 20, 2018 for use with the state biennial baseline report that is due by October 1, 2018. The subsequent state biennial report, a mid-period report for reviews and possible target

adjustments, is due by October 1, 2020. Thereafter, State biennial updates are cyclically due by October 1st of even numbered years with a baseline report to be followed in two years by a mid-period report. Using information cooperatively compiled from the MPOs, the State and the Public Transportation Providers, the State shall make publicly available the latest statewide and (each) MPO metropolitan planning area's federally required performance measure targets, and corresponding performance history and status.

The Public Transportation Provider(s)

For the metropolitan areas, Public Transportation Providers are the lead parties responsible for continuous public transit data measurement and collection, establishing and annually updating federal performance measure targets for the metropolitan transit asset management and public transportation agency safety measures under 49 U.S.C. 5326(c) and 49 U.S.C. 5329(d), respectively, as well as for updates that report on the public transit performance history and status. The selection of the performance targets that address performance measures described in 49 U.S.C. 5326(c) and 49 U.S.C. 5329(d) shall be coordinated, to the maximum extent practicable, between the MPO, the State and Public Transportation Provider(s) to ensure consistency with the performance targets that Public Transportation Providers establish under 49 U.S.C. 5326(c) and 49 U.S.C. 5329(d). Information from the Public Transportation Provider(s) on new or updated public transit asset management and safety performance targets, and data-reports on the public transit performance history and status relative to the targets is necessary for use and reference by the affected State(s) and the MPO(s). The Public Transportation Provider(s) that receive federal funds shall annually update and submit their transit asset management targets and data-reports to the FTA's National Transit Database consistent with FTA's deadlines based upon the applicable Public Transportation Provider's fiscal year. The Public Transportation Provider(s) shall notify, and share their information on their targets and data-reports electronically with the affected State(s) and MPO(s) at the time that they share the annual information with FTA, and coordinate, as appropriate, to adequately inform and enable the MPO(s) to establish and/or update metropolitan planning area transit target(s) no later than 180 days thereafter, as required by performance-based planning process.

IN WITNESS WHEREOF, the parties have executed this agreement on the day and year first written above.



Chair
Charlottesville-Albemarle
Metropolitan Planning Organization

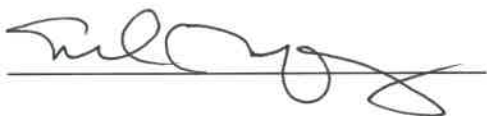
WITNESS BY 

DATE 7/25/18

Secretary of Transportation
Commonwealth of Virginia

WITNESS BY _____

DATE _____



City Manager
City of Charlottesville for
Charlottesville Area Transit

WITNESS BY 

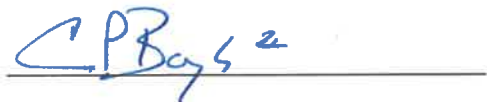
DATE 1/2/2019



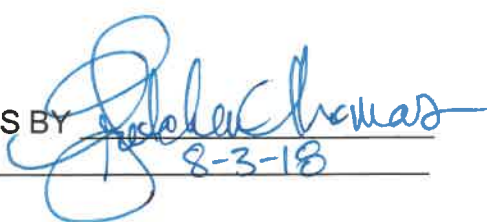
Executive Director
Jaunt, Inc.

WITNESS BY 

DATE 12/10/2018



Executive Director
Thomas Jefferson
Planning District Commission

WITNESS BY 

DATE 8-3-18



County Executive
Albemarle County

WITNESS BY Cheryl Skene
DATE 12/17/2018

Attachment C: FTA Section 5303 and PL Funding Breakdown

FY23 – Revised March 21, 2023			
	PL	FTA	Total
Task 1: Administration	\$37,500	\$21,500	\$59,000
Reporting and Compliance with Regulations	\$14,000	\$8,000	\$22,000
Staffing Committees	\$14,000	\$8,000	\$22,000
Information Sharing	\$9,500	\$5,500	\$15,000
Task 2: Long Range Transportation Planning	\$156,338	\$81,596	\$237,934
2050 LRTP	\$88,692	\$33,000	\$121,692
OneMap	\$20,000	\$8,108	\$28,108
MPO Boundary Analysis	\$14,684	\$7,000	\$21,684
Transit Governance Study	\$0	\$30,488	\$30,488
On-call Services	\$32,962	\$3,000	\$35,962
Task 3: Short Range Transportation Planning	\$49,000	\$49,926	\$98,926
TIP	\$18,000	\$7,000	\$25,000
SMART SCALE	\$15,000	\$12,000	\$27,000
RTP, TDM, and Bike/Ped Support	\$4,000	\$8,500	\$12,500
Performance Targets	\$2,000	\$1,000	\$3,000
Regional Transit & Rail Planning	\$0	\$5,000	\$5,000
CTAC/Public Outreach/Title VI	\$10,000	\$16,426	\$26,426
TOTAL	\$242,838	\$153,022	\$395,860

Memorandum

To: CA-MPO Policy Board
From: Sandy Shackelford, Director of Planning & Transportation
Date: March 14, 2023
Reference: Draft FY24 Unified Planning Work Program

Purpose:

The Unified Planning Work Program (UPWP) for transportation planning identifies all activities to be undertaken in the Charlottesville-Albemarle Metropolitan Planning Organization (CA-MPO) area for fiscal year 2024. The UPWP provides a mechanism for coordination of transportation planning activities in the region and is required as a basis and condition for all federal funding assistance for transportation planning by the joint metropolitan planning regulations of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

Background:

Based on ongoing initiatives that CA-MPO staff has been pursuing in coordination with discussions occurring with the MPO committees as well as federal and state agency priorities, MPO staff have prepared the draft FY24 UPWP for consideration. The proposed FY24 UPWP includes a number of required activities, as well as the completion of activities that were initiated in FY23 and will be carried over into FY24, such as the review of the MPO boundaries based on updated 2020 Census Data and the completion of the 2050 Long Range Transportation Plan.

Additional work tasks added to the FY24 include ongoing support for the completion of the Regional Transit Governance Study, as well as staff support for any next steps that are needed to support the implementation of associated recommendations. The draft FY24 UPWP also indicates project management and coordination support for the development of the regional and multi-jurisdictional Comprehensive Safety Action Plan and the required Commuter Assistance Program Strategic Plan. Funding allocations for both of these tasks are also included in the draft Rural Transportation Work Program. There is also a task to support the update to the regional Travel Demand Model that is maintained by VDOT.

Ongoing tasks supporting the administration of the MPO program largely reflect similar levels of spending as seen in previous years. There is additional PL funding allocated to the Information Sharing task to support an update to the CA-MPO website to more consistently conform to the style of the previously updated TJPDC website.

The on-call services/contingency task will support the ongoing development of an on-call program as well as provide flexibility for MPO staff to provide technical assistance or general support for projects that may be of interest to the region but are not identified at this time.

The Short Range Planning tasks reflect the ongoing support of the MPO staff in preparing/submitting SMART SCALE applications, coordination with the state and local jurisdictions, meeting federal reporting requirements, and providing ongoing public outreach and engagement consistent with federal requirements.

Recommendation:

This FY24 Draft UPWP has been prepared for review and discussion. General feedback is requested, but no action is needed at this time. The final FY24 UPWP will need to be approved by the Policy Board at their regular meeting scheduled for May 24, 2023.

If there are any questions or comments, please contact Sandy Shackelford at sshackelford@tjpd.org.

FY24 – Draft UPWP			
	PL	FTA	Total
Task 1: Administration	\$52,500	\$21,500	\$74,000
Reporting and Compliance with Regulations	\$14,000	\$8,000	\$22,000
Staffing Committees	\$14,000	\$8,000	\$22,000
Information Sharing	\$24,500	\$5,500	\$30,000
Task 2: Long Range Transportation Planning	\$267,314	\$70,640	\$337,954
2050 LRTP	\$142,643	\$36,000	\$178,643
Comprehensive Safety Action Plan	\$30,000		\$30,000
MPO Boundary Analysis	\$8,000	\$4,000	\$12,000
Transit Governance		\$27,640	\$27,640
Commuter Assistance Program Strategic Plan	\$11,000		
Travel Demand Model Update	\$20,000		
On-call Services/Contingency	\$55,671	\$3,000	\$58,671
Task 3: Short Range Transportation Planning	\$68,000	\$36,900	\$104,900
TIP Maintenance	\$5,000	\$2,000	\$7,000
SMART SCALE & Grant Support	\$35,500	\$10,400	\$45,900
RTP, TDM, and Bike/Ped Support	\$8,500	\$8,500	\$17,000
Performance Targets	\$2,000	\$1,000	\$3,000
Regional Transit & Rail Planning	\$0	\$5,000	\$5,000
CTAC/Public Outreach/Title VI	\$17,000	\$10,000	\$27,000
TOTAL	\$387,814	\$129,040	\$516,854



Unified Planning Work Program (UPWP)

Fiscal Year 2024
July 1, 2023 – June 30, 2024
Approved May 24, 2023

 *Thomas Jefferson*
Planning District Commission
Charlottesville/Albemarle MPO



 **VDOT**
Virginia Department of Transportation

 **DRPT**
Virginia Department of Rail and Public Transportation

 U.S. Department of Transportation
Federal Highway Administration



Preface

Prepared on behalf of the Charlottesville-Albemarle Metropolitan Planning Organization (CA-MPO) by the staff of the Thomas Jefferson Planning District Commission (TJPDC) through a cooperative process involving the City of Charlottesville and the County of Albemarle, Charlottesville Area Transit (CAT), Jaunt, University of Virginia (UVA), the Virginia Department of Transportation (VDOT), the Department of Rail and Public Transportation (DRPT), the Federal Highway Administration (FHWA), and the Federal Transit Administration (FTA).

The preparation of this work program was financially aided through grants from FHWA, FTA, DRPT, and VDOT.

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INTRODUCTION

Purpose of the Unified Planning Work Program

The Unified Planning Work Program (UPWP) for transportation planning identifies all activities to be undertaken in the Charlottesville-Albemarle Metropolitan Planning Organization (CA-MPO) area for fiscal year 2022. The UPWP provides a mechanism for coordination of transportation planning activities in the region and is required as a basis and condition for all federal funding assistance for transportation planning by the joint metropolitan planning regulations of the Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA).

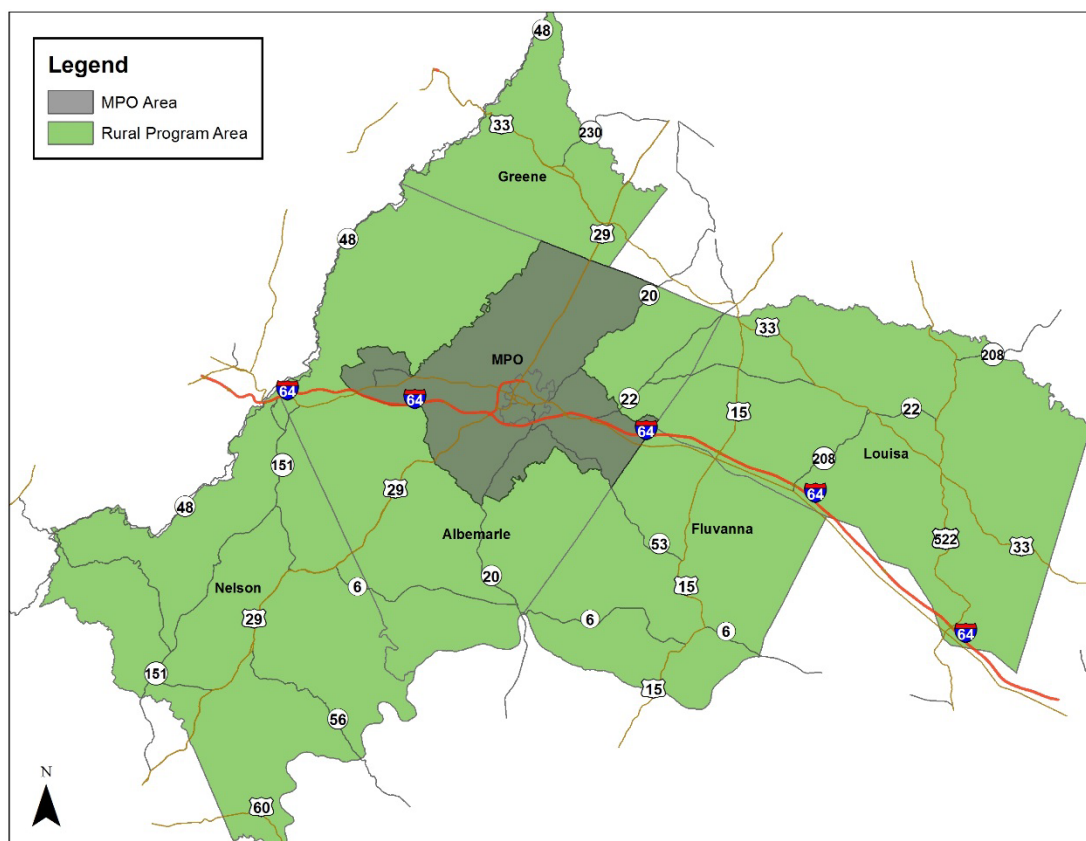
Purpose of the Metropolitan Planning Organization

CA-MPO provides a forum for conducting continuing, comprehensive, and coordinated (3-C) transportation decision-making among the City of Charlottesville, County of Albemarle, University of Virginia (UVA), Jaunt, Charlottesville Area Transit (CAT), Department of Rail and Public Transportation (DRPT) and Virginia Department of Transportation (VDOT) officials. In 1982, Charlottesville and Albemarle officials established the MPO in response to a federal mandate through a memorandum of understanding signed by the Thomas Jefferson Planning District Commission (TJPDC), Jaunt, VDOT and the two localities. The same parties adopted a new agreement on July 25, 2018 (Attachment B).

The MPO conducts transportation studies and ongoing planning activities, including the Transportation Improvement Program (TIP), which lists road and transit improvements approved for federal funding, and the 25-year long range plan for the overall transportation network, which is updated every five years. Projects funded in the TIP are required to be in the long-range plan.

The policy making body of the CA-MPO is its Board, consisting of two representatives from the City of Charlottesville and two representatives from Albemarle County. A fifth representative is from the VDOT Culpeper District. Non-voting members include DRPT, CAT, Jaunt, UVA, the Federal Highway Administration (FHWA), the Federal Aviation Administration (FAA), the Federal Transit Administration (FTA), the Thomas Jefferson Planning District Commission, and the Citizens Transportation Advisory Committee (CTAC). CA-MPO is staffed by the TJPDC, which works in conjunction with partner and professional agencies, to collect, analyze, evaluate and prepare materials for the Policy Board and MPO Committees at their regularly scheduled meetings, as well as any sub-committee meetings deemed necessary.

The MPO area includes the City of Charlottesville and the portion of Albemarle County that is either urban or anticipated to be urban within the next 20 years. In 2013, the MPO boundaries were updated and expanded to be more consistent with 2010 census data. The Commonwealth's Secretary of Transportation approved these new boundaries in March 2013. A map of the MPO area appears on the next page:



Relationship of UPWP to Long Range Transportation Planning

The MPO develops its UPWP each spring. It outlines the transportation studies and planning efforts to be conducted during the upcoming fiscal year (July 1 – June 30). The transportation studies and planning efforts outlined in the UPWP are guided by the regional transportation vision, goals, issues, and priorities developed through the extensive long-range planning process. Federal law requires the MPO to address eight basic planning factors in the metropolitan planning process. These eight planning factors are used in the development of any plan or other work of the MPO, including the Work Program, and are as follows:

- *Economic Vitality*: Support the economic vitality of the metropolitan area, especially by enabling global competitiveness, productivity, and efficiency;
- *Safety*: Increase the safety of the transportation system for motorized and non-motorized users;
- *Security*: Increase the security of the transportation system for motorized and non-motorized users;
- *Accessibility/Mobility*: Increase the accessibility and mobility of people and freight;
- *Environmental Quality*: Protect and enhance the environment, promote energy conservation, improve the quality of life, and promote consistency between transportation improvements and State and local planned growth and economic development patterns;
- *Connectivity*: Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- *Efficiency*: Promote efficient system management and operation; and,
- *Maintenance*: Emphasize the preservation of the existing transportation system.

MPO Transportation Infrastructure Issues and Priorities

In addition to the eight planning factors identified by FHWA and FTA, the issues listed below (in no particular order) have been identified by the MPO, its transportation planning partners, and the public throughout the metropolitan planning process. These issues are interconnected components of effective regional transportation planning, and collectively create the planning priorities facing the CA-MPO that will be addressed through the Work Program tasks and deliverables.

The following issues call for a need to:

- Expand and enhance transit, transportation demand management strategies including ridesharing services, and parking strategies to provide competitive choices for travel throughout the region;
- Improve mobility and safety for the movement of people and goods in the area transportation system;
- Improve strategies to make the community friendly to bicycles and pedestrians, particularly the mobility and safety of bicyclists and pedestrians, as well as access to transit, rail and transit/rail facilities;
- Take more visible steps to better integrate transportation planning with local government land use plans, with a goal of creating patterns of interconnected transportation networks and long-term multimodal possibilities such as non-vehicular commuter trails, intercity rail, and right-of-way corridors for bus ways;
- Ensure that new transportation networks are designed to minimize negative impacts on the community and its natural environment, and to save money;
- Encourage public involvement and participation, particularly addressing environmental justice and Title VI issues;¹ and
- Improve the understanding of environmental impacts of transportation projects and identify opportunities for environmental mitigation.

Public Participation/Title VI and Environmental Justice

The MPO makes every effort to include minority, low-income, and limited-English speaking populations in transportation planning. Throughout this document there are several tasks that specifically discuss the MPO's efforts to include these populations. In addition to the UPWP, the MPO also maintains a Public Participation Plan and a Title VI/Environmental Justice Plan. Both plans specify that the MPO must post public notices in key locations for low-income, minority and limited-English speaking populations. Both plans state that the MPO must make all official documents accessible to all members of our community. The Title VI/Environmental Justice Plan also outlines a complaint process, should a member of these specialized populations feel as though they have been discriminated against. These documents work in tandem with the UPWP to outline the MPO's annual goals and processes for regional transportation planning.

Funding

Two federal agencies fund the MPO's planning activity. This includes FHWA's funds, labeled as

¹ The 1994 Presidential Executive Order directs Federal agencies to identify and address the needs of minority and low-income populations in all programs, policies, and activities.

“PL,” and FTA, labeled as “FTA.” The FHWA funds are administered through VDOT, while FTA funds are administered through the DRPT. Funds are allocated to the TJPDC, to carry out MPO staffing and the 3c process. The CA-MPO budget consist of 10% local funds, 10% state funds, and 80% federal funds.

VDOT receives federal planning funds from FHWA for State Planning and Research. These are noted with the initials “SPR.” The total budget for SPR items reflects 80% federal funds and 20% state funds. Attachment A shows the tasks to be performed by VDOT’s District Staff, utilizing SPR funds. VDOT’s Transportation and Mobility Planning Division (TMPD), located in the VDOT Central Office, will provide statewide oversight, guidance and support for the federally-mandated Metropolitan Transportation Planning & Programming Process. TMPD will provide technical assistance to VDOT District Planning Managers, local jurisdictions, regional agencies and various divisions within VDOT in the development of transportation planning documents for the MPO areas. TMPD will participate in special studies as requested. DRPT staff also participates actively in MPO studies and committees, although funding for their staff time and resources is not allocated through the MPO process.

The following tables provide information about the FY24 Work Program Budget. These tables outline the FY24 Program Funds by Source and by Agency. The second table summarizes the budget by the three Work Program tasks: Administration (Task 1), Long Range Planning (Task 2), and Short-Range Planning (Task 3). More detailed budget information is included with the descriptions of the task activities.

FY24 Work Program: Funding by Source

Funding Source	Federal	State	Local	Total
	<i>80%</i>	<i>10%</i>	<i>10%</i>	<i>100%</i>
FY-24 PL Funding	\$206,116	\$25,764	\$25,764	\$257,644
FY-22 PL Passive Rollover	\$20,136	\$2,517	\$2,517	\$25,170
FY-23 PL Active Rollover	\$84,000	\$10,500	\$10,500	\$105,000
FY-24 PL Total	\$310,252	\$38,781	\$38,781	\$387,814
FY-24 FTA Funding	\$103,232	\$12,904	\$12,904	\$129,040
FY-24 FTA Total	\$103,232	\$12,904	\$12,904	\$129,040
PL+FTA Total	\$413,484	\$51,685	\$51,685	\$516,854
VDOT SPR	\$136,000	\$34,000	\$0	\$170,000
Total FY24 Work Program	\$549,484	\$85,685	\$51,685	\$686,854

FY24 Work Program: Funding by Task

Funding Source	Task 1	Task 2	Task 3	Total
	14.32%	65.39%	20.30%	100%
PL+FTA Total	\$74,000	\$337,954	\$104,900	\$516,854
FY-24 PL Funding	\$52,500	\$137,144	\$68,000	\$257,644
FY-23 PL Active Rollover	\$0	\$105,000	\$0	\$105,000
FY-22 PL Passive Rollover	\$0	\$25,170	\$0	\$25,170
PL Total	\$52,500	\$267,314	\$68,000	\$387,814
FY-24 FTA Funding	\$21,500	\$70,640	\$36,900	\$129,040
FTA Total	\$21,500	\$70,640	\$36,900	\$129,040
VDOT SPR	\$50,000	\$60,000	\$60,000	\$170,000
Total FY24 Work Program	\$124,000	\$397,954	\$164,900	\$686,854

Highlights of FY23 UPWP

The CA-MPO conducted several projects and initiatives in FY22. Below are highlights from that year, helping to give context for the FY21 activities.

SMART SCALE

The SMART SCALE process scores and ranks transportation projects, based on an objective analysis that is applied statewide. The legislation is intended to improve the transparency and accountability of project selection, helping the Commonwealth Transportation Board (CTB) to select projects that provide the maximum benefits for tax dollars spent. In FY23, CA-MPO staff supported the development and application of eight SMART SCALE projects, two of which were recommended to receive funding. CA-MPO staff also began the process of identifying projects for consideration in upcoming SMART SCALE grant applications

2050 Long Range Transportation Plan

MPO staff began the five-year update of the Long Range Transportation Plan (LRTP). MPO staff continued to meet with consultants procured through an Office of Intermodal Planning and Investment Growth and Accessibility Planning Technical Assistance grant to develop a project prioritization tool to evaluate regional transportation system needs. Staff began the process of developing goals and objectives to establish the framework for prioritizing system needs and projects. The work on the LRTP will continue into FY 2024.

Bicycle and Pedestrian Planning

MPO staff has continued coordinating monthly meetings to discuss issues of interest for bicycle and pedestrian planning. Staff also worked to coordinate with UVA, Albemarle County, and the City of Charlottesville to complete the OneMap project, developing a single map of bicycle and pedestrian infrastructure throughout the region to inform multi-modal planning efforts.

Regional Transit Planning

MPO staff has continued their involvement in overseeing the Regional Transit Partnership. In FY23, staff worked with consultants to complete the Regional Transit Vision Plan and began work on a Transit Governance Study through a DRPT Technical Assistance Grant. The Regional Transit Governance Study will provide guidance on the appropriate governing and funding structure for a transit authority. The completion of the Transit Governance Study will occur in FY24.

Transportation Improvement Program (TIP)

MPO staff developed the FY24-FY27 TIP in collaboration with VDOT, DRPT, Jaunt, and CAT.

National Transportation Performance Measures

Performance Based Planning and Programming requirements for transportation planning are laid out in the Moving Ahead for Progress in the 21st century (MAP-21), enacted in 2012 and reinforced in the 2015 FAST Act, which calls for states and MPOs to adopt targets for national performance measures. Each MPO adopts targets for a set of performance measures, in coordination with the Virginia Department of Transportation (VDOT) and the Virginia Department of Rail and Public Transit (DRPT), and these measures are used to help in the

prioritization of TIP and Long-Range Transportation Plan projects. In FY23, the MPO Policy Board voted to adopt safety targets based on regionally-specific trends, and adopted the statewide targets for transit asset management, system performance, and infrastructure conditions.

Grant Applications

MPO staff prepared an application and was awarded a federal grant to develop a Comprehensive Safety Action Plan through the Safe Streets and Roads for All program. The work the MPO is completing through the grant is further bolstered through VDOT's Highway Safety Improvement Program (HSIP). A safety analysis will begin in late FY23 and work through the grant will begin in FY24.

MPO staff also prepared applications for federal funding through the Rebuilding American Infrastructure with Sustainability and Equity (RAISE) grant to complete the preliminary engineering phase of a bicycle and pedestrian bridge across the Rivanna River and through the 5310 Mobility Management Program to develop a regional one-call-one-click center to provide support for seniors and individuals with disabilities to access transportation services.

Title VI/Public Participation

In FY23, MPO Staff continued improving implementation of the Title VI plan in conformance with feedback received from VDOT.

FY24 UPWP Activities by Task

Task 1: Administration

Total Funding: \$74,000

PL Funding: \$52,500

FTA Funding: \$21,500

A) Reporting and Compliance with Regulations

PL Funding: \$14,000

FTA Funding: \$8,000

There are several reports and documents that the MPO is required to prepare or maintain, including:

- FY24 Unified Planning Work Program Implementation;
- FY25 Unified Planning Work Program Development;
- Monthly progress reports and invoices; and,
- Other funding agreements.

TJPD staff will also provide for the use of legal counsel, accounting and audit services for administering federal and state contracts.

End Products:

- Complete annual Unified Planning Work Program (UPWP) process;
- Administer Grants and other funding;
- Execute project agreements, along with related certifications and assurances; and,
- Complete invoicing, monthly billing, and progress reports.

B) Staffing Committees

PL Funding: \$14,000

FTA Funding: \$8,000

TJPD staff is responsible for staffing the MPO Policy Board and Committees. These efforts include preparation of agendas, minutes, and other materials for the committees listed below. The MPO continues to urge localities to appoint committee representatives from minority and low-income communities.

The CA-MPO staffs the following groups:

- MPO Policy Board;
- MPO Technical Committee;
- Regional Transit Partnership (RTP); and,
- Additional committees as directed by the MPO Policy Board.

End Products:

- Staff committees;
- Maintain memberships on committees;
- Issue public notices and mailings; and,
- Maintain committee information on the TJPD/MPO Website.

C) Information Sharing

PL Funding: \$24,500

FTA Funding: \$5,500

The MPO functions as a conduit for sharing information between local governments, transportation agencies, state agencies, other MPOs, and the public. MPO staff will provide data and maps to State and Federal agencies, localities and the public as needed. Staff will also contribute articles to TJPDC's newsletters and Quarterly Report. The CA-MPO will continually monitor and report on changes to Federal and State requirements related to transportation planning and implementation policies. Staff will attend seminars, meetings, trainings, workshops, and conferences related to MPO activities as necessary. Staff will assist local, regional and State efforts with special studies, projects and programs. Staff will also conduct ongoing intergovernmental discussions; coordinate transportation projects; and attend/organize informational meetings and training sessions. MPO staff will attend additional meetings with local planning commissions and elected boards to maintain a constant stream of information with local officials to include transportation, transit and environmental topics.

Additional funding is provided in this task to complete a comprehensive overhaul of the CA-MPO website, consistent with the recent updates to the TJPDC website. This update will allow staff to manage the website content more directly, as well as provide continuity among the TJPDC's program areas.

End Products:

- Continue to review and update facts and figures;
- Provide technical data, maps and reports to planning partners;
- Attend local planning commission meetings as needed;
- Attend City Council and Board of Supervisors meetings as needed;
- Ensure adequate communication between Planning District Commission and MPO Policy Board;
- Continue coordination of ongoing meetings with staff from Charlottesville, Albemarle and UVA regarding bicycle and pedestrian projects
- Participate and maintain membership with the Virginia Association of MPOs (VAMPO);
- Participate and maintain membership with the American Association of MPOs (AMPO); and,
- Hold annual joint-MPO Policy Board meeting with the Staunton-Augusta-Waynesboro MPO and propose meetings with Lynchburg MPO.
- Maintain the TJPDC's social media; and,
- Maintain and update the MPO Website.

Task 2: Long Range Transportation Planning

Total Funding: \$337,954

PL Funding: \$267,314

FTA Funding: \$70,640

A) 2050 Long Range Transportation Plan

PL Funding: \$142,643

FTA Funding: \$36,000

The CA-MPO will continue its development of the 2050 Long Range Transportation Plan

(LRTP) in FY24. In FY23, CA-MPO procured a consultant team to support the development of the plan and completed the process of developing a project prioritization process through a technical assistance grant awarded by the Office of Intermodal Planning and Investment. In FY23, CA-MPO developed the goals and objectives for the plan, completed the regional demographic analysis, and began public engagement initiatives. The development of the LRTP will be completed by May of 2024.

End Products:

- Continue public engagement of the plan goals and objectives to determine system needs and project priorities and receive feedback on project priorities;
- Develop a list of candidate projects for evaluation;
- Develop constrained budget and needs identification framework;
- Identify priority projects for implementation and future study;
- Prepare final plan for review, comment, and adoption.

B) Comprehensive Safety Action Plan

PL Funding: \$30,000

FTA Funding: \$0

In FY23, the TJPDC applied for and was awarded a Safe Streets and Roads for All discretionary grant to develop a Comprehensive Safety Action Plan for all jurisdictions within the TJPDC region. To best leverage the funding for the grant, the TJPDC staff will provide additional support for the development of this safety action plan through both the Unified Planning Work Program and the Rural Work Program. The Comprehensive Safety Action Plan will develop a better understanding of crash risk factors throughout the regional transportation system, and identify strategies specific to improving safety outcomes taking a multi-faceted approach that includes infrastructure improvements, enforcement practices, information sharing, education.

The Comprehensive Safety Action Plan will consider the safety needs for all modes of transportation and will include significant public outreach as part of the scope, allowing strong emphasis on equity considerations in developing recommended priorities. This activity demonstrates compliance with the required Complete Streets planning activities found in IIA/BIL § 11206. The completion of the Comprehensive Safety Action Plan is estimated to be completed FY25.

End Products:

- Analysis of regional crash data detailing the high injury networks and multi-modal system deficiencies to provide better understanding of factors that contribute to crashes developed in support with VDOT's Highway Safety Improvement Program;
- The establishment of a stakeholder group to provide feedback on planning process and considerations;
- Development of a public engagement strategy to conduct robust and comprehensive outreach throughout the region;
- Development of final project scope and procurement of consultants to support the analysis of data and feedback and develop recommended strategies;
- Prioritized strategies for each locality, as well as regional priorities; and
- Template for ongoing monitoring and reporting of regional safety data.

C) CA-MPO Boundary Analysis

PL Funding: \$8,000

FTA Funding: \$4,000

The 2020 Census data necessitates a need to review the MPO boundary and determine if any adjustments need to be made based on the most recent data and potential changes in rule-making for how MPO boundaries are determined. Changes to the eligible urbanized areas were indicated in late FY23. A review of those adjustments and an assessment of impacts to the MPO boundaries will be completed in FY24.

End Products:

- A map of the eligible boundary area based on 2020 Census data;
- A report summarizing a request to change the MPO boundaries, if merited by a review of data;
- Updates with the MPO Committees with findings;
- Coordination meetings with stakeholders if adjustments are merited;
- Formal request for action from the Governor's Office; and
- Any revisions to policies or by-laws needed based on outcomes from the boundary analysis.

D) Transit Governance

PL Funding: \$0

FTA Funding: \$27,640

The Thomas Jefferson Planning District Commission was awarded a Technical Assistance grant from the Department of Rail and Public Transportation in FY23 to conduct a governance study of the regional transit system. The governance study follows the completion of the Regional Transit Vision Plan and is intended to provide recommendations on the appropriate governance structure needed to implement the recommendations identified during the visioning process. This task will support the completion of the Regional Transit Governance Study as well as support any needed next steps towards the implementation of a recommended governance structure.

End Products:

- A review of the existing transit agencies and operations that participate in the regional transit system in the Thomas Jefferson Planning District;
- A review of the existing Regional Transit Authority legislation and an analysis of its strengths and weaknesses;
- A review of funding opportunities and recommended funding scenarios to support the implementation of recommendations identified in the Regional Transit Vision Plan;
- Alternative governance structures that could be developed to oversee the implementation of recommendations identified as part of the regional transit visioning process; and
- Coordination needed for the implementation of recommended next steps.

E) Commuter Assistance Program Strategic Plan

PL Funding: \$11,000

FTA Funding: \$0

The TJPDC's commuter assistance program, RideShare, is required to complete a Strategic Plan in FY24. The goal of the RideShare program is to promote the use of non-single occupancy vehicle forms of transportation. The TJPDC has applied for a technical assistance grant to retain a consultant, and the TJPDC will provide staffing support to develop elements of the Strategic Plan through both the Rural Work Program and the Unified Planning Work Program.

End Products:

- Selection and management of a technical consultant;
- An analysis of existing RideShare program operations;
- Stakeholder outreach to include meetings with stakeholder groups and/or surveys;
- Commuter data and markets analysis; and
- Development of a final Strategic Plan meeting DRPT requirements.

F) Travel Demand Model Update

PL Funding: \$20,000

FTA Funding: \$0

VDOT maintains and update the regional travel demand model for the Charlottesville-Albemarle MPO area. Following the required schedule, CA-MPO's model will be updated beginning in FY24. MPO staff will coordinate with local government staff and VDOT to provide needed data and inform updates to the model.

- Coordinate meetings between local and state stakeholders related to model assumptions and data needs;
- Support the collection and gathering of regional data, as needed;
- Coordinate with local government staff to provide feedback on growth projections and land use decisions; and
- Review drafts of the travel demand model and provide feedback on any requested changes.

G) On-call Services/Contingencies

PL Funding: \$55,671

FTA Funding: \$3,000

MPO, VDOT, and local staff will be available to conduct transportation studies, data collection, and planning efforts as requested by our planning partners, including projects focusing on transportation system improvements to improve mobility, safety, and security for area pedestrians, bicyclists, and motorists. All studies will ensure a working partnership with the surrounding area's businesses and neighborhoods. Costs will be incurred to identify and initiate contractual arrangements. MPO staff began exploring an on-call consultant program in FY23 to provide efficient access to technical consultants as needed, realizing that legal support would be needed to successfully implement an on-call program that could be extended to local governments.

This task will also be used to support the development of grant applications that may present themselves outside of the normal application cycles.

- Transportation study or planning effort, as requested, that can be used as a basis for

- implementing short-term and long-term transportation solutions;
- Development and submission of grant applications;
- Development of desired services that an on-call consultant program can provide; and
- A contract or contracts with consultant(s) procured to provide on-call services to the MPO, TJPDC, and/or partner localities.

Task 3: Short Range Planning

Total Funding: \$104,900

PL Funding: \$68,000

FTA Funding: \$36,900

A) Transportation Improvement Program (TIP)

PL Funding: \$5,000

FTA Funding: \$2,000

There are a number of federal-aid highway programs (i.e. administered by FHWA) which, in order to be eligible for use by the implementing agency, must be programmed in the TIP. Similarly, there are funds available under federal-aid transit programs (i.e. administered by FTA) which, in order to be used, must also be programmed in the TIP. In fact, any federally-funded transportation projects within the MPO must be included in the TIP, including transit agency projects. Project descriptions include: implementing agency; location/service area; cost estimates; funding sources; funding amounts actual or scheduled for allocation; type of improvement, and; other information, including a required overall financial plan.

MPO staff prepared the FY24-FY27 TIP adopted by the Policy Board in FY23. This task will support the ongoing maintenance and update of the developed TIP.

End Products:

- Process the Annual Obligation Report;
- Process TIP amendments and adjustments; and
- Monitor the TIP as necessary, ensuring compliance with federal planning regulations.

B) SMART SCALE & Other Grant Planning and Support

PL Funding: \$35,500

FTA Funding: \$10,400

MPO staff will continue to work with VDOT, DRPT, City and County staff to identify appropriate funding sources for regional priority projects. MPO staff will coordinate with localities and VDOT to identify potential SMART SCALE projects and support engagement needed to prepare those projects for Round 6 applications.

End Products:

- Provide regular updates to the MPO committees regarding the process of developing SMART SCALE applications for Round 6;
- Support application development through coordination with VDOT pipeline projects and evaluation of previously identified high-priority projects that remain unfunded;
- Hold a regional meeting to coordinate SMART SCALE project submittals from the member localities and MPO;

- Coordinate sharing of economic development, and other relevant information, between the localities in support of SMART SCALE applications; and
- Attend the Quarterly Transportation Meetings hosted by OIPI to ensure that MPO and locality staff have appropriate information about all funding programs.

C) Travel Demand Management (TDM), Regional Transit Partnership (RTP), and Bike/Ped Support

PL Funding: \$8,500

FTA Funding: \$8,500

The RideShare program, housed by the TJPDC, is an essential program of the MPO's planning process. The RTP has been established to provide a venue for continued communication, coordination, and collaboration between transit providers, localities and citizens. These programs, along with continued support for bike and pedestrian travel, support regional TDM efforts. TDM has been, and will continue to be, included in the long-range transportation planning process.

End Products:

- Continue efforts to improve carpooling and alternative modes of transportation in MPO;
- Staff Regional Transit Partnership meetings;
- Address immediate transit coordination needs;
- Formalize transit agreements;
- Improve communication between transit providers, localities and stakeholders;
- Explore shared facilities and operations for transit providers;
- Provide continued support to coordinating bike/ped planning activities between the City of Charlottesville, Albemarle County, UVA and with the rural localities;
- Continue to assess the need for a Regional Transit Authority; and
- Per the Strategic Plan, integrate TDM into all MPO recommendations and projects.

D) Performance Targets

PL Funding: \$2,000

FTA Funding: \$1,000

MPOs are asked to participate in the federal Transportation Performance Management process by coordinating with the state to set targets for their regions based on the state targets and trend data provided by the state. The CA-MPO will need to set and document the regional safety and performance targets adopted.

End Products:

- Prepare workbook and background materials for MPO committees and Policy Board to review;
- Facilitate discussion of performance targets with the MPO committees and Policy Board;
- Complete all documentation notifying the state of the adopted safety and performance targets; and
- Update the TIP when updated performance targets are adopted.

E) Regional Transit and Rail Planning

PL Funding: \$0

FTA Funding: \$5,000

There is high regional interest in improving transit and passenger rail for the Charlottesville-Albemarle urbanized areas. This task supports the engagement of the CA-MPO with the state and intra-regional stakeholders in transit and rail planning.

End Products:

- Participate in statewide initiatives to expand and improve transit and rail service to the Charlottesville region; and
- Prepare and submit planning and implementation grant applications for transit and rail projects as opportunities are identified.

H) CTAC, Public Participation, and Title VI

PL Funding: \$17,000

FTA Funding: \$10,000

TJPD staff will participate in and help develop community events and educational forums such as workshops, neighborhood meetings, local media, and the MPO web page. Staff will also participate in and act upon training efforts to improve outreach to underserved communities, such as low-income households, people with disabilities, minority groups, and limited English-speaking populations, including maintenance and implementation of the agency Title VI Plan. The TJPD will continue to staff the Citizens Transportation Advisory Committee, which is an important conduit for receiving feedback and input on the efficacy of public outreach and engagement efforts.

End Products:

- Utilize a broad range of public engagement strategies to disseminate information on transportation planning efforts and processes;
- Develop programs to better inform the public about transportation planning and project development;
- Demonstrate responsiveness to public input received during transportation planning processes;
- Review Title VI/Environmental Justice Plan as needed;
- Review Public Participation Plan as needed;
- Implement processes in compliance with Title VI Plan, Environmental Justice Plan, and Public Participation Plan;
- Review information on website for accessibility and understandability;
- Continue to investigate methods to increase participation from historically underserved communities;
- Provide proper and adequate notice of public participation activities; and
- Provide reasonable access to information about transportation issues and processes in paper and electronic media.

Task 4: Contracted Projects and Studies

A) Coordinate and support the following projects:

- Coordinate, manage, and implement the Regional Transit Governance Study for the CA-MPO and TJPDC region.
- Coordinate, manage, and implement the completion the U.S. Department of Transportation Safe Streets and Roads for All grant to develop a Comprehensive Safety Action Plan for each locality throughout the CA-MPO and TJPDC region.
- Coordinate, manage, and implement the U.S. Department of Transportation RAISE grant to complete the preliminary engineering phase of the Rivanna River Bicycle and Pedestrian Bridge if awarded.

B) Explore opportunities for contracted project and studies.

Topical areas may include:

- Coordination between affordable housing and connectivity needs.
- Improving coordination with locality staff and elected officials.
- Implementing recommendations from the regional transit planning studies.

Public Participation Process

Review and Approval of Tasks

MPO Policy Board:

- Initial Draft provided March 21st, 2023
- Final Approval May 24th, 2023

Online Posting

Posted as part of MPO meeting agenda for March 21st, 2023

Posted on TJPDC.org: May 2nd, 2022 for 15 day public comment period

State Review

Draft submittal for VDOT review/comment: March 13th, 2023

Draft submittal for DRPT review/comment: March 13th, 2023

Review of Final FY24 UPWP

MPO Technical Committee: May 17th, 2022

Citizen Transportation Advisory Committee (CTAC): May 18th, 2022

MPO Policy Board: May 25^h, 2022

Glossary of Acronyms

The following transportation-related acronyms are used in this document:

3-C Planning Process	Federal Planning Process which ensures that transportation planning is continuing, comprehensive, and coordinated in the way it is conducted
AADT	Annual Average Daily Traffic
BRT	Bus Rapid Transit
CAT	Charlottesville Area Transit
CTAC	Citizens Transportation Advisory Committee
CTB	Commonwealth Transportation Board
DRPT	Virginia Department of Rail and Public Transportation
EV	Electric Vehicle
FHWA	Federal Highway Administration
FTA	Federal Transit Administration
FY	Fiscal Year (refers to the state fiscal year July 1 – June 30)
GIS	Geographic Information System
JAUNT	Regional transit service provider to Charlottesville City, and Albemarle, Fluvanna, Louisa, Nelson, Buckingham, Greene and Orange Counties
L RTP	Long Range Transportation Plan
MAP-21	Moving Ahead for Progress in the 21 st Century (legislation governing the metropolitan planning process)
MPO	Metropolitan Planning Organization
NHS	National Highway System
PL	FHWA Planning Funding (used by MPO)
RideShare	Travel Demand Management (TDM) services housed at TJPDC that promote congestion relief and air quality improvement through carpool matching, vanpool formation, Guaranteed Ride Home, employer outreach, telework consulting and multimedia marketing programs for the City of Charlottesville, and Albemarle, Fluvanna, Louisa, Nelson, and Greene Counties.
RLRP	Rural Long Range Transportation Plan
RTA	Regional Transit Authority
RTP	Rural Transportation Program
SAFETEA-LU	Safe, Accountable, Flexible, Efficient, Transportation Equity Act: A Legacy for Users (legislation that formerly governed the metropolitan planning process)
SOV	Single Occupant Vehicle
SPR	FHWA State Planning and Research Funding (used by VDOT to support MPO)
SYIP	Six Year Improvement Plan
TAZ	Traffic Analysis Zone
TDP	Transit Development Plan (for CAT and JAUNT)
TDM	Travel Demand Management
TIP	Transportation Improvement Program
TJPDC	Thomas Jefferson Planning District Commission

TMPD	VDOT Transportation and Mobility Planning Division
UPWP	Unified Planning Work Program (also referred to as Work Program)
UTS	University Transit Service
UVA	University of Virginia
VDOT	Virginia Department of Transportation
VMT	Vehicle Miles Traveled
Work Program	Unified Planning Work Program (also referred to as UPWP)

Appendix

Attachment A: Tasks Performed by VDOT

Attachment B: Memorandum of Understanding (2019)

Attachment C: FTA Section 5303/PL Funding Breakdown

Attachment D: Resolution

CHARLOTTESVILLE-ALBEMARLE MPO PERFORMANCE-BASED PLANNING PROCESS



CHARLOTTESVILLE-ALBEMARLE MPO PERFORMANCE-BASED PLANNING PROCESS

Process for Identification of Needs and Process for Project Prioritization

ACKNOWLEDGMENTS

Christine Jacobs, Executive Director, Thomas Jefferson PDC

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ABOUT GAP-TA

Visit vtrans.org/about/GAP-TA for information about the Growth and Accessibility Planning Technical Assistance program. OIPI will provide a blurb describing the GAP-TA program

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OIPI does not endorse products or manufacturers. Any trade or manufacturers' names that appear herein are solely because they are considered essential to the object of the report.

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GLOSSARY OR LIST OF ACRONYMS

CTB	Commonwealth Transportation Board
DRPT	Department of Rail and Public Transportation
EEA	Equity Emphasis Area
GAP	Growth and Accessibility Program
GIS	Geographic Information System
L RTP	Long Range Transportation Plan
MPO	Metropolitan Planning Organization
OIPI	Office of Intermodal Planning and Investment
PDC	Planning District Commission
TDM	Travel Demand Management
VDOT	Virginia Department of Transportation
VEDP	Virginia Economic Development Partnership
CMAQ	Congestion Mitigation and Air Quality
RSTP	Regional Surface Transportation Program
PSI	Potential for Safety Improvement
EPDO	Equivalent Property Damage Only

1 - INTRODUCTION

In 2021, the Charlottesville-Albemarle Metropolitan Planning Organization (CAMPO) was awarded a grant through the Virginia Office of Intermodal Planning and Investment (OIPI) Growth and Accessibility Planning (GAP) Technical Assistance program to develop a performance-based planning process that identifies transportation needs and prioritizes transportation projects for its Long Range Transportation Plan. Additionally, this process is intended to be managed and maintained over time within the constraints of CAMPO's limited staffing resources. The process resulting from this study is transparent, repeatable, and flexible to accommodate additional measures, new or updated data sources, and alternative analysis parameters, such as needs thresholds and weighting schemes. This data-driven performance-based planning process includes two parts:

1. Process for the Identification of Transportation Needs – This process involves a system evaluation of needs based on performance measures that address goals and objectives in the CAMPO's long range plan including safety, access and equity, mobility and system efficiency, and economic development.
2. Process for the Prioritization of Transportation Projects – This process involves a project-level evaluation of the benefits and costs associated with projects. Project benefits are evaluated based on each project's expected improvements related to safety, accessibility, congestion mitigation, environmental impacts, and economic development. While the prioritization of transportation projects is closely related to the identification of needs and there is a common set of metrics used by both, the analytical processes and combinations of metrics may differ between project prioritization and needs analyses. For example, an important difference is that while needs analysis focuses on existing or forecasted system-level conditions, project prioritization considers a particular project's impacts in its specific location.

This report is divided into four chapters, including this introduction explaining the purpose and organization of the report. Chapter 2 starts by outlining the dimensions of transportation needs indicated in CAMPO's policies and ongoing planning activities. These inform the metrics included in the needs analysis and project prioritization processes. As CAMPO's policies evolve, the performance-based planning process can be updated, extended, or modified accordingly. In addition to presenting the overall process for identifying transportation needs, Chapter 3 discusses the methodologies applied to evaluating needs for each performance measure and the steps for weighting and aggregating across need categories. Chapter 4 presents the process for the prioritization of transportation projects, including the methodologies for evaluating the benefits of all surface transportation improvements, including

highway and roadway, transit, active transportation (i.e., bicycle and pedestrian), and transportation demand management (TDM) projects. Chapter 4 also presents the methodology for normalizing benefit scores across measures, assessing the costs of projects, and developing a single project score that can be used to rank projects across project types. These methodologies were tested on a variety of project types including roadway widenings, bicycle and pedestrian improvements, and transit projects.

2 - CAMPO'S PLANNING PRIORITIES

Through coordination with CAMPO staff and the CAMPO Technical Committee, the technical work group developed metrics that focus on five need categories: Safety, Accessibility and Equity, Mobility and System Efficiency, Environment, and Economic Development. These five need categories align with CAMPO's 2045 Long Range Transportation Plan (LRTP) vision, goals, and objectives while providing sufficient nuance in supportive measures to evaluate a project's competitiveness for a variety of funding opportunities including SMART SCALE, Congestion Mitigation and Air Quality (CMAQ), and the Regional Surface Transportation Program (RSTP).

The five need categories include:

Safety –the aim of the safety category is to identify intersections and segments where safety improvements are needed and prioritize projects that can reduce crashes and/or exposure to risk.

Accessibility and Equity – the aim of the accessibility and equity category is to identify areas where the design and/or performance of the transportation system degrades travelers' ability to reach key destinations, like jobs, especially for disadvantaged users; and prioritize projects that are likely to enhance accessibility through improved connectivity, reduction in delay, more frequent transit services, and/or improved bicycle and pedestrian facilities.

Mobility and System Efficiency – the aim of the mobility and system efficiency category is to identify segments where congestion-related delay degrades travel time and travel time reliability for automobiles and transit vehicles and to prioritize projects that will alleviate delay and/or enhance person throughput throughout the region. This category also includes a measure which considers the on-time performance of the bus system.

Environmental – the aim of the environmental category is to identify resiliency needs, especially where infrastructure is exposed to inland flooding and to prioritize projects that pose no environmental impacts, mitigate impacts, or offer environmental services.

Land Use and Economic Development – the aim of the land use and economic development category is to identify areas where there is access to non-work destinations to stimulate local economic activity or to create transportation choices for disadvantaged people and to prioritize projects that connect to areas of local economic development activity.

The technical team for the study conducted an internal capacity assessment to establish the technologies and staff capabilities available to CAMPO for the implementation and maintenance of this process in diverse planning applications. That assessment is summarized in detail in Appendix A. It informed the development of the needs analysis and project prioritization processes by focusing on measures that are supported by readily available data and

implementable in commonly used software, like Microsoft Excel or ArcMap, with no specialized expertise required. The measures described in the remaining chapters of this report are, therefore, accompanied by step-by-step instructions for their production in the appropriate software.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

A critical component of the transportation planning process is the identification of needs for future transportation improvements. Traditional needs assessments have focused on evaluating highway system performance including standard infrastructure condition deficiencies, crash hot spots, and network operational performance. Needs analysis methods have relied on these performance measures due to inadequate data for transit and active transportation modes. This process expands the needs analysis to consider transit and active transportation as part of a holistic multimodal needs assessment.

Figure 1 illustrates the general process for the identification of needs. The first step of this process is establishing the need categories and performance measures that align the scoring factors with the MPO’s goals and objectives. The needs addressed in the process developed for this study are organized into the planning priorities described above. A total of 11 performance measures are defined with each measure assigned to one of the four factors, meaning some factors are defined by combinations of several metrics. For example, safety needs are identified through three metrics: PSI ranking, EPDO crash frequency, and pedestrian safety. The confluence of PSI segments and segments with high crash density and segments with high pedestrian safety priorities will have the highest overall safety need.

The first part of step two is the identification of needs. This step screens the full street network to determine segments that are eligible for scoring. Eligibility is determined by using one of the two threshold options discussed in the following sections within each need category. After eligibility is determined, raw scores are calculated for all performance measures within each need category. The specific steps in calculating metrics are often complex, involving multiple input datasets, spatial analysis, computation, summarization, etc. When describing the metrics used in the needs analysis and project prioritization processes, follow the step-by-step instructions for transparency and replicability. However, most metrics can also be processed using automated procedures developed for this study, usually in custom geoprocessors that can be run in ArcGIS or Microsoft Excel spreadsheet tools. Table 1 illustrates a roles and responsibility matrix that indicates agencies that are responsible for different elements of the process.

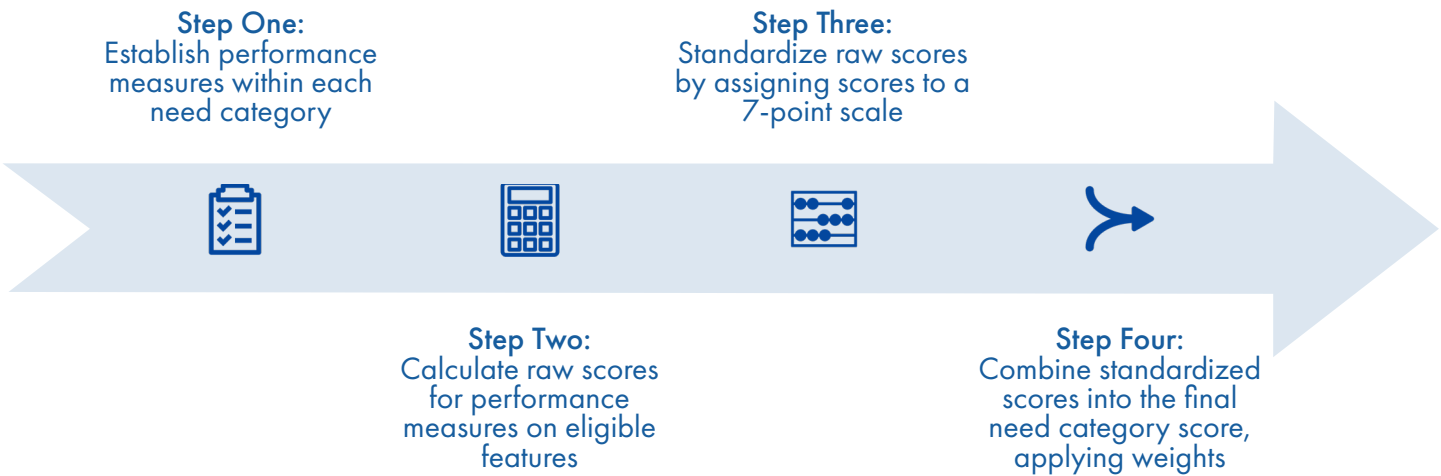


Figure 1 Process for the identification of needs

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Table 1 Roles and Responsibility Matrix

Agency	Role
OIPI	▪ Provide technical help with data from VTrans Web Map ▪ Update VTrans data as needed
VDOT	▪ Provide technical help with VDOT data ▪ Update VDOT data as needed
CAMPO	▪ Develop planning goals and objectives for the performance-based planning process ▪ Collect and manage data from other agencies ▪ Run the performance-based planning processes
City of Charlottesville and Albemarle County	▪ Coordinate with CAMPO to develop goals and objectives ▪ Update local data as needed
Charlottesville Area Transit	▪ Update transit data as needed

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Since each factor is composed of several performance measures, the measures need to be standardized and combined. In Step 3, all measures are expressed on a consistent seven-point scale, with a value of 1 indicating “Very Low” relative need and a value of 7 indicating “Very High” relative need. As shown by **Table 2**, raw metric values are translated into the seven-point scale based on thresholds that organize similar values into bins reflecting similar levels of need.

Table 2 Need categories and need scores

Need Category	Need Score
Very Low	1
Low	2
Medium Low	3
Medium	4
Medium High	5
High	6
Very High	7

After metrics are standardized, they are combined into a need score for the need category they support (Step 4). In the combination step, all standardized values are summarized into a single score through a weighted-average score. For example, roadway safety needs may be given greater or lower weight than pedestrian safety needs in the safety analysis. This process allows different weights to be assigned to each metric in the scoring process for each factor. The result is that need category scores are combined into an aggregate needs score that reflects total need based on all five need categories. An example of how scores are combined across all needs categories is provided in **Table 3**.

Since project location is a critical component of environmental impacts, the Environment and Sustainability need category is applied after aggregating need scores. An environmental factor is applied to the overall score as an adjustment to roadway segments that are exposed to projected sea level rise, storm surge, or inland/riverine flooding and whether the segment is within an economically distressed community.

Table 3 Example of aggregate need score based on weighted category need scores

Need Category	Performance Measure	Weight	Need Score	Weighted Need Score
Safety (30%)	Roadway Safety	15%	4	0.6
	Pedestrian Safety	15%	6	0.9
Accessibility and Equity (30%)	Bicycle Access to Jobs	8%	6	0.48
	Transit Access to Jobs	8%	4	0.32
	Automobile Access to Jobs	6%	6	0.36
	Access to Jobs by Disadvantaged Populations	8%	5	0.4
Mobility and System Efficiency (20%)	Congestion Mitigation	5%	0	0
	Travel Time Reliability	5%	0	0
	Bus Transit On-Time Performance	10%	1	0.1
Land Use & Economic Development (20%)	Access to Non-Work Destinations	10%	5	0.5
	Access to Non-Work Destinations by Disadvantaged Populations	10%	5	0.5
Overall		100%	-	4.16 (Medium)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Details of each need category and supporting measures are provided in the sections that follow. The measures presented are applicable to all roadway segments. This process does not identify priorities for recreational trails that are not aligned with a public street, although the impacts of these facilities are accounted for in the bicycle access to jobs metric supporting the Accessibility and Equity need category. Similarly, segments where bicycles and pedestrians are not permitted, such as Interstates and other limited access facilities, are excluded from the bicycle access to jobs and pedestrian safety needs measures.

Need Category: Safety

The aim of the safety category is to identify intersections and segments where safety improvements are needed and prioritize projects that can reduce crashes and/or exposure to risk. Safety needs are assessed based on three supporting measures. Two measures: Potential for Safety Improvement (PSI) ranking, and equivalent property damage only (EPDO) crash frequency are blended into a roadway safety score. This is complemented by a pedestrian safety score based on VDOT's current Pedestrian Safety Action Plan.

Roadway Safety

Roadway safety needs are evaluated based on the combination of two separate performance measures: Potential for Safety Improvement (PSI) ranking and equivalent property damage only (EPDO) crash frequency. The analysis of EPDO crash frequency is limited to segments that are eligible for scoring based on PSI ranking criteria.

PSI is identified by a data-driven safety analysis by VDOT for its Highway Safety Improve Plan (HSIP) that ranks locations by their potential for safety improvement. Locations are ranked within VDOT Construction Districts and statewide. A location's PSI ranking is an estimate of the extent to which the number of crashes observed at an intersection or along a segment is higher than would be expected based on the facility type, traffic volume, and other factors. The PSI ranking is determined by its excess expected crash frequency, which is the number of observed or "expected" crashes modified by the Empirical Bayes (EB) adjustment method minus the number of typical or "predicted" crashes for the location based on state-specific safety performance functions (SPF). EB accounts for yearly variations and regression to the mean (RTM). SPFs are a mathematical relationship between the frequency of crashes and causal characteristics for a specific highway, including roadway facility type and traffic volume. A positive PSI value indicates a segment or intersection where the number of expected crashes exceeds the number of predicted crashes. Locations with a greater

number of excess expected crashes receive a higher ranking.

The PSI ranking is used to determine segments that are eligible for roadway safety scoring, including the EPDO crash frequency analysis. Segments that do not meet the PSI-based criteria are deemed to have no safety needs, while those that do qualify are differentiated based on their PSI ranking and/or their EPDO crash frequency. The following threshold options were tested to determine scoring eligibility:

1. All PSI Intersections and PSI Segments with three or more crashes in a five-year analysis period.
2. Top ten miles of PSI Segments and top twenty PSI intersections within CAMPO boundaries.

If the first threshold is selected, any feature that has a potential for safety improvement according to VDOT's PSI analysis is eligible for roadway safety scoring. Alternatively, if the second option is selected, features eligible for scoring are limited to the top ranked segments PSI locations in the study area.

The EPDO crash frequency performance measure identifies locations that have a combined greater severity and frequency of crashes than other locations. It assigns weighting factors to fatal and injury crashes relative to PDO crashes, giving more weight to locations where more severe crashes have occurred. The weighting factors in **Table 4** are used for the identification of roadway safety needs. These values are based on VDOT's crash costs by severity used for SMART SCALE.

Table 4 Crash value conversion table

Crash Severity	Rounded Value	Weight
Fatal (F) + Severe Injury (A)	\$2,200,000	160
Moderate Injury	\$260,000	20
Minor Injury	\$140,000	10

Source: VDOT EPDO Crash Value Conversion Table (SMART SCALE Technical Guide, 2022)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Calculation Steps

The following steps outline the process for evaluating the level of roadway safety needs by segments:

1. Assign District-level PSI rankings to segments that are eligible for roadway safety scoring.
 - Create route events for PSI segments based on the direction indicated in the PSI segment tabular data. If the direction of the PSI segment applies to both sides of a divided roadway, ensure that route events are created for the opposite route name (WB and SB) in addition the route events created for the prime direction (NB and EB). Use the stated direction only for PSI segments where directionality is limited to eastbound, northbound, southbound, or westbound.
 - Convert PSI Intersections to segments using tabular data to identify the routes that approach PSI intersections. Assign node-based district PSI rankings to segments within a 250 feet influence area around the intersections.
 - Merge segments identified in steps 1a and 1b above into a single collection of segment features with PSI ranking values. If the merged segments needs layer contains both segment-based and intersection-based rankings, retain the higher of the two district PSI rankings.
2. Calculate EPDO crash frequency for segments that are eligible for roadway safety scoring.
 - Assign EPDO weighting factors (**Table 3**) to all crashes for the most recent five-year analysis period.
 - Assign crash events to segments using a spatial join and sum EPDO-weighted crashes along each segment.

Scoring of Roadway Safety Needs

Roadway safety is assessed as each segment's average standardized score from the PSI ranking and EPDO crash frequency analyses described above. District PSI ranking standardization thresholds are shown in **Table 5**. EPDO crash frequency standardization is based on the distribution of raw results over the entire collection of segments scored, as shown in **Table 6**. This requires sorting segments based on their EPDO crash frequency in descending order, then assigning the need score based on the percentile ranking (in terms of total scored mileage) of each segment. For example, the segments representing the top five percent of scored mileage have "very high" need, while segments representing the bottom fifty percent of scored mileage have "very low" need.

Table 5 Roadway safety need scores applied to District PSI ranks

Need Category	Need Score	District PSI Rank
Very High	7	Rank <= 20
High	6	40 >= Rank > 20
Medium High	5	60 >= Rank > 40
Medium	4	80 >= Rank > 60
Medium Low	3	100 >= Rank > 80
Low	2	150 >= Rank > 100
Very Low	1	Rank > 150

Table 6 Roadway safety need scores applied to EPDO

Need Category	Need Score	Percent of Total Mileage
Very High	7	0% to 5%
High	6	5.001% to 10%
Medium High	5	10.001% to 15%
Medium	4	15.001% to 20%
Medium Low	3	20.001% to 25%
Low	2	25.001% to 50%
Very Low	1	50.001% to 100%

Finally, calculate the overall roadway safety need score by averaging the PSI ranking and the EPDO crash frequency standardized scores. Recall that segments that are not ranked in terms of PSI are assumed not to be roadway safety needs, regardless of underlying EPDO crash frequency. Therefore, they are not part of the target layer that is joined with crashes for calculating EPDO crash frequency. Accordingly, although certain segments may have recorded crashes during a five-year period, the overall score may be zero because they are unranked in terms of district PSI ranking.

Data Requirements

- PSI Locations (source: 2016-2020 Top Potential Safety Improvement Segments and Intersections Web Map)
- 5 year crash data (source: InteractVTrans Map Explorer)
- VDOT Linear Reference System (LRS) Overlap Routes (source: VDOT)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Geoprocessing

Roadway Safety

Parameters Environments

Study Area
CAMPO

PSI Segments (CSV)
PSI_Segments.csv

Select Segment PSI Threshold
Load Save Remove

Where RANK_DISTRICT(mi) is less than or equal 500
+ Add Clause

PSI Intersections (CSV)
PSI_Intersections.csv

Select Intersection PSI Threshold
Load Save Remove

Where RANK_DISTRICT is less than or equal 500
+ Add Clause

Crash Data
Crash_Data.csv

Roadway Safety Needs Output
RoadwaySafetyNeeds_AllPSI

Figure 2 Roadway Safety Geoprocessing Tool

Geoprocessing Tool Overview

Set parameters in the *Roadway Safety* geoprocessing tool exactly as shown in the above figure with input data saved in the following Input geodatabase and csv folder. Save outputs with a descriptive name in the following output geodatabase.

Input Location:

- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb
- C:\PerformanceBasedPlanningProcess\Inputs\csv\Safety

Output Location:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb
(Safety Feature Dataset)

The *Roadway Safety* geoprocessing tool requires one input from the 'Inputs' geodatabase, Study Area (CAMPO), and three inputs from the 'Inputs\csv\Safety' directory: PSI Intersections, PSI Segments, and Crash Data which contains five years of crash history for all

crash types. To limit the analysis to PSI locations above a certain ranking, change the 'Select Intersection PSI Threshold' and 'Select Segment PSI Threshold' parameters to the desired values. To include all locations from the PSI analysis, set the threshold to greater than or equal the lowest ranked location in the study area.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Pedestrian Safety

Pedestrian safety needs are evaluated based on VDOT's Pedestrian Safety Action Plan (PSAP) priority corridors. The PSAP corridors indicate locations where facility design, operations, context, performance, or other issues are likely to lead to pedestrian crashes. Priority corridors are identified through a systematic analysis of statewide data that includes crash history, design speed, number of lanes, traffic volume, demographics and land uses in the vicinity, and other factors. The PSAP process relies on these factors because pedestrian crash events are relatively rare, and the conditions that elevate pedestrian crash risk may be present on numerous facilities even if pedestrian crashes have not been observed in recent years. The PSAP process generates a score for highway segments across the state. The top scoring segments are mapped and made available for download via a web map

Eligibility for pedestrian safety scoring may be determined by one of the following threshold options, based on a segment's PSAP score relative to other segments in the region:

1. Regional (District) Top 1% Corridors
2. Regional (District) Top 5% Corridor

The above threshold options reflect the available collections of segments generated by the PSAP process (i.e., scores for all segments are not available for download, and other percentile thresholds would require coordination with VDOT to obtain). The top 1% of corridors tend to emphasize major highways, while the top 5% also includes more local roads and may be more appropriate for MPO-scale applications.

Calculation Steps

The following steps outline the process for prioritization within the pedestrian safety need category.

1. Download the most recent PSAP Priority Corridors to identify segments eligible for pedestrian safety scoring, selecting the top 1% or top 5%. The PSAP analysis is conducted approximately every three years.
2. Identify the PSAP Score in the PSAP Priority Corridors. In VDOT's Pedestrian Safety Action Plan 3.0, segments' PSAP Scores are in the "MAX_TOT_SCORE" field.

Scoring of Pedestrian Safety Needs

Sort the raw pedestrian safety need score (i.e., PSAP Score) in descending order. Then, using **Table 7**, assign the need score based on the segments' cumulative length percentage of the combined mileage of all segments that have a need for pedestrian safety.

Table 7 Pedestrian safety need scores

Need Category	Need Score	Percent of Total Mileage
Very High	7	0% to 5%
High	6	5.001% to 10%
Medium High	5	10.001% to 15%
Medium	4	15.001% to 20%
Medium Low	3	20.001% to 25%
Low	2	25.001% to 50%
Very Low	1	50.001% to 100%

Data Requirements

- PSAP 3.0 Regional Priorities (source: VDOT Pedestrian Safety Action Plan Map Viewer, retrieved from: (source: <https://vdot.maps.arcgis.com/apps/webappviewer/index.html?id=02a155fedefa4e71bdb8c0cf524b636f>)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

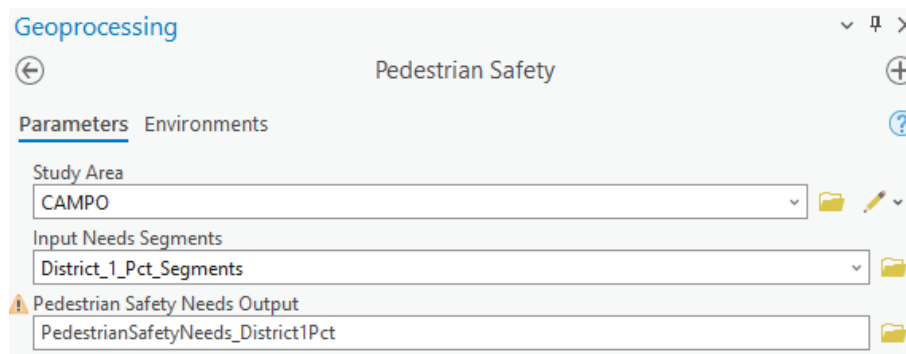


Figure 3 Pedestrian Safety Geoprocessing Tool

Geoprocessing Tool Overview

Set parameters in the *Pedestrian Safety* geoprocessing tool exactly as shown in the above figure with input data saved in the following Input geodatabase. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabase:

- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb
(Pedestrian Safety Feature Dataset)

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb
(Pedestrian Safety Feature Dataset)

The Pedestrian Safety geoprocessing tool requires two inputs from the 'Inputs' geodatabase: Study Area (CAMPO) and the Input Needs Segments from the Pedestrian Safety Feature Dataset which may be one of the following:

- District_1_Pct_Segments
- District_5_Pct_Segments

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Need Category: Accessibility and Equity

The aim of the accessibility and equity category is to identify areas where the design and/or performance of the transportation system degrades travelers' ability to reach key destinations, like jobs, especially for disadvantaged users; and prioritize projects that are likely to enhance accessibility through improved connectivity, reduction in delay, more frequent transit services, and/or improved bicycle and pedestrian facilities. Accessibility and equity needs are assessed based on four supporting measures: bicycle access to jobs, transit access to jobs, automobile access to jobs, and access to jobs by disadvantaged populations. These measures combine to provide a holistic, multimodal assessment of needs that accounts for different needs and abilities among travelers throughout the region.

Many of these supporting measures rely on several key concepts, described in general terms here and applied with specific parameters for each measure. Broadly, accessibility is analyzed on a zone basis and describes the ease with which destinations in other zones can be reached from each origin zone. Accessibility scores can be sensitive to the connectivity provided by the current network, its design and performance, traveler characteristics/preferences, and the number of activities (jobs, e.g.) in destination zones. Maps of accessibility scores show which zones can get to the higher or lower levels of activity in other zones. Since the scores derive from activities in other zones, projects to enhance accessibility may be displaced from the zone where need is indicated, as long as the project enhances the connectivity from the zone having the need to one or more other zones where activities are concentrated.

In this process, the identification of accessibility needs by mode is based on the "potential for accessibility improvement" (PAI), which is estimated as the difference between the "current" accessibility offered and a "reference" condition. The "current" condition refers to the cumulative number of activities (jobs in the case of all metrics generated in this process) accessible from a given location applying parameters, such as level of traffic stress (LTS) or average travel speed, that influence the estimated travel times among zones. The "reference" condition refers to the cumulative number of jobs accessible from the same location but with hypothetical parameters that yield an estimated maximum level of job accessibility. Details regarding the current and reference conditions for each mode are discussed in the subsequent sections on mode-specific accessibility performance measures.

The concepts of "maximum travel time" and "decay function" also determine the cumulative number of jobs that are accessible from a given location. In this analysis, maximum travel time defines the maximum amount of time for traveling from an origin census

block to a destination census block. This maximum travel time parameter may reflect, for example, the idea that walking trips longer than 30 minutes are uncommon. Under this assumption, activities in blocks beyond a 30-minute walk would be ignored in a pedestrian accessibility analysis. Decay functions are commonly used in accessibility analyses to provide more weight to jobs that are closer to origin census blocks than jobs that are located further away. Decay functions are applied in the Access Across America data used in the accessibility metrics described below to reflect the tendency for travelers to choose destinations that are nearby, all else being equal.

The accessibility measures described below also employ the concept of a "catchment area." This refers to the area around a zone that is likely to contribute most substantially to its accessibility score, based on the maximum travel time associated with the mode of travel being analyzed. Catchment areas are included in this analysis primarily because project opportunities to enhance accessibility can be displaced from the zone of need and because the Access Across America data that support the analysis do not include underlying data (such as block-to-block travel time estimates) but only the current and reference accessibility conditions. Thus, the catchment area is used to calculate areawide PAI averages around street segments to rank segments according to the PAI in its surrounding travel shed.

Lastly, functional classification is used to scale the weighted average PAI for each segment by the volume of trips the street is expected to carry. Functional classification refers to the grouping of streets and highways into various classes based on the services they provide. This analysis assumes higher classified streets are more heavily utilized than lower classified streets. Therefore, road segments with a higher functional classification are weighted higher than road segments with a lower function classification as opportunities to provide accessibility enhancements.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Bicycle Access to Jobs

Bicycle access to jobs needs are based on the Access Across America study by the Accessibility Observatory at the University of Minnesota Center for Transportation Studies. This study estimates the number of destinations reachable by bicycle within a given travel time for all census blocks in the United States. In brief, the accessibility calculations performed in the Access Across America study are as follows:

- Calculate travel times by biking from each census block to all other blocks within 20 km using detailed bicycling and walking networks based on OpenStreetMap (OSM) data.
- Calculate cumulative opportunity accessibility to jobs for each block and Level of Traffic Stress score using travel time thresholds of five minutes to one hour. A destination decay function is used to weight the number of jobs reachable such that nearby jobs contribute more to the access score than jobs that are farther away.

Level of Traffic Stress (LTS) is a metric used to evaluate the perception of safety by quantifying the level of discomfort people feel when they bicycle next to traffic. The LTS process assigns numerical values to segments based on OSM tags that indicate the presence or absence of bicycle facilities, number of lanes, and posted roadway posted, and assigns a numerical value of 1 (lowest stress) to 4 (highest stress) to street segments based on these characteristics. For the purposes of applying LTS parameters to the estimation of travel times by biking, LTS values determine segments' traversability. In this case, the tolerance is set to the maximal LTS value. For example, the LTS 3 analysis allows bike trips along facilities classified as LTS 1, 2, or 3, while the LTS 1 analysis only allows bike trips along the LTS 1 facilities. These tolerances reflect the preferences and abilities of different types of users, where LTS 1 is the most inclusive of all users while LTS 4 represents avid cyclists who may tolerate conditions (heavy mixed traffic, e.g.) that are deemed intolerable by other cyclists.

The Access Across America analysis calculates bicycle travel times using an assumed travel speed of 18 kph (approximately 11 mph), while travel times associated with walking portions of trip, including initial access time to reach the nearest network link by foot, barrier-crossing time for segments with a higher stress level than the trip's maximal LRS tolerance, and destination access time, take place at a speed of 5 kph (approximately 3 mph). While bicycle travel time on a network without bicycle infrastructure would be negatively impacted by automobile congestion, this analysis is not sensitive to congestion effects at certain times of the day. The data generated by the study are estimates for each census block of the number of jobs reachable by cycling.

In this analysis, the "current condition" is access to jobs by bicycle along low stress (LTS1) segments and the "reference condition" is access to jobs by bicycling along high stress (LTS4) segments. The reference condition approximates the jobs accessible by cycling assuming all facilities were comfortable for all users rather than only the most avid and experienced cyclists (i.e., how many jobs could be reached by cycling if all facilities were LTS1 facilities?). The deficit that results from subtracting the current condition from the reference condition is the potential accessibility increase (PAI).

The zone (block) data from Access Across America are intersected with 3-mile buffers defining each segment's catchment area. Within each catchment area, the population weighted average PAI is calculated, and the result is multiplied by the segment's functional classification weight. This elevates facilities that are likely to carry relatively high volumes of person trips and that are in areas where bicycle access to jobs could be improved. The segments identified in this process do not necessarily lack suitable facilities for cyclists, so the results should be compared with available inventories of bicycle facilities to determine what projects or investments may be appropriate to enhance bicycle accessibility.

Eligibility for bicycle access to jobs scoring is determined by population weighted PAI for each segment and may be determined by one of the following optional thresholds:

1. All segments where population weighted PAI is greater than zero.
2. All segments where population weighted PAI is greater than the region's median population weighted PAI.

The first option acknowledges all opportunities for potential accessibility enhancements while the second option focuses on the most acute needs. Note that functional classification weightings apply after eligibility is determined.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Calculation Steps

The following steps outline the process for prioritization within the *access to jobs by bicycle* need category.

1. Obtain the Access Across America datasets given the following parameters:
 - Current Condition: Bicycle LTS 1 (Lowest Stress)
 - Reference Condition: Bicycle LTS 4 (Highest Stress)
 - Maximum Travel Time: 20 minutes
 - Maximum Travel Distance: 3 miles
2. For each census block, calculate PAI as the difference between the reference condition and current condition, or the accessibility deficit between the current condition and the reference condition.

$$\text{Bike PAI} = \text{Reference} - \text{Current}$$

3. Calculate the population weighted PAI for each census block by multiplying PAI by the population of the census block in which the segment is located.

$$\text{Population Weighted PAI} = \text{Population} \times \text{PAI}$$

4. Sum the population weighted PAI and total population in the catchment area around each segment. Next, divide the summed population-weighted PAI by the total population in the catchment area to yield the population-weighted average PAI.

$$\text{Weighted Average PAI} = \frac{\text{Population Weighted PAI}_i}{\text{Catchment Population}_i}$$

5. Calculate the *bicycle access to jobs* performance measure
 - Assign a functional classification (FC) score to all road segments. Segments where cyclists are not permitted such as Interstates and other limited-access facilities are ignored (receive a score of zero) since they are not relevant to bicycle accessibility.
 - Calculate the raw score for bicycle access to jobs performance measure by multiplying segments' weighted average accessibility improvement by its FC score (see Table 8).

$$\text{Raw Need Score} = \text{Weighted Average PAI} \times \text{FC Score}$$

Table 8 Bicycle access to jobs functional classification score

Functional Class	FC Score
Other Principal Arterial	4
Minor Arterial	3
Major Collector	2
Minor Collector	1
Interstates, Other Freeways & Expressways	0

Scoring of Bicycle Access to Jobs Needs

Sort the raw bicycle need score in descending order for all eligible segments. Then, using Table 9 assign the need score based on the segments' cumulative length percentage of the combined mileage of all segments that have a need for *bicycle access to jobs*.

Table 9 Bicycle access to jobs need scores

Need Category	Need Score	Percent of Total Mileage
Very High	7	0% to 5%
High	6	5.001% to 10%
Medium High	5	10.001% to 15%
Medium	4	15.001% to 20%
Medium Low	3	20.001% to 25%
Low	2	25.001% to 50%
Very Low	1	50.001% to 100%

Data Requirements

- Block-Level Access to Jobs (source: Access Across America analysis by the Accessibility Observatory)
- Functional Classification (source: InteractVTrans Map Explorer)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

The screenshot shows the 'Access To Jobs (Non Motorized)' geoprocessing tool interface. It has two tabs: 'Parameters' and 'Environments'. Under 'Parameters', the following fields are visible: 'Study Area' (CAMPO), 'Input Needs Segments' (CAMPO_NeedsIdentificationSegments), 'Current Condition' (bi_lts1_20_minutes), 'Reference Condition' (bi_lts4_20_minutes), 'Catchment Area Search Distance' (3 US Survey Miles), and 'Filter Accessibility Needs'. Below these are 'Load', 'Save', and 'Remove' buttons. A green checkmark indicates the filter is valid. The filter SQL statement is: `1 STATE_FUNCNT_CLASS_DESC IN ('Major Collector', 'Minor Arterial', 'Minor Collector', 'Other Principal Arterial') And PAI >= 0`. At the bottom, the output is named 'NonMotorizedJobsAccessNeeds_AIIPAI'.

Figure 4 Access to Jobs (Non-Motorized) Geoprocessing Tool

Geoprocessing Tool Overview

Set parameters in the *Access to Jobs (Non-Motorized)* geoprocessing tool exactly as shown in the above figure with input data saved in the following Input geodatabases. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabases:

- C:\PerformanceBasedPlanningProcess\Inputs\NAE_Tables.gdb
- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb (Accessibility Feature Dataset)

The *Access to Jobs (Non-Motorized)* geoprocessing tool requires one input from the 'Inputs' geodatabase: Study Area (CAMPO) The geoprocessing tool also needs the current and reference condition accessibility tables from the 'NAE_Tables' geodatabase.

Edit the 'Filter Accessibility Needs' parameter to filter which segments

are included in the output. The Bicycle Access to Jobs performance measure excludes features with the functional classification attribute 'Interstate' or 'Other Freeways and Expressways' functional classification because bus bus stops do not exist on these facilities. To limit the Bicycle Access to Jobs needs analysis to segments that are greater than the region's average PAI, change the PAI value in the 'Filter Accessibility Needs' parameter.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Transit Access to Jobs

Transit access to jobs needs are based on the Access Across America study by the Accessibility Observatory at the University of Minnesota Center for Transportation Studies. This study estimates the number of destinations reachable by transit and by automobile (see Automobile Access to Jobs) within a given travel time for all census blocks in the United States. In brief, the accessibility calculations performed in the Access Across America study are as follows:

- Calculate travel times by transit from each census block to all other blocks within 60km using transit schedules for the 7:00 – 9:00 AM period and detailed walking networks based on OpenStreetMap (OSM) data.
- Calculate cumulative opportunity accessibility to jobs for each block and departure time using travel time thresholds of five minutes to one hour. A destination decay function is used to weight the number of jobs reachable such that nearby jobs contribute more to the access score than jobs that are farther away

In the Access Across America data, the time cost of travel by transit includes all components of a transit journey, including initial access time, initial wait time, on-vehicle time, transfer access time, transfer wait time, and destination access time. On-vehicle travel time, which is derived from GTFS transit schedules, accounts for variations in service frequency by time of day. Access and egress components of trips (i.e., initial, transfer, and access) are assumed to be made by walking at a speed of 5 kph (3 mph). There is no constraint on the number of transfers required, and it is possible for a block-to-block path to be found that does not use a transit vehicle (i.e., the shortest path from an origin block to a destination block requires walking only).

In the Access Across America data, the time cost of travel by transit includes all components of a transit journey, including initial access time, initial wait time, on-vehicle time, transfer access time, transfer wait time, and destination access time. On-vehicle travel time, which is derived from GTFS transit schedules, accounts for variations in service frequency by time of day. Access and egress components of trips (i.e., initial, transfer, and access) are assumed to be made by walking at a speed of 5 kph (3 mph). There is no constraint on the number of transfers required, and it is possible for a block-to-block path to be found that does not use a transit vehicle (i.e., the shortest path from an origin block to a destination block requires walking only).

In the CAMPO needs analysis, the magnitude of need arising from transit access to jobs performance is determined by the difference in block-level access to jobs between the current condition and the

reference condition. The current condition is access to jobs by transit during the 7:00 – 9:00 AM period and the reference condition is access to jobs by automobile during 8:00 – 9:00 AM period. This elevates areas where jobs access by car is significantly higher than by transit, suggesting an opportunity to enhance transit service to make it more competitive with driving. The deficit that results from subtracting the current condition from the reference condition is the potential accessibility increase (PAI).

The zone (block) data from Access Across America are intersected with 5-mile buffers defining each segment's catchment area. Within each catchment area, the population weighted average PAI is calculated, and the result is multiplied by the segment's functional classification weight. This elevates facilities that are likely to carry relatively high volumes of person trips and that are in areas where transit access to jobs could be improved. The segments identified in this process do not necessarily lack existing transit service, so the results should be compared with current transit routes and schedules to determine what projects or investments may be appropriate to enhance transit accessibility.

Eligibility for transit access to jobs scoring is determined by population weighted PAI for each segment and may be determined by one of the following optional thresholds:

1. All segments where population weighted PAI is greater than zero.
2. All segments where population weighted PAI is greater than the region's median population weighted PAI.

The first option acknowledges all opportunities for potential accessibility enhancements while the second option focuses on the most acute needs. Note that functional classification weightings apply after eligibility is determined.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Calculation Steps

The following steps outline the process for estimating the magnitude of need under the *access to jobs by transit* score:

1. Obtain the Access Across America datasets given the following parameters:
 - Current Condition: Transit
 - Reference Condition: Automobile (8 AM)
 - Maximum Travel Time: 45 minutes
 - Maximum Travel Distance: 5 miles
2. For each census block, calculate PAI as the difference between the reference condition and current condition, or the accessibility deficit between the current condition and the reference condition.

$$\text{Transit PAI} = \text{Reference} - \text{Current}$$

3. Calculate the population weighted PAI for each census block by multiplying PAI by the population of the census block in which the segment is located.

$$\text{Population Weighted PAI} = \text{Population} \times \text{PAI}$$

4. Sum the population weighted PAI and total population in the catchment area around each segment. Next, divide the summed population-weighted PAI by the total population in the catchment area to yield the population-weighted average PAI.

$$\text{Weighted Average PAI} = \frac{\text{Population Weighted PAI}_i}{\text{Catchment Population}_i}$$

5. Calculate the *transit access to jobs* performance measure
 - Assign a functional classification (FC) score to all road segments.
 - Calculate the raw score for *transit access to jobs* performance measure by multiplying segments' weighted average accessibility improvement by its FC score (see Table 10).

$$\text{Raw Need Score} = \text{Weighted Average PAI} \times \text{FC Score}$$

Table 10 Transit access to jobs functional classification score

Functional Class	FC Score
Other Principal Arterial	4
Minor Arterial	3
Major Collector	2
Minor Collector	1

Scoring of Transit Access to Jobs Needs

Sort the raw transit need score in descending order. Then, using Table 11, assign the need score based on the segments' cumulative length percentage of the combined mileage of all segments that have a need for *transit access to jobs*.

Table 11 Transit access to jobs need scores

Need Category	Need Score	Percent of Total Mileage
Very High	7	0% to 5%
High	6	5.001% to 10%
Medium High	5	10.001% to 15%
Medium	4	15.001% to 20%
Medium Low	3	20.001% to 25%
Low	2	25.001% to 50%
Very Low	1	50.001% to 100%

Data Requirements

- Block-Level Access to Jobs (source: Access Across America analysis by the Accessibility Observatory)
- Functional Classification (source: InteractVTrans Map Explorer)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

The screenshot shows the 'Access To Jobs (Transit)' geoprocessing tool interface. The 'Parameters' tab is active. The 'Study Area' is set to 'CAMPO'. 'Input Needs Segments' is 'CAMPO_NeedsIdentificationSegments'. 'Current Condition' is 'tr_45_minutes' and 'Reference Condition' is 'au_08_45_minutes'. 'Catchment Area Search Distance' is 5 'US Survey Miles'. Under 'Filter Accessibility Needs', there are 'Load', 'Save', and 'Remove' buttons. A green checkmark indicates the filter is valid. The SQL filter is: `1 STATE_FUNCT_CLASS_DESC IN ('Major Collector', 'Minor Arterial', 'Minor Collector', 'Other Principal Arterial') And PAI >= 0`. The output is 'Nonmotorized Access to Jobs Needs Output' with the name 'TransitJobsAccessNeeds_AllPAI'.

Figure 5 Access to Jobs (Transit) Geoprocessing Tool

Geoprocessing Tool Overview

Set parameters in the *Access to Jobs (Transit)* geoprocessing tool exactly as shown in the above figure with input data saved in the following Input geodatabases. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabases:

- C:\PerformanceBasedPlanningProcess\Inputs\NAE_Tables.gdb
- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb (Accessibility Feature Dataset)

The *Access to Jobs (Transit)* geoprocessing tool requires one input from the 'Inputs' geodatabase: Study Area (CAMPO) The geoprocessing tool also needs the current and reference condition accessibility tables from the 'NAE_Tables' geodatabase.

Edit the 'Filter Accessibility Needs' parameter to filter which segments are included in the output. The Transit Access to Jobs performance

measure excludes features with the functional classification attribute 'Interstate' or 'Other Freeways and Expressways' functional classification because bus bus stops do not exist on these facilities. To limit the Transit Access to Jobs needs analysis to segments that are greater than the region's average PAI, change the PAI value in the 'Filter Accessibility Needs' parameter.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Automobile Access to Jobs

Automobile access to jobs needs are based on the Access Across America study by the Accessibility Observatory at the University of Minnesota Center for Transportation Studies. This study estimates the number of destinations reachable by automobile within a given travel time for all census blocks in the United States. In brief, the accessibility calculations performed in the Access Across America study are as follows:

- Calculate travel times by car from each census block to all other blocks within 120km for each departure time at 1-hour intervals over the 24-hour period. Block-Level Access to Jobs (source: Access Across America)
- Calculate cumulative opportunity accessibility to jobs for each block and departure time using travel time thresholds of five minutes to one hour. A destination decay function is used to weight the number of jobs reachable such that nearby jobs contribute more to the access score than jobs that are farther away.

In the Access Across America data, the time cost of travel by automobile is evaluated by time of day with average link speeds estimated from TomTom, which reports typical speeds based on data collected from GPS devices. Average speed data reflect conditions on Wednesdays (representing a typical weekday) during the June 2017 to June 2019 period.

In the CAMPO needs analysis, the magnitude of need arising from automobile access to jobs performance is determined by the difference in block-level access to jobs between the current condition and the reference condition. The current condition is access to jobs by automobile during the 8:00 – 9:00 AM period and the reference condition is access to jobs by automobile during the 12:00 – 1:00 AM period. This elevates areas where jobs access by car is significantly lower during the morning commute period than it would be under a free flow condition, suggesting an opportunity to enhance highway operations and/or capacity to offer greater access to destinations when highway demand is highest. The deficit that results from subtracting the current condition from the reference condition is the potential accessibility increase (PAI).

The zone (block) data from Access Across America are intersected with 10-mile buffers defining each segment's catchment area. Within each catchment area, the population weighted average PAI is calculated, and the result is multiplied by the segment's functional classification weight. This elevates facilities that are likely to carry relatively high volumes of person trips and that are in areas where automobile access to jobs could be improved. The segments identified in this process do not necessarily experience acute congestion-related delays, so the results should be compared with measures of

delay and reliability to determine what projects or investments may be appropriate to enhance automobile accessibility.

Eligibility for automobile access to jobs scoring is determined by population weighted PAI for each segment and may be determined by one of the following optional thresholds:

1. All segments where PAI deficit is greater than zero
2. All segments where PAI deficit is greater than the region's median PAI deficit

The first option acknowledges all opportunities for potential accessibility enhancements while the second option focuses on the most acute needs. Note that functional classification weightings apply after eligibility is determined.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Calculation Steps

The following steps outline the process for estimating the magnitude of need under the *access to jobs by automobile* score:

1. Obtain the Access Across America datasets given the following parameters:
 - Current Condition: Auto (8 AM - 9AM, Peak Period)
 - Reference Condition: Automobile (12 AM - 1 AM, Off Peak Period)
 - Maximum Travel Time: 45 minutesMaximum Travel Distance: 10 miles
2. For each census block, calculate PAI as the difference between the reference condition and current condition, or the accessibility deficit between the current condition and the reference condition.

$$\text{Auto PAI} = \text{Reference} - \text{Current}$$

3. Calculate the population weighted PAI for each census block by multiplying PAI by the population of the census block in which the segment is located.

$$\text{Population Weighted PAI} = \text{Population} \times \text{PAI}$$

4. Sum the population in the catchment area around each segment. Next, divide the population weighted PAI by the population in the catchment area to yield the population-weighted average PAI.

$$\text{Weighted Average PAI} = \frac{\text{Population Weighted PAI}_i}{\text{Catchment Population}_i}$$

4. Calculate the *automobile access to jobs* performance measure
 - Assign a functional classification (FC) score to all road segments.
 - Calculate the raw score for automobile access to jobs performance measure by multiplying segments' weighted average accessibility improvement by its FC score (see Table 12).

$$\text{Raw Need Score} = \text{Weighted Average PAI} \times \text{FC Score}$$

Table 12 Automobile access to jobs functional classification score standardization

Functional Class	FC Score
Interstates, Other Freeways & Express, and Other Principal Arterial	4
Minor Arterial	3
Major Collector	2
Minor Collector	1

Scoring of Automobile Access to Jobs Needs

Sort the raw automobile need score in descending order. Then, using Table 13, assign the need score based on the segments' cumulative length percentage of the combined mileage of all segments that have a need for *automobile access to jobs*.

Table 13 Automobile access to jobs need scores

Need Category	Need Score	Percent of Total Mileage
Very High	7	0% to 5%
High	6	5.001% to 10%
Medium High	5	10.001% to 15%
Medium	4	15.001% to 20%
Medium Low	3	20.001% to 25%
Low	2	25.001% to 50%
Very Low	1	50.001% to 100%

Data Requirements

- Block-Level Access to Jobs (source: National Accessibility Evaluation, retrieved through VTRC)
- Functional Classification (source: InteractVTrans Map Explorer)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

The screenshot shows the 'Access To Jobs (Auto)' geoprocessing tool interface. The 'Parameters' tab is active. The parameters are: Study Area (CAMPO), Input Needs Segments (CAMPO_NeedsIdentificationSegments), Current Condition (au_08_45_minutes), Reference Condition (au_00_45_minutes), Catchment Area Search Distance (10 US Survey Miles), and Filter Accessibility Needs (a filter expression). The filter expression is: 1 STATE_FUNCNT_CLASS_DESC IN ('Interstate', 'Major Collector', 'Minor Arterial', 'Minor Collector', 'Other Freeways and Expressways', 'Other Principal Arterial') And PAI >= 0. The output is named 'AutomobileJobsAccessNeeds_AIIPAI'.

Geoprocessing

Access To Jobs (Auto)

Parameters Environments

Study Area
CAMPO

Input Needs Segments
CAMPO_NeedsIdentificationSegments

Current Condition
au_08_45_minutes

Reference Condition
au_00_45_minutes

Catchment Area Search Distance
10 US Survey Miles

Filter Accessibility Needs
Load Save Remove

SQL

1 STATE_FUNCNT_CLASS_DESC IN ('Interstate', 'Major Collector', 'Minor Arterial', 'Minor Collector', 'Other Freeways and Expressways', 'Other Principal Arterial') And PAI >= 0

Auto Access to Jobs Needs Output
AutomobileJobsAccessNeeds_AIIPAI

Figure 6 Access to Jobs (Auto) Geoprocessing Tool

Geoprocessing Tool Overview

Set parameters in the *Access to Jobs (Auto)* geoprocessing tool exactly as shown in the above figure with input data saved in the following Input geodatabases. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabases:

- C:\PerformanceBasedPlanningProcess\Inputs\NAE_Tables.gdb
- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb (Accessibility Feature Dataset)

The *Access to Jobs (Transit)* geoprocessing tool requires one input from the 'Inputs' geodatabase: Study Area (CAMPO) The geoprocessing tool also needs the current and reference condition accessibility tables from the 'NAE_Tables' geodatabase.

Edit the 'Filter Accessibility Needs' parameter to filter which segments are included in the output. The *Automobile Access to Jobs*

performance measure includes all functional classification types. To limit the *Automobile Access to Jobs* needs analysis to segments that are greater than the region's average PAI, change the PAI value in the 'Filter Accessibility Needs' parameter.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Access to Jobs by Disadvantaged Populations

Access to jobs by disadvantaged populations needs are based on the analysis of transit access to jobs. However, transit access to jobs results are filtered to segments within areas that are identified as Equity Emphasis Areas (EEA) where transit is available. EEA is an existing dataset provided by OIPI, so no additional calculations are necessary. The full process and data needs are discussed in the Technical Guide for the Identification and Prioritization of the VTrans Mid-Term Needs.

In the CAMPO needs analysis, the magnitude of need arising from access to job for disadvantaged populations is assessed in the same way that transit access to jobs needs are assessed, except that the population weighting is based on populations in EEAs only.

Eligibility for access to jobs for disadvantaged populations scoring is limited to segments within EEAs and determined by population weighted PAI for each segment and may be determined by one of the following optional thresholds:

1. All segments in EEAs where transit is available and where PAI is greater than zero.
2. All segments in EEAs where population weighted PAI is greater than the region's median population weighted PAI.

Calculation Steps

The following steps outline the process for prioritization within the Access to Jobs by Disadvantaged Populations need category:

3. Obtain the NAE datasets given the following parameters:
 - Current Condition: Transit
 - Reference Condition: Automobile (8 AM)
 - Maximum Travel Time: 45 minutes
 - Maximum Travel Distance: 5 miles

4. For each census block, calculate PAI as the difference between the reference condition and current condition, or the accessibility deficit between the current condition and the reference condition.

$$\text{Transit PAI} = \text{Reference} - \text{Current}$$

5. Calculate the disadvantaged population (DP) weighted PAI for each census block by multiplying PAI by the disadvantaged population of the census block in which the segment is located.

$$\text{DP Weighted PAI} = \text{Population} \times \text{PAI}$$

4. Sum the disadvantaged population in the catchment area

around each segment. Next, divide the population-weighted PAI by the disadvantaged population in the catchment area to yield the population-weighted average PAI.

$$\text{DP Weighted Average PAI} = \frac{\text{DP Weighted PAI}_i}{\text{Catchment DP}_i}$$

5. Calculate the transit access to jobs performance measure
 - Assign a functional classification (FC) score to all road segments.
 - Calculate the raw score for transit access to jobs performance measure by multiplying segments' weighted average accessibility improvement by its FC score (see [Table 14](#)).

$$\text{Raw Need Score} = \text{Weighted Average PAI} \times \text{FC Score}$$

Table 14 Access to jobs for disadvantaged populations functional classification score

Functional Class	FC Score
Other Principal Arterial	4
Minor Arterial	3
Major Collector	2
Minor Collector	1

Scoring of Access to Jobs by Disadvantaged Populations Needs

Sort the raw automobile need score in descending order. Then, using [Table 15](#), assign the need score based on the segments' cumulative length percentage of the combined mileage of all segments that have a need for Access to Jobs by Disadvantaged Populations.

Table 15 Access to jobs by disadvantaged populations need scores

Need Category	Need Score	Percent of Total Mileage
Very High	7	0% to 5%
High	6	5.001% to 10%
Medium High	5	10.001% to 15%
Medium	4	15.001% to 20%
Medium Low	3	20.001% to 25%
Low	2	25.001% to 50%
Very Low	1	50.001% to 100%

Data Requirements

- Block-Level Access to Jobs (source: National Accessibility Evaluation, retrieved through VTRC)
- Equity Emphasis Areas (source: InteractVTrans Map Explorer)
- Functional Classification (source: InteractVTrans Map Explorer)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

The screenshot displays the 'Geoprocessing' tool window for the 'Access To Jobs (Transit - Disadvantaged Population)' tool. The 'Parameters' tab is active, showing the following settings:

- Study Area:** CAMPO
- Input Needs Segments:** CAMPO_NeedsIdentificationSegments
- Current Condition:** tr_45_minutes
- Reference Condition:** au_08_45_minutes
- Catchment Area Search Distance:** 5 US Survey Miles

Below the parameters, there are two filter sections:

- EEA Filter Expression:** Includes 'Load', 'Save', and 'Remove' buttons. The SQL clause is: Where transit is equal to Y, And eea is equal to Y.
- Filter Accessibility Needs:** Includes 'Load', 'Save', and 'Remove' buttons. The SQL clause is: Where STATE_FUNC_CLASS_DESC includes the val Major Collector, Minor Arter, And PAI is greater than 0.

The output is named 'DisadvantagedPopulationJobsAccessNeeds_AIIPAI'.

Figure 7 Access to Jobs (Transit - Disadvantaged Population) Geoprocessing Tool

Geoprocessing Tool Overview

Set parameters in the *Access to Jobs (Transit - Disadvantaged Population)* geoprocessing tool exactly as shown in the above figure with input data saved in the following Input geodatabases. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabases:

- C:\PerformanceBasedPlanningProcess\Inputs\NAE_Tables.gdb
- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb (Accessibility Feature Dataset)

The *Access to Jobs (Transit - Disadvantaged Population)* geoprocessing tool requires one input from the 'Inputs' geodatabase: Study Area (CAMPO). The geoprocessing tool also needs the current and reference condition accessibility tables from the 'NAE_Tables' geodatabase.

The *Disadvantaged Population Access to Jobs* performance measure excludes features with the functional classification attribute 'Interstate' or 'Other Freeways and Expressways' functional classification because bus stops do not exist on these facilities. Edit the 'Filter Accessibility Needs' parameter to filter which segments are included in the output. To limit the *Access to Jobs* by Disadvantaged Populations needs analysis to segments that are greater than the region's average PAI, change the PAI value in the 'Filter Accessibility Needs' parameter. Additionally, the EEA Filter Expression limits the analysis to segments in Equity Emphasis Areas (EEA = 'Y') where transit is available (transit = 'Y').

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Need Category: Mobility and System Efficiency

The aim of the mobility and system efficiency category is to identify segments where congestion-related delay degrades travel time and travel time reliability for automobiles and transit vehicles and to prioritize projects that will alleviate delay and/or enhance person throughput throughout the region. Mobility needs are assessed using two measures: congestion mitigation and travel time reliability. Both measures compare congested travel conditions to free flow conditions, assessing the severity of congestion under typical and extreme conditions, respectively.

Congestion Mitigation

Congestion mitigation needs are identified through Travel Time Index (TTI), which is the ratio of a segment's typical travel time during an observed period (such as the morning or evening peak commuting period) to the time required to travel the same distance in a reference period (under free-flow conditions, e.g.). A TTI value greater than one indicates there is delay during the observation period, and higher numbers indicate increasingly severe delay due to congestion. TTI is usually measured at a segment level. For example, a TTI of 1.3 indicates typical travel times along a particular segment are 30% longer. If it would take 2 minutes to traverse the segment under free-flow conditions, the TTI of 1.3 would imply it typically takes 2 minutes and 40 seconds during congested conditions.

The dataset used for this analysis contains TTI measures by segment that cover a 14-hour period from 6 AM to 8 PM on weekdays and weekends for multiple years (i.e., TTI for weekdays and weekends in 2018, 2019, 2020, and 2021 for each hour from 6 AM to 8 PM). The TTI measures, which are calculated by OIPI using INRIX TMC data from the Regional Integrated Transportation System (RITIS), can be obtained from the InteractVTrans Map Explorer, and reflect the ratio of the 50th percentile travel time to the estimated free flow time.

The identification of qualifying segments requires that a given segment at any time in the previous four years exceeds the congestion mitigation need threshold discussed in the following sections.

The following steps outline the process for identifying congestion mitigation needs. In this process the focus is on weekday and weekend TTI from 6 AM to 8 PM analysis periods.

1. For each segment and each year, calculate the weeklong average TTI for each hour in the analysis period by combining the separate estimates of weekday TTI and weekend TTI as follows:
 - Multiply weekday TTI values by 5/7 (five of seven days)
 - Multiply weekend TTI values by 2/7 (two of seven days)
 - Sum the results of 1a and 1b to obtain weeklong average TTI
2. For each segment, tally the number of hours in the analysis period where the weeklong average TTI in any year is above the eligibility threshold. Select eligible segments where the thresholds are satisfied.

Eligibility for congestion mitigation scoring may be determined by one of the following alternative thresholds:

1. Average weeklong TTI in any year is greater than 1.3 for three or more hours or average weeklong TTI is greater than 1.5 for one or more hours.
2. Average weeklong TTI in any year is greater than 1.5 for three or more hours or average weeklong TTI is greater than 1.7 for one or more hours.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Calculation Steps

The following steps outline the process for assessing the magnitude of the congestion mitigation need:

1. Calculate the daily cumulative TTI values from 6 AM to 8 PM.
This step accumulates over all qualifying hours in a single year to calculate a “daily cumulative TTI” value.

$$\text{Daily Cumulative TTI} = \frac{5}{7} \left(\sum_{\text{Weekday TTI} > T} \text{Weekday TTI} \right) + \frac{2}{7} \left(\sum_{\text{Weekend TTI} > T} \text{Weekend TTI} \right)$$

Where:

T = TTI threshold (1.3, 1.5, 1.7, e.g.)

2. Adjust for magnitude of congestion by multiplying cumulative congested hours by traffic volume using length weighted Annual Average Daily Traffic (AADT)

$$\text{Normalized TTI_AADT}_i = \frac{\text{TTI_AADT}_i - \text{TTI_AADT}_{\min}}{\text{TTI_AADT}_i - \text{TTI_AADT}_{\max}}$$

Where:

TTI_AADT_i = Cumulative TTI × AADT for segment i

TTI_AADT_{min} = Minimum Cumulative TTI × AADT for all segments

TTI_AADT_{max} = Maximum Cumulative TTI × AADT for all segments

Scoring of Congestion Mitigation Needs

Using **Table 18**, assign need scores based on segments’ normalized volume adjusted weekly average TTI.

Table 16 Congestion mitigation need scores

Need Category	Need Score	Normalized Congestion Need Score
Very High	7	0.95 to 1
High	6	0.9 to 0.95
Medium High	5	0.85 to 0.9
Medium	4	0.8 to 0.85
Medium Low	3	0.75 to 0.8
Low	2	0.5 to 0.75
Very Low	1	0 to 0.5

Data Requirements

- Travel Time Index (source: INRIX provided by RITIS via InteractVTrans Map Explorer)
- AADT (source: InteractVTrans Map Explorer)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

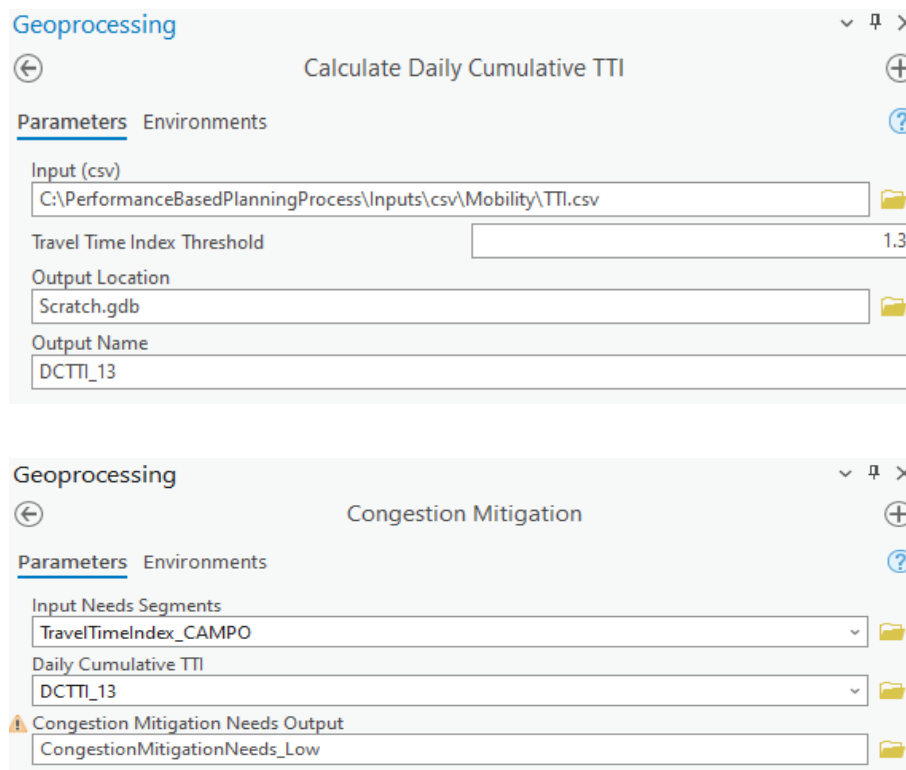


Figure 8 Congestion Mitigation Geoprocessing Tool

Geoprocessing Tool Overview

Set the parameters in the *Calculate Daily Cumulative TTI* and *Congestion Mitigation* geoprocessing tools exactly as shown in the above figures with input data saved in the following Input geodatabases. Then, run the Calculate Daily Cumulative Travel Time Index geoprocessing tool prior to running the Congestion Mitigation geoprocessing tool. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabases:

- C:\PerformanceBasedPlanningProcess\Inputs\csv\Mobility
- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb
(Mobility Feature Dataset)

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb
(Mobility Feature Dataset)

In the *Calculate Daily Cumulative TTI* geoprocessing tool, set the Travel Time Index Threshold equal to the desired value. This parameter limits the analysis to segments with TTI greater than the value set for the threshold.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Travel Time Reliability

Travel time reliability needs are identified through Planning Time Index (PTI), which is the ratio of a segment's 95th percentile travel time compared to the time needed to travel the same distance in a reference period (free-flow traffic, e.g.). PTI refers to the total planned duration of travel (expected delay plus unexpected delay) that is required for an on-time arrival for 95% of trips on a given segment. For example, a PTI of 1.5 at a given time indicates that a trip that normally takes 10 minutes in uncongested conditions should be planned to take 15 minutes to ensure that 95% of trips arrive on time. PTI is a measure of travel time reliability because it measures the extent of unexpected delay against free flow traffic and measures the consistency or dependability in travel times across different times of day.

The dataset used for this analysis contains PTI measures that cover a 14-hour period from 6 AM to 8 PM on weekdays and weekends for multiple years (i.e., PTI for weekdays and weekends in 2018, 2019, 2020, and 2021 for each hour from 6 AM to 8 PM). The PTI measures, which are calculated by OIPI using INRIX TMC data from the Regional Integrated Transportation System (RITIS), can be obtained from the InteractVTrans Map Explorer and reflect the ratio of the 95th percentile travel time to the estimated free flow time.

The identification of qualifying segments requires that a given segment at any time in the previous four years exceeds the congestion mitigation need threshold discussed in the following sections. The following steps outline the process for identifying travel time reliability needs. In this process the focus is on weekday and weekend PTI from 6 AM to 8 PM analysis periods.

1. For each segment and each year, calculate the PTI for each hour in the analysis period by combining the separate estimates of weekday PTI and weekend PTI as follows:
 - Multiply weekday PTI values by 5/7 (five of seven days)
 - Multiply weekend PTI values by 2/7 (two of seven days)
 - Sum the results of 1a and 1b to obtain weeklong average PTI
2. For each segment, tally the number of hours in the analysis period where the weeklong average PTI in any year is above the eligibility threshold. Select eligible segments where the thresholds are satisfied.

Eligibility for travel time reliability scoring may be determined by one of the following alternative thresholds::

1. Average weekday and weekend PTI is greater than 1.3 for three hours or greater than 1.5 for one hour.
2. Average weekday and weekend PTI is greater than 1.5 for three hours or greater than 1.7 for one hour.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Calculation Steps

The following steps outline the process for assessing the magnitude of the congestion mitigation need:

1. Calculate the daily cumulative PTI values from 6 AM to 8 PM. This step accumulates over all qualifying hours in a single year to calculate a “daily cumulative PTI” value.

$$\text{Daily Cumulative PTI} = \frac{5}{7} \left(\sum_{\text{Weekday PTI} > T} \text{Weekday PTI} \right) + \frac{2}{7} \left(\sum_{\text{Weekend PTI} > T} \text{Weekend PTI} \right)$$

Where:

T = TTI threshold (1.3, 1.5, 1.7, e.g.)

2. Adjust for magnitude of congestion by multiplying cumulative congested hours by traffic volume using length weighted Annual Average Daily Traffic (AADT)
3. Repeat steps 1 and 2 for all years available in the PTI dataset to calculate AADT-weighted daily cumulative PTI for each year. Retain the maximum result across all years for each segment.
4. Normalize the AADT adjusted PTI for all years available in the dataset using the following equation. Normalization results in values ranging from 0.0 to 1.0, with the segment that has the lowest volume adjusted PTI receiving a score of 0.0 and the segment that has the highest volume adjusted PTI receiving a score of 1.0.

$$\text{Normalized TTI_AADT}_i = \frac{\text{PTI_AADT}_i - \text{PTI_AADT}_{\min}}{\text{PTI_AADT}_i - \text{PTI_AADT}_{\max}}$$

Where:

PTI_AADTi = Cumulative PTI × AADT for segment i

PTI_AADT_{min} = Minimum Cumulative PTI × AADT for all segments

PTI_AADT_{max} = Maximum Cumulative PTI × AADT for all segments

Scoring of Travel Time Reliability Needs

Using **Table 17**, assign need scores based on segments’ normalized volume adjusted weekly average PTI.

Table 17 Travel time reliability need scores

Need Category	Need Score	Normalized Congestion Need Score
Very High	7	0.95 to 1
High	6	0.9 to 0.95
Medium High	5	0.85 to 0.9
Medium	4	0.8 to 0.85
Medium Low	3	0.75 to 0.8
Low	2	0.5 to 0.75
Very Low	1	0 to 0.5

Data Requirements

- Planning Time Index (source: INRIX provided by RITIS via InteractVTrans Map Explorer)
- AADT (source: InteractVTrans Map Explorer)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

The figure displays two screenshots of the Geoprocessing tool interface. The top screenshot shows the 'Calculate Daily Cumulative PTI' tool with the following parameters: Input (csv) is 'C:\PerformanceBasedPlanningProcess\Inputs\csv\Mobility\PTI.csv', Planning Time Index Threshold is '1.3', Output Location is 'Scratch.gdb', and Output Name is 'DCPTI_13'. The bottom screenshot shows the 'Travel Time Reliability' tool with the following parameters: Input Needs Segments is 'PlanningTimeIndex_CAMPO', Daily Cumulative Planning Time Index is 'DCPTI_13', and Reliability Needs Output is 'TravelTimeReliabilityNeeds_Low'.

Figure 9 Travel Time Reliability Geoprocessing Tool

Geoprocessing Tool Overview

Set the parameters in the *Calculate Daily Cumulative PTI* and *Travel Time Reliability* geoprocessing tools exactly as shown in the above figures with input data saved in the following Input geodatabases. Then, run the *Calculate Daily Cumulative Travel Time Index* geoprocessing tool prior to running the *Congestion Mitigation* geoprocessing tool. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabases:

- C:\PerformanceBasedPlanningProcess\Inputs\csv\Mobility
- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb (Mobility Feature Dataset)

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb (Mobility Feature Dataset)

In the *Calculate Daily Cumulative PTI* geoprocessing tool, set the Travel Time Index Threshold equal to the desired value. This parameter limits the analysis to segments with PTI greater than the value set for the threshold.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Bus Transit On-Time Performance

While there are multiple factors that influence people's decisions to use public transportation, one of the most important decision-making factors in low-frequency bus systems such as Charlottesville Area Transit (CAT) is passenger waiting time, which is influenced by the reliability of the transit service and adherence to published schedules. When buses regularly depart from stops at the scheduled time, passengers can time their arrival at the stop to minimize wait time. However, if the bus is not usually on time, passengers can face unpredictable wait times. Accordingly, one of the most common measures of the effectiveness of the bus transportation system is on-time performance (OTP).

For the purpose of this analysis, OTP measures how well transit vehicles adhere to the published schedule within an acceptable level of deviation measured in time and serves as an indicator of the attractiveness of bus transit as a travel option. OTP is expressed as a percentage and is calculated by the count of bus timepoint departures that are on time divided by the count of total departures multiplied by 100. Buses are considered "on-time" if they are no more than 30 seconds early and no more than 5 minutes late to the major stops on the route schedule.

Since OTP data is only collected at stops where departure times are scheduled (i.e., timepoints), this analysis does not include intermediate stops with scheduled departure times. Since stop locations may include bus stops for more than one route, the term "timepoint" refers to bus stops associated with a specific route (i.e., there may be multiple timepoint features at a single stop location). Additionally, this analysis does not consider reliability in terms of service consistency or the change in reliability over time. For example, a bus that is consistently six minutes late is not on time but is reliable. Furthermore, the analysis of OTP does not provide reasons for poor performance including predictable events such as traffic congestion, passenger loads, and delays due to at-grade railroad crossings or unexpected events like crashes, disabled buses, temporary detours, weather, and issues related to labor.

The following threshold options were tested to determine scoring eligibility:

1. Stops where OTP is less than the systemwide weekly average OTP from the previous year.
2. Stops where OTP is less than 85% or an alternative target value in accordance with CAMPO's transit performance goals.

Calculate OTP for all timepoints in the analysis period for weekdays and weekends separately.

1. Calculate OTP in two steps:
 - Find the percentage of on-time departures by dividing the sum of on-time departures by the sum of total departures, then multiply by 100.
 - Subtract the result from 100 to obtain the share of departures that are not on time.
2. Multiply timepoints' weekday OTP values by 5/7 (five of seven days)
3. Multiply timepoints' weekend OTP values by 2/7 (two of seven days)
4. Sum the results of step 2 and step 3 to obtain weeklong average OTP by timepoint

OTP is used in the identification of needs to determine if stops are eligible for bus transit on-time performance scoring. The first threshold option determines eligibility if OTP at a timepoint is worse than the systemwide weekly average OTP from the previous year or analysis period. Alternatively, if the second threshold option is selected, timepoints are eligible for scoring if OTP is less than a target value set by CAMPO (e.g., 85%). The second threshold option does not require computation of an average weeklong average OTP.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Calculation Steps

The following steps outline the process for assessing the magnitude of the *congestion mitigation* need:

1. Calculate the daily cumulative OTP values from 6 AM to 8 PM. This step accumulates over all qualifying hours in a single year to calculate a “weeklong OTP” value.

$$\text{Weeklong OTP} = \frac{5}{7} \left(\sum_{\text{Weekday OTP} > T} \text{Weekday OTP} \right) + \frac{2}{7} \left(\sum_{\text{Weekend OTP} > T} \text{Weekend OTP} \right)$$

Where:

Weeklong OTP = Average OTP for each stop by route

T = OTP threshold (83%, 85%, 90%, e.g.)

2. Adjust Weeklong OTP by subtracting the on-time rate from 100%. This will ensure that the timepoints with greater needs receive a higher value. For example, a timepoint with an OTP of 80% will become 20%, while a timepoint with an OTP of 60% will become 40%.
3. Account for the magnitude of needs by multiplying the adjusted weeklong OTP by the number of daily boardings and alightings at each timepoint (boardings and alightings are treated as a proxy for ridership in this analysis).

$$\text{OTP_Ridership}_i = \text{Ridership}_i \times \text{Adjusted Weeklong OTP}_i$$

Where,

OTP_Ridership_i = Ridership Adjusted OTP at timepoint i

Ridership_i = Daily Ridership at timepoint i

Weeklong OTP_i = Adjusted Weeklong OTP at timepoint i

4. Normalize ridership adjusted OTP.

$$\text{Normalized OTP_Ridership}_i = \frac{\text{OTP_Ridership}_i - \text{OTP_Ridership}_{\min}}{\text{OTP_Ridership}_i - \text{OTP_Ridership}_{\max}}$$

Where:

OTP_Ridership_{min} = Minimum ridership adjusted OTP across all timepoints

OTP_Ridership_{max} = Maximum ridership adjusted OTP across all timepoints

Scoring of Bus On Time Performance Needs

Using **Table 18**, assign need scores based on segments’ normalized volume adjusted weekly average OTP.

Table 18 Bus Transit On-Time Performance need scores

Need Category	Need Score	Normalized Reliability Need Score
Very High	7	0.95 to 1
High	6	0.9 to 0.95
Medium High	5	0.85 to 0.9
Medium	4	0.8 to 0.85
Medium Low	3	0.75 to 0.8
Low	2	0.5 to 0.75
Very Low	1	0 to 0.5

Data Requirements

- Charlottesville Area Transit On-Time Performance (source: CAT)
- Charlottesville Area Transit Daily Ridership (source: CAT)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

The figure displays two screenshots of the Geoprocessing tool interface. The top screenshot shows the 'Calculate Ridership Adjusted OTP' tool with the following parameters: Weekday OTP Directory (Weekday), Saturday OTP Directory (Saturday), Ridership Directory (Ridership), OTP Threshold (0.9), Output Path (Outputs.gdb), and Output Name (NormalizedRidershipAdjustedOTP_10PercentLate). The bottom screenshot shows the 'On Time Performance' tool with the following parameters: Normalized Ridership Adjusted OTP (NormalizedRidershipAdjustedOTP_10PercentLate), Charlottesville Area Transit GTFS shapes.txt (C:\Users\AF_RP\Downloads\CAMPO Transit Ridership Data\Charlottesville Area Transit\GTFS\2021 July CAT GTFS\shapes.txt), and Output - On Time Performance NEeds (OnTimePerformanceNeeds_10PercentLate).

Figure 10 Bus On-Time Performance Geoprocessing Tool

Geoprocessing Tool Overview

Set the parameters in the *Calculate Ridership Adjusted OTP* and *On Time Performance* geoprocessing tools exactly as shown in the above figures with input data saved in the following Input geodatabases. Then, run the *Calculate Daily Cumulative Travel Time Index* geoprocessing tool prior to running the *Congestion Mitigation* geoprocessing tool. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabases:

- C:\PerformanceBasedPlanningProcess\Inputs\csv\Mobility
- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb (Mobility Feature Dataset)

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb (Mobility Feature Dataset)

In the *Calculate Ridership Adjusted OTP* geoprocessing tool, set the On Time Performance Threshold equal to the desired value. This parameter limits the analysis to timepoints with on-time arrivals less than the value set for the threshold.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Need Category: Land Use and Economic Development

The aim of the land use and economic development category is to identify areas where there is access to non-work destinations to stimulate local economic activity or to create transportation choices for disadvantaged people and to prioritize projects that connect to areas of local economic development activity. Land use needs are assessed using two measures: walk access to *non-work destinations* and *walk access to non-work destinations by disadvantaged populations*. Both measures rely on WalkScore and BikeScore indices, focusing on the general population and disadvantaged populations, respectively.

Walk Access to Non-Work Destinations

The need for walk access to non-work destinations is determined by a segment's maximum of WalkScore and BikeScore and its future population and employment level (i.e., activity level). WalkScore3 measures walkability through measures of access to non-work destinations (cultural, restaurants, groceries, parks, errands) and roadway connectivity such as intersection density and average block length. In this needs assessment process, the maximum WalkScore or BikeScore is weighted by future activity level from the regional travel demand model. This performance measure shows locations that are in close proximity to non-work destinations, population and employment. Through the WalkScore component, the performance measures indicates where there is high network connectivity. However, these locations may have barriers to walking not accounted for in the WalkScore methodology including lack of sidewalks or crosswalks along existing facilities. Therefore, the walk access to non-work destinations performance measures indicates where investments in pedestrian improvements would likely yield the greatest benefits.

Segment eligibility for walk access to non-work destinations scoring may be determined by one of the following optional thresholds:

1. All segments in the City of Charlottesville and in Albemarle County Development Areas
2. All segments in "somewhat walkable" census tracts (i.e., WalkScores greater than 49)

If the first threshold option is selected, all segments in the City of Charlottesville or in one of Albemarle County's five Development Areas are eligible for walk access to non-work destinations scoring. Development areas, which are defined by the County's Comprehensive Plan, are intended "to focus development into the urban areas to create quality living areas, avoid sprawl, improve

access to services, and protect the natural and agricultural resources and uses of the rural areas." Development areas include Crozet, Pantops, the US-29 corridor from Hydraulic Road to north of the airport, the Southern and Western neighborhoods adjacent to Charlottesville, and the Village of Rivanna. The effect of selecting this threshold option is that needs will be considered for all areas regardless of the current WalkScore.

Alternatively, if the second threshold option is selected, segments are eligible for walk access to non-work destinations scoring if they are in "somewhat walkable" census tracts which is defined by WalkScores that are greater than 49. The result of selecting this threshold option is that needs will be considered for all areas regardless of its designation as a Development Area (for Albemarle County only). However, given that WalkScores are higher in more urban areas due to better network connectivity and shorter distances to amenities, the more realistic outcome is that needs will be identified in areas within Development Areas where there is the greatest potential for improving access to non-work destinations.

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Calculation Steps

The following steps outline the process for assessing the magnitude of the *walk access to non-work destinations* need:

1. Calculate segments’ average WalkScore by performing a spatial join of segments that intersect the WalkScore feature layer.
2. Calculate segments’ average activity level by performing a spatial join of segments that intersect the regional travel demand model’s Traffic Analysis Zones (TAZ) layer that contains total population and all employment. Summarize the average activity level for segments that span two or more TAZs.
3. Calculate segments’ activity weighted WalkScore by multiplying average WalkScore by average future activity level.

$$\text{Weighted Walk Score} = \text{Walk Score} \times (\text{Average Population} + \text{Average Jobs})$$

4. Normalize the weighted WalkScore using the following equation:

$$\text{Normalized Walk Score} = \frac{\text{Weighted Walk Score}_i - \text{Weighted Walk Score}_{\min}}{\text{Weighted Walk Score}_i - \text{Weighted Walk Score}_{\max}}$$

Where:
Weighted WalkScore_i = WalkScore × Activity level for Segment i
Weighted WalkScore_{min} = Minimum WalkScore × Activity level
Weighted WalkScore_{max} = Maximum WalkScore × Activity level

Scoring of Walk Access to Non-Work Destinations Needs

Sort the normalized average WalkScore weighted by average activity level. Then, using **Table 19**, assign the need score based on the segments’ cumulative length percentage of the combined mileage of all segments that have a need for *walk access to non-work destinations*.

Table 19 Walk access to non-work destinations need scores applied to segments by population weighted WalkScore

Need Category	Need Score	Percent of Total Mileage
Very High	7	0% to 5%
High	6	5.001% to 10%
Medium High	5	10.001% to 15%
Medium	4	15.001% to 20%
Medium Low	3	20.001% to 25%
Low	2	25.001% to 50%
Very Low	1	50.001% to 100%

Data Requirements

- WalkScore and BikeScore (source: InteractVTrans Map Explorer)
- Future population and employment (source: Charlottesville-Albemarle Regional Model)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

The screenshot shows the 'Geoprocessing' window for the tool 'Walk Access To Non-Work Destinations'. The 'Parameters' tab is active. The 'Input Needs Segments' parameter is set to 'CAMPO_NeedsIdentificationSegments'. The 'WalkScore' parameter is set to 'WalkScore'. The 'Select Comprehensive Plan Development Areas' section has buttons for 'Load', 'Save', and 'Remove'. Below this is a clause builder with a 'Where' clause: 'Type' includes the value 'Town,Neighborhood,Comm'. There is an 'Add Clause' button. The 'Select WalkScore Threshold' section has buttons for 'Load', 'Save', and 'Remove'. Below this is another clause builder with two clauses: 'walk_score' is greater than or equal to '0', and 'STATE_FUNC_CLASS_DESC' includes the value 'Major Collector,Minor Arter'. There is an 'Add Clause' button. At the bottom, the 'Walk Access Needs' parameter is set to 'WalkAccessNeeds_DevelopmentAreas'.

Figure 11 Walk Access to Non-Work Destinations Geoprocessing Tool

Geoprocessing Tool Overview

Set the parameters in the *Walk Access to Non-Work Destinations* geoprocessing tools exactly as shown in the above figures with input data saved in the following Input geodatabases. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabases:

- C:\PerformanceBasedPlanningProcess\Inputs\csv\Mobility
- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb (Land Use Feature Dataset)

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb (Land Use Feature Dataset)

The Walk Access to Non-Work Destinations performance measure excludes features with the functional classification attribute 'Interstate'

or 'Other Freeways and Expressways' functional classification because pedestrians are not permitted on these facilities.

Edit the 'Select Comprehensive Plan Development Areas' parameter to filter segments by name or by type. Edit the 'Select WalkScore Threshold' parameter walk_score variable to limit the analysis to segments where the WalkScore is greater than or equal to 50 (i.e., 'Somewhat Walkable' according to WalkScore analysis).

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Walk Access to Non-Work Destinations by Disadvantaged Populations

The need for walk access to non-work destinations by disadvantaged populations is similar to the performance measure described in the previous section but the combined WalkScore and BikeScore is weighted by disadvantaged population from Equity Emphasis Areas in the InteractVTrans Map Explorer instead of future activity level. Like walk access to non-work destinations, this performance measure shows locations that are in close proximity to non-work destinations and disadvantaged populations and where there is high network connectivity. However, these locations may still have barriers to walking not accounted for in the WalkScore methodology including lack of sidewalks or crosswalks along existing facilities. Therefore, the walk access to non-work destinations by disadvantaged populations performance measure indicates where investments in pedestrian improvements would likely yield the greatest benefits for disadvantaged residents.

Segment eligibility for walk access to non-work destinations for disadvantaged populations scoring may be determined by one of the following optional thresholds:

1. All segments in EEAs where transit is available
2. All segments in EEAs where transit is available and that are also in “somewhat walkable” census tracts (i.e., WalkScores of 50 or higher)

The implication of selecting all segments in transit EEAs for walk access to non-work destinations scoring is that the current WalkScore does not affect which segments are scored for walk access to jobs by disadvantaged populations. Conversely, the effect of choosing the threshold option that limits scoring to segments in “somewhat walkable” locations is that “car-dependent” EEAs which have a combined WalkScore and BikeScore of less than 50 will not be considered for scoring.

Calculation Steps

The following steps outline the process for assessing the magnitude of the walk access to non-work destinations need:

1. Calculate segments’ average WalkScore by performing a spatial join of segments that intersect the WalkScore feature layer.
2. Calculate segments’ disadvantaged population by performing a spatial join of segments that intersect the Equity Emphasis Areas (EEA) Census tract layer. Sum the low-income population, age 75-plus population, disabled population, limited English proficiency population, minority population, and Hispanic

population for each segment.

3. Calculate segments’ weighted WalkScore by multiplying average WalkScore by average disadvantaged populations in intersecting zones.

$$\text{Weighted Walk Score} = \text{Walk Score} \times \text{Segment Disadvantaged Population}$$

4. Normalize the weighted WalkScore using the following equation:

$$\text{Normalized Walk Score} = \frac{\text{Weighted Walk Score}_i - \text{Weighted Walk Score}_{\min}}{\text{Weighted Walk Score}_i - \text{Weighted Walk Score}_{\max}}$$

Where:

$\text{Weighted WalkScore}_i = \text{WalkScore} \times \text{disadvantaged population of Segment } i$

$\text{Weighted WalkScore}_{\min} = \text{Minimum WalkScore} \times \text{disadvantaged population of all segments}$

$\text{Weighted WalkScore}_{\max} = \text{Maximum WalkScore} \times \text{disadvantaged population of all segments}$

Scoring of Walk Access to Non-Work Destinations for Disadvantaged Populations Needs

Sort the normalized average WalkScore weighted by disadvantaged population. Then, using **Table 20**, assign the need score based on the segments’ cumulative length percentage of the combined mileage of all segments that have a need for walk access to non-work destinations.

Table 20 Walk access to non-work destinations for disadvantaged populations need scores

Need Category	Need Score	Percent of Total Mileage
Very High	7	0% to 5%
High	6	5.001% to 10%
Medium High	5	10.001% to 15%
Medium	4	15.001% to 20%
Medium Low	3	20.001% to 25%
Low	2	25.001% to 50%
Very Low	1	50.001% to 100%

Data Requirements

- WalkScore and BikeScore (source: InteractVTrans)
- Equity Emphasis Areas (source: InteractVTrans Map Explorer)

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

The screenshot shows the 'Geoprocessing' window for the tool 'Walk Access To Non-Work Destinations for Disadvantaged Populations'. The 'Parameters' tab is active. The tool has three main input sections: 'Input Needs Segments' with a dropdown set to 'CAMPO_NeedsIdentificationSegments'; 'WalkScore' with a dropdown set to 'WalkScore'; and 'EEA' with a dropdown set to 'Equity_Emphasis_Areas_LU'. Below these are buttons for 'Load', 'Save', and 'Remove'. The 'Where' clause is defined by two conditions: 'transit is equal to Y' and 'eea is equal to Y'. The 'Select WalkScore Threshold' section has a 'Where' clause 'walk_score is greater than or equal to 0' and an 'And' clause 'STATE_FUNC_CLASS_DESC includes the value Major Collector, Minor Arter'. The 'Output' section shows 'Walk Access Disadv Pop Needs Output' with a dropdown set to 'WalkAccessDisadvPopNeeds_DevelopmentAreas'. The window also includes a 'SQL' toggle and a settings icon.

Figure 12 Walk Access to Non-Work Destinations for Disadvantaged Populations Geoprocessing Tool

Geoprocessing Tool Overview

Set the parameters in the *Walk Access to Non-Work Destinations* geoprocessing tools exactly as shown in the above figures with input data saved in the following Input geodatabases. Save outputs with a descriptive name in the following output geodatabase.

Input Geodatabases:

- C:\PerformanceBasedPlanningProcess\Inputs\csv\Mobility
- C:\PerformanceBasedPlanningProcess\Inputs\Inputs.gdb (Land Use Feature Dataset)

Output Geodatabases:

- C:\PerformanceBasedPlanningProcess\Outputs\Outputs.gdb (Land Use Feature Dataset)

The Walk Access to Non-Work Destinations for Disadvantaged Populations performance measure excludes features with the functional classification attribute 'Interstate' or 'Other Freeways and Expressways' functional classification because pedestrians are not permitted on these facilities.

Edit the 'Select Comprehensive Plan Development Areas' parameter to filter segments by area name or by type (e.g., 'Community', 'Town', 'Village', or 'Neighborhood'). Edit the 'Select WalkScore Threshold' parameter walk_score variable to limit the analysis to segments where the WalkScore is greater than or equal to 50 (i.e., 'Somewhat Walkable' according to WalkScore analysis).

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Need Category: Environment and Resiliency

The aim of the environmental category is to identify resiliency needs, especially where infrastructure is exposed to inland flooding and to prioritize projects that pose no environmental impacts, mitigate impacts, or offer environmental services.

Exposure to Projected Sea Level Rise, Storm Surge, or Historical Inland/Riverine Flooding

Environmental and Resiliency needs are accounted for as an adjustment to combined needs scores for segments that are exposed to sea level rise, storm surge, or historical flooding and are within an Economically Distressed Community. This metric adjusts the aggregate scores of all roadway segments with a need based on Flooding Risk Assessment and the Distressed Communities Index (DCI).

OIPI's Flooding Risk Assessment is a system level analysis of the system's assets' (i.e., roads and bridges) vulnerability to climate change, including sea level rise, storm surge, and inland flooding. The components of vulnerability as defined by the Federal Highway Administration (FHWA) include exposure, sensitivity, and adaptive capacity. For the purposes of CAMPO's environmental needs analysis, only system exposure to inland flooding is considered. The following definitions, which are taken from the VTrans Vulnerability

Assessment Tech Memo, reflect the components of vulnerability as defined by FHWA.

- Exposure determines whether the asset is experiencing the direct effects of climate change
- Sensitivity determines how well the system fares when exposed to climatic events
- Adaptive Capacity determines the system's ability to adjust with future climate impacts

The Distressed Communities Index (DCI), which derives data from the American Community Survey (ACS), sorts zip codes into quintiles of economic well-being: prosperous, comfortable, mid-tier, at risk, and distressed. The seven components of DCI is the share of residents who are 25 or older who do not have a high school diploma or equivalent, housing vacancy rate, unemployment rate for working-age adults (25-54), the share of the population living under the poverty line, median household income as a percent of metro area/state median household income, the percent change in employment from 2016 to 2020, and the percent change in the number of business establishments from 2016 to 2020. **Table 21** lists zip codes in the Charlottesville-Albemarle MPO area by DCI.

Table 21 Distressed Communities Index for Zip Codes in the Charlottesville-Albemarle Area

Zip Code	Post Office	Distressed Communities Index	Population (2021)
22901	Charlottesville	35.6 (Comfortable)	36,964
22902	Charlottesville	38.5 (Comfortable)	24,018
22903	Charlottesville	62.9 (At Risk)	44,101
22904 ₄	Charlottesville	n/a	3,119
22911	Charlottesville	7.4 (Prosperous)	18,627
22923	Barboursville	9.4 (Prosperous)	6,004
22932	Crozet	15.3 (Prosperous)	10,102
22936	Earlysville	15.4 (Prosperous)	5,186
22947	Keswick	47.4 (Mid-Tier)	5,150
22959	North Garden	60.7 (At Risk)	1,932
22968	Ruckersville	21.9 (Comfortable)	11,239
22974	22974	34.5 (Comfortable)	5,441

3 – PROCESS FOR THE IDENTIFICATION OF NEEDS

Calculation Steps

Since project location is a critical component of environmental impacts, the Environment and Sustainability need category is applied after aggregating need scores across the other metrics described in previous sections. The adjustment factors apply to aggregate scores for road segments that are exposed to projected sea level rise, storm surge, or inland/riverine flooding and to segments in economically distressed communities.

- 5% adjustment for segments exposed to historical flooding in a 100-year flood zone
- Adjustments for economically distressed communities
 - 5.0% adjustment applied to aggregate score of road segments in a zip code that has a DCI index of 80 to 100 (i.e., distressed)
 - 3.5% adjustment applied to aggregate score of road segment in a zip code that has a DCI rating of 60 to 80 (i.e., at risk)
 - Additional 2.0% if a roadway segment falls within a zip code that has a DCI rating of 40 to 60 (i.e., mid-tier)

Data Requirements

- VTrans Flood Risk Assessment (source: InteractVTrans Map Explorer)
- Distressed Communities Index (source: Economic Innovation Group)s

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

This chapter describes the overall process, performance measures, and methodologies for evaluating and prioritizing surface transportation projects, including highway and roadway, active transportation (i.e., bicycle and pedestrian), transit, and travel demand management (TDM) improvements. While the project prioritization is separate from the process for identifying needs, the process includes the same goal categories.

In general, the project prioritization performance measures evaluate changes due to project implementation, or between the base year with existing conditions and the horizon year with future conditions. Project types that are not eligible for scoring under this process are standalone studies and the maintenance of existing facilities including bridge rehabilitation, pavement repair/replacement, guardrail repair/replacement, and other activities eligible for State of Good Repair funding.

- The Crash Frequency (S1) and Crash Rate (S2) performance measures within the Safety prioritization category indicate projects where there is the highest expected reduction in the annual number of crashes after the implementation a safety treatment, improvement, or countermeasure. Projects that are expected to reduce higher numbers of crashes receive higher scores.
- The Access to Jobs (A1) and Access to Jobs for Disadvantaged Populations (A2) performance measures in the Accessibility and Equity prioritization category indicate projects where there is the most potential for improving access to employment opportunities. Projects that have the greatest potential for accessibility improvement (i.e., constructing new bike and pedestrian facilities, increasing transit frequency, reducing vehicular delay) and are located near where people live will be assigned the highest scores. The Access to Multimodal Choices (A3) performance measure assigns points to projects for increasing multimodal transportation choices such as constructing new bicycle and pedestrian facilities, increasing transit frequency, or providing additional park and ride spaces. Projects that are likely to have the greatest impacts on improving access to multimodal choices and improving air quality will receive higher scores.
- The Demand (M1) performance measures in the Mobility and System Efficiency prioritization category identify projects in areas with the highest potential volume of users who are likely to benefit from the project. Likewise, the Congestion (M2) performance measure identifies projects located in areas with the most congestion. Projects in in areas with more traffic and congestion receive higher scores.
- The Access to Non-Work Destinations (L1) and Access to Non-Destinations for Disadvantaged Populations (L2) performance

measures in the Land use and Economic Development prioritization categories identify high ‘walkability’ areas through the MPO and within equity emphasis areas. Projects that score highly in this measure are most likely to integrate into the existing bicycle and pedestrian network. The Proximity to Activity Centers (L3) and Job Growth (L4) performance measures identify projects which are closest to concentrations of regional economic activity. These projects are likely to have the greatest impact on economic development.

- The Sensitive Features (E1) performance measure within the Environmental Impacts prioritization category identify projects that the fewest environmental impacts. This measure in an inverse measure which means that projects with the fewest impacts will receive the highest score.

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Prioritization Category: Safety

The Safety prioritization category is evaluated based on the performance measure weights shown **Table 22**.

Table 22 Safety Performance Measure Weights

Performance Measure	Weight
Crash Frequency (S1)	50%
Crash Rate (S2)	50%
Total	100%

These performance measures are appropriate for measuring the safety benefits of highway and roadway improvements at intersections, interchanges, bridges, freeway segments, and non-freeway segments, as well as bicycle and pedestrian related improvements such as new sidewalks, bicycle lanes, shared use paths, and crossing improvements.

Estimation of changes in crash frequency and rate relies on the use of Crash Modification Factors (CMF). The CMF is a multiplicative factor used to compute the expected reduction in the number of crashes after implementing a safety improvement, treatment, or countermeasure at a specific site. While the Crash Modification Factors Clearinghouse contains thousands of CMFs covering hundreds of treatment options for a variety of crash types, crash severities, and site locations, this process uses a simplified list of fatal and injury CMFs used for SMART SCALE. For example, the conversion of stop/yield control to a signal is expected to reduce the number of fatal and injury crashes by 35% because of a planning level CMF of 0.65 ($1 - 0.65 = 0.35 \times 100 = 35\%$)

Project types where CMFs are not available, including standalone transit and travel demand management (TDM) projects do not qualify for Safety scoring. **Table 23** lists the relationship between project type and the crash data needed for the safety analysis of highway and roadway projects and bicycle and pedestrian projects.

Table 23 Safety Project Prioritization Data by Project Type

Project Type	Crash Type	Crash Severity
Highway and Roadway	Motor vehicle	Fatal and Injury
Active Transportation	Bicycle and pedestrian	Fatal and Injury

Crash Frequency (S1)

This measure calculates the reduction in Equivalent Property Damage Only (EPDO) crash frequency. The expected change in crashes is calculated using simplified planning level crash modification factors (CMF) associated with the project improvement. The outcome of this measure is the annual change in the number of fatal and injury crashes due to project implementation.

Calculation Steps

1. Add the project limits layer to an ArcMap document and create 250 foot buffers around each project.
2. Add crash data to the map document, then calculate EPDO weights for each row in a new field using the crash severity conversion values in **Table 3**.
3. Use the 'Spatial Join' tool to join points in the crash layer that intersect the project limits buffer layer. Calculate the sum of crashes by EPDO that intersect the project limits buffer.
4. Calculate the average annual EPDO by dividing the sum of crashes in the project area weighted by EPDO by the number of years included in the analysis.
5. Calculate the Percent Expected Crash Reduction (PECR) using the appropriate CMF for the project improvements with the following equation:

$$PECR = 1 - CMF$$

6. Calculate the expected annual reduction in crashes by multiplying the annual average EPDO of fatal and injury crashes by PECR.

Data Requirements

- Project limits
- 5 year crash data (source: InteractVTrans Map Explorer)
- SMART SCALE Planning Level CMFs (source: https://smartscale.org/documents/cmf-list-smart-scale-rd4_fy2022.pdf)

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Crash Rate (S2)

This measure calculates the annual reduction in EPDO of fatal and injury crashes (EPDOF+I) per Hundred Million Vehicle Miles Traveled (HVMVT) on a roadway segment or Million Entering Vehicles (MEV) for an intersection. Crash rate allows for better comparison between projects on routes with different traffic volumes. The outcome of this measure is the change in the annual rate of fatal and injury crashes weighted by severity (EPDOF+I) per HVMVT (segments) or MEV (intersections) due to project implementation.

Calculation Steps

1. Add the project limits layer to an ArcMap document and create 250 foot buffers around each project.
2. Add the AADT layer.
3. Use Select by Location to select segments in the AADT layer that intersect the project limits. Manually deselect segments in the buffer that are on roads not part of the project. For intersection improvements, include all segment approaches and exclude parallel segments. For highway and road projects that are not at an intersection, include the segments where the project is physically located and exclude side streets and parallel segments
4. Calculate the length of segments that intersect the project limits buffer layer using the 'Calculate Geometry' tool. Ensure that all other segments have a zero or null value
5. Use the 'Spatial Join' tool to join segments in the AADT layer that intersect the project limits buffer layer.
6. For segments (i.e., non-intersection projects), calculate the annual traffic volume in HVMVT. For projects that cross multiple segments, HVMVT is the cumulative annual VMT for all segments, calculated for each segment using its AADT and length. For intersections, calculate the annual traffic volume in Million Entering Vehicles (MEV)

$$HVMVT = \frac{\sum AADT_i \times Segment Length_i \times 365}{1,000,000}$$

$$MEV = \frac{\sum AADT_i \times 365}{1,000,000}$$

7. Calculate reduction in annual EPDO of fatal and injury crashes due to project implementation (measure S1)

$$Segment Crash Rate = \frac{EPDO_{K+I}}{HVMVT}$$

$$Intersection Crash Rate = \frac{EPDO_{K+I}}{MEV}$$

8. Convert reduction in annual EPDO of fatal and injury crashes into the reduced crash rate using the following formulas

Data Requirements

- Project Limits
- 5 year crash data (source: InteractVTrans Map Explorer)
- Planning Level Crash Modification Factors (CMF) (source: SMART SCALE Planning Level Crash Modification Factors)
- Average Annual Daily Traffic (source: InteractVTrans Map Explorer)

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Prioritization Category: Accessibility and Equity

The Accessibility and Equity prioritization category is evaluated based on the performance measure weights shown **Table 24**.

Table 24 Accessibility and Equity Performance Measure Weights

Performance Measure	Weight
Access to Jobs (A1)	40%
Access to Jobs for Disadvantaged Populations (A2)	40%
Access to Multimodal Choices (A3)	20%
Total	100%

Access to Jobs (A1)

The Access to Jobs measure calculates a project's potential for improving access to job opportunities for all populations. Scores are determined by the project's weighted average Potential for Accessibility Improvement (PAI) within a buffer distance of the project limits. The buffer distance for evaluating the Census blocks impacted by project implementation is determined by project mode (auto, transit, non-motorized).

PAI is estimated as the difference between the "current" accessibility offered and a "reference" condition. The "current" condition refers to the cumulative number of activities (jobs in the case of all metrics generated in this process) accessible from a given location applying parameters, such as level of traffic stress (LTS) or average travel speed, that influence the estimated travel times among zones. The "reference" condition refers to the cumulative number of jobs accessible from the same location but with hypothetical parameters that yield an estimated maximum level of job accessibility. Refer to the chapter on the Process for the Identification of Needs for more information about terms referred to in the project prioritization process.

Calculation Steps

1. Add the project limits layer to an ArcMap document and create buffers to select Census blocks within a specified distance of the project (catchment area).
2. Add the Census blocks layer and block-level accessibility and population attribute data to an ArcMap document. See **Table 25** to determine data tables needed for each project type. Create buffers based on project type using the catchment area.

Table 25 Accessibility and Equity Performance Measure Parameters

Project Type	Current Condition	Reference Condition	Maximum Travel Time (minutes)	Catchment Area (miles)
Bicycle and Pedestrian	Bike LTS 1 (High Stress)	Bike LTS 4 (Low Stress)	20	3
Transit	Transit	Auto 8 AM (Off Peak)	45	5
Highway and Roadway	Auto 8 AM (Peak)	Auto 12 AM (Off Peak)	45	10

3. In the Census blocks layer, create four new fields (data type Long) named 'reference', 'current', 'PAI', and 'population'. Join the block-level accessibility and population attribute data to the Census block layer then calculate the 'current', 'reference', and 'population' fields from the joined data.
4. For each Census block, calculate 'PAI' as the difference between the reference condition and current condition, or the accessibility deficit between the current condition and the reference condition.

$$PAI = Reference - Current$$

5. Add the Functional Classification layer and then use the 'Spatial Join' tool to join the Census blocks that have their center within the catchment area. Sum the population of blocks within the catchment area.
6. Calculate the weighted average PAI for each functional classification segment by multiplying PAI by the total population of the census block in which the segment is located then divide by the total population of the catchment area.

$$Population\ Weighted\ PAI = Population \times PAI$$

$$Weighted\ Average\ PAI = \frac{Population\ Weighted\ PAI_i}{Catchment\ Population_i}$$

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

7. Calculate the raw access score. First, assign a functional classification (FC) score to all road segments. Next, calculate the raw score for transit access to jobs performance measure by multiplying segments' weighted average accessibility improvement by its FC score. In Chapter 3 on the Process for the Identification of Needs, see **Table 9** for Functional Classification Value for Transit and Active Transportation Projects and **Table 11** for Highway and Roadway Projects.

$$\text{Raw Score} = \text{Weighted Average PAI} \times \text{FC Score}$$

8. Calculate the project accessibility score with the following steps:
 - Intersect the Project Limits layer with the Census Block layer that contains population and Potential for Accessibility Improvement
 - Spatial Join the intersected Project Limits layer with the Census Census Block layer that contains population and sum the population in the catchment area
 - Calculate the raw score for the project's intersects with the Census Block layer using the raw need score equation from the Access to Jobs needs identification category
 - Calculate the length-weighted average for the project

Data Requirements

- Project Limits
- Census blocks
- NAE Current Condition and NAE Reference Condition
- Census block population
- Functional Classification (source: InteracVTrans Map Explorer)

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Access to Jobs for Disadvantaged Populations (A2)

The Access to Jobs measure calculates a project's potential for improving access to job opportunities for disadvantaged populations. Scores are determined by the project's weighted average Potential for Accessibility Improvement (PAI) in Equity Emphasis Areas (EEA) within a buffer distance of the project limits. The buffer distance for evaluating the Census blocks impacted by project implementation is determined by project mode (auto, transit, non-motorized).

PAI is estimated as the difference between the "current" accessibility offered and a "reference" condition. The "current" condition refers to the cumulative number of activities (jobs in the case of all metrics generated in this process) accessible from a given location applying parameters, such as level of traffic stress (LTS) or average travel speed, that influence the estimated travel times among zones. The "reference" condition refers to the cumulative number of jobs accessible from the same location but with hypothetical parameters that yield an estimated maximum level of job accessibility. Refer to the chapter on the Process for the Identification of Needs for more information about terms referred to in the project prioritization process.

Calculation Steps

1. Add the project limits layer to an ArcMap document and create buffers to select Census blocks within a specified distance of the project (catchment area).
2. Add the Census blocks layer and block-level accessibility and population attribute data to an ArcMap document. See **Table 25** to determine data tables needed for each project type. Create buffers based on project type using the maximum travel distance thresholds.
3. In the Census blocks layer, create four new fields (data type Long) named 'reference', 'current', 'PAI', and 'population'. Join the block-level accessibility and population attribute data to the Census block layer then calculate the 'current', 'reference', and 'population' fields from the joined data.
4. For each Census block, calculate 'PAI' as the difference between the reference condition and current condition, or the accessibility deficit between the current condition and the reference condition.

$$PAI = Reference - Current$$

5. Add the Functional Classification layer and then use the 'Spatial Join' tool to join the Census blocks that have their center within the catchment area.

catchment area.

6. Calculate the eligible disadvantaged population (EDP) weighted average PAI for each functional classification segment by multiplying PAI by the EDP of the census block in which the segment is located then divide by the EDP of the catchment area

$$Population\ Weighted\ PAI = Population \times PAI$$

$$Weighted\ Average\ PAI = \frac{Population\ Weighted\ PAI_i}{Catchment\ Population_i}$$

7. Calculate the raw access score. First, assign a functional classification (FC) score to all road segments. Next, calculate the raw score for transit access to jobs performance measure by multiplying segments' weighted average accessibility improvement by its FC score. In Chapter 3 on the Process for the Identification of Needs, see **Table 9** for Functional Classification Value for Transit and Active Transportation Projects and **Table 11** for Highway and Roadway Projects.

$$Raw\ Need\ Score = Weighted\ Average\ PAI \times FC\ Score$$

8. Calculate the project accessibility score with the following steps:
 - Intersect the Project Limits layer with the Census Block layer that contains population and Potential for Accessibility Improvement
 - Spatial Join the intersected Project Limits layer with the Census Census Block layer that contains population and sum the population in the catchment area
 - Calculate the raw score for the project's intersects with the Census Block layer using the raw need score equation from the Access to Jobs needs identification category
 - Calculate the length-weighted average for the project

Data Requirements

- Project Limits
- Census blocks
- NAE Current Condition and NAE Reference Condition
- Census block population
- Functional Classification (source: InteractVTrans Map Explorer)
- Equity Emphasis Areas (source: InteractVTrans Map Explorer)

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Access to Multimodal Choices (A3)

This measure considers the degree to which a project can increase access to non-single occupant vehicle (SOV) travel options. The objective is to assign more points to projects that that promote multimodal transportation, enhance connections between modes or create new connections to travel destinations. The outcome of this measure is points assigned to projects for providing elements that increase access to multimodal transportation.

Calculation Steps

1. Assign total points to TDM projects that include the following active transportation and transit elements (maximum of five points):
 - Transit system improvements on a route with at least 1 transit vehicle per hour = 5 points
 - Improvements to an existing or proposed park-and-ride lot = 4 points
 - Construction, enhancement, or replacement of substandard bicycle facilities = 1.5 points
 - Construction, enhancement, or replacement of substandard pedestrian facilities = 1.5 points

Data Requirements

- Project Improvements

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Prioritization Category: Mobility and System Efficiency

The performance measures in the Mobility and System Efficiency prioritization category are evaluated based on the performance measure weights in **Table 26**.

Table 26 Mobility and System Efficiency Performance Measure Weights

Performance Measure	Weight
Demand (M1)	50%
Congestion (M2)	50%
Total	100%

Demand (M1)

This measure calculates the demand for the project based on existing traffic volumes around the project limits for highway and roadway projects. The demand measure uses Annual Average Daily Traffic (AADT) to identify the potential volume of users who are likely to benefit from the project.

Calculation Steps

1. Add the project limits and AADT layers to an ArcMap document and create quarter mile buffers around each project.
2. Use Select by Location to select segments in the AADT layer that intersect the project limits buffer. Manually deselect segments in the buffer that are on roads not part of the project. For intersection improvements, include all segment approaches and exclude parallel segments. For highway and road projects that are not at an intersection, include the segments where the project is physically located and exclude side streets and parallel segments.
3. If necessary, create a 'Mileage' field (data type Double), then calculate the length of the AADT segments that intersect the project limits buffer, then use the 'Calculate Geometry' tool to calculate the length of each segment.
4. Use the 'Spatial Join' tool to calculate the length sum of all AADT segments that intersect the project limits buffer.
5. Add a field named 'VMT' (data type Long) to the attribute table in which to calculate Vehicle Miles Traveled for each selected segment. Multiply the AADT field by 'Mileage' using the field calculator to calculate Vehicle Miles Traveled.
6. Calculate the weighted-average AADT for the project by dividing the total VMT of all segments by the total length of all segments:

$$AADT = \frac{\sum VMT_n}{\sum Length_n}$$

Data Requirements

- Project limits
- Average Annual Daily Traffic

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Congestion (M2)

This measure estimates the level of traffic congestion around the project limits. Congestion is measured by the average Travel Time Index (TTI) of segments within a quarter mile of the project. TTI is the ratio of a segment's typical travel time during an observed period (such as the morning or evening peak commuting period) to the time required to travel the same distance in a reference period (under free-flow conditions, e.g.). For example, a value of 1.3 indicates a 20-minute trip during free-flow conditions requires 26 minutes to complete during the peak period.

Calculation Steps

1. Add the project limits and TTI layers to an ArcMap document and create quarter mile buffers around each project.
2. Identify the segment TTI as the maximum hourly travel time index across all hours in the most recent year for each segment.
3. Use Select by Location to select segments in the TTI layer that intersect the project limits buffer. Manually deselect segments in the buffer that are on roads not part of the project. For intersection improvements, include all segment approaches and exclude parallel segments. For highway and road projects that are not at an intersection, include the segments where the project is physically located and exclude side streets and parallel segments.
4. If necessary, create a 'Mileage' field (data type Double), then calculate the length of the TTI segments that intersect the project limits buffer, then use the 'Calculate Geometry' tool to calculate the length of each segment.
5. Use the 'Spatial Join' tool to calculate the length sum of all TTI segments that intersect the project limits buffer.
6. Add a field named 'WeightedTTI' (data type Double) to the attribute table in which to calculate weighted Travel Time Index for each selected segment. Multiply the TTI field by 'Mileage' using the field calculator to calculate weighted Travel Time Index.
7. Calculate the length weighted-average TTI for the project by dividing the cumulative TTI of all segments by the total length of all segments:

Data Requirements

- Project limits
- Travel Time Index (source: InteractVTrans Map Explorer)

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Prioritization Category: Land Use and Economic Development

The performance measures in the Land Use and Economic Development prioritization category are evaluated based on the performance measure weights in **Table 27**.

Table 27 Land Use and Economic Development Performance Measure Weights

Performance Measure	Weight
Access to Non-Work Destinations (L1)	35%
Access to Non-Work Destinations for Disadvantaged Populations (L2)	35%
Proximity to Activity Centers (L3)	10%
Job Growth (L4)	20%
Total	100%

Access to Non-Work Destination (L1)

This measure combines Walk Score and Bike Score metrics with job growth to evaluate the ease of accessing non-work destinations on foot or bike at a given location. The outcome of this performance measure is the ability to access non-work destinations by bike or on foot and the potential of the project to improve network connectivity for travel by bike or pedestrian modes.

Factors that are considered in the Walk Score include population density, block length, intersection density, and proximity to amenities. Bike Score considers existing bike facilities, hills, road connectivity, and the share of bike commuters. The Access to Non-Work destinations measure is applied to active transportation, transit, and TDM projects only.

Calculation Steps

1. Add the Walk Score, Bike Score, and the project limits layers to an ArcMap document.
2. Use the 'Buffer' tool to create a quarter mile buffer around the project limits.
3. Intersect the project limits buffer with the Walk Score and Bike Score layers.
4. Recalculate the length of each segment resulting from the intersection.

5. Calculate what proportion of each Walk Score and Bike Score zone belongs to each segment.
 - For point or polygons projects (such as park-and-ride lots), assign the Walk Score and the Bike Score assign the point or polygon centroid is located.
 - For a transit project, if stops have been designated, assign the average of each of the stop's Walk Scores and Bike Scores to the project. If stops have not been designated yet, average Walk Scores and Bike Scores at regular intervals along the affected transit route.
6. Calculate the length weighted average Walk Score and Bike Score for each project.
7. Average the Walk Score and Bike Score together to create a single score for the project.

Data Requirements

- Project limits
- WalkScore (source: InteractVTrans Map Explorer)
- BikeScore (source: InteractVTrans Map Explorer)

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Access to Non-Work Destination for Disadvantaged Populations (L2)

This measure combines Walk Score and Bike Score metrics with job growth to evaluate the ease of accessing non-work destinations on foot or bike at a given location. The outcome of this performance measure is the ability to access non-work destinations by bike or on foot and the potential of the project to improve network connectivity for travel by bike or pedestrian modes for disadvantaged populations.

Factors that are considered in the Walk Score include population density, block length, intersection density, and proximity to amenities. Bike Score considers existing bike facilities, hills, road connectivity, and the share of bike commuters. The Access to Non-Work destinations measure is applied to active transportation, transit, and TDM projects only.

Calculation Steps

1. Add the Walk Score, Bike Score, and the project limits layers to an ArcMap document.
2. Use the 'Buffer' tool to create a quarter mile buffer around the project limits.
3. Intersect the project limits buffers within Equity Emphasis Areas with the Walk Score and Bike Score layers.
4. Recalculate the length of each segment resulting from the intersection.
5. Calculate what proportion of each Walk Score and Bike Score zone belongs to each segment.
 - For point or polygons projects (such as park-and-ride lots), assign the Walk Score and the Bike Score assign the point or polygon centroid is located.
 - For a transit project, if stops have been designated, assign the average of each of the stop's Walk Scores and Bike Scores to the project. If stops have not been designated yet, average Walk Scores and Bike Scores at regular intervals along the affected transit route.
6. Calculate the length weighted average Walk Score and Bike Score for each project.
7. Average the Walk Score and Bike Score together to create a single score for the project.

Data Requirements

- Project limits
- WalkScore (source: InteractVTrans Map Explorer)
- BikeScore (source: InteractVTrans Map Explorer)
- Equity Emphasis Areas (source: InteractVTrans Map Explorer)

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Proximity to Activity Centers (L3)

Activity centers are defined by OIPI as “areas of regional importance that have a high density of economic and social activity”. This measure calculates the number of activity centers within a specified distance of the project based on functional classification or project type.

Calculation Steps

1. Add the project limits layer to an ArcMap document.
2. In a new ‘buffer’ field (data type Double), calculate buffer distance by functional classification with the values in the buffer size column in **Table 28**. For point or polygons projects (such as park-and-ride lots), assign the Walk Score and the Bike Score assign the point or polygon centroid is located.
3. Run the ‘Buffer’ tool, setting the buffer distance to values in the ‘Buffer’ field.

Table 28 Functional Classification Buffer Size

Project Type	Functional Class	Buffer Size (Miles)
Highway and Roadway Projects	Interstate	10
	Principal Arterial	
	Minor Arterial	7.5
	Major Collector Minor Collector Local	5
Active Transportation, Transit, and TDM Projects	n/a	1

Data Requirements

- Project limits
- VTrans Activity Centers (source: InteractVTrans Map Explorer)
- Functional Classification (source: InteractVTrans Map Explorer)

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Job Growth (L4)

This measure calculates the change in jobs in the vicinity of a project between a base year and a horizon year (e.g., from 2021 to 2045) using data found in the regional travel demand model. The change in jobs is evaluated using Traffic Analysis Zones (TAZ) within a specified distance of the project based on functional classification. The outcome of this measure is expected total number of new jobs that will be served by the project.

Calculation Steps

1. Add the project limits layer to an ArcMap document.
2. In a new 'Buffer' field (data type Long), calculate buffer distance by functional classification with the values in the buffer size column in **Table 28**.
3. Run the 'Buffer' tool, setting the buffer distance to the values in the 'Buffer' field.
4. Use the 'Spatial Join' tool to join TAZs that have their center in each project limits buffer. In the tool dialogue box, sum the 2021 jobs and 2045 jobs.
5. In a new 'growth' field (data type Long), calculate the total job growth for the project area by subtracting the total 2021 jobs from the total 2045 jobs.

Data Requirements

- Project limits
- Base Year (2021) and Horizon year (2045) total employment (source: VDOT Transportation and Modeling and Accessibility Program)
- Functional Classification (source: InteractVTrans Map Explorer)

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Prioritization Category: Environmental Impact

The performance measures in the Environmental Impact prioritization category are evaluated based on the performance measure weights in **Table 29**.

Table 29 Environmental Impact Performance Measure Weights

Performance Measure	Weight
Sensitive Features (E1)	100%
Total	100%

Sensitive Features (E1)

Some infrastructure projects have impacts on the natural environment, including watersheds, wetlands, and animal habits. Additionally, building areas that regularly flood can reduce the functionality of the infrastructure during severe storms. Furthermore, lands sets aside for public use, agricultural, or historic value may be impaired by nearby development. The sensitive features performance measure calculates the percentage of acres of environmentally sensitive areas, including wetlands, flood hazard zones, and conservation lands within a quarter mile of the project limits. This measure is an inverse measure which means that the project with the fewest impacts (i.e., lowest percentage of impacted land within project buffer) will receive the highest score.

Calculation Steps

1. Add the environmentally sensitive area layers and the project limits layer to an ArcMap document. Add a field named "tier" to the project limits attribute table. Project tier is determined by the type of environmental document required: a Categorical Exclusion (Tier 1), an Environmental Assessment (Tier 2), or an Environmental Impact Statement (Tier 3).
2. Use the 'Dissolve' tool to dissolve environmentally sensitive areas into one feature (DCR conservation lands, 'AE' Flood Hazard Zone, DCR Conservation Lands, Wetlands).
3. Use the 'Buffer' tool to create a quarter mile buffer around the project limits.
4. Run the 'Intersect' tool on the buffered project limits layer and the dissolved environmentally sensitive areas layer to determine the areas of overlap between the two layers.
5. Calculate the total areas of the quarter mile buffer layer around the project and the intersect layer with environmentally sensitive and conservation areas by adding a field named "SqMi" to the

attribute tables of both layers. Then use 'Calculate Geometry' to calculate square mileage for all features of both layers

6. Adjust the intersect layer based on the following adjustment factors and the formula:
 - Tier 1 (Categorical Exclusion) - 10%
 - Tier 2 (Environmental Assessment) - 30%
 - Tier 3 (Environmental Impact Statement - 50%

$$\text{Impact Area} = \text{Overlap Area (mi}^2\text{)} \times \text{Adjustment Factor}$$

7. Sum the weighted intersection areas and divide the impact area by the project buffer to get the impacted percentage of land within the project limits.

Data Requirements

- Project limits
- Conservation Lands (source: Department of Conservation and Recreation. Retrieve from: <https://www.dcr.virginia.gov/natural-heritage/cldownload>)
- Wetlands (source: Virginia Fish and Wildlife Service. Retrieve from: <https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/>)
- Flood Hazard Zones (source: Federal Emergency Management Agency. Retrieve from: <https://msc.fema.gov/portal/advanceSearch>). To download Flood Hazard Zones:
 1. Enter product IDs and download flood hazard zones for Albemarle County and the City of Charlottesville ('NFHL_51003C').
 2. Export 'AE' flood zones to a new shapefile or polygon feature class in a file geodatabase. Zone 'AE' designates areas subject to inundation by the 100-year flood (i.e., a flood that statistically has a 1% chance of occurring in any given year).

4 – PROCESS FOR THE PRIORITIZATION OF PROJECTS

Project Scoring

1. Calculate the raw value for all performance measures within the five prioritization category for each project.
2. Normalize raw scores by performance measure (PM) to compare scores across multiple projects. The normalization procedure results in an unweighted project benefit score of 0 to 100. Use the following equation:

$$\text{Normalized Score} = \frac{\text{Raw Score}_i - \text{RawScore}_{\min}}{\text{Raw Score}_{\max} - \text{RawScore}_{\min}}$$

Where,

RawScore_i = Raw score for project i in each performance measure

$\text{RawScore}_{\min}$ = Minimum raw score for each performance measure

$\text{RawScore}_{\max}$ = Maximum raw score for each performance measure

3. Multiply the normalized performance measure score by their respective measure weights.
4. Sum the weighted normalize performance measure scores within each performance measure to produce the scoring value for each prioritization category.
5. Multiply the total prioritization category score by its respective weight to produce the weighted prioritization category scoring value. Choose one scenario weighting scheme from **Table 30** to determine the appropriate weights for each prioritization

category. The Safety prioritization category weight is equivalent in the 'accessibility' and 'mobility' scenarios in recognition of the importance of safety throughout all scenarios

- The 'Accessibility' scenario prioritizes projects that increase access to jobs, non-work destinations, and multimodal choices for bicycling, walking, and transit.
- The 'Balanced' scenario prioritized each prioritization equally with an increased emphasis on limiting environmental impacts
- The 'mobility' scenario prioritizes highway and roadway projects that reduce vehicular delay.

6. Sum the weighted prioritization category scoring value to produce the project benefit score.
7. If cost information is available for every project, divide each project's benefit score by its total project cost (per \$10 million) to produce the project score. If cost is not available, record the project's benefit score as its project score.
8. Rank projects by project score in descending order (the project receiving the highest score will be ranked first).

Table 30 Project Prioritization Category Weights

Prioritization Category	Prioritization Scenarios		
	Accessibility	Balance	Mobility
Safety	25%	20%	25%
Accessibility and Equity	30%	20%	20%
Mobility and System Efficiency	10%	20%	30%
Land Use and Economic Development	25%	20%	10%
Environmental Impact	10%	20%	10%
Total	100%	100%	100%

Memorandum

To: MPO Policy Board
From: Sandy Shackelford, Director of Planning & Transportation
Date: March 13, 2023
Reference: Update on the Toward 2050 Stakeholder Outreach and 2050 Goals/Objectives

Purpose:

In February 2023, TJPDC staff (with their consultant team of EPR and Kimley-Horn) initiated the first substantive engagement step associated with the Toward 2050 process. This initial task involved discussions with over twenty stakeholders to evaluate the 2050 goals and objectives. Staff recorded results from three group meetings in the attached report, which the CTAC will review during their March meeting.

Project Background:

Moving Toward 2050 is the federally required long range transportation plan (LRTP) for the City of Charlottesville and urbanized portions of Albemarle County, which is the area served by the Charlottesville-Albemarle Metropolitan Planning Organization (CA-MPO). This plan, to be reviewed and adopted by the CA-MPO Policy Board, identifies long range transportation needs, considers possible infrastructure improvements, and establishes priorities to implement projects based on anticipated funding.

This planning process involves robust community and stakeholder engagement that serves to:

- Guide 2050 goals and objectives (a goals-driven phase),
- Identify regional transportation concerns (an issues-driven phase),
- Respond to solution alternatives (opportunities-driven phase), and
- Offer feedback to draft materials.

Issues:

In the opening phase of the 2050 process, TJPDC staff drafted five goal statements and associated objectives that will guide decision-making on the regional transportation network. Planning best practices dictate that small group discussions are the best engagement tactic for vetting goal statements. As a result, TJPDC staff worked with their consultants to identify stakeholder groups that would offer valuable feedback on the 2050 vision statements. The project team determined that businesses, public safety professionals, and other community partners were best suited to help vet the draft goals. The attached report details the three stakeholder meetings, comments received, and how this feedback guides revisions to the goals and objectives.

Actions:

The MPO Committees will discuss the proposed revisions to the goals and objectives. General feedback will determine if there is a need for additional discussion before finalizing the language for the next phase of public engagement. If there are any questions or comments, please contact Sandy Shackelford at sshackelford@tjpd.org.



Moving Toward 2050

Summary of Stakeholder Feedback on Goal Statements

Moving Toward 2050 is the federally required long range transportation plan (LRTP) for the City of Charlottesville and urbanized portions of Albemarle County, which is the area served by the Charlottesville-Albemarle Metropolitan Planning Organization (CA-MPO). This plan, to be reviewed and adopted by the CA-MPO Policy Board, identifies long range transportation needs, considers possible infrastructure improvements, and establishes priorities to implement projects based on anticipated funding.

This planning process involves robust community and stakeholder engagement that serves to:

- Guide 2050 goals and objectives (a goals-driven phase),
- Identify regional transportation concerns (an issues-driven phase),
- Respond to solution alternatives (opportunities-driven phase), and
- Offer feedback to draft materials.

In February 2023, TJPDC staff (with their consultant team of EPR and Kimley-Horn) initiated the first step in evaluating the 2050 goals and objectives. In this first phase, stakeholder groups of individuals representing different organizations identified by staff and MPO committee members were assembled for three group discussions. The following summarizes the results from those meetings.

Approach

Stakeholder discussions were the first substantive step in the Moving Toward 2050 engagement process. TJPDC staff drafted a public engagement plan that called for small group discussions with area stakeholders representing various groups. The main objective of these discussions was to establish a framework describing the Charlottesville-Albemarle region's values related to transportation system operations. Specifically, attendees would offer reactions to the MPO's initial 2050 transportation goals and objectives. Attendees would also:

- Provide feedback on other draft materials from the lens of the community/organization that they represent,
- Guide MPO staff on best ways to engage the communities they represent, and
- Support awareness of the Moving Toward 2050 planning process among the community and their organizations.

Initial Draft Goals and Objectives

In the opening phase of the 2050 process, TJPDC staff drafted five goal statements and associated objectives that will guide decision-making on the regional transportation network. Precisely, these vision statements will drive the performance measures that evaluate, score, and prioritize the transportation projects that make up a Long Range Transportation Plan. The goals and objectives also help to define transportation needs and guide the MPO's planning initiatives, which are identified and approved in the annual Unified Planning Work Program (UPWP).



TJPDC staff drafted goal statements using various resources as a starting point. First, staff referred to the MPO's 2045 LRTP. Next, staff completed a benchmarking assessment reviewing the goals and objectives developed by peer agencies. The final input came from the TJPDC's 2022 project prioritization process that the Office of Intermodal Planning and Investment (OIPI) supported through their Growth and Accessibility Planning (GAP) Technical Assistance program. The final GAP report, completed in January 2023, offers guidance on the performance-based planning process for the 2050 Plan and includes system evaluation options based on the draft goal statements.

The initial goals and objectives presented at the stakeholder meetings were:

- **Safety:** Improve the safety of the transportation system for all users.
 - Objective: Reduce frequency and severity of crashes.
 - Objective: Improve comfort and safety for users of alternative modes of transportation.
- **Environment:** Reduce the negative environmental impacts of the transportation system.
 - Objective: Minimize impacts of the transportation system on natural and built environment.
 - Objective: Increase use of alternative modes of transportation.
 - Objective: Integrate sustainable infrastructure practices into project design.
 - Objective: Reduce vehicle emissions.
- **Equity & Accessibility:** Improve equitable access to jobs and opportunities through greater availability of mode choices that are affordable and efficient.
 - Objective: Increase mode choice for all users.
 - Objective: Increase access to jobs and opportunities for historically underserved populations.
- **Land Use & Economic Development:** Integrate transportation system improvements with land use planning.
 - Objective: Provide multi-modal infrastructure in designated growth areas, mixed-use areas, and near community resources.
 - Objective: Fill connectivity gaps in multi-modal network.
 - Objective: Improve access to community resources for historically underserved populations.
- **Efficiency:** Increase travel efficiency and system reliability for all modes.
 - Objective: Improve roadway system reliability through operational improvements (intersection reconfiguration, traffic light coordination, etc.)
 - Objective: Increase system capacity at identified bottlenecks.
 - Objective: Maintain the existing system in a state of good repair.

Stakeholder Outreach

Planning best practices dictate that small group discussions are the best engagement tactic for vetting goal statements. As a result, TJPDC staff worked with their consultants to identify stakeholder groups that would offer valuable feedback on the 2050 vision statements. The project team determined that businesses, public safety professionals, and other community partners were best suited to help vet the draft goals. Their organizations and social networks would be most helpful for distributing information about the plan throughout the 2050 process. The following are individuals who attended the stakeholder meetings for each identified group.



Business Stakeholders

The project team hoped to learn how the transportation system influences local businesses and organizations. Because employers have access to large distribution lists, including their employees, this group will be an essential partner for future engagement efforts.

- **Courtney Cacatian**, Charlottesville Albemarle Convention and Visitors Bureau
- **Ashley Davies**, Charlottesville Albemarle Regional Chamber of Commerce/CADRe
- **Deborah van Eersel**, UVA Foundation
- **Denise Herndon**, UVA Economic Development
- **Sarah Morton**, Piedmont Workforce Development Board/CVPED
- **Dave Stebbins**, UVA Health
- **Juandiego Wade**, Albemarle County Career Center
- **Diana Webb**, Sentara
- **William Weigold**, Sentara
- **Neil Williamson**, Free Enterprise Forum

Public Safety Stakeholders

The TJPDC's consultants found that public safety professionals have an intimate knowledge of the transportation system and can offer detailed information on safety-related issues. This group can also advise on ways to serve vulnerable populations, including the elderly and those with medical needs.

- **Captain Michael Blakey**, UVA Police
- **Kevin Cox**, Crossing Guard
- **Sgt. Dean Dotts**, Albemarle Police
- **Jennifer Fleisher**, Blue Ridge Health District
- **Sgt. Lee Gibson**, Charlottesville Police
- **Kyle Rodland**, Safe Routes to School
- **Evelyn Trice**, CAT Safety Director

Community Partners

The final group was broader and represented various organizations. They offered a service-provider perspective, provided considerations from vulnerable populations, brought an environmental perspective, and represented different age groups.

- **Mandy Burbage**, Piedmont Housing Alliance
- **Morgan Butler**, Southern Environmental Law Center – He was unable to attend in person but provided feedback through email.
- **Allie Hill**, Rivanna Trails Foundation
- **Tamara Jones**, JABA
- **Peter Krebs**, Mobility Alliance/Piedmont Environmental Council
- **Holly Sims**, UVA Student (Student Government Association)
- **Peter Thompson**, Charlottesville Area Alliance

Discussion Format

TJPDC staff hosted three 90-minute meetings at the Water Street Center in February 2023. In total, more than twenty stakeholders participated in these discussions. Staff and their consultants started each session with a PowerPoint presentation that included an overview of Moving Toward 2050, what the plan does, a description of the planning process, how staff will use feedback, and a summary of the draft goals. The TJPDC's consultant team facilitated these group discussions and scribed feedback on each goal and objective. Meeting notes also included general comments that did not necessarily apply to the vision statements. The following section records those discussions and the main takeaways.



Figure 1: Stakeholder Group Discussions at the Water Street Center

The three stakeholder meetings included:

- **Meeting #1:** Business Stakeholders (February 3, 2023)
- **Meeting #2:** Public Safety Stakeholders (February 16, 2023)
- **Meeting #3:** Community Partners (February 16, 2023)

Summary of Feedback

The following are summary descriptions of what TJPDC staff and their consultants heard during the three meetings. Each group may have emphasized different points during the stakeholder discussions, but most comments were consistent.

Safety Goal and Objectives

Stakeholders commented on the safety goal language and responded with the following questions and feedback. As would be expected, public safety stakeholders spent the most time on this topic.

Safety Goal Language:

- **All Modes:** All stakeholder groups emphasized that the safety goal should apply to all users and modes. There was a discussion on how to make that clearer in the goal language.

Safety Objectives Language:

- **Alternative Modes:** Several stakeholders questioned using "alternative" to describe modes. First, they asked whether the region should refer to non-automotive modes in this way, as it implies that they are inferior. Second, the groups questioned whether this description included automotive travel.



- **Close Calls:** One group asked if the objectives could include near misses or locations with *potential* safety issues. Currently, the goal emphasizes crashes.

Other Safety Comments:

- **Predictability:** Some participants emphasized the importance of transportation being predictable. For cyclists, this means consistent accommodations that avoid unexpected features. For pedestrians, predictability means addressing gaps in the sidewalk network. With transit, this concept applies to consistent headways. Predictability also applies to motorists.
- **Retrofitting Existing Roadways:** Most new projects address predictability and safety effectively. However, there are more issues with existing roadways that the region should address.
- **All Modes:** The groups continued to emphasize all modes, including micro-transit. Other modes should not be secondary, in terms of safety, to automobile travel.
- **Education and Enforcement:** While not necessarily applicable to the Long Range Transportation Plan, participants discussed the importance of education and enforcement with safety.
- **Consistency with Local Plans:** Stakeholders asked the TJPDC to ensure consistency with Albemarle County and the City of Charlottesville goals and initiatives.
- **Comfort:** Stakeholders discussed the perception of safety and comfort. People will avoid any travel mode that feels unsafe. In this way, comfort and safety could undermine or support multi-modal objectives.

Environment Goal and Objectives

The environment goal also attracted much discussion. There were no comments on the goal language, but stakeholders had tweaks to the objectives. Most of the discussions involved other comments that could feed into new objectives, performance measures, or goal narratives.

Environment Objectives Language:

- **Alternative Modes:** Again, stakeholders discussed whether this was the appropriate terminology.
- **Connectivity:** For the second objective, participants suggested that the language include connecting users to multi-modal options.
- **De-Carbonize Travel:** For the fourth objective, one group suggested that the language be more specific, to “reduce the *total amount of* vehicle emissions.” The 2050 goal should be de-carbonize transportation. The City, County, and State’s goal is to be carbon neutral by 2050.
- **Energy Efficiency:** Another group suggested that objective four focus on improving energy efficiency.

Other Environment Comments:

- **Preservation:** Several stakeholders added that the objectives should serve to protect and maintain green space. This comment includes sensitive environmental areas and other natural resources.
- **Wildlife:** One group thought that the objectives needed to mention protecting wildlife.
- **Prioritize Transit:** During the discussions, participants focused on improved transit service.



- **Education and Incentives:** While not necessarily applicable to the Long Range Transportation Plan, people suggested education and incentives to encourage people to use other modes, aside from single-occupancy vehicles. This comment included “bike to work day” or open street events.
- **Land Use:** For local decision-makers, the groups discussed how land use is the best way to consider the environment. Greater density would make transit more efficient and decrease vehicle miles traveled.
- **Charging Stations:** People suggested that charging stations be included in projects and MPO efforts. One group also discussed the infrastructure for e-bikes.
- **Solar:** One group discussed the possibility of adding solar to transportation infrastructure, with solar panels installed with the transportation system.

Equity and Accessibility Goal and Objectives

The groups have overlapping comments about the equity and accessibility goal language. There appeared to be consensus in many areas.

Equity and Accessibility Goal Language:

- **Rewording Jobs and Opportunities:** The stakeholder groups reacted negatively towards the “jobs and opportunities” language in this goal. They thought this wording neglected other travel needs. One group suggested “community resources” as an alternative. Another group suggested “destinations” and discussed the need to access food and health services.

Equity and Accessibility Objectives Language:

- **Diversity Mode Choice:** For objective one, a group suggested rewording to “diversity of mode choice for all users.”
- **Questions about All Users:** For objective one, a group asked if “all users” included single-occupancy vehicles.
- **Clarity on Objective One:** A group asked for more clarity on objective one. They asked what that statement meant.
- **Marginalized:** For objective two, a group asked to replace “underserved populations” with “marginalized populations.”
- **Connect over Access:** For objective two, a group changed “increase access” to “connect.”
- **Jobs and Opportunities:** The questions about rewording “jobs and opportunities” arose with objective two language.

Other Equity and Accessibility Comments:

- **Engaging Marginalized People:** Stakeholders asked TJPDC staff to engage marginalized people during the Toward 2050 process.
- **Quality Transportation:** One group emphasized that equity should mean everyone has access to quality, safe, and reliable transportation options.
- **Navigation:** While not necessarily covered by the LRTP, one stakeholder mentioned the need to help people navigate their travel options, especially with transit. She asked for improved navigation of transportation options and digital literacy. This comment also included language barriers.
- **Make it Easier:** A group focused on maximizing the ease of use for other modes.



- **Equity with Automobile:** A group discussed how automobiles could be more equitable, using car sharing or cooperatives.
- **School Connections:** A group asked to prioritize walk routes to schools. Also, include children and student populations in the planning process.

Land Use and Economic Development Goal and Objectives

Overall, there was less discussion about the land use goal and objectives.

Land Use Goal Language:

- **Exclude Economic Development:** Stakeholders felt that economic development was an awkward fit for this goal.

Land Use Objectives Language:

- **Marginalized:** Again, a group asked to replace “underserved populations” with “marginalized populations” under objective three.
- **Community Resources:** A group asked for more clarity on the “community resources” language in Objective three.
- **Consistent Language on Multi-Modal:** One group mentioned that there should be more consistency in how the goals and objectives refer to multi-modal. For example, some statements use “alternative” or “other modes.”

Other Land Use Comments:

- **Rural Needs:** One stakeholder discussed rural needs, as there are many areas of the MPO boundaries that have rural characteristics. Regarding land use, these areas are different from the growth areas. This comment also included connections between urban and rural portions of the region.
- **Supportive Service:** Another stakeholder said to think of transportation as a support service to the community.
- **Helping People Live their Best Lives:** One stakeholder said that a better goal would be land use to help people live their best lives. Current land use planning language focuses on economic development, but connecting people to the resources they need is critical. There are more difficult trips than commuting to work.
- **Connections to Essential Destinations:** One group discussed how few options exist to access the community college. It is not connected to the rest of the urban area and difficult for students to access. Also, UVA students need more connections to community resources.

Efficiency Goal and Objectives

There were no comments on the efficiency goal and objectives. However, participants offered other general comments.

Efficiency Comments:

- **Induced Travel:** Some participants asked if efforts to reduce congestion would result in induced travel and more traffic.



- **Technology:** Discussions included a desire to use technology to improve efficiency in various modes. These comments include building systems and infrastructure around data. Others asked for maps that tracked bus locations.
- **Communication on Delays:** Discussions included communication to travelers during delays caused by construction or service changes. One participant brought up events at Carter's Mountain and backups on Route 53.
- **Trails:** One stakeholder stated a desire to view the trail network as a transportation asset, not just a recreational asset. Part of this issue is a shortage of parking at trailheads.
- **Transit Capacity:** The number of buses came up during one discussion. A stakeholder asked for more transit capacity. They also thought that improved transit coordination would add to capacity. The bus driver shortage also came up in the discussion.

Other Comments

During the introductions period, stakeholders provided their names and what they would like to see from the region's transportation system. Staff recorded these responses, below.

- **Electric Vehicles:** There were hopes for electric buses and an emphasis on electric vehicle infrastructure.
- **Transit Dependability:** Stakeholders hoped to see more dependable transit services. One participant focused on regular and dependable transit service to Boar's Head and the Research Park.
- **Transit-Ready Land Use:** One participant wanted to see transit-ready land use, where new developments incorporate transit access.
- **Improved Connection:** Several people wanted improved connections to essential destinations, including the research parks, employment areas, food, health services, and other locations.
- **Connections for Visitors:** One participant asked for improved access to outdoor recreation and tourism assets.
- **Healthcare Access:** Several stakeholders expressed a need for improved connections to health services. They also discussed a need to improve how providers get to work and patients.
- **Options for Commuter:** Stakeholders expressed a desire to provide safe, quality, and reliable transportation options for commuters.
- **Effectiveness and Efficiency:** One participant hoped for a transportation system that worked well, and managed peak-hour travel.

Proposed Revisions

Based on this feedback, TJPDC staff developed a list of recommended adjustments to the original goals and objectives that were reviewed by the stakeholder discussion groups. In addition to adjustments to the goals and objectives statements, there were two overarching themes that were integrated into the development of the goal and objectives statements that needed to be called out to emphasize their importance: the importance of climate action goals and the importance of considering marginalized populations. In addition to the recommended adjustments to the goals and objectives language, TJPDC staff is also recommending that the MPO uses a **climate action** and **equity** lens approach to the established framework of prioritizing transportation system needs and identifying project priorities.

Because of the recommendation to incorporate this lens approach, the draft language has been edited to remove these as standalone goals/objectives, and staff will work to develop language that

captures the importance of integrating these considerations throughout the development of the goals and objectives framework.

- **Safety:** Improve the safety of the transportation system for all users.
 - Objective: Reduce frequency ~~and severity~~ of ~~serious injury and fatal~~ crashes.
 - Objective: Improve comfort and safety for users of ~~alternative modes of the multi-modal transportation system.~~
- **Environment:** Reduce the negative environmental impacts of the transportation system.
 - Objective: Minimize impacts of the transportation system on natural and built environment.
 - ~~Objective: Increase use of alternative modes of transportation.~~
 - Objective: Integrate sustainable infrastructure practices into project design.
 - ~~Objective: Reduce vehicle emissions.~~
- **Equity & Accessibility:** Improve ~~equitable access to jobs and opportunities~~ through greater availability of mode choices that are affordable and efficient.
 - Objective: Increase mode choice for all users.
 - ~~Objective: Increase access to jobs and opportunities for historically underserved populations.~~
- **Land Use & Economic Development:** ~~Integrate~~ Align transportation system improvements with ~~land use planning~~ local land use goals.
 - Objective: Provide multi-modal infrastructure in designated growth areas, mixed-use areas, and near community resources.
 - ~~Objective: Fill connectivity gaps in multi-modal network.~~
 - ~~Objective: Improve access to community resources for historically underserved populations.~~
- **Efficiency:** Increase travel efficiency and system reliability for all modes.
 - Objective: Improve roadway system reliability through operational improvements ~~(intersection reconfiguration, traffic light coordination, etc.)~~
 - Objective: Increase system capacity at identified bottlenecks.
 - Objective: Fill bicycle and pedestrian connectivity gaps.
 - Objective: Maintain the existing system in a state of good repair.

Next Steps

With these comments, TJPDC staff has developed the proposed revisions to the 2050 goals and objectives for review and comment by the MPO Committees. Once the final language is agreed upon, the goals and objectives will be used to:

- Guide updates to the performance measures used in project prioritization,
- Identify and catalog regional transportation needs,
- Shape and define transportation projects and designs, and
- Guide the MPO's annual UPWP.

Memorandum

To: MPO Committee Members
From: Sandy Shackelford, Director of Planning & Transportation
Date: March 8, 2023
Reference: Smart Scale Round 6 Preparation Update

Purpose:

In 2020, the MPO implemented a new process to develop SMART SCALE project applications which included early identification of up to two MPO projects that may need additional engagement prior to submission. This process was implemented for the first time in preparation for SMART SCALE Round 5 applications. The Rivanna River Bicycle and Pedestrian Crossing was identified as needing additional engagement, and MPO staff were able to facilitate an extensive public engagement effort that was used to inform the development of the final project application.

Project Background:

The MPO has worked through funding applications for all MPO-indicated projects included on the Constrained List of the 2045 Long Range Transportation Plan. A summary of previously submitted, but unfunded projects is included at the end of this memo for review. Of the projects that remain a high priority, the roundabout at District Avenue, the 5th Street project, and the Rivanna River Bicycle/Pedestrian Bridge could be evaluated for opportunities to submit in additional rounds.

Based on the Round 5 project scores, the roundabout at District Avenue stands the best chance of being funded in future SMART SCALE rounds (of the projects on the constrained list, not funded in previous rounds). This project remains a high priority for Albemarle County and should be considered for application by either the MPO or Albemarle County.

The MPO's 5th Street project application did not score particularly well due to a low benefit score, however improvements along the 5th Street corridor remain an important safety priority for Albemarle County and the City of Charlottesville. If the MPO wanted to consider reapplying for this project in Round 6, the scope of the project could be evaluated to determine adjustments that may yield a more competitive application.

Finally, the Rivanna River Bicycle and Pedestrian Crossing remains a regional priority and it scored well in Round 5 with a high benefit score. However, additional work needs to be completed outside of the SMART SCALE application process in order for the project to be competitive for state funding. The TJPDC submitted a US Department of Transportation RAISE grant for funding to complete the Preliminary Engineering phase of the project. RAISE grant awards will be announced by the end of June, 2023. RAISE

is a highly competitive national program, so even if the project is unsuccessful in the first attempt, it may be beneficial to re-apply in subsequent application cycles.

In addition to the work of the MPO and the local governments to develop SMART SCALE project applications, VDOT is also initiating new pipeline projects to evaluate potential improvements along two different segments of Route 250 in Albemarle County. The first will be looking at the interchange of Route 250 and Barracks Road, and the second will be looking at a section of Ivy Road that includes the Route 250 interchange. These pipeline projects will be managed by VDOT for the purposes of identifying recommendations that could be submitted by the MPO, TJPDC, and/or Albemarle County as SMART SCALE applications in the upcoming application cycle.

The MPO has worked through submitting the high priority projects identified in the 2045 Long Range Transportation Plan. The projects referred to in this memo have either already been through a public planning process or will be undergoing a VDOT-driven public planning process as part of the pipeline studies. Therefore, the MPO staff capacity for SMART SCALE may be best directed towards supporting VDOT's pipeline studies and working to further develop previous project applications into more competitive projects rather than undertaking intensive engagement on an additional project. This would allow the MPO staff to have some flexibility to coordinate with the localities on specific project applications once the recommendations from the pipeline studies are developed.

Recommendation:

No formal action is requested at this time, however, staff is looking for feedback and general consensus from the policy board on this approach.

If there are any questions or comments, please contact Sandy Shackelford at sshackelford@tjpd.org.

Unfunded Projects from SMART SCALE Round 5					
ORGANIZATION	DESCRIPTION	TOTAL COST	BENEFIT SCORE	SMART SCALE SCORE	Notes
CA-MPO	District Avenue Roundabout (at Hydraulic Road)	\$20,051,997	9.22	4.6	Scored well; Barely missed being funded; Could be resubmitted
CA-MPO	Rivanna River Bicycle and Pedestrian Bridge Crossing	\$42,115,788	13.35	3.17	High benefit score, but also high cost; Could be resubmitted if there are no other projects; Will know about RAISE Grant at end of June.
CA-MPO	Fifth Street Extended Multimodal Improvements	\$22,788,588	3.83	1.68	Low benefit score, but high community interest in improving 5th Street; Would need to adjust scope.
TJPDC	US250/Rolkin Road Pedestrian Improvements	\$11,927,213	4.66	3.91	
TJPDC	US250/Milton Road Intersection Improvements	\$9,757,582	1.6	1.64	Low benefit score
TJPDC	US250/Louisa Road (Route 22) Intersection Improvements	\$10,986,125	0.85	0.78	Low benefit score

Unfunded Projects from SMART SCALE Round 4					
ORGANIZATION	DESCRIPTION	TOTAL COST	BENEFIT SCORE	SMART SCALE SCORE	Notes
CA-MPO	Hillsdale South Extension	\$34,314,082	12.95	3.78	Part of 29 Solutions recommendations. On the Constrained Roadway List, but high cost. May be desirable to re-evaluate the broader area once other Hydraulic projects are implemented.
TJPDC	US29/ Frays Mill/ Burnley Station Intersection Improvements	\$11,076,070	1.13	1.02	Low benefit score