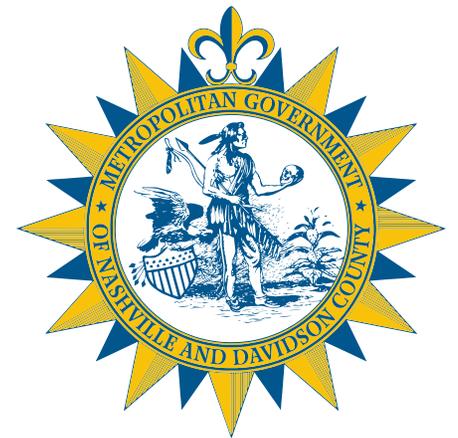

NASHVILLE COMPLETE STREETS IMPLEMENTATION GUIDE



NDOT



NDOT

Acknowledgements

Nashville Department of Transportation and Multimodal Infrastructure Staff

PROJECT LEADERSHIP

DIANA ALARCON, TRANSPORTATION DIRECTOR
BRAD FREEZE, DEPUTY DIRECTOR
JUSTIN COLE, PROJECT MANAGER
ANNA DEARMAN, PROJECT ADVISOR

CONTRIBUTING STAFF

ANDREW SMITH
BENJAMIN VAUGHT
CHIP KNAUF
CHRIS HERR
DARRELL K. MOORE
DEREK HAGERTY
GIL THOMAS
GUNEET SAINI
JASON OLDMAN
JON BOGHOZIAN
JONATHAN HONEYCUTT
KATRINA JONES
MARTY SEWELL
MATT HATTABAUGH
MEGHAN MATHSON
MELISSA HANCOCK
MONICA SOWDERS
TOMMY JONES

Metro Nashville Staff and Stakeholders

GREATER NASHVILLE REGIONAL COUNCIL

SEAN PFALZER

MAYOR'S OFFICE

KENDRA ABKOWITZ
KRISTIN STROUP

METRO DEVELOPMENT AND HOUSING AGENCY

CURTIS THOMAS

METRO GENERAL SERVICES

JENNIFER WESTEERHOLM

METRO NASHVILLE POLICE DEPARTMENT

JAMES WILLIAMS

METRO PLANNING DEPARTMENT

ANGIE HUBBARD
ANITA MCCAIG
DUSTIN SHANE
ERIC HAMMER
HANNAH DAVIS
HARRIET BROOKS
JARED ISLAS
JOHN HOUGHTON
JONI WILLIAMS
JOREN DUNNAVANT
LOGAN ELLIOT
OLIVIA RANSEEN
TODD OKOLICHANY

METRO PUBLIC HEALTH DEPARTMENT

RAQUEL DE LA HUERGA

METRO PUBLIC SCHOOLS

CASEY MEGOW
DAVID R PROFFITT
MAURA BLACK SULLIVAN
SEAN BRAISTED

METRO SOCIAL SERVICES

WILLIAM BESSETTE

METRO WATER SERVICES

FADI KHAYATT
JAMES RAY
JENNIFER SMITH
MIKE MORRIS
PAISLEY MAROTTA-MATHEWS
REBECCA DOHN

WEGO

D'NESE NICOLOSI
KATIE FREUDBERG
KIA LEWIS
LYDIA BENDA
ROBERT JOHNSON



METROPOLITAN GOVERNMENT OF NASHVILLE AND DAVIDSON COUNTY

DIANA ALARCON
DIRECTOR

NASHVILLE DEPARTMENT OF TRANSPORTATION AND
MULTIMODAL INFRASTRUCTURE

Instructional Bulletin NO. 2024-1 Complete Streets Implementation Guide

Instructional Bulletin No. 2024-1 is hereby effective on 4/18/2024.

Effective immediately, the following Complete Streets Implementation Guide will be used by Metro employees and roadway stakeholders involved in funding, prioritizing, planning, designing, constructing, and maintaining the roadway and right-of-way within Nashville Metro. This Complete Streets Implementation Guide establishes the following:

- Institutionalizes Complete Streets in Metro Nashville, in alignment with the Complete & Green Streets Executive Order.
- Aligns Complete Streets implementation with a holistic approach to reach our Vision Zero Goals.
- Clarifies how the Complete Streets Implementation Guide interacts with other resources available.
- Reinforces the modal hierarchy for Complete Streets in Nashville.
- Serves as a resource for decision-making around trade-offs, limited right-of-way, modal hierarchy, and when faced with a conflict or barrier. Sets forth our policy on pedestrian crossing locations and treatment selection.
- Documents the coordinated capital planning process and the project life cycle.

With the reissuance of the Complete & Green Streets Executive Order in 2024 and the Metro Council's approval of the Vision Zero Action Plan in 2022, Metro and NDOT staff have committed to making Metro Nashville streets safer, more accessible, equitable, and complete. To fulfill these goals, we must change our roadway priorities, from an automobile-oriented roadway network to prioritizing the safe mobility of all roadway users, allowing people to access their destinations safely on foot, on bicycle, on transit, via rideshare, and by personal vehicle. Nashville's street network is mostly built, so we must evolve the city's transportation network into a multimodal transportation network to accommodate all modes, all people, and future planned growth, development, and preservation.

The Complete Streets Implementation Guide gets us up to speed with national, regional, and local best practices, aligns us with the transformative work of peer cities, and allows us to institutionalize safety and Complete Streets in all the work we do. The Guide will be the one-stop-shop for implementing Complete Streets and facilitate decision-making to determine the ultimate needs of the roadway and all users based on the modal hierarchy.

Respectfully,
Diana Alarcon

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CHAPTER 1

COMPLETE STREETS OVERVIEW



NDOT

Madison Station Boulevard Project
Completed September 2022
Source: NDOT



Nashville Complete Streets

What are Complete Streets?

The Complete Streets approach aims to accommodate all users who walk, bike, take transit, move goods, or drive cars, with an emphasis on active lifestyles, energy conservation, and the importance of accommodating people of all ages and abilities. Complete Streets typically use elements such as travel speeds, volumes, horizontal and vertical alignments and sight lines to increase safety and comfort for all users.

Nashville Complete Streets

Nashville has experienced significant growth in recent years, resulting in increased roadway demands and a desire for expanded transportation options. Complete Streets provides safe and comfortable facilities for people walking, biking, and taking transit or a shared mobility device. Nashville's first executive order for Complete Streets was signed in 2010, and has since been reissued in 2016 and 2024. The Major and Collector Street Plan, developed as part of [NashvilleNext](#), was created as an early tool to guide the planning and design of Complete Streets. Recent plans, such as WalknBike, the Vision Zero Action Plan, and the Vision Zero Implementation Plan, all work toward expanding Complete Streets in Nashville by filling sidewalk and bikeway gaps and prioritizing improved access and safety for people walking, biking, and taking transit.

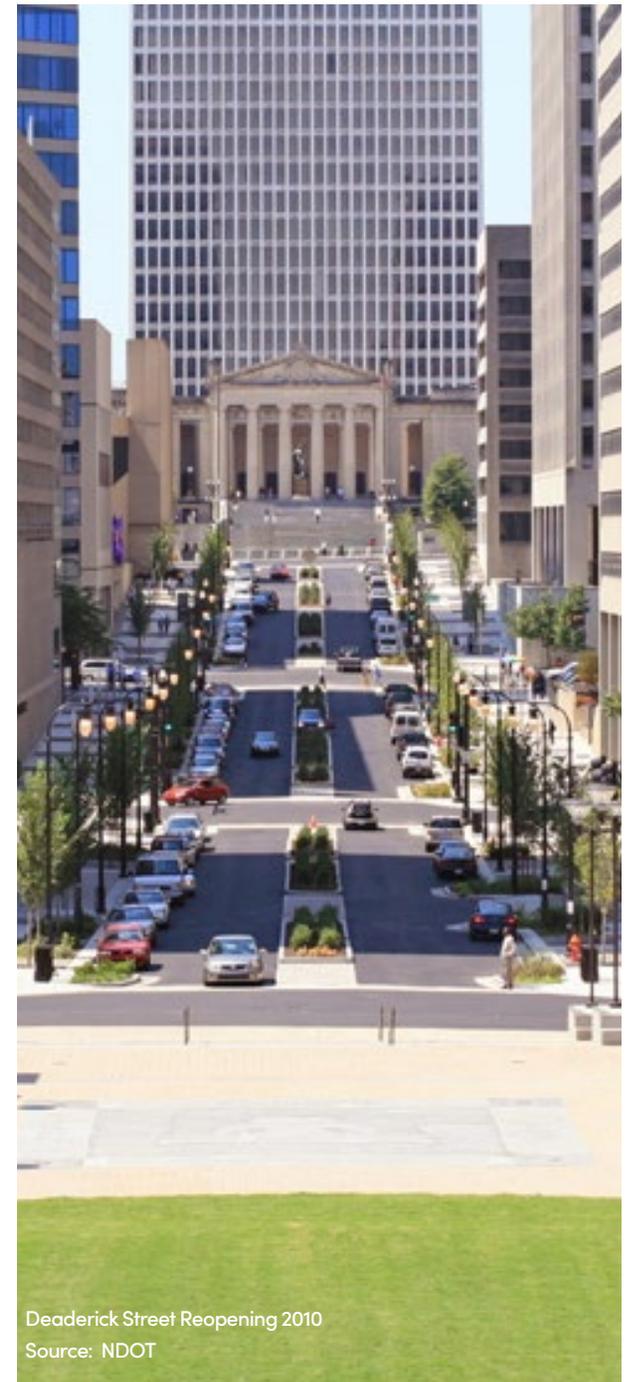
Complete Streets and Sustainability

Complete Streets also play an important role in meeting our city's climate and sustainability goals. The transportation sector makes up half of Nashville's greenhouse gas emissions, with most of that coming from private cars and trucks. [The 2021 Mayor's Sustainability Advisory Committee Report](#) set a target of reducing the city's drive-alone rate from 79% to 70% by 2025, and 54% by 2035. Designing streets that better serve walking, biking, and transit is necessary to meet these targets.

Green streets are another climate-forward strategy that helps reduce stormwater runoff and urban heat islands while supporting increased habitat and biodiversity by reducing asphalt and adding trees. They also can support building healthier communities through improved air and water quality. These strategies often have synergies with Vision Zero goals, by reducing speeds and protecting pedestrians and bicycles.

Complete Streets Implementation

The Nashville Department of Transportation (NDOT) sought a roadmap to knit together plans and policies developed in the last decade and streamline Complete Streets implementation and institutionalization. This guide serves to safely align Nashville streets with the modal hierarchy and simplifies the process to implement Complete and Green Streets in Nashville.



Deaderick Street Reopening 2010
Source: NDOT



What is Vision Zero?

The Vision Zero movement is a worldwide strategy to eliminate all traffic-related deaths and severe injuries, while also increasing safety, equity and mobility for all users.

Nashville Vision Zero

Between 2014 and 2021, 468 people lost their lives to fatal traffic collisions on state and local roads in Nashville. Vision Zero is a new way of thinking about traffic safety.

Metro Council and Mayor John Cooper adopted the Vision Zero Action Plan and Implementation Plan in August of 2022.

The two plans outline how Nashville is taking action before lives are lost, creating streets that result in safer driving and fewer collisions.

Vision Zero Action Plan

The Vision Zero Action Plan is Nashville’s guiding plan toward achieving zero traffic fatalities and severe injuries. The plan identifies the High Injury Network (HIN) by mode and street segments and intersections. The HIN are streets with the highest concentration of traffic collisions that resulted in death or serious injuries in Nashville. Identifying

the HIN guides Nashville's investments in infrastructure and programs, and ensures Vision Zero projects support those most in need.

In addition to identifying the HIN, the plan outlines sixty Action Items over a five-year period (2022-2026) in the following themes:

- Create safe streets for everyone
- Prioritize equity
- Increase collaboration and transparency
- Promote a culture of safety
- Improve data quality

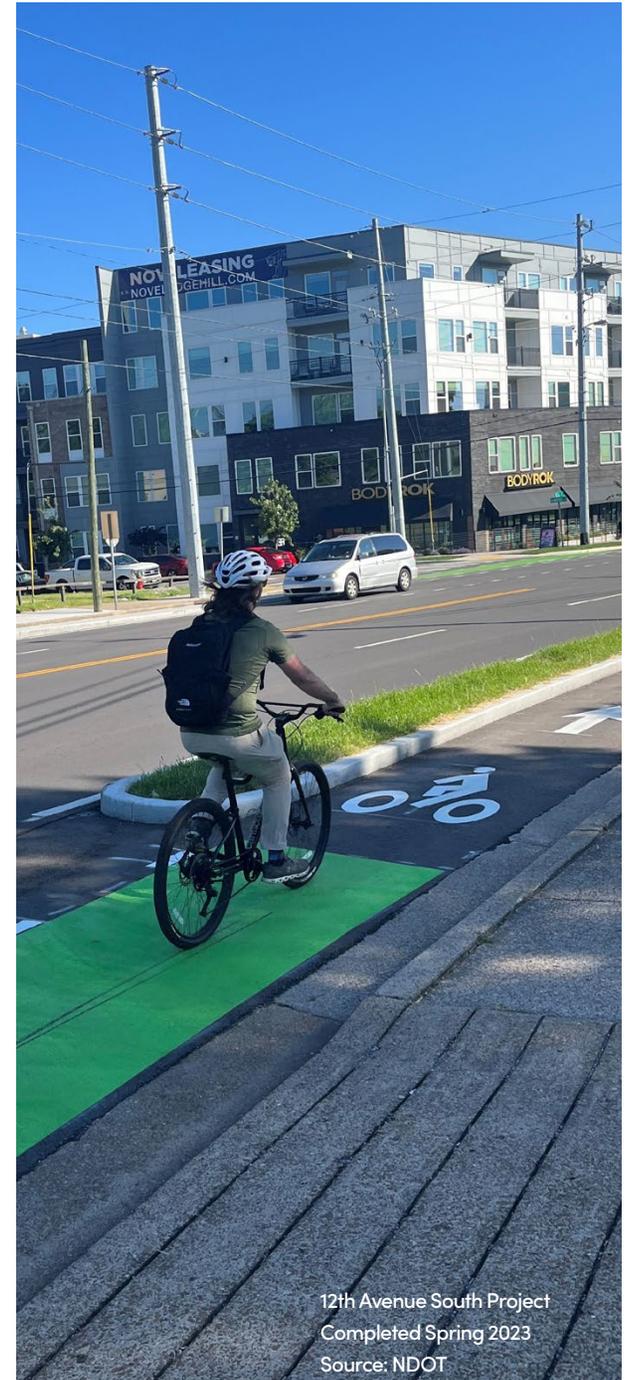
Vision Zero Implementation Plan

The Vision Zero Five-Year Implementation Plan builds upon the Vision Zero Action Plan by outlining measurable steps to be taken between 2023 and 2027 as part of the long-term goal of reaching zero traffic fatalities by 2050.

The Implementation Plan focuses on the Five E’s of safety:

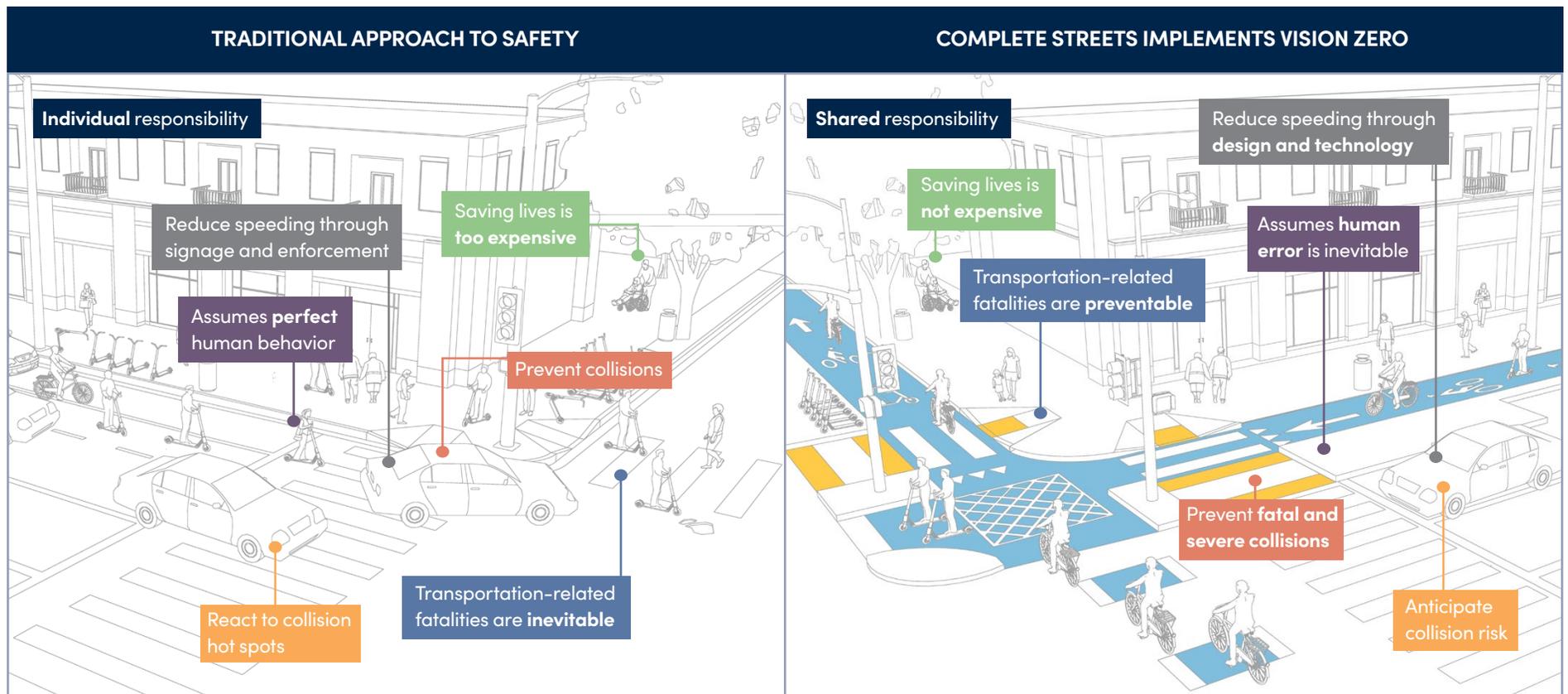
- Engineering
- Evaluation
- Education
- Encouragement
- Enforcement

Engineering plays the biggest role in the implementation plan, followed by programmatic actions of the remaining four E’s.



12th Avenue South Project
Completed Spring 2023
Source: NDOT

Complete Streets Implement Vision Zero in Nashville



Complete Streets helps implement Vision Zero in Nashville as safety is a foundational component of a Complete Street. Complete Streets have multiple important elements such as sustainability, economic vitality, equity, and placemaking, but the bedrock of Complete Streets is accessibility and safety. Complete Streets design elements are informed through the [Safe System Approach](#) which focuses on removing conflicts and separating users in space and time. Simply striping a bike lane along a 35 MPH+ multilane arterial could be considered Complete on paper, but lacks the safety measures needed to protect a person bicycling from a fatal or severe injury crash. Shifting from a traditional safety approach to holistic safe Complete Streets enables Nashville to achieve its Vision Zero goals.

CHAPTER 2

ABOUT THE COMPLETE STREETS IMPLEMENTATION GUIDE



NDOT

What is the Guide

The Nashville Department of Transportation (NDOT) sought a roadmap to knit together the various plans and policies developed in the last decade and streamline Complete Streets implementation and institutionalization. This guide serves to safely align Nashville streets with the modal hierarchy and simplifies the process to implement Complete and Green Streets in Nashville.

The Complete Streets Implementation Guide will be used by Metro employees and roadway stakeholders involved in planning, designing, constructing, funding, prioritizing, and maintaining the roadway and right-of-way within Nashville Metro.

This Complete Streets Implementation Guide establishes the following:

- 1 Institutionalizes Complete Streets in Metro Nashville, in alignment with the Complete & Green Streets Executive Order.**
- 2 Aligns Complete Streets implementation with a holistic approach to reach our Vision Zero goals.**
- 3 Clarifies how the Complete Streets Implementation Guide interacts with other resources available.**
- 4 Reinforces the modal hierarchy for Complete Streets in Nashville.**
- 5 Serves as a resource for decision-making around trade-offs, limited right-of-way, modal hierarchy, and when faced with a conflict or barrier.**
- 6 Sets forth our policy on pedestrian crossing locations and treatment selection.**
- 7 Documents the coordinated capital planning process and the project life cycle.**



12th Avenue South Project
Completed in Spring 2023
Source: LDA Engineering

How to use the Guide

Consult Resource Library

- Pages 11 and 12 highlight the primary resources NDOT staff and other stakeholders reference or are required to use when implementing Complete Streets.
- A full resource library is listed in Appendix A.

Support Complete Streets Project Decisions

- Nashville's Modal Hierarchy (page 16) prioritizes roadway users throughout Nashville.
- The Modal Hierarchy Alignment flowchart on page 17 is used by staff and stakeholders when faced with a trade-off, conflict, or barrier. The tool ensures decision outcomes align with the modal hierarchy and incorporates safety elements for the most vulnerable road users.
- Aligning potential project changes or decisions with the safety elements in the Modal Hierarchy Alignment flowchart ensures Vision Zero goals are achieved through Complete Streets implementation.
- The Coordinated Capital Planning process (page 19) outlines the steps necessary to prioritize Complete Streets across program areas and identify "Complete Streets Projects."
- The Project Life Cycle (page 20) provides an overview of the entire project process to implement Complete Streets and includes necessary steps and considerations during each phase.

NDOT Complete Streets Primary Resources

The NDOT Complete Streets Primary Resources are the key documents NDOT and Metro Nashville staff, and other stakeholders consult, reference or are required to use for all projects to implement Complete Streets. A full list of the NDOT Complete Street Resource Library is included in Appendix A.

Major & Collector Street Plan (MCSP)

This is Nashville's current Complete Streets design guidelines and a required document to consult when implementing Complete Streets.

The MCSP originated from AccessNashville 2040 as part of the Nashville and Davidson County General Plan, NashvilleNext. The MCSP provides guidance for "Context Sensitive Solutions" and "Complete Streets" to determine the character and functional components of the street network.

The MCSP aims to increase the quality of streets in Nashville to meet the needs of all users, people who walk, bike, take transit, move goods, and drive cars, in a manner that respects the context and the users of the street.

Roadway designations are defined in the document and the plan is intended to be used in planning, designing, budgeting, and constructing new streets and making improvements to existing streets.

Historically, the overall network has been designed and developed based on functional

classification, but this tended to lack guidance on developing the character of streets and on creating streets that serve all modes of transportation.

This MCSP combines Complete Streets and Context Sensitive Solutions approaches to redesign Nashville's mostly built street network.

Design tables provide guidance for pedestrian zone, green zone, parking zone, bike zone, and vehicle zone based on street context, environmental context, design type, and multimodal corridor or scenic overlays.

The MCSP design guidelines are set to be updated and the latest version should be used. See the Future Tools note on page 15.

NDOT Standards and Details

These are the [primary specifications and standards used](#) when a project is in the engineering design and construction phase.

The detail sheets are grouped in categories and the most relevant to Complete Streets are Inlets, Sidewalks, Curb Ramps, Street Sections, Driveway Ramps, Bike Lanes, Bike Friendly Grate Standards, Bicycle and Pedestrian Work Zone Safety Regulations, Traffic Signal Timing and Phasing Policy, and the Downtown Streetscape Design Guidelines.

Additionally, new standards are being developed to provide further design and construction details for Protected Bikeways, Bike Intersections, Bike Lane Crossing, Traffic Calming, Curb Extensions, Street Tree Grates, and Pedestrian Crossings.

Protected bikeway details will include parking protected, two way cycletrack, curb level bike lanes, sharrows, bike detection symbols, bike lane signage, and bike corrals. Traffic calming details will include pedestrian refuge islands, medians, and roundabouts and alternatives.

Vision Zero Action Plan

The [Vision Zero Action Plan](#) is Nashville's commitment toward zero traffic fatalities and severe injuries.

The Action Plan provides a summary of crash history and analysis, demonstrating why Vision Zero. The plan recaps extensive community engagement outreach and the top priorities requested by community members.

The Action Plan identifies the high injury network (HIN) by mode and street segments and intersections. The HIN are streets with the highest concentration of traffic collisions that resulted in death or serious injuries in Nashville. Identifying the HIN guides Nashville's investments in infrastructure and programs, and ensures Vision Zero projects support those most in need.

The plan outlines sixty Action Items over a five-year period (2022–2026) in the following themes:

- Create safe streets for everyone
- Prioritize equity
- Increase collaboration and transparency
- Promote a culture of safety
- Improve data quality

Complete Streets implementation must prioritize safety and ensure alignment of Vision Zero Action plan and action items.

Vision Zero Implementation Plan

The [Vision Zero Implementation Plan](#) outlines the first five years (2023 – 2027) of work to reach the long-term goal of zero traffic fatalities and severe injuries by 2050.

The Implementation Plan focuses on the Five E's of safety, Engineering, Evaluation, Education, Encouragement, and Enforcement. Engineering plays the biggest role in the implementation plan, followed by programmatic actions of the remaining four E's (Evaluation, Education, Encouragement, Enforcement).

The Vision Zero Implementation Plan uses an engineering framework to approach Quick Build, Capital Improvement, and Transformative Projects. The framework is particularly beneficial in the project identification process and assists with proven operational and design countermeasures.

The programmatic implementation section outlines actions for the remaining E's of safety. Each action item includes an equity focus, lead staff, performance measure, and resources or case studies. The plan includes a list of challenges to implementation and recommends how NDOT can address each challenge.

The programmatic actions include multiple evaluation mechanisms such as creating a Vision Zero Advisory Committee and establishing a fatal crash investigation team. The primary mechanism to evaluate the Vision Zero Action and Implementation Plans will be the annual Vision Zero Report Card.

WalknBike: Sidewalks and Bikeways Strategic Plan

This is Nashville's process to fill sidewalk and bicycle network gaps, and install new sidewalk and bikeways through expedited project delivery.

The [WalknBike: Sidewalks and Bikeways Strategic Plan](#) is the framework for making Nashville more walkable and bikeable by guiding NDOT's work program with prioritized sidewalk and bikeways projects resulting in rapid implementation.

For the 2022 update to WalknBike, projects were prioritized through four main factors:

- safety of people walking and biking
- connectivity to existing networks
- equity and the presence of vulnerable communities
- access to transit

The plan builds on WalknBike 2017 and incorporates extensive community feedback. The vision for WalknBike is to have a Nashville bicycle and pedestrian system that will be a network of high-quality, comfortable, safe sidewalks and bikeways, connecting people to opportunity. The system, inclusive to users of all ages and abilities, will promote and encourage safety, health, education, and active transportation. The 2022 WalknBike update provided a three-year work plan of sidewalk and bikeway projects for NDOT to advance.

CHAPTER 3

COMPLETE STREETS IMPLEMENTATION



NDOT

Implementation Tools

Modal Hierarchy

Use the Modal Hierarchy to assess the prioritization of road users along a roadway. The Modal Hierarchy establishes walking as the cornerstone in every trip and guides users on which modes have the highest priority on Nashville roadways.

Modal Hierarchy Alignment

Use the Modal Hierarchy Alignment flowchart to ensure all projects align with the modal hierarchy, resolve trade-off decisions when presented with conflicting plans or limited resources. The alignment process can be used when budgeting, funding, planning, designing, implementing, or maintaining Complete Streets.

Coordinated Capital Planning

Use the Coordinated Capital Planning process to identify Complete Streets Projects and rebalance workplans to align with individual program priorities.

Project Life Cycle

Use the Project Life Cycle to understand the entirety of a Complete Streets project and the phases it must undergo from conception to construction and evaluation.

Future Tools

Complete Streets implementation will continue to evolve in Nashville to ensure best practices are incorporated and improve efficiencies and coordination. Future work and tools that will impact Complete Streets include an update to the Major and Collector Street Plan (MCSP). The MCSP update aims to include design and countermeasure recommendations that are context sensitive to unique modal hierarchies per roadway type.



Nashville Modal Hierarchy

AccessNashville 2040 is the transportation component of NashvilleNext, Nashville & Davidson County's General Plan, which outlined a modal hierarchy to achieve Complete Streets.

Aligning a project with the modal hierarchy works toward prioritizing the most vulnerable road users and providing the necessary infrastructure to ensure safety and comfort for people of all ages and abilities no matter how they travel.

Aligning a project with the modal hierarchy positions our transportation network to support safer, more efficient, climate-friendly modes of transportation.

- 1** **Pedestrians**
All people of all ages and abilities


- 2** **Bicycling**
People using bicycles and bikeshare


- 3** **Transit**
People using transit


- 4** **Moving Goods**
People transporting goods


- 5** **Car Sharing**
People carpooling


- 6** **Personal Car**
People driving themselves


Modal Hierarchy Alignment

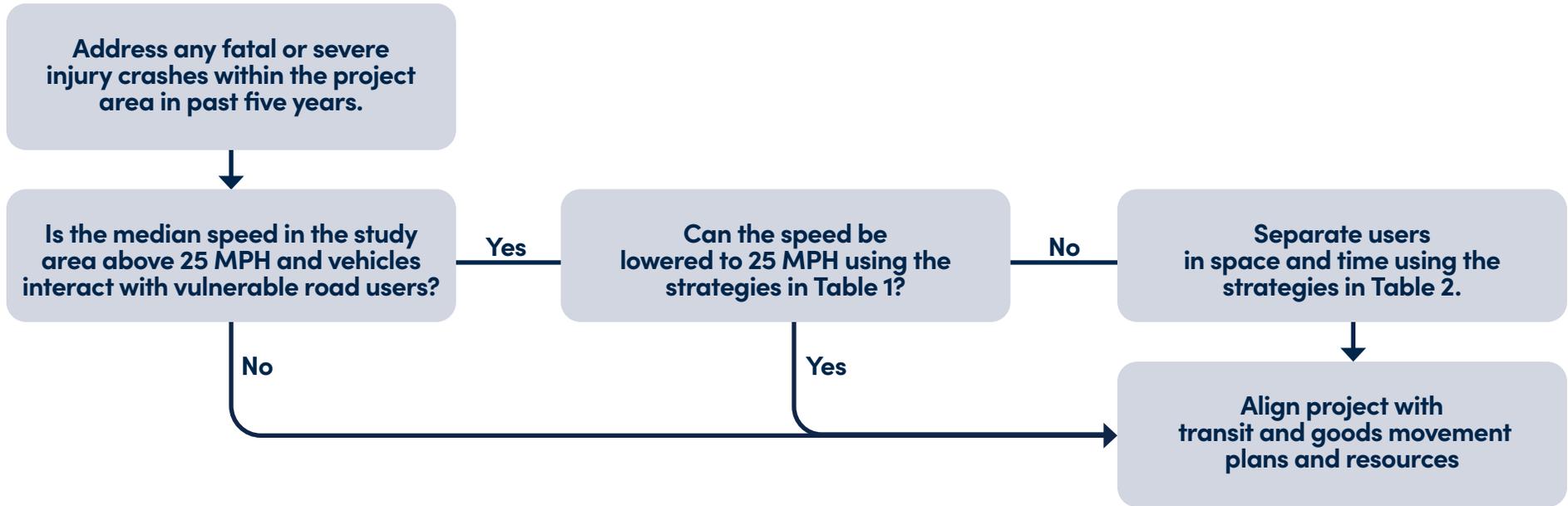


Table 1: Speed Reduction Strategies

- Set [appropriate speed limit for all users](#)
- Install [speed safety cameras](#)*
- Deploy speed management technology such as re-timing signals.
- [Redesign road for speed management](#)
- Install [roundabout](#)
- [Review further FHWA speed management strategies](#)

*May require authorizing ordinance.

Table 2: Strategies to Separate Users in Space and Time

- [Bicycle Lanes](#)
- [Walkways](#)
- [Roadway Configuration](#)
- [Crosswalk Visibility Enhancements](#)
- [Medians and Pedestrian Refuge Islands](#)
- [Leading Pedestrian Intervals](#)
- [Rectangular Rapid Flashing Beacon](#)
- [Pedestrian Hybrid Beacons](#)
- [Corridor Access Management](#)
- [Dedicated Left - and Right-Turn Lanes at Intersections](#)

If unable to align with the modal hierarchy, the project or change must be submitted to the NDOT Deputy Director for review and approval before proceeding.

Why Align with the Modal Hierarchy?

Vehicle speed is the most critical element in whether someone survives a traffic crash. As vehicle speeds increase, risk of severe or fatal injury increases and the driver's field of vision narrows, limiting the ability to react to mistakes. Aligning with the Modal Hierarchy prioritizes people walking and biking and aims to safely implement Complete Streets in Nashville by removing conflicts in the roadway and separating users in space and time.

Field of Vision Varies when Driving at Different Speeds



Driving at 20 Miles Per Hour



Driving at 40 Miles Per Hour

Crashes are More Severe at Higher Speeds

If Hit By a Person Driving



The Chance of Survival is

80%

If Hit By a Person Driving



The Chance of Survival is

10%

Coordinated Capital Planning

Process

1

Program Area Prioritization

Prioritize projects in individual program areas based on NDOT project prioritization framework.

Safety

- Vision Zero Priority Corridors
- Vision Zero Priority Intersections
- Proactive & Systemic Safety

State of Good Repair

- Pavement Condition
- Bridges & Guardrails Condition

Mobility

- WalknBike Sidewalk
- WalknBike Bikeway
- Transit Speed & Reliability
- Traffic Signals/ITS Upgrades

Green Streets

- Stormwater Priorities
- Street Tree Priorities

2

Identify Overlapping Priorities & Rebalance Workplans

Establish list of Complete Streets Projects based on overlapping priority projects.

- a** Projects involving curb relocation, stormwater, potential widening, high-impact road reconfiguration or other major construction should proceed to step 3.
- b** Rebalance remaining workplan priorities and coordinate paving with other safety and mobility projects as appropriate.
 - Paving Lists
 - Bikeway Projects
 - Sidewalk Projects
 - Vision Zero Projects
 - Transit Priority Projects
 - Signal/ITS Projects

EQUITY CONSIDERATION

Aim for 40% of Transformative Complete Streets Projects in GNRC Highly Vulnerable Areas.

3

Develop 3-Year Capital Plan

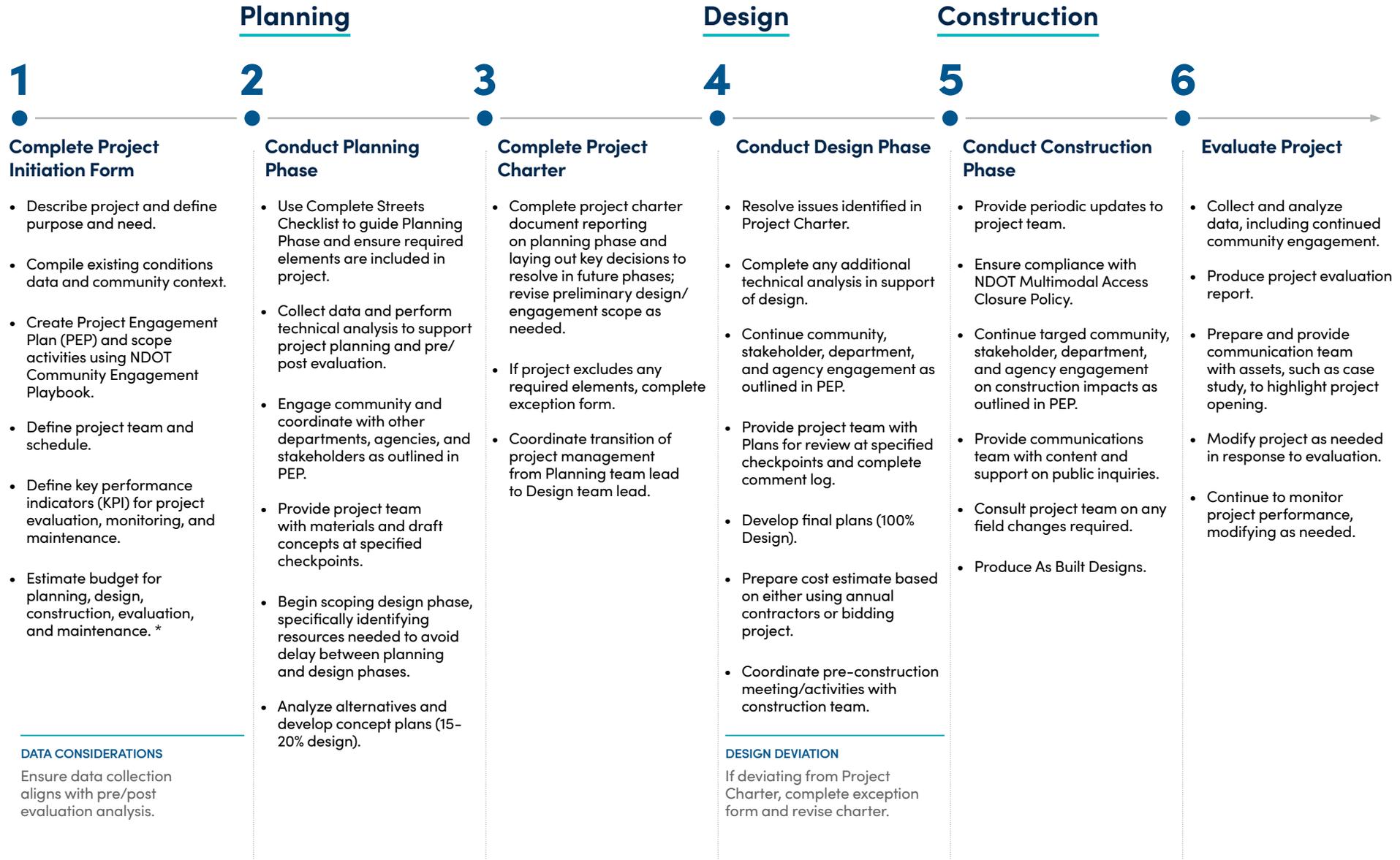
Develop 3-Year Capital Plan which establishes Planning, Design, and Construction priorities for each year.

- a** Update Capital Improvements Budget (CIB).
- b** Create annual Capital Spending (CSP) Request based on 3-year capital plan.
- c** Adjust current year priorities and 3-Year Capital Plan as needed based on actual CSP allocation.

GRANT FUNDING

Target grant funding opportunities for projects.

Project Life Cycle



DATA CONSIDERATIONS
Ensure data collection aligns with pre/post evaluation analysis.

DESIGN DEVIATION
If deviating from Project Charter, complete exception form and revise charter.

*May occur as part of scope and fee discussion with consultant.

CHAPTER 4

FUNDING COMPLETE STREETS



NDOT

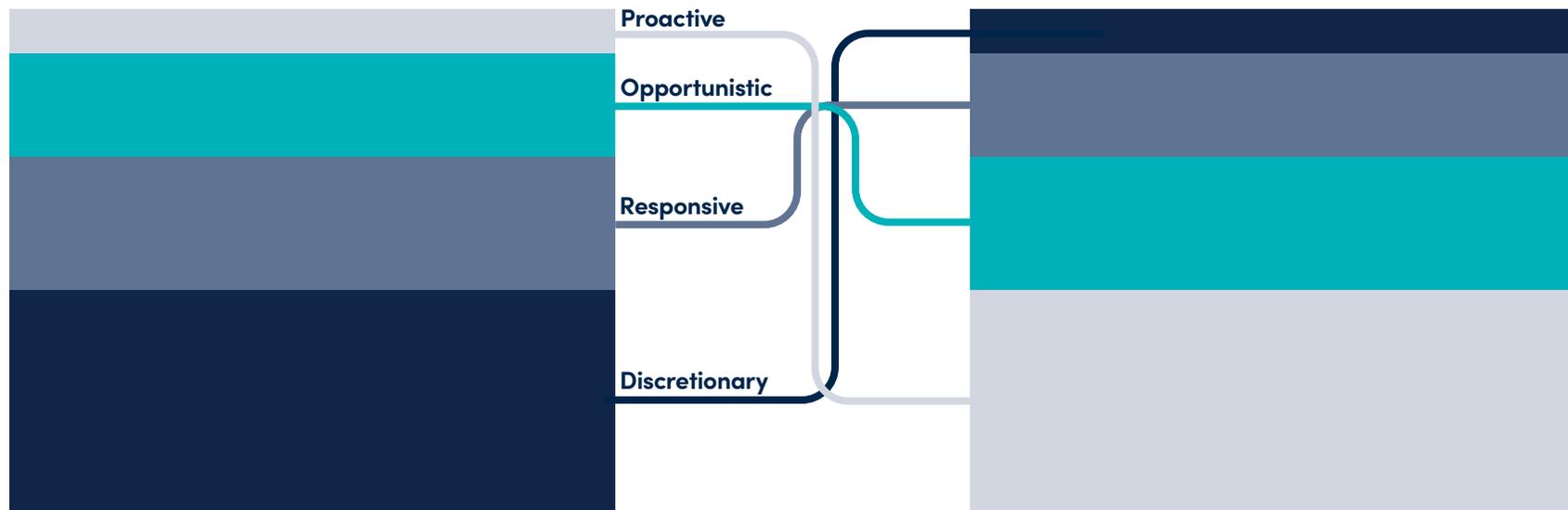
Complete Streets Funding

Four primary funding sources are available to implement Complete Streets in all projects: proactive, responsive, opportunistic, and discretionary funding sources. Proactive funding sources focus on preventing fatal and severe crashes through systemic safety efforts. Responsive funding addresses locations with a crash history such as the High Injury Network or hot spot location. Opportunistic funding utilizes existing funding mechanisms and work plans that have the opportunity to incorporate Complete Streets and safety elements. Discretionary funding are flexible responsive sources that allow the city to be agile in meeting community needs that may arise during a given year (e.g., Hub Requests).

The chart below contrasts NDOT's current spending estimates by funding sources to how NDOT would like to utilize funding sources in the future. Shifting toward more proactive and opportunistic funding sources enables the city to efficiently address risk factors before a fatal or severe collision occurs.

Existing Spending

Future Spending

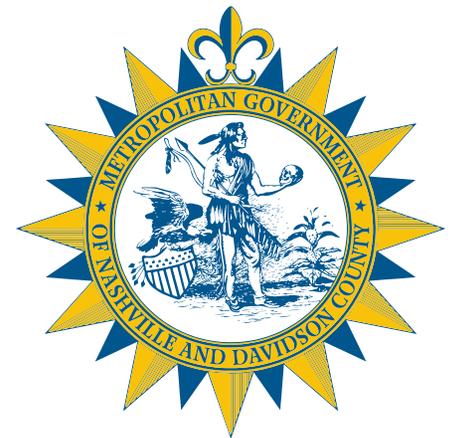


PROACTIVE FUNDING
SOURCES INCLUDE SAFE STREETS FOR ALL GRANTS, SAFE ROUTES TO SCHOOL GRANTS, HIGHWAY SAFETY IMPROVEMENT PLAN (SYSTEMIC FOCUSED), AND CAPITAL SPENDING PLAN (CSP).

OPPORTUNISTIC FUNDING
SOURCES INCLUDE REPAVING, AGENCY COLLABORATION AND COST SHARING, DEVELOPER CONTRIBUTIONS, AND OTHER CAPITAL PROJECTS (E.G., MAINTENANCE)

RESPONSIVE FUNDING
SOURCES INCLUDE HIGHWAY SAFETY IMPROVEMENT PLAN GRANTS (HOT SPOT FOCUS), AND VISION ZERO HIGH INJURY NETWORK PROJECT FUNDS.

DISCRETIONARY FUNDING
SOURCES INCLUDE ANNUAL CAPITAL PLAN SURPLUS BUDGET (AS APPLICABLE) AND OTHER ANNUAL/ ONGOING FUNDING SOURCES



NDOT

APPENDIX A

NDOT COMPLETE STREETS RESOURCE LIBRARY



NDOT

NDOT Complete Streets Resource Library

The NDOT Complete Streets Resource Library summarizes the primary resources NDOT and Metro Nashville staff, and other stakeholders reference or are required to use when implementing Complete Streets. Consult the list below for a high-level summary and online access (if applicable) per resource.

AASHTO Manual

The American Association of State Highway and Transportation Officials (AASHTO) writes the Policy on Geometric Design of Highways and Streets manual, or the “Green Book”. The Green Book guides street design for highways, arterials, local roads, and intersections that is more flexible, multimodal, and performance-based, providing guidance to make unique design solutions that meet the needs of all users on a project-by-project basis.

Community Plans & Local Planning Studies

The Metro Planning Department hosts all [Community Plans and Local Planning Studies](#) online. These plans have been adopted by the Metropolitan Planning Commission and provide guidance and land use decisions over the long term. Cross-reference area specific community plans when implementing Complete Streets and align with a plan's existing Complete Streets recommendations.

While the plans provide guidance over the long-term they are not static documents and can be amended to include new opportunities or ideas, and respond to identified problems.

Construction Management Manual

The [Construction Management Manual](#) outlines the guidelines and procedures recommended during the construction phase of all NDOT capital projects. The manual notes that each project size and complexity are unique, but the general principles and procedures from the manual must be employed to administer and manage construction contracts to deliver safe, high-quality, cost-effective, and timely construction projects.

Downtown Code and Urban Design Overlays

[The Downtown Code](#) is a form-based zoning code that applies to the downtown core west of the river to regulate physical form of buildings and ensure new construction makes a positive contribution to the public realm, including streets and open space, and that all investments are held to the same standard. The [Urban Design Overlays](#) dictate specific design standards for developments in designated areas throughout the county. The urban design overlays hold the same regulatory power as the base zoning code, but applies only to specific neighborhoods or developments.

Downtown Streetscape Elements Design Guidelines

The [Downtown Streetscape Elements Design Guidelines](#) presents design guidelines to unify the character of downtown districts with the intention of users becoming more comfortable through subtle differences in lighting, architectural style, banners, and street tree plantings while still being suited to the scale and character of the district. The guidance was created during a period of downtown revitalization to shape and standardize the streetscape. The areas east and west of the river are included in the downtown streetscape design guidelines.

Engineering Details and Specifications

[NDOT's engineering details and specifications](#) are used for the design of all NDOT projects. They are currently being updated to better align with a Complete Streets approach.

FHWA Safe System Roadway Design Hierarchy

[A tool](#) that characterizes engineering and infrastructure-based countermeasures and strategies relative to their alignment with the Safe System Approach (SSA), toward the goal of eliminating traffic-related fatalities and serious injuries.

Major and Collector Street Plan

The [Major and Collector Street Plan](#) (MCSP) is a comprehensive plan that serves as the current resource for Nashville Complete Streets design guidelines. Roadway designations are defined in the document and the plan is intended to be used in planning, designing, budgeting, and constructing new streets and making improvements to existing streets. Design tables provide guidance for pedestrian zone, green zone, parking zone, bike zone, and vehicle zone based on street context, environmental context, design type, and multimodal corridor or scenic overlays.

Mayor's Sustainability Advisory Committee Climate Action Plan

The [Mayor's Sustainability Advisory Committee Climate Action Plan](#) recognizes the need to address the economic and social disruptions arising from climate change. The plan recommends an 80% reduction in 2014 greenhouse gas emission levels by 2050 to meet the 2°C goal adopted by the majority of nations and many of Nashville's peer cities. The plan includes greenhouse gas inventories and recommendations for reducing city emissions.

Metro Code Chapter 17 (Zoning Ordinance)

[Chapter 17](#). The Zoning Code for Metropolitan Nashville and Davidson County is designed to implement goals and objectives from the 2010 general plan. Title 17 establishes zoning classifications, planned unit development districts, and development standards related to the character and appearance of communities. Standards for parking, loading, and access are provided by the zoning code.

Metro Parks Plan to Play Master Plan

The [2016 Metro Parks Master Plan](#) provides a 10-year vision to sustainably guide the deliberate

decisions and growth of Metro recreation facilities. The plan presents recommendations through 2027 for land, facilities, operations, and programs throughout the countywide parks system.

Multi-modal Transportation Assessment

The Multi-modal Transportation Assessment (MMTA) is required when a new development threshold is triggered. The MMTA replaces the previous Traffic Impact Studies (TIS) guidelines. The new assessment will provide a holistic view of how all modes, including people walking, biking, taking transit, and driving are impacted by a new development.

MUTCD

The FHWA Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD) defines the standards for traffic control devices used on all streets open to public travel. The MUTCD provides guidance on signage, road markings, and traffic signals. [Tennessee supplements the MUTCD](#) with state-specific guidance on signage, road markings, and traffic signals.

NACTO

The [National Association of Transportation Officials](#) (NACTO) is a coalition of Department of Transportation (DOTs) that strives to build safe cities and streets for people. NACTO has published design guidelines on bikeways, urban streets, transit, stormwater, autonomous vehicles, intersections, and bike share. Their guidelines prioritize safety, human-scale design and multimodal mobility.

Nashville Health in All Policies

Health in All Policies is a CDC initiative adopted by many cities across the United States, including Nashville. [The policy](#) calls for integration

and collaboration across sectors to improve community health. The Metro Public Health Department hosted its first Health in All Policies Summit in September 2022 to connect with community partners to inspire action towards strengthening current collaborations and establishing new partnerships across sectors to improve health of Nashville residents.

Nashville Stormwater Management Manual

The [Nashville Stormwater Management Manual](#) details regulations, procedures, and theory for stormwater management. The manual compiles relevant literature for stormwater management in Nashville and Davidson County. Comprehensive information is provided about existing regulations, design standards, hydrology, hydraulics, erosion control, and green development, among other topics. Stormwater systems require a portion of the right-of-way and this plan presents design options for green infrastructure that typically conflict with other users space.

NashvilleNext Comprehensive Plan

The [NashvilleNext](#) plan is a resident-created vision for Nashville through 2040 that provides visions, goals, policies, and strategies to guide the City's future and accommodate projections of 20,000 more people and over 300,000 more jobs. The foundation of the plan is the community's goals and visions that include: Ensuring opportunity for all, expanding accessibility, creating economic prosperity, fostering strong neighborhoods, improving education, championing the environment, and being Nashville. The plan provides guidance on land use, transportation, and infrastructure; arts, culture, and creativity; economic and workforce development; education and youth; health, livability, and the built environment; natural resources and hazard adaptation.

NDOT Complete Streets Resource Library

nMotion Transit Plan

[nMotion](#), the regional plan for public transportation, identified an ambitious transit vision that concentrated new high-capacity transit investments on major corridors identified in NashvilleNext. Nashville-Davidson County voters turned down the Let's Move funding mechanism that included several of nMotion's high-dollar investment recommendations, notably the five light rail corridors.

Project Development Manuals

Currently under development, these manuals will provide an in-depth list of steps that guide capital projects through all phases.

Public Right-of-Way Accessibility Guidelines

The Public Right-of-Way Accessibility Guidelines (PROWAG) is developed under the Americans with Disabilities Act (ADA). The guidelines are for pedestrian facilities in the public ROW and addresses sidewalks, streets, crosswalks, curb ramps, street parking, pedestrian signals, and shared-use paths.

Street Trees Overlay

The [Metro Nashville Street Tree Specifications](#) provide guidance on tree planting along the public right-of-way. Canopy trees are required unless they conflict with utilities and the property frontage owner is responsible for the maintenance of these trees. The guide provides specific information on placement, soil, ADA regulations, and tree species.

Subdivision Guidelines

The [Subdivision Guidelines](#) are used by Nashville and Davidson County to define the design and pattern of a new community or development and integrate it within existing communities. The Subdivision Regulations control the pattern of development and the division of land defines traffic circulation patterns and access, dedicates rights-of-way, and reserves tracts of land to protect environmental resources. Walkable Subdivision regulations apply to transect category T4 Urban, T5 Centers, and T6 Downtown; Conventional Suburban Subdivision regulations apply to T3 Suburban; and Rural Character Subdivision regulations apply to T2 Rural.

Tactical Urbanism Guide

The Tactical Urbanism Guide provides design guidelines for temporary project installation for eligible project types – sidewalks, parking/curbs, lane closures, roadway reconfigurations, pop-up active transportation, traffic calming, art, and safety.

Tennessee Department of Transportation (TDOT)

The Tennessee Department of Transportation (TDOT) has multiple resources that support Complete Streets implementation. Materials consulted by NDOT and Metro Staff include TDOT Bus Stop Design Standards, TDOT Local Programming Standards, TDOT Multimodal Design Guidelines and TDOT's Local Government Guidelines.

Tennessee Built Environment Evaluation

The [Tennessee Built Environment Evaluation Guide](#) is a resource for public health professionals to determine the impacts of built environment projects in their communities. The intention of evaluating built environment projects is to determine if the project resulted in changes to people's behavior, or changes to environments or policies that are likely to change behavior. The evaluation can help determine if that behavior change is happening, to what extent, and whether it's making people healthier.

Traffic Calming Toolkit & Manual

The NDOT [Traffic Calming Process Manual](#) and [Toolkit](#) implements Nashville's Neighborhood Street Traffic Calming Program (NSTC) to create an improved street environment within neighborhoods that promotes the safety of drivers, other road users, and neighborhood residents. The two primary objectives of the program are: (1) slowing traffic to an appropriate speed and (2) providing safe accommodations to other road users such as pedestrians and cyclists. The program applies only to existing residential streets that primarily serve residential neighborhood entirely within the Metro-governed Davidson County. The intent is to improve neighborhoods that may be affected by traffic having origins or destinations outside of the neighborhood.

Traffic Signal Phasing and Timing Policy

The [Traffic Signal Phasing and Timing Policy](#) was created in 2004 and updated in 2010 by the Public Works Department – Engineering Division (MPW). The policy is MPW’s traffic signal timing and phasing protocols that should be implemented at new signal installations, traffic signal upgrades, and along signalized corridors as they are re-timed. The policy covers vehicle clearance intervals, pedestrian control intervals, minimum vehicle green times, left-turn signal phasing guidelines, and split-phase timing operation guidelines. This policy document should be consistent with the Federal Highway Administration’s (FHWA) Manual on Uniform Traffic Control Devices (MUTCD), however, if any conflict arise, the current edition of the MUTCD shall prevail. This policy should serve to promote consistent, safe, and efficient control of traffic signals within Metro Nashville–Davidson County.

Transportation Standard Details and Drawings

The [Transportation Standard Details and Drawings](#) is a repository of individual standards and drawings. The details and drawings are used during the design and construction phase of specific infrastructure projects. The standards and drawings are created or hosted by the Engineering Division. The website includes a total of sixty-eight detailed documents and eight specification documents.

Vision Zero Action Plan

The Vision Zero Action Plan is Nashville’s guiding plan toward achieving zero traffic fatalities and severe injuries. Endorsed by city leadership, the plan identifies the High Injury Network (HIN) by mode and street segments and intersections. The HIN are streets with the highest concentration of traffic collisions that resulted in death or serious injuries in Nashville. Identifying the HIN

guides Nashville's investments in infrastructure and programs, and ensures Vision Zero projects support those most in need.

In addition to identifying the HIN, the plan outlines sixty Action Items over a five-year period (2022–2026) in the following themes: create safe streets for everyone, prioritize equity, increase collaboration and transparency, promote a culture of safety, and improve data quality.

Vision Zero Implementation Plan

The Vision Zero Five-Year Implementation Plan builds upon the Vision Zero Action Plan by outlining measurable steps to be taken between 2023 and 2027 as part of the long-term goal of reaching zero traffic fatalities by 2050.

The Implementation Plan focuses on the Five E’s of safety, Engineering, Evaluation, Education, Encouragement, and Enforcement. Engineering plays the biggest role in the implementation plan, followed by programmatic actions of the remaining four E’s (Evaluation, Education, Encouragement, Enforcement).

WalknBike: Sidewalks and Bikeways Strategic Plan

The [WalknBike: Sidewalks and Bikeways Strategic Plan](#) is the framework for making Nashville more walkable and bikeable by guiding NDOT’s work program between 2022 – 2024 with prioritized sidewalk and bikeways projects resulting in expedited project delivery and implementation. The plan builds on WalknBike 2017 and incorporates extensive community feedback. The vision for WalknBike is for The Nashville bicycle and pedestrian system will be a network of high-quality, comfortable, safe sidewalks and bikeways, connecting people to opportunity. The system, inclusive to users of all ages and abilities, will promote and encourage safety, health, education, and active transportation.

WeGo Transit Design Guidelines

The [WeGo Transit Design Guidelines](#) provides guidance for the design and placement of transit facilities and their associated passenger amenities to ensure accessibility for riders regardless of age or disability.

APPENDIX B

PEDESTRIAN CROSSING POLICY



NDOT

About the Pedestrian Crossing Policy

Pedestrian Safety & Vision Zero

On average 75 people walking in Nashville are killed or severely injured per year, almost twice the rate per capita as peer cities like Austin, Texas and Charlotte, North Carolina. In August 2022, the Nashville Vision Zero Action Plan was released as part of a long-term effort to eliminate severe and fatal roadway crashes, particularly for people walking or rolling.

The Vision Zero Action Plan outlined sixty action items including Action Item A-2b: Adopt a pedestrian crossing policy with standard operating procedures for safer pedestrian crossings.

This section fulfills this action item and sets forth Nashville's policy on pedestrian crossing locations and treatment selection.

Pedestrian Crossing Implementation Process

Implement pedestrian crossings at uncontrolled and controlled locations by using the processes listed on the adjacent page. Uncontrolled pedestrian crosswalks exist at locations that are not signalized nor stop controlled. Controlled pedestrian crosswalks are typically intersections, driveways, or midblock locations controlled by a traffic signal or stop sign.

Follow the steps outlined on page B4 when new uncontrolled pedestrian crossing locations are requested or recommended (e.g., hubNashville, community engagement feedback, walkability audit finding) or to assess pedestrian crossing needs at a controlled location (e.g., inform corridor study, respond to community requests). Staff time and budget should be prioritized toward pedestrian crossings along the High Injury Network or locations identified in proactive systemic safety efforts.



Implementing Pedestrian Crossings

Uncontrolled Pedestrian Crossings

- 1 Determine if location is appropriate for a marked crossing by considering the following:**
 - Location is on the Vision Zero High Injury Network (HIN), or identified in proactive systemic safety efforts.
 - Proximity to other crosswalks, sight distance, operating speed, and traffic volume.
 - Existing and future pedestrian demand thresholds.

-
- 2 Consult the Modal Hierarchy Alignment flowchart to reduce speed, volume, and/or reconfigure lanes.**

-
- 3 Select crosswalk markings and appropriate and treatments for marking crossing location using the Pedestrian crossing Accommodations Policy.**

Controlled Pedestrian Crossings

- 1 Collect and analyze data.**
 - Conflict movements and pedestrian and vehicle volumes.
 - Crash history.
 - Signal timing.

-
- 2 Evaluate thresholds to manage exposure and risk.**

-
- 3 Select treatments and strategies from the Pedestrian Crossing Accommodations Policy.**