Executive Summary

Introduction

The Duluth-Superior Metropolitan Interstate Council (MIC), in cooperation with the Minnesota Department of Transportation (MnDOT), Duluth Transit Authority (DTA), St. Louis County, and the City of Duluth, have completed the Central Entrance Vision Plan to advance a vision for future improvements to Central Entrance (Trunk Highway 194) from Mesaba Avenue to Trinity Road in Duluth. Although the corridor has been studied for decades and recommendations have been identified, few improvements have been implemented. This latest planning process presents an opportunity to develop a plan that can be embraced by the stakeholder agencies, businesses, residents, and corridor users for near term improvements that are anticipated to be constructed in the next five years.

MnDOT has scheduled a full reconstruction of Central Entrance from Mesaba Avenue to Trinity Road in 2026. This plan sets the overall corridor vision for a walkable, bikeable, transit-oriented urban thoroughfare and provides direction for MnDOT's upcoming preliminary design and public involvement processes. This executive summary provides a brief overview of the planning process and recommendations. More details are available in the full plan document.

Planning Process Goals

The primary goals of the Central Entrance Vision Plan are as follows:

Advance the vision for a walkable, bikeable and transit-oriented thoroughfare which will create an attractive destination that:

1) is safe and comfortable for both motorized and nonmotorized users, and
2) encourages new types of residential and commercial development.

Plan Partners

The Central Entrance Vision Plan was led by the MIC, in cooperation with partner agencies who served on a project Steering Committee. The Steering Committee included representatives from the following agencies:

- MIC
- MnDOT District 1
- DTA
- St. Louis County
- City of Duluth

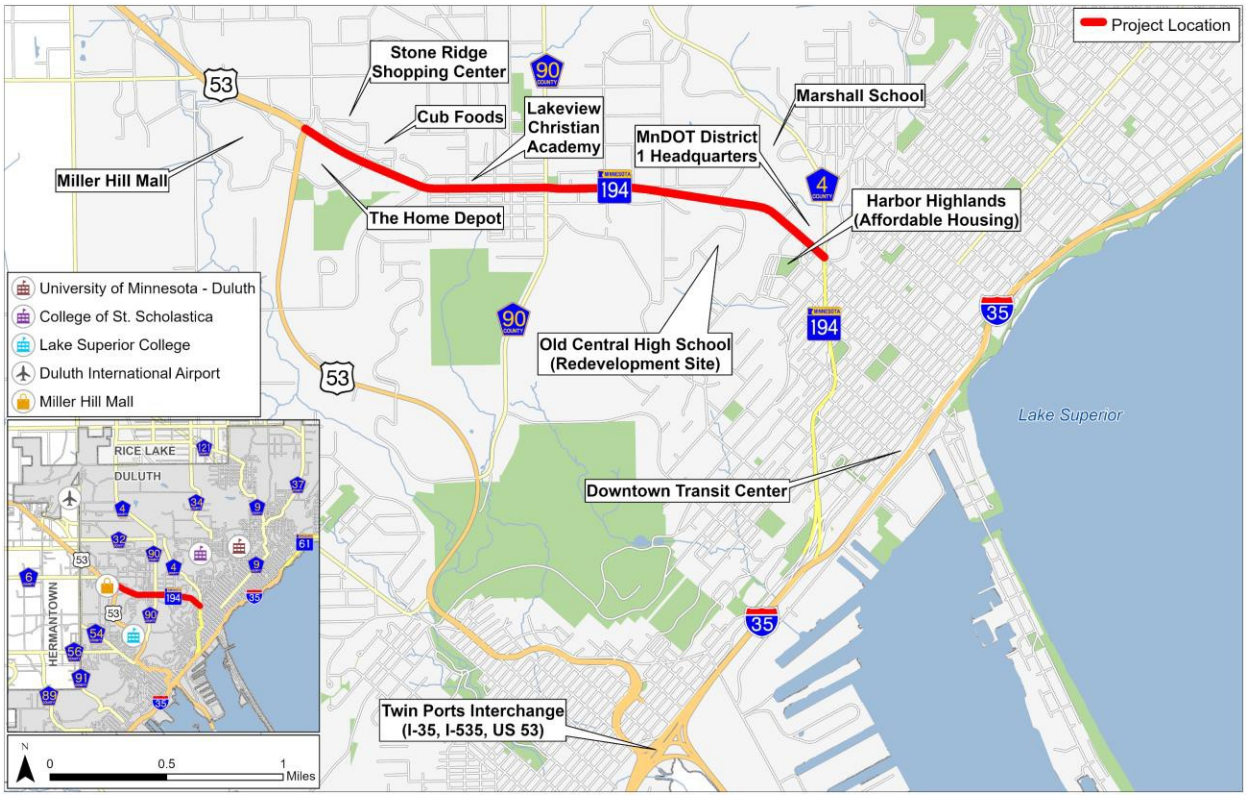
Existing Conditions

Central Entrance is an arterial roadway that has historically served automobile traffic and has encouraged vehicle throughput and drive-by land uses. The corridor has poor pedestrian and bicycle infrastructure, multiple (and large) driveway accesses that create conflicts between vehicles and nonmotorized users, and legacy bus stops that lack adequate accessibility and amenities. Coupling these

challenges with high vehicle speeds makes the corridor an uncomfortable place to walk or bike, and discourages development and redevelopment along the corridor.

At the same time, Central Entrance plays a vital role in Duluth's roadway network due to local topography. Along with US 53 and West Arrowhead Road, it is one of the few direct routes connecting the city's largest commercial area to downtown Duluth and neighborhoods along Lake Superior. Because of its role in the overall roadway network, Central Entrance is an important connecting corridor for all modes of transportation.

Central Entrance Corridor Location



For the purposes of this plan, Central Entrance was divided into five zones that roughly align with the surrounding land uses and roadway context. The five zones used in this plan are as follows:

- Zone 1: Trinity Road to Anderson Road
- Zone 2: Anderson Road to Basswood Avenue
- Zone 3: Basswood Avenue to Arlington Avenue (County State Aid Highway [CSAH] 90)
- Zone 4: Arlington Avenue (CSAH 90) to Blackman Avenue
- Zone 5: Blackman Avenue to Mesaba Avenue (CSAH 4)

These zones are shown in the figure below and are referenced throughout this plan.

Central Entrance Corridor Zones

Public Engagement

Multiple community events were conducted to kick off the engagement process and build a foundation for the Central Entrance community vision. Due to the global pandemic and evolving guidelines, the engagement team provided multiple learning and feedback avenues. Throughout, we learned from the community's lived experiences and identified their wants, needs, and aspirations for the corridor. All events and feedback opportunities were publicized on the MIC website and social media channels, and distributed through the MIC, partner agency, and community database contact lists. Engagement activities included:

- Multiple online surveys and mapping activities
- "Better Central Entrance" in-person engagement event
- Facilitated virtual workshops with participatory mapping activities
- Community Advisory Committee meetings
- Targeted outreach to businesses

Common and focused themes emerged from engagement activities to create and focus the community's vision. These themes centered on **traffic, biking, walking, safety, and corridor aesthetics**. All information and feedback gathered during the engagement process informed the vision developed for the corridor.

Corridor Vision

The future vision for Central Entrance developed through this planning process sets the overall direction for the development of this roadway as a multimodal corridor that supports and encourages new types of development. The vision includes several components: project goals and recommendations based on a set of guiding values, recommended concepts for future engineering analysis, and land use scenarios to explore the potential development that could be prompted by improvements in the corridor. This plan does not present a single recommended concept for the entire corridor. Instead it provides a set of concepts and design elements that can be combined based on further evaluation to realize the overall vision.

Recommendations

Based on the planning process goals and input provided through public engagement opportunities, a set of guiding values was developed to describe the high-level vision for the future of Central Entrance:

> **Safe & equitable multimodal transportation system:** Central Entrance will be a safe, accessible, and comfortable street for all people, making walking, biking and transit viable and an easy choice while moving people and goods in cars, trucks, and buses safely and efficiently.
>
> **Healthy, walkable community:** Central Entrance will support denser, connected, and transit-oriented land use patterns and multimodal travel year-round.
>
> **Thriving local business community:** Central Entrance will meet the needs of new and existing businesses by providing reasonable access and creating opportunities for new types of development and redevelopment.
>
> **Sustainable and resilient corridor:** Central Entrance improvements will address long-term infrastructure needs and create opportunities for green infrastructure.
>
> **A vibrant gateway to Duluth:** Central Entrance will be an attractive corridor that welcomes visitors and residents alike to the City of Duluth and the Central Entrance business district by establishing a sense of place.

Project goals and recommendations were developed for each guiding value to address the issues and concerns discussed during the Steering Committee and public engagement processes. These are meant to supplement the recommended concepts and provide additional guidance for the project as it progresses towards design and additional public engagement.

Guiding Value	Recommendations
Safe & equitable multimodal transportation system	**Goal A: Implement a design that supports the role of Central Entrance as a key link in the roadway network between downtown Duluth and the Miller Hill commercial area.** A.1) Evaluate 3- and 4-lane section and one-way pair concepts for implementation in Zones 2-4. A.2) Evaluate the need for construction of turn lanes at intersections throughout the corridor. A.3) Apply context-sensitive street design elements, including exploration of opportunities such as narrowing travel lanes (11 feet shown in recommended concepts). A.4) At a minimum, evaluate the construction of roundabouts at the intersections of Central Entrance and the following cross streets (see figure on page ix): • Anderson Road • Arlington Avenue (County State Aid Highway 90) • Pecan Avenue

Guiding Value	Recommendations
	Goal B: Create a corridor that supports existing transit service and is ready for potential bus rapid transit (BRT) service. B.1) Avoid using bus pull-out lanes to reduce delays associated with buses re-entering traffic. B.2) Ensure that pedestrian access is provided to all transit stops in the corridor. B.3) Coordinate with the Duluth Transit Authority during design to ensure it supports BRT operations on Central Entrance. B.4) Update the Central Entrance-Miller Hill Small Area Plan to implement this study and the Better Bus Blueprint for Routes 102 and 112. *See also: Goal A recommendations*
	Goal C: Improve the ability to walk and bike along and across Central Entrance. C.1) At a minimum, provide pedestrian facilities along both sides of Central Entrance and a bicycle facility along at least one side, as recommended in MnDOT's Pedestrian and Bicycle Recommendations Report. C.2) Consider mid-block crossings with appropriate markings and warning technology, such as advanced stop bars, high-visibility crosswalk markings, raised tables, Pedestrian Hybrid Beacons (PHBs) or Rectangular Rapid Flashing Beacons (RRFBs) in the vicinity of the following locations (see figure on page ix): • Ebony Avenue • Kissell Avenue or Harding Avenue • East 14th Street or East 13th Street C.3) Provide Americans with Disabilities Act (ADA)-compliant pedestrian infrastructure throughout the corridor with connections to adjacent destinations. C.4) Create an enhanced bicycle crossing for the Duluth Traverse Trail at Pecan Avenue (see figure on page ix). C.5) Connect new nonmotorized facilities along Central Entrance to the following cross streets with pedestrian and/or bicycle facilities as appropriate to enhance the nonmotorized transportation network and improve neighborhood access to transit stops (see figure on page ix): • Teak Avenue • Ebony Avenue • Hugo Avenue • Kissell Avenue
	Goal D: Create a safe and comfortable corridor for all users, with a target of zero traffic injuries or deaths. D.1) Construct boulevards between vehicle travel lanes and nonmotorized facilities to provide physical separation from traffic to support users of all ages and abilities, as supported by MnDOT's Statewide Pedestrian System Plan. *(Note: see Action Item IP-12, "Seek opportunities to provide wide vegetated buffers between people walking and vehicle traffic")*

Guiding Value	Recommendations
	D.2) Include pedestrian safety countermeasures at signalized intersections in the corridor, including, but not limited to, curb bump outs, Leading Pedestrian Intervals (LPIs), advanced stop bars, and raised crosswalks.
Healthy, walkable community	**Goal E: Create a walkable land use pattern; reward the short trip.** E.1) Implement nodal-based zoning along the corridor to allow for mixed-used transit-oriented development patterns for Route 102 BRT. E.2) Rezone the nodes within 1/4 mile from the Route 102 BRT stops to align with the Comprehensive Plan, allow for a higher level of development intensity and a wider range of uses, and encourage multistory mixed use development (see figure on page ix). E.3) Monitor the redevelopment of the former Central High School site and update this plan, the Better Bus Blueprint, and the Central Entrance-Miller Hill Small Area Plan accordingly (see figure below). E.4) As redevelopment occurs, consider encouraging the following design guidelines: • Site designs with reduced setbacks that place buildings closer to the roadway • Site designs that relocate parking to the back of buildings (away from the street) rather than adjacent to the street • Connectivity standards (e.g. street connectivity index or link-to-node ratio, maximum block lengths (400-600 ft)) and bonuses for pedestrian and trail connections between streets or the end of cul-de-sacs to ensure a more walkable development pattern, disperse vehicle travel, and reduce emergency response time
	Goal F: Create a year-round multimodal corridor. *F.1)* Work with City of Duluth and DTA staff to craft a model maintenance agreement that provides for winter snow removal and clearing of leaves, brush, and other debris during the remainder of the year. The agreement should address all applicable aspects of maintenance, including upkeep of street trees and other potential streetscape elements. *(Note: see MnDOT Statewide Pedestrian System Plan Action Items M-1, "Design to support effective maintenance," M-2 "Explore options for how MnDOT can help local agencies take the lead on maintenance work," and M-3, "Clarify MnDOT's policies to reflect the expectation of year-round maintenance of pedestrian facilities")* F.2) Add Central Entrance to the City of Duluth's winter sidewalk and pathway priority network for clearing pedestrian and bicycle facilities to ensure that the best access is provided to all people, regardless of mode choice. F.3) Incorporate boulevards wherever possible to provide snow storage and keep nonmotorized facilities clear of snow and ice. *See also: Goal C recommendations*

Guiding Value	Recommendations
Thriving local business community	**Goal G: Maintain reasonable access for businesses along the corridor.** G.1) Develop an access management policy, as recommended in the Central Entrance Corridor Study. G.2) As redevelopment occurs, encourage site designs that limit curb cuts on Central Entrance, where possible, through shared driveways and only allowing "right-in, right-out" driveways where necessary as recommended in the Central Entrance-Miller Hill Small Area Plan. G.3) Establish driveway guidelines that address driveway width and other design features to slow turning vehicles and limit pedestrian exposure. G.4) As recommended in the Central Entrance Corridor Study, do not allow any new accesses on Central Entrance in Zones 2-4. G.5) Consider removing access to Central Entrance at the following locations (see figure on page ix): • Robin Avenue • MnDOT driveway at East 13th Street
	Goal H: Identify and increase opportunities to enhance the public realm for outdoor dining, sitting, and access to green space to support businesses in the corridor. H.1) Encourage public realm development through plazas, pocket parks, or additions to the sidewalks with café zones through opportunities such as public-private partnerships. *See also: Goal E recommendations*
Sustainable and resilient corridor	**Goal I: Address long-term infrastructure needs in the corridor.** I.1) Replace aging infrastructure through full reconstruction of Central Entrance from Trinity Road to Mesaba Avenue.
	Goal J: Prioritize opportunities to incorporate green infrastructure and street trees into the design to support stormwater management and mitigate climate change. J.1) Evaluate the potential for construction of stormwater best management practices (BMPs) in boulevard and median spaces. *J.2)* Work with the City of Duluth Forestry Department to identify appropriate tree locations and species for consideration in the final design. *(Note: see MnDOT Statewide Pedestrian System Plan Action Item IP-13, "Prioritize street trees as critical pedestrian infrastructure for adapting to climate change")* *See also: Recommendation D.1*
A vibrant gateway to Duluth	**Goal K: Create an aesthetically pleasing corridor that supports placemaking and establishes a sense of place.** K.1) Work with the City of Duluth to design and construct gateway features in Zones 1 and 5 that welcome visitors to the Central Entrance business district and the City of Duluth, as discussed in the Central Entrance Corridor Study. K.2) Develop a streetscape plan to create a cohesive feel for the corridor, as recommended in the Central Entrance Corridor Study. The plan should address

Guiding Value	Recommendations
	potential changes to existing elements that impact visual quality in the corridor, such as billboards. K.3) Identify opportunities to enhance sense of place, particularly in Zones 2-3, through the inclusion of streetscape elements such as benches, planter boxes, and native plantings.

Recommended Concepts for Future Study

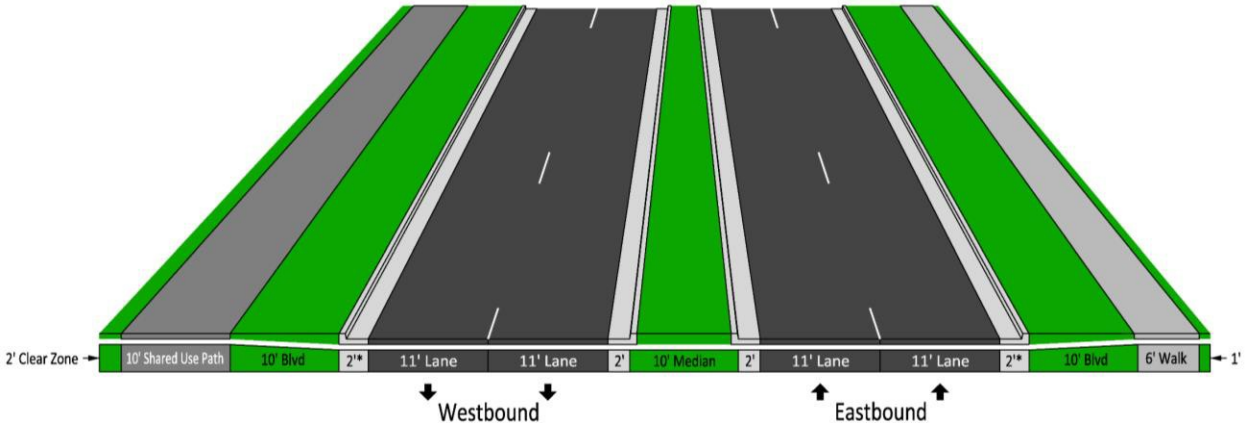
The concepts developed as part of this plan are intended to be at a planning level, and will require further study and engineering analysis before moving forward. Final designs considered for construction may or may not match these initial concepts or could be assembled from a combination of these concepts, depending on the results of more detailed future analyses. The concepts here are intended as a general guide. Reconstruction of Central Entrance exactly as it exists today is not recommended as a viable alternative. The issues noted in the existing conditions section of this plan would not be addressed, and the planning process goals would not be advanced.

Based on land use context, existing right of way, and other characteristics, the study area zones were placed into two groups for the purposes of concept development. Concepts are presented first for Zones 1 and 5, then for Zones 2-4.

<u>Zones 1 and 5</u>

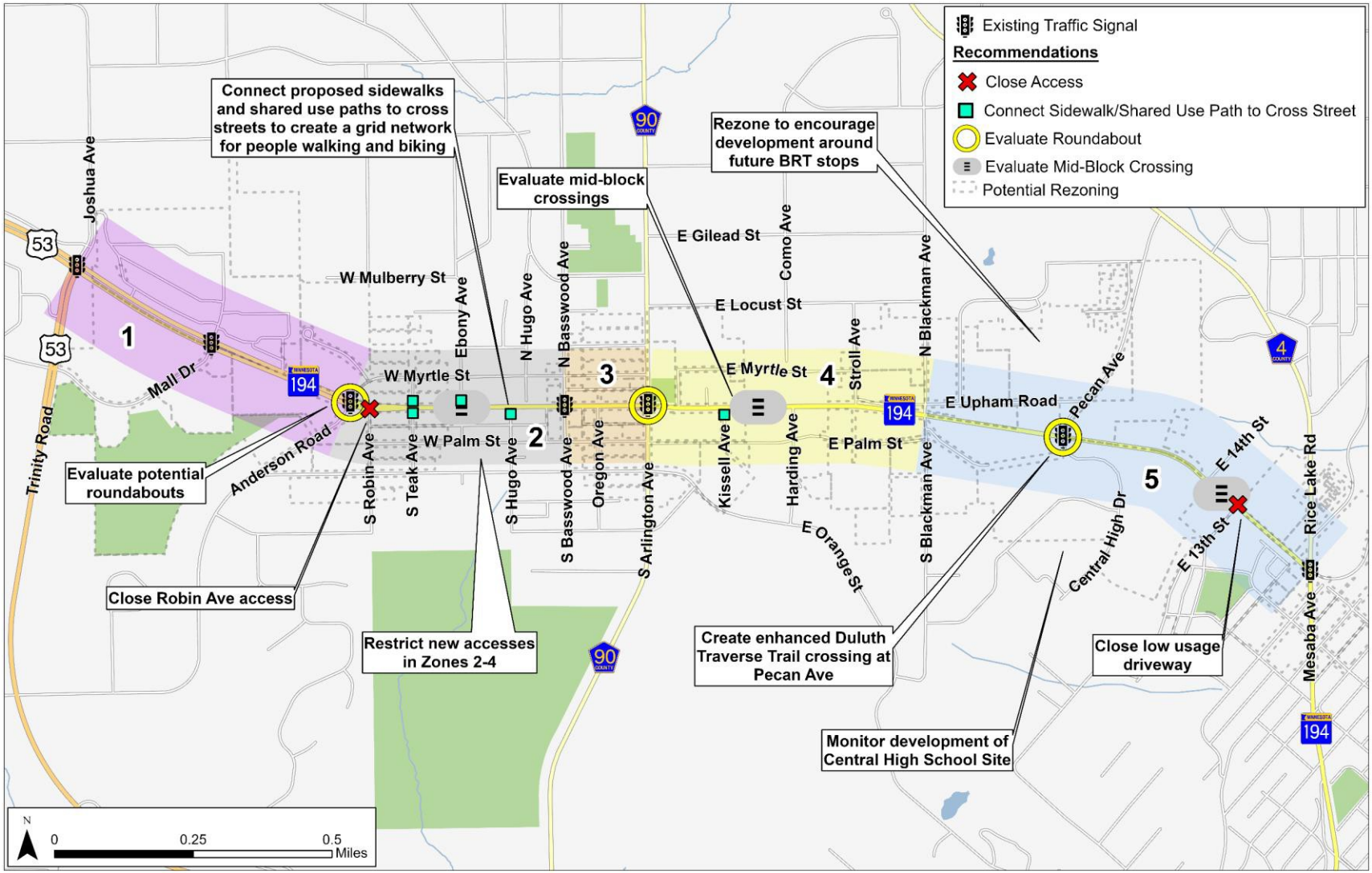
There are many similarities between Zones 1 and 5. Both are generally less developed and have more available right of way than Zones 2-4. They also have fewer access locations and include locations with grass ditches and/or concrete medians. They form the endpoints of the study area, act as gateways, and link to the broader roadway network. Because of these similarities, a single concept was developed to illustrate the overall vision for these zones. The specific roadway design that is ultimately implemented will vary based on conditions along the corridor.

Zones 1 and 5 Recommended Concept



Note: The concepts shown are for illustrative purposes only. Design details including roadway configuration and surface types will be established in the preliminary and final design processes.

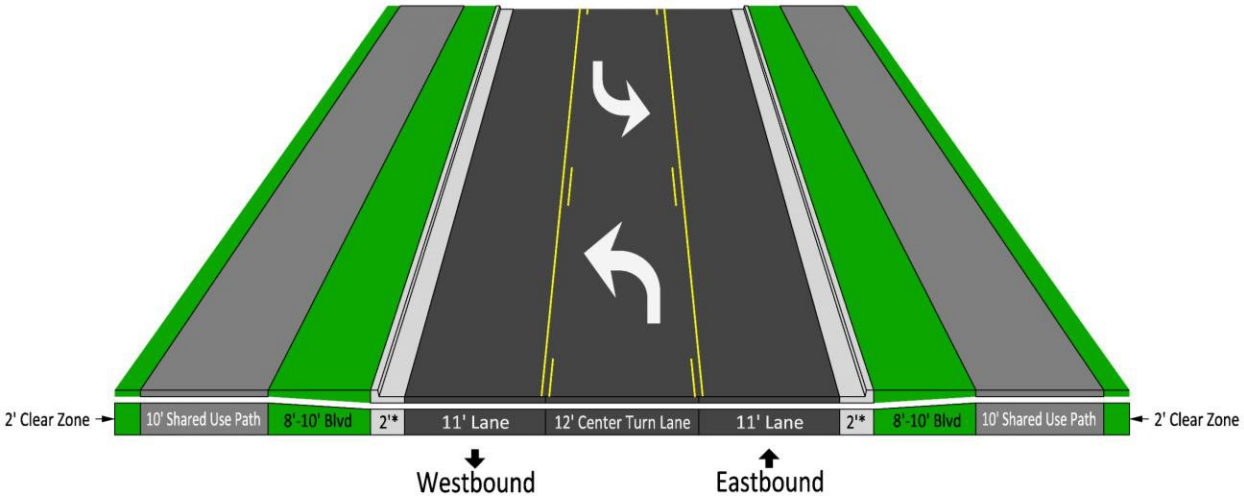
Recommendations Map



Zones 2-4

Although existing land uses and roadway sections vary across Zones 2-4, there are several similarities in terms of available right of way and transportation needs. The concepts developed for Zones 2-4 include options for attempting to meet project goals using only the available space and options that would require MnDOT to purchase additional right of way. Three potential concepts for these zones are shown on the following pages.

Zones 2-4: Three-Lane Concept



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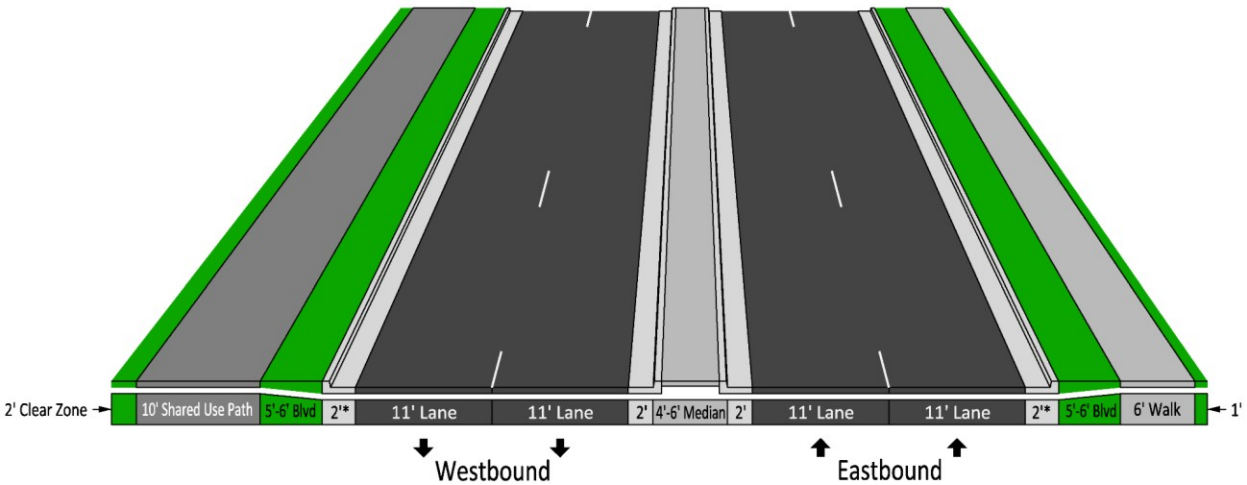
Zones 2-4: Four-Lane Concept



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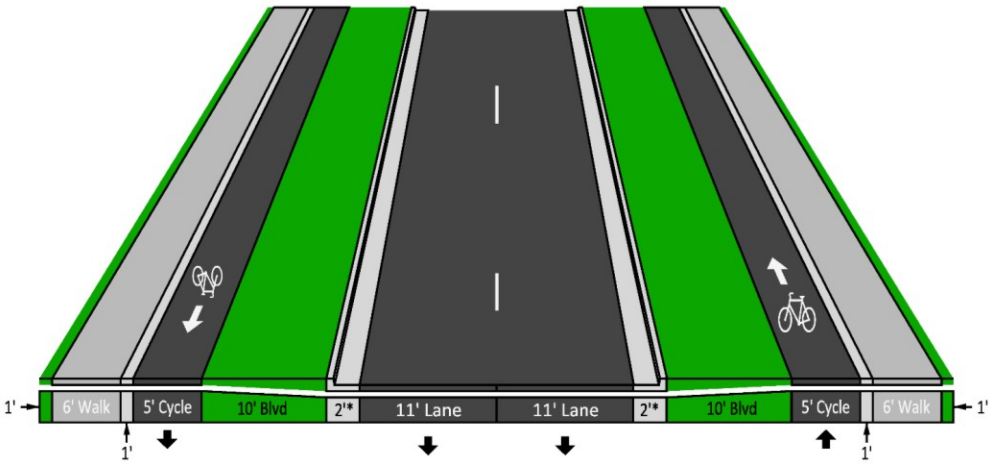
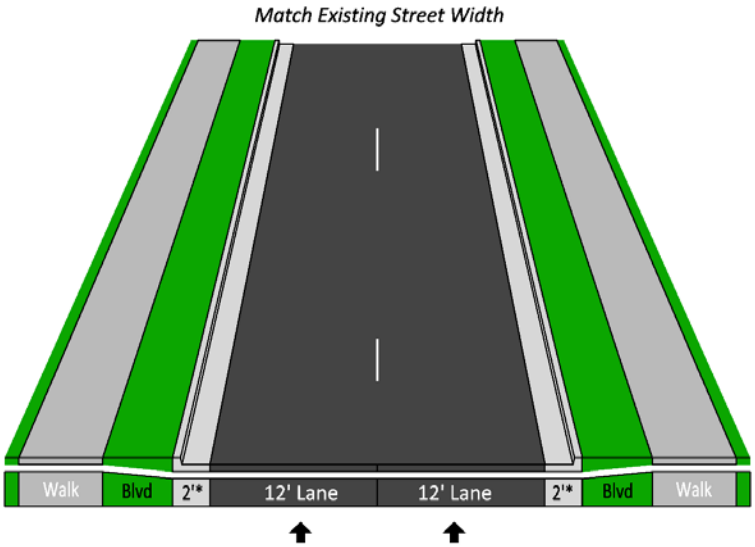
Zones 2-4: One-way Pair Concept with Central Entrance (top) and Palm Street (bottom)





Note: The concepts shown are for illustrative purposes only. Design details including roadway configuration and surface types will be established in the preliminary and final design processes.

In addition to the concepts, a variety of other design elements were discussed with the Steering Committee and the public. These include a wide range of safety, aesthetic, and streetscape features that could apply to multiple concepts and address issues related to all modes of transportation, including several Federal Highway Administration (FHWA) Proven Safety Countermeasures. These elements should be incorporated into the final design for all zones where effective and viable. They include:

- Boulevards
- Center Median and Pedestrian Refuge Islands
- Shared Use Path
- Sidewalk
- Raised Crosswalk
- Leading Pedestrian Interval at Signalized Intersections
- Pedestrian Hybrid Beacon (PHB)
- Roundabouts
- Turn Lanes
- Street Trees
- Sidewalk/Shared Use Path Lighting
- Green Stormwater Infrastructure

Each of the elements is described in greater detail, along with images, in **Section 7** of the plan.

The MIC's Long-Range Transportation Plan (LRTP), Sustainable Choices 2045, put forth five planning perspectives based on public engagement that formed the basis of the plan. Incorporating these project elements into the design will advance these perspectives and the overall goals and objectives of the LRTP. The five planning perspectives are:

1. Health of People and the Environment
2. Livable Communities and Equity
3. Safety
4. Moving People and Goods
5. Economic Vitality

Land Use Scenario

The project team conducted a land use scenario analysis to complement the development of roadway concepts. Based on discussions with the Steering Committee, the land use scenarios focused on the potential for transit-oriented development around anticipated DTA "pre-BRT" stops. With changes to zoning around future stops, there is the potential to create 825 residential units and 292,000 square feet of retail space valued at roughly $161 million over the next 25 years.

Next Steps

The purpose of the Central Entrance Vision Plan was to establish a cohesive vision for the Central Entrance corridor. As MnDOT moves into the design process, additional analysis and public involvement will be necessary to refine the vision established in this plan. The concepts developed as part of this plan are high-level, and will require further study and engineering analysis before moving forward. Project design and engineering are anticipated to take place between 2022 and 2025, with construction in 2026. This schedule may change based on funding opportunities, engineering analysis, or other factors.