

## 8. Implementation Plan

The Lincoln MPO is committed to moving forward with the implementation of this plan's goals and in helping to implement the programs and high priority projects identified in the plan. The Implementation Plan includes policies and action steps as well as a summary of mitigation strategies that are anticipated to address the environmental, social, and cultural resource impacts of priority projects. It guides the MPO's implementation of the LRTP over the next five years and summarizes the relationship to the TIP and the LRTP amendment process.

Land use and transportation are interdependent in that each rely on and are influenced by the other. PlanForward envisions a City and County that provides an ample supply of land for future edge growth. It also encourages infill growth and more compact development with a wider range of housing options, which will support and require a wider range of transportation options. The impacts of the new growth and land use plans will be monitored to plan for future changes to the transportation system.

It should also be noted that the LRTP is to be updated every five years per federal regulations. During these five-year updates or minor updates to the Comprehensive Plan, the assumptions and identified needs and priorities of the transportation plan will be reexamined to best reflect any changes that occurred since the previous update.

### Policies and Action Steps

The vision for transportation in Lincoln and Lancaster County is a safe, efficient and sustainable transportation system that enhances the quality of life, livability and economic vitality of the community. The following 18 policies and 170 action steps were developed with community input to support the Comprehensive Plan as the LRTP is implemented. Policies should be applied to the major modes of transportation to implement this vision. Although action steps may support multiple policies, they are typically organized with a primary policy. In a few cases an action step has been repeated for two policies.

## Transportation Equity

**POLICY:** Prioritize equity in planning and implementing safe transportation systems to facilitate freedom of movement for all community members.

Every community member depends on a transportation network and services to meet their access and connectivity needs. As such, equitable transportation means identifying and working to eliminate disparity in the quality of and access to transportation options for all community members. Lincoln is actively working to engage stakeholders across the community who can illuminate issues of inequity in various forms, including transportation, through the [One Lincoln](#) initiative.

Inequity in some U.S. cities is reflected in historical transportation decisions that physically divided or severely hindered less affluent neighborhoods and residents of color (especially Black populations). Some of those decisions illustrate how lasting damage can occur through unjust and short-sighted transportation policies. Lincoln must avoid these types of disruptive transportation investments moving forward. Transportation investments should intentionally eliminate disparity and undue barriers to already overburdened and underserved populations. By keeping the needs of diverse community members in mind, Lincoln and Lancaster County can commit to transportation decisions that support the mobility needs of all residents.

### Transportation Equity Action Steps

1. Expand and maintain infrastructure for all modes of transportation serving overburdened and underserved populations.
2. Remove physical, temporal and language barriers to the transportation network.
3. Offer night and weekend transit operational hours for overburdened and underserved populations.
4. Broaden transit public input and validate priorities, alternatives and plans with diverse stakeholders.
5. Expand representation of overburdened and underserved populations serving on the StarTran Advisory Board.
6. Continue working with Lincoln Public Schools that support transit use by students from overburdened and underserved populations.
7. Routinely distribute multi-lingual transportation information through human service providers locally and One Lincoln partners.
8. Provide equitable access to transit and shared mobility options for unbanked community members and those without access to credit card payment options.
9. Use insight and information from municipal and county service agencies to target mobility support for our aging population.



## Transportation and the Environment

**POLICY:** Incorporate environmental stewardship, sustainability, and resiliency into transportation decisions and investments.

Lincoln and Lancaster County currently comply with federal air quality standards, supporting a great quality of life for residents and allowing greater flexibility for transportation infrastructure investments. This is a desired state now and for all future generations. The transportation sector is the nation's leading source of GHG emissions, and total emissions have steadily grown within our region as daily VMT and congestion levels have increased. Decisions within the region will address threats to transportation infrastructure and human health anticipated to result from climate change.



The [Lincoln Climate Action Plan](#) was developed through an inclusive and robust stakeholder development process in 2020. It recognizes both the global threat and the local implications that climate change can have on the safety and well-being of all community members, as well as the resilience of public infrastructure such as roads and bridges. The plan also recognizes transportation with a compelling list of strategies meant to reverse the trend and help achieve the goal of 80 percent net GHG reduction by 2050. Alternate modes must replace a portion of SOV trips, and cleaner fuel sources must replace internal combustion engines to achieve this goal. Action steps are necessary now to begin transitioning the region toward a more resilient and sustainable future.

Actions taken to accomplish these outcomes will not only protect air quality but expand the ability to avoid other environmental impacts and enrich the overall community experience. Land use and transportation decisions will be made together to support community connections with cultural enrichment opportunities, parks, and natural spaces. Design decisions will be needed to protect stormwater runoff quality, reassign or remove impervious surface, maintain corridor aesthetics and viewsheds, as well as reduce long-term infrastructure costs by incorporating resilient standards and best practices.

### Transportation and the Environment Action Steps

1. Support the Lincoln Climate Action Plan to build a decarbonized and efficient transportation system.
2. Develop a Travel Demand Management program.
3. Promote active commuter incentives.
4. Incentivize the adoption of electric vehicles by City employees.
5. Add electric charging stations with public access.
6. Electrify municipal fleet with electric vehicles and charging stations.

7. Coordinate with businesses to ensure workplaces have adequate facilities for active commuters.
8. Design roadways to limit stormwater runoff with permeable or disconnected surfaces.
9. Incorporate cultural and natural resources within the network of active transportation corridors.
10. Encourage resilience planning specific to transportation design and construction to address climate risks of flooding and severe weather events and when applying best practices for benefit cost analysis to federal aid transportation projects.

## Complete Streets

**POLICY:** Plan, design, build, and maintain streets to provide travel mode choice and to accommodate people of all ages and abilities.

The City of Lincoln adopted a [Complete Streets Policy](#) through an Executive Order/Administrative Regulation in 2013. Complete Streets are public and private streets that include some combination of appropriate infrastructure, as determined by the surrounding context, to accommodate all modes of transportation, including private vehicles, public transportation, walking, and bicycling. An interdepartmental steering committee continues to encourage design and operation of a transportation system that reflects this transportation policy. The group coordinates projects relating to design, planning, construction, reconstruction or rehabilitation of public and private streets, or development projects that would substantially impact or cause construction of public or private streets between City departments. Funding has been directed to the Complete Streets Policy initiative to address known gaps and to demonstrate the potential outcomes of implementing the policy. As part of this effort, streets are identified as best candidates for improvements that accommodate multiple travel mode choices to develop a network of complete streets for the community. Not all streets need to be built as complete streets to accomplish this.



The City is staffed and organized to take the next steps toward a Complete Streets Program, which includes the necessary standards, processes and best practices needed to fully accomplish the Complete Streets Policy. Continued progress toward Complete Streets will be achieved through standards to be established for all mode types within existing and improved public ROW. New infrastructure design will consider such standards for all modes to avoid future retrofits required to make this older infrastructure accessible and safe for non-motorists. Modifications will also be considered for existing infrastructure to better support non-motorists. For all modes to be safe and accessible, development must accommodate their needs. Retrofitting existing infrastructure to add accessibility and safety features is inefficient and costly.

### Complete Streets Action Steps

1. Expand the Complete Streets Program by ordinance to include a Complete Streets Plan, procedures, guidelines, and project review process.
2. Establish department policy statements affirming the value of Complete Streets and the structural and non-structural design elements that will achieve the objectives of Complete Streets when making program and project review decisions within the traveled way and ROW.
3. Publish an annual Complete Streets Report that includes a record of projects that were reviewed, summarizes any design standards that conflicted with best practices, and lists exceptions that were approved from adopted design standards.

4. Deliver multimedia campaign and educational information about the Complete Streets Program and how to safely interact with different modes during travel.
5. Update [Complete Streets Gap Analysis and Prioritization Strategy](#) with a focus on gaps that exist within underserved and overburdened communities, funding outlook, and public-private partnership opportunities.
6. Prioritize Complete Streets projects that address gaps that exist within underserved and overburdened communities.
7. Enhance neighborhoods by adding safe and accessible connections to transit, multiuse trails, sidewalks and bicycle facilities.
8. Continue to develop standards for Quiet Streets on low volume roads where traffic calming prioritizes walking and cycling over motorized vehicles. Quiet Streets enable people using active transportation to make use of the entire roadway, not just sidewalks or the side of the street.
9. Complete demonstration projects based on advisory input from Complete Streets Committee to accomplish Complete Streets objectives and gain public input by implementing lower cost solutions that address infrastructure challenges identified in the gap analysis.

## Transportation and Managing Growth

**POLICY:** Integrate land use and transportation decisions to ensure transportation infrastructure can support travel demands associated with growth.

An estimated 48,000 new Lincoln households are anticipated by 2050. This growth presents the community with important decisions about how to make transportation investments that provide for the needs of existing community members and support the needs of future residents and businesses. By directing more residential households toward infill locations, additional transportation opportunities are realized. Greater densities will add support for multiple modes of transportation and reduce the distances between housing and jobs or services. Taking advantage of infill opportunities also slows the pace that new infrastructure is needed, although edge growth will support  $\frac{3}{4}$  of expected population growth and expand the roadway network. Development decisions are driven by market-based conditions influenced by demand, development requirements, and costs. Roadways in new growth areas are planned to accommodate connections with diverse community assets such as parks and schools, as well as Complete Streets amenities for non-motorized transportation, that are often missing but needed in older developed neighborhoods.



Transportation infrastructure supports all land use types and growth anticipated for the community. Individual households will make decisions about acceptable travel distances, and the transportation network will support reliable and efficient travel options. Alternative modes of transportation will be integrated within all new growth and development decisions to provide travel choice and ensure that the value of existing infrastructure is maximized through system optimization.

### Transportation and Managing Growth Action Steps

1. Increase multimodal connections within and between all neighborhoods and commercial centers.
2. Support infill development by providing high-quality transit service to attract riders who would select transit over driving (often called "Choice Riders").
3. Provide first and last mile connections and intermodal amenities at transit stops.
4. Serve traffic projected in the near term through signal optimization and capacity improvements.
5. Implement funding decisions that reinforce the opportunity for Lancaster County to turn over roadway infrastructure in good condition as Lincoln grows outward.
6. Pave roadways that support future service limits with efficient transitions from rural to urban conditions.

7. Support multimodal connections available along the current Highway 2 alignment following completion of the South Beltway project.
8. Implement [Access Management Policy](#) on internal transportation routes (e.g., State highways and City arterials) to support efficient access to adjacent businesses and external transportation connectors (e.g., Interstates and Freeways) to minimize disruption to future land uses.

## Congestion Management

**POLICY:** Manage an efficient and reliable multimodal transportation network.

Transportation congestion occurs when travel demand and infrastructure capacity are not well aligned. This causes travel to be delayed and be less efficient, and it produces greater amounts of GHGs. Congestion delay fluctuates throughout the day and can also be influenced by special or emergency events. The Lincoln MPO updated the [Congestion Management Process](#) in 2020 to meet federal requirements, identify causes of congestion, and develop incremental strategies that maximize the efficiency and reliability of the multimodal transportation network. Many strategies are captured within action steps listed in other policies. The Lincoln MPO includes high priority strategies that are listed here as action steps for managing congestion.



### Congestion Management Action Steps

1. Implement the Congestion Management Process.
2. Encourage infill and mixed-use development that aligns with the PlanForward growth scenario.
3. Structure transit fares to encourage additional choice ridership.
4. Add and improve access to the network of Complete Streets.
5. Improve the safety of existing bicycle and pedestrian facilities.
6. Optimize traffic signal coordination and adaptive communication.
7. Coordinate access controls for all roadway types.
8. Improve congesting and congested intersections.
9. Complete 2+1 roadway projects that can address congested road segments.
10. Consider the impacts that emerging technologies in transportation (e.g., autonomous vehicles and online good delivery) may have on travel behaviors and the future capacity needs of the system.

## Transportation and Economic Health

**POLICY:** Foster economic health through transportation investments that improve access to education, employment, and services and reduce transportation costs.

A well-organized and maintained multimodal transportation network supports a thriving economy collectively, as well as individual households.

Comprehensive transportation infrastructure is necessary for community members to access education, employment, and essential services and to connect to the diverse cultural and economic opportunities available throughout the region. Lincoln and Lancaster County benefit from strong relationships with local businesses and support their growth through multimodal transportation investments and policies. Innovation is valued and investments in transportation infrastructure and high-speed internet will influence how commerce, work, and education are delivered. Lincoln will continue to approach transportation investments that ensure economic benefits are equitably distributed.



### Transportation and Economic Health Action Steps

1. Expand operational alternatives that create public/private partnerships with large companies to increase employee transit ridership.
2. Continue working with Lincoln Public Schools that support transit use by students from overburdened and underserved populations.
3. Develop commitments to working with Southeast Community College, the University of Nebraska-Lincoln, and other educational institutions to ensure access to education and training programs for all city residents.
4. Provide well-maintained infrastructure for all modes of transportation that support existing businesses and services inside the city.
5. Encourage redevelopment that adds a mix of uses that diversify the economic potential and access to jobs within neighborhoods.
6. Provide Quiet Streets as part of the Complete Streets Program that support greater demand for active transportation access to stores, services, and entertainment venues.
7. Eliminate or reduce minimum parking requirements where land use and active transportation infrastructure plans support zero or limited-vehicle households and businesses.
8. Implement the downtown two-way traffic study recommendations.

## Pedestrians

**POLICY:** Improve the safety and connectivity of the pedestrian environment to encourage walking and the use of mobility aids as a mode of transportation.

For most trips, walking or the use of a mobility aid such as walkers, crutches, canes, braces, and other similar device is required to move between destinations. Comfort and use of the pedestrian environment is supported by sidewalks, crosswalks, pedestrian ramps, traffic signals and signs of various kinds, and lighting. The pedestrian environment is expanded when access is provided to transit stops, shared mobility devices, multiuse trails, and walkable districts with markets and recreational amenities. The pedestrian environment offers community members unique opportunities to interact with neighbors and neighborhoods. It provides critical corridors for safe access to schools, as well as essential services when connectivity is provided and maintained. Various development design requirements have been implemented over time, and some parts of the pedestrian environment support walking and mobility aids better than others. The transportation network will continue to be improved by creating and maintaining a safe and connected pedestrian environment throughout the community.



### Pedestrians Action Steps

1. Continue to require all new development to abide by design standards for sidewalk alignment and cross-sections when constructing sidewalks and intersections for all street improvements.
2. Require or direct the repair of existing sidewalk sections that have become unsafe for walking or use of mobility devices.
3. Coordinate sidewalk and intersection safety improvements into roadway projects.
4. Provide comprehensive and safe pedestrian walking routes with accessible sidewalks and curb ramps that are safe, accessible and comfortable to pedestrians from neighborhoods to schools.
5. Improve the safety and function of school zones and walking routes for students and pedestrians at all public and private schools in Lincoln as detailed in the City's School Zone Standards.
6. Preserve the downtown sidewalks for pedestrian traffic only by providing safe and connected on-street infrastructure for other modes.
7. Protect vehicle sight distances to minimize the potential conflict with pedestrian crossings.
8. Coordinate the construction and maintenance of safe crossings or grade separations for pedestrians where high traffic streets and highways make crossing difficult.
9. Calm traffic strategically along roadways to help reduce vehicle speeds and provide a safe pedestrian environment within neighborhoods, school zones, and commercial districts.

10. Ensure that pedestrian crossings and pedestrian ramps and other ROW as appropriate are included in the program of snow removal where street plows leave residual piles of snow as they pass and reinforce the timely removal of snow and ice from sidewalks by residents and businesses.
11. Implement safety campaigns targeting specific user behavior for both pedestrians and motorists.

## Bicyclists

**POLICY:** Improve and expand the on-street bicycle and trail network to support public health, recreation, and bicycling as a mode of transportation.

Lincoln supports an award-winning trail network distributed throughout the community. The trail network has grown from 23 miles to more than 255 miles over the past 30 years. On-street bicycle facilities have added another 144 miles of infrastructure to the community for bicyclists and the first two-way, protected Cycle Track was built in Lincoln along N Street between Antelope Creek and South 7th Street. Within the region, trails connect users to parks, lakes, and wilderness areas. Major trail networks connect riders to communities such as Marysville, Kansas, south of Beatrice and Omaha. Locally, the cities of Hickman and Waverly have also developed trails, and bicyclists use the gravel roads throughout Lancaster County for exercise, recreation, and entertainment, including annual race events that bring up to 1,600 riders from around the world. Infrastructure improvements for bicyclists in the community are supported by active groups that focus on transportation safety, access, equity, public health, and recreation. The 2019 [Lincoln On-Street Bike Plan](#) was created with the community's support to direct the expansion of on-street bicycle infrastructure that makes bicycling for work, errands, recreation, or leisure attractive to more community members. Increasing the number of trips by bicycles, specifically those that are 3 miles or less, is one approach to reducing vehicle miles traveled, congestion, and GHG emissions while improving public health and supporting a thriving economy.



### Bicyclists Action Steps

1. Identify additional funding to coordinate and construct the Lincoln On-Street Bike Plan projects.
2. Continue to advance a comprehensive vision for the regional trail network that can be supported by various funding partners.
3. Where possible, include sidepath construction concurrently with roadway projects to minimize construction cost and traffic disruption.
4. Coordinate proposed on-street bicycle facility projects into roadway projects.
5. Develop design guidance reflecting industry best practices and prioritization for each bicycle facility type, including a bike boulevard system and consideration of on-gravel bike routes.
6. Establish and enforce bike parking standards for all new development and redevelopment of commercial, multi-family housing units and mixed-use redevelopment projects.
7. Update bicycle traffic rules to accommodate best practices that support safe operation of bicycles in the traveled way, as well as signalized and stop sign intersections.
8. Protect vehicle sight distances to minimize the potential conflict with bicycle crossings.

9. Coordinate the construction and maintenance of safe crossings or grade separations for bicyclists where high traffic streets and highways make crossing difficult.
10. Strive to increase amenities that demonstrate Lincoln to be the most bicycle friendly community in the Midwest.
11. Implement safety campaigns targeting specific user behavior for both cyclists and motorists.
12. Provide safe and accessible bicycle connectivity to neighborhoods, employment centers, commercial areas, and schools.

## Transit

**POLICY:** Enhance the community's public transportation operations as a means of expanding economic equity and travel choice.

StarTran strives to make transit service and infrastructure decisions that leverage available funding and optimize service for the community. Transit routes serve more than 85 percent of the community. Lancaster County Public Rural Transit operates north and south routes on alternative days of the week as well. Available service times and frequencies are a source of ongoing community discussion to serve the needs of transit-dependent populations. Use of the transit system has steadily increased over the past decade. Route changes implemented in 2018 retained the hub and spoke orientation and moved routes to arterial streets. In 2020, a StarTran [Multimodal Transit Transfer Center Feasibility & Concept Design Study](#) for downtown was completed. Transit use was affected negatively during the COVID-19 pandemic, and transit was offered fare-free for the duration. VanLNK, the first city-run, on-demand transit service, began in 2020 also. The community input received for the LRTP about transit helps direct the 2021 update to the [Transit Development Plan](#). Operational decisions that increase transit use in the city, county and between Omaha and Lincoln can reduce individual household transportation costs, provide access to jobs and education, and support environmental goals to reduce GHG emissions.



### Transit Action Steps

1. Seek funding for and construct a new downtown Multimodal Transportation Center.
2. Incorporate more paratransit, flex route, and demand-response support, advanced technology integration, and off-peak service hours where feasible.
3. Broaden transit development public input and validate priorities, alternatives, and plans with diverse stakeholders.
4. Study, recommend, and program for additional intermodal transfer hubs that reduce trip times and increase system connectivity locally and with a regional transit system to Omaha.
5. Expand central signal system software capabilities to provide adaptive signal control technology and other intelligent transportation system infrastructure that supports transit signal priority.
6. Complete demonstration projects that illustrate the potential for transportation innovations to improve and integrate with standards for making vehicle communication (V2X) and advanced mobility decisions that improve transit operations.
7. Provide high-quality transit service and study Bus Rapid Transit (BRT) opportunities to attract choice riders and support infill development. BRT is a high-capacity bus-based transit system that delivers fast and efficient service that may include dedicated lanes, busways, traffic signal priority, off-board fare collection, elevated platforms, and enhanced stations.

8. Improve the transit experience by reducing the distance between the transit stop and traveler's destination (known as first/last mile connections) and adding amenities at transit stops.
9. Maintain high-quality and remotely accessed transit on-board security cameras.
10. Implement recommendations in StarTran's current and 2021 TDP.

## Public ROW and Access

**POLICY:** Manage public ROW and access to balance multimodal mobility needs and protect the value of adjacent property.

Public spaces along transportation corridors have the potential to enhance individual and shared experiences throughout the community. The identity of a community can be communicated through design elements that exist outside the traveled way. Well-coordinated landscaping, public art, pedestrian lighting, and wayfinding can serve to orient individuals and make the traveling experience positive. The ROW can also be used to accomplish multiple purposes, such as easements for utilities, sidepaths, grading for stormwater management, and siting for transit stops. Transportation design requirements help coordinate an effective public ROW and access. Where design requirements are flexible, recommendations that encourage the best use of the public space should be made.



### Public ROW and Access Action Steps

1. Monitor the relative cost-benefit analysis of programmatic roadway design standards for sidewalks, stormwater management, lane sizes, trails, culverts and ROW widths currently required.
2. Update and implement a design framework for public ROW and access based on study findings.
3. Encourage flexible and performance-based geometric design processes and best practices that address challenges to transportation agencies created by funding and ROW constraints.
4. Require public and private development to abide by required design standards and make flexible decisions based on the value of investment.
5. Expand wayfinding and orientation provided within the pedestrian environment throughout the community.
6. Preserve access control standards to support an efficient transportation network that is safe for active transportation users as well.
7. Preserve or provide adequate ROW space for healthy street trees and temporary snow storage.
8. Consider strategies that reduce the impacts of transportation projects on existing neighborhoods.

## Freight

**POLICY:** Preserve and enhance the efficiency of the freight system to support the local, regional, and national economy.

Freight transportation within and through the community supports the economy, creates jobs, and provides materials needed for everyday life to occur. Freight movement is a positive indicator of economic strength. Providing reliable, efficient, and safe corridors for freight movement attracts more economic growth. Freight movement is supported by roadways, traffic operations, railroad lines and crossings, pipelines, and airlines. A freight network that uses freeways and highways reduces congestion and makes the transportation network safer for all users. Transportation planning will continue to support the development of a freeway system that completes the South Beltway and coordinates a future East Beltway to support regional traffic demand and reliable movement of freight.



### Freight Action Steps

1. Maintain a network of truck routes that provides for the safe, efficient, and reliable delivery of goods.
2. Continue to use the Railroad Transportation Safety District (RTSD) in its mission to reduce the number of conflicts between traffic and railroads.
3. Improve railroad crossings, quiet zones, and grade separations when warranted and that have the greatest economic and safety return on investment to the overall community.
4. Continue corridor preservation, funding, and planning for the East Beltway.
5. Support opportunities to expand the intermodal facility in and possibly adjacent to the Lincoln Airport and Airpark areas.
6. Develop and conduct a pilot project that generates alternate revenue sources (i.e., price the curb) within specified short-term parking areas for freight deliveries to downtown offices, businesses, and residents.
7. Coordinate with State and County partners to consider freight parking and electric refueling plan recommendations that would best support autonomous freight platoon storage.

## Shared Mobility

**POLICY:** Recognize the role of Mobility as a Service provider to help address mobility needs and transportation inequities.

Shared mobility involves transportation services that are shared among users, either in parallel or one after another. Services include shared micromobility, such as bike sharing or scooter sharing, public transit, such as StarTran, and ridesharing via transportation network companies (TNCs). Lincoln has two shared micromobility programs that provide low-cost transportation alternatives compared to personal vehicle ownership and use. BikeLNK, Lincoln's bikeshare program, was implemented in partnership with LTU in 2018. Currently, BikeLNK has 21 docking stations that support 105 traditional bikes and 12 electric bikes (e-bikes) with an additional 13 e-bikes as part of a demonstration. ScooterLNK is Lincoln's second shared micromobility program created in 2020 as a one-year scooter pilot program. Two private electric scooter companies were chosen to participate in the pilot and deployed shared e-scooters in the City ROW for Lincoln residents to use as a transportation alternative to personal vehicles. Shared micromobility may lead to increased use of personal micromobility options throughout the community, reducing the need for some personal vehicles. Additionally, continued expansion and use of these shared transportation services will increase demand for safe on-street infrastructure to limit conflicts with pedestrians and vehicles.



Shared mobility is also being used with StarTran's on-demand service, VanLNK, as well as with private ride hailing service providers to help diversify the transportation options available for the community. Access to shared mobility may provide cost-effective alternatives to personal vehicle ownership if it is well coordinated with the active transportation and transit network.

### Shared Mobility Action Steps

1. Continue to develop partnerships that support BikeLNK operations.
2. Provide safe, accessible, and well-connected on-street infrastructure for shared mobility devices to use.
3. Establish Mobility Data Specification tools that organize information about the use of shared micromobility services to evaluate the demand, equitable distribution of services, and safety performance.
4. Leverage dynamic route-generating technology innovations to expand microtransit opportunities in Lincoln and Lancaster County.
5. Incorporate shared mobility into the design review of development and encourage standards for built form for a comprehensive shared mobility network.
6. Dedicate parking areas for carpool, vanpool, and shared micromobility vehicles in municipal garages.

7. Develop partnerships with large employers and commercial center operators to place shared mobility devices that can provide employees with access to services within 3 miles.
8. Coordinate shared mobility device access near transit stops, transfer stations, and transfer hubs.
9. Provide comprehensive and safe multimodal corridors that promote the use of shared mobility for first/last mile trips or to connect between other modes of transit.
10. Update personal e-scooter traffic rules to accommodate best practices that support safe operation of e-scooters in the traveled way, as well as signalized and stop sign intersections.
11. Recommend ongoing improvements to VanLNK, public, on-demand transportation operations and availability.

## Advanced Mobility

**POLICY:** Support the orderly deployment of advanced mobility technologies that preserve and enhance the safety of all road users.

Future mobility experiences and options will be modified through incremental advances in technology. Public and private investments into the market for autonomous vehicles, connected technologies, and drone delivery will integrate into the market driven products available to the public. Civic investments will be made to traffic operations infrastructure and lead to improvements to the safety, efficiency, and reliability of the transportation network. Safety for all community members will be prioritized in the decisions made to adopt and regulate local implementation of advanced mobility options. It is uncertain if autonomous vehicles will reduce or increase the number of VMT. Other advances in technology that support more employees working from home may also influence traffic behaviors over time. Technology advances for mobility have the potential to influence long-term transportation decisions and should be directed to achieve the broadest and most equitable community benefit.



### Advanced Mobility Action Steps

1. Develop strategies to accommodate future mobility options and vehicle technologies for Delivery Economy – rules and regulations for operating on the transportation network and vehicle requirements (e.g., drones, scooters, delivery robots).
2. Develop strategies to accommodate future mobility options and vehicle technologies for Roadway Design Standards – include vehicle communication (V2X) standards/guidelines to accommodate evolving vehicle and communications technologies.
3. Revise rules and regulations that currently prohibit or deter advanced mobility technologies.
4. Develop policies to facilitate partnerships with the private sector (e.g., Transportation Network Companies) to complement and/or provide transportation services.
5. Develop policies to monetize technology uses that support advanced mobility and use funds to complete smart technology transportation projects.
6. Leverage a growing economy to support research in advancing carbon neutral transportation options that leverage technology to reduce vehicle miles traveled and congestion.
7. Create policies/regulations to ensure that service territories for advanced mobility technologies extend outside the downtown core.
8. Study parking and development strategies that reimagine the use of public spaces for automated vehicles and the incremental replacement of on-street parking with curbside drop-off and pick-up areas.

9. Establish drone delivery regulations that protect individuals and infrastructure safety and security.
10. Incorporate autonomous shuttles into the StarTran fleet.
11. Study opportunities to capture the value of autonomous vehicles to equitably distribute the cost across all community members.

## Transportation Partnerships

**POLICY:** Seek partnerships with both public and private entities to finance mutually beneficial transportation projects.

Effective multimodal transportation planning and implementation is achieved by coordinating activities of public agencies toward the shared vision of the LRTP. The City of Lincoln, Lancaster County, and the State of Nebraska serve essential roles in developing and maintaining the roadway and bridge network. Integrating a transit system coordinated by StarTran and trail development supported by the Lower Platte South NRD expands the capabilities of the transportation network to support the community. Community partners provide conduits to share information about the transportation system, and private development expands opportunities to maximize the value of public investments in transportation. Partnerships generate access to greater amounts of transportation funding and ensure the transportation system is built in a coordinated manner.



### Transportation Partnerships Action Steps

1. Develop County roadways within Lincoln growth Tier 1 & 2 with the intent to transfer infrastructure of good condition that meets design standards that support edge growth.
2. Continue planning and development of a freeway system that efficiently and safely moves regional and thru traffic without using arterial roadways.
3. Collaborate with agencies and associations to develop and distribute educational programs related to safety and security of the transportation system.
4. Maintain proactive working relationships with railroad operators to facilitate effective processes for planning and constructing at-grade and grade separated crossing improvements.
5. Leverage the University of Nebraska for more opportunities to research safety, integrating active transportation, shared mobility, and advanced mobility.

## Transportation Safety

**POLICY:** Strive to reduce transportation-related deaths and injuries, especially for vulnerable users (pedestrians, bicyclists, motorcycle users, the elderly, youth, and individuals with disabilities).

Transportation infrastructure planning and design must always consider the safety of community members. Transportation-related deaths and injuries on City, County, and State roadways affect the community and individuals negatively. Reflecting on the variety of conditions that can contribute to crashes with any mode of transportation serves to help make the future transportation network safer. All transportation partners will continue to evaluate data and improve the design and implementation of safe streets, railroad crossings, and active transportation infrastructure.



### Transportation Safety Action Steps

1. Prioritize the protection of vulnerable road users such as bicyclists and pedestrians.
2. Generate community support to establish and reach specific goals for reducing transportation-related deaths and injuries.
3. Engage a transportation safety taskforce to review transportation safety data, consider trends and best practices for improving safety, and advise local officials how to implement strategies that make the transportation network safer.
4. Adopt an action plan that clearly describes the strategies, responsibilities, interim targets, timelines and measures of effectiveness.
5. Adopt messaging that emphasizes that traffic deaths and injuries are preventable.
6. Prioritize transportation resources based on evidence of the greatest needs and impacts for safety.
7. Support updates to state and local regulations that make the multimodal transportation network safer.
8. Provide physical separation between on-street bicyclists and motorists based on safety countermeasure best practices and available crash data.
9. Update the municipal code to allow bicyclists to occupy full lane, not just as close as practicable to the right-hand side of the right-hand lane, where physical separation is not provided.
10. Implement incident management planning to help the transportation system recover swiftly from incidents.
11. Study and recommend changes to posted speed limits within residential neighborhoods to expand the low stress network for on-street bicycle users.
12. Evaluate roadway width for collectors and design streets for slower speeds.

13. Study and recommend policies that prioritize walkability and safety near employment centers, commercial corridors, and high-density residential areas in a manner similar to that of School Zone Standards.
14. Provide intersection crossings that are safe for bicyclists and pedestrians.
15. Maintain high-quality and remotely accessed transit on-board security cameras.

## Transportation Maintenance

**POLICY:** Optimize the maintenance of transportation infrastructure through data-driven asset management.

Transportation infrastructure represents the largest land use type for which a public agency is accountable. Preservation and maintenance of the transportation network is important to the community. Poor road conditions can cause extra wear and tear on vehicles and add barriers to active transportation use. Roadways, bridges, transit equipment and amenities, trails, traffic controls, and sidewalks require ongoing maintenance schedules, and all new infrastructure increases future maintenance costs. Addressing deferred maintenance is prioritized to maintain infrastructure in good condition and repair degraded infrastructure. The community also desires to ensure that infrastructure maintenance supports equitable outcomes that may direct more funding to some areas of the community rather than others for periods of time.



### Transportation Maintenance Action Steps

1. Continue to communicate about Lincoln on the Move rehabilitation projects, forecasted maintenance plan, and funding parameters.
2. Advance system preservation (e.g., filling potholes, repairs and crack sealing) to extend the lifecycle cost of existing streets and program rehabilitation of major and residential streets annually with priority for resolving deferred maintenance equitably throughout the community.
3. Continue to strive for methods that use durable and resilient materials for all new construction and assets.
4. Continue annual programming for the sidewalk replacement and rehabilitation program to meet the safety, access, and connectivity needs of residents within the city.
5. Continue snow and ice removal for the on-street bicycle and pedestrian network including intersections.
6. Establish multiuse trail condition standards and methods for segment evaluation used to program maintenance type and timing.
7. Use decision support tools recommended by StarTran's Transit Asset Management Plan (TAMP) to optimize lifecycle planning of capital public transportation assets.

## Transportation Funding

**POLICY:** Seek innovative finance and funding methods to support continued investment in transportation infrastructure projects that benefit the community.

City, County, and State partners coordinate funding and leverage available federal funds, regional funds, developer commitments, transit farebox fees, and private contributions to build and maintain the multimodal transportation network. Community members desire a well-maintained transportation network that grows with the needs of development. Available funding is directed to address these outcomes, but anticipated funding levels are not adequate to meet the identified multimodal needs. Innovative funding strategies can both stretch the value of each dollar and identify new funding sources to address unmet needs. The transition to electric vehicles will result in fewer federal gas tax funds available for transportation improvements and maintenance. Local funding strategies must also explore transportation financing alternatives for the community to evaluate so that future funding strategies are reasonably understood.



### Transportation Funding Action Steps

1. Implement the funding program and construct the committed and priority projects per the Fiscally Constrained Plan in the LRTP.
2. Coordinate with state and federal agencies on developing new and updated transportation funding opportunities to meet transportation needs of the community.
3. Establish dedicated and sustainable funding sources for pedestrian and bicycle projects and programs.
4. Capitalize on opportunities to leverage alternative funding sources, such as public-private partnerships, for roadway improvements and transit services.
5. Coordinate with NDOT to program funding solutions for constructing the East Beltway.
6. Continue to use the Railroad Transportation Safety District (RTSD) in its mission to reduce the number of conflicts between roadway traffic and railroads, improve safety for pedestrian and bicycle crossings, and study, design, and construct railroad crossing improvements that have the greatest economic and safety return on investment to the overall community.
7. Encourage flexible and performance-based geometric design processes and best practices that address challenges to transportation agencies created by funding and right-of-way constraints.
8. Program new construction that supports growth areas and increased corridor density for residential and commercial growth as city limits expand in support of the PlanForward growth scenario.

9. Maintain a quality transportation system in all areas of the community by balancing the distribution of program funding equitably.
10. Identify new funding sources as increased electrification of personal vehicles, which don't pay fuel tax, may reduce federal funding over time.
11. Incorporate sustainable funding sources and mechanisms and protect maintenance funding with user type fees or taxes to keep up with constant maintenance needs.
12. Develop policies to monetize technology uses that support advanced mobility and use funds to complete smart technology transportation projects.
13. Actively communicate with the community about the benefits of multimodal and safety investments, as well as the allocation of transportation funding that is achieving system development and maintenance priorities.

## Airport

**POLICY:** Ensure the Lincoln Municipal Airport is efficient, accessible, and environmentally sound.

The Lincoln Airport provides for the air transportation needs of the community and connects visitors from around the world to the region. The airport is located with convenient access to private air carriers, industrial distribution, and national security facilities. Landside transportation infrastructure supports the efficient and accessible operation of the airport; connecting personal vehicles, ride sharing providers, public transit and active transportation with airline travel. Maintaining this infrastructure benefits the economic vitality and mobility of the region.



### Airport Action Steps

1. Support the development of landside transportation infrastructure strategies when the 2007 [Airport Master Plan](#) is updated.
2. Support the freight demands associated with airport-based distribution with quality roadway infrastructure.
3. Improve multimodal access to the Lincoln Airport and business park campus.
4. Protect environmental resources on and adjacent to the airport from negative impacts.
5. Maintain compatible land uses and zoning within the 60 DNL and 75 DNL noise contour lines.
6. Continue to enforce zoning restrictions for building and structure height in the approach and turning zones.

## Mitigating Impacts to Environmental, Social, and Cultural Resources

As part of the planning process to develop the 2050 LRTP, proposed transportation projects were evaluated for potential environmental impacts that could result. **Chapter 7** describes the evaluation process. The evaluation was completed to support the project screening process and to assign evaluation weight relative to the Transportation and the Environmental Goal. **Appendix H** provides additional support information. In general, adherence to the overall mitigation sequence of “avoid and minimize impacts, or compensate for unavoidable impacts” should be applied for all projects that are implemented.

### Mitigation Strategies

Detailed mitigation strategies should be developed during the engineering of each transportation project. Cooperation and collaboration with environmental agencies early and throughout the construction process will ensure the best result.

### Freshwater and Saline Wetlands



Wetlands should be avoided as much as possible. If permanent impacts to wetlands are unavoidable and greater than 0.1 acre, then compensatory mitigation may be required with a Section 404 permit issued by

the U.S. Army Corps of Engineers (USACE), and potentially Water Quality Certification by the Nebraska Department of Environment and Energy.

Wetland impacts could be offset by one of the following methods:

- Use of mitigation bank credits
- Construction of permittee-responsible mitigation consisting of either onsite or offsite wetland restoration, enhancement, establishment, or preservation, in addition to yearly monitoring for five years

Compensatory mitigation may be required at a 2:1 or higher ratio depending on the type and quality of wetland being impacted. Saline wetlands have specific mitigation requirements and ratios that may require additional coordination with resource agencies and USACE.

The Growth Tiers Map in PlanForward indicates an emphasis on directing growth away from saline wetlands and outside the Little Salt corridor for the long term.

### Floodplains



When grading must be done in floodplain areas, the surface hydrology must be carefully considered. While compensatory storage mitigation addresses the floodwater quantity issue, the flow of surface water during a flood event must also be addressed to mitigate any possible effects to downstream or upstream properties.

Lincoln and the 3-mile extraterritorial jurisdiction are governed by a “No Adverse Impact” policy for new growth areas. This ensures that construction activity on one piece of property will not negatively impact another. The floodway should remain open for the conveyance of flood water; stream crossings must generally be constructed so as to cause no rise in the flood level.

These projects may require a floodplain development permit and may be subject to restrictions concerning changes in floodplain surface elevations. Projects can be designed to avoid or minimize impacts to the base floodplain. Mitigation may consist of onsite solutions to restore the flood corridor and habitat or offsite solutions to attenuate flood levels or preserve, restore, or establish similar habitat. If unavoidable, changes in floodplain surface elevations within the base floodplain may require submittal of a conditional letter of map revision to FEMA.

Trails are sometimes constructed in floodplain areas. These structures, if properly constructed, should not cause adverse impact. However, care should be taken when grading for trail construction, and the trails themselves may require a higher level of maintenance due to sediment and debris deposit during flood events, movement of the base material due to high water table, and increased vegetative growth.

### Stream Corridors



Stream corridors, or riparian areas, provide important wildlife habitat and connections.

These corridors are often associated with floodplains and similar mitigation efforts are effective. A City of Lincoln building code regulation limits the placement of buildings or fill within a 60-ft buffer surrounding drainageways (i.e., streams or creeks) and is referred to as the “minimum flood corridor” (LMC Ordinance 26.07.126). These buffer areas must be kept in place to provide a functional riparian area.

When roadways must cross streams, it is important that proper design allow a sufficiently wide riparian corridor to pass underneath the structure, which is why NDEE guidelines may require a 30-ft vegetated buffer along impacted channels and be planted with perennial, native species. The use of culverts on National Hydrographic Dataset streams should be avoided as these stretches interrupt the continuous stream corridor. Impacts to stream channels may require Section 404 permitting with USACE.

### Endangered Species

Projects planned in areas identified as suitable habitat for or the known range of threatened and endangered species must comply with all state and federal regulations. In general, these areas have a higher imperative to avoid when engineering roadway projects. Proper conservation measures would be incorporated into the project planning and design to avoid and minimize impacts to protected species or their habitat. If impacts are not sufficiently mitigated through conservation measures, then further consultation with Nebraska Game and Parks Commission and U.S. Fish and Wildlife Service would be required.

When possible, trails would be located outside sensitive habitats to avoid impacting protected species. If design and planning considerations involve protected species conservation, then trails can provide educational signage and increase awareness.

## Tree Mass

Construction may affect tree masses even when the trees are left in place. Changes in grading can change runoff flows and subsurface water available to roots. Compaction of soil by heavy equipment can decrease soil permeability. Root zones should be protected from compaction by avoiding the area or by placing non-compacting materials over equipment travel lanes during construction. Retaining walls may be used when sight distances require dramatic changes in grade, rather than grading back beyond the ROW.

If tree removal is unavoidable, then replacement tree planting would be a suitable mitigation measure; however, special consideration should be given to the location and variety of replanted trees. For example, the Lincoln Parks and Recreation Community Forestry Unit provides several alternatives to replace ash trees (*Fraxinus* spp.) to minimize the spread and adverse impacts of the emerald ash borer (*Agrilus planipennis*) ([Lincoln Emerald Ash Borer Response and Recovery Plan, 2018](#)).

## Migratory Birds

Most migratory birds in Nebraska are provided protection under the Migratory Bird Treaty Act or Nebraska state statutes. Construction activities that would otherwise result in the “taking” of migratory birds, eggs, young, and/or active nests should either be avoided or satisfy applicable mitigation activities identified by NEPA or approved environmental document.

To avoid impacts to protected bird species, construction activities would include certain conservation measures. Removal of vegetation in suitable nesting areas would occur outside the primary nesting season (i.e., April 1 to September 1) and when no birds are actively nesting (Note: Some may be ground nesting

birds). Work on bridges or culverts would also occur outside the primary nesting season.

If removal of potential nesting habitat cannot be avoided during the primary nesting season, then a qualified biologist would survey prior to construction to determine the presence or absence of breeding birds and active nests. The 2018 [NDOT Avian Protection Plan](#) is a useful reference because it includes standard evaluation procedures and protocols for compliance.

## Public Use Properties

Public use areas include parks, open space areas, trails, and some school playgrounds that offer recreational opportunities. The Department of Transportation Act of 1966 (DOT Act) includes a special provision, Section 4(f), stipulating that the FHWA and other DOT agencies cannot approve the use of land from publicly owned parks, recreation areas, wildlife and waterfowl refuges, and public or private historical sites (**Cultural Environment** discusses historic sites) unless certain conditions apply. Project activities that restrict access may also be considered a “use” under Section 4(f).

Additionally, recreation resources developed with federal funding through the Land and Water Conservation Fund (LWCF) are protected under Section 6(f) of the LWCF Act. Section 6(f) prohibits the conversion of these properties to anything other than public outdoor recreation uses.

Depending on the type and size of the impact and the type and size of the 4(f) resource, a number of options may be available to minimize impacts to comply with the regulations, including exceptions, *de minimis* determinations, programmatic evaluations, and Individual 4(f) evaluations.

## Native Prairie



Runoff from impermeable surfaces that often carry pollutants can negatively impact native prairies. Mitigation strategies include runoff detention and retention areas where runoff can be slowed so that pollutants can settle and infiltrate.

Issues can also arise when prairies are burned as part of regular management practices causing smoke and reduced visibility. Proper management techniques include selection of burning event dates to ensure favorable winds and mowing or haying when burning is not feasible. Similar to other resources, direct impacts to prairies would be minimized through planning and design and could be mitigated through prairie restoration efforts.

## Cultural Environment

The cultural environment consists of historic resources, including historic standing structures, historic districts, and archeological sites. For the broad-brush level of planning, mapping to identify designated cultural resources in proximity to potential projects is appropriate, mostly to serve as an early reminder of potential historic impacts. Note that actual project planning should consider both designated cultural resources and those eligible for the National Register of Historic Places, but not yet identified.

Projects that are federal undertakings (federal funding or approvals) require review under Section 106 of the National Historic

Preservation Act. Therefore, early planning, once actual projects are programmed, helps avoid, minimize, or mitigate adverse impacts on cultural resources.

Proximity alone does not constitute adverse impact, and well-designed improvements and especially system maintenance can benefit historic resources, especially neighborhood districts. Similarly, trails may have no adverse impact or even be beneficial to the livability of historic residential areas and revitalization of commercial areas.

Avoidance and minimization of impacts, and mitigation if needed, would be situational and likely different for each project, but could consist of vibration restrictions or modifications to design plans to avoid specific structures or areas.

## Environmental Justice

Available census data is used to identify areas of the community that meet the criteria for EJ populations. The fiscally constrained projects are reviewed to identify projects that are located within or adjacent to one or more of these areas. This process is described in **Appendix H**. Projects located in areas that exceed the threshold used to identify both Minority Populations (**Figure H.13**) and Low-Income Populations (**Figure H.14**) would likely need additional EJ project-specific coordination during project planning and implementation. Requirements would vary based on funding for the projects (e.g., federal aid or local funds).

## Transit Service



Transit services support EJ populations (**Appendix H**), who may depend on transit more than others within the community. A goal of the [Transit Development Plan](#) is to provide transit service for transit-dependent individuals who need transportation to get to work before 6:00 AM or after 6:00 PM. In addition to extending weekday services, allocation of transit service along higher density and higher ridership areas could provide more frequent or perhaps longer service hours on those routes. Such changes can introduce benefits, as well as challenges to low to moderate income and racial and ethnic minority populations. Additional service hours may be beneficial but adversely may also discourage low-income populations from moving out of the areas and inadvertently cause poverty to remain concentrated in these areas of the city. To avoid this unintended circumstance, service and Census data will need to be evaluated carefully on a regular basis and as the TDP is updated.

## Roadway Maintenance in Existing Neighborhoods



Maintaining roadways with good condition and operation for existing neighborhoods can also support EJ populations. Good quality pavement condition and improved curb ramps for pedestrians reduce wear and tear on vehicles and support active transportation. Repaving neighborhood roads is being accomplished with [Lincoln on the Move](#) rehabilitation project funding. Two Plus Center Turn Lane projects are summarized in **Chapter 5** and generally improve traffic flow without requiring additional ROW in most cases and are designed to alleviate traffic congestion and all of the negative associated impacts (noise, air quality impacts, etc.) without significantly impacting the roadway profile. As explained in **Chapter 7**, roadway rehabilitation projects remain an emphasis, with historic rehabilitation budgets for roads, trails, and sidewalks proposed to be retained or grow for all modes.

## Connectivity Between Modes

Connecting various modes of transportation creates greater opportunities for EJ populations to access jobs, education, essential services, and other amenities throughout the community. Personal vehicles, transit services, active transportation, and shared micromobility can all work together to expand access for overburdened and underresourced populations.

Connecting trail systems to the pedestrian and street system, linking bike networks to transit services, and linking transit service to major employment centers are encouraged through multiple policies listed in this Chapter. Bike racks on City buses improve the bike-to-transit connection and implementation of the [Lincoln On-Street Bike Plan](#) will eliminate gaps in the current network.

## Relationship to Transportation Improvement Program

The Lincoln [MPO Transportation Improvement Program](#) documents the prioritized list of federally funded and/or regionally significant transportation projects and improvements for the next four-year period. Projects included in the TIP support all surface transportation modes, including highways, streets, public transit, bicycles, and walking. Projects are considered for TIP funding from this LRTP according to the Fiscally Constrained Plan described in **Chapter 7**. The TIP is updated annually and includes clearly identified funding sources.

The Lincoln MPO works with the NDOT to approve the highway, trail, bike, and pedestrian projects and transit investments included in the TIP. After adoption for a four-year period, the TIP can be amended or modified administratively to account for changes in funding or project needs. Amendments to the TIP must be made in conformance with the LRTP, a requirement that retains the publicly supported prioritization process for projects and assignment of funding.

## Amendment Process

Federal regulations require the LRTP to be updated every five years. During these five-year updates, the assumptions and identified needs and priorities of the transportation plan will be reexamined to best reflect changes that occurred since the previous five-year update. Between the five-year updates, there is an amendment process through which the LRTP can be modified.

As with all long range plans, conditions in the community will likely change over time and related shifts in priorities will occur. A change such as an increase in the amount of growth

in one direction of the urbanizing area with a corresponding decrease in expected growth in another direction will shift the needs and priorities of the transportation system. Some projects that were expected to be needed farther out in the planning period may be needed sooner. Likewise, a project that is no longer needed as soon as expected could be delayed.

Changes in the basic assumptions or goals and policies of PlanForward and the LRTP may require formal amendments to both documents. Changes to the Fiscally Constrained Plan are to be made by a formal plan amendment through the MPO planning process. These may take the form of a standalone amendment or as a package of amendments during the established annual review process. For example, when a project is identified as needed sooner than expected and that need is in the first ten years of the Fiscally Constrained Plan, a project(s) of similar cost will need to be dropped lower in the priority list to keep the plan fiscally constrained.

Close adherence to the amendment process will be of particular importance if a project is desired to be placed in the first four years of the plan. The first four years of the Fiscally Constrained Plan should closely reflect the MPO TIP for projects of regional significance and those using the federal planning process and federal funding. Close coordination and consistency between the TIP and the LRTP should be an ongoing effort.

All amendments to the Fiscally Constrained Plan will need to be reviewed and approved by the MPO Technical Committee, which includes local, state, and federal representation; the Lincoln-Lancaster County Planning Commission; and the MPO Officials Committee. The amendment process will also need to adhere to the MPO's public engagement and information dissemination.