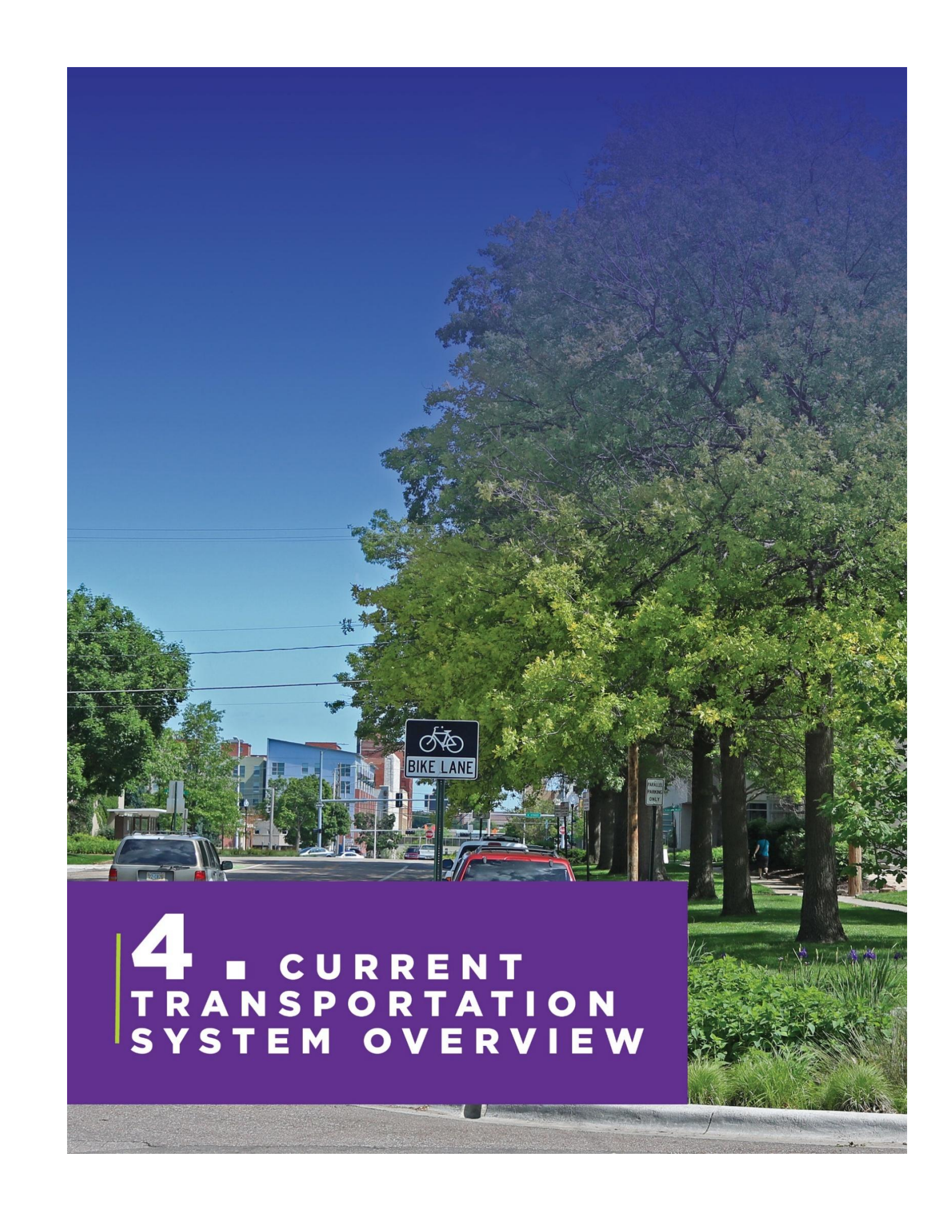




4 ■ CURRENT TRANSPORTATION SYSTEM OVERVIEW

4. CURRENT TRANSPORTATION SYSTEM OVERVIEW

A comprehensive overview of Lincoln and Lancaster County’s transportation network provides valuable insight into how mobility supports the region today. The Baseline Report captures the current state of the multimodal system—encompassing roads, bicycle infrastructure, pedestrian facilities, transit, freight, and rail—and outlines future conditions shaped by expected growth within the Lincoln Metropolitan Planning Area (MPA). It assesses both existing infrastructure and anticipated developments and summarizes emerging transportation challenges.

Land Use and Demographics

Understanding a transportation system begins with a close look at land use and demographic trends. These elements help predict travel behaviors and guide decisions on where new or enhanced infrastructure may be needed. Housing and employment are the primary land use categories used to project travel demand, while demographic factors, such as age, income, and ability types, offer insights into the diverse transportation needs of people across the region.

Housing density and infill development play a critical role in shaping the community’s transportation infrastructure needs. A land use strategy that focuses on infill offers an advantage for building a more resilient, sustainable community by leveraging existing infrastructure and reducing the cost of putting in new systems. In contrast, continued edge growth requires new infrastructure, which can drive up the overall expenses over time. Preferably, the community should take a balanced approach.

Prioritizing infill, when feasible, not only alleviates financial pressures but also supports smarter, more efficient land use. A stronger focus on infill development promotes higher urban densities, which reduces vehicle miles traveled and encourages walking, biking, and transit use. When combined with compact edge growth, this approach puts housing closer to jobs and amenities, eases pressure on emergency services, and helps preserve Lancaster County’s rural character.

The connection between land use and transportation is reflected in Lincoln’s Comprehensive Plan. The following policy recommendations indicate support for development that facilitates transportation choices and is mobility oriented, with relevant Comprehensive Plan policies noted (*e.g.*, “P65”, etc.):

- **Managing Growth (P65):** 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.
- **Congestion Management (P66):** Encourage infill and mixed-use development that aligns with the PlanForward growth scenario.
- **Safety (P76):** Study and recommend policies that prioritize walkability and safety near mobility nodes, employment centers, commercial corridors, and high-density residential areas.

Population and employment trends further influence Lincoln’s transportation needs. Where people live and work shape the demand for infrastructure and services across all travel modes. Lincoln’s population reached 294,750 in 2023, a 1.95 percent increase since 2019, while Lancaster County grew by 2.4 percent to 326,716.

Table 2 summarizes the forecasted growth for residential, commercial, and school enrollments. The forecasts were developed by Lincoln-Lancaster County Planning and Development Services staff and then used in the travel forecasting process. Overall, households are forecast to increase by 23 percent by 2050, with a 20 percent growth in anticipated commercial development (square footage) and a 47 percent increase in total enrollment (K-12 and college/university).

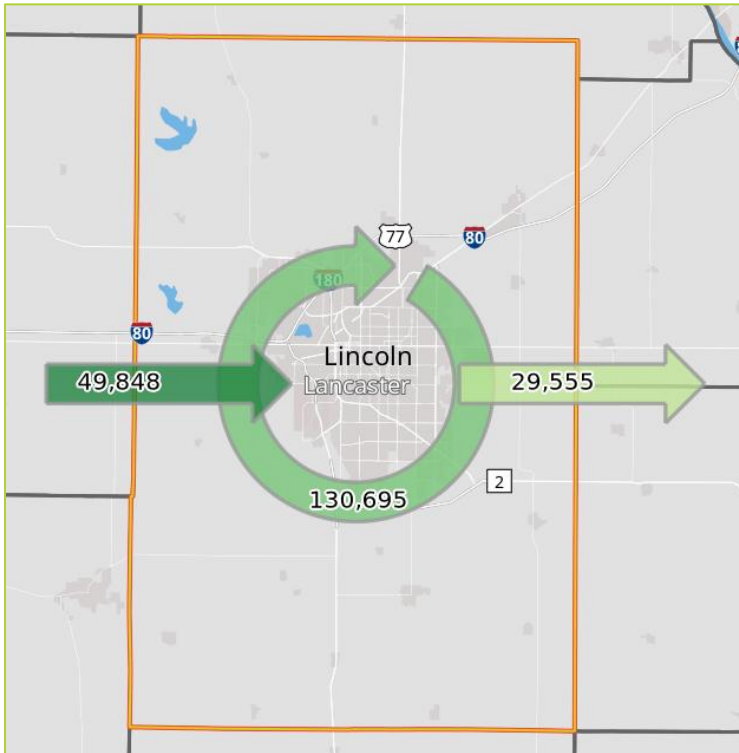
Table 2. Future Population and Employment Forecasts

Year	Households			Commercial (ksf)				School Enrollment	
	Single	Multi	Total	Retail	Office	Service	Industr.	K-12	College / Univ.
2024	93,424	45,330	140,551	13,719	16,853	21,926	18,840	49,057	37,165
2036	96,241	55,638	153,739	13,916	17,873	22,234	19,898	62,222	46,162
2050	103,132	69,333	172,466	15,263	20,436	23,629	22,572	74,411	52,241
Overall Growth									
2024-36	3%	23%	9%	1%	6%	1%	6%	27%	24%
2024-50	10%	53%	23%	11%	21%	8%	20%	52%	41%

Transportation planning should also ensure accessibility for all residents, especially for those who experience mobility challenges. Lincoln and Lancaster County include communities with limited transportation options, including low-income households, older adults, youth, people with disabilities, and households without access to a personal vehicle. During the planning process, the project team prioritized actions that will improve accessibility rather than contributing to barriers and reinforcing disparities.

Travel Patterns and Trends

Lancaster County functions as a regional employment hub. In 2023, there were nearly 50,000 commuters from outside the county each day, while about 29,500 residents traveled elsewhere for work. Approximately 130,700 residents both live and work within the county. More than 81 percent of employed residents work within the county, a figure that has remained stable since 2010, underscoring the need for coordinated transportation and land use planning to support a connected workforce.



Commute Times

Lincoln residents average 18.3 minutes per trip. The countywide average is 18.9 minutes—8 minutes shorter than the national average!

Commute Distances

In 2023, 67.2% of residents worked within 10 miles of home; 23.6% traveled 25 miles or more, mostly toward Omaha, Grand Island, Hastings, or Kearney.

Source: U.S. Census Bureau OntheMap, 2023, and American Community Survey – 2023 5-Year Average Tables S0801

Affordability extends beyond housing costs. While the U.S. Department of Housing and Urban Development (HUD) defines affordable housing as costing less than 30 percent of household income, transportation is typically the second largest expense. The Housing and Transportation (H+T) Index combines both costs, setting a benchmark of no more than 45 percent of gross household income. In Lincoln, the average household spends about 23 percent of its income on housing, which falls within HUD's affordability threshold. Transportation expenses in Lincoln account for approximately 19 percent of the average household income, roughly 4 percent higher than what is generally considered to be affordable. When combined with housing costs, this total burden rises to 42 percent of total household income.

The American Community Survey (ACS) asks respondents to report their primary mode of transportation to work. In Lancaster County, traveling alone, known as Single Occupancy Vehicle (SOV) is overwhelmingly the most common choice, with 76.1 percent of residents commuting alone by car. Within the City of Lincoln, this figure is slightly lower at 75.7 percent, reflecting a modest shift toward alternative modes. While transit usage in Lincoln is (significantly) lower than national levels, the city shows notably higher rates of active transportation, such as

walking and bicycling than national levels, highlighting a growing interest in healthier, more sustainable commuting options.

Table 3 presents a detailed comparison among Lincoln, Lancaster County, and the United States. While single-occupancy vehicle (SOV) commuting is the dominant mode of travel, an estimated 2.4 percent of households have no access to a personal vehicle. Households with limited or no access to a personal vehicle are more dependent on public transit, well-connected multimodal infrastructure, and complete streets that are safe and supportive of biking, walking, and other alternative modes of transportation.

Table 3. Commuter Mode Split

Commuting Method	Lincoln	Lancaster County (Countywide)	National
Drove alone (SOV)	75.7%	76.1%	70.2%
Carpooled	8.6%	8.4%	8.5%
Public Transportation (excluding taxicabs)	0.9%	0.8%	3.5%
Walked	3.2%	3.0%	2.4%
Bicycled	0.9%	0.8%	0.4%
Other	0.8%	0.7%	1.5%
Worked at Home	10.0%	10.1%	13.5%

Source: American Community Survey – 2023 5-Year Average Table S0801

Roads and Bridges

The Lincoln MPO is served by a widespread and diverse network of streets and highways, ranging from high-capacity roadways that accommodate thousands of vehicles each hour to quieter residential streets. Essential to the regional economy, this transportation system enables the efficient movement of goods throughout the city and county. In rural areas, the roadway network connects smaller communities where many commuters to Lincoln live. It also provides vital access for agricultural producers to reach key transportation hubs, thereby supporting the distribution of commodities across the region and into global markets.

The City of Lincoln and Lancaster County make significant investments in infrastructure to support a more resilient and connected future. As the demand for transportation infrastructure has increased, the maintenance of roadways has become even more vital.

Lincoln’s roadway network spans nearly 200 million square feet of paved surfaces, requiring strategic, ongoing maintenance to ensure long-term performance and safety. The City of Lincoln’s “Lincoln on the Move” initiative is funded by a ¼ cent sales tax that began in October 2019. In May 2025, voters supported a second round of Lincoln on the Move, continuing the initiative through 2033

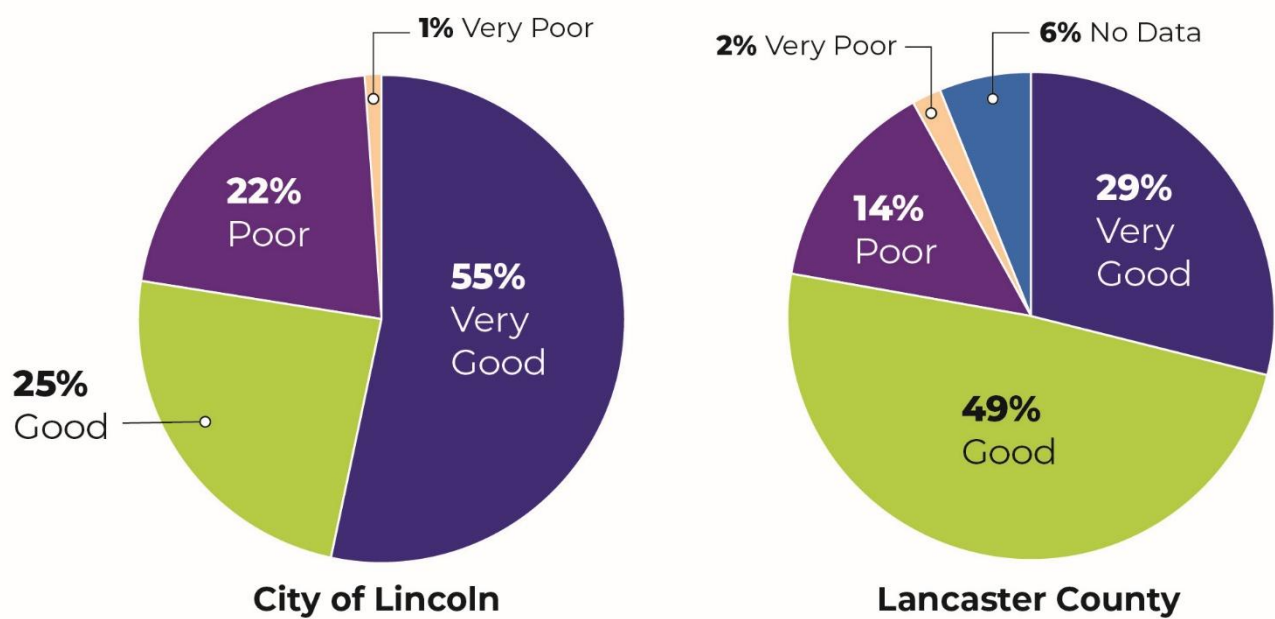
Designed to improve the city’s street infrastructure, this program has generated more than \$100 million in its first six years, with 73.5 percent of the funds dedicated to repairing and rehabilitating existing streets. The

remaining funds support RTSD and growth-related projects, such as new roads in expanding neighborhoods, and the N 33rd Street and Cornhusker Highway project.

The initiative has received strong support with city officials emphasizing its role in enhancing safety, economic development, and overall quality of life. The percentage of Lincoln roadways that are rated “good” or “very good” is 80 percent, which marks a dramatic 35 percent improvement from 2018, when only 45 percent of roadways were rated “good” or “very good.” Similarly, the roads in Lancaster County are in excellent condition with 78 percent of County roads rated “good” or “very good.”

Figure 5 displays surface conditions by percentage for 2025, for both Lincoln and Lancaster County.

Figure 5. Roadway Surface Conditions by Percent (2025)



The City of Lincoln, Lancaster County, and NDOT assess bridge conditions using data from the National Bridge Inspection Program. Per federal guidelines, all bridges must be inspected at least once every 24 months and given a rating of Good, Fair, or Poor based on the conditions of key structural components (the deck, superstructure, and substructure or culvert). A bridge is classified as Good if all major components receive condition ratings of 7 or higher out of 9. If any of the components are rated 4 or lower, the bridge is considered Poor. Bridges that fall between these thresholds, typically with ratings of 5 or 6, are categorized as Fair.

Table 4 presents the current bridge condition ratings for the 163 bridges in Lincoln and 673 bridges in Lancaster County.

Table 4. Bridge Conditions

Condition Rating	Lincoln (163)	Lancaster County (673)
Good	60.1%	57.5%
Fair	35.0%	38.8%
Poor	4.9%	3.7%

Source: LTU, Lancaster County, NDOT

The City of Lincoln operates a comprehensive traffic count program, collecting volume data from more than 1,350 locations across the network. These data, combined with the most recent traffic counts from Lancaster County and NDOT, help the City assess current traffic conditions and inform the regional travel demand model. Understanding how well roadways can handle traffic is critical for assessing future transportation needs.

Roadway capacity is dependent on several factors, including the number of lanes, signal timing, turn lanes, medians, and on-street parking. Factors such as intersections and driveways can also decrease capacity by creating additional slowdowns and stops.

For long-range planning, capacity is evaluated based on the classification of the roadway and the surrounding area (urban vs. suburban). Comparing current traffic volumes with planning-level capacities (using volume-to-capacity ratios, or V/C ratios) helps identify where congestion may occur.

Table 5 shows the congestion levels over time with the following notes:

- 2024 represents the base year, reflecting existing roadway conditions and travel patterns at the time the model was developed
- 2035 E+C and 2050 E+C represent future year scenarios that assume existing (E) plus committed (C) transportation projects, including planned roadway improvements and funded network changes, along with forecasted growth in population, employment, and travel demand for each horizon year

Table 5. Congestion Levels Over Time

	Uncongested (V/C less than 0.8)	Congesting (V/C between 0.8 and 0.9)	Congested (V/C greater than 0.9)
2024	829 miles (99%)	5.2 miles (0.6%)	3.0 miles (0.4%)
2035 E+C	824 miles (98.2%)	9.4 miles (1.1%)	5.7 miles (0.4%)
2050 E+C	814 miles (97.0%)	14.5 miles (1.7%)	10.3 miles (1.2%)

Source: Lincoln MPO Travel Demand Model daily factor for calculating Level of Service (LOS). Appendix D describes the methodology.

Active Mobility

Promoting active transportation, including walking and biking, is a critical aspect of a well-balanced transportation system that meets the needs of all users. Communities that invest in safe, convenient, and comfortable active transportation options often experience improved public health and enhanced quality of life.

Over the past several years, the City of Lincoln has made meaningful strides in strengthening the active transportation network. Building on the progress of the 2013 Lincoln MPO Bicycle and Pedestrian Capital Plan and the 2019 Lincoln On-Street Bike Plan, in 2025 Lincoln initiated development of a Mobility Plan focused on advancing strategies to improve active mobility infrastructure.

The City of Lincoln introduced BikeLNK in 2018 as the city's official bikeshare system to expand access to active and sustainable transportation options. The system provides both standard pedal bikes and electric-assist bikes (e-bikes), accessible at docking stations located throughout the city. In 2020, e-bikes were introduced as a pilot to promote active commuting and recreation. Within its first two years, BikeLNK logged nearly 80,000 trips and 160,000 miles. On March 21, 2022, the Lincoln City Council approved a permanent e-scooter program, ScooterLNK, after a successful 16-month pilot program.

From October 4, 2023, through October 4, 2024, e-scooter users in Lincoln made 106,296 trips averaging 0.96 miles per trip.

The League of American Bicyclists recognized the City of Lincoln as a Silver level Bicycle Friendly Community in 2019. In 2018, *Bicycle Magazine* further recognized the city's cycling culture by naming it one of the Best Bike Cities in the United States. In the 2026 PeopleForBikes City Ratings, Lincoln was selected as one of the "Cities to Watch."

The city has a long tradition of supporting bicycle travel, not only for recreation but also for transportation. Lincoln strives to be a bicycle-friendly community where cycling is safe, convenient, and accessible for all users. Lincoln's regional bike network is anchored by 272 miles of commuter and recreational trails, with 95 percent of city households located within a mile of at least one trail. An additional 135 miles of on-street bike routes extend connectivity across the city, including Nebraska's first protected lane: the N Street Cycle Track.

Most of the existing bike routes are low-stress facilities. However, several intersect with more stressful streets with no traffic control, which can make crossings difficult and act as a deterrent to otherwise potentially interested bicyclists. Some routes have also fallen into disrepair and need maintenance due to missing signage, poor pavement conditions, overhanging branches etc., which can further limit bicycle mobility.

Riding bicycles is prohibited on sidewalks in some commercial areas of Lincoln because of the higher number of pedestrians. Because of these restrictions, the city needs to provide safe on-street infrastructure for bicycle and scooter traffic to ensure that the active transportation network is connected and accessible.

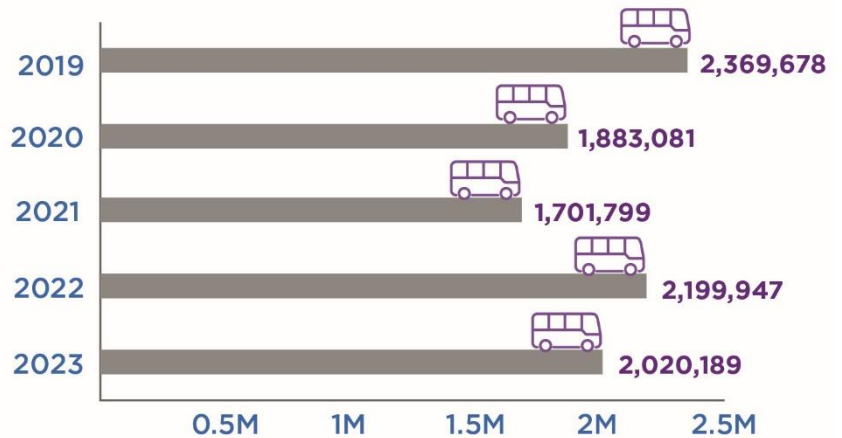
Due to Lincoln's development policies, sidewalks line both sides of nearly all local, collector, and arterial streets. This robust system, spanning nearly 1,500 miles, is supported by an expansive trail network. However, cracked and uneven sidewalks can hinder mobility, especially for individuals with disabilities. Older neighborhoods generally face greater issues, with factors like sidewalk width, proximity to traffic, damage from tree roots, and frequent curb cuts affecting accessibility. Approximately \$3 million is dedicated annually for sidewalk repairs.

Transit

StarTran, the City of Lincoln's public transit division, operates 14 fixed bus routes. In 2022, StarTran covered approximately 87 percent of transit-supportive areas. In 2020, StarTran introduced VanLNK, an on-demand van service that allows travelers to request rides via an app for \$5 per trip. Additionally, paratransit services are available for \$2.50 to serve riders who experience disabilities. Rural transit routes, operated by Lancaster County and managed by Aging Partners, run to and from the north and south portions of the county on alternating weekdays. Despite declines in transit usage across the country, StarTran saw more than 2 million riders in 2023, as indicated in

Figure 6.

Figure 6. StarTran Ridership



Source: StarTran, 2023

Intermodal Connections and Freight

Growing national interest in transportation alternatives has elevated the need for integration across travel modes. In Lancaster County, approximately 6 percent of households do not have access to a motor vehicle and instead depend on a combination of transit, walking, biking, and ride share services. This reliance underscores the importance of designing a transportation network that supports seamless intermodal connections.

Trucks account for nearly 80 percent of all freight moved by tonnage and more than 75 percent of total freight value.

Even among households with vehicle access, more residents are choosing non-automobile options for short trips. As Lincoln continues to modernize its transportation system, strengthening coordination among these modes is critical to offering a competitive alternative to private vehicle use. Mobility nodes represent a promising strategy for achieving this integration.

Lincoln and Lancaster County's economic vitality also depends on the ability of manufacturers, retailers, and distributors to move goods efficiently throughout the region. A high-performing transportation system is essential for these industries to operate effectively. Even residents without direct ties to the freight sector benefit from reliable goods movement every day, highlighting the broader economic importance of maintaining smooth and dependable freight operations.

Freight movement in Lancaster County is expected to remain heavily dependent on trucking through 2045. Truck freight is projected to increase slightly from 78.6 percent of tonnage in 2023 to 79.2 percent in 2045, while its share of freight value is expected to grow from 76.8 percent to 77.9 percent. This dominance reflects the region's

strategic location along major highway corridors and the importance of truck transportation for serving local businesses, industries, and consumers.

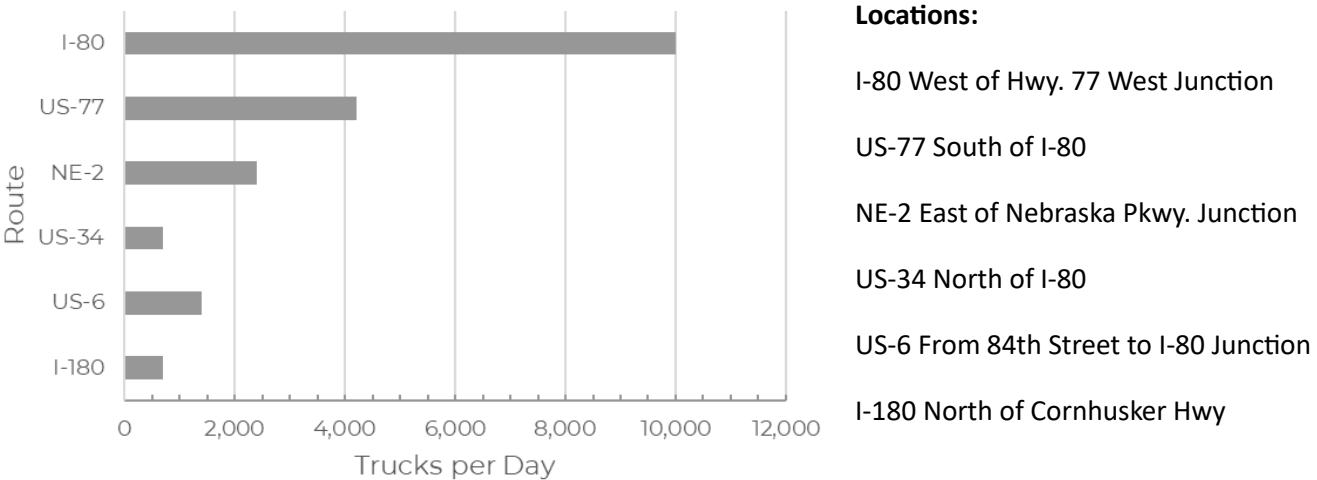
Rail remains the second-largest freight mode, carrying approximately 14.2 percent of freight tonnage and 18.1 percent of freight value in 2023. The higher share of value relative to tonnage highlights rail's continued role in transporting significant quantities of agricultural products, manufactured goods, and other commodities within the regional freight network.

By 2045, rail's share is projected to remain relatively stable, at 13.9 percent of tonnage and 17.9 percent of value.

Pipeline, air, and other modes collectively account for a relatively small share of freight activity. Pipeline transportation represents about 4 percent of tonnage, while air freight moves less than 1 percent of total tonnage but carries a larger share of freight value due to the movement of high-value, time-sensitive goods. Although these modes represent a minor portion of overall freight volumes, they provide important support to specialized sectors of the regional economy.

Overall, forecasts indicate that the modal composition of freight movement will remain largely unchanged through 2045, with trucking continuing to serve as the backbone of the freight transportation system. This trend underscores the ongoing importance of maintaining and investing in roadway infrastructure to support future freight demand while preserving efficient rail connections that contribute to regional economic competitiveness. As shown in **Figure 7**, current truck volumes are concentrated along several of the region’s major highway corridors, particularly those providing connections to Interstate 80.

Figure 7. 2024 Truck Volumes on Major Corridors (AADT)



Source: NDOT Average Annual Daily Traffic Flow Portal

Rail

Rail is a key component of Lincoln and Lancaster County's transportation system, supporting the movement of freight and connecting local businesses and industries to regional and national markets. The cargo mix is dominated by coal and agricultural products, along with manufacturing shipments. BNSF's Hobson Yard, just west of downtown, acts as a critical hub for fueling, inspections, and switching, while the Havelock Shops in northeast Lincoln are a key site for freight car repair.

Four railroads serve the City of Lincoln and Lancaster County: BNSF; Union Pacific (UPRR); Omaha, Lincoln and Beatrice Railway (OL&B); and Omaha Public Power District (OPPD).

Despite the economic importance of rail, many at-grade crossings pose safety risks and cause delays for street network users. For example, the crossings at 33rd Street and Cornhusker Road (Highway 6) / 35th and Adams Streets has an exposure rating (roadway average annual daily traffic times the number of trains per day) of 935,000, which greatly exceeds the NDOT threshold of 50,000 for grade separation funding. The project has received Federal Railroad Administration funding of nearly \$67 million for a significant project that will address these safety issues. In total, 17 crossings exceed the threshold, 12 of which surpass an exposure rating of 100,000.

To address these concerns, the Lincoln/Lancaster County Railroad Transportation Safety District (RTSD) works to identify problem crossing locations, priorities, and solutions. Through its efforts and because of consolidation and grade separation, at-grade crossings in Lancaster County have dropped from 210 in 1970 to 120 today.

Aviation

The Lincoln Airport is the major air facility servicing Lincoln, Lancaster County, and the region. It provides an important transportation link to national and international markets. It is in the northwestern part of Lincoln, with access provided by Interstate and State highways. Smaller private airports and airfields are also located throughout the county.

Electric Vehicles

Nationally, electric vehicle adoption has grown exponentially, from just over 200,000 in 2018 to more than 1.25 million in 2024.

Technological advancements in transportation such as electric and alternative fuel vehicles, advanced vehicle automation, and smart infrastructure have grown substantially in recent years.

Per the U.S. Department of Energy Office of Energy Efficiency and Renewable Energy, Nebraska had

6,920 electric vehicle registrations in 2023. The City of Lincoln has 55 public charging stations as of 2025 and has made significant efforts to expand their EV charging network. StarTran more than doubled its number of electric buses from 4 to 10 between 2020 and 2021, now making up approximately 10 percent of the fleet. By the end of 2026, StarTran's entire fleet of buses will consist of alternative fuel vehicles (AFVs), with the count of buses using compressed natural gas (CNG) increasing to 57. A new charging station was also built in 2020 to support this transition toward AFVs for public transit.

Advanced Vehicle Technology

Automated vehicles (AVs) offer promising possibilities for the future of transportation. Using advanced technologies, AVs can partially or fully operate without human drivers, thereby enhancing safety, efficiency, and mobility. Major automakers and tech leaders like Google and Tesla are actively working to develop and test AV models, some of which are already available with limited autonomous capabilities.

In 2018, Nebraska passed legislation allowing the use of AVs for personal travel, ride-hailing services, and public transit, laying the groundwork for broader adoption across the state.

Safety

Safety is a top priority locally, across the state, and across the country. Federal regulations require each state to develop and implement a comprehensive highway transportation safety plan. Nebraska's Strategic Highway Safety Plan, updated in 2023, identifies key focus areas that need ongoing or new safety programs.

A local initiative, Safe Streets Lincoln, aligns with the national Vision Zero campaign to eliminate traffic fatalities. As part of this project, the City worked with consultants to develop a comprehensive Vision Zero Action Plan, with a safety goal of eliminating all roadway fatalities and reducing serious injury crashes by 60 percent by

State crash data collected over the six-year period between 2019 and 2024 show that there were approximately 32,000 crashes in the City of Lincoln and 4,000 crashes in Lancaster County, an average of roughly 6,000 crashes per year.

Year 2045 on all locally maintained streets. Vision Zero acknowledges that many factors contribute to safe mobility, including street design, speeds, behaviors, technology, and policies. Through this initiative, Safe Streets Lincoln sets clear goals to achieve the shared vision of safer streets for all road users.

Between 2019 and 2024, the average number of killed or seriously injured (KSI) crashes per 100,000 population was 38 KSI crashes per year in Lincoln city limits and 102 KSI crashes per year in Lancaster County. In that same timeframe, there were 672 KSI crashes and more

than 10,000 minor or possible injury crashes in the city of Lincoln, and there were 194 KSI crashes and just over 1,100 minor or possible injury crashes in Lancaster County. All other crashes were property damage only (PDO).

Crash data analysis performed during development of the City of Lincoln's Vision Zero Action Plan helped identify patterns to consider when screening potential future planning improvements. The analysis used crash history and estimated daily traffic volumes at each intersection to establish crash rates. Taking this approach provided a measure for rating how well each intersection performed from a safety perspective with reference to similar intersections. A critical crash rate is determined by the average crash rate for similar intersections and results in a threshold value for comparison. The method also controls against low volume intersection bias.

Per the Statewide Crash Data, 1,218 of the 7,326 intersections exceed the critical crash rate threshold.

As part of the City of Lincoln's Vision Zero Action Plan development, High Injury Networks (HINs) and High Risk Network (HRNs) were created for the city's intersections and roadways. The facilities included in the HINs

represent the roadway segments and intersections where KSI crashes occur most often, while the HRN identifies locations that exhibit characteristics associated with an elevated risk of severe crashes, regardless of whether a significant crash history has already been observed. Both networks were incorporated into project evaluation to help prioritize improvements that address existing safety concerns and proactively reduce future crash risk.

Figure 8 and **Figure 9** show the HIN roadway segments and intersection locations, respectively.

Tier 1 roadway segments and intersections represent the top 10 percent of segments within the HIN based on injury score, while Tier 2 includes the remaining roadway segments and intersections identified as part of the HIN.

Figure 8. High Injury Network Roadway Segments

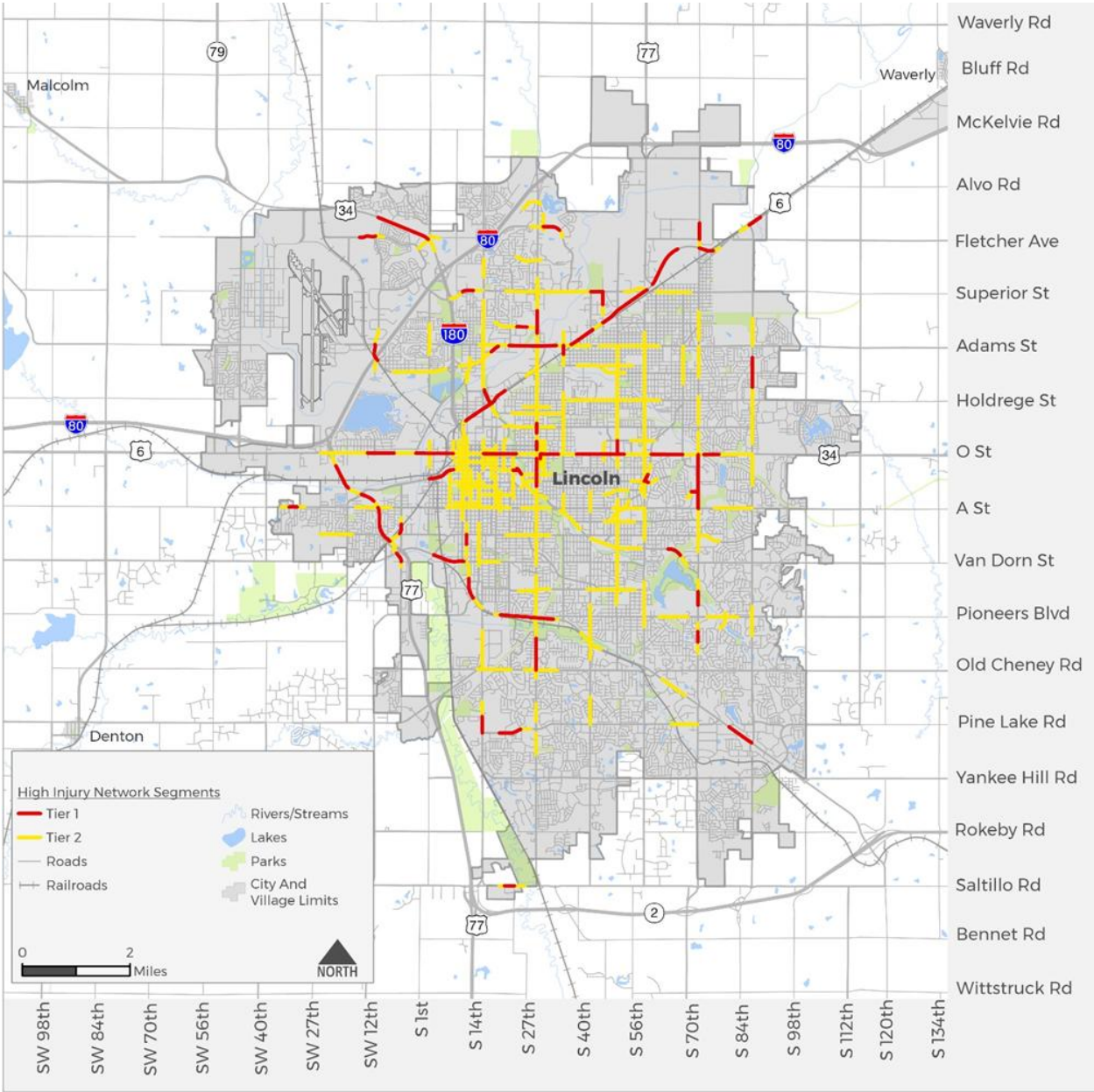


Figure 9. High Injury Network Intersection Locations

