5. Needs Based Plan

The Future Land Use Plan from PlanForward is the basis for transportation planning in Lancaster County. This plan defines the extent of the urban area that is expected by the year 2050, and what land uses are anticipated with the new growth area. It also defines the number of expected new dwelling units and where those units will be located. The LRTP is designed to support these land uses and provide transportation alternatives that will increase the mobility, safety, and livability of the community.

The Needs Based Plan identifies current and future programs and projects in the transportation system that would be necessary to address all the transportation needs of Lincoln and Lancaster County through 2050. Current and future needs and candidate projects for the transportation system have been compiled from various sources that include:

- 2040 LRTP
- Current planning studies
- MPO planning committees
- MPO technical tools (e.g., the 2050 Travel Demand Model, GIS analysis and engineering studies)
- Community input through Focus Group meetings, public meetings, and online surveys

Surface transportation needs cover all modes, including roadway, transit, bicycling, walking, and rail (specifically the railroad crossing needs). The current and future conditions described in **Chapter 4** help to define a Needs Based Plan for the Lincoln MPO. This includes the transportation projects that could be constructed and the programs that could be implemented to realize the transportation vision if funding limitations were not a consideration. The Needs Based Plan includes more than $1.9 billion in roadway capital projects and nearly $60 million in trail projects (in 2021 dollars), among other needs.

One primary responsibility of the Long Range Transportation Plan is the operation and maintenance of the new and existing street and roadway system. The public input process identified maintenance as the number one priority. Regular maintenance, monitoring of the functionality of the existing system, and implementation of lower cost improvements designed to alleviate congestion will expand the transportation system and functional benefits of adding new roads beyond localized improvements.

Congestion Management Process

Federal requirements state that metropolitan areas with more than 200,000 people, known as Transportation Management Areas (TMAs), must maintain a Congestion Management Process (CMP) and use it to make informed transportation planning decisions.

The Lincoln MPO views congestion management in the context of the overall transportation planning process and as a tool to ensure that existing and new transportation infrastructure is effectively managed and maintained. The CMP is implemented as a feedback process to inform and understand congestion within the TMA and the appropriate strategies to address it.

The CMP highlights an ongoing and iterative process to use strategies that span various timelines and resource demands. Lincoln MPO's current CMP (adopted in 2020) was used as a guide in identifying strategies to address existing and future congestion (as identified in **Chapter 4**). These strategies are reflected in the projects and programs of the Needs Based Plan.

Roadway

Cars and trucks will continue to be a primary mode of travel for Lincoln and Lancaster County residents throughout and beyond the planning period of this Plan. These vehicles depend on the expansion and continued maintenance of a street and road network allowing ease of mobility throughout the region. Although investment in other modes of transportation may decrease reliance on the automobile, streets and highways will continue to form the backbone of the region's transportation system. The roadway needs are divided into three primary categories: Urban Area Streets, Rural Roads, and NDOT Highways.

Urban Area Streets

This subsection details the long range program for maintaining and improving the urban area street system. This effort involves numerous programs, projects and studies taking many years and costing millions of dollars to complete. Close planning and coordination among various federal, state and local government agencies and departments will be needed.

The planned future urban area street system consists of the following elements:

- Operations & maintenance
- Road & bridge rehabilitation
- Capital projects (including development related projects)
- Two plus center turn lane projects
- Intelligent Transportation Systems (ITS) and technology
- Rail crossing projects
- East Beltway preservation

Operations & Maintenance

The Operations program meets the day-to-day requirements of the urban street system. The street maintenance program includes services and functions like street sweeping, snow removal, stormwater, mowing, crack sealing, and pothole repair. Monitoring system performance is an important part of the Operations program. Data are gathered regularly to monitor traffic flow, crash rates, and intersection functionality. This program also conducts engineering studies to identify future alignments, intersection design, and minor intersection improvements. Continuation of the current Operations and Maintenance program is estimated to cost $1.08 billion through 2050.

LTU's Operations and Maintenance program is challenging by inflating costs associated with materials and employee wages and healthcare costs.

Road & Bridge Rehabilitation

The Rehabilitation program includes the repair of arterial and residential roads when the pavement conditions deteriorate to an unacceptable level. A pavement condition rating system determines which road surfaces are in most need of repair. Also included in the Rehabilitation program is bridge rehabilitation and signal replacements. It is important to note that money invested today in the ongoing maintenance and repair of the street system saves a significant amount of money in the future by avoiding the costs associated with full reconstruction of roadways. The City's target is to rehabilitate 5 percent of the arterial street system each year and 3 percent of the residential street system. That is, each arterial street would be rehabilitated once every 20 years, and each residential street would be rehabilitated every 33 years. The costs associated with achieving this goal will increase as the system ages, as the community grows and adds miles of streets to be maintained, and as construction costs increase over time.

This program is challenged in many ways. Inflation of project costs over the last several years has outpaced the growth in revenue available. The lane-miles of roadway have been increasing much faster than the budget. State gas taxes, a major source of revenue, have not been growing to keep pace as people react to higher gas prices by reducing trips and purchasing more fuel efficient vehicles.

Capital Projects

More than $1.07 billion (in 2021 dollars) in candidate roadway capital projects displayed on **Figure 5.1** are listed in **Table 5.1**. These capital projects include major widening projects, new/reconstructed interchange and major intersection projects, construction of the East Beltway, urban improvement projects (bringing rural roads to two lane urban standards), and other corridor improvements. These projects cumulatively would address the most future congestion problems identified in **Chapter 4**. As described in **Chapter 7**, some of these projects have funding commitments and are anticipated to be constructed within the next four years.

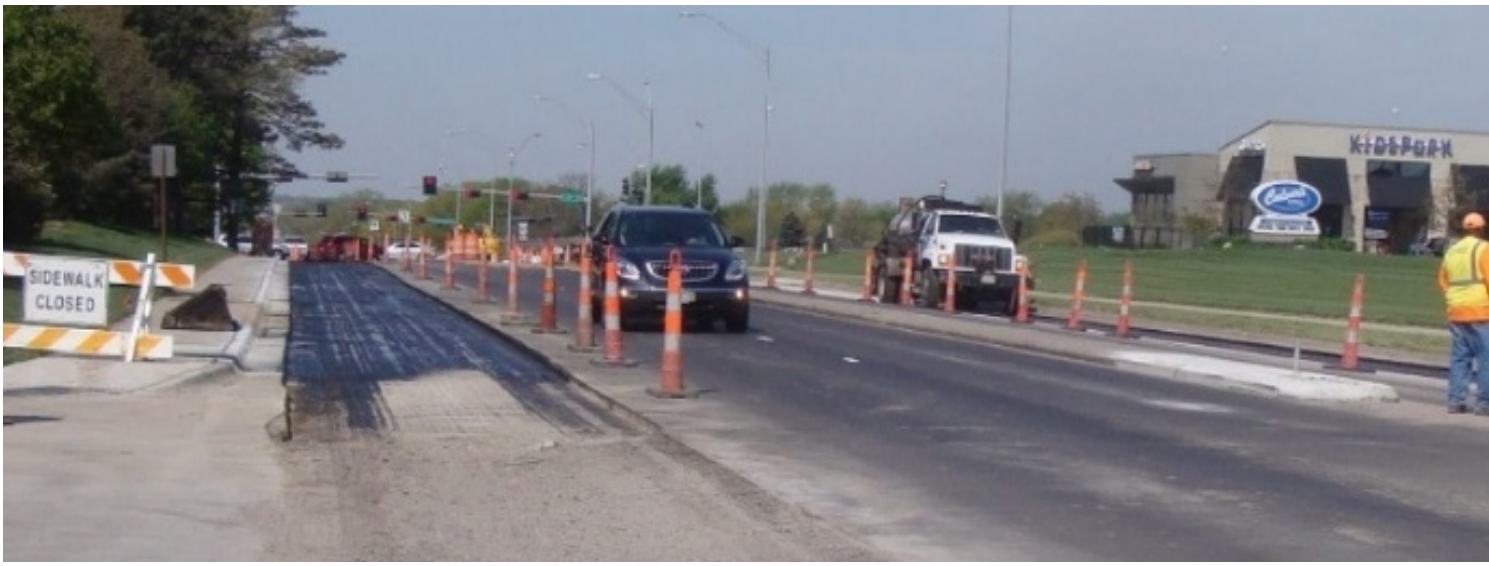


Figure 5.1 Urban Area Roadway Capital Projects

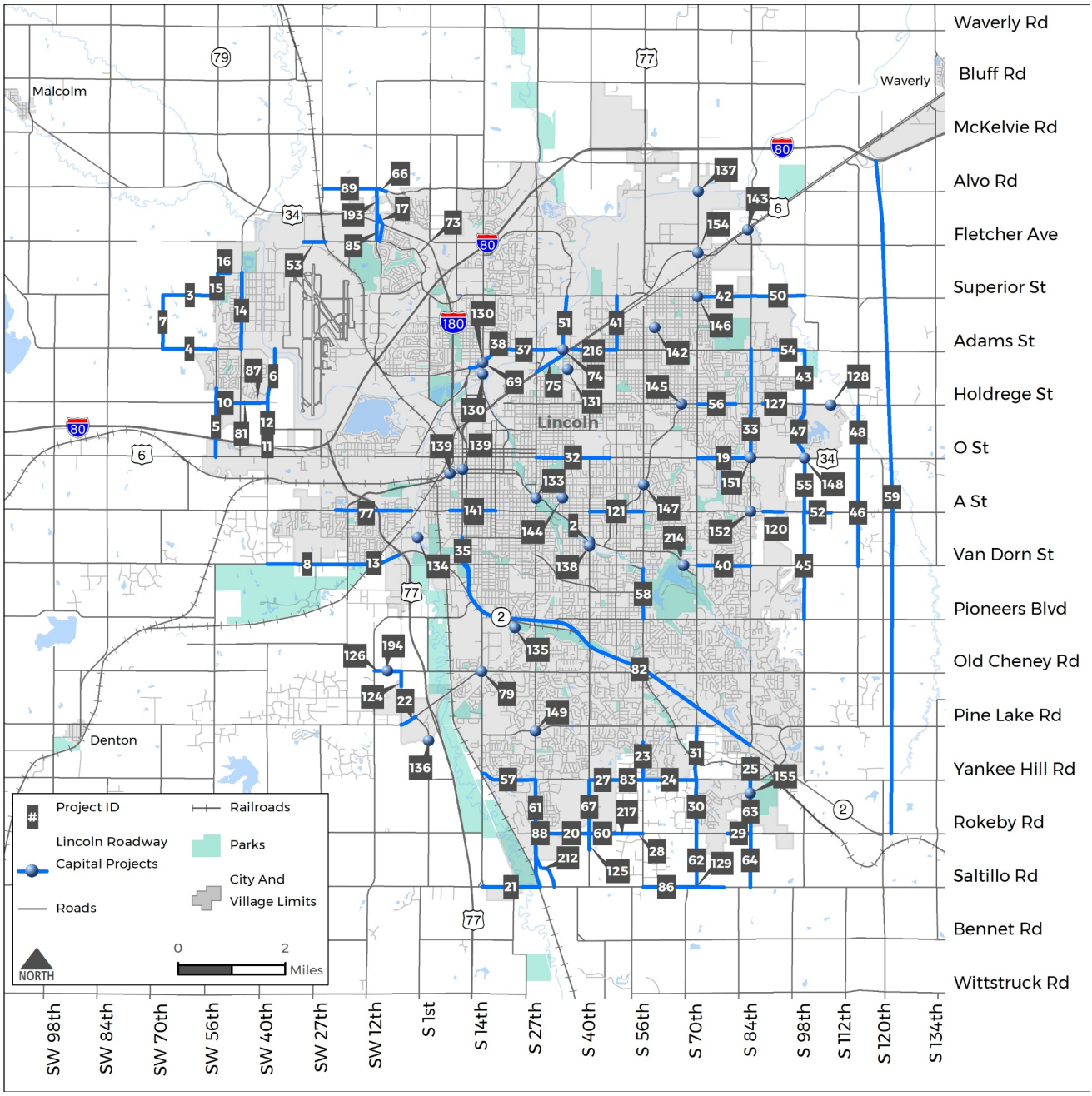


Table 5.1 Urban Area Roadway Capital Projects

ID	Street Name	Limits	Description	Project Cost (2021$)
2	S 40th Street	Normal Blvd and South Street	Major intersection area work	$10,000,000
3	W Superior Street	NW 70th Street to NW 56th Street	2 lanes + intersection improvements	$7,000,000
4	W Adams Street	NW 70th Street to NW 56th Street	2 lanes + intersection improvements	$7,000,000
5	NW 56th Street	W Partridge Lane to W "O" Street	2 lanes + intersection improvements	$9,000,000
6	NW 38th Street	W Adams Street to W Holdrege Street	2 lanes + intersection improvements	$7,200,000
7	NW 70th Street	W Superior Street to W Adams Street	2 lanes + intersection improvements	$7,000,000
8	W Van Dorn Street	SW 40th Street to Coddington Avenue	2 lanes + intersection improvements	$10,500,000
10	W Holdrege Street	NW 56th Street to NW 48th Street	2 lanes + intersection improvements	$5,445,000
11	NW 40th Street	W Vine Street to US-6, including I-80 Overpass	Overpass	$11,250,000
12	NW 40th Street	W Holdrege Street to W Vine Street	2 lanes + intersection improvements	$3,500,000
13	W Van Dorn Street	Coddington Avenue to US-77	2 lanes + intersection improvements	$6,900,000
14	NW 48th Street	Adams Street to Cuming Street	2 lanes + intersection improvements	$10,000,000
15	NW 56th Street	W Cuming Street to W Superior Street	2 lanes + intersection improvements	$2,900,000
16	W Cuming Street	NW 56th Street to NW 52nd Street	2 lanes + intersection improvements	$1,600,000
17	NW 12th Street	Aster Road to Missoula Road	2 lanes + turn lanes	$2,300,000
19	O Street (US-34)	Wedgewood Drive to 98th Street	Intersection Improvements	$6,080,000
20	Rokeby Road	S 31st Street to S 40th Street	2 lanes + intersection improvements	$3,000,000
21	Saltillo Road	S 14th Street to S 27th Street	2 lanes + intersection improvements, reconstruction to address flooding	$7,600,000
22	W Denton Road	Amaranth Lane to S Folsom Street	2 additional lanes	$2,200,000
23	S 56th Street	Thompson Creek Boulevard to Yankee Hill Road	4 lanes + intersection improvements	$9,800,000

ID	Street Name	Limits	Description	Project Cost (2021$)
24	Yankee Hill Road	S 56th Street to S 70th Street	2 lanes + intersection improvements	$6,900,000
25	S 84th Street	Amber Hill Road to Yankee Hill Road	4 lanes + intersection improvements	$5,700,000
27	Yankee Hill Road	S 40th Street to S 48th Street	2/4 lanes + intersection improvements	$5,700,000
28	Rokeby Road	S 48th Street to S 56th Street	2 lanes + intersection improvements	$3,500,000
29	Rokeby Road	S 77th Street to S 84th Street	2 lanes + intersection improvements	$3,500,000
30	S 70th Street	Yankee Hill Road to Rokeby Road	2 lanes + intersection improvements	$14,000,000
31	S 70th Street	Pine Lake Road to Yankee Hill Road	4 lanes + intersection improvements	$14,000,000
32	O Street (US-34)	Antelope Valley N/S Rdwy. (19th St.) to 46th Street	Intersection Improvements	$6,840,000
33	N 84th Street	O Street to Adams Street	Intersection Improvements	$15,200,000
35	S 9th Street	Van Dorn Street to South Street	3 lanes + intersection improvements	$5,300,000
37	Cornhusker Hwy (US-6)	N 20th Street to N 33rd Street	Intersection Improvements per Corridor Enhancement Plan	$1,200,000
38	Cornhusker Hwy (US-6)	N 11th Street to N 20th Street	Intersection Improvements per Corridor Enhancement Plan	$975,000
40	Van Dorn Street	S 70th Street to S 84th Street	Intersection Improvements	$4,560,000
41	N 48th Street	Adams Street to Superior Street	4 lanes + intersection improvements	$14,100,000
42	Havelock Avenue	N 70th Street to N 84th Street	2 lanes + intersection improvements	$7,000,000
43	N 98th Street	Adams Street to Holdrege Street	2 lanes + intersection improvements	$7,000,000
45	S 98th Street	A Street to Pioneers Boulevard	4 lanes + intersection improvements	$28,000,000
46	S 112th Street	US-34 to Van Dorn Street	2 lanes + intersection improvements	$14,000,000
47	N 98th Street	Holdrege Street to O Street	Additional 2 lanes	$7,500,000
48	N 112th Street	Holdrege Street to US-34	2 lanes + intersection improvements	$7,000,000

ID	Street Name	Limits	Description	Project Cost (2021$)
50	Havelock Avenue	N 84th Street to N 98th Street	2 lanes + intersection improvements	$7,000,000
51	N 33rd Street	Cornhusker Hwy to Superior Street	4 lanes + int. impr. & bridge	$20,000,000
52	A Street	S 98th Street to 105th Street	2 lanes + intersection improvements	$3,500,000
53	W Fletcher Avenue	NW 31st Street to NW 27th Street	2 lanes + intersection improvements	$2,800,000
54	Adams Street	N 90th Street to N 98th Street	2 lanes + intersection improvements	$4,300,000
55	S 98th Street	US-34 (O Street) to A St	4 lanes + intersection improvements	$14,000,000
56	Holdrege Street	N 70th Street to N 80th Street	4 lanes + intersection improvements	$10,000,000
57	Yankee Hill Road	S 14th Street to S 27th Street	Additional 2 lanes	$7,200,000
58	S 56th Street	Van Dorn Street to Pioneers Boulevard	4 lanes + intersection improvements	$13,200,000
59	East Beltway	Nebraska Hwy 2 to I-80	New 4 lane divided highway	$315,000,000
60	Rokeby Road	S 40th Street to Snapdragon Road	2 lanes + intersection improvements	$2,152,000
61	S 27th Street	Yankee Hill Road to Saltillo Road	2 lane realignment + intersection improvements	$14,100,000
62	S 70th Street	Rokeby Rd to Saltillo Rd	4 lanes + intersection improvements	$14,000,000
63	S 84th Street	Yankee Hill Road to Rokeby Road	4 lanes + intersection improvements	$14,000,000
64	S 84th Street	Rokeby Road to Saltillo Road	4 lanes + intersection improvements	$14,000,000
66	W Alvo Road	NW 12th Street to Tallgrass Parkway	2 lanes + intersection improvements	$1,300,000
67	S 40th Street	Yankee Hill Road to Rokeby Road	3 lane section with raised median and turn lanes as appropriate	$14,000,000
75	Salt Creek Roadway	State Fair Park Dr to Cornhusker Hwy	6 lanes + intersection improvements	$26,000,000
77	W A Street	SW 36th Street to SW 5th Street	2 lanes + intersection improvements	$14,000,000
79	S 14th Street/ Warlick/Old Cheney	14th/Warlick/Old Cheney	Intersection improvements and grade separation	$26,400,000

ID	Street Name	Limits	Description	Project Cost (2021$)
81	W Holdrege Street	NW 48th Street to Chitwood Lane (east 1/4 mile)	2 lanes + intersection improvements	$2,000,000
82	Nebraska Hwy 2	S 84th Street to Van Dorn Street	Corridor improvements (TBD by Corridor Study)	$50,000,000
83	Yankee Hill Road	S 48th Street to S 56th Street	2/4 lanes + intersection improvements	$2,200,000
85	NW 12th Street	Fletcher Avenue to Aster Road with Overpass of US-34	2 lanes + overpass	$9,370,000
86	Saltillo Road	S 56th Street to S 70th Street	2 lanes + intersection improvements	$7,000,000
87	W Holdrege Street	Chitwood Lane to NW 40th Street	2 lanes + intersection improvements	$1,950,000
88	Rokeby Road	S 27th Street to S 31st Street	2 lanes + intersection improvements	$2,400,000
89	W Alvo Road	NW 27th Street to NW 12th Street	2 lanes + intersection improvements	$7,100,000
120	A Street	S 89th Street to S 93rd Street	2 lanes with raised median, roundabouts at 89th St and 93rd St	$3,000,000
121	A Street	S 40th Street to S 56th Street	Intersections improvements 40th, 48th and 50th/Cotner and widening of A Street from 40th to 48th for a center turn lane	$10,500,000
124	S Folsom Street	W Old Cheney Road to 1/4 mile south	Paving one lane in each direction with raised center medians; roundabout at the future Palm Canyon Road intersection, and intersection improvements at W Old Cheney and S Folsom	$2,400,000
125	S 40th Street	Rokeby Road to 1/4 south	2 lanes with raised median and roundabout 1/4 mile south of Rokeby Rd	$3,400,000
126	W Old Cheney Road	S Folsom Street to SW12th Street	2 lanes with raised median	$3,500,000
127	Holdrege Street	87th Street to Cedar Cove	2 lanes with raised median	$2,300,000
128	Holdrege Street	N 104th Street	Roundabout	$1,600,000
129	Saltillo Road	S 70th Street to 1/2 mile east	Roadway and intersection improvements including on S 7th St from Saltillo Rd to Carger Ln	$7,095,000

ID	Street Name	Limits	Description	Project Cost (2021$)
130	N 14th Street	Cornhusker Hwy (and N Antelop Valley Pkwy and Oak Creek)	Bridge replacements	$10,000,000
131	Huntington Avenue	Dead Mans Run	Bridge replacement	$3,500,000
133	S 27th Street	SE Upper Salt Creek	Bridge replacement	$4,500,000
134	W South Street	Salt Creek	Bridge replacement	$3,200,000
135	Southwood Drive	Beal Slough	Bridge replacement	$2,200,000
136	S 1st Street	Cardwell Branch Salt Creek	Bridge replacement	$850,000
137	N 70th Street	Salt Creek	Bridge replacement	$3,000,000
138	S 40th Street	Antelope Creek	Bridge replacement	$2,500,000
139	Rosa Parks Way	K Street and L Street	Bridge rehab and preventive maintenance	$3,400,000
141	A Street	S 6th Street to S 17th Street	Intersections improvements at 13th and 17th and widening from 6th to 17th for a center turn lane	$6,586,000
142	Fremont Street	Touzalin Avenue	Remove existing traffic signal and construct roundabout	$2,700,000
143	N 84th Street	Cornhusker Hwy (US-6)	Intersection improvements	$5,500,000
144	S 33rd Street	D Street	Remove existing traffic signal and construct mini roundabout	$1,000,000
145	Cotner Boulevard	O Street to Starr Street	Intersection improvements at Starr and Holdrege and widening, pavement repair, and mill and overlay	$6,671,000
146	N 70th Street	Havelock Avenue	Remove existing traffic signal and construct roundabout	$2,000,000
147	S 56th Street	Cotner Boulevard/Randolph Street	Remove signal and evaluate roundabout or new signal	$2,750,000
148	O Street (US-34)	98th Street	Construct roundabout with S 98th Street project OR when signal otherwise warranted	$2,750,000
149	S 27th Street	Pine Lake Road	Intersection Improvement: eastbound right-turn lane	$760,000

ID	Street Name	Limits	Description	Project Cost (2021$)
151	O Street (US-34)	84th Street	Intersection Improvement: dual eastbound left-turn lanes and eastbound right-turn lane and widening to east; maybe northbound right-turn lane	$2,280,000
152	S 84th Street	A Street	Intersection Improvements: dual northbound left turn lanes and northbound right turn lane	$1,520,000
154	Cornhusker Hwy (US-6)	N 70th Street / Railroad viaduct	Intersection/viaduct reconfiguration	$10,000,000
155	S 84th Street	Yankee Woods Drive	Roundabout	$2,750,000
193	NW 12th Street	W Alvo Road to Missoula Road	2 lanes + turn lanes	$2,400,000
194	W Old Cheney Road	SW 9th Street	Roundabout	$900,000
212	27th Street Realignment	Saltillo Road to Rokeby Road	New Two Lane Road	$20,200,000
214	Normal Boulevard	Van Dorn Street	Intersection improvements	$750,000
216	Adams Street	N 36th Street to N 49th Street	Widening for a center turn lane and pavement rehabilitation	$3,010,000
217	Rokeby Road	Snapdragon Road to S 48th Street	2 lanes + intersection improvements	$10,330,000

Two Plus Center Turn Lane Projects

The Two Plus Center Turn Lane Program, or "2 + 1" program, has been a successful strategy for increasing the capacity of a two-lane roadway by approximately 50 percent and minimizing traffic congestion while improving safety and preserving the character and viability of the built environment for established neighborhoods.

The City of Lincoln has routinely been adding a center left turn lane as part of programmed street rehabilitation along two-lane minor arterials and some collectors. **Table 5.2** lists the remaining 14 miles of two plus center turn lane projects estimated to cost approximately $51 million (in 2021 dollars). The top three projects (shaded) are planned for construction in the next four years as part of federal aid projects.

Table 5.2 Two Plus Center Turn Lane Projects

Street Name	Limits	Length (miles)	Project Cost (2021$)
Adams Street	39th Street to 46th Street	0.5	$1,900,000
A Street	6th Street to 17th Street	0.85	$3,200,000
A Street	40th Street to 48th Street	0.44	$1,700,000
Havelock Avenue	60th Street to 63rd Street	0.25	$900,000
A Street	17th Street to 27th Street	0.75	$2,800,000
Van Dorn Street	11th Street to 27th Street	1.25	$4,700,000
Cotner Boulevard	48th Street to South Street	0.46	$1,700,000
S. 40th Street	L Street to C Street	0.5	$1,900,000
Fremont Street	48th Street to 70th Street	1.5	$5,600,000
S. 33rd Street	South Street to High Street	0.72	$2,700,000
Military Road	10th Street to 14th Street	0.16	$600,000
S. Folsom Street	A Street to South Street	0.5	$1,900,000
Leighton Avenue	48th Street to 70th Street	1.5	$5,600,000
Y Street	17th Street to 27th Street	0.66	$2,500,000
W. Adams Street	1st Street to 14th Street	0.9	$3,400,000
W. South Street	Coddington Avenue to Park Boulevard	1.55	$5,800,000
Calvert Street	48th Street to 56th Street	0.5	$1,900,000
N. 40th Street	Cornhusker Highway to Superior Street	0.58	$2,200,000

ITS and Technology

A goal of the Lincoln MPO is to advance the development and application of ITS technologies across the region, which will increase highway safety, mobility, security, economic health and community development, while preserving the environment.

ITS technologies are cost-effective and relatively quick to deploy. Solutions like synchronized or adaptive traffic signals, vehicle-to-infrastructure technologies, and vehicle-to-vehicle technologies are intended to avoid motor vehicle crashes and enable a wide range of other safety, mobility, and environmental benefits. Emerging applications of connected vehicles are intended to accommodate the unique needs and properties of all vehicles, operations, institutions, and travelers.

The Lincoln MPO CMP recommends deployment of ITS solutions to address congestion in the region. One example of system operations technologies implemented throughout the city is the Green Light Lincoln Program, which has resulted in significant improvements to the overall traffic signal system. Green Light Lincoln requires many upgrades to, or complete replacement of, the existing traffic signal system and equipment. Key components include:

- New signal system management software and hardware
- New intersection detection systems
- New signal displays and signal phasing alternatives
- ITS deployment
- Corridor signal optimization (re-timing) program
- Traffic monitoring and incident management capability improvements

Green Light Lincoln Performance

Green Light Lincoln includes traffic signal equipment and signal timing upgrades. The program has resulted in the following annual savings as of 2021:

- 61.4 million vehicle stops
- 1.15 million hours of delay
- 1.2 million gallons of fuel
- $22.3 million dollars
- 111,000 kilograms of emissions

Benefits include reduced travel times and driver frustration, delays and stops; lower levels of vehicle emissions; reduced fuel consumption; fewer crashes and improved traffic flow. Additional cost savings result from fewer major street widening projects.

To accomplish this, ITS technology can be used to assist in delivering and disseminating real-time data on the conditions of traffic flow that can then be shared and used by motorists and the proper authorities to effectively address changing conditions on the streets. One of the greatest benefits is the safe, secure and continuous movement of people and goods during emergencies that depends on well-coordinated system operations. Applicable ITS technologies are expected to be of enormous benefit, particularly when they are integrated with the information and communication systems of public safety agencies.

Rail Crossing Projects

The City and County are served by both freight and passenger rail service. While the railroad lines through Lincoln and Lancaster County are critically important to the local economy, many railroad crossings with the street network are at-grade, resulting in safety problems and travel delays. Continuous study and analysis of potential projects that will reduce rail/vehicular/ pedestrian conflicts at street crossings should continue.

The Lincoln/Lancaster County Railroad Transportation Safety District (RTSD) identifies railroad crossings in need of work, prioritizes projects, and conducts studies to plan future work. The Needs Based Plan for railroad crossings includes the addition of crossing gates and flashers at at-grade railroad crossings (approximately $400,000 per crossing), railroad crossing surface upgrades (approximately $40,000 every 20 years for each crossing), as well as grade separations. The at-grade crossings listed in **Table 5.3** have a daily exposure (number of vehicles times number of trains per day) above 100,000. The top two projects (shaded) are planned for construction in the next four years as part of the 33rd and Cornhusker project.

Table 5.3 Candidate Railroad Grade Separated Crossing Projects

Street Crossing	Daily Exposure (Vehicles x Trains)
Adams Street	522,280
N. 33rd Street	490,820
Old Cheney Road	295,680
N. 70th Street	227,040
W. A Street	189,200
W. Pioneer Boulevard	172,320
Saltillo Road	160,296
N. 141st Street	139,260
W. Van Dorn Street	118,800
N. 44th Street	114,400
S. Folsom Street	110,440

East Beltway Preservation

The East Beltway (project 59 on **Figure 5.1**) would serve north and southbound traffic along a new roadway between Highway 2 and I-80. The design would meet the freeway, controlled access standard to provide an efficient and reliable roadway. It remains a local project at this time estimated to cost $315 million (in 2021 dollars) with no state or federal funding available to assist. At this time, the City and County should continue to fund a program for protecting the corridor where the future East Beltway is planned. However, no local funding is shown at this time for project construction. Continued evaluation of this corridor is important to identify any change in its priority and opportunities for state and federal funding.

Rural Roads

Lancaster County's roads and bridges form the backbone of the local economy. Most County roads in Lancaster County are developed along section line corridors, giving the County a general 1-mile grid pattern of roadways. These important farm-to-market and home-to-work routes connect Lancaster County's residents to economic opportunities, centers of education, and entertainment venues in the local market and to points beyond.

Close coordination between the Lancaster County Engineer's Office and MPO staff occurred during the development of the LRTP update to identify a needs based rural roads program. Safety is always a major concern. Population growth and increased recreational demands in the rural areas add to the volume of traffic. Grain trucks and other commercial vehicles are carrying heavier loads than ever before and create additional problems as roads experience greater transport weights.

These pressures lead to increased maintenance demands and the demand for improved pavement and modifications to road foundations. This is also true of the rural bridge needs. The decision to make improvements to the road surface is based on several factors including:

- Role of the road in the overall system
- Number of vehicles traveling the road daily
- Increased maintenance or decreased driver safety
- Type of traffic and weight of vehicles on the roadway
- Spacing or proximity to other paved roads

Anticipating Rural to Urban Transitions

Lincoln and Lancaster County implement public street right-of-way (ROW) and construction standards necessary to repair, maintain, and construct streets located within the 3-mile zoning jurisdiction of the City. This mutually beneficial approach produces a longer useful life for County road investments while accommodating future growth of the City. Lancaster County capital project funding should be allocated to support the agreed upon standard when paving rural principal arterial, rural minor arterial, rural major collector, and rural minor collector roads in the Lincoln – Lancaster County Comprehensive Plan. The roadway should be graded to accommodate a functional future width and paved with an alignment to accommodate two lanes of rural paving with urban culverts. This approach allows future widening and urban improvements and extends the useful life of the County's capital investment.

The rural roads program includes three program areas:

- Capital Projects
- Pavement Maintenance & Pipes
- Operations & Maintenance

Capital Projects

Rural road capital projects include paving projects, intersection improvements, major bridge rehabilitation, road rehabilitation, and two-lane widening projects to repair or rebuild currently paved roadways. In some cases, projects involve widening these roads to include wider lanes and paved shoulders. The candidate rural road capital projects displayed on **Figure 5.2** are listed in **Table 5.4**.

A total of $171 million (in 2021 dollars) in needs has been identified for the rural road capital projects. As detailed in **Chapter 7**, some of these projects have funding commitments and will be built within the next four years.

Pavement Maintenance & Pipes

The County manages 1,383 miles of rural roadways that vary greatly in width, alignment, and surface. Approximately 1,052 miles are gravel surfaced, 286 miles are paved, and 45 miles remain dirt roads. In addition, this program includes box culvert and pipe repair and maintenance, and preventative maintenance for bridges.

Due to budgetary constraints, the County cannot always perform all requested maintenance on roads, bridges, culverts, and pipes within the existing County road system. Lancaster County crews continually work on pavement preservation countywide throughout the year. Crews are on the roadways with personnel and equipment evaluating existing roads and bridges for upgraded treatments as needed.

Operations & Maintenance

Lancaster County has road and bridge staff to maintain the county's infrastructure assets within four Maintenance Districts and 20 Patrol Districts. The road and bridge crew provide services to maintain and preserve the county's roads and bridges. Services also include grading gravel roads, vegetation management, ditch and drainage maintenance, culvert maintenance, channel repairs and scouring, mowing, pothole repair, storm response, winter sanding and snow plowing, signs, and striping.

Figure 5.2 Rural Road Capital Projects

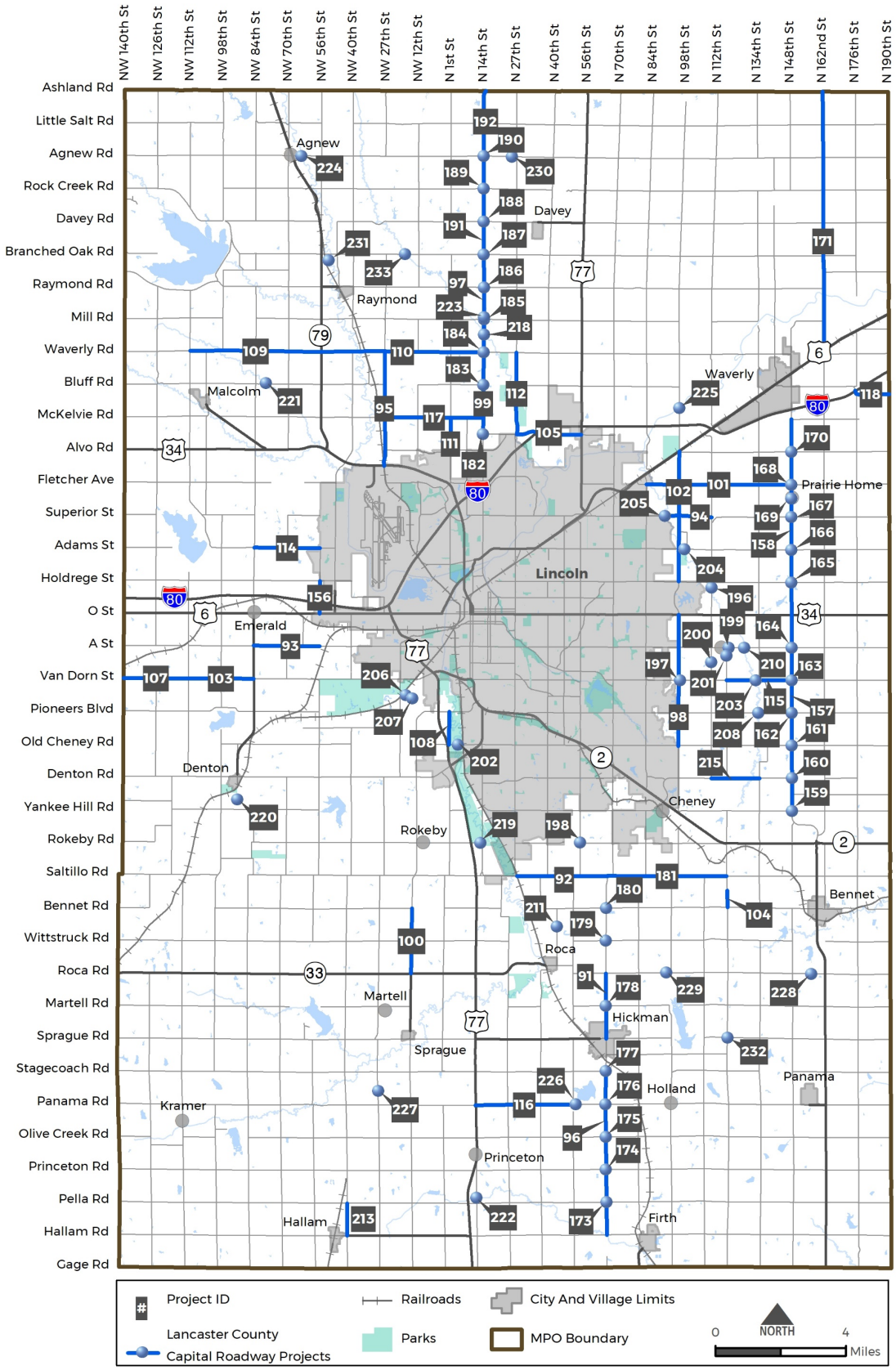


Table 5.4 Rural Road Capital Projects

ID	Street Name	Limits	Description	Project Cost (2021$)
91	S 68th Street	Hickman to Roca Road	Two lane widening with shoulders	$2,000,000
92	Saltillo Road	S 27th Street to S 68th Street	Two lane widening	$8,774,400
93	W A Street	SW 84th Street to SW 52nd Street	Programmed paving	$2,600,000
94	Havelock Avenue	Stevens Creek to N 112th Street	Potential paving	$1,820,000
95	NW 27th Street	Hwy-34 to W Waverly Road	Potential paving	$4,550,000
96	S 68th Street	Firth Road to Stagecoach Road	Two lane widening with shoulders	$5,400,000
97	N 14th Street	Waverly Road to Raymond Road	Two lane widening	$1,000,000
98	S 98th Street	Old Cheney Road to US-34	Programmed paving	$12,592,700
99	N 14th Street	Arbor Road to Waverly Road	Two lane widening	$1,250,000
100	SW 14th Street	NE-33 to W Bennet Road	Programmed paving	$1,300,000
101	Fletcher Avenue	N 84th Street to N 148th Street	Programmed Paving	$5,000,000
102	N 98th Street	Holdrege Street to US-6	Potential paving	$7,700,000
103	W Van Dorn Street	SW 112th Street to SW 84th Street	Programmed paving	$1,300,000
104	S 120th Street	Bennet Road North 0.5 Miles	Potential paving	$650,000
105	Arbor Road	N 27th Street to US-77	Paving and Bridge Replacement of Bridge F-201 near N 27th Street	$5,930,000
107	W Van Dorn Street	SW 140th Street to SW 112th Street	Potential paving	$1,300,000
108	S 1st Street	Old Cheney Road to Pioneers Boulevard	Programmed paving	$1,000,000
109	W Waverly Road	NW 112th Street to NE-79	Potential paving	$5,200,000
110	W Waverly Road	NE-79 to N 14th Street	Potential paving	$6,500,000
111	N 1st Street	Alvo Road to McKelvie Road	Potential paving	$1,300,000
112	N 27th Street	Arbor Road to Waverly Road	Potential paving	$3,250,000
114	W Adams Street	NW 84th Street to NW 56th Street	Potential paving	$2,600,000
115	Van Dorn Street	S 120th Street to S 148th Street	Potential paving	$2,600,000
116	Panama Road	US-77 to S 54th Street	Potential paving	$3,900,000
117	McKelvie Road	NW 27th Street to N 14th Street	Potential paving	$3,900,000

ID	Street Name	Limits	Description	Project Cost (2021$)
118	Bluff Road	I-80 to N 190th Street	Potential paving	$1,430,000
156	NW 56th Street	W O to W Holdrege Street	Potential paving	$1,200,000
157	S 148th Street	Yankee Hill Road to O Street	Two lane widening	$4,900,000
158	N 148th Street	O Street to McKelvie Road	Two lane widening	$4,018,000
159	S 148th Street	Yankee Hill Road	Intersection improvements	$650,000
160	S 148th Street	Pine Lake Road	Intersection improvements	$650,000
161	S 148th Street	Old Cheney Road	Intersection improvements	$650,000
162	S 148th Street	Pioneers Boulevard	Intersection improvements	$650,000
163	S 148th Street	Van Dorn Street	Intersection improvements	$650,000
164	S 148th Street	A Street	Intersection improvements	$650,000
165	N 148th Street	Holdrege Street	Intersection improvements	$703,000
166	N 148th Street	Adams Street	Intersection improvements	$650,000
167	N 148th Street	Havelock Avenue	Intersection improvements	$650,000
168	N 148th Street	Fletcher Avenue	Intersection improvements	$650,000
169	N 148th Street	Prairie Home	Intersection improvements	$1,300,000
170	N 148th Street	Alvo Road	Intersection improvements	$650,000
171	N 162nd Street	US-6 to Ashland Road	Potential paving	$5,530,000
173	S 68th Street	Pella Road	Intersection improvements	$650,000
174	S 68th Street	Princeton Road	Intersection improvements	$650,000
175	S 68th Street	Olive Creek Road	Intersection improvements	$650,000
176	S 68th Street	Panama Road	Intersection improvements	$650,000
177	S 68th Street	Stagecoach Road	Intersection improvements	$650,000
178	S 68th Street	Martel Road	Intersection improvements	$650,000
179	S 68th Street	Wittstruck Road	Intersection improvements	$650,000
180	S 68th Street	Bennett Road	Intersection improvements	$650,000
181	Saltillo Road	S 68th Street to S 120th Street	Two lane widening	$2,450,000
182	N 14th Street	Arbor Road	Intersection improvements	$650,000
183	N 14th Street	Bluff Road	Intersection improvements	$650,000
184	N 14th Street	Waverly Road	Intersection improvements	$650,000
185	N 14th Street	Mill Road	Intersection improvements	$650,000
186	N 14th Street	Raymond Road	Intersection improvements	$650,000
187	N 14th Street	Branched Oak Road	Intersection improvements	$650,000

ID	Street Name	Limits	Description	Project Cost (2021$)
188	N 14th Street	Davey Road	Intersection improvements	$650,000
189	N 14th Street	Rock Creek Road	Intersection improvements	$650,000
190	N 14th Street	Agnew Road	Intersection improvements	$650,000
191	N 14th Street	Raymond Road to Agnew Road	Two lane widening	$2,000,000
192	N 14th Street	Agnew Road to Ashland Rd	Two lane widening	$1,000,000
196	N 112th Street	Bridge J-126 near Holdrege Street	Bridge replacement	$1,571,000
197	Van Dorn Street	Bridge K-37 near S 98th Street	Replace CBC	$652,000
198	S 56th Street	Bridge P-92 near Rokeby Road	Replace with CBC	$1,460,000
199	A Street	Bridge J-47 near S 120th Street	Replace with CCS	$739,000
200	S 112th Street	Bridge J-135 near A Street	Replace with CBC	$612,000
201	S 120th Street	Bridge J-138 near A Street	Replace with CBC	$612,000
202	Old Cheney Road	Bridge O-37 near S 1st Street	Bridge replacement	$3,465,000
203	Van Dorn Street	Bridge J-22 near S 134th Street	Bridge replacement	$1,060,000
204	Adams Street	Bridge K-123 near N 102nd Street	Bridge replacement	$1,940,000
205	Havelock Avenue	Bridge K-144 near N 98th Street	Bridge replacement	$2,079,000
206	SW 16th Street	Bridge O-1 near W Calvert Street	Replace CB	$168,000
207	SW 15th Street	Bridge O-140 near W Stockwell Street	Replace CB	$168,000
208	Pioneers Blvd	Bridge Q-72 near S 138th Street	Bridge replacement	$1,188,000
209	Pine Lake Road	Bridge Q-110 near S 134th Street	Bridge replacement	$1,188,000
210	A Street	Bridge J-46 near S 134th Street	Bridge replacement	$1,237,000
211	S 46th Street	Bridge S-59 near Bennet Road	Replace CB	$925,000
213	SW 42nd Street	W Hallam Road to W Pella Road	Concrete construction	$920,000
215	Pine Lake Road	S 11th Street to S 134th Street	Grading and pavement	$2,000,000
218	N 14th Street	Bridge F-88, Oak W-12, 18-15	Concrete Slab Bridge	$1,175,000
219	Rokeby Road	Bridge O-44, Yankee Hill S-26, 21-44	Drainage Structure Replacement	$65,000
220	SW 91st Street	Bridge N-114, Denton IN-22, 18-02	Bridge Replacement	$475,000

ID	Street Name	Limits	Description	Project Cost (2021$)
221	W Bluff Road	Bridge E-171, Elk S-14	Concrete Box Culvert	$550,000
222	S 12th Street	Bridge W-104, Buda W-24	Concrete Box Culvert	$275,000
223	N 14th Street	Bridge F-91, Oak W-1	Concrete Box Culvert	$275,000
224	W Agnew Road	Bridge D-88, West Oak S-12 21-40, East of Nebraska Hwy 79	Concrete Slab Bridge	$2,255,000
225	N 98th Street	Bridge G-222, North Bluff W-24 21-41, North of I-80	Bridge Replacement	$2,560,000
226	Panama Road	Bridge X-129, South Pass S-4 21-43, East of S 54th St	Concrete Slab Bridge	$1,800,000
227	SW 29th Street	Bridge W-50 Buda W-4 21045, South of W Stagecoach Rd	Bridge Replacement	$620,000
228	Roca Road	Bridge R-184, Nemaha S 15, East of S 148th Street	Bridge Replacement	$580,000
229	Roca Road	Bridge S-180, Saltillo S 14, East of S 82nd Street	Bridge Replacement	$870,000
230	Agnew Road	Bridge C-284, Little Salt S-12	Concrete Box Culvert	$430,000
231	NW 19th Street	Bridge C-262, Little Salt IN-28	Bridge Replacement	$650,000
232	Hickman Road	Bridge R-213, Nemaha S-20	Concrete Box Culvert	$430,000
233	W Branched Oak Road	Bridge C-253, Little Salt S-28	Bridge Replacement	$620,000

NDOT Highways

As shown on **Figure 5.3** and listed in **Table 5.5**, NDOT has identified 10 capital projects within the Lincoln MPO, totaling nearly $648 million in needs (in 2021 dollars). The South Beltway (Project ID 78) has committed funding and is currently under construction.

Figure 5.3 NDOT Highway Projects

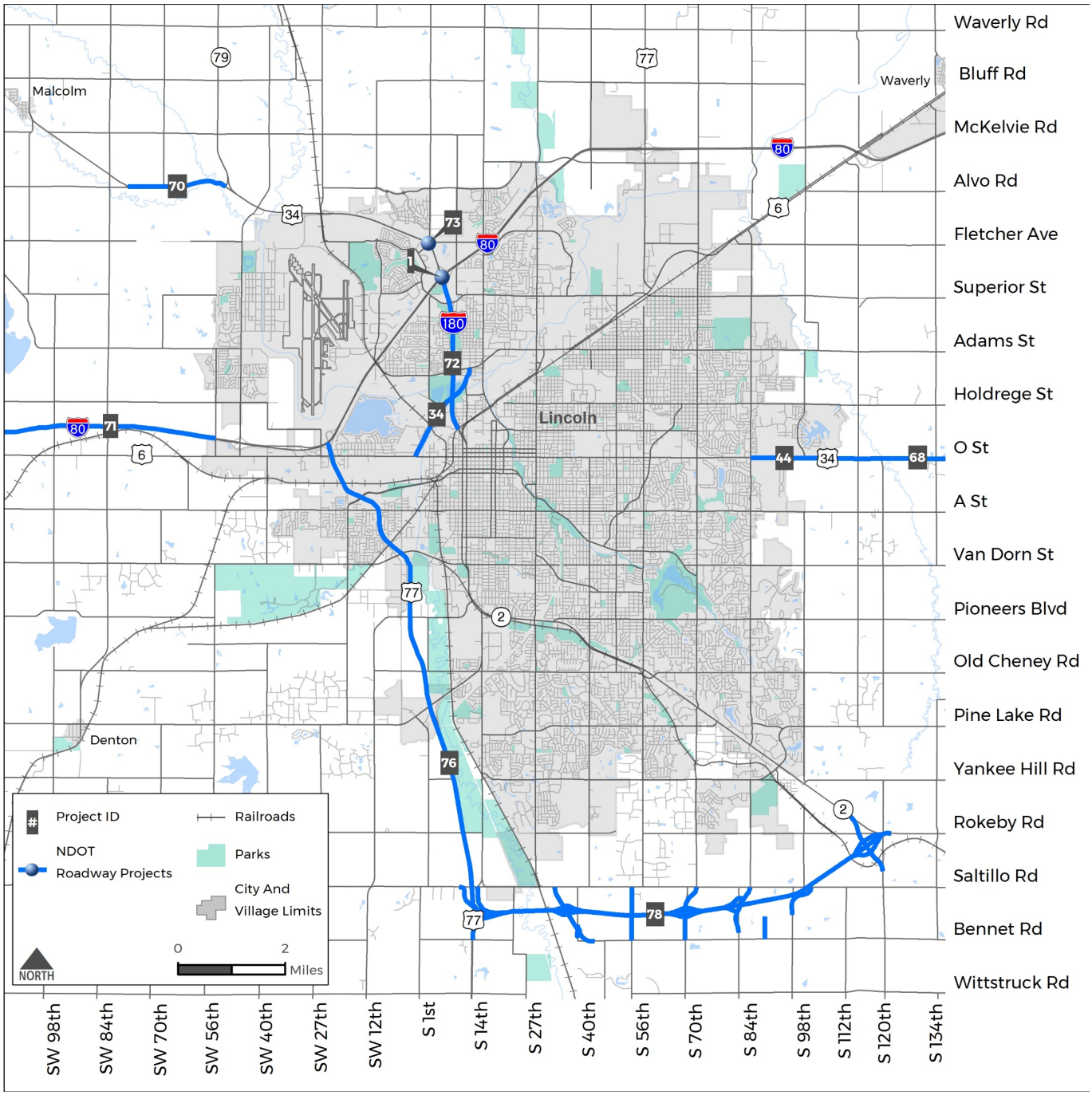


Table 5.5 NDOT Highway Projects

ID	Street Name	Limits	Description	Project Cost (2021$)
1	I-80	I-80 and I-180	Major interchange work	$52,300,000
34	US-6 (Sun Valley)	Cornhusker Hwy (US-6) to WO St.(US-6)	4 lanes + turn lanes	$20,400,000
44	O Street (US-34)	84th Street to 120th Street	4 lanes + intersection improvements	$17,900,000
68	O Street (US-34)	120th Street to east county line	4 lanes + intersection improvements	$37,000,000
70	US-34	NE-79 to Malcolm Spur	4 lanes + intersection improvements	$15,300,000
71	I-80	Pleasant Dale to NW 56th Street	6 lanes + bridges	$129,207,000
72	I-180	I-80 to US-6	Reconstruction + bridges	$51,200,000
73	US-34	US-34 and Fletcher Avenue	New interchange	$31,900,000
76	West Beltway (US 77)	I-80 to Saltillo Road	Freeway with new interchanges	$38,200,000
78	South Beltway	US-77 to Nebraska Hwy 2	4 lane freeway	$255,000,000

Goods and Freight Movement

Air, rail and trucking are essential local economy components and play a key role in the Lincoln Metropolitan Area and Lancaster County transportation system. Coordination efforts with the freight community to further integrate freight interests into the transportation planning process should continue. Specific activities that are beneficial to the freight industry include ongoing information dissemination and dialogue through the MPO's Freight Carriers Working Group and enhanced efforts to inform the freight industry of upcoming projects and related impacts on detours and routing. Other activities include moving forward with projects involving intersection improvements and improvements along major freight routes like Highway 2.

Freight considerations, including the locations of identified truck routes in the region, were part of the project selection process for the 2050 needs assessment. Future freight corridor improvements should be coordinated with NDOT and the recommendations of the State Freight Plan.

Airports and Airfields

The Lincoln Airport will continue to be the principal airport facility serving the Lincoln Metropolitan Area, Lancaster County, and a significant portion of the region in the southeast area of the State. As a member of the Lincoln MPO Technical Committee, the Lincoln Airport Authority is an integral part of the metropolitan area transportation planning process. Specific strategies include ensuring that future developments are aware of their proximity to the airport and that noise issues are appropriately addressed through the Airport Environs Noise District ordinance and the recommendations of the Airport Noise Compatibility Study. An Airport Master Plan for the Lincoln Airport is currently underway.

Other future considerations include redevelopment of Lincoln Airpark West for various uses such as developing sites for rail-accessible warehousing and seeking opportunities for air-rail-truck freight operations. While these potential developments can make the airport into an intermodal transportation hub, attention will need to be focused on mitigating conflicts among the different freight operations.

Bicycle

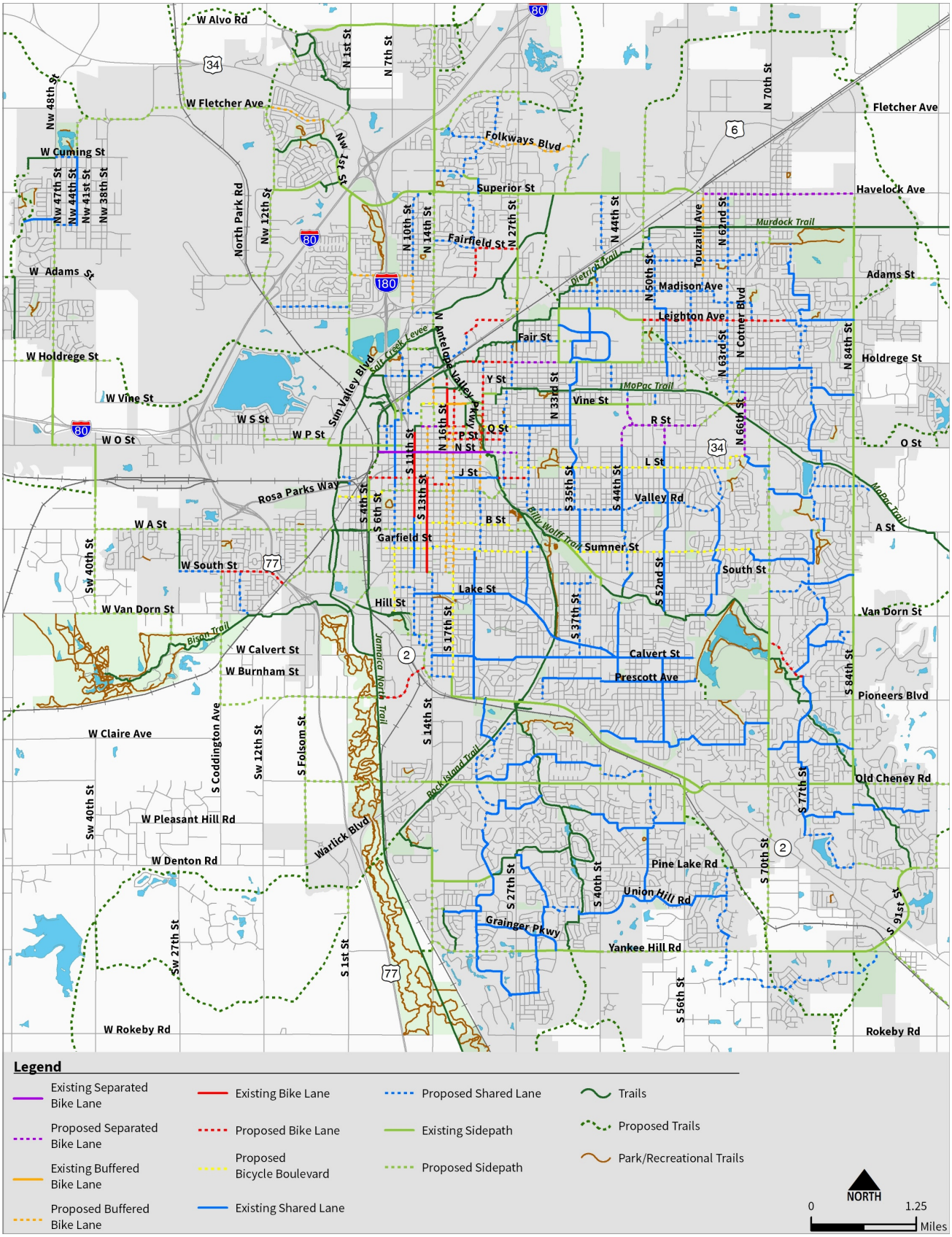
The City of Lincoln has a strong tradition of supporting bicycle travel, not only for recreation but as a means of transportation. Lincoln has successfully built an extensive network that includes nearly 250 miles of trails. The Lincoln Bike Plan, adopted in February 2019, identifies an on-street bike network that builds on the City's trail network and provides safe and low-stress bicycle commuting and recreational opportunities. The plan depicts a comprehensive system of off-street and on-street facilities to safely connect neighborhoods and destinations and encourage bicycle travel. Many of the projects identified in the Bike Plan could be added cost-effectively by budling them with roadway paving or capital projects. To complement the bike network recommendations, the Bike Plan recommends programmatic initiatives pertaining to education, enforcement, and encouragement and policy changes to further Lincoln's bicycle-friendly culture.

The recommended bike network, shown on **Figure 5.4**, was developed to accommodate "Interested But Concerned" bicyclists by providing a connected system of low-stress bikeways. A network for this group will be safe and comfortable for most people riding bicycles.

The network builds from the existing trail network and on-street bike facilities, including the N Street Cycle Track and bike lanes in the downtown area. It connects on-street bikeways and trails and will ultimately connect people riding bikes to key destinations like bus stops, schools, libraries, employment centers, and social destinations.

The network has roughly three-block spacing in the downtown area and gradually becomes less dense toward the city's edge with roughly one-mile spacing between routes.

Figure 5.4 Recommended Bike Network



Pedestrian

Lincoln currently has a well-developed sidewalk system, and the requirement of sidewalks on both sides of all streets should continue. However, this system needs rehabilitation in many areas. Ideally, the sidewalk rehabilitation program should be funded at a level to replace a minimum of three (3) miles of sidewalk, or one percent of the sidewalk system annually. Pedestrian crossing signals should be updated and installed when warranted at appropriate sites, along with other visual cues to alert drivers to pedestrian crossing points and to increase the safety and security of pedestrians.

Some policies that should remain in place to support pedestrian facilities include the policy stating sidewalks should not be placed adjacent to the curb but separated by a landscaped parkway consistent with the City's Design Standards for street trees, parking screening, and landscaping. This policy, in conjunction with others, will benefit the pedestrian environment.

Other pedestrian improvements should be made, such as completing missing gaps and increasing pedestrian amenities at and around transit stops. Other projects could include mid-block crossing improvements, pedestrian countdown signal heads, and a wayfinding system.

Trails

The City's first major off-street trail project, the Billy Wolff-Antelope Bikeway, was constructed in 1978 using FHWA Bikeway Demonstration Project Funds. Since the successful completion of that trail, the community has used private donations through groups, such as the Great Plains Trails Network (GPTN) and various public funds to provide the backbone network for bicycling across the City. Lincoln has taken advantage of the many miles of abandoned railroad corridors and stream banks to provide trails with fewer street crossings, flatter grades, and more pleasant travel. The current trail network includes nearly 250 miles of trails.

Trail Projects

As a part of the LRTP development process, candidate trail projects were identified, as displayed on **Figure 5.5** and listed in **Table 5.6**. The 64 candidate trail projects total nearly $60 million (in 2021 dollars). As detailed in **Chapter 7**, several of these trail projects have committed funding and are anticipated to be built within the next four years. **Figure 5.5** also shows future trail corridors that are planned for beyond the 2050 time horizon.

Trail Rehabilitation

As the trail system begins to age, rehabilitation of trails is becoming a larger issue. A rehabilitation program should be developed and funded adequately to complete projects as they are needed. Additionally, some trail segments have already begun to see more use than was originally anticipated. New trails should be built to a 10-foot width, and in some areas existing trails should be widened to 10 or 12 feet as they are rehabilitated to better accommodate the volume and mix of trail users.

Figure 5.5 Trail Projects

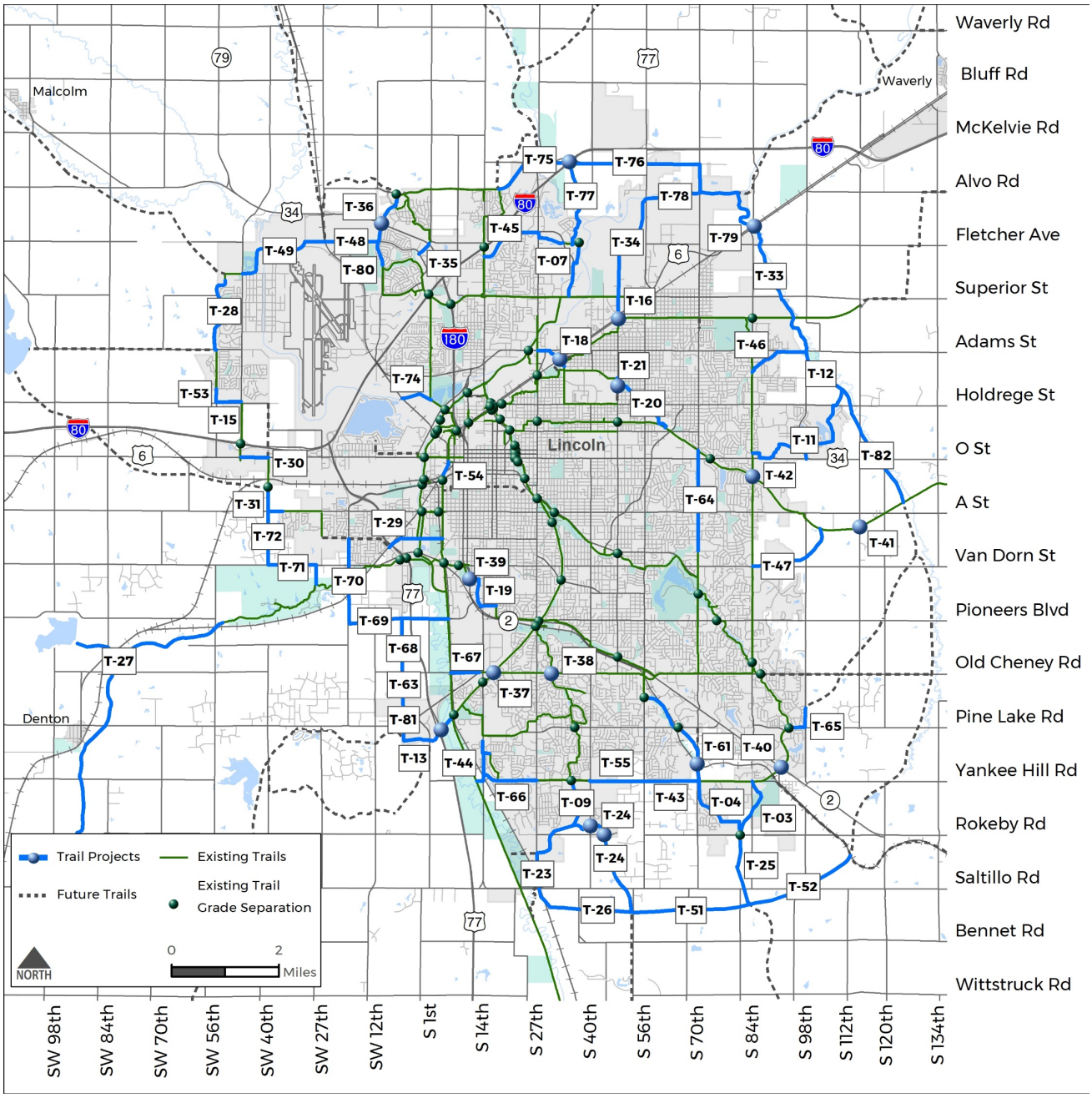


Table 5.6 Trail Projects

ID	Trail Name	Limits	Description	Project Cost (2021$)
T-03	Woodlands	Jensen Park to Rokeby Rd	New Trail	$500,000
T-04	Woodlands	Rokeby Rd to S 70th St to Yankee Hill Rd	New Trail	$950,000
T-07	Landmark Fletcher	33rd St & Superior St to 27th St	New Trail; Sidepath	$700,000
T-09	Wilderness Hills	Yankee Hill Rd to Rokeby Rd and S 40th St	New Trail	$1,200,000
T-11	Waterford	N 84th St to Stevens Creek	New Trail	$900,000
T-12	Stevens Creek	Murdock Trail to Waterford Trail	New Trail	$1,300,000
T-13	Cardwell Branch Trail	GPTN Connector to Folsom Trail	New Trail	$800,000
T-15	W Holdrege Street Trail	NW 48th St to NW 56th St	Sidepath	$250,000
T-16	N 48th Street Trail	Murdock Trail to Superior St	Sidepath	$200,000
T-18	Deadmans Run Trail	Murdock Trail to Cornhusker Hwy and Railroad grade separation	New Trail and Grade Separation	$300,000
T-19	Boosalis - Bison Connector	Van Dorn St to S 17th St/Burnam St	Sidepath	$300,000
T-20	Deadmans Run Trail	N 48th St to Mo Pac Trail	New Trail	$550,000
T-21	East Campus Trail	Leighton St to Holdrege St	New Trail	$150,000
T-23	S 27th Street Connector	Rokeby Rd to South Beltway	New Trail	$800,000
T-24	S 56th Street Connector	Rokeby Rd to South Beltway	New Trail	$1,200,000
T-25	S 84th Street Connector	Rokeby Rd to South Beltway	New Trail	$700,000
T-26	South Beltway Trail – Phase I	S 27th St to S 56th St	New Trail	$1,500,000
T-27	Greenway Corridor Trail/ Haines Branch	Pioneers Park Nature Center to Spring Creek Prairie Audubon Center	New Trail	$4,500,000
T-28	NW 56th Street Trail	W Adams St to W Superior St	New Trail	$600,000
T-29	South Street	Folsom St to Jamaica Trail	Sidepath	$750,000
T-30	W. O Street	SW 40th St to SW 48th St	Sidepath	$260,000
T-31	W A Street Connector	A Street from SW 36th to SW 40th; SW 40th from A St to F St	Sidepath	$120,000
T-33	Stevens Creek	Murdock Trail to Hwy 6	New Trail	$1,000,000
T-34	N 48th Street/Bike Park Trail	Superior St to N 56th St	New Trail; Sidepath	$900,000
T-35	N 1st Street	N 1st St crossing of Hwy 34	Sidepath	$400,000

ID	Trail Name	Limits	Description	Project Cost (2021$)
T-36	NW 12th Street	W Fletcher Ave to Aster St with US-34 grade separated crossing	Sidepath; Grade Separation	$400,000
T-37	Rock Island	Old Cheney grade separated crossing	Grade Separation	$1,200,000
T-38	Tierra Williamsburg	Old Cheney grade separated crossing	Grade Separation	$1,200,000
T-39	10th Street Trail	Hwy 2 intersection improvements	Crossing Improvements	$2,200,000
T-40	S 91st Street Trail	Hwy 2 grade separated crossing	Grade Separation	$2,200,000
T-41	Mo Pac Trail	S 112th Street grade separated crossing	Grade Separation	$1,210,000
T-42	Mo Pac Trail	S 84th Street grade separated crossing	Grade Separation	$1,700,000
T-43	Yankee Hill Rd	S 56th St to S 70th St	Sidepath	$350,000
T-44	S 14th Street & Yankee Hill Connector (w/RTSD project)	South LPS Property Line to Yankee Hill	Sidepath	$400,000
T-45	Landmark Fletcher	Fletcher Ave from N 27th St to N 14th St	Sidepath	$990,000
T-46	Prairie Village Trail	N 84th St to Stevens Creek, South of Adams	New Trail; Sidepath	$500,000
T-47	Van Dorn Trail	S 84th St and Van Dorn to S 106th and MoPac Trail	New Trail	$1,200,000
T-48	Air Park Connector - Phase I	NW 13th St to NW 27th St	Sidepath	$600,000
T-49	Air Park Connector – Phase II	NW 27th St to NW 48th St	Sidepath	$900,000
T-51	South Beltway Trail – Phase II	S 56th St to S 84th St	New Trail	$3,500,000
T-52	South Beltway Trail – Phase III	S 84th Street to Hwy 2	New Trail	$3,500,000
T-53	NW 56th Street Trail	W Holdrege to W Partridge	Sidepath	$100,000
T-54	Chris Buetler Trail - Jamaica North Connector	J Street to N Street	New Trail	$250,000
T-55	Yankee Hill Road	S 40th St to S 56th St	Sidepath	$350,000
T-61	Beal Slough Trail	S 56th St and London Rd to S 70th St and Yankee Hill	New Trail	$1,480,000
T-63	Folsom Street	W Old Cheney south 1/2 mile	Sidepath	$65,000

ID	Trail Name	Limits	Description	Project Cost (2021$)
T-64	S 70th Street Connector	Old Post Rd to MoPac Trail	Sidepath	$700,000
T-65	Pine Lake Rd/S 98th St	Billy Wolff Trail to Napa Ridge Dr	Sidepath	$300,000
T-66	Yankee Hill Road	S 14th St to S 27th St	Sidepath	$350,000
T-67	Old Cheney Rd	Warlick Blvd to Jamaica North	Sidepath	$250,000
T-68	Folsom St	Old Cheney to Pioneers Blvd	Sidepath	$350,000
T-69	Pioneers Blvd	Jamaica North Trail to Coddington Ave	Sidepath	$700,000
T-70	Coddington Ave	Pioneers Blvd to South St	Sidepath	$650,000
T-71	Van Dorn St	SW 40th St to Prairie Corridor Trail	Sidepath	$500,000
T-72	SW 40th St	Van Dorn St to W A Street	Sidepath	$350,000
T-74	Oak Creek Trail	Saline Wetlands Nature Center to N 1st St	New Trail	$300,000
T-75	Arbor Road Trail	N 14th St to I-80 with grade separation at I-80	Sidepath and Grade Separation	$600,000
T-76	Arbor Road Trail	I-80 to Salt Creek Trail	Sidepath	$2,400,000
T-77	Little Salt Creek Trail	Arbor Rd to Landmark Fletcher	New Trail	$2,000,000
T-78	Salt Creek Trail	N 56th St to Stevens Creek	New Trail	$900,000
T-79	Stevens Creek Trail	Salt Creek Trail to Cornhusker Hwy with grade separation of Cornhusker Hwy	New Trail	$1,000,000
T-80	NW 12th Street	NW 10th St to W Fletcher Ave	Sidepath	$200,000
T-81	Folsom Street Connector	1/2 mile north of W Denton Rd to Cardwell Branch Trail	Trail	$800,000
T-82	Stevens Creek	Waterford Trail to MoPac Trail	New Trail	$1,700,000

Transit

Providing efficient transit services throughout the city requires careful consideration of the number of routes, the frequency of service, and the hours of service. The Transit Development Plan (TDP) adopted in 2016 provides the framework for monitoring and modifying transit services in response to changes in development patterns and user needs. The TDP is based on adopted service standards and policies and is periodically reviewed and updated by LTU – StarTran under the guidance of the StarTran Advisory Board and the public. The TDP is the main planning document for transit services in Lincoln and is currently being updated with planned completion in 2022. Public input related to transit was also collected for the LRTP and will help support the TDP update. The PlanForward policy on Nodes and Corridors indicates that nodes should have access to public transit, and corridors represent priorities such as future public transportation enhancements.

Subsequent to adoption of the 2016 TDP, StarTran bus routes were reconfigured to enhance corridors with higher ridership by providing shorter wait times and longer service hours. Service to major employment centers has been and should continue to be considered for enhancement, as well as areas of current and future anticipated density.

To be comparable to other cities of Lincoln's size, transit funding should be increased to provide similar levels of service during evening and weekend hours. Future phases identified in the 2016 TDP should receive the necessary funding for implementation.

Areas of the city that are not along the transit corridors can be served to a more modest level. Neighborhood feeder routes that direct transit riders to the major corridors could be provided with smaller, more fuel efficient, and automated vehicles.

Continued enhancement of the bike-and-bus feature would also allow those in areas with lower service to access and use transit. Establishing park-and-ride locations along outlying areas of the community could support transit connections to Downtown and other mixed use centers. Using ITS and other emerging technologies to provide route information, fare payment systems, travel data, real-time bus location information and potentially driverless vehicle service will support those who ride by choice to participate at a higher level and riders of necessity to plan their routes and be better served.

Travel Demand Management

Travel Demand Management (TDM) is a strategy to reduce demand for single occupancy vehicle use on the transportation network. TDM can reduce congestion and traveler delay, as well as improve air quality and access to jobs, schools, and other opportunities. TDM strategies include the following:

- Flexible work schedules
- Traveler information
- Employer and campus TDM
- Auxiliary transit service
- Market and financial incentives
- Parking management
- Transit use
- Walking and cycling
- Teleworking or telecommuting
- Car and bike shares
- Van pooling
- Partnerships with Transportation Network Companies (TNC)

In comparison to road widening and other capital projects, TDM programs are inexpensive and can be effective in decreasing demand on roadways, especially during peak travel times of the day.

The Lincoln MPO should continue to pursue a TDM program that is coordinated among various departments and identifies and works with large employers, including the State of Nebraska, University of Nebraska-Lincoln, and various private businesses.

Effective public transportation service requires good pedestrian connections to and from transit stops, density of activities, and development designs supportive of transit riders. Pedestrian connections to transit must be direct, and the sidewalk system must have continuity. Street crossings to transit stops must be safe. Productive transit service requires higher-density land development patterns that link residential areas and employment, retail, and service centers. Development design needs to be transit-friendly, providing convenient access to transit services.

Although Lincoln may not reach the density and demand needed to justify a bus rapid transit (BRT) system within the planning period, efforts should be made to identify potential routes and to concentrate efforts to increase density along those routes. The "O" Street and N. 27th Street corridors are likely candidates for planning and identification as long-term BRT routes.

The projected increase in the 65 and over population creates challenges in service provision. This population increase will create a greater usage of demand-responsive public transportation. Based on current funding levels, such increase in usage could create funding challenges. While all fixed-route services are, and will continue to be, accessible, the need for increased complementary paratransit services will continue. Such services are expensive due to vehicle load constraints and operating policies; therefore, innovative variations of such services will be essential.

Expanded transit service within the rural areas of the county or between Lincoln and other larger cities is not currently practical. However, data should continue to be collected and analyzed to monitor travel patterns in the hopes of identifying opportunities for regional transit.

This section of the 2050 LRTP will be updated upon adoption of the TDP Update (anticipated in 2022) to incorporate the most current transit needs and priorities.