

July 12, 2016

## Technical Memorandum

TO: Lincoln MPO Technical Committee and Officials Committee Members

CC: LRTP Oversight Planning Committee and Lincoln/Lancaster County Planning Commission

FROM: Long Range Transportation Plan (LRTP) Update Project Team

SUBJECT: Preliminary LRTP Update Recommendations and Discussion Items

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The purpose of this technical memorandum is to provide an overview of the key elements of the Long Range Transportation Plan (LRTP), and to present resource allocation scenarios for your consideration and direction. The contents of this memorandum have been developed over the last nine months in close coordination with the LRTP Oversight Planning Committee and the Lincoln/Lancaster County Planning Commission, and with extensive input from the community. The project team has consistently received feedback from the committees and the general public about the importance of maintaining the transportation system and making the system function as efficiently as possible, given transportation funding limitations – you will see this theme throughout this document.

The major elements included in this memorandum are as follows:

- **Performance-based Planning** (pages 2-3) – This section provides an overview of the vision, goals, and performance measures that form the foundation of the LRTP.
- **Current and Future Needs** (page 4) – The LRTP cover all modes of surface transportation; this section provides a brief overview of how the transportation needs have been identified.
- **Community Input** (page 4-5) – The LRTP Update includes three phases of community outreach, and this section describes the outreach mechanisms and the key themes of the three phases.
- **Funding Outlook** (page 5) – This section describes the reasonably expected transportation revenues over the 24-year time frame of the LRTP.
- **Resource Allocation** (pages 6-9) – Given the revenue forecasts and transportation needs, this section describes three options for allocating resources to project and program categories.
- **Fiscally Constrained Plan Elements** (page 9-15) – This section provides a description and comparison of what could be achieved in each project and program category under the three resource allocation scenarios.
- **Summary and Next Steps** (page 15) – The next steps of the LRTP Update include documentation and the final phase of public outreach, which will inform development of the Fiscally Constrained Plan.

## Performance-based Planning

Performance-based planning affords a structure for the LRTP to ensure that scarce resources are used effectively and equitably. The community values of transportation are woven into the goals, objectives, performance measures, and ultimately, evaluation criteria, which are used to identify high-priority transportation projects. The LRTP is based on a set of goals intended to implement the vision and support the transportation needs and values of the community, while aligning with state and national goals.

### Vision and Goals

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. Goals are the foundation for performance-based planning; the seven goals articulate the desired end state. The seven transportation goals, listed below, include related objectives that are specific, measurable statements that support achievement of the particular goal.

- **Maintenance:** A well-maintained transportation system.
- **Mobility and System Reliability:** An efficient, reliable, and well-connected transportation system for moving people and freight.
- **Livability and Travel Choice:** A multimodal system that provides travel options to support a more compact, livable urban environment.
- **Safety and Security:** A safe and secure transportation system.
- **Economic Vitality:** A transportation system that supports economic vitality for residents and businesses.
- **Environmental Sustainability:** A transportation system that enhances the natural, cultural, and built environment.
- **Funding and Cost Effectiveness:** Collaboration in funding transportation projects that maximize user benefits.

### Performance Measures

Thirty-two system-level performance measures are linked directly to the goals and supporting objectives. Performance measures can aid in planning, developing policy, prioritizing investments, and measuring progress. For each performance measure, available current and historic data have been compiled to show the current system performance and the trajectory of historic trends, which provide insight into the projects, strategies, and policies needed to meet the stated performance targets. Specific performance targets have been identified for some performance measures; in other cases, a desired trend (increase, decrease, or maintain) has been identified. Many of the performance measures listed below are consistent with the Mayor's Taking Charge Initiative metrics.

## System-Level Performance Measures

Category	Performance Measure
Maintenance	1 Street conditions
	2 Trail conditions
	3 Square footage of sidewalks replaced
	4 Age of traffic signals
	5 Bridge sufficiency ratings
	6 Age of transit vehicles
Mobility and System Reliability	1 Congested roadways
	2 Transit on-time performance
	3 Signal detection reliability
Livability and Travel Choice	1 Miles of trails, sidewalks, on-street bike facilities
	2 Annual transit ridership
	3 Percent of population within ¼ mile of bus service
	4 Percent of projects that incorporate complete streets elements
Safety and Security	1 Injury and fatal crashes per capita
	2 Percent of total crashes involving injury or fatality
	3 Bike crashes per 10K commuting bicyclist
	4 Pedestrian crashes per 10K commuting pedestrian
	5 Transit crashes per 100K miles driven
	6 Number of programs/campaigns related to safety and security
Economic Vitality	1 Housing + Transportation Affordability Index
	2 Travel time to work
	3 Jobs accessible in 30-minute transit ride
	4 Number of potential stops on primary truck routes
	5 Exposure rating of railroad at-grade crossings
Environmental Sustainability	1 Vehicle miles of travel (VMT) per capita
	2 Mobile source emissions
	3 Mode split
	4 Number of alternatively fueled vehicles (AFVs) in fleet
	5 Miles of minimal impact projects completed (2+1)
Funding and Cost Effectiveness	1 Cost per user of completed projects
	2 Proportion of completed projects subjected to life cycle cost analysis
	3 Annual funding for transportation projects

## Current and Future Needs

The current and future needs of Lincoln and Lancaster County's transportation system are compiled for the LRTP Update from a variety of sources including:

- Current plans
  - Lincoln MPO Long Range Transportation Plan (2011)
  - Lincoln MPO Bicycle and Pedestrian Capital Plan (2013)
  - Lincoln Transit Development Plan (2016)
- LRTP Committees
  - MPO Officials Committee
  - MPO Technical Committee
  - Oversight Planning Committee
  - Planning Commission
- 2040 Travel Demand Model (updated as a part of the LRTP Update process)
- Community input through Focus Group meetings, public meetings, and online surveys

The transportation needs cover all modes of surface transportation: roadway, transit, bicycling, walking, and rail (specifically the railroad crossing needs). The current and future needs help to define a needs-based plan for the Lincoln MPO; that is, the transportation projects that could be constructed and programs that could be implemented to realize the transportation vision, if funding limitations were not a consideration. The needs-based plan includes more than \$1.2 billion in roadway capital projects and more than \$40 million in trail projects, among other needs.

## Community Input

The Public Involvement Action Plan for the LRTP Update includes three phases of community outreach, each of which focuses on a key theme:

1. **Transportation Needs** (January and February 2016) – Identify current and future conditions including deficiencies and problems, and solicit ideas for transportation improvements, goals, and objectives
2. **Understanding Priorities** (May and June 2016) – Input on investment priorities and project priorities
3. **Validating a Vision** (September and October 2016) – Public feedback on draft LRTP Update recommendations and report

The first phase of the community outreach (Transportation Needs) involved eight Focus Group meetings with stakeholders who represented various interests in the community, a public meeting on February 18, 2016, and an online survey.

The second phase (Understanding Priorities) included a public meeting on May 3, 2016 and an online survey that was open for two months and was completed by more than 820 community members. The input received during this community outreach phase has been instrumental in understanding the community's transportation priorities and has been integrated into the project prioritization process and the resource allocation scenarios. The approach to integrating the community input into these elements of the plan is described in the relevant sections of this technical memorandum.

The Planning Commission complements direct input from the community. The LRTP Project Team has met with the Planning Commission approximately monthly since the LRTP Update began in November 2015. The Planning Commission represents the voice of the community and will provide a formal recommendation within the MPO decision making process. All elements of the LRTP Update process have been presented and discussed with the Planning Commission; their input is reflected in the plan elements recommendations.

## Funding Outlook

Transportation funding in Lincoln comes from a variety of local, state, federal, and private funding sources. Revenue forecasts are estimated using historic revenue information and represent the funding that can reasonably be expected over the 24-year time horizon of the LRTP (2017 – 2040); approximately \$2.4 billion. A summary of the revenue forecasts available for transportation projects and programs is provided in the table below. The table is structured by mode (roadway, transit, and trails) and details the funding sources available to those modes.

### Revenue Forecasts (2017 – 2040)

Mode	Funding Source	Total Revenue
Roadway	Wheel Tax	\$596,810,000
	General Revenues	\$189,490,000
	Impact Fees	\$118,030,000
	RTSD	\$177,060,000
	State Trail Mile Tax	\$11,050,000
	State Highway Allocation (less Bond Payments)	\$680,640,000
	Surface Transportation Program (STP)	\$155,460,000
	STPP Hazard Elimination	\$20,110,000
	<b>Roadway Subtotal</b>	<b>\$1,948,650,000</b>
Transit	Federal Transit Administration (FTA)	\$50,750,000
	State	\$37,520,000
	Fares, Advertisements, and UNL Contract	\$126,320,000
	General Revenues	\$238,230,000
	<b>Transit Subtotal</b>	<b>\$452,820,000</b>
Trails	Set Aside from ST Block Grant Program	\$14,670,000
	Federal Recreational Trails	\$4,400,000
	Lower Platte Natural Resources District (NRD)	\$4,850,000
	Impact Fees	\$2,760,000
	Private Contributions	\$2,760,000
	Keno Funds	\$6,220,000
	Park & Recreation Repair and Replacement	\$690,000
<b>Trails Subtotal</b>	<b>\$36,350,000</b>	
<b>Total Revenue Forecast</b>		<b>\$2,437,820,000</b>

## Resource Allocation

### Project and Program Categories

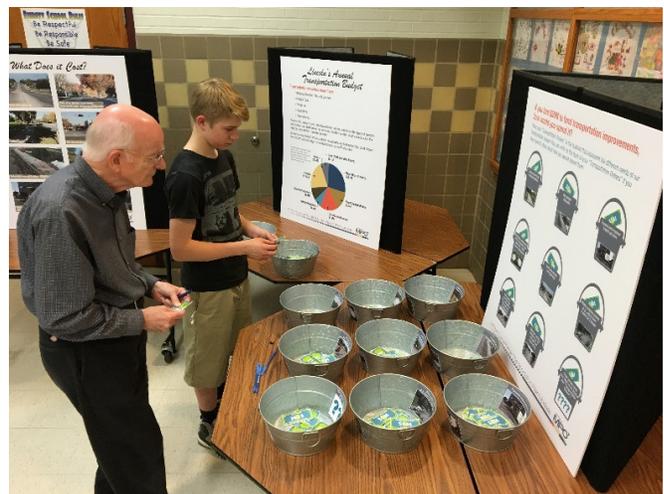
The next step in the LRTP planning process is to allocate the available funding to categories of transportation projects and programs. Seventeen categories of projects and programs are used in the LRTP Update; and they have been grouped into four major categories that represent the general types of activities included.

### Project and Program Categories

Major Category	Project or Program Category
Maintenance Activities	System Operations & Maintenance
	Road & Bridge Rehabilitation
	Trail Rehabilitation
Alternative Modes	Transit
	Committed Trail Projects
	Trail Projects
	Other Bike/Ped and Travel Demand Management (TDM)
Roadway Construction Activities	RTSD Projects
	State Train Tax Projects
	Two Plus Center Turn Lane Projects
	Intersection Safety and Capacity
	Committed Capital Projects
	Developer Commitments
	Roadway Capital Projects
Other	ITS and Technology
	East Beltway Preservation
	Studies, PE, ROW & Statutorily Required Records

### Community Input

Community members were asked, “If you had \$100 to fund transportation improvements in Lincoln how would you spend it?” at the May 3, 2016 public meeting and in the online survey. The funding category options provided to the public were simplified to be more easily understood. With a total of 824 responses, the top choice of the community was to maintain existing streets. The results of the community’s response, however, reinforced the need for a balanced approach to funding transportation in Lincoln; many participants expressed that all categories are important.



***If you had \$100 to fund transportation improvements in Lincoln how would you spend it?***



**Number of Responses = 824**

**Resource Allocation Scenarios**

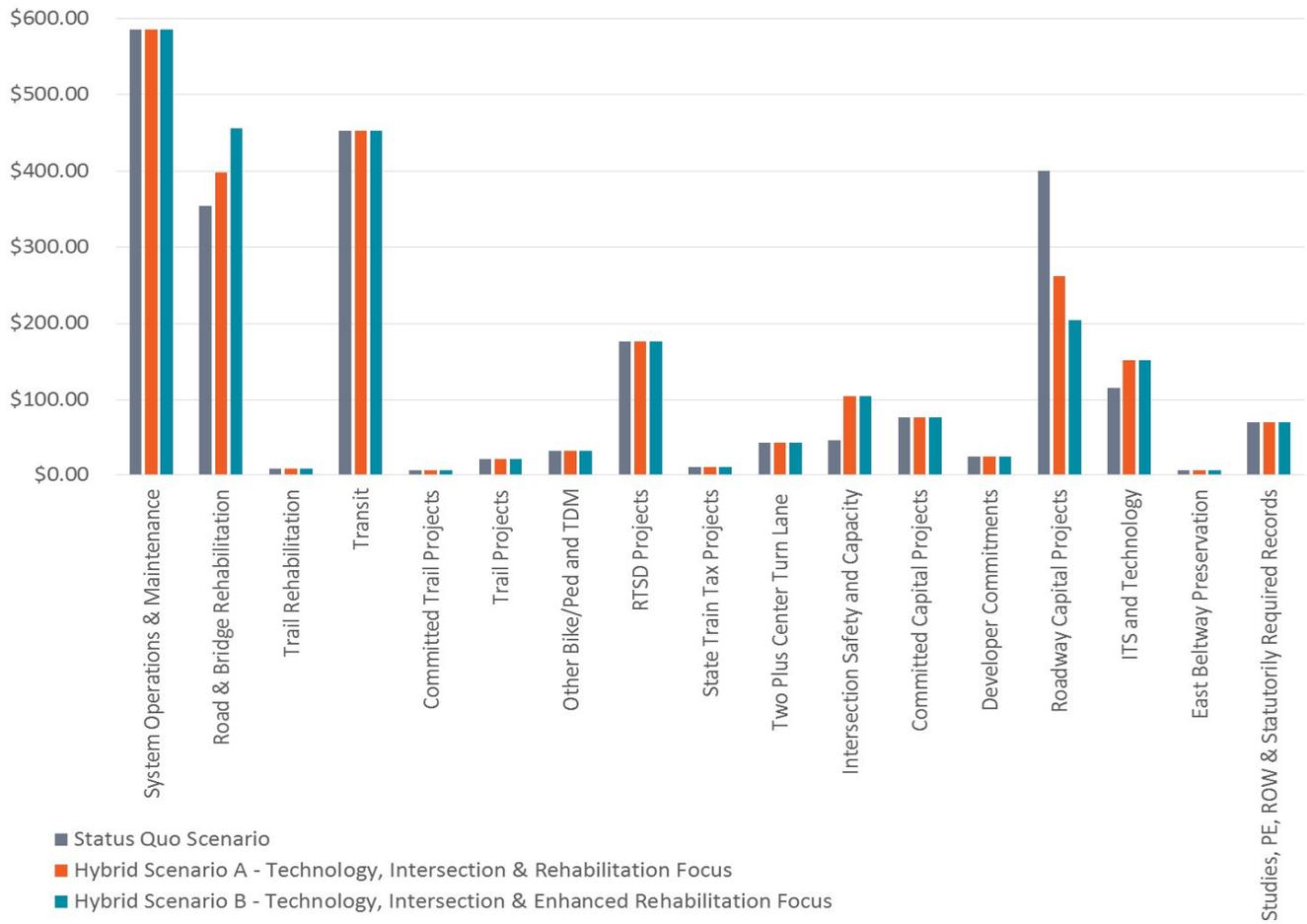
Many of the funding sources have restrictions about how they can be used (e.g., FTA funds can only be used for transit), or prior commitments (e.g., a portion of the Wheel Tax funds must be used for residential rehabilitation and a portion is expected to be used for road construction projects). Other funding sources are flexible in nature and could be used for a wide variety of different transportation projects or programs.

The funding restrictions and commitments associated with each funding source are accounted for by aligning them with the associated project or program category. The remaining flexible funds can be used for any of the seventeen categories. Three resource allocation scenarios were developed by a subset of the Oversight Planning Committee with input from the full Oversight Planning Committee, the Planning Commission, and with strong consideration for the community input on funding priorities. The three resource allocation scenarios include:

- **Status Quo Scenario** – This scenario uses an approach consistent with the current (2011) LRTP. That is, the allocation to each project and program category aligns with the current LRTP allocation. Once each program category is allocated agreed to funding amounts, the remaining resources are then allocated to the Roadway Capital Projects program. This scenario represents a baseline for comparison purposes and is not intended to be an option to choose as the new LRTP resource allocation given new information developed during the current update process.
- **Hybrid Scenario A** – This scenario uses the Status Quo Scenario as a starting point, but includes increased funding for three categories that have been identified by the LRTP Oversight Committee, the Planning Commission, and the community as being high priority: ITS and Technology, Road and Bridge Rehabilitation, and Intersection Safety and Capacity. The result is an increased emphasis on maintaining the existing system and improving the efficiency of that system before allocating additional funds to the Roadway Capital Projects program.
- **Hybrid Scenario B** – Again, this scenario uses the Status Quo Scenario as a starting point and also includes increased funding for ITS and Technology, Road and Bridge Rehabilitation, and Intersection

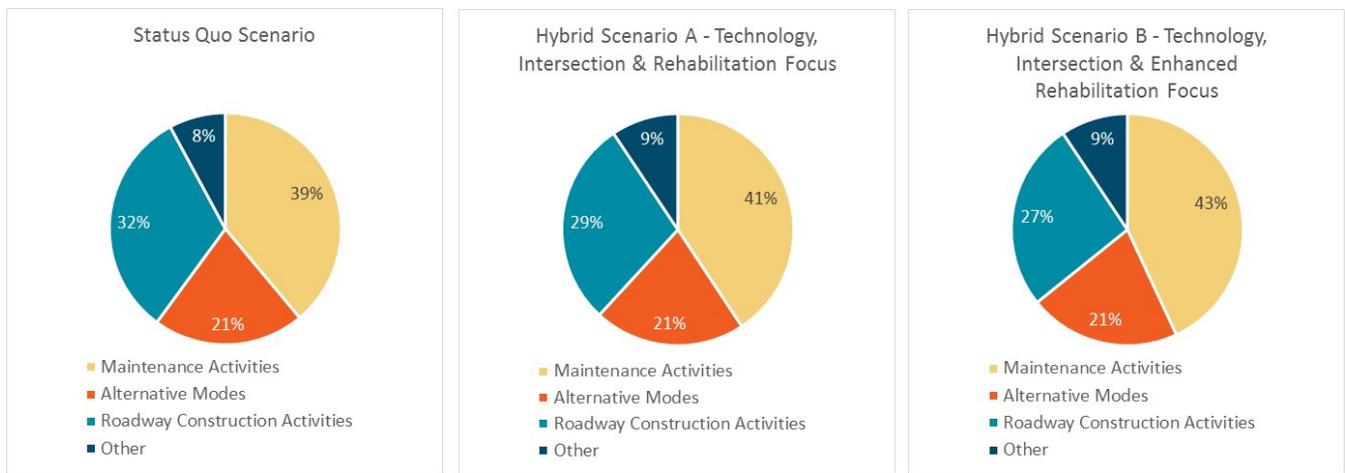
Safety and Capacity. This scenario includes an *additional* increase in the Road and Bridge Rehabilitation category compared to Hybrid Scenario A.

### Resource Allocation by Scenario (in Millions)



The resource allocation scenarios are shown below by the four major categories, to provide a comparison of the distribution of funds among maintenance activities, alternative modes, construction activities, and other.

### Resource Allocation Scenarios – Distribution by Major Category



Refer to page 6 for a listing of the programs included in each major category.

## Investment Strategy Investigation

The \$2.4 billion in transportation revenues expected over the 24-year time horizon of the LRTP Update will not be enough to cover the cost of the transportation needs in Lincoln and Lancaster County. Compounding the funding shortfall are the increasing costs to construct transportation projects; costs have inflated by approximately five percent per year in recent years. Based on an initial list of roadway capital projects and their associated costs, the project team realized quickly that the available funds in any of the three scenarios would only allow for a short list of roadway capital projects to be completed using the assumption that adequate funding of maintenance activities is continued. The initial list of projects included several major six-lane widening projects (e.g., Highway 2, 84<sup>th</sup> Street, O Street, Cornhusker Highway) and other four-lane widening projects, such as Van Dorn Street that would be very costly to construct.

Based on input from the LRTP Oversight Committee, the Planning Commission, and the community input, the project team investigated an alternative approach to corridors such as those that were originally identified for six-lane widening. The project team desired to gain a better understanding of the benefits of six-lane widening compared to a considerably less expensive approach of improving traffic signal coordination and improving key intersections to eliminate bottlenecks. Highway 2 from Van Dorn to 84<sup>th</sup> Street was used as a case study. Using the LRTP 2040 TransCad travel demand model, the project team found that widening Hwy 2 to six lanes could result in the following:

- An increase in daily vehicle throughput: +6,000 vehicles per day
- A decrease in daily congestion: -300 hours per day
- An increase in average daily travel speed: + 2 mph
- A decrease in average travel time: -3 minutes per vehicle

While widening Hwy 2 would bring some benefits to Lincoln travelers, these benefits would come at the considerable cost of \$46,000,000 (or more, depending on when the project could be constructed). The decrease in daily congestion (-300 hours) represents a roughly 20 percent reduction. Based on research and before and after studies conducted around the country, this level of congestion reduction aligns with what might be expected by improving signal coordination and addressing corridor bottlenecks through spot improvements at intersection – a considerably more cost effective approach.

Based on this investigation, the limited funding availability, and the potential for emerging technologies in transportation (such as vehicle to vehicle communication and autonomous vehicles) to further maximize the system capacity, the study team recommends applying this alternative approach of traffic signal coordination and intersection improvements on the major corridors as initial, though potentially ultimate, corridor improvements. This alternative approach is reflected in the following section.

## Fiscally Constrained Plan Elements

The selected resource allocation strategy (which may be one of the scenarios presented herein, or a variation depending on your input and the result of continued public input and discussion) will be used to establish the fiscally constrained plan that will ultimately be adopted as the new transportation plan. The following sections provide information on what could reasonably be funded within the three resource allocation scenarios. For most categories, the funding allocation is the same for the three scenarios. Those categories with variable funding depending on the resource allocation scenario are described first.

## Categories with Variable Funding

### Road and Bridge Rehabilitation

Funding for this category varies among the three resource allocation scenarios. Maintaining the existing transportation infrastructure was identified as the top priority by community members; Hybrid Scenarios A and B therefore include increased funding for Road and Bridge Rehabilitation compared to the Status Quo Scenario. The table below provides a preliminary comparison of the anticipated surface conditions of Lincoln’s roads based on the level of funding. Preliminary estimates indicate that the increased funding for rehabilitation in Scenario A or Scenario B would result in more than half of the City’s roads in Fair or better condition (while less than half would be in Fair or better condition in the Status Quo Scenario)

### Rehabilitation Funding by Scenario

Scenario	Road and Bridge Rehabilitation Allocation	Miles of Roads in Fair or Better Condition
Status Quo Scenario	\$354.74 M	610
Hybrid Scenario A	\$398.13 M	630
Hybrid Scenario B	\$455.85 M	650

### ITS and Technology

The Green Light Lincoln initiative uses smart technologies to improve traffic flow and reduce travel times. By using the next generation of traffic management systems, Lincoln travelers can expect less time waiting at red lights, fewer vehicle emissions, and a reduction in crashes. By maximizing the existing capacity of the City’s streets through signal timing improvements, the need for major capacity expansions could be postponed or eliminated. The Status Quo Scenario assumes continuation of current funding levels for ITS and Technology (\$115.41 M). Both Hybrid Scenarios include a total of \$151.85 M in funding for this program, which would allow for full implementation of the Green Light Lincoln initiative. Travel delay reductions in the range of 20 percent may be expected with full implementation of Green Light Lincoln.

### Roadway Capital Projects

A project prioritization process was developed to evaluate roadway capital projects and to better understand which projects would provide the greatest contributions toward meeting Lincoln’s transportation goals and achieve the desired trends in the performance measures described previously. A Scoring Committee (a subset of the Oversight Planning Committee) evaluated more than 70 roadway capital projects based on evaluation criteria that align with the seven goals. The public was asked during the second phase of community outreach, which of the roadway capital projects are of most importance. The results from 738 individual responses were treated as bonus points for those projects with strong public support.

The resulting ranked projects were compared with the available funding for roadway capital projects in each of the three resource allocation scenarios. The fiscally constrained plan must consider the year of expenditure (YOE) cost of projects – a five percent annual inflation has been applied to the 2016 project costs. This inflation rate is consistent with construction cost increases over the past five years. The table below provides a comparison of how many and which projects could be funded within the fiscally constrained plan depending upon the resource allocation scenario. The projects listed at the top of the table are committed projects (in the current Capital Improvement Program [CIP]) and developer commitments; more details on these project

categories are provided in subsequent sections of this technical memorandum. The Status Quo Scenario would result in completion of 26 additional roadway capital projects by 2040. The Hybrid Scenario A and Hybrid Scenario B would result in completion of 14 and 9 additional roadway capital projects, respectively. All remaining roadway capital projects (including an additional 42 lower ranked projects that are not shown on the table below) would be included as Illustrative (unfunded) projects in the LRTP.

### ***Intersection Safety and Capacity***

The Status Quo Scenario includes a \$46.95 M allocation to this project category, which would allow for critical intersection safety improvements. Both Hybrid Scenarios include an increased allocation to this project category, totaling \$104.68 M, which would allow for construction of one intersection project per year (in addition to the critical safety improvements). This increased emphasis on intersection aligns with the alternative approach to transportation corridor investments described above and would allow for expanded geographic coverage of this approach by addressing critical bottlenecks in the system through intersection improvements.

### **Other Categories**

#### ***System Operations & Maintenance***

This category includes ongoing maintenance requirements (e.g., pavement maintenance, snow removal, street sweeping, drainage) and operations (e.g., traffic signals) to keep the transportation system functional. The \$586 M allocation to this category (all three scenarios) would provide for continuation of the current operations and maintenance activities.

#### ***Trail Rehabilitation***

The \$8.29 M allocated to trail rehabilitation is composed of Keno funds, Park & Recreation Repair and Replacement funds, and other trail-specific funding sources; this allocation would allow for a continuation of the current trail rehabilitation program.

#### ***Transit***

The allocation to transit in all three scenarios (\$452.82 M) would allow StarTran to operate the Transit Development Plan (TDP) Preferred Alternatives routes (15) and services and to maintain the fleet of 67 fixed-route buses and 13 paratransit vehicles.

#### ***Committed Trail Projects***

There are five trail projects included in the 2016-2022 CIP which are assumed to be fully funded and completed within the first six years of the plan. These committed trail projects total \$6.85 M and include: the Waterford Trail, the Fletcher Landmark Trail, the Wilderness Hills Trail, the Woodland Trail, and the Salt Creek Greenway Corridor Trails.

**Roadway Capital Projects by Resource Allocation Scenario**

RANK	Project ID	Street Name	Limits	Description	Agency	Project Cost (2016\$)	Year of Expenditure			Refer to Notes Below Table
							Status Quo Scenario	Hybrid A Scenario	Hybrid B Scenario	
CIP		Yankee Hill Road	70th Street to Hwy 2	2 lanes + roundabouts	Local	\$14,790,000				1
CIP		West A Street	SW 40th to Folsom	2 lanes + intersection improvements	Local	\$16,980,000				1
CIP		South Beltway	US 77 to Hwy 2	4 lane freeway	State	\$44,159,000				1, 5
CIP		14th/Warlick	14th/Warlick/Old Cheney	Intersection improvements and grade separation	Local	\$24,930,000				1
CIP		Pine Lake Road	61st St to Hwy 2	4 lanes + turn lanes	Local	\$10,850,000				1
DEV		S. 40th St	Yankee Hill Rd to Rokeby Rd	2/4 lanes + intersection improvements	Local	\$8,800,000				2
DEV		NW 12TH St	W. Alvo Road to Aster	2 lanes + turn lanes + overpass	Local	\$2,800,000				2
DEV		W. HOLDREGE St	NW 56th Street to NW 48th Street	2 lanes + intersection improvements	Local	\$3,100,000				2
	A	NEBRASKA HWY 2	84th Street to South Street	Corridor Study	Local	\$1,500,000	2019	2019	2019	3
1	41	N. 48TH St	Adams St to Superior St	4 lanes + intersection improvements	Local	\$12,400,000	2023	2026	2027	
	B	NEBRASKA HWY 2	84th Street to South Street	Priority Improvements (TBD by Corridor Study)	Local	\$20,000,000	2025	2028	2030	3
3	2	S. 40th St	Normal Blvd and South St	Major intersection area work	Local	\$8,600,000	2026	2029	2031	
4	27	YANKEE HILL Rd	S. 40th Street to S. 56th Street	2/4 lanes + intersection improvements	Local	\$10,200,000	2027	2030	2033	
6	58	S. 56TH St	Van Dorn St to Pioneers Blvd	4 lanes + intersection improvements	Local	\$10,500,000	2028	2032	2035	
7	33	N. 84TH St	O Street to Adams Street	Intersection Improvements	Local	\$4,125,000	2028	2032	2036	4
8	32	O St (US-34)	Antelope Valley N/S Rdwy. (19th St.) to 46th Street	Intersection Improvements	Local	\$14,000,000	2029	2034	2039	4
9	34	US-6 (SUNVALLEY)	Corn. Hwy (US-6) to W. O St.(US-6)	4 lanes + turn lanes + overpass	State	\$41,500,000	2030	2035	2040	5
11	19	O St (US-34)	Wedgewood Drive to 98th Street	Intersection Improvements	Local	\$4,100,000	2030	2036		4
12	37	CORNHUSKER (US-6)	N. 20th Street to N. 33rd Street	Intersection Improvements	Local	\$4,500,000	2031	2037		4
13	14	NW 48TH St	Adams Street to Cuming Street	2 lanes + intersection improvements	Local	\$10,300,000	2032	2039		
14	40	VAN DORN St	S. 70th Street to S. 84th Street	Intersection Improvements	Local	\$2,900,000	2032	2039		4
15	44	O St (US-34)	84th Street to East Beltway	4 lanes + intersection improvements	State	\$32,100,000	2033	2040		5
16	42	HAVELOCK Ave	N. 70th Street to N. 84th Street	2 lanes + intersection improvements	Local	\$6,300,000	2033			
17	23	S. 56TH St	Thompson Creek Boulevard. to Yankee Hill Road	4 lanes + intersection improvements	Local	\$7,400,000	2034			
18	1	I-80	I-80 and I-180	Major interchange work	State	\$21,200,000	2034			6
19	38	CORNHUSKER (US-6)	N. 11th St to N. 20th St	Intersection Improvements	Local	\$1,000,000	2034			4
21	24	YANKEE HILL Rd	S. 56th Street to S. 70th Street	2 lanes + intersection improvements	Local	\$7,000,000	2035			
22	25	S. 84TH St	Amber Hill Road to Yankee Hill Road	4 lanes + intersection improvements	Local	\$4,300,000	2035			
23	69	N. 14TH St	US-6 Cornhusker Highway	Interchange	Local	\$15,300,000	2037			
24	50	HAVELOCK Ave	N. 84th St to N. 98th St	2 lanes + intersection improvements	Local	\$7,000,000	2038			
25	56	HOLDREGE St	N. 70th St to N. 80th St	4 lanes + intersection improvements	Local	\$7,900,000	2039			
26	71	I-80	Pleasant Dale to NW 56th Street	6 lanes + bridges	State	\$129,000,000	2039			6
27	21	SALTILLO Rd	S. 14th St to S. 27th St	2 lanes + intersection improvements	Local	\$8,200,000	2040			
28	13	W. VAN DORN St	Coddington Avenue to US-77	2 lanes + intersection improvements	Local	\$6,000,000	2040			

<sup>1</sup> CIP projects are included in the 2016 – 2022 CIP and are assumed to be fully funded and constructed prior to allocation of resources to other roadway capital projects.

<sup>2</sup> DEV projects are developer commitments; the timing of these projects is dependent upon development, for the purpose of the LRTP they are assumed to be complete prior to allocation of resources to other roadway capital projects.

<sup>3</sup> Rather than assuming the widening of Hwy 2 to six lanes, a Corridor Study is recommended to evaluate alternative improvements for the corridor. A \$20 M placeholder for construction of priority improvements is included as a high priority; the specific improvements will be identified through the Corridor Study.

<sup>4</sup> These corridor projects include the alternative approach to six lane widening – traffic signal coordination and key intersection improvements to address bottlenecks.

<sup>5</sup> These State projects assume a 20 percent allocation of local resources toward the total project cost. The timing of these projects (other than the South Beltway) will depend on other funding availability.

<sup>6</sup> These Interstate Highway State projects assume no local resource allocation; they are included in this table strictly to show their ranking compared to other roadway capital projects. The timing of these projects will depend on funding availability.

## Trail Projects

A project prioritization process was developed to evaluate trail projects and to better understand which projects would provide the greatest contributions toward meeting Lincoln’s transportation goals and achieve the desired trends in the performance measures described previously. A Scoring Committee (a subset of the Oversight Planning Committee) evaluated over 40 trail projects using evaluation criteria that align with the seven goals. The public was asked during the second phase of community outreach, which of the trail projects are of most importance. The results from 673 individual responses were treated as bonus points for those projects with strong public support. The priority trail projects that are expected to be funded within the time horizon of the LRTP are listed in the table below. The order of projects may change depending on opportunities for funding.

### Priority Trail Projects

Project ID	Trail Name	Limits	Project Cost (2016\$)
<b>Funded/Committed Trail Projects</b>			
T-07	Landmark Fletcher	Fletcher Ave from N. 27th St to N. 14th St	\$950,000
T-04	Woodlands	Rokeby Rd. to 70th St to Yankee Hill	\$900,000
T-08	Rock Island Connection	Viaduct over BNSF to Jamaica	\$900,000
T-11	Waterford	N. 84th St to Stevens Creek	\$850,000
T-09	Wilderness Hills	Yankee Hill Rd to Rokeby Rd.	\$1,150,000
T-27	Prairie Corridor Trail	SW 56th St to Saltillo Rd.	\$3,000,000
<b>Trail Projects within Roadway Capital Project</b>			
T-16	N.48th St Trail	Murdock Trail to Superior	\$170,000
T-36	NW 12th St.	NW 10th St. crossing Hwy. 34 to Aster	\$850,000
T-14	Air Park Connector – Fletcher Ave	N. 1st St to NW 56th St	\$950,000
T-15	W. Holdrege Street Trail	NW 40th St to NW 56th St	\$310,000
T-18	N. 33rd St and Adams Trails	Murdock Trail to Cornhusker Hwy.	\$600,000
T-43	Yankee Hill Rd	S. 40th St to S. 70th St	\$620,000
<b>Priority Trail Projects</b>			
T-19	10th Street Trail	Van Dorn St to 17th St/Burnham St	\$300,000
T-35	N. 1st St	N. 1st St crossing of Hwy 34	\$1,500,000
T-21	East Campus Trail	Leighton St to Deadmans Run	\$45,000
T-31	SW 40th Street	A St to F St	\$80,000
T-07	Landmark Fletcher	33rd St & Superior St to 27th St & Fletcher Ave	\$600,000
T-29	South Street	SW 27th to Jamaica	\$730,000
T-30	O Street	SW 40th St to NW 48th St	\$240,000
T-20	Deadmans Run Trail	48th St to Mo Pac Trail	\$410,000
T-27	Prairie Corridor Trail Completion	SW 56th to Saltillo Rd	\$1,000,000
T-44	14th & Yankee Hill Connector	S. 14th St Vavrina to Yankee Hill	\$250,000
T-26	South Beltway Trail – Phase 1	27th St to Hwy 2	\$3,750,000
T-28	NW 56th	W. Adams to NW 56th to W. Superior St	\$550,000
T-03	Woodlands	Jensen Park to Rokeby Rd	\$470,000
T-34	N. 48th St	Superior St to N. 56th St	\$680,000
T-39	10th Street	Grade separated crossing	\$2,000,000
T-25	84th Connector	Rokeby Rd to South Beltway	\$450,000
T-23	27th St Connector	Rokeby Rd to South Beltway	\$460,000

### ***Other Bike/Ped and Travel Demand Management (TDM)***

This program includes sidewalk repairs, ADA compliant ramps, restriping to add bike lanes, and the travel options program. The allocation of \$33.51 M would cover roughly three miles of sidewalk repairs per year.

### ***RTSD and State Train Tax Projects***

The \$188.11 M to RTSD and State Train Tax Projects is directly from the two highly restrictive funding sources. This amount is estimated to cover major railroad grade separation projects at 33<sup>rd</sup> and Adams and the South Beltway, along with railroad crossing gates and flashers at two crossings per year, and six railroad crossing surface upgrades per year.

### ***Two Plus Center Turn Lane Projects***

There are approximately 14 miles of Two Plus Center Turn Lane (2+1) projects remaining in Lincoln. The allocation of \$43.29 M would allow for construction of approximately 7.5 miles of 2+1 projects. This estimate accounts for the increasing cost of construction projects using a five percent annual inflation rate.

### ***Committed Capital Projects***

There are five roadway capital projects included in the 2016-2022 CIP which are assumed to be fully funded and completed within the first six years of the plan. These committed capital projects total \$77.5 M and include:

- Yankee Hill Road from 70<sup>th</sup> Street to Hwy 2
- West “A” Street from SW 40<sup>th</sup> to Folsom
- South Beltway
- 14<sup>th</sup>/Warlick/Old Cheney
- Pine Lake Road from 61<sup>st</sup> to Hwy 2

### ***Developer Commitments***

The City has made commitments to developers to contribute a portion of the construction cost for some roadway projects. The timing of these projects is uncertain and depends upon when the associated development occurs. For the purpose of the LRTP, the City’s contributions to these projects are treated similar to the Committed Capital Projects, that is, they are assumed to be complete before funding is allocated to any new Roadway Capital Projects. The plan includes a total of \$25.55 M in developer commitments.

### ***East Beltway Preservation***

The allocation of \$250,000 per year (\$6 M over the 24-year time horizon) could be used to preserve approximately 170 acres of land along the East Beltway corridor, which is approximately 20 percent of the total land needed for the future corridor. The East Beltway was identified as the highest priority roadway capital project by the public; proceeding with construction of a project this size is dependent on additional funding from the State and/or Federal government.

### ***Studies, PE, ROW & Statutorily Required Records***

This program category covers pre-project level engineering studies, responses to non-project specific public inquiries, engineering standards and guidelines, staff coordination with private sector growth proposals, and legal requirements for record keeping. The \$70.7 M allocation would allow for continuation of these essential staff functions.

## County Projects

The LRTP Project Team has coordinated closely with the Lancaster County Engineer's office throughout the development of the LRTP Update. The County's rural road program identifies priority paving projects that are most likely to receive funding for paving improvement during the 2040 planning period. The order and priority of the paving projects will be determined as traffic conditions warrant. Funding for the rural road program is separate from the MPO funding described in the preceding sections of this memorandum. The majority of the budget for the rural roadway network is devoted to maintenance of the network including grading, spreading gravel, snow removal and bridge and right of way maintenance. About \$1 million per year is devoted to the programmed paving projects.

## Summary and Next Steps

The transportation revenues expected over the 24-year time horizon of the Long Range Transportation Plan (LRTP) Update will not be enough to cover the cost of the transportation needs in Lincoln and Lancaster County. Compounding the funding shortfall are the increasing costs to construct transportation projects. Careful consideration of investment strategies is needed, along with an understanding of the associated tradeoffs. The preliminary direction of the LRTP Update (as documented in this memorandum) focuses on maintaining the transportation system and making the system function as efficiently as possible while constructing the most needed projects.

While no action will be requested at the July 15<sup>th</sup> meetings with the MPO Technical Committee and the MPO Officials Committee, the Project Team would like your feedback on the direction of the LRTP Update. The next steps will be to prepare the draft LRTP Technical Report, and present the LRTP Update to the public for review and comment (beginning in September 2016). The Project Team would prefer to present a single resource allocation strategy to the public, and we seek your direction on the most prudent allocation of available funding.