

Infrastructure Task Force Lancaster County

Thursday, April 5, 2018 2:00 PM

Lancaster County Extension

444 Cherrycreek Road Suite A, Room A

Agenda

Introductions / Sign-In

Study Goals

Review of Community Profile

Review of Existing Conditions

Discussion of Peer Counties

Next Steps

Lancaster County Board of Commissioners
Infrastructure Task Force
Lancaster County Extension, 444 Cherrycreek Road, Lincoln, Nebraska
Thursday, April 5, 2018
Kick-Off Meeting Minutes

Task Force Members Present: Roma Amundson (Lancaster County Commissioner), Jess Baker (Wilderness Construction), Joe Bolubasz (Midwest Bank), Nathan Boone (JEO), Garrett Brehm, Jennifer Brinkman (Lancaster County Commissioner), Jeffrey Butterfield (RBC Wealth Management), Silas Clarke (City of Hickman), Nick Cusick (Bison, Inc.), Pam Dingman (Lancaster County Engineer), Craig Gana (Gana Trucking), DaNay Kalkowski, Brian Maschmann (Norris Public Schools), Jeff McKerrow (Olsson Associates), Russell Miller, Ray Stevens, Nick Weander (Olsson Associates), Michael Werner (City of Waverly).

Others Present: Ann Ames (Lancaster County), Ron Bohaty (Lancaster County), Donny Cerwick (Burns & McDonnell), Jim Davidsaver (Lancaster County), Kerry Eagan (Lancaster County), Bud Geistlinger (Lancaster County), Bob Jacobs, Larry Legg (Lancaster County), Justine Petsch (Lincoln Chamber), Angela Zocholl (Lancaster County).

Introductions

Jeff McKerrow from Olsson Associates welcomed the group and thanked them for attending. He reminded everyone that this meeting is open to the public and it is a goal to be completely transparent. He also stressed that this is a focused task force that will address some fun things but also have tough discussion about infrastructure issues, he also cautioned the group that the problems Lancaster County faces aren't unusual. Jennifer Brinkman (Lancaster County) also welcomed the group. Jennifer shared her commitment to infrastructure and her belief that infrastructure for the entire county needs to be a priority and not just the financing but also best practices. Brinkman also thanked the participants for their time and willingness to serve Lancaster County.

Brian Maschmann from Norris Public Schools began the introductions and shared some brief information about Norris, including the fact that they have had two student deaths on Lancaster County Roads in the past six months. He noted that he has a very concerned and vocal group of parents that are advocating for change. Norris recently attempted a bond issue vote that failed and many parents suggested to him that those funds would be better served to improve roads than the school facilities. Maschmann stated he wants the public to understand that there are different pots of money for different issues. Joe Bolubasz introduced himself, he will be serving as the Task Force chair. Introductions continued to Russell Miller, Jeff Butterfield who noted that he is in the Norris areas and shares that perspective, Roma Amundson talked about her commitment to infrastructure and noted the trends of deferred maintenance on the County's part and her willingness to change that trend, Ray Stevens, Garrett Brehm who introduced himself and noted he was sitting in for his mother Debby who is a Task Force member but was unable to attend, Jess Baker introduced himself as a homebuilders representative, Ann Ames (Lancaster County), DaNay Kalkowski introduced herself and shared some background of her legal experience in property/land-use law, Mike Werner, Mayor of Waverly introduced himself and noted that his

was “beyond his comprehensions how Waverly and Hickman can be the fastest growing towns in Nebraska and are this far behind on infrastructure and that a solution is much needed”. Nathan Boone from JEO introduced himself, Silas Clarke (City of Hickman) introduced himself, Kerry Eagan (Lancaster County), Donny Cerwick of Burns McDonnell, Justine Petsch (Lincoln Chamber), Bob Jacobs (retired Lancaster County employee), Jim Davidsaver (Lancaster County), Ron Bohaty (Lancaster County), Bud Gesitlinger (Lancaster County), Larry Legg (Lancaster County, Angela Zocholl (Lancaster County) and Nick Weander from Olsson Associates introduced himself and gave a little information about his background.

Agenda Overview

Jeff McKerrow went over the agenda which would include an overview of the study goals, community profile, existing conditions, preservation and optimization baseline report, discussion of peer counties and next steps in the process. McKerrow encouraged everyone to jump in and not just focus on how to raise the necessary money but also on what the purpose of the group should be.

Study Goals

Jeff McKerrow talked with the group to get them thinking about what the goals of the group should be. Should the group use the same goals as the regional MPO or are there enough differences in issues to have different goals. McKerrow discussed the overall maintenance of County roads but also wanted the group to focus on bridges and structures. He discussed bridges the County must close because of deterioration. Nick Cusick mentioned the importance of maintaining what the County has as a top priority. Pam Dingman introduced Craig Gana from Gana Trucking when he arrived. Ray Stevens asked if the goal list was also the priority list and Jeff McKerrow stated they were not. He told the group that they need to do the prioritizing. The regional goals listed include:

- Maintenance
- Mobility & System Reliability (the ability to get from farm to market)
- Livability and Travel Choice (this could include paved shoulders for bikers, walking, etc.)
- Safety & Security - Roma Amundson noted that this includes the ability of first responders to quickly access locations in the County in emergency situations.
- Economic Vitality (prioritization of resources), Russell Miller noted that Lancaster County is urbanized and not farms anymore. Miller feels that acreages are more urban. Nick Cusick asked if the City of Lincoln’s boundaries matched the County’s boundaries if the County would have any infrastructure to maintain, Pam Dingman said the county would not have any infrastructure to maintain if that were the situation. Pam Dingman also noted the differences between Lancaster County and Sarpy or Douglas County.
- Environmental Sustainability – Jeff McKerrow asked the group to think about if this is a priority to them as gravel and dirt roads create a lot of dirt and dust.
- Funding and Cost Effectiveness – How will these things be funded? Nick Cusick suggested that the County look for additional opportunities to partner with the City of Lincoln.

Jeff McKerrow suggested that the group may benefit from using a dashboard that could live on the County's website and would help monitor goals and assess progress.

Growth

Jeff McKerrow went over the growth slides in the presentation and noted that Lancaster County had a sustained growth rate of 1.3% for the past five years which is a good and sustainable amount for a midwestern county. It is estimated that Lancaster County will have a population of over 400,000 by 2040. Brian Maschmann noted that Norris Public Schools has the largest population between Lincoln and Beatrice with 2,400 students and 300 staff. Employment was discussed and the impacts it has on travel in and out of the County. 44,000 people travel into Lancaster County for work, 22,000 leave Lancaster County to work and 120,000 (84%) both live and work inside Lancaster County.

Road Types

McKerrow provided and went over various maps that outlined the types and classifications of roads in Lancaster County. Nick Weander noted that rural major collector roads are eligible for federal aid, but it is not always available. Nick Cusick asked what responsibility Lancaster County has for Highway 6 and Pam Dingman noted that the County has none. Pam noted that she is happy to give away bad infrastructure including a bad bridge recently to the City of Lincoln. Jeff McKerrow overviewed a map that showed all the roads in green that Lancaster County must maintain, which is more lane miles than the City of Lincoln. Nick Cusick asked what % were minimum maintenance roads, Pam Dingman shared that she doesn't classify roads as minimum maintenance because it means she gets less highway allocation dollars, instead, they are dirt roads. Currently there are 50-55 miles of dirt roads, 1,100 miles of gravel roads and 270 miles of paved roads. The County has a goal/desire to pave a road when it hits 400 cars per day traveled on it. A brief discussion of Rec roads was held. Rec roads are those roads that connect a state highway to a state park. There are some funds available for these roads through Nebraska Department of Transportation and Game & Parks but they remain the County's responsibility to maintain. Jeff McKerrow continued to discuss the types of roads the County has and showed a graph that illustrates that 40% of the County's paved roads have been paved in the past five years. A majority of County roads are still gravel. Nick Cusick asked if Saltillo Road belongs to the City of Lincoln or the County. Pam Dingman responded that part of it belongs to the City of Lincoln and then it turns back over to the County at about 27th Street until the County line. At 120th Street, it goes from a paved road back to gravel. Jeff provided maps for the group that were forward looking and encouraged the group to think about County growth. It was also noted that anything within the 3-mile zoning jurisdiction still belongs to the City of Lincoln and their growth is largely controlled by where they can put sewers. More discussion was held on the 250 miles of mainline roads, approximately 80 miles needs overlay. Russell Miller asked about a special machine that measures the road and determines quality. Pam Dingman clarified her process for assessing roads and stated that her process was from the Minnesota Department of Transportation which includes two staff members who assess, measure and rate the road. Jeff McKerrow noted that the system Lancaster County uses is a very good government-created technique that is more cost effective; by taking samples to get a good measure of the total road system.

Bridges

Jeff McKerrow went over the definitions related to bridges and structures including:

- Bridge Sufficiency Rating - Overall rating of a bridge's fitness for the duty it performs, scale of 1-100, below 50 = eligible for replacement.
- Scour – Erosion of soil surrounding a bridge foundation, caused by fast moving water.
- Structurally Deficient – If deck, superstructure, substructure or culvert is rate in poor condition. Or if load carrying capacity is significantly below current design standards, or if a waterway frequently overtops the bridge during floods.
- Functionally Obsolete – Bridge that is no longer by design functionally adequate for its task. Not related to its structural nature.
- Fracture Critical Bridge – Lacking structural capacity or redundancy to prevent failure in event on structural element fails.
- Posted Bridges – Bridges that, due to their condition or design do not have the structural capacity to safely carry the state legal loads.
- Culvert – Becomes a bridge after spanning 20 feet.

McKerrow noted that it is important to understand the conditions of bridges because they are heavily relied on for ag use in the County and the potential of a farmer not heeding the posted weight limit could be very problematic. Currently Lancaster County maintains 184 bridges, there are currently nine bridges closed with the potential of a tenth one also being closed, according to Pam Dingman. Jeff provided a map of the structurally deficient bridges as well as scour and fracture critical bridges. Jeff McKerrow noted for the group that bridge issues are a larger issue in Lancaster County than road maintenance. He continued with a discussion about culverts and the structures that are a combination of various types but are substandard and have been rigged to maintain them as open. Further discussion was held on the pipes that go in driveways. When a person builds a home in the County, they pay for the installation of the pipe but the County maintains it. This is in part because the pipes need maintenance and many homeowners do not have the tools necessary to maintain or clean them.

Standards & Guidelines

Jeff also noted that the County attempts to purchase 100 feet of right-of-way, 50 feet on both sides of the center of the road for the roads that have 400+ cars a day that are to be paved. McKerrow also went over some of the design standards/guidelines that would be presented to the group including the 2040 Regional Transportation Plan and the RUTS Agreement with the City of Lincoln. There is an interlocal agreement in place for RUTS but no funding and the plan will need updating. Jeff also discussed the One and Six Year Plan that the County is required to do annually for the NDOT. The NDOT wants to know that Counties are planning ahead and planning well, which is why the One and Six is required. He also went over the typical evolution of a road project and noted for the group the various phases and that it can take up to six years

depending on the project. Additionally, he provided the group with a list of existing comprehensive plans, and a listing of rural road project identified needs. Brief information was provided in two slides about the budget which is \$24-26 million for Lancaster County Engineering per year but much of this goes to personnel cost, emergency construction and not just road maintenance. It is the goal of the task force to be sure that any citizen can pick up the budget and understand where the money is coming in and going out in terms of the Engineering department.

Best Practices & Peer Counties

Mr. McKerrow also provided the group with a list of research on best practices in transportation, rural road maintenance, etc. He also provided the group with a list of suggested peer counties that he is suggesting for the group to use as a comparison tool. Those counties currently include:

- Sarpy County, NE
- Douglas County, KS
- Story County, IA
- Riley County, KS
- Boone County, MO
- Hamilton County, IN
- Winnebago County, IL

The counties suggested were chosen based on size, industrial similarities, geographic and climate similarities. Larry Legg noted that in Missouri, the State of Missouri maintains all county roads which could impact their overall county costs. Nick Cusick suggested that we also consider terrain as one of the features looked for in peer counties as well as linear miles. Jeff McKerrow asked the group for suggestions and told them that Colorado counties had also been suggested. Nathan Boone spoke to Colorado as a potential comparison since he has lived and worked there. Nick Cusick talked about the importance of including counties who have relatively large cities within their county lines and how population splits could affect the comparisons. Jeff McKerrow asked the group to email him suggestions of other counties to consider. Ray Stevens asked if Olsson Associates had rejected any counties for comparison, and McKerrow noted that they had not. Ray Stevens suggested that Minnehaha County (Sioux Falls, SD) and Olmstead County (Rochester, MN) be considered. It was also suggested that Larimer County (Ft. Collins, CO) be considered and Pam Dingman suggested that Adams County, CO be considered as well.

Next Steps

Jeff McKerrow provided a list of upcoming meetings in the presentation and noted that Pam Dingman would have tours of the facility and equipment available after the meeting. Joe Bolubasz shared that he has been unaware of the needs in Lancaster County until his tour. He noted that he put his hand on a bridge that wiggled and it is right next to a farm who relies on it for transport to market. Pam Dingman noted that safety was paramount in determining the closure of bridges and that she would not do it unless it was absolutely necessary. Brian Maschmann talked about potentially taking safety and security off the list of goals because it should be a guiding principal in all that the task force and County does. He also wanted to know what the County is doing to be proactive, that much of what is being discussed is reactive and is

the County thinking ahead to the future, for example how will the construction of the new beltway affect the County. Jeff McKerrow noted that there would be time to discuss growth. Pam Dingman talked about requests she has received for a schedule of construction for Saltillo Road (which isn't available yet) but that the county is thinking proactively, but often doesn't have the funds to act. Part of this proactive thinking includes the paving of 54th Street this year to help Norris. Jeff McKerrow noted that he would like to keep the conversations on a high-level for this first meeting and not get into specifics on roads or bridges and there would be time and the next meeting to really get into best management practices. Pam Dingman reminded the group to please wear close-toed shoes for the upcoming meeting at the Waverly shop. Tours after the meetings will last about an hour and a half. Nick Cusick also asked if equipment was a major deficiency for the County. Pam Dingman noted that she has made improvements and investments to equipment and will continue to do so. Jeff McKerrow asked the group to think about budgeting for things like equipment proactively.

The next meeting for the Lancaster County Infrastructure Task Force will be Thursday, May 3, 2018 from 2-3:30 pm at the Waverly Engineering Shop (13959 Oldfield Street, Waverly).

Respectfully submitted by:

Ann Ames, Deputy Chief Administrative Officer, Lancaster County
April 6, 2018

Lancaster County Transportation Strategy

Jeff McKerrow, PE, PTOE

Nick Weander, PTP, MPA

April 5, 2018



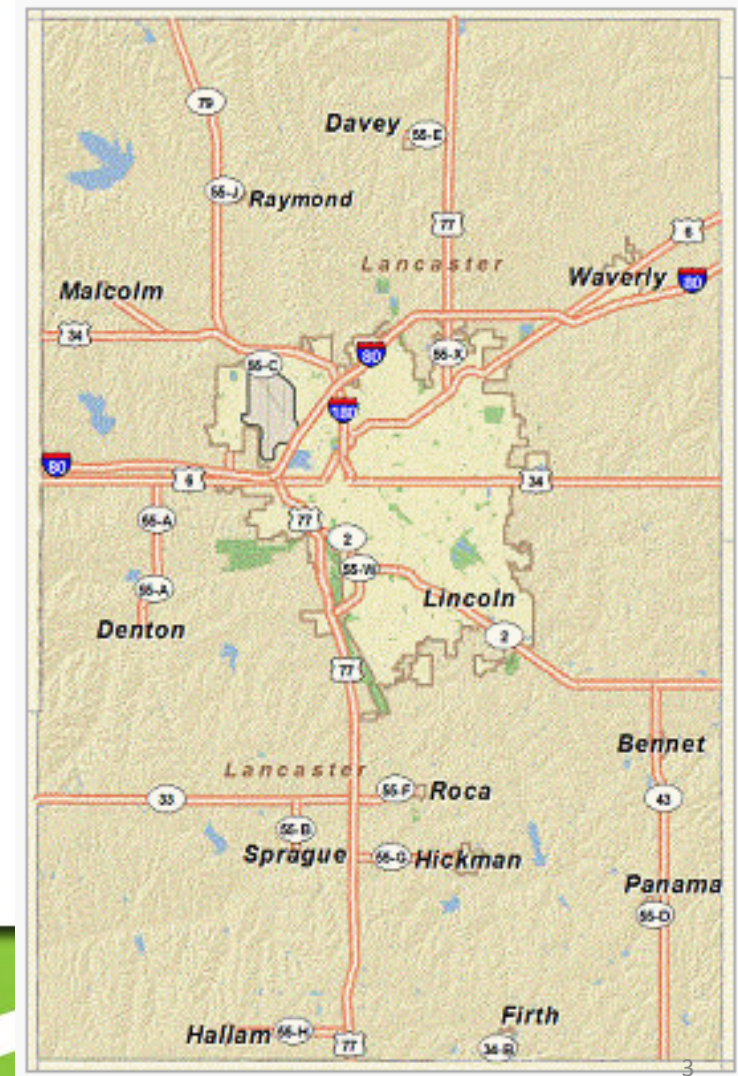
Agenda

- Team Introductions
- Study Goals
- Community Profile
- Existing Conditions
- Preservation and Optimization Baseline Report
 - Existing practices
 - Design Standards
 - Previous Studies
 - Requirements for new development
 - Budget/Revenue structure
- Discussion of Peer Counties
- Next Steps



Study Goals

- Summarize Existing Conditions
- Discuss County Future Goals/Objectives
- Identify Best Management Practices for:
 - Preservation
 - Optimization
 - Growth



Purpose of Study

- Roadmap for how transportation infrastructure will develop in Lancaster County
- Assist Lancaster County with best management strategies
- Why is it important?
 - Informs decisions about where to direct limited resources
 - Furthers county goals and objectives
 - Provides access to future economic activity
 - Addresses immediate needs for infrastructure, with transparency
 - Increases coordination of agencies for maximum use of funding



Setting the Stage – Lancaster County

Where Are We?

Where do we want to be?

- 2040 LRTP, 2016 Update:
 - Vision
 - Goals, Objectives, Performance Measures
 - Lancaster County staff – Key Stakeholder
 - Sets high-level goals
- Next Step →



Transportation Goals

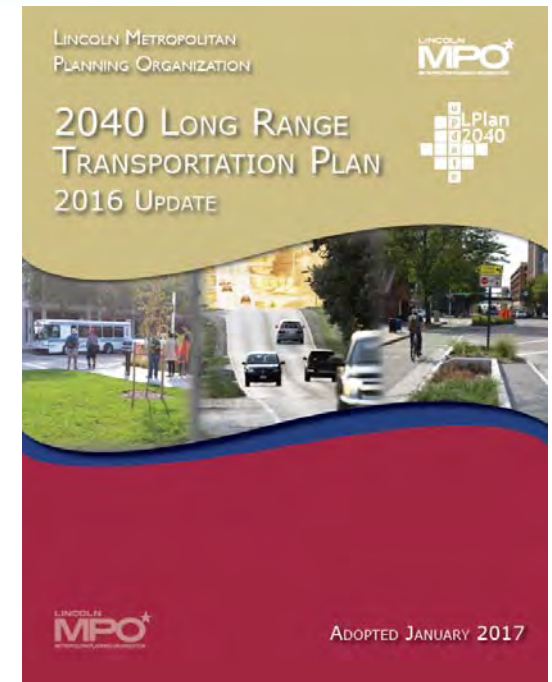
- Goal 1:** Maintain the existing transportation system to maximize the value of these assets.
- Goal 2:** Improve the efficiency, performance and connectivity of a balanced transportation system.
- Goal 3:** Promote consistency between land use and transportation plans to enhance mobility and accessibility.
- Goal 4:** Provide a safe and secure transportation system.
- Goal 5:** Support economic vitality of the community.
- Goal 6:** Protect and enhance environmental sustainability, provide opportunities for active lifestyles, and conserve natural and cultural resources.
- Goal 7:** Maximize the cost effectiveness of transportation.

Lancaster County – Vision

- Specific goals for Lancaster County?
OR
- Should we use goals from the LRTP?

Regional LRTP Goals

1. *Maintenance*
2. *Mobility and System Reliability*
3. *Livability and Travel Choice*
4. *Safety and Security*
5. *Economic Vitality*
6. *Environmental Sustainability*
7. *Funding and Cost Effectiveness*



Lancaster County – Example Goals

Regional Goals

1. **Maintenance**
2. Mobility and System Reliability
3. Livability and Travel Choice
4. Safety and Security
5. Economic Vitality
6. Environmental Sustainability
7. Funding and Cost Effectiveness

1. Maintenance Goal: Well-maintained roads, bridges, and County infrastructure.

• **Objectives:**

- Maintain roads, bridges and County infrastructure to a state of good repair to maximize the value of Lancaster Co transportation assets.

• **Performance Measures:**

- Percent of roads rehabilitated
- Bridge sufficiency ratings



What Should County Target Be?

- Rehab X percent of roads each year
- Maintain at least X percent of bridges with a sufficiency rating above 80
- Increase the percent of bridges with a sufficiency rating above 50 to 100 percent

Lancaster County – Goals

Regional Goals

1. Maintenance
- 2. Mobility and System Reliability**
3. Livability and Travel Choice
4. Safety and Security
5. Economic Vitality
6. Environmental Sustainability
7. Funding and Cost Effectiveness



2. Mobility and System Reliability

Goal: An efficient, reliable, and well-connected transportation system for moving people and freight.



• **Objectives:**

- Optimize the reliability of the transportation network
- Focus on Farm-to-Market Reliability?



• **Performance Measures:**

- Congested roadways

What Should County Target Be?

- Provide reliable access for key Farm-to-Market routes.

Lancaster County – Goals

Regional Goals

1. Maintenance
2. Mobility and System Reliability
- 3. Livability and Travel Choice**
4. Safety and Security
5. Economic Vitality



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3. Livability and Travel Choice Goal: A multimodal system that provides travel options to support livable communities.



• **Objectives:**

- Provide paved shoulders on paved roadways



• **Performance Measures:**

- Percent of paved roads with paved shoulders

What Should County Target Be?

- Coordinate land use and transportation decisions
- Implement facility recommendations in regional transportation plans, supporting multimodal connections, as appropriate

Lancaster County – Goals

Regional Goals

1. Maintenance
2. Mobility and System Reliability
3. Livability and Travel Choice
4. Safety and Security
- 5. Economic Vitality**
6. Environmental Sustainability
7. Funding and Cost Effectiveness



5. Economic Vitality Goal: A transportation system that support economic vitality for residents and businesses.



• Objectives:

- Improve transportation network for flow of commerce and residents in the County. (Farm to Market routes)
- Improve economic competitiveness of the county by enhancing the transportation system



• Performance Measures:

- Percentage of federally classified roads that are rated good or better.
- Annual freight tonnage movement

What Should County Target Be?

- Percentage of federally classified roads rated good or better.
- Establish and prioritize Farm-to-Market routes



Lancaster County – Goals

Regional Goals

1. Maintenance
2. Mobility and System Reliability
3. Livability and Travel Choice
4. Safety and Security
5. Economic Vitality
- 6. Environmental Sustainability**
7. Funding and Cost Effectiveness



6. Environmental Sustainability Goal: A transportation system that enhances the natural, cultural, and built environment.



• **Objectives:**

- Maintain compliance with air quality standards (burn permits)
- Reduce fossil fuel consumption by providing access to alternative modes and fuels
- Avoid, minimize, and mitigate environmental impacts of transportation projects, to the extent reasonably possible



• **Performance Measures:**

- Number of minimal impact projects completed

What Should County Target Be?

- Vehicle miles of travel (VMT) per capita
- Number of alternative fuel vehicles in fleet
- Number of minimal impact projects completed



Lancaster County – Goals

Regional Goals

1. Maintenance
2. Mobility and System Reliability
3. Livability and Travel Choice
4. Safety and Security
5. Economic Vitality
6. Environmental Sustainability
7. **Funding and Cost Effectiveness**



7. Funding and Cost Effectiveness Goal: Collaboration in funding transportation projects that maximize funding.



• **Objectives:**

- Make the best use of public resources
- Decrease the gap between gaps and needs



• **Performance Measures:**

- Annual transportation funding
- Number of projects

What Should County Target Be?

- Consider implementing other funding mechanisms
- Communication programs to the community for the need for increased funds



Lancaster County – Goals

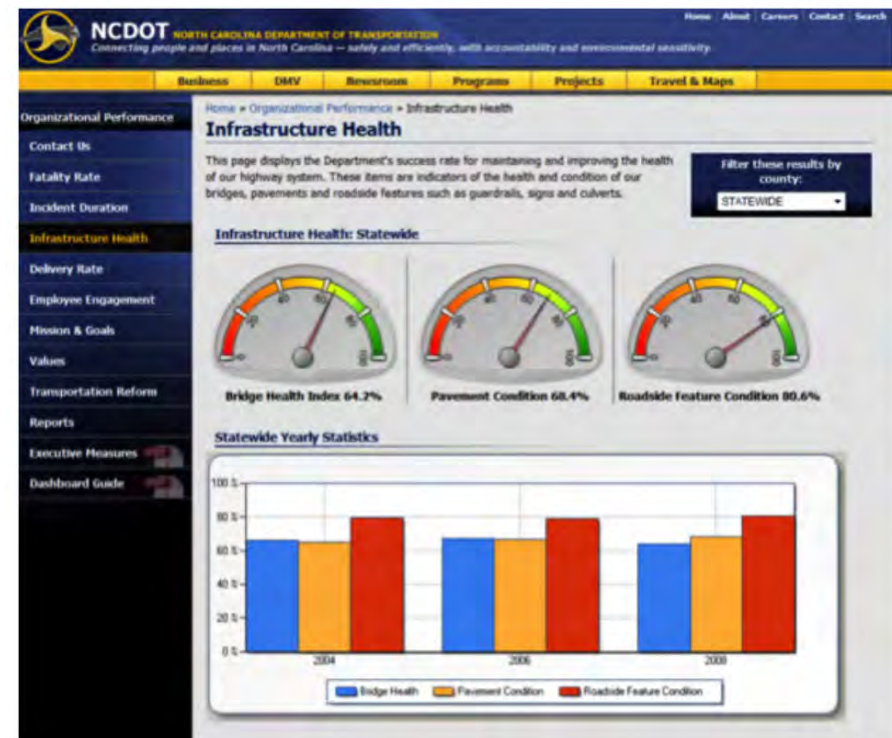
Maintenance Goal: Well-maintained roads, bridges, and County infrastructure

- **Objectives:**
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- **Performance Measures:**
 - Percent of roads rehabilitated
 - Bridge sufficiency ratings

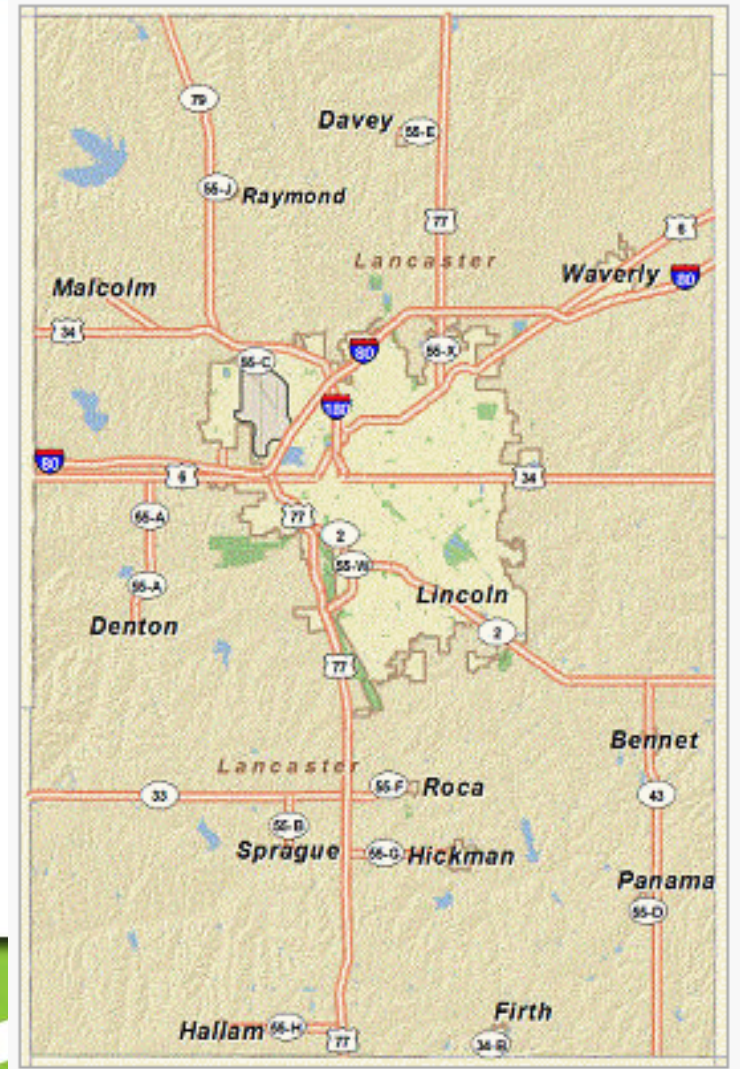
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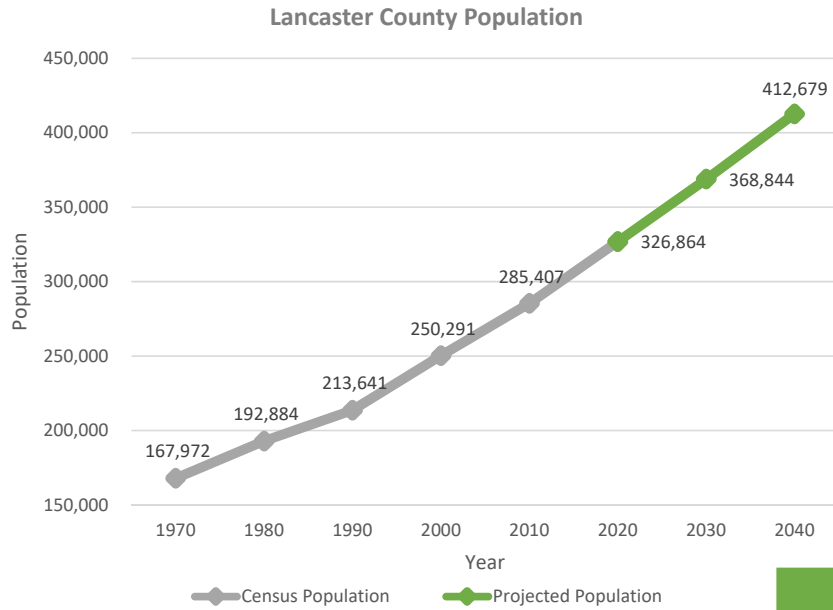
Sample Graphic of Dashboard Results



Lancaster County - Today



Community Profile – Lancaster County



Annual Change in Population Since 2010

Lancaster County	2010	2011	2012	2013	2014	2015	2016	Avg. Annual Growth Rate
Population	286,195	289,945	293,606	297,489	302,097	305,705	309,607	
Change	-	1.31%	1.26%	1.32%	1.55%	1.19%	1.29%	1.32%

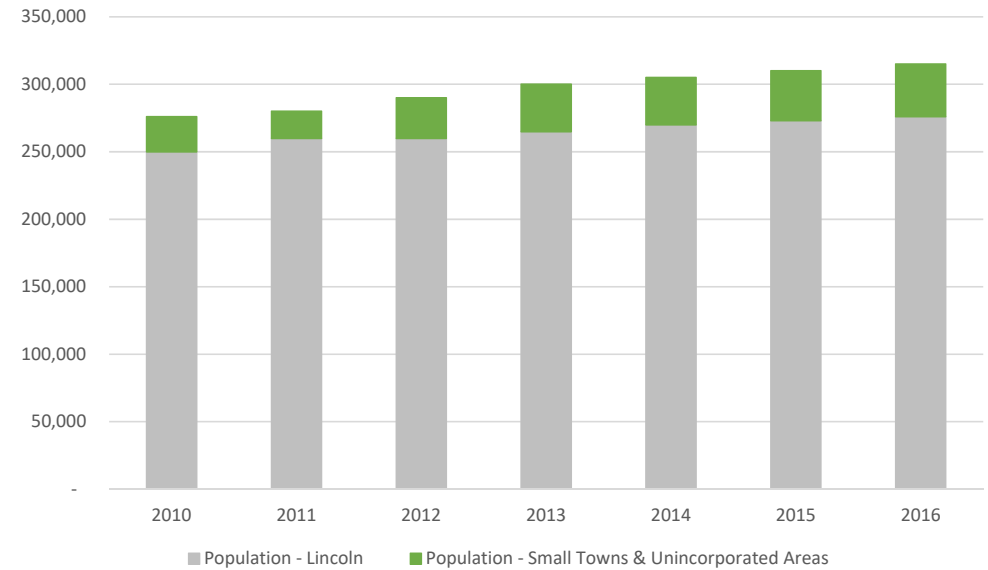
Source: <https://lincoln.ne.gov/city/plan/reports/cpanrev/benchrpt/bench17.pdf>

Community Profile – Lancaster County

Population Trends

Municipality	Historical Change			
	2000	2010	2016	Percent Change
Lincoln	225,581	258,379	273,018	17%
Bennet	570	719	889	36%
Davey	153	154	143	7%
Denton	189	190	229	17%
Firth	564	590	467	21%
Hallam	276	213	246	12%
Hickman	1,084	1,657	1,891	43%
Malcolm	413	382	408	1%
Panama	253	256	262	3%
Raymond	186	167	123	51%
Roca	220	220	195	13%
Sprague	146	142	131	11%
Waverly	2,448	3,277	3,686	34%
Total Population	232,083	266,346	281,688	18%

Ratio of City to County Population



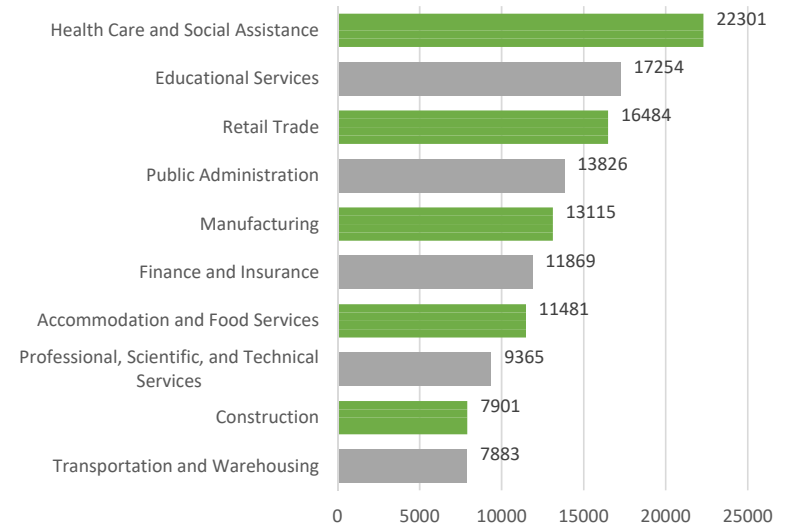
Source: <https://lincoln.ne.gov/city/plan/reports/cpanrev/benchrpt/bench17.pdf>

Employment

Growth in Employment from 1993-2015

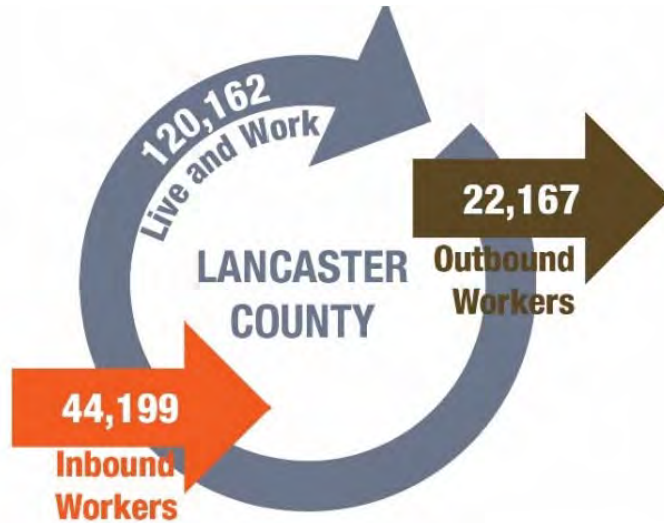
Total Employment	Change			Average Annual Change				
	1993 - 2000	2000 - 2010	2010 - 2015	1993 - 2015	1993 - 2000	2000 - 2010	2010 - 2015	1993 - 2015
Lancaster County	20.88%	4.40%	8.67%	37.14%	2.75%	0.43%	1.68%	1.45%
Nebraska State	8.53%	1.31%	6.94%	14.55%	1.18%	0.13%	1.35%	0.62%
U.S. (000's)	18.89%	3.01%	9.13%	25.85%	2.50%	0.30%	1.76%	1.05%

Top 10 Industries in Lancaster, County (Employees)



Source: <https://lincoln.ne.gov/city/plan/reports/cpanrev/benchrpt/bench17.pdf>

Travel Flow



SOURCE: US CENSUS LONGITUDINAL EMPLOYER-HOUSEHOLD DYNAMICS (LEHD) FOR LANCASTER COUNTY, 2013.

- 44,000 travel to Lancaster County to work
- 22,000 leave Lancaster County to work
- 120,000 live and work in Lancaster Co (84%)

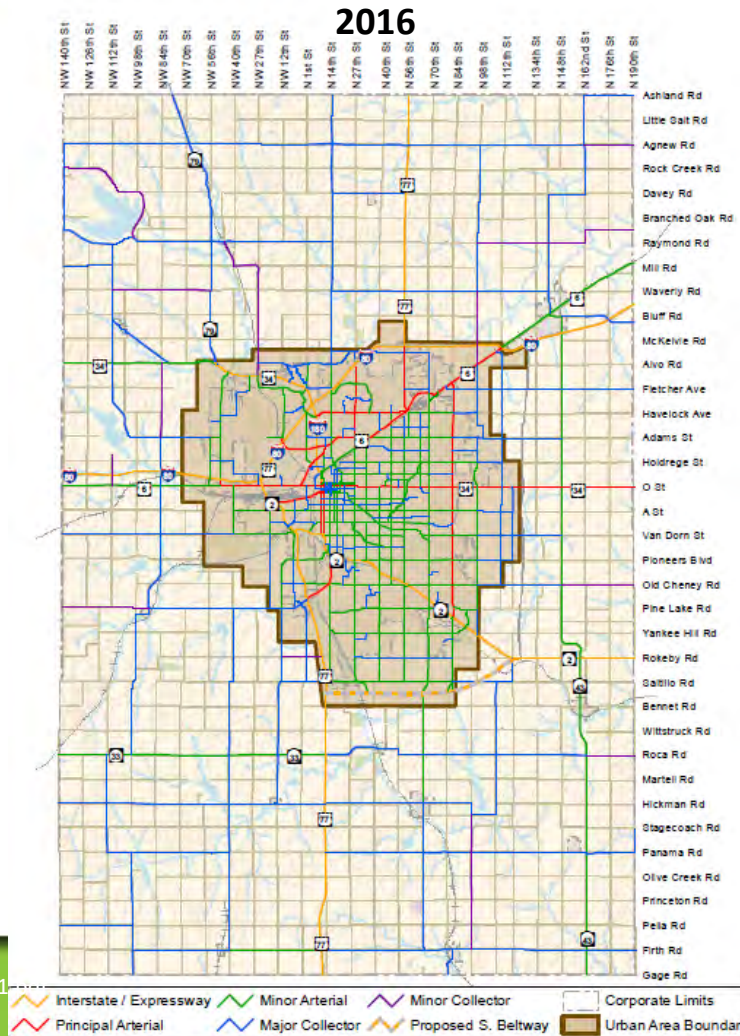
Lancaster County Road and Bridges - Today



Existing Functional Classification

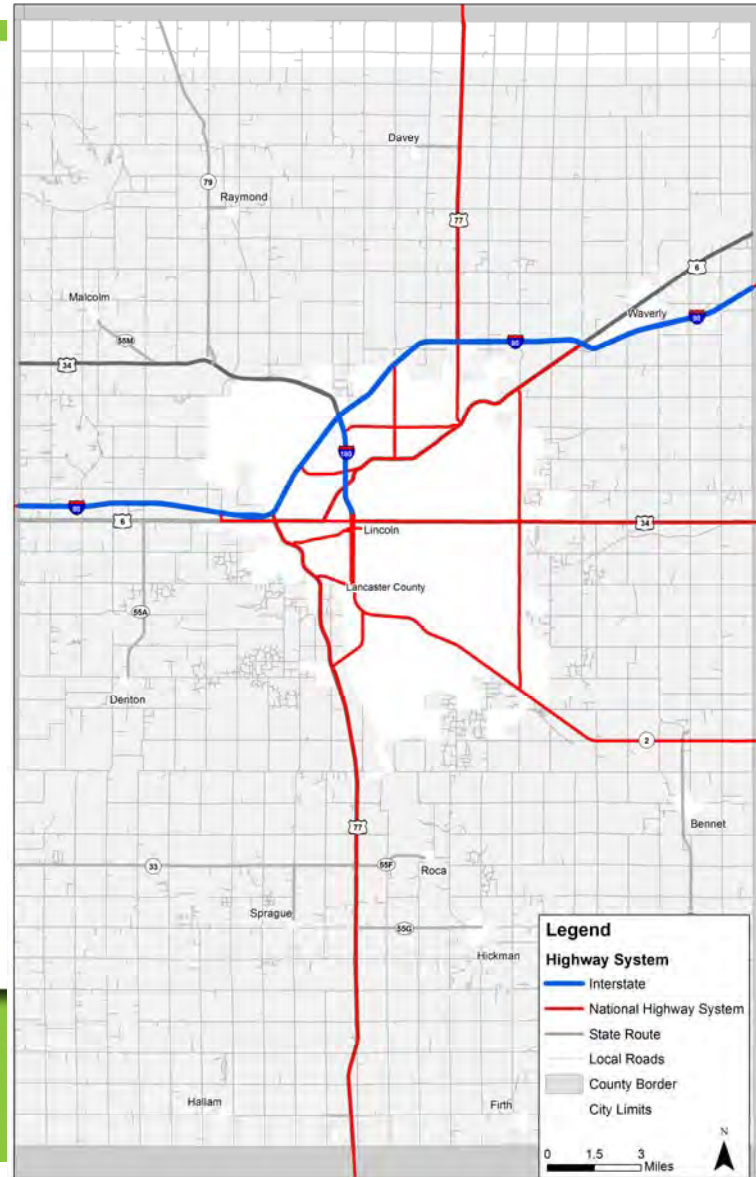
CHANGES IN LAST DECADE:

- Urban Area Boundary expanded
- Little impact to rural areas with change of classification
- All roadways above rural minor collector - eligible for federal-aid
- Designated federal-aid bridges eligible for federal funding

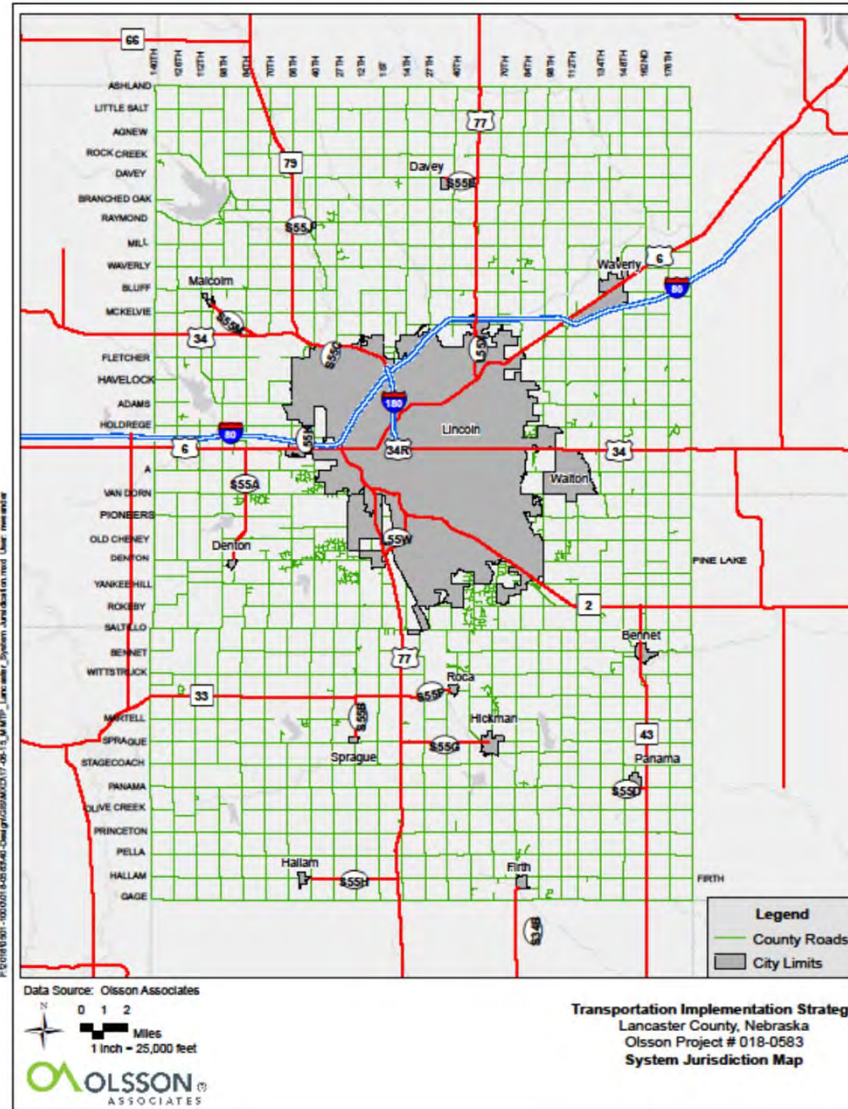


http://www.lincoln.ne.gov/city/plan/reports/complan/2025/fu_tran1
2040 LRTP

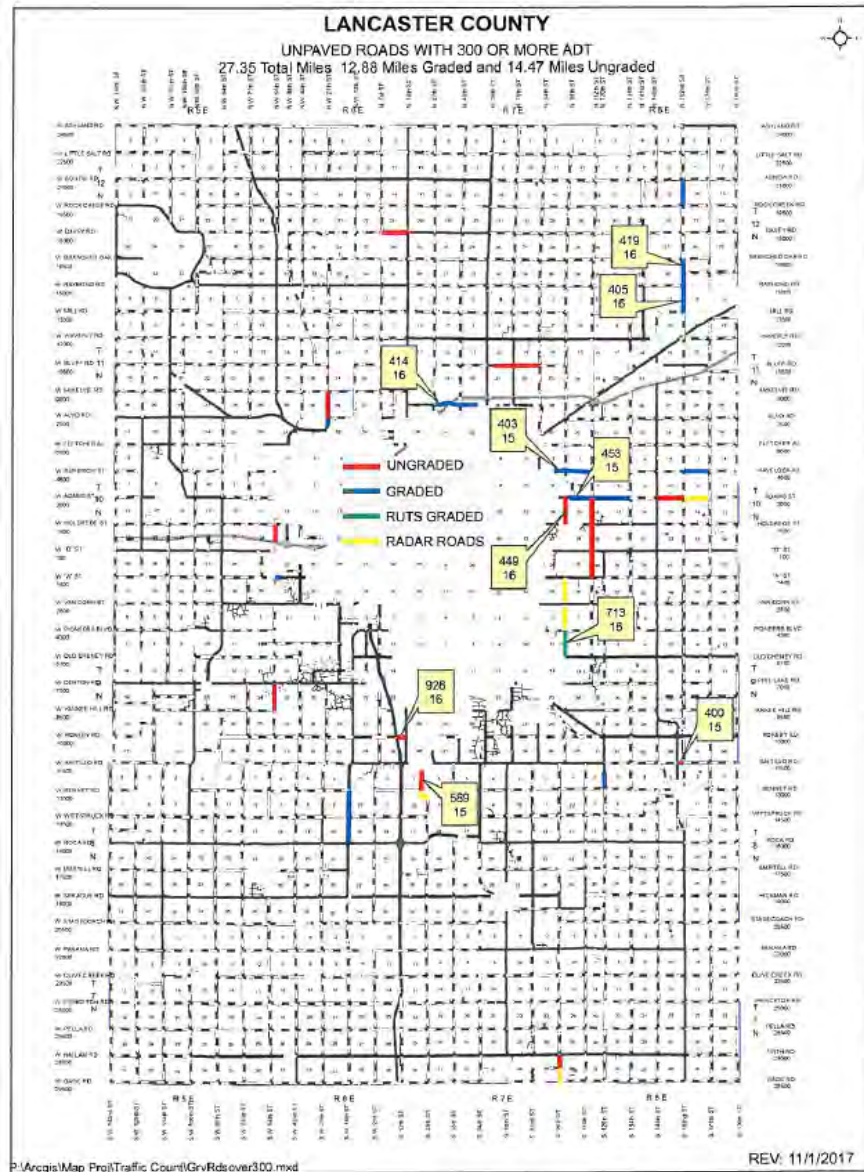
National Highway System



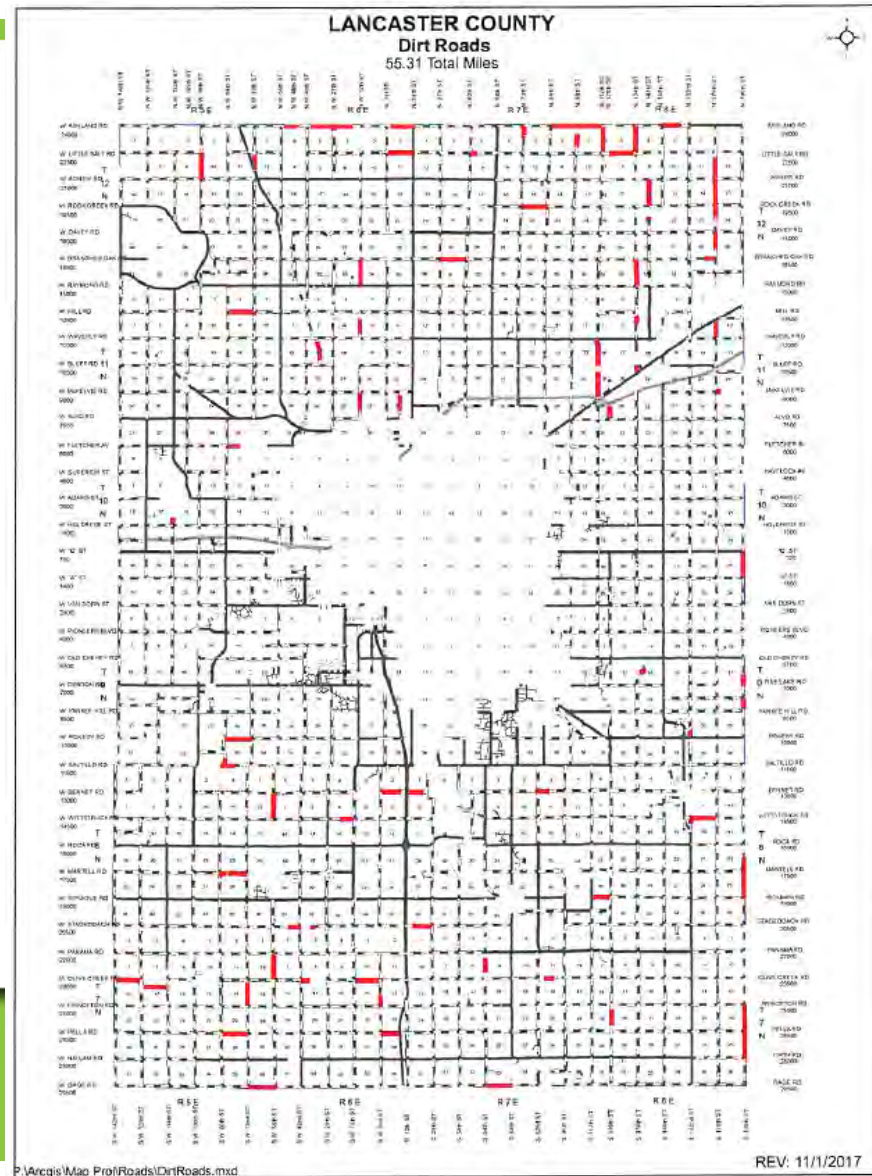
System Jurisdictions



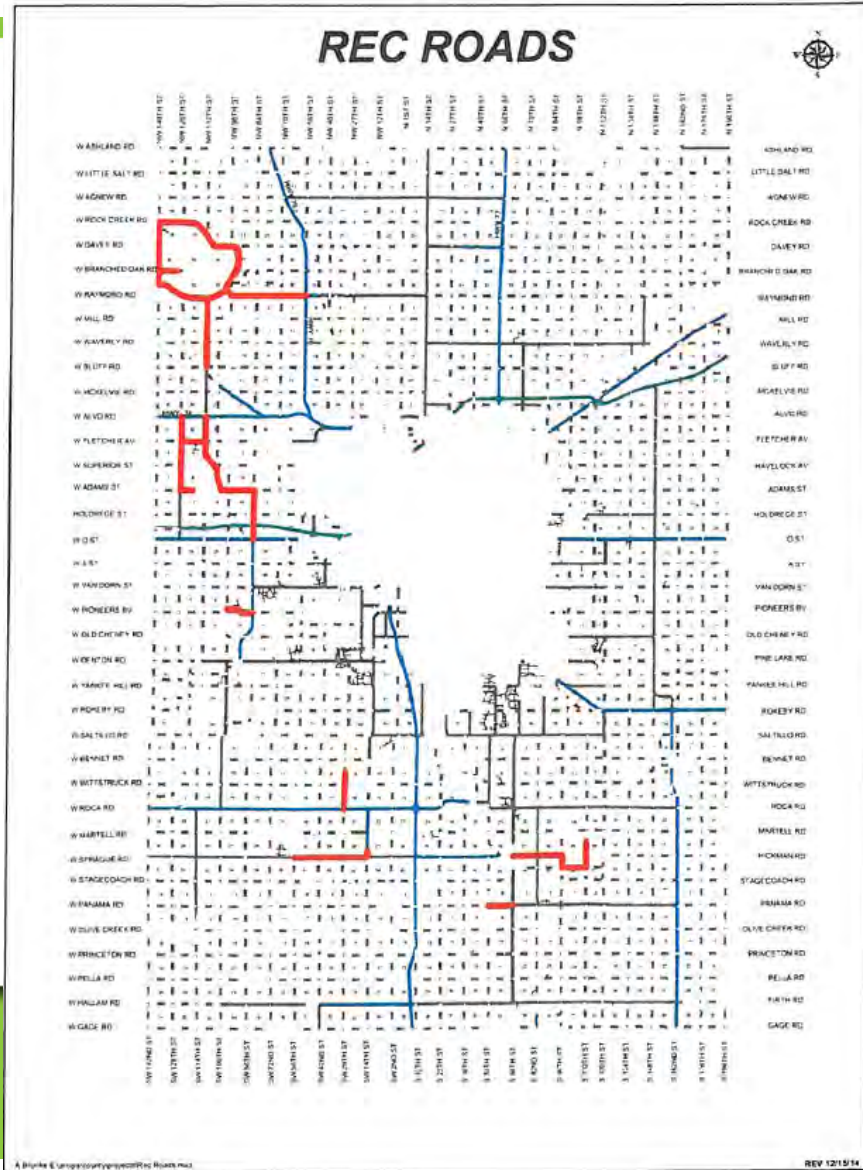
Unpaved County Roads with 300 or More ADT



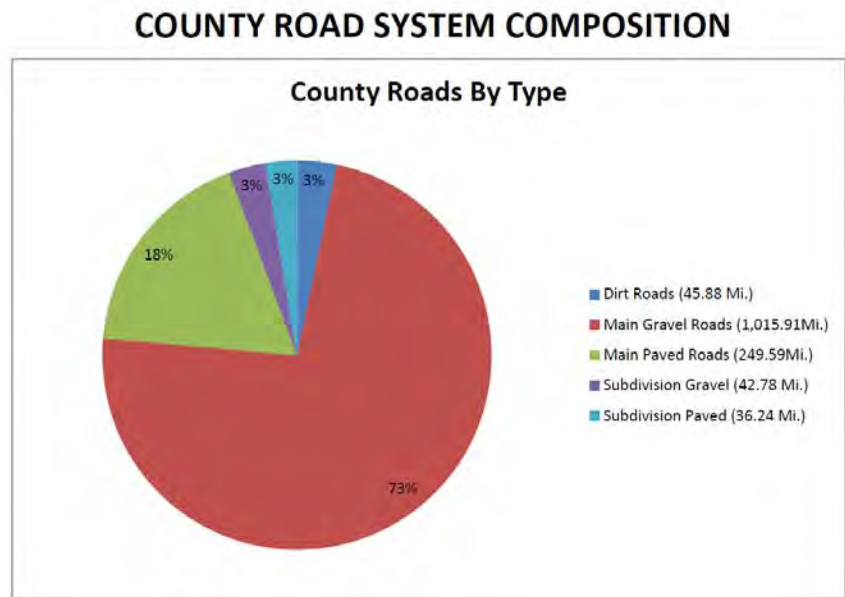
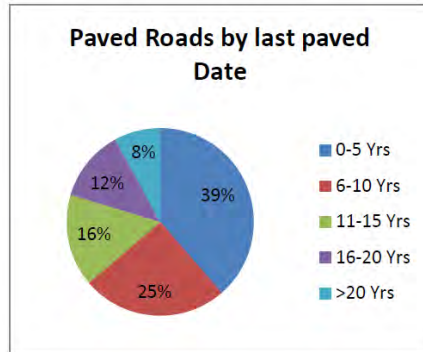
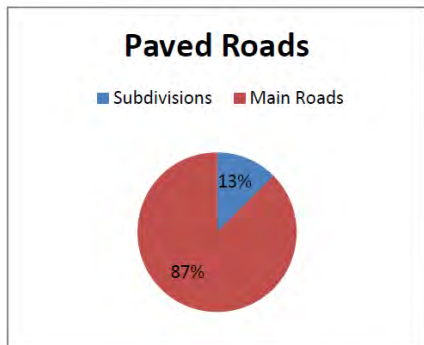
County Dirt Roads



REC Roads



Lancaster System Summary

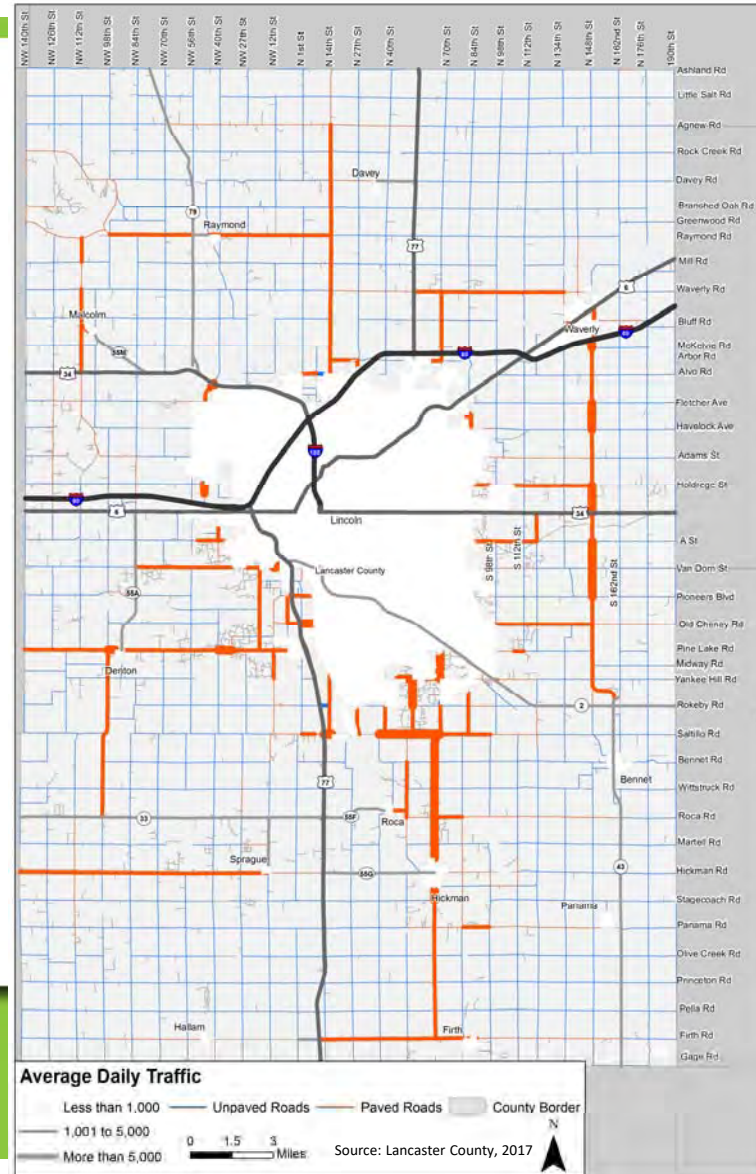


Age of Main Paved Roads*

*Based on Overlay Year

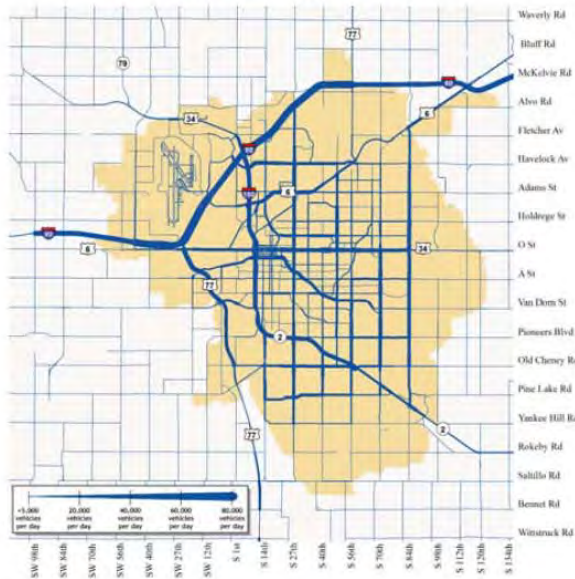
Age (Years)	Miles	Percent
0-5 Yrs	96.27	38.6%
6-10 Yrs	62.69	25.2%
11-15 Yrs	39.63	15.9%
16-20 Yrs	30.73	12.3%
>20 Yrs	19.94	8.0%

Average Daily Traffic

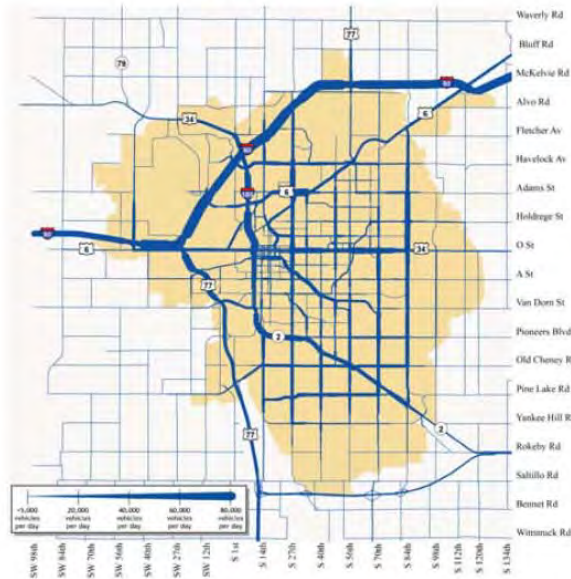


Traffic Growth Impact from Lincoln

EXISTING (2015)



2026 (E+C)



2040 (E+C)



Pavement – Lancaster County

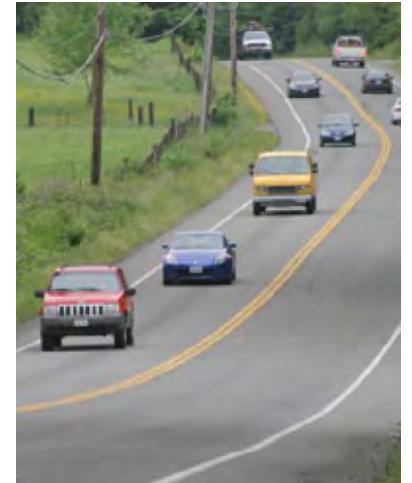
- 250 Miles – Mainline Road
 - 30.79 miles eligible for SRR funding
 - 36 miles within subdivisions
- Current Needs (2017 assessment)
 - 79 mile requiring overlay with a rating <80 @ \$360k/mile
 - 21 miles of 79 mi. with a rating <50
 - Current Traffic over 400 trips/day - threshold for requiring paving
 - 6 miles@ \$530k/mile

Asphalt Condition Rating Scale

0 to 29 = Reconstruction / Replacement

30 to 79 = Overlay

80 to 100 = Routine Maintenance



Lancaster County Bridges - Today



Definitions

Bridge Sufficiency Rating: An overall rating of a bridge's fitness for the duty it performs. Scale of 1-100, where below 50 is eligible for replacement

Scour: Erosion of soil surrounding a bridge foundation, caused by fast moving water.

Structurally deficient : If deck, superstructure, substructure or culvert is rated in "poor" condition. Or if load carrying capacity is significantly below current design standards; or if a waterway frequently overtops the bridge during floods.

Definitions

Functionally Obsolete : Bridge that is no longer by design functionally adequate for its task. I.e., not enough traffic lanes or not enough clearance for oversized vehicles. Not related to its structural nature.

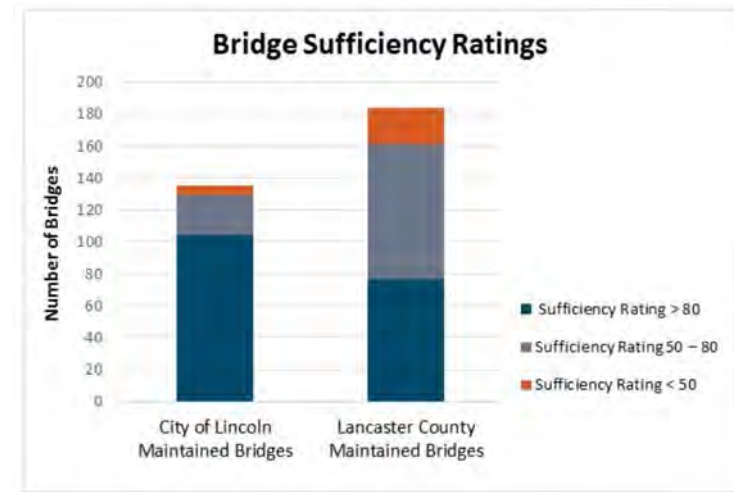
Fracture Critical Bridges: Lacking structural capacity or redundancy to prevent failure in event one structural element fails.

Posted Bridges: Bridges that, due to their condition or design, do not have the structural capacity to safely carry the state legal loads.

Culvert: Become 'bridges' after spanning 20 feet

Bridges - Today

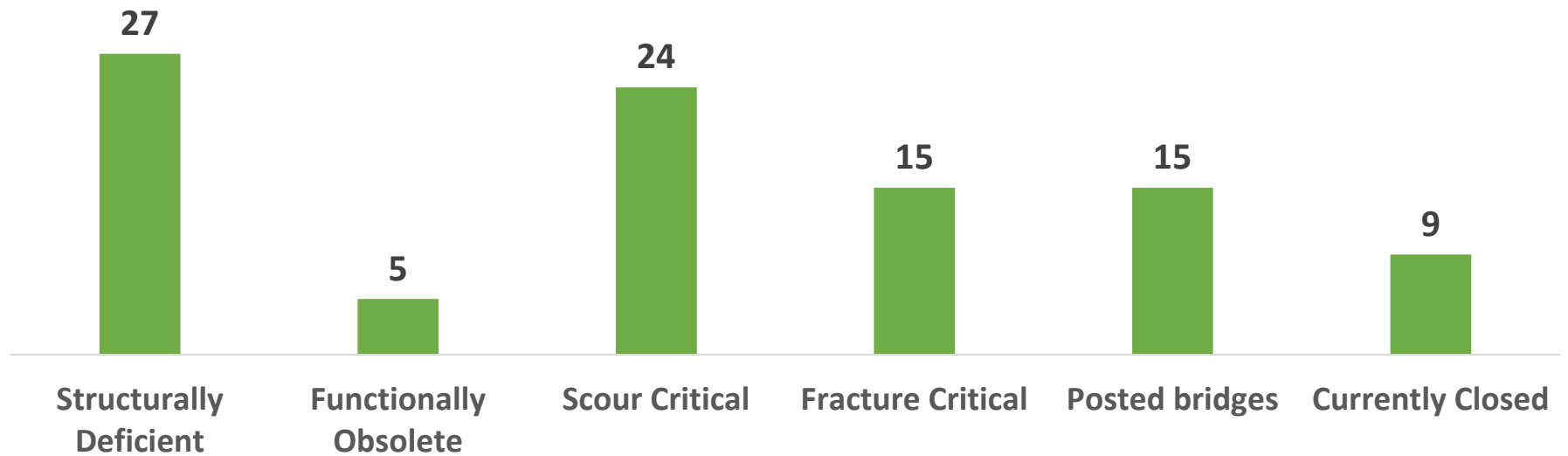
- County maintains 184 bridges
- Bi-annual inspections
 - Or if rehab or replacement
- Sufficiency Rating (0-100)
 - Between 50-80 = eligible for rehab
 - < 50 = eligible for replacement
- Avg Rating = 75.2



Bridge Sufficiency Rating	City Maintained Bridges	County Maintained Bridges
> 80	104	77
50 – 80	25	84
< 50	6	23
Total	135	184

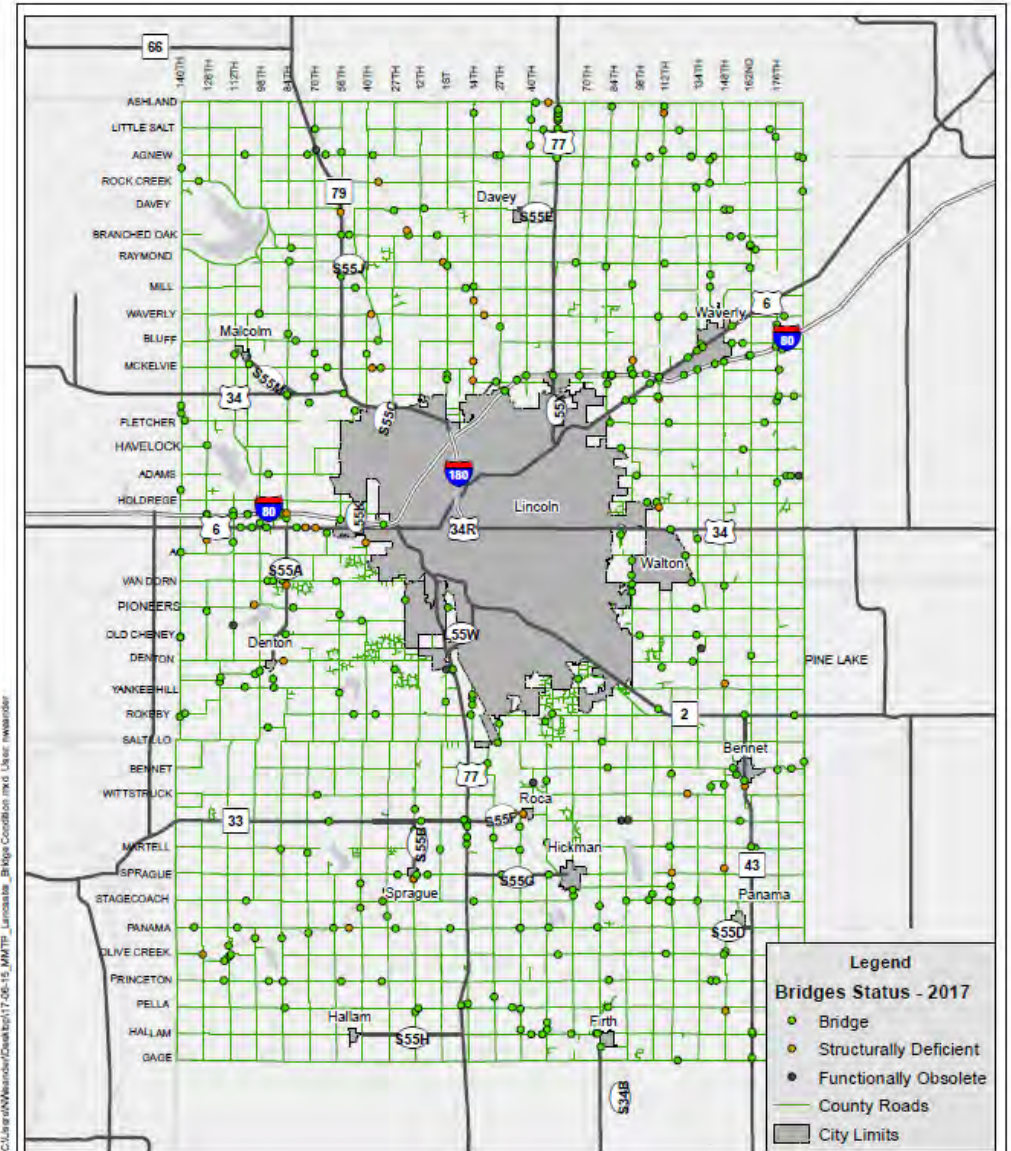
Bridges - Today

Lancaster County Maintains 184 Bridges



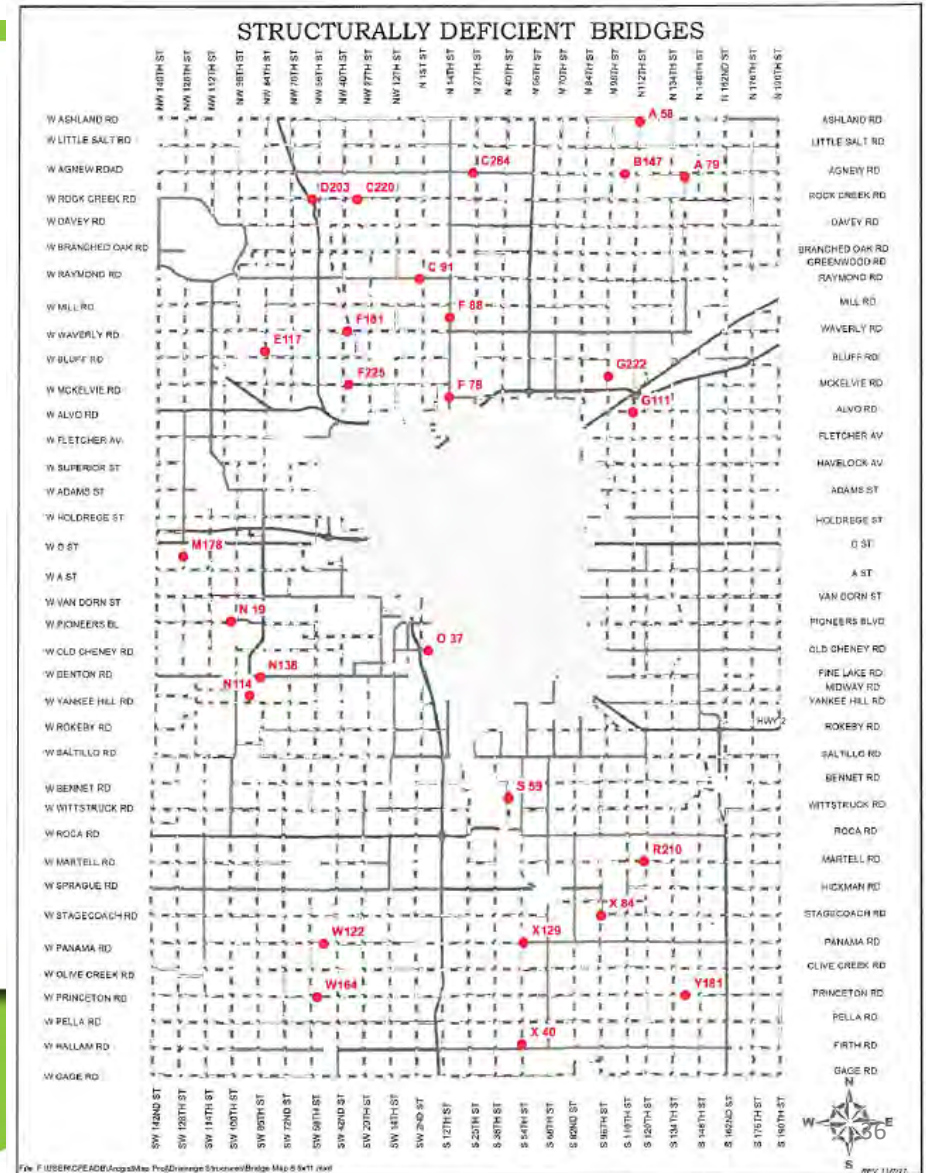
Bridges - Today

- Structurally Deficient – 27
- Scour Critical – 24
- Currently Closed - 9



27 Structurally Deficient Bridges

Structurally deficient : If deck, superstructure, substructure or culvert is rated in “poor” condition. Or if load carrying capacity is significantly below current design standards; or if a waterway frequently overtops the bridge during floods.

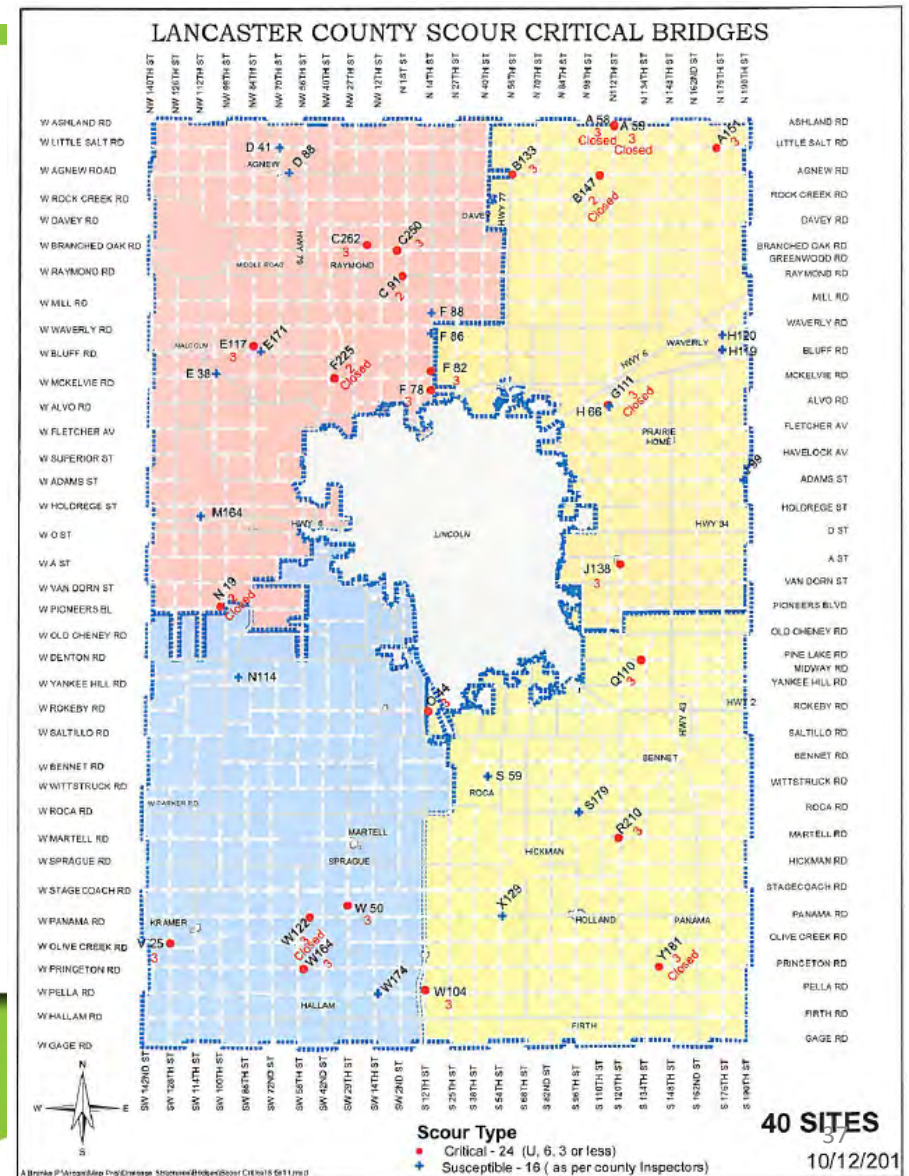


24 Scour Critical Bridges

Scour: Erosion of soil surrounding a bridge foundation, caused by fast moving water.

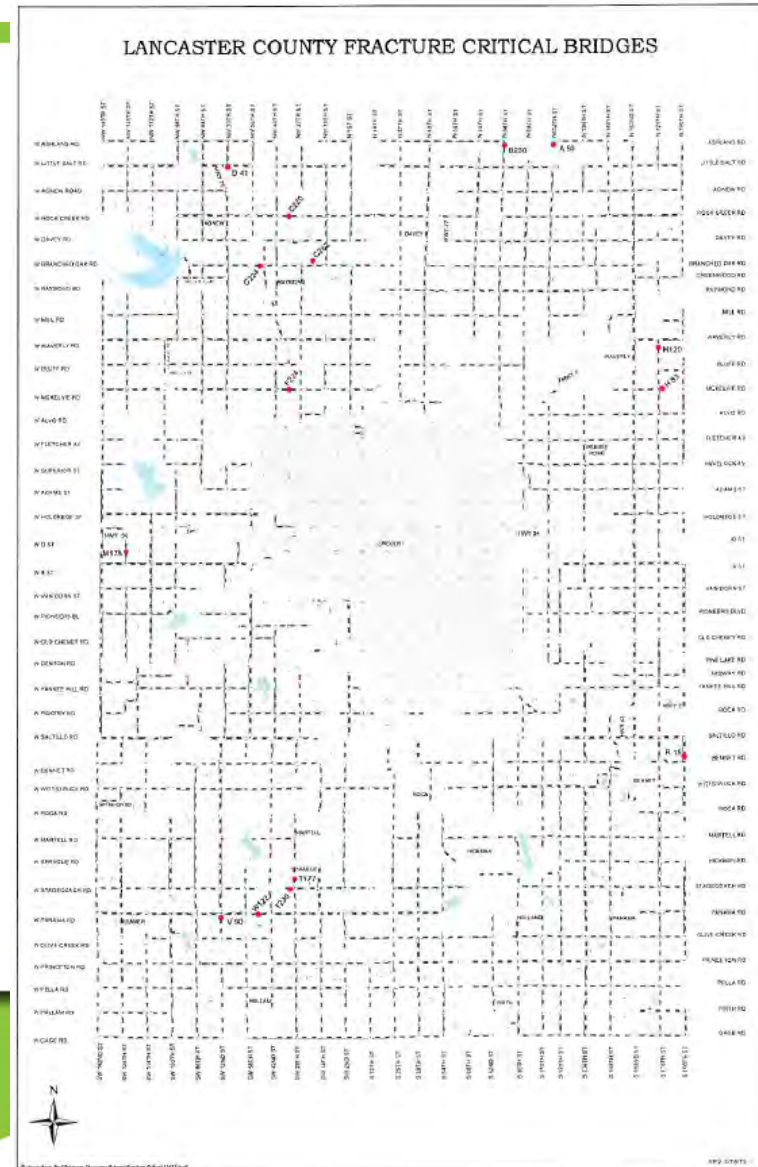
Scour Critical: When scour causes bridge foundations to become unstable

Susceptible: Bridge is of type that historically causes problems and leads to scour



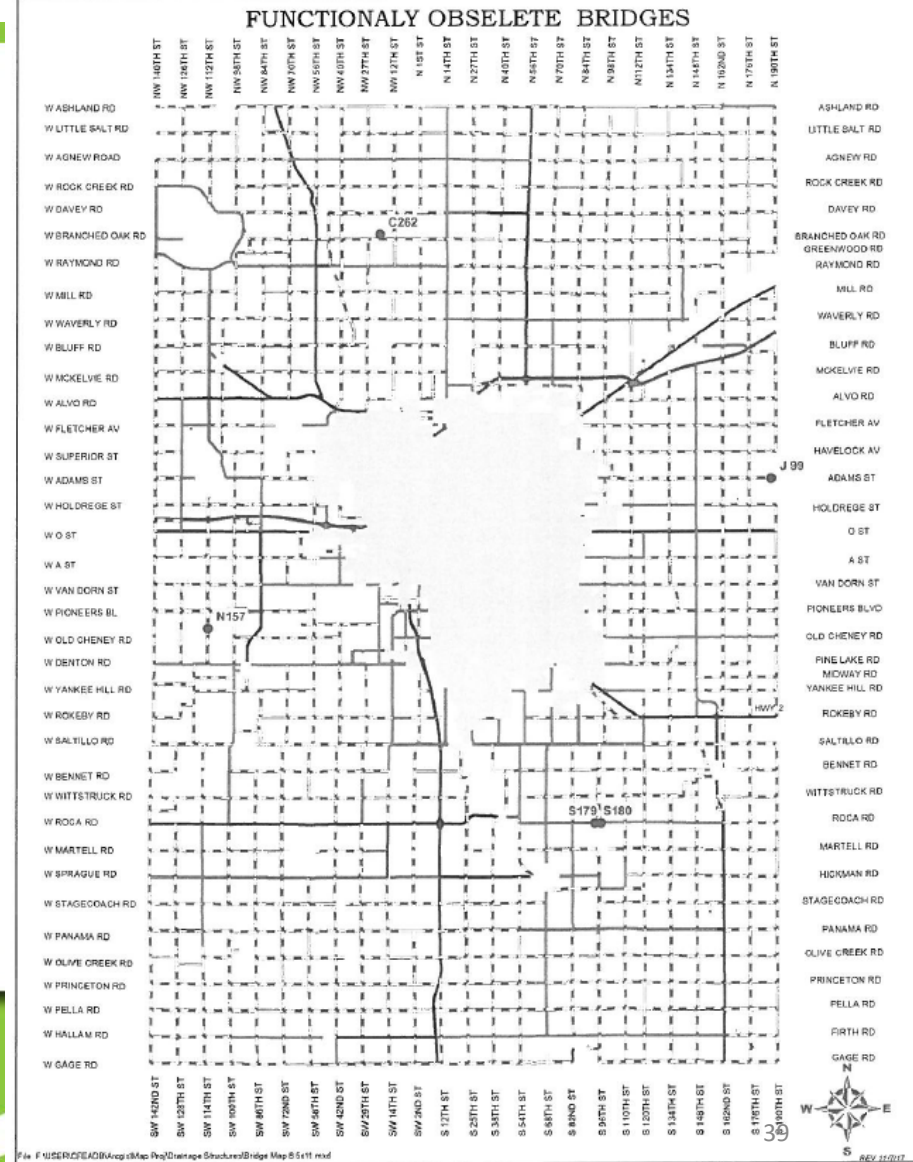
15 Fracture Critical Bridges

Fracture Critical Bridges: Lacking structural capacity or redundancy to prevent failure in event one structural element fails.



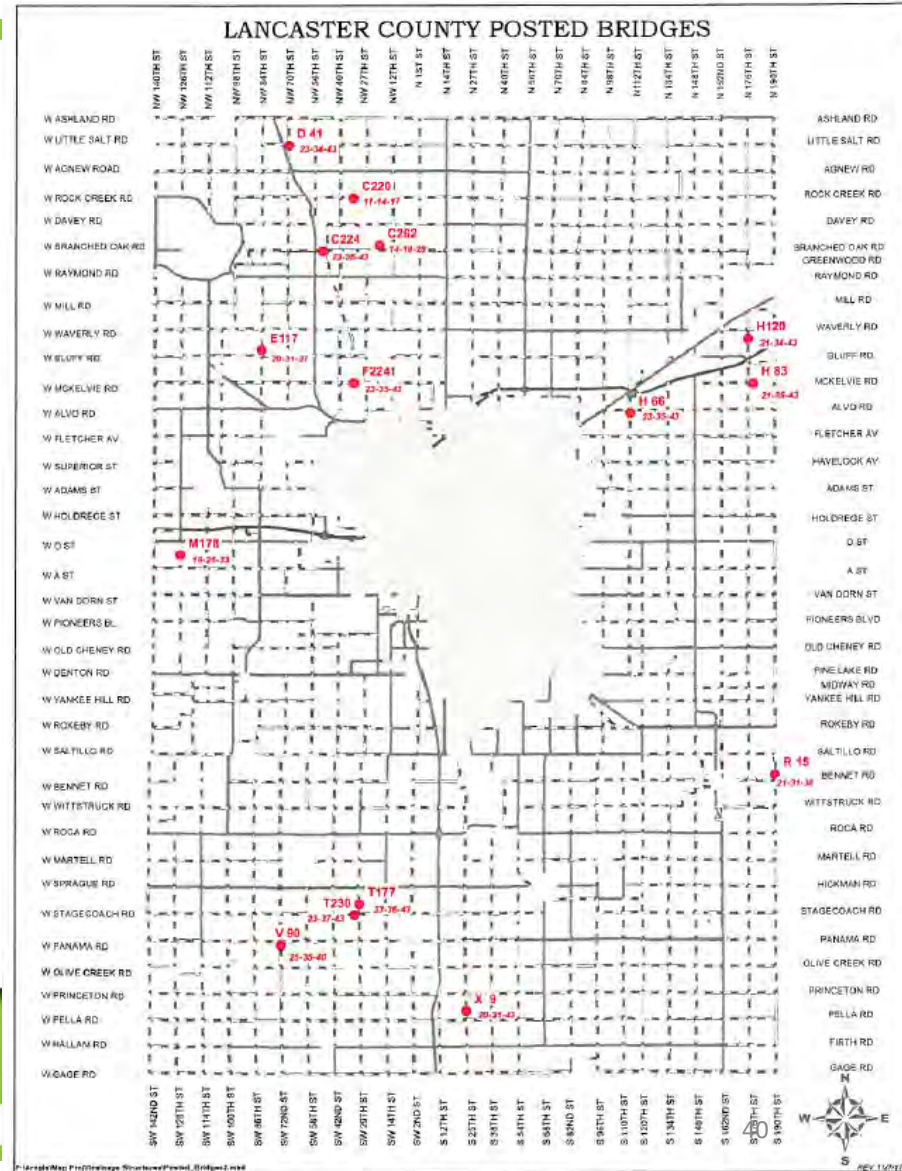
5 Functionally Obsolete Bridges

Functionally Obsolete : Bridge that is no longer by design functionally adequate for its task. I.e., not enough traffic lanes or not enough clearance for oversized vehicles. Not related to its structural nature.



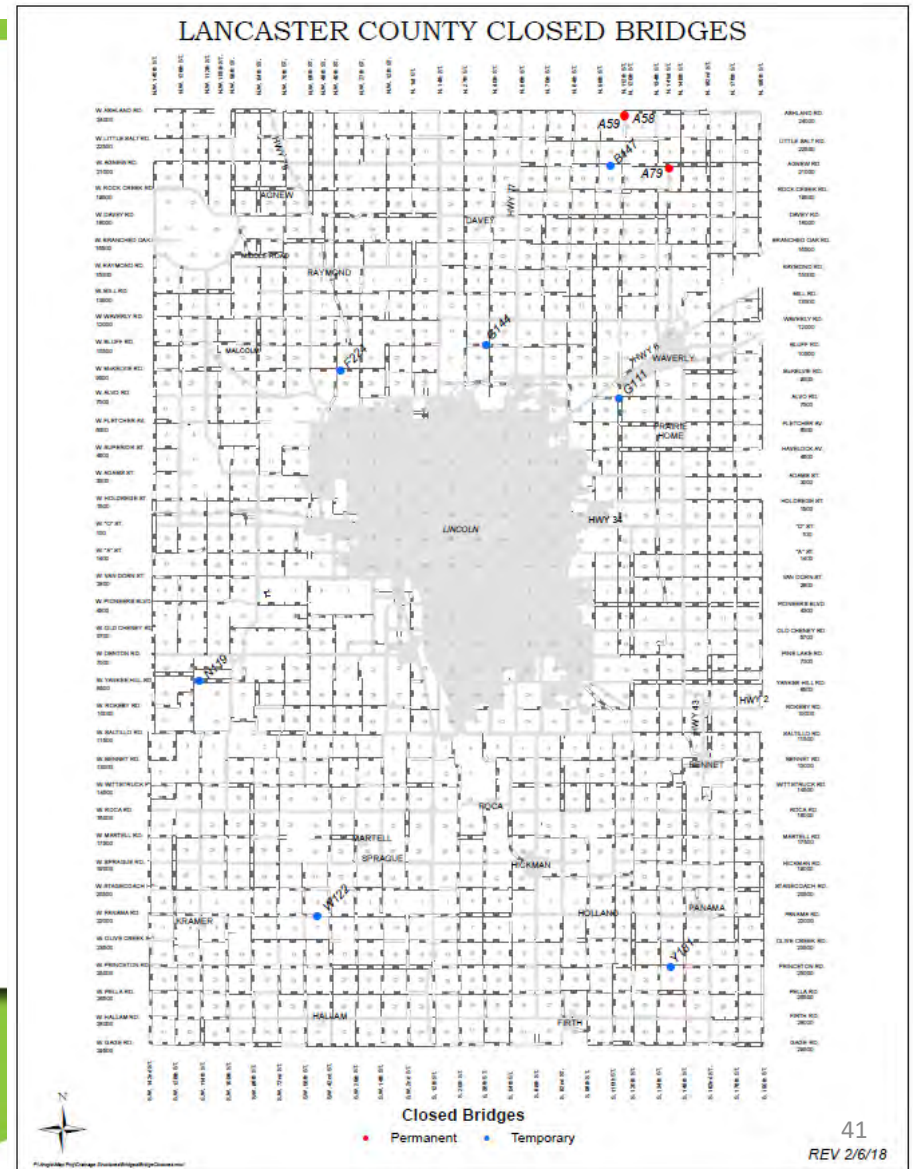
15 Posted Bridges

Posted Bridges: Bridges that, due to their condition or design, do not have the structural capacity to safely carry the state legal loads.



9 Closed Bridges Today

Permanent (extreme low-volume): 3
Temporary: 6



Lancaster County Culverts

- 83 Combination Structures
 - Culvert / Pipe / Bridge combinations
 - Substandard Design
- Approx. 6,900 pipes
 - Includes driveways
- Approx. 1,000 box culverts



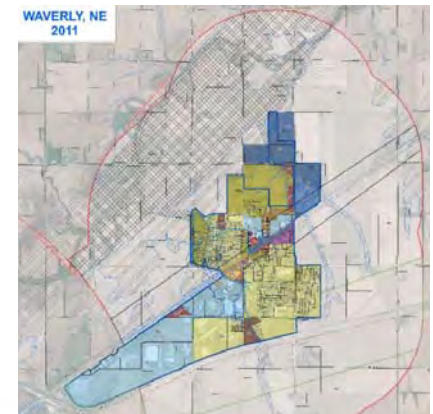
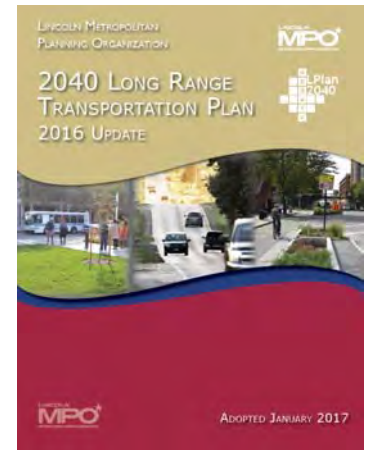
Existing Practices and Guidelines

- 300 trips per day = 100' ROW
 - 66' Historic Section-Line ROW
 - 50' from center on current platting
- 400 trips per day = pavement
 - Dependent on Funding
- Residential subdivisions:
 - With lot sizes of < 3 acres, must have community water/sewer
 - Lot sizes of 1 acre or less, roads must be paved



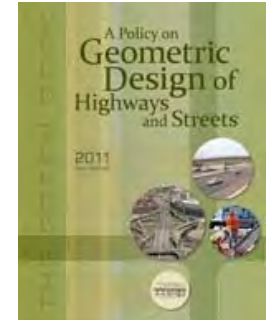
Adopted Design Standards/Guidelines

- 2040 Regional Transportation Plan
- Interlocal Agreement County/City – Rural to Urban Transition Street (RUTS)
 - ROW and construction standards within 3-mile zoning jurisdiction of the City
- County Zoning Regulations
 - <https://lincoln.ne.gov/city/plan/dev/zoning/stratreg/cozon.htm>
- Chapter 2.20 Rural Public and Intermediate BTA (Build Through Acreage) Public Street Design Standards - City of Lincoln Design Standards
 - <http://lincoln.ne.gov/city/attorn/designs/ds220.pdf>
 - <http://www.lincoln.ne.gov/city/plan/reports/acre/2627.pdf>
 - <http://www.lincoln.ne.gov/city/plan/reports/acre/build.pdf>



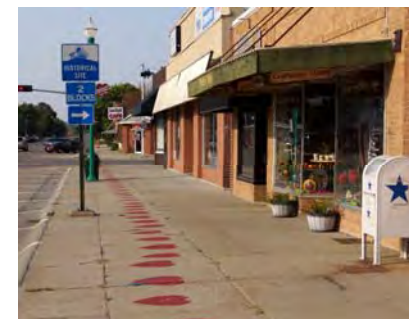
Adopted Design Standards/Guidelines

- Nebraska Board of Public Roads Classifications & Standards (NBCS)
 - Minimum Design Standards for Rural Roads
- American Association of State Highway and Transportation Officials (AASHTO)
 - *A Policy on Geometric Design of Highways and Streets*
- Access Management Policy, City of Lincoln, 2012
 - <http://lincoln.ne.gov/city/pworks/docs/pdf/access-mgmt.pdf>
 - Rural-type cross-sections and a parallel ditch, a drainage culvert shall be installed under the driveway approach.



Previous Reports

- 2017 Annexation Study
 - <https://lincoln.ne.gov/city/plan/long/AnnexStudy/Study.pdf>
- 2040 Long Range Transportation Plan, 2016 Update
- 2018 Lincoln Transportation Strategy Report
- County Construction Report, Monthly/Annual
- Traffic Model 2040 Data by TAZ
- Rural Cost of Services Study – Lincoln/Lancaster County, 2003
 - <http://www.lincoln.ne.gov/city/plan/reports/acre/cost.pdf>
- Complete Streets Gap Analysis and Prioritization Strategy, 2015
 - <http://lincoln.ne.gov/city/plan/reports/GapAnalysis.pdf>
- SE NE Regional ITS Architecture, 2005
 - <http://local.iteris.com/senearch/deliver/Executive%20Summary%203-17-05.pdf>



One- and Six-Year Plans

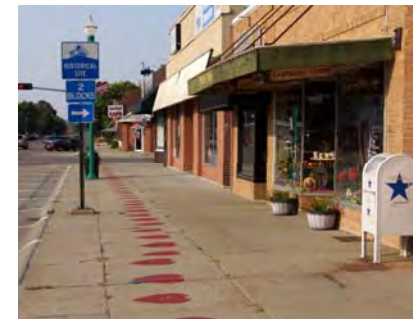
- Unique annual mandatory reporting to NDOT
- Promotes orderly development of an integrated system of public roads
- Electronic filing
- Separate Financial Sheet submitted. Must be fiscally constrained.
- The NE Board of Public Roads Classifications and Standards oversees annual construction and planning.
- Identifies projects to be accomplished over next one and six years.
- Includes maps of projects
- Public hearing must be held, prior to governing body adopting the plan.



Evolution of a typical road project

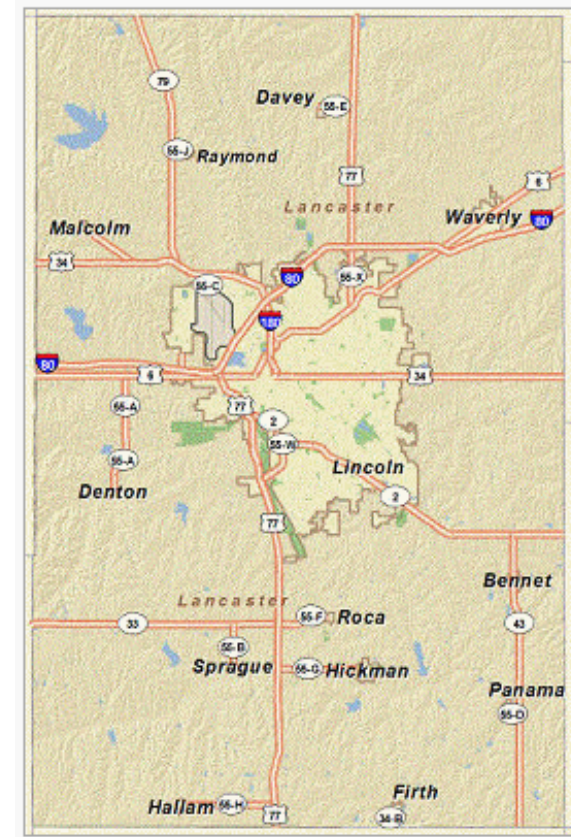
- Survey: 1 – 3 months
- Design: 2 – 12 months depending on complexity
- Permit: 6 – 12 months
- ROW Acquisition (if needed): 2 – 4 months
- Utility Relocation (if needed): 1 – 3 months
- Construction: 3 – 24 months

Total 12 – 58 months



Existing Plans

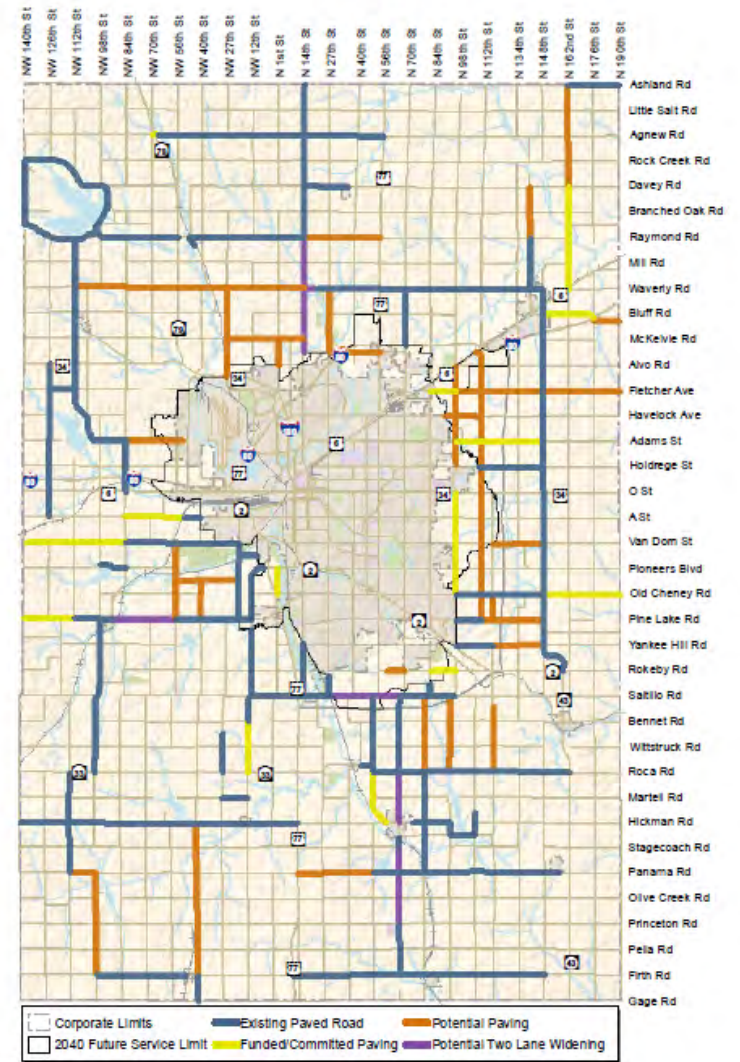
- Bennet 2026 Comprehensive Plan, 2006-2026
- Denton Comprehensive Plan, 1977
- Firth Comprehensive Plan, 1969
- Hallam 2035 Comprehensive Plan
- Hickman Comprehensive Plan, 2007-2030
- Malcolm Comprehensive Plan, 2007
- Panama Comprehensive Plan, 2013
- Raymond Comprehensive Plan, 2000
- Roca Comprehensive Plan, 1976
- Sprague-Martell Comprehensive Plan, 1976
- Waverly Comprehensive Plan, 2013-2033



<http://www.lincoln.ne.gov/city/plan/reports/index.htm>

Towns & Village Plans

Rural Road Project Identified Needs



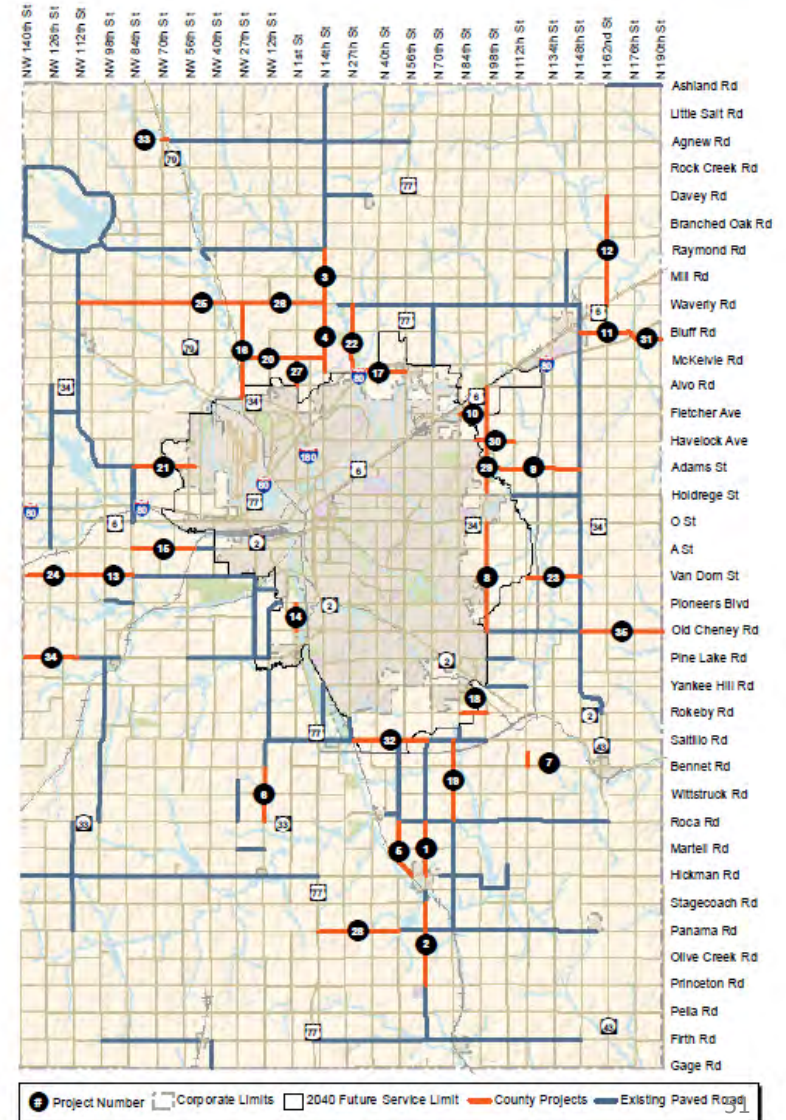
Source: LPLAN 2040, 2016 *Map 11: Rural Road Project Needs*

Rural Road Identified Projects

Table 10: Rural Roads Projects

Priority	Project ID	Street	Location	Length (Miles)	Project Type
2016	11	Bluff Road	Waverly City Limits to I-80	2.10	County Project
2016	18	Rokeby Road	S. 84th Street to 98th St	1.00	County Project
2016	33	W. Agnew Road	Hwy. 79 west 0.2 miles	0.20	County Project
2016	34	W. Denton Rd.	SW 112th St. to SW 140th St.	2.00	County Project
2016	35	Old Cheney Rd.	148th St. to 190th St.	3.00	County Project
1	9	Adams Street	Steven's Creek to N. 148th St	3.50	County Project
2	5	S. 54th Street	Hickman Rd to Roca Rd	2.00	County Project
3	1	S. 68th Street	Hickman to Roca Rd	1.30	Federal-Aid County Project
4	32	Saltillo Road	S. 27th St to S. 68th St	3.00	County Project
5	15	W. A Street	SW 84th St to SW 52nd St	2.20	County Project
6	30	Havelock Avenue	Stevens Creek to N. 112th St	1.40	County Project
7	16	NW 27th St	Hwy 34 to W. Waverly Rd	3.50	County Project
8	2	S. 68th Street	Princeton Rd to Stagecoach Rd	3.00	Federal-Aid County Project
9	3	N. 14th Street	Waverly Rd to Raymond Rd	2.00	Federal-Aid County Project
10	8	S. 98th Street	Old Cheney Rd to Hwy 34	4.00	County Project
11	4	N. 14th Street	Arbor Rd to Waverly Rd	2.50	Federal-Aid County Project
12	6	SW 14th Street	Highway N-33 to W. Bennet Rd	2.00	County Project
13	10	Fletcher Avenue	N. 84th St to N. 98th St	2.00	County Project
14	29	N. 98th Street	Holdrege St to Highway US-6	4.30	County Project
15	13	W. Van Dorn Street	SW 112th St to SW 84th St	2.00	County Project
16	7	S. 120th Street	Bennet Rd North 0.5 Miles	0.50	County Project
17	17	Arbor Road	N. 27th St to Highway US-77	2.00	County Project
18	12	N. 162nd Street	Highway US-6 to Davey Rd	3.80	County Project
19	24	W. Van Dorn Street	SW 140th St to SW 112th St	2.00	County Project
20	14	S. 1st Street	Old Cheney Rd to Pioneers Blvd	1.00	County Project
21	25	W. Waverly Road	NW 112th St to Highway N-79	4.00	County Project
22	26	W. Waverly Road	Highway N-79 to N. 14th St	5.00	County Project
23	27	N. 1st Street	Alvo Rd to McKelvie Rd	1.00	County Project
24	22	N. 27th Street	Arbor Rd to Waverly Rd	2.50	County Project
25	19	S. 82nd Street	Roca Rd to Saltillo Rd	3.00	County Project
26	21	W. Adams Street	NW 84th St to NW 56th St	2.00	County Project
27	23	Van Dorn Street	S. 120th St to S. 148th St	2.00	County Project
28	28	Panama Road	Highway US-77 to S. 54th St	3.00	County Project
29	20	McKelvie Road	NW 27th St to N. 14th St	3.00	County Project
30	31	Bluff Road	I-80 to N. 190th St	1.10	County Project

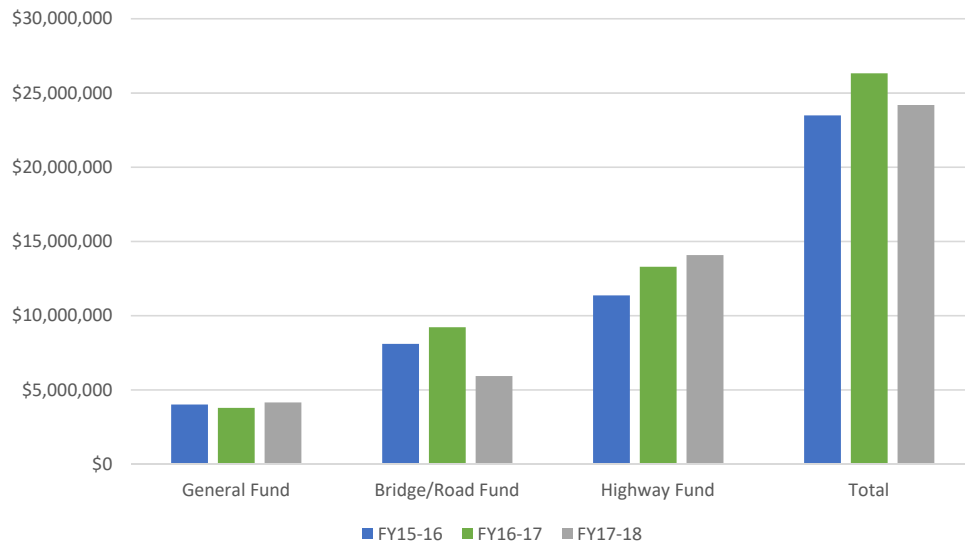
Source: LPLAN 2040, 2016



Map 18: Rural Roads Projects

Budget/Revenue Structure

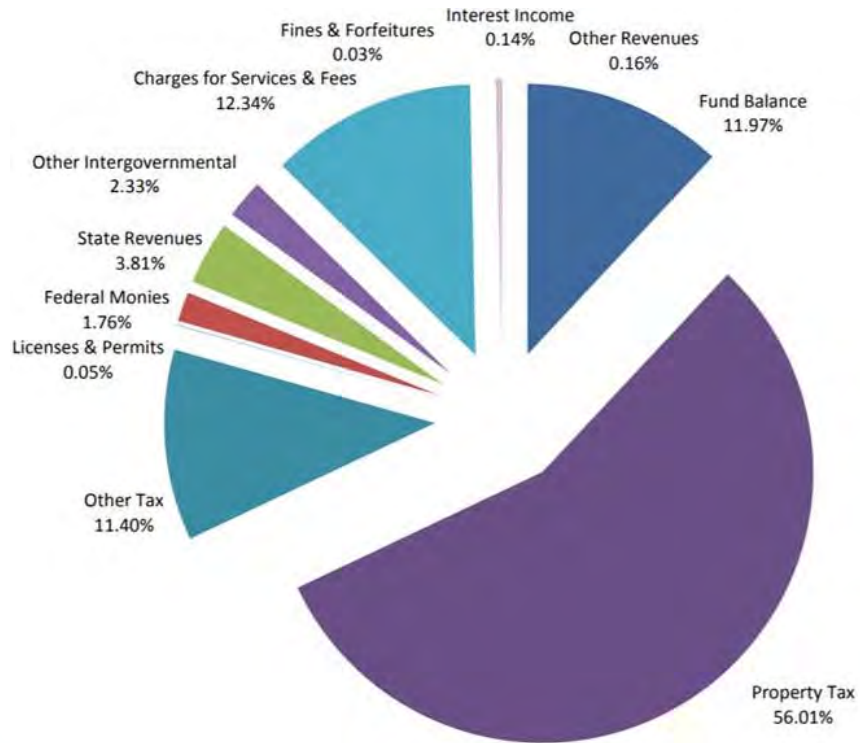
Lancaster County Budget



	Expenditures FY15-16	Expenditures FY16-17	Budget FY17-18
General Fund	\$ 4,023,757	\$ 3,795,626	\$ 4,166,669
Bridge/Road Fund	\$ 8,107,359	\$ 9,224,301	\$ 5,936,983
Highway Fund	\$ 11,368,159	\$ 13,302,754	\$ 14,093,804
Total	\$ 23,499,275	\$ 26,322,681	\$ 24,197,456

FEMA provided \$4M for reimbursement due to floods

Budget/Expenditure



	Expenditures	Expenditures	Budget
	FY15-16	FY16-17	FY17-18
General Fund	\$ 4,023,757	\$ 3,795,626	\$ 4,166,669
Bridge/Road Fund	\$ 8,107,359	\$ 9,224,301	\$ 5,936,983
Highway Fund	\$ 11,368,159	\$ 13,302,754	\$ 14,093,804
Total	\$ 23,499,275	\$ 26,322,681	\$ 24,197,456

Research of Best Practices

- Best Practices to Enhance the Transportation-Land Use Connection in the Rural United States, NCHRP Report 582.
 - http://onlinepubs.trb.org/onlinepubs/nchrp/nchrp_rpt_582.pdf
- Moving Toward Performance-Based Transportation Planning in Rural and Small Metropolitan Regions, NADO Research Foundation.
 - http://ruraltransportation.org/wp-content/uploads/2015/02/MovingTowardPerformance_NADORF.pdf
- Domestic Scan Pilot Program Best Practices in Transportation Asset Management, NCHRP 20-68
 - http://onlinepubs.trb.org/onlinepubs/trbnet/acl/nchrp2068_domestic_scan_tam_final_report.pdf
- Best Practice in Performance Measurement for Highway Maintenance and Preservation, NCHRP Project 20-68A, Scan 10-03
 - http://onlinepubs.trb.org/onlinepubs/nchrp/docs/nchrp20-68a_10-03.pdf

MOVING TOWARD
PERFORMANCE-BASED
TRANSPORTATION PLANNING IN
RURAL AND SMALL
METROPOLITAN REGIONS



Discussion of Peer Counties

- Goal of Peer Review
 - Determine what other areas are using to manage system preservation, optimization, and growth
 - Similar size communities w/ similar development & travel patterns
- Up to 12 Counties
 - Local Preferences

	Nearby Municipality	Population	Median HH Income	Poverty Rate	Employment Rate	Bachelors Degree or Higher
Sarpy County, NE	Omaha, NE	172,460	\$72,269	6.20%	70.10%	38.40%
Douglas County, KS	Lawrence, KS	116,352	\$52,698	19.20%	65.40%	49.70%
Story County, IA	Ames, IA	94,834	\$51,201	22.30%	63.90%	50.30%
Riley County, KS	Manhattan, KS	75,026	\$46,609	21.70%	55.80%	46.00%
Boone County, MO	Columbia, MO	172,773	\$50,813	19.30%	64.90%	46.80%
Hamilton County, IN	Carmel, IN	303,042	\$87,782	5.10%	70.10%	56.30%
Winnebago County, IL	Rockford, IL	288,896	\$49,468	15.50%	58.00%	22.40%
<i>Average</i>		174,769	58,691	15.61%	64.03%	44.27%
Lancaster County, NE	Lincoln, NE	301,707	\$53,730	14.30%	68.60%	37.30%

Schedule - Lancaster County Infrastructure Task Force Executive Committee

- April 5, 2018: 2-3:30 pm - Kick-Off Meeting
- May 3, 2018: 2-3:30 pm - Meeting 2 - Waverly Engineering Shop, tour to follow.
 - Best Management Practice Recommendation
- June 12, 2018: 2-3:30 pm - Meeting 3 – Norris Public Schools, tour to follow.
 - Budget Analysis
 - Intro to Funding Options
- July 12, 2018: 2-3:30 pm - Wrap-Up Meeting – Denton Community Center, tour to follow.
 - Wrap-up

Next Steps

- Consensus on Goals
- Existing Infrastructure Assessment Report
 - Roadway and Bridge Conditions
 - Maintenance Needs
- Peer County Review



Discussion/Questions

Thank you!!

**Jeff McKerrow, PE, PTOE
Nick Weander, PTP, MPA**

