

2018



**ANNUAL REPORT
DEKALB COUNTY
HIGHWAY DEPARTMENT**

**Presented by
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County Engineer**

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Introduction

The DeKalb County Highway Department is funded through several different revenue streams. Local property taxes along with state and federal motor fuel taxes generate the majority of the revenues. Each year, competitive grants contribute varying amounts of funding.

Local property taxes make up the largest percentage of the Highway Department revenues. Per state law, the three Highway Department funds are capped at a maximum levy rate. The Highway Fund is capped at \$0.10 per \$100 assessment. The Aid to Bridges Fund and Federal Highway Matching Fund are each capped at \$0.05 per \$100 assessment. Depending on varying tax rates across the county, an average property owner paying \$5,000 per year in property taxes pays \$85 to the Highway Department. This amount is the cost to pave two feet of a county highway. That property, along with another 2,639 similar properties contribute to the paving of one mile of a county highway.

The three local property tax funds for the Highway Department are estimated to total \$3,234,761 in FY2018. This amount is only 0.3% higher than the \$3,225,434 received in FY2006.

In addition to local property taxes, the Highway Department receives state and federal motor fuel taxes. Both at the state and federal levels, the tax is based on a flat amount per gallon of fuel. In Illinois, 19.0 cents per gallon of gasoline and 21.5 cents per gallon of diesel fuel is collected for highway and related purposes. Of the 19 cents per gallon, the Highway Department receives approximately 0.023 cents. For a driver in Illinois traveling 15,000 miles per year with a fuel efficiency of 20 mph, he or she will pay \$142.50 per year, or \$11.88 per month, for the Illinois motor fuel tax. Of the \$142.50 per year, the Highway Department will receive \$0.17 per year. In FY2018, DeKalb County was estimated to receive \$1,323,346 from the Illinois motor fuel tax.

Similar to the Illinois motor fuel tax, the federal government has a motor fuel tax of 18.4 cents per gallon. In FY2018, DeKalb County received \$1,020,355 in allocations from the federal motor fuel tax.

Both the state and federal motor fuel tax rates have not changed since the 1990s. Specifically, the Illinois motor fuel tax rate reached 19 cents per gallon on January 1, 1990. The federal motor fuel tax reached 18.4 cents per gallon on October 1, 1993.

While \$5.58 million is a significant amount of money, the costs to manage, maintain, and improve highways & bridges are significantly higher. The costs of doing business have risen significantly over the past 25 years. The cost to spread gravel has increased from \$6.25 per ton to just over \$12 per ton. Similarly, the cost to pave a road has increased from \$33 per ton to approximately \$65 per ton. While the tax rates have stayed stagnant over the years, the cost to work on the highways has nearly doubled.

Historically, Illinois has passed a capital bill approximately every 10 years. If history repeats itself, now is time for another one. The last capital bills have been funded with bonds which provide revenues for a very limited time. The Illinois Association of County Engineers, along with many other groups, is advocating for a capital program funded with an additional revenue stream to create a sustaining, pay as you go, method to fund infrastructure in Illinois. The DeKalb County Highway System has many needs such as safety projects, alternate transportation projects, and improving weight limits on roads and bridges to reach the state standard. Only additional revenues can provide the resources to address these needs.

Barber Greene Road Widening and Resurfacing

Barber Greene Road between Illinois Route 23 and Peace Road was originally constructed in 1958 as a two-lane aggregate road from Illinois Route 23 to Somonauk Road. In the ensuing years, multiple shopping centers were constructed and left and right turn lanes were added to the road. Additionally the Highway Department moved to its current home on the road and Peace Road was constructed $\frac{3}{4}$ mile east of the state highway.



This $\frac{3}{4}$ -mile project included widening of the remaining 2-lane section to match the 3 lanes of the rest of the project. The entire stretch received new concrete curb and gutter and a hot mix asphalt overlay. The bike paths on both ends of the project were resurfaced with the roadwork.



William Charles Construction Co, LLC of Rockford, IL performed the work at a cost of \$1,070,502.13. The estimated cost of the project was \$1,152,0054.50. Of the total, 80% was paid using Federal Surface Transportation Funds - Urban (STU) through the DeKalb-Sycamore-Cortland MPO (DSATS). The remaining 20% was paid using local Matching Tax funds.

The DeKalb County Highway Department prepared the plans for the Barber Greene Road widening and resurfacing project. Kevin Fricke of the County Highway Department performed the construction inspection.

Rich Road / Coltonville Road / North First Street / Bethany Road Resurfacing

In 2017, the County Highway Department proposed a joint project between the County, the City of Sycamore, and the City of DeKalb. The project would include the resurfacing of Rich Road and Coltonville Road from Glidden Road to Illinois Route 23, and North First Street from Rich Road north for ¼ mile, and Bethany Road from the YMCA to Illinois Route 23. Through intergovernmental cooperation, drivers were inconvenienced once instead of with multiple projects and better construction prices were realized by combining the individual projects.



This project also upgraded Rich Road and Coltonville Road east of Glidden Road to an 80,000 lb highway. By doing so, the City of DeKalb and the County will be eligible for additional funding sources when paving adjacent roads in the future.



William Charles Construction Co, LLC of Rockford, IL performed the work at a cost of \$808,000.00. The estimated cost of the project was \$1,347,000. Of the total, 80% was paid using Federal Surface Transportation Funds - Urban (STU) through the DeKalb-Sycamore-Cortland MPO (DSATS), 15% using local County Matching Tax funds, and 5% by the City of Sycamore. The DeKalb County Highway Department prepared the plans for the project. Kevin Fricke of the County Highway Department performed the construction inspection.

Somonauk Road Bridge

The Somonauk Road bridge over the Little Rock Creek immediately south of the Burlington Northern Sante Fe Railway was originally built in 1963. This 66 ft long structure was replaced due to concrete deterioration on both the top and bottom of the bridge deck.



In addition to this bridge work just south of Hinckley, ¼ mile of Somonauk Road was improved to separate the curve in the road from the bridge. The new 85 ft long bridge and roadwork were completed with the road opened to traffic in time for the Sandwich Fair.



Civil Constructors, Inc. of Freeport, IL was the contractor on this \$1,071,259.51 project. The estimate of cost on the project was \$993,826.37. 100% of the project was paid using local Aid to Bridges Tax funds. Wendler Engineering of Dixon, IL performed the preliminary and design engineering. Jerry Busse of the County Highway Department performed the construction inspection.

Somonauk Road / Gurler Road Concrete Box Culverts

This project included the replacement of two culverts at the intersection of Somonauk Road and Gurler Road south of Cortland. The metal pipe culvert under Gurler Road was undersized while the concrete box culvert under Somonauk Road was both undersized and near the intersection.



The 42 inch diameter pipe under Gurler Road was replaced with a 9 ft wide x 8 ft high concrete box culvert. The 5 ft wide x 4 ft high concrete box culvert under Somonauk Road was replaced with a 12 ft wide x 8 ft high concrete box culvert. The waterway had a minor realignment with both culverts moved further from the intersection.



Martin & Company of Oregon, IL was the contractor on this \$415,290.71 project. The estimated cost of the project was \$372,623.35. 100% of the project was paid using local Aid to Bridges Tax funds. Willett Hoffman & Associates of Dixon, IL performed the preliminary and design engineering. Jerry Busse of the County Highway Department performed the construction inspection.

East County Line Road Bridge

This bridge over the Union Ditch Number 3 is located on the county line between DeKalb County and Kane County. The old structure was 56 ft long and 30 ft wide and replaced with a new structure 108 ft long and 40 ft wide. The new structure is nearly 4 ft higher than the old structure.



The structure was originally scheduled for replacement in 2016, but due to land acquisition issues, the project was delayed. After a redesign and lengthy right of way negotiations, the project moved forward for construction in 2018.



D Construction, Inc. of Coal City, IL was the contractor on this \$1,380,000 project. The original estimate of cost was \$1,993,498.50. 80% was paid using Federal Surface Transportation Funds - Urban (STU) through the Kane-Kendall Council of Mayors in the Chicago MPO (CMAP), 16% by Kane County, and 4% using local County Matching Tax funds.

Chicago Road Pipe Culverts

In the County's Transportation Improvement Plan, Chicago Road is scheduled to be paved west of Illinois Route 23 by 2022. Prior to resurfacing a road, the Highway Department performs several checks including locations of entrances and conditions of pipe culverts. After an inspection of the pipes, it was determined to be prudent to replace each of them prior to paving the road.



The Highway Department chose to perform the work in-house instead of hiring a contractor. The work consisted of surveying, replacing, and patching 15 crossroad pipes varying from 18 inches in diameter to 60 inches in diameter.



The DeKalb County Highway Department performed the surveying, design, and construction on this project. The cost of the pipes was \$38,119.89. The driveway and entrance pipes are scheduled to be replaced in 2019.

Exchange Street Improvements

As a part of the DeKalb County Jail Expansion project, the County was responsible for various improvements to Exchange Street between Main Street (Illinois Route 23) and Locust Street. The street was to be improved prior to transferring jurisdiction back the City of Sycamore. In order to keep costs low on the project, the Highway Department performed various tasks for the reconstruction of Exchange Street.



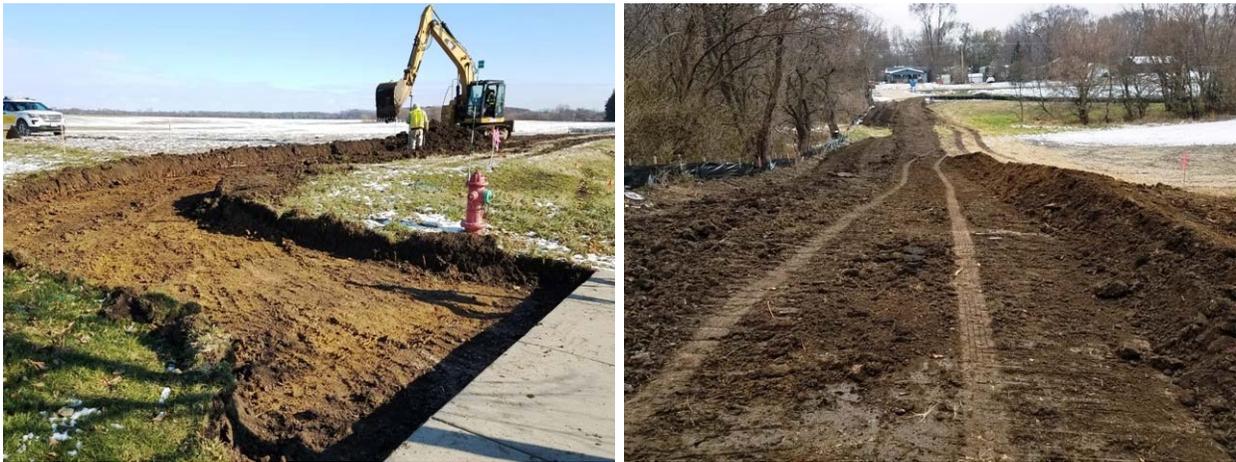
County Highway Department crews removed and replaced various sections of the concrete pavement base prior to the contractor paving. In areas where the original concrete pavement remained, those same crews repaired the joints between concrete slabs. In the spirit of intergovernmental cooperation, the City of Sycamore provided special equipment to help clean the joints before the County repaired them.



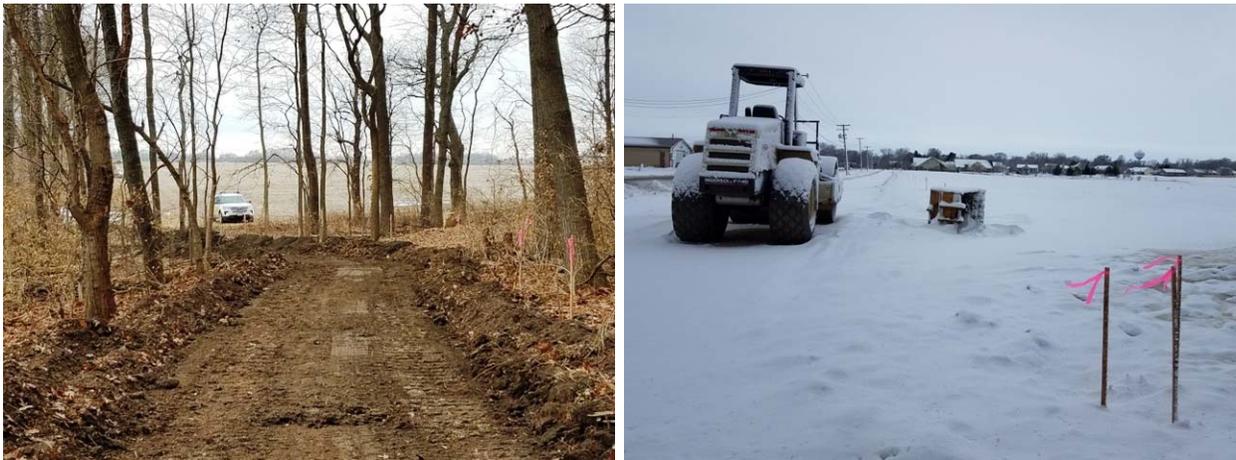
After the contractor paved over the concrete repairs, some of Exchange Street needed to be milled and repaved. The Highway Department provided the surveying, design, and construction inspection during these repairs.

Somonauk to Sannauk Trail

Continuing the relationship between the DeKalb County Forest Preserve District and the DeKalb County Highway Department is the new Forest Preserve Trail connecting the Village of Somonauk to the Sannauk Forest Preserve. While the Highway Department wasn't able to fit the design of the new trail in its 2017-2018 schedule, it was pleased to be able to provide oversight during the construction.



The project includes the construction of a new 1.2 mile aggregate trail. Bids were accepted in August 2018 and the contractor started work in November. The project is currently under construction and is scheduled to be completed by summer 2019.



Elliott & Wood, Inc. of DeKalb, IL is the contractor on this \$401,899.59 project. 100% of the project is paid using local Forest Preserve funds. Wendler Engineering of Dixon, IL performed the preliminary and design engineering. Kevin Fricke and Brad Hunold of the County Highway Department performed the construction inspection.

Township Resurfacing Projects

Each year, township road districts request the County Highway Department to prepare proposals and contracts as well as oversee construction activities. Some of these activities include hot-mix asphalt paving on subdivision streets and rural roads.



In 2018, 7 township road districts completed hot-mix asphalt paving projects throughout the County. These projects covered 9 miles of road at a cost of \$951,435.78. They were paid using a combination of Township Motor Fuel Tax funds and Township local funds. The DeKalb County Highway Department prepared the plans for these paving projects and performed the construction inspection.

Seal Coat Projects

In 2018, 12 townships and 3 municipalities joined the County's seal coat contract. Seal coat is a preventative maintenance process used to extend the life of a pavement. The County seal coated 12.7 miles at a cost of \$183,924.54. The township road districts seal coated 45 miles at a cost of \$588,988.31. Brad Hunold of the County Highway Department was the resident engineer on these projects. The DeKalb County Highway Department prepared the plans for these seal coat projects and performed the construction inspection.

Rejuvenator Projects

The County also uses a liquid rejuvenator as a way to extend the life of its roads. 3 miles of County roads were sprayed at a cost of \$44,035.32. One township road district sprayed 2.4 miles of roads at a cost of \$38,297.28. Two municipalities sprayed 2.0 miles of streets at a cost of \$24,399.48. Jerry Busse of the County Highway Department was the resident inspector on these projects. The DeKalb County Highway Department prepared the plans for these projects and performed the construction inspection.

Crack Routing and Filling Projects

Crack filling is another preventative maintenance program used to extend the life of pavements. While the County uses in-house crews to rout and fill cracks on its roads, the townships and municipalities hire contractors to perform this work. In 2018, 3 townships had roads under this contract at a cost of \$68,283.77. Two municipalities had streets under this contract at a cost of \$36,078.71. Kevin Fricke of the County Highway Department was the resident inspector on these projects. The DeKalb County Highway Department prepared the plans for these projects and performed the construction inspection.

Bridge Deck Sealing

Preventative maintenance is beneficial for bridges as well as roads. In 2018, the County and various township road districts hired a contractor to place concrete sealer on various bridge decks throughout DeKalb County. The County had 18 bridges sealed at a cost of \$22,749.66. Thirteen township road districts had 34 bridges sealed at a cost of \$22,233.66. The cost was calculated per square foot of area. Because the County's bridges are larger than the Township bridges on average, the County paid more per bridge for deck sealing. The DeKalb County Highway Department prepared the plans for these projects.

Other Township Maintenance Projects

In addition to the above work, the 19 township road districts and 4 municipalities had the County prepare various maintenance contracts on their behalf in 2018. In addition to the above described projects, these included bituminous patching materials, various aggregates, calcium chloride, centerline and edge line striping, and drainage pipes. The DeKalb County Highway Department prepared the plans for these contracts.

2019 Projects

Peace Road / Illinois Route 64 Intersection Safety Improvements

The intersection of Peace Road and Illinois Route 64 is one of the busiest intersections in the County. Large volumes of traffic typically bring higher a number of crashes. This intersection is no exception and therefore qualified for federal safety funds to address crash trends at the intersection.

In 2019, various improvements are scheduled to include an additional northbound through-lane on Peace Road south of the intersection, two southbound and two northbound lanes north of the intersection, a positive offset to improve sight distance for drivers making left turns from Peace Road onto Illinois Route 64, paved safety shoulders, and new traffic signals.

The estimated cost of the project is \$2,106,000 with 90% paid using Federal safety funds and 10% paid using local County Matching Tax funds.

Plank Road Safety Improvements

Plank Road is perceived to be a “dangerous road” due to the number of hills and curves as well as the high speeds of drivers on the road. Because of the number and severity of crashes on the road, this project qualified for federal safety funds to improve safety.

In 2019, a 4 ft safety shoulder installation and overlay on the existing road is planned between Lindgren Road and East County Line Road. Minor modifications will be made on Moose Range Road to increase sight distance for cross traffic. Pipe culverts will be replaced by the contractor as a part of the project.

The estimated cost of the project is \$2,081,000 with 90% paid using Federal safety funds and 10% paid using local County Matching Tax funds.

Waterman Road Shoulder & Ditch Reconstruction

The multi-year process of rebuilding the 5-mile highway between Waterman, IL and Perry Road started in 2017. In 2019, the County expects to continue the reconstruction with a shoulder widening & ditch reshaping project. Instead of performing half of the work in 2018 and the other half in 2019, the Highway Department has scheduled to complete all 5 miles in 2019.

The County has budgeted \$1,500,000 for the reconstruction with 55% paid using state Motor Fuel Tax funds and 45% using local Matching Tax funds.

Peace Road Turn Lanes

This project is a two-part project on Peace Road at the intersections with Freed Road and with Brickville Road. The first part of the overall project is widening of the aggregate road base to extend the existing right turn lane for northbound traffic at Freed Road, to accommodate new right turn lanes for southbound traffic at Freed Road, and to accommodate new right turn lanes for northbound and southbound traffic at Brickville Road.

The second part of the overall project is the paving and striping of the new turn lanes. The first part of the project will occur in the spring while the second part will occur in the fall of 2019.

Barber Greene Road Safety Shoulder and Turn Lane

This project is the addition of a 4 ft paved safety shoulder along Barber Greene Road between Peace Road and Somonauk Road. The project also includes the paving of a right turn lane for westbound traffic on Barber Greene Road turning north onto Peace Road. The County Highway Department prepared the aggregate base for the turn lane in 2018.

Paved safety shoulders eliminate the drop-off at the edge of the pavement which occurs periodically throughout the year. A paved safety shoulder also protects the edge of the pavement from cracking and breaking off. Additionally, it helps provide a safe area for drivers to regain control of their vehicle and re-enter their lane of traffic. Lastly, the paved safety shoulder provides an area for cyclists to travel without being in the live lane of traffic until the proposed bike path separate from the road is completed.

The cost of the project is estimated to be \$165,000 with 80% paid using Federal Surface Transportation Funds - Urban (STU) through the DeKalb-Sycamore-Cortland MPO (DSATS) and 20% paid using local Matching Tax funds.

Base Line Road Bridge

This project is a replacement of the structure located ¼ miles west of the Kane County Line on Base Line Road. The existing structure is a 44 ft long bridge originally built in 1960. The bridge is currently weight load posted. The project is estimated to cost \$500,000 and will be paid using Federal Surface Transportation Funds (STP-Br) for 80% of the project, the local Aid to Bridges Tax fund for 10% of the project, and the remaining 10% split between the Genoa Township Road District and the Sycamore Township Road District.

Somonauk Road Box Culvert Extension

Approximately 1/8 mile south of Barber Greene Road is a small concrete box culvert with ends close to Somonauk Road. Because of these drop-offs close to traffic, guardrail is currently in place on both sides of the road.

Unfortunately in winter, guardrail can act like a snow fence trapping blowing snow on the road. This project in 2019 will extend the box culvert on both ends to eliminate the need for guardrail. The estimate for the project is \$90,000 with the entire amount being paid using the local Aid to Bridges Tax fund.

Chicago Road Culverts

As described above, Chicago Road west of Illinois Route 23 is scheduled to be resurfaced in the next 5 years. As a part of the preparation for that project, the County Highway Department replaced the crossroad pipe culverts in 2018. Approximately 45 driveway pipe culverts are scheduled to be replaced in 2019 with in-house labor.

Johnson Road Box Culvert

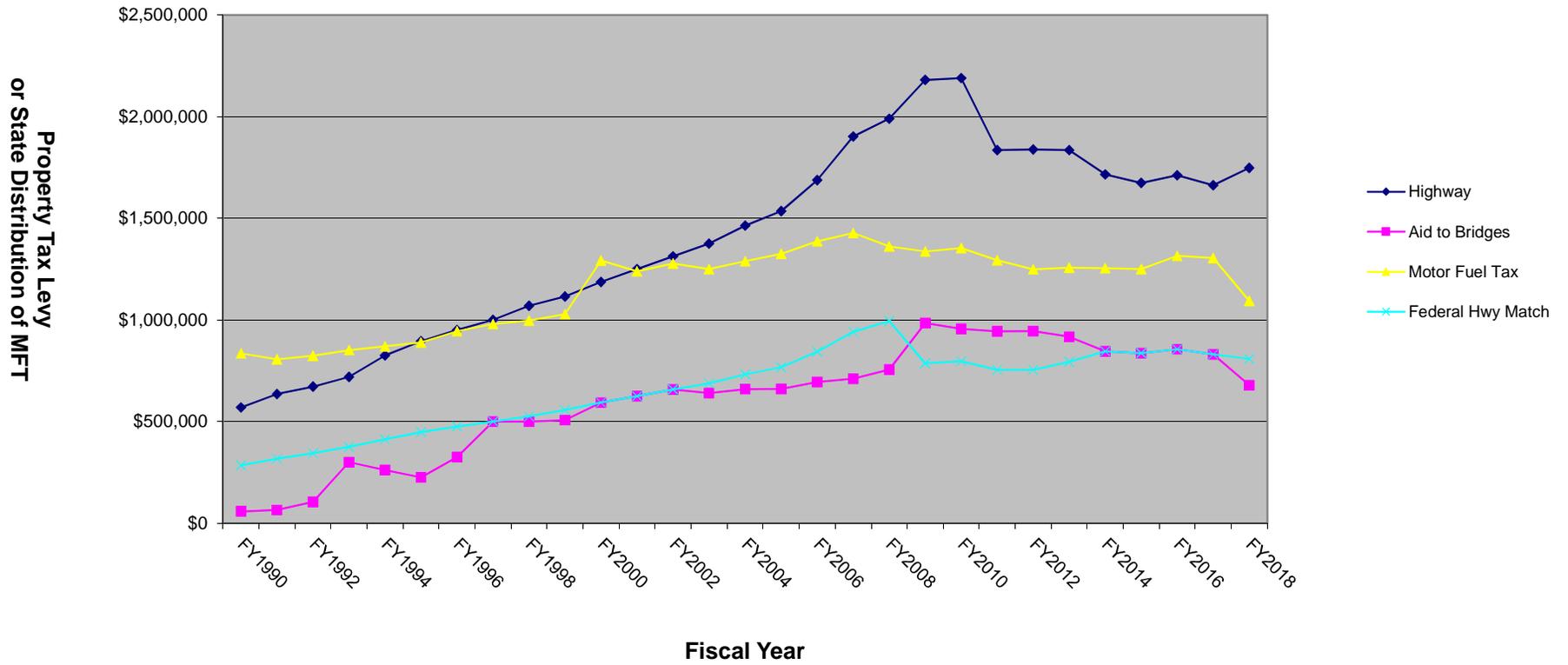
The Johnson Road box culvert in Mayfield Township is currently weight posted for 12 tons. This culvert is scheduled for improvements in 2019 to allow standard weight trucks to cross it again. The estimate for the work is expected to be \$30,000 with the costs being split between the County and Mayfield Township.

Bridge Timber Pile Repairs

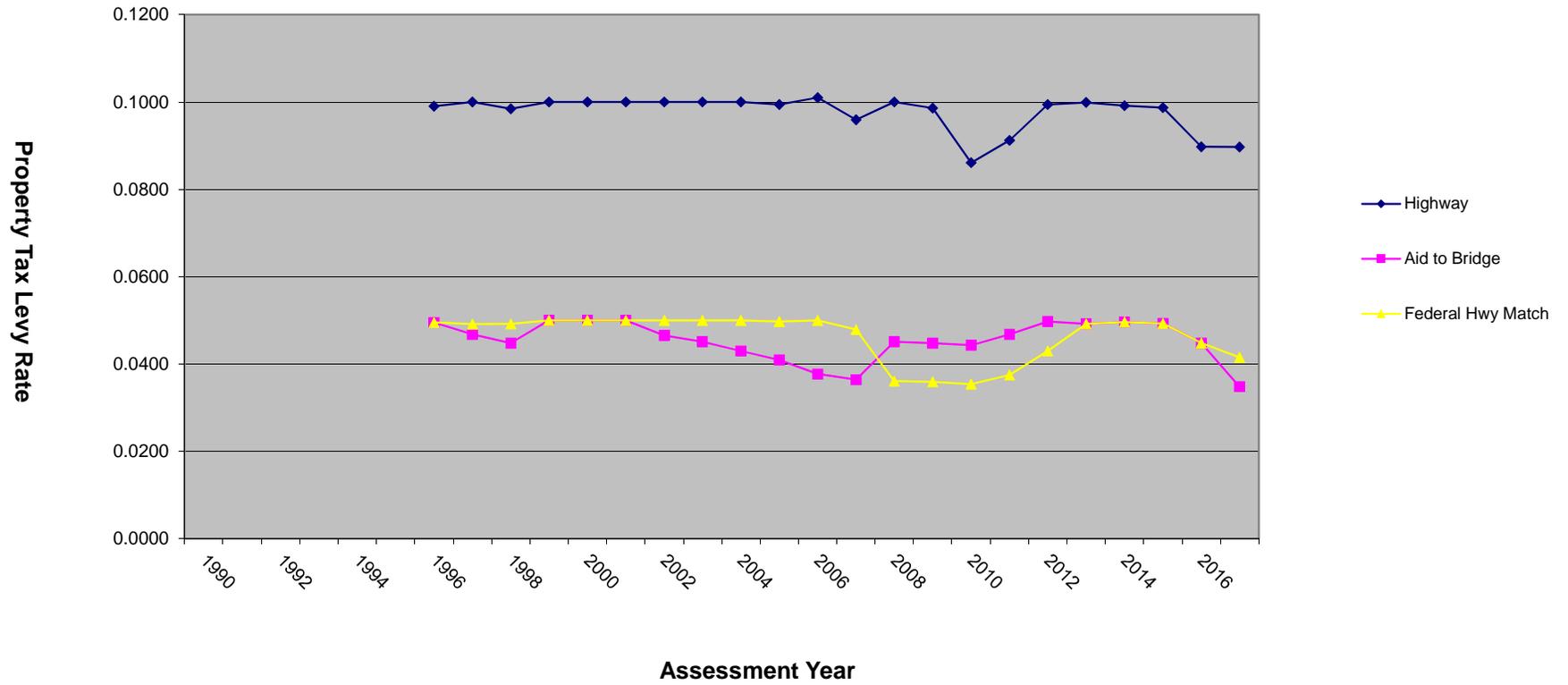
Periodically, the County Highway Department prepares and oversees repairs to bridges to remove weight limit postings. Many times the weight limits are in place due to the poor condition of timber piles supporting the bridges. In 2019, two bridges are scheduled for repairs: Haumesser Road north of Perry Road and Anderland Road south of Perry Road.

The cost of the project will be split between the County's local Aid to Bridges Tax fund, the Milan Township Road District, and the Afton Township Road District.

Highway Department Funding Levels



Highway Department Tax Levy Rates



WINNEBAGO COUNTY

BOONE COUNTY

McHENRY COUNTY

DEKALB COUNTY

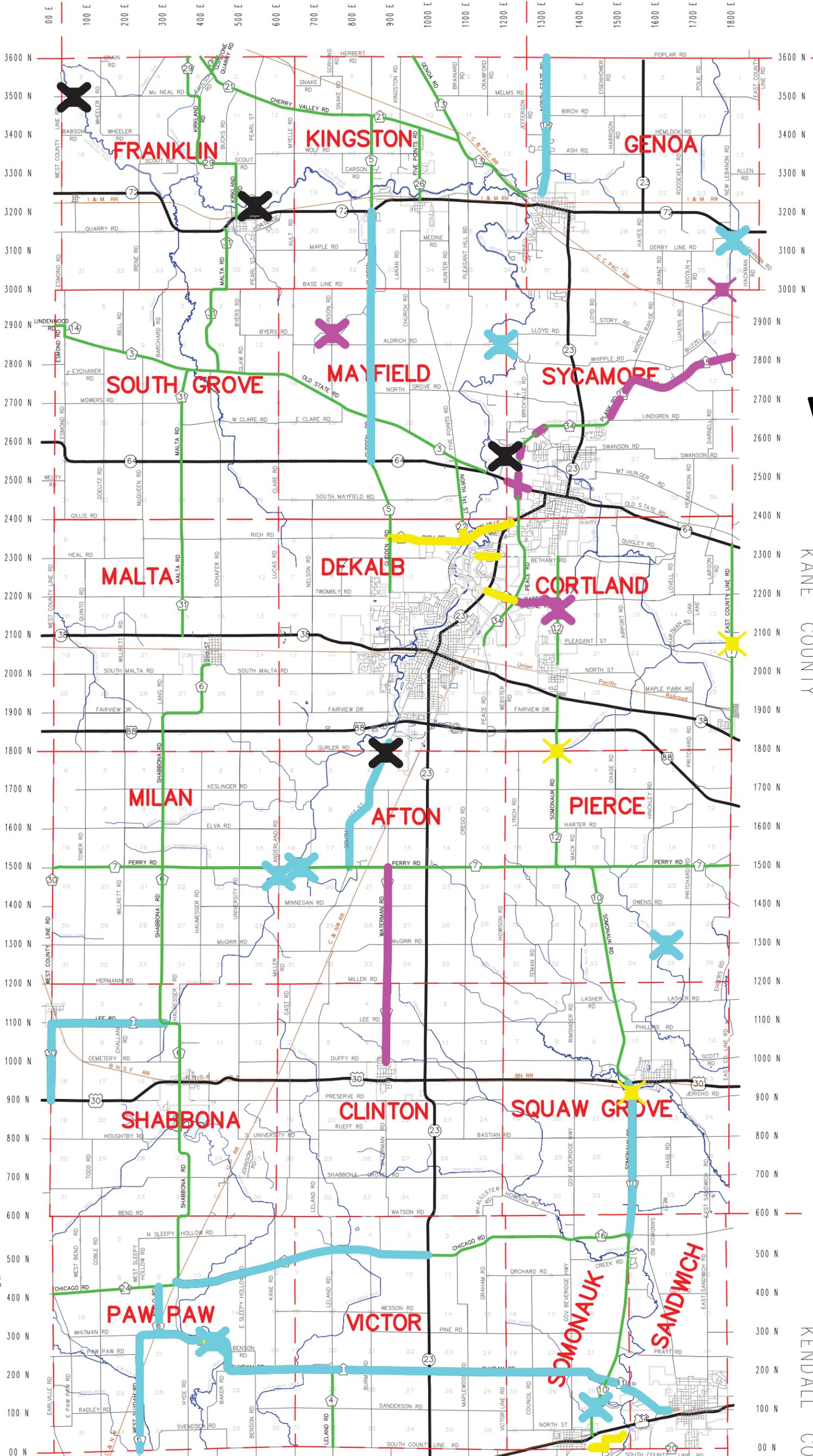
HIGHWAY CONST. MAP

OGLE COUNTY

LEE COUNTY

KANE COUNTY

KENDALL COUNTY



Approx. E-W Distance 18 Miles
 Approx. N-S Distance 36 Miles
 Area 634.5 Square Miles

DeKalb County Government
 Information Management Office
 110 E. Sycamore St.
 Sycamore, IL 60178
 815-895-1643
www.dekalbcounty.org

2018

2019

2020

2021+

LASALLE COUNTY

