

AGENDA

Committee on City Operations February 12, 2026 at 4:00 PM



Lansing City Hall, City Council Conference Room
124 W. Michigan Avenue, 10th Floor

To provide input or ask questions on any item that is listed on the agenda,
members of the public may contact the City Council at city.council@lansingmi.gov or (517) 483-4177 prior to the meeting.
To view the meeting live and participate in virtual public comment: <https://www.lansingmi.gov/1212/Council-Committee-Meetings>

Council Member Pehlivanoglu, Chairperson
Council Member Martinez, Vice Chairperson
Council Member Kost, Member

- 1. Call to Order**
- 2. Roll Call**
- 3. Minutes**
 - A. January 22, 2026
- 4. Public Comment on Agenda Items (Up to 3 Minutes)**
- 5. Discussion/Action:**
 - B. RESOLUTION - Fireworks Display License; Lansing Lugnuts & Pyrotecnico Fireworks Inc. at Jackson Field for multiple dates
 - C. RESOLUTION - Non-Profit Recognition; Capital Area Literacy Coalition
 - D. RESOLUTION - Setting a Public Hearing on Noise Special Permit; Hoffman Bros. Inc. request to allow for the Combined Sewer Overflow (CSO) Cherry/Pine/Kalamazoo Project within the project area
 - E. RESOLUTION - Traffic Control Order No. 25-26; regulate parking on Josephine Way
 - F. RESOLUTION - Act-1-2026, license for use of right-of-way, 3119 Stoneleigh Dr., Lansing School District for a bus lane
 - G. RESOLUTION - Act-2-2026, license for use of right-of-way, 2000 Lewton Pl., Lansing School District for a bus lane
 - H. RESOLUTION - Transportation Asset Management Plan
 - I. RESOLUTION - Drain Easement; Board of Water and Light at 2030 Lake Lansing Rd. and 2320 Wood St. in Lansing Township for Lansing MI Ventures, LLC
- 6. Other**
- 7. Adjourn**

Persons with disabilities who need an accommodation to fully participate in these meetings should contact the City Council Office at 517-483-4177 (TTY 711) 24 hour notice may be needed for certain accommodations. An attempt will be made to grant all reasonable accommodation requests.



MINUTES
Committee on City Operations
Thursday, January 22, 2026 @ 4:00 p.m.
City Council Conference Room

CALL TO ORDER

Council Member Pehlivanoglu called the meeting to order at 4:00pm

PRESENT

Council Member Trini Pehlivanoglu, Chair
Council Member Clara Martinez, Vice-Chair
Council Member Ryan Kost, Member

OTHERS PRESENT

Renee Richmond, Council Administrative Assistant
Luke Bingaman, Legislative Analyst
Daniel DuChene, OCA
Rawley Van Fossen, EDP
Meridith Johnson, EDP
Maria Fletcher
Dan Fletcher
Mitch Whisler, Dept. Public Service

MINUTES

MOTION BY COUNCIL MEMBER MARTINEZ TO PLACE ON FILE THE MINUTES FROM DECEMBER 4, 2025 AS PRESENTED. MOTION CARRIED 3-0.

PUBLIC COMMENT

Discussion/Action

RESOLUTION – Claim Appeal; Claim #2203, Maria Fletcher for \$1,649 in trash fees and \$350 in removal fees at 1128 Hickory Street

Mr. VanFossen said the property was cited for trash on 11/07/2024 with a compliance of 7 days, it was reinspected and not complied with so sent to the contractors and abated.

Ms. Fletcher said she was there to appeal the \$1,649 that was not hers and left there by a man that LPD had arrested and found his truck that was pulling two trailers on her property full of trash and was told not to worry about it, so thought LPD was taking care of it. Continuing she received no notice on the trash and only discovered after it was on her property taxes. Also, stating she had to pay out of pocket \$350 for removal of the two trailers and wanted reimbursement.

Councilmember Kost inquired about the trailers and the arrest as they weren't noted in the LPD report, along with what the property line is and if it includes that far back near the alley. Ms. Johnson stated the violation was just for the trash, and not the trailers. Mr. DuChene noted it was looked into at Claims Review Committee (CRC), LPD report only references the pickup truck in relation to the crime. Noting the property was bought in 2024 and there was only roughly a week between the violation notice, mostly already on the property when she bought it. Councilmember Kost asked about the property line of the parcel, Mr. DuChene responded, saying it appears the parcel goes to the end of the alley. Councilmember Kost continued the pictures appear close up and the trailers were there a long time with weeds, and flat tires but that wasn't reflected in the Code report. Mr. VanFossen stated the notes don't always reflect the pictures if that isn't what the violation is written for. Ms. Fletcher repeated the trailers were not there when she purchased the property, and was told by LPD not to worry about it, and asked why the trailers were not picked up when the trash was taken.

Councilmember Pehlivanoglu referred to pages 13 and 17 that the mailing address was in California and the balance was zero. Mr. VanFossen acknowledged that the information comes from Assessing and that was the record of the owner at the time, with the short timeframe of purchase it wasn't changed yet, noting page 14 that it was mailed to the property. Also when the invoice isn't paid within 30 days it is transferred to the property taxes.

Councilmember Martinez inquired about conversations between LPD and Code, were they there together who called who. Mr. VanFossen stated it is not EDP's practice to train LPD when they encounter violations. There are times when Code may need to reach out to LPD, but this was not the case. Acknowledging page 9, the receipt of her removing the trailers. Councilmember Kost asked if she is doing any remodeling, Ms. Fletcher answered no, stating someone dumps trash every week since it is near the alley. Councilmember Kost stated it is unfortunate, however if someone dumped trash on his property he would be responsible. Councilmember Pehlivanoglu asked when the trash was gone how did you reconcile. Ms. Fletcher stated she called Code Officer Dawsey multiple times with no return call and the Police Officer was female but didn't know the name. Ms. Fletcher also noted she requested a FOIA on the LPD report which is what is in the packet.

MOTION BY COUNCIL MEMBER KOST TO DENY THE CLAIM APPEAL #2203, MARIA FLETCHER FOR \$1,649 IN TRASH FEES AND \$350 IN PERSONAL REMOVAL FEES FOR A TOTAL OF \$1,999 AT 1128 HICKORY STREET. MOTION CARRIED 3-0.

RESOLUTION – Traffic Control Order No. 25-19; regulate parking along the 1100 block of W. Ottawa Street

Mr. Whisler stated they received a request from the parking office for allowing for more parking on southside of Ottawa. They determined no issue was present and recommends. Councilmember Pehlivanoglu asked when making determinations, how are residents notified. Mr. Whisler noted that usually if making more prohibited a survey will be done, if less restrictive then not needed.

MOTION BY COUNCIL MEMBER MARTINEZ TO APPROVE THE RESOLUTION FOR THE TRAFFIC CONTROL ORDER NO. 25-19; REGULATE PARKING ALONG THE 1100 BLOCK OF W. OTTAWA STREET. MOTION CARRIED 3-0.

RESOLUTION – Traffic Control Order No. 25-24; install a yield sign on eastbound W. Shiawassee St. at Inverness Ave./W. Shiawassee

Mr. Whisler indicated they received a request from a resident for a yield sign. An investigation was conducted for sight distance, no crash records for last 5 years. Recommend installing yield sign to establish right of way.

MOTION BY COUNCIL MEMBER MARTINEZ TO APPROVE THE RESOLUTION FOR THE TRAFFIC CONTROL ORDER NO. 25-24; INSTALL A YIELD SIGN ON EASTBOUND W. SHIAWASSEE ST. AT INVERNESS AVE./W. SHIAWASSEE. MOTION CARRIED 3-0.

RESOLUTION – Traffic Control Order No. 25-25; install a yield sign on southbound Kenbrook Rd. at Labelle St.

Mr. Whisler received a request from a resident to review the intersection, a safe approach study was done and identified 13mph approach, no accidents in last 5 years. Based on findings recommended yield sign. Councilmember Pehlivanoglu asked what the timeframe is from a request. Mr. Whisler answered it depends on the request and workload could be 30 days or 3-4 months. Councilmember Martinez asked if it only is one person that can request something, Mr. Whisler said depends on the request if a petition is required from the neighborhood.

MOTION BY COUNCIL MEMBER MARTINEZ TO APPROVE THE RESOLUTION FOR THE TRAFFIC CONTROL ORDER NO. 25-25; INSTALL A YIELD SIGN ON SOUTHBOUND KENBROOK RD. AT LABELLE ST. MOTION CARRIED 3-0.

Other

Adjourn

Adjourned at 4:46pm

Submitted by Renee Richmond, Recording Secretary

Lansing City Council

Approved by the Committee on



Application for Fireworks Display

Instructions	Application Information	Display Information
Attachments	Approvals	

License fee: \$160.00 per Display

Application for a license required by this section shall be made in writing to the City Clerk at least 30 business days before the proposed date of the use or display unless application within a shorter period of time is approved by the Fire Marshal. Fill out and submit this form.

Bring the materials listed below to the City Clerk's office to complete the application process.

Materials

- Non-Refundable License fee of \$160
- Treasury Form
- Proof of an insurance policy naming the City as co-insured, available for the payment of any damages arising out of an act or omission of the licensee or his agents, employees, or subcontractors, covering the following: (a) At least \$500,000.00 for property damage; and (b) at least \$500,000.00 for injury to one person and \$1,000,000.00 for injury to two or more persons resulting from the same occurrence.
- Copies of State issued identification for each person who will operate the display.
- If the applicant is a nonresident person, written appointment of a resident agent to serve as legal representative upon whom all process in an action or proceeding against the person may be served.

(City Codified Ordinances - Chapter 1615.01-1615-06)

Business Information

Business Name*

Pyrotecnico Inc.

Address*

Street Address

4369 East Summit Woods Dr NE

Address Line 2

City

Rockford

State / Province / Region

MI

Postal / Zip Code

49341

Country

USA

Phone

800-771-7976

Business Owner Information

Business Owner Name*

Stephen Vitale

Address *

Street Address

299 Wilson Rd

Address Line 2

City

New Castle

State / Province / Region

PA

Postal / Zip Code

16101

Country

USA

Phone

800-771-7976

Email *

sv@liveevents.com

Business**Owner Date of
Birth *****Applicant Information****Same as
Business
Owner? ***☒ Yes☐ No**Applicant
Name ***

Michael Falk

Address *

Street Address

4369 East Summit Woods Dr NE

Address Line 2

City

Rockford

State / Province / Region

MI

Postal / Zip Code

49341

Country

USA

Phone 616-427-0377**Email *** mfalk@pyrotecnico.com[Previous](#)[Next](#)

Comments

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Application for Fireworks Display

Instructions	Application Information	Display Information
Attachments	Approvals	

Liability Information

**Bond or
Insurance (at
least one
required) ***

☒ Bond

☐ Insurance

**Insured by
(Documentation
Attached) ***

Acrisure Great Lakes Partners Ins

**Insurance
Amount *** 10,000,000.00

**Expiration
Date *** 11/28/2026

Event Information

**Number
of
Displays** 15

**Projected
Fee** 2400.00

**Display Dates
and Times ***

5/15/2026, 5/30/2026, 6/12/2026, 6/13/2026, 6/26/2026,
6/27/2027, 7/17/2026, 7/18/2026, 7/24/2026, 7/25/2026,
8/7/2026, 8/8/2026, 8/21/2026, 8/22/2026, 9/5/2026 w/ rain
dates of 5/29/2026 & 9/4/2026. Shows begin post-game at

(Explain dates/times of instances)

**Exact Location
of Display ***

Jackson Field
505 E Michigan Ave
Lansing, MI 48912

**Type and
Quantity of
Fireworks to be
used in
Display ***

Approx 500 aerial display shells - 19mm to 2.5" diameter
Approx 25 close proximity special effects

**Manner and
location of the
storage of the
fireworks prior
to the display ***

No storage - Delivery on date of display

Operators**List all Persons who will Operate the Display**

Name *	Age *	Description of Relevant Experience *
Blane Quilhot	33	33 years experience 265+ displays
Michael Falk	36	36 years experience 500+ displays

*

Has the applicant, any person with an ownership interest in the applicant, or any person who will operate the display had any citation or conviction for, or guilty plea to, a violation of the laws of the United States, any State, or any local unit of government regulating the sale, use, or possession of fireworks? If yes, please include details

☐ Yes☒ No**Electronic
Signature
Agreement***

By checking the "I agree" box below, you agree and acknowledge that 1) your application will not be signed in the sense of a traditional paper document, 2) by signing in this alternate manner, you authorize your electronic signature to be valid and binding upon you to the same force and effect as a handwritten signature, and 3) you may still be required to provide a traditional signature at a later date.

☒ I agree**Signature**

I certify that neither the Applicant nor any person with ownership interest is in default to the City of Lansing. By my signature, I swear or affirm that all information provided in this application is true. I understand that a false statement on this application may result in either a denial of this application or subsequent revocation if the license is granted.

Michael Falk

Date Submitted[Previous](#)[Next](#)**Comments***2000 characters left*



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

1/16/2026

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER Acrisure Great Lakes Partners Insurance Services 223 West Grand River Ave #1 Howell MI 48843		CONTACT NAME: PHONE (A/C, No, Ext): 216-658-7100 E-MAIL ADDRESS: info@brittongallagher.com		FAX (A/C, No): 216-658-7101
INSURED Pyrotecnico Fireworks Inc. P.O. Box 149 299 Wilson Road New Castle PA 16103		INSURER(S) AFFORDING COVERAGE		NAIC #
2299		INSURER A : Constitution Insurance Company		32190
		INSURER B : Texas Insurance Company		16543
		INSURER C : Continental Indemnity Company		28258
		INSURER D : Allianz Global Corporate & Specialty SE		7617
		INSURER E : HDI GLOBAL SPECIALTY SE		1340041
		INSURER F :		

COVERAGES**CERTIFICATE NUMBER:** 1348540399**REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
B	GENERAL LIABILITY ☒ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ☒ OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ☒ PROJECT ☐ LOC	Y	Y	BESGLPTPA011501_171145_01	11/28/2025	11/28/2026	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 500,000 MED EXP (Any one person) \$ PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
C	AUTOMOBILE LIABILITY ☒ ANY AUTO ☐ ALL OWNED AUTOS ☐ SCHEDULED AUTOS ☒ HIRED AUTOS ☒ NON-OWNED AUTOS	Y	Y	BESCRMNPA011501_171145_01	11/28/2025	11/28/2026	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
D	UMBRELLA LIAB ☒ OCCUR ☒ EXCESS LIAB ☐ CLAIMS-MADE DED ☐ RETENTION \$	Y	Y	25ABEX0231	11/28/2025	11/28/2026	EACH OCCURRENCE \$ 1,000,000 AGGREGATE \$ 1,000,000 \$
A	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) ☐ Y / N If yes, describe under DESCRIPTION OF OPERATIONS below		N / A	82-872096-04-44 (MI)	10/14/2025	10/14/2026	☒ WC STATUTORY LIMITS ☐ OTHER E.L. EACH ACCIDENT \$ 1,000,000 E.L. DISEASE - EA EMPLOYEE \$ 1,000,000 E.L. DISEASE - POLICY LIMIT \$ 1,000,000
E D E	Excess Liability #2			18HX3645 25ABHX0050 18HX3646	11/28/2025 11/28/2025 11/28/2025	11/28/2026 11/28/2026 11/28/2026	Each Occ/Aggregate \$3,000,000 Each Occ/Aggregate \$1,000,000 Each Occ/Aggregate \$4,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

Additional Insured extension of coverage is provided by above referenced General Liability policy where required by written agreement.
Auto Policy Numbers as Follows: BESCRMPCA011501_171145_01 (CA), BESCRMPLA011501_171145_01 (LA), BESCRMNPA011501_171145_01 (Main)
DISPLAY DATES: 5/15/26; 5/30/26; 6/12/26; 6/13/26; 6/26/26; 6/27/26; 7/17/26; 7/18/26; 7/24/26; 7/25/26; 8/7/26; 8/8/26; 8/21/26; 8/22/26; 9/5/26; with possible rain dates : 5/29/26; 9/4/26
LOCATION: Jackson National Life Stadium, 505 East Michigan Ave., Lansing, MI
ADDITIONAL INSURED: City of Lansing; LAFCU; Lansing Entertainment and Public Facilities Authority (LEPFA); Outfield Partners, LLC; Gillespie Property Management, Inc.; Take Me Out to the Ballgame, LLC dba Lansing Lugnuts

CERTIFICATE HOLDER**CANCELLATION**

City of Lansing
124 W. Michigan Ave.
Lansing MI 48933

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

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THIS ENDORSEMENT CHANGES THE POLICY. PLEASE READ IT CAREFULLY.

ADDITIONAL INSURED – DESIGNATED PERSON OR ORGANIZATION

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART

SCHEDULE

Name Of Additional Insured Person(s) Or Organization(s):

City of Lansing; LAFCU; Lansing Entertainment and Public Facilities Authority (LEPFA); Outfield Partners, LLC; Gillespie Property Management, Inc.; Take Me Out to the Ballgame, LLC dba Lansing Lugnuts

Information required to complete this Schedule, if not shown above, will be shown in the Declarations.

A. Section II – Who Is An Insured is amended to include as an additional insured the person(s) or organization(s) shown in the Schedule, but only with respect to liability for "bodily injury", "property damage" or "personal and advertising injury" caused, in whole or in part, by your acts or omissions or the acts or omissions of those acting on your behalf:

1. In the performance of your ongoing operations; or
2. In connection with your premises owned by or rented to you.

However:

1. The insurance afforded to such additional insured only applies to the extent permitted by law; and
2. If coverage provided to the additional insured is required by a contract or agreement, the insurance afforded to such additional insured will not be broader than that which you are required by the contract or agreement to provide for such additional insured.

B. With respect to the insurance afforded to these additional insureds, the following is added to Section III – Limits Of Insurance:

If coverage provided to the additional insured is required by a contract or agreement, the most we will pay on behalf of the additional insured is the amount of insurance:

1. Required by the contract or agreement; or
2. Available under the applicable Limits of Insurance shown in the Declarations;

whichever is less.

This endorsement shall not increase the applicable Limits of Insurance shown in the Declarations.



CITY TREASURER * INCOME TAX DIVISION
(517) 483-4121 (517) 483-4114

1ST Floor – City Hall
124 West Michigan Avenue
Lansing MI 48933

VIRG BERNERO, MAYOR

LANSING TREASURY INFORMATION REQUEST
Complete a separate form for each individual subject to verification

Applicant/Employee Information

Name: Michael Falk
Home Address: 4369 E Summit Woods Dr NE
Rockford MI 49341 Since 2008
Daytime Phone Number: 616-427-0377
Social Security #: [REDACTED]
Driver's License #: [REDACTED]
Date of Birth: [REDACTED]

Employer/Business Information

Corporate Name: Pyrotecnico Fireworks Inc.
Doing Business As: _____
Address: 4369 E Summit Woods Dr NE
Rockford MI 49341
Business Phone #: 800-771-7976
Federal Employer Identification #: [REDACTED]

Do you, or any of these businesses, owe the City money for any reason? Yes ___ No X

If Yes, for what reason? _____

Name of any other Lansing area business in which your ownership participation exceeds 25% None

Lansing City Clerk's Office
Ninth Floor, City Hall, 124 W. Michigan Ave., Lansing, MI 48933-1695
517-483-4131 • 517-377-0068 FAX
www.lansingmi.gov/clerk • city.clerk@lansing.mi.gov


Signature

1/16/2026
Date

Lansing City Clerk's Office
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Application for Fireworks

Display

Instructions	Application Information	Display Information
Attachments	Approvals	

Please choose your approval decision on the appropriate line and click **Submit**. If you deny, please provide a comment as to why.

License Desk	☒ Approved	☐ Denied
Attorney	☒ Approved	☐ Denied
Police	☒ Approved	☐ Denied
Fire_Marshal	☒ Approved	☐ Denied
Treasury	☒ Approved	☐ Denied
Treasurer Approval	☒ Approved	☐ Denied
City Clerk *	☐ Approved	☐ Denied

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Comments

2000 characters left

Resolution #2026

By the Committee on City Operations
Resolved by the City Council of the City of Lansing

WHEREAS, the City Clerk has forwarded an application for City Licenses, which have been routinely processed without objection, and is ready for final action by this Council; and

WHEREAS, all required signatures have been obtained supporting the application for multiple fireworks display licenses.

NOW, THEREFORE, BE IT RESOLVED, the Lansing City Council, hereby, approves the application for City Licenses as follows:

FIREWORKS DISPLAY LICENSE:

Pyrotecnico Fireworks Inc. for public displays of fireworks in the City of Lansing at Jackson Field to be held on the following dates: May 15, May 30, June 12, June 13, June 26, June 27, July 17, July 18, July 24, July 25, August 7, August 8, August 21, August 22, September 5, and rain dates of May 29 and September 4.



City of Lansing, Michigan
Application for Request for Non-Profit Status in the City of Lansing

Organization Name (As Incorporated): Capital Area Literacy Coalition

Address: 1028 E Saginaw

City: Lansing State: MI Zip: 48906

Contact Person: Brian Babiasz

Main Contact Number: (517) 485-4949 Secondary Contact Number: (517) 579-3684

Email Address: director@thereadingpeople.org

Please include the following with your application:

- a. A copy of your 501(c)3 Designation
- b. A copy of your Articles of Incorporation
- c. A copy of your Bylaws
 - ☐ Includes in bylaws a dissolution provision a plan to distribute all the remaining assets to ensure that
 - 1. All financial and contractual obligations are fulfilled and that
 - 2. Remaining assets are distributed only to one or more similar nonprofit, tax exempt organizations and/or institutions
- d. Non-refundable application fee of \$100.00 or fee waiver request*

I hereby certify that this application is complete and accurate to the best of my knowledge, information and belief.


Signature

1-28-26
Date

*Fee waiver request

I hereby certify that the assets of this non-profit organization are less than \$2,500 and I request the fee be waived. The fee would cause an extreme hardship because:

Signature

Date

Please submitted completed application and attached documents, please return it to:

Chris Swope, City Clerk
Lansing City Clerk's Office
Ninth Floor, City Hall, 124 W. Michigan Ave., Lansing, MI 48933-1695
City.clerk@lansingmi.gov 517-483-4131

FILE COPY

INTERNAL REVENUE SERVICE
P. O. BOX 2508
CINCINNATI, OH 45201

DEPARTMENT OF THE TREASURY

Date: DEC 20 1999

LVA-CAPITAL AREA LITERACY COALITION
1028 E SAGINAW
LANSING, MI 48906

Employer Identification Number:
38-2625057
DLN:
17053266000049
Contact Person:
MIKE M RYAN ID# 31362
Contact Telephone Number:
(877) 829-5500
Accounting Period Ending:
June 30
Form 990 Required:
Yes
Addendum Applies:
Yes

Dear Applicant:

Based on information supplied, and assuming your operations will be as stated in your application for recognition of exemption, we have determined you are exempt from federal income tax under section 501(a) of the Internal Revenue Code as an organization described in section 501(c)(3).

We have further determined that you are not a private foundation within the meaning of section 509(a) of the Code, because you are an organization described in sections 509(a)(1) and 170(b)(1)(A)(vi).

If your sources of support, or your purposes, character, or method of operation change, please let us know so we can consider the effect of the change on your exempt status and foundation status. In the case of an amendment to your organizational document or bylaws, please send us a copy of the amended document or bylaws. Also, you should inform us of all changes in your name or address.

As of January 1, 1984, you are liable for taxes under the Federal Insurance Contributions Act (social security taxes) on remuneration of \$100 or more you pay to each of your employees during a calendar year. You are not liable for the tax imposed under the Federal Unemployment Tax Act (FUTA).

Since you are not a private foundation, you are not subject to the excise taxes under Chapter 42 of the Code. However, if you are involved in an excess benefit transaction, that transaction might be subject to the excise taxes of section 4958. Additionally, you are not automatically exempt from other federal excise taxes. If you have any questions about excise, employment, or other federal taxes, please contact your key district office.

Grantors and contributors may rely on this determination unless the Internal Revenue Service publishes notice to the contrary. However, if you lose your section 509(a)(1) status, a grantor or contributor may not rely on this determination if he or she was in part responsible for, or was aware of, the act or failure to act, or the substantial or material change on the part of the organization that resulted in your loss of such status, or if he or she acquired knowledge that the Internal Revenue Service had given notice that you would no longer be classified as a section 509(a)(1) organization.

Letter 947 (DO/CG)

LVA-CAPITAL AREA LITERACY COALITION

Donors may deduct contributions to you as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to you or for your use are deductible for federal estate and gift tax purposes if they meet the applicable provisions of Code sections 2055, 2106, and 2522.

Contribution deductions are allowable to donors only to the extent that their contributions are gifts, with no consideration received. Ticket purchases and similar payments in conjunction with fundraising events may not necessarily qualify as deductible contributions, depending on the circumstances. See Revenue Ruling 67-246, published in Cumulative Bulletin 1967-2, on page 104, which sets forth guidelines regarding the deductibility, as charitable contributions, of payments made by taxpayers for admission to or other participation in fundraising activities for charity.

In the heading of this letter we have indicated whether you must file Form 990, Return of Organization Exempt From Income Tax. If Yes is indicated, you are required to file Form 990 only if your gross receipts each year are normally more than \$25,000. However, if you receive a Form 990 package in the mail, please file the return even if you do not exceed the gross receipts test. If you are not required to file, simply attach the label provided, check the box in the heading to indicate that your annual gross receipts are normally \$25,000 or less, and sign the return.

If a return is required, it must be filed by the 15th day of the fifth month after the end of your annual accounting period. A penalty of \$20 a day is charged when a return is filed late, unless there is reasonable cause for the delay. However, the maximum penalty charged cannot exceed \$10,000 or 5 percent of your gross receipts for the year, whichever is less. For organizations with gross receipts exceeding \$1,000,000 in any year, the penalty is \$100 per day per return, unless there is reasonable cause for the delay. The maximum penalty for an organization with gross receipts exceeding \$1,000,000 shall not exceed \$50,000. This penalty may also be charged if a return is not complete, so be sure your return is complete before you file it.

The law requires you to make your annual return available for public inspection without charge for three years after the due date of the return. You are also required to make available for public inspection a copy of your exemption application, any supporting documents and this exemption letter to any individual who requests such documents in person or in writing. You can charge only a reasonable fee for reproduction and actual postage costs for the copied materials. The law does not require you to provide copies of public inspection documents that are made widely available, such as by posting them on the Internet (World Wide Web). You may be liable for a penalty of \$20 a day for each day you do not make these documents available for public inspection (up to a maximum of \$10,000 in the case of an annual return).

You are not required to file federal income tax returns unless you are subject to the tax on unrelated business income under section 511 of the Code. If you are subject to this tax, you must file an income tax return on Form

Letter 947 (DO/CG)

LVA-CAPITAL AREA LITERACY COALITION

990-T, Exempt Organization Business Income Tax Return. In this letter we are not determining whether any of your present or proposed activities are unrelated trade or business as defined in section 513 of the Code.

You need an employer identification number even if you have no employees. If an employer identification number was not entered on your application, a number will be assigned to you and you will be advised of it. Please use that number on all returns you file and in all correspondence with the Internal Revenue Service.

If we have indicated in the heading of this letter that an addendum applies, the enclosed addendum is an integral part of this letter.

Because this letter could help resolve any questions about your exempt status and foundation status, you should keep it in your permanent records.

If you have any questions, please contact the person whose name and telephone number are shown in the heading of this letter.

Sincerely yours,

Steven T. Miller

Steven T. Miller
Director, Exempt Organizations

Internal Revenue Service

Department of the Treasury

**P. O. Box 2508
Cincinnati, OH 45201**

Date: May 16, 2003

**Capital Area Literacy Coalition
% Dr. Lois Bader
1028 E. Saginaw
Lansing, MI 48906-5518**

Person to Contact:
Brenda Fox 31-07209
Customer Service Representative
Toll Free Telephone Number:
8:00 a.m. to 6:30 p.m. EST
877-829-5500
Fax Number:
513-263-3756
Federal Identification Number:
38-2625057

FILE COPY

Dear Sir or Madam:

This is in response to the amendment to your organization's Articles of Incorporation filed with state on September 14, 2001. We have updated our records to reflect the name change as indicated above.

Our records indicate that a determination letter issued in December 1999 granted your organization exemption from federal income tax under section 501(c)(3) of the Internal Revenue Code. That letter is still in effect.

Based on information subsequently submitted, we classified your organization as one that is not a private foundation within the meaning of section 509(a) of the Code because it is an organization described in sections 509(a)(1) and 170(b)(1)(A)(vi).

This classification was based on the assumption that your organization's operations would continue as stated in the application. If your organization's sources of support, or its character, method of operations, or purposes have changed, please let us know so we can consider the effect of the change on the exempt status and foundation status of your organization.

Your organization is required to file Form 990, Return of Organization Exempt from Income Tax, only if its gross receipts each year are normally more than \$25,000. If a return is required, it must be filed by the 15th day of the fifth month after the end of the organization's annual accounting period. The law imposes a penalty of \$20 a day, up to a maximum of \$10,000, when a return is filed late, unless there is reasonable cause for the delay.

All exempt organizations (unless specifically excluded) are liable for taxes under the Federal Insurance Contributions Act (social security taxes) on remuneration of \$100 or more paid to each employee during a calendar year. Your organization is not liable for the tax imposed under the Federal Unemployment Tax Act (FUTA).

Organizations that are not private foundations are not subject to the excise taxes under Chapter 42 of the Code. However, these organizations are not automatically exempt from other federal excise taxes.

Donors may deduct contributions to your organization as provided in section 170 of the Code. Bequests, legacies, devises, transfers, or gifts to your organization or for its use are deductible for federal estate and gift tax purposes if they meet the applicable provisions of sections 2055, 2106, and 2522 of the Code.

Capital Area Literacy Coalition
38-2625057

Your organization is not required to file federal income tax returns unless it is subject to the tax on unrelated business income under section 511 of the Code. If your organization is subject to this tax, it must file an income tax return on the Form 990-T, Exempt Organization Business Income Tax Return. In this letter, we are not determining whether any of your organization's present or proposed activities are unrelated trade or business as defined in section 513 of the Code.

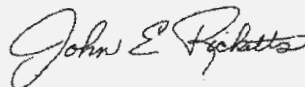
The law requires you to make your organization's annual return available for public inspection without charge for three years after the due date of the return. You are also required to make available for public inspection a copy of your organization's exemption application, any supporting documents and the exemption letter to any individual who requests such documents in person or in writing. You can charge only a reasonable fee for reproduction and actual postage costs for the copied materials. The law does not require you to provide copies of public inspection documents that are widely available, such as by posting them on the Internet (World Wide Web). You may be liable for a penalty of \$20 a day for each day you do not make these documents available for public inspection (up to a maximum of \$10,000 in the case of an annual return).

Because this letter could help resolve any questions about your organization's exempt status and foundation status, you should keep it with the organization's permanent records.

If you have any questions, please call us at the telephone number shown in the heading of this letter.

This letter affirms your organization's exempt status.

Sincerely,



John E. Ricketts, Director, TE/GE
Customer Account Services

Capital Area Literacy Coalition

Bylaws

(Amended March 17, 2016)

ARTICLE ONE - NAME

Section 1.1 – The name of this organization shall be Capital Area Literacy Coalition.

ARTICLE TWO - PURPOSE

Section 2.1 – The Coalition shall be conducted as a private nonprofit organization which is educational and scientific in purpose. It supports and promotes literacy efforts primarily in the capital area. Activities include, but are not limited to, the following:

- a. Coordinate the efforts of literacy programs through student and tutor referrals and information and resource sharing.
- b. Stimulate public awareness of the problems and scope of illiteracy and the activities of the Coalition and other area programs to combat it.
- c. Train volunteer tutors to work directly with students, both as part of existing literacy programs and independently, if appropriate, with the goal of encouraging them to enter a formal program.
- d. No substantial part of the activities of the Coalition shall consist of carrying on propaganda or otherwise attempting to influence legislation, and no part of its activities shall consist of intervening (including the publishing and distributing of statements) in any political campaign on behalf of any candidate for public office.

ARTICLE THREE - POWERS

Section 3.1 – The Coalition shall have the power to conduct workshops and in-services, studies, and educational programs in the furtherance of its purposes.

Section 3.2 – The Coalition shall further have the power to collect and expend funds, to hold and dispose of real and personal property, acquired contracts, donations and contributions from benefactors and deposit any funds collected in interest bearing accounts or certificates as may be necessary to accomplish its purposes.

Section 3.3 – The Coalition shall further have the power to charge fees for publications and programs produced in connection with the stated purpose of the organization to defray the costs of such activities.

ARTICLE FOUR - MEMBERSHIP

Section 4.1 – No person shall be denied membership because of sex, race, color, national origin, religion, political belief, age, disability, marital status, sexual orientation, gender identity or financial consideration.

Section 4.2 – The Coalition shall have two types of members as follows:

- a. Individual members: Any individual who has paid annual dues as established by the Board of Directors.
- b. Institutional members: Any institution or organization which has paid annual dues as established by the Board of Directors. Institutions shall designate one representative and one alternate.

Section 4.3 – Both types of membership entitle the member to one vote at membership meetings. If a member votes with an individual membership, they may not vote with an institutional membership.

Section 4.4 – Privileges of membership include the right to vote at meetings of the membership and other privileges to be determined by the membership.

Section 4.5 – Payment of dues or an approved waiver is required to be a voting member.

Section 4.6 – The membership shall set the dues for each type of membership. The Board of Directors shall periodically review and make recommendations regarding the dues structure.

Section 4.7 – Waiver of dues may be granted by the Board of Directors on a case-by-case basis.

Section 4.8 – The organization's membership year shall be the same as its fiscal year, which is July 1 through June 30. Dues for members who join partway through the membership year will not be prorated.

ARTICLE FIVE – MEETINGS OF MEMBERSHIP

Section 5.1 – An annual membership meeting shall be held during the first quarter of the calendar year. Written notice of the annual meeting will be provided thirty (30) days in advance of the meeting.

Section 5.2 – A quorum shall consist of twenty percent (20%) of the membership or twenty (20) members, whichever is lesser. Except as provided in Section 14.1, a quorum is required at all meetings of the membership to conduct business.

Section 5.3 – The business of the annual membership meeting shall include presentation of an annual report, which includes the previous year’s budget, an account of services provided, and other information related to program activities. Election of the Board of Directors and other business may properly come before the Coalition at the time.

Section 5.4 – Special meetings of the membership may be called by the Chairperson, seven members of the Board of Directors, or twenty percent (20%) of the membership.

ARTICLE SIX – BOARD OF DIRECTORS

Section 6.1 – Each member of the Board of Directors shall be a member in good standing with the Coalition.

Section 6.2 – The property, affairs, and management of the Coalition shall be vested in and controlled by the Board of Directors.

Section 6.3 – The Board shall make every effort to have diverse representation from interested agencies and concerned citizens.

Section 6.4 – The Board of Directors shall consist of not fewer than eleven (11) nor more than twenty (20) directors, including four (4) officers. The Executive Director shall attend board meetings, but not be a board member or exercise a vote.

Section 6.5 – In addition to the directors, the board shall include, when possible, a student and a tutor who shall serve as advisors to the board in an ex-officio capacity.

Section 6.6 – The Board of Directors may designate others to act as nonvoting advisors or consultants to the Board.

Section 6.7 – The Board of Directors will be elected at the annual meeting.

Section 6.8 – Board members will serve two-year terms and may be elected to additional terms.

Section 6.9 – The Board of Directors may dismiss any director who misses more than three consecutive meetings.

Section 6.10 – The Board may fill any vacancies which occurred after the election at the annual meeting and before the next annual meeting.

Section 6.11 – Board of Directors meetings shall be held at least quarterly. Forty percent (40%) of the Board shall constitute a quorum for the transaction of business at any meeting of the board. A member of the Board may participate in any meeting of the Board by means of a conference telephone or similar communications equipment by which all persons participating in the meeting may hear each other so long as all participants are advised of the communications equipment and the names of the participants in the conference are divulged to all participants. Any such participation by a member shall constitute the presence of such member in person at the meeting for all the purposes of these bylaws.

Section 6.12 – Additional meetings may be called by the chairperson or a majority of the Board of Directors. All members of the Board shall be notified of special meetings as soon as is reasonably possible.

ARTICLE SEVEN - OFFICERS

Section 7.1 – Officers of the Board of Directors shall be a Chairperson, a Vice Chairperson, a Secretary, and a Treasurer. These officers shall be elected from and by the Board of Directors at the first board meeting after the annual meeting. All shall serve for one (1) year or until their successors are elected. All officers shall be members of the Board of Directors.

Section 7.2 – Removal. Any officer elected or appointed by the Board of Directors may be removed by the Board of Directors whenever in its judgment, the interests of the Coalition would be best served thereby.

Section 7.3 – Vacancies. A vacancy in any office, whether due to death, resignation, removal, disqualification, or otherwise, may be filled by the Board of Directors for the unexpired portion of the term.

Section 7.4 – Chairperson. The chairperson shall exercise general supervision and control over all activities of the Board of Directors. The chairperson shall make available to the director, or to a director's agent, or to any person or agency authorized by law to inspect them, at all reasonable times and on demand, these bylaws, the certificate of incorporation, the membership list, the minutes of any meeting, and the other records of the coalition.

- a. Shall preside at all meetings of members and of the Board of Directors.
- b. May sign, with the secretary or other officer duly authorized by the Board of Directors, any deeds, mortgages, bonds, contracts, or other instrument of execution of which has been authorized by the Board of Directors, except in cases where the signing and execution of such instruments has been expressly delegated by the Board of Directors by these bylaws, or to some other officer or agent of the Coalition; and
- c. Shall perform all other duties generally incidental to the office of chairperson and such other duties as may be prescribed by the Board of Directors.

Section 7.5 – Vice Chairperson. In the absence of the Chairperson or in the event of the Chairperson’s inability or refusal to act, the Vice Chairperson shall perform the duties of the Chairperson, and when so acting, shall have all the powers of, and be subject to all restrictions upon the Chairperson. Any Vice Chairperson shall perform such additional duties as may from time to time be assigned to him or her by the Chairperson or by the Board of Directors.

Section 7.6 – Treasurer. If so required by the Board of Directors, the Treasurer shall:

- a. Have charge and custody of, and be responsible for, all funds and securities of the Coalition.
- b. Perform all duties generally incidental to the office of Treasurer and such other duties as may from time to time be assigned to the Treasurer by the Chairperson or by the Board of Directors.

Section 7.7 – Secretary. The Secretary shall:

- a. Keep the minutes of meetings of members and of the Board of Directors, in one or more books provided for that purpose.
- b. See that all notices are duly given in accordance with these bylaws or as required by law.
- c. Be custodian of the Coalition records.
- d. Keep a membership list containing the names and addresses of all members and directors of the Coalition, and with respect to any membership that has been terminated, record that fact together with the date of termination.
- e. Exhibit to any director of the Coalition, or to a director’s agent, or to any person or agency authorized by law to inspect them, at all reasonable times and on demand, these bylaws, the certificate of incorporation, the membership list, the minutes of any meeting, and the other records of the Coalition.

ARTICLE EIGHT – BOARD COMMITTEES

Section 8.1 – There shall be an Executive Committee, a Nominating Committee, and such other standing committees as may be established by the Board of Directors.

Section 8.2 – Executive Committee: The Executive Committee shall consist of the Board officers and the Executive Director as an ex-officio member. The Executive Committee shall have all the powers of the Board of Directors during intervals between Board meetings. Three members of the Executive Committee shall constitute a quorum. Executive Committee members' actions will be presented for review and discussion at the next Board of Directors’ meeting.

Section 8.3 – Nominating Committee: The Board of Directors shall appoint a Nominating Committee to present nominations for the Board of Directors at the annual meeting. Any member of the Coalition at any annual meeting may, with the consent of the nominee, nominate candidates for the Board of Directors.

ARTICLE NINE – PAID STAFF

Section 9.1 – The Board of Directors will appoint the Executive Director of the Coalition, fix compensation, and prescribe duties and terms of employment.

Section 9.2 – The Board of Directors shall provide an annual evaluation of the Executive Director.

Section 9.3 – The establishment of additional paid staff positions, job descriptions, and rate of compensation shall be the responsibility of the Board of Directors. This responsibility may be delegated to the Executive Director by the Board of Directors. In either case, the Executive Director will select individuals to fill these positions.

Section 9.4 – The Executive Director shall administer the policies as determined by the Board of Directors.

Section 9.5 – The Executive Director shall be an ex-officio member of all committees of the Board.

ARTICLE TEN – PARLIAMENTARY AUTHORITY

Section 10.1 – All meetings of the Coalition, Board of Directors, or any committee, shall be governed by Robert’s Rules of Order, latest edition, except as provided by these bylaws.

Section 10.2 – The Chairperson may appoint a parliamentarian.

ARTICLE ELEVEN – DISSOLUTION

Section 11.1 – Upon dissolution of the Coalition, the Board of Directors shall after paying or making provision for payment of all the liabilities of the Coalition, distribute all assets of the Coalition exclusively for the purposes of the Coalition in such manner or to such organization or organizations established exclusively for educational purposes as shall at the time qualify as an organization or organizations described in Section 501 (c) 3 of the internal Revenue Code of 1986, as amended.

ARTICLE TWELVE – SEAL

Sectional 12.1 – If the Coalition becomes incorporated, the seal of the Coalition shall be the incorporation date surrounded by a circular impression consisting of the name of the Coalition.

ARTICLE THIRTEEN – AMENDMENTS

Section 13.1 – These bylaws may be amended at any special or annual membership meeting by a two-thirds vote of those present, provided that written notice of such proposed changes shall be provided to members at least 30 days prior to the meeting.

ARTICLE FOURTEEN – EFFECTIVE DATE

Section 14.1 – These bylaws shall become effective immediately upon adoption by a two-thirds vote of the members of the Coalition present and voting at a regular meeting of the membership.



Lansing, Michigan

This is to Certify That Articles of Incorporation of

LITERACY VOLUNTEERS OF AMERICA - CAPITAL AREA LITERACY COALITION

were duly filed in this office on the 10TH day of DECEMBER, 19 86,
in conformity with Act 162, Public Acts of 1982.

In testimony whereof, I have hereunto set my
hand and affixed the Seal of the Department,
in the City of Lansing, this 10TH day
of DECEMBER, 19 86.

Director

Resolution #2026-###

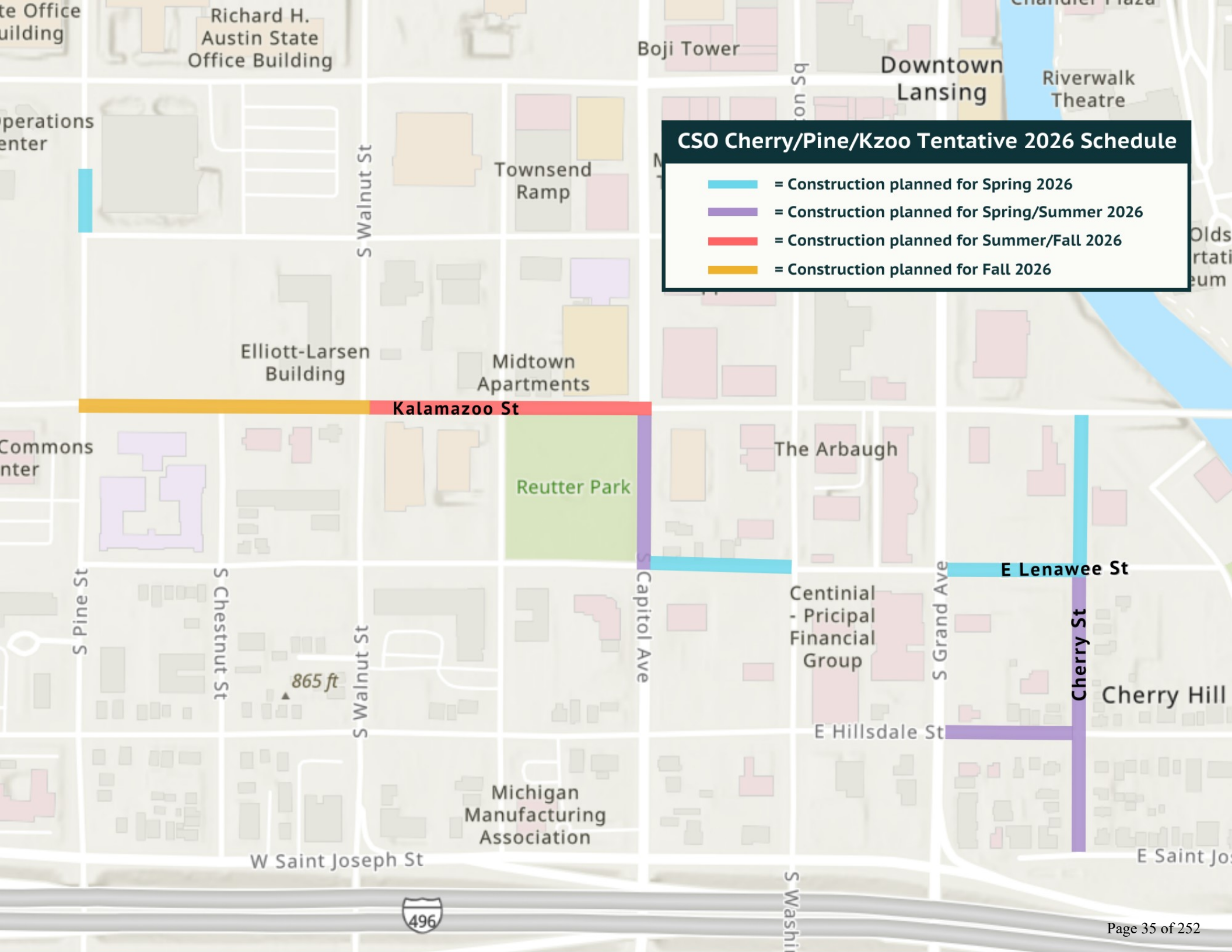
By the Committee on City Operations
Resolved by the City Council of the City of Lansing

WHEREAS, Capital Area Literacy Coalition has requested a resolution of recognition as a Local Nonprofit Organization operating in the City of Lansing for the purpose of obtaining a charitable gaming license pursuant to MCL 432.103a ; and

WHEREAS, the City Attorney has reported that, based on a review of the documentation submitted, the applicant qualifies as a Local Nonprofit Organization.

NOW, THEREFORE, BE IT RESOLVED that the Lansing City Council, hereby, recognizes Capital Area Literacy Coalition as a Local Nonprofit Organization operating in the City of Lansing for the purpose of obtaining a charitable gaming license.

BE IT FURTHER RESOLVED the City Clerk is requested to provide a copy of this resolution to the Capital Area Literacy Coalition of 1028 E. Saginaw St.



CSO Cherry/Pine/Kzoo Tentative 2026 Schedule

- = Construction planned for Spring 2026
- = Construction planned for Spring/Summer 2026
- = Construction planned for Summer/Fall 2026
- = Construction planned for Fall 2026

Resolution #2026-###

By the Committee on City Operations
Resolved by the City Council of the City of Lansing

WHEREAS, the City of Lansing Department of Public Service and the Lansing Board of Water & Light are partnering to construct the utility and infrastructure improvements associated with the Combined Sewer Overflow (CSO) Cherry/Pine/Kalamazoo Project, a project area generally bounded by Kalamazoo Street on the northside, S Pine Street on the westside, St. Joseph Street on the southside, and Cherry Street on the eastside, including the contractor's staging yards at the northwest corner of W. Kalamazoo Street and S Butler Blvd and at the north part of Cherry Hill Park near the intersection of E Lenawee Street and River Street; and

WHEREAS, the large amount of construction required for this project will encompass all of the 2026 construction season; and

WHEREAS, this project includes a significant amount of utility work and other improvements on the local neighborhood streets within the project area and on major streets, W. Kalamazoo Street, S. Capitol Avenue and S. Pine Street; and

WHEREAS, for the period of April 4, 2026, through November 28, 2026 the construction contractor, Hoffman Bros. Inc., has requested a waiver of the noise ordinance on Saturdays from 8:00 AM to 4:30 PM; and

WHEREAS, the City of Lansing Public Service Department recommends that the contractor be granted the requested noise waiver in order to:

- ensure that work near the new City Hall at Cherry Street and E. Lenawee Street is completed prior to the anticipated opening date;
- reduce the amount of time local access for property owners is impacted;
- allow the contractor to have the ability to work some Saturdays when necessary for completion of important work activities; and
- keep the project on-schedule based on rain days.

NOW THEREFORE BE IT RESOLVED that a public hearing be held on Monday, March 9, 2026, at 7:00 PM in the City of Lansing Council Chambers, 124 W. Michigan Ave., in consideration of the request for granting a waiver of the noise ordinance to Hoffman Bros. Inc., while the company is conducting work as part of the CSO Cherry/Pine/Kalamazoo Project on Saturdays from 8:00 AM to 4:30 PM for the period of April 4, 2026, through November 28, 2026.

ENGINEERS REPORT #25-27

PARKING REGULATION SURVEY: JOSEPHINE WAY

The City received a request from businesses along Josephine Way to change parking regulations along the street to better align with the needs of these businesses. The request was to change the time limit (currently two hours) and prohibit parking overnight to assist with maintenance operations.

Josephine Way is a one block local street between Dori Lane to Cascade Boulevard that provides access the Hyatt House and AC Hotels and associated businesses. The street provides angled parking and varies from approximately 40 feet wide (parking on one side) to 58 feet wide (parking on both sides). Parking is currently limited to two hours between 8 AM and 8 PM.

Under an agreement with the City of Lansing, the property owners in the Red Cedar development area provide all maintenance of the public streets in this area. The agreement was made because the commercial properties wanted to provide a higher level of maintenance, especially winter maintenance, than the City provides for local streets. The request for the overnight parking prohibition was made so maintenance activities could be performed overnight to make sure the parking spaces were available during the day.

Based on the parking change request, the Public Service Department sent a parking survey to property owners along Josephine Way with the following options:

Option 1: No Change to existing parking restrictions (keep two-hour restriction).

Option 2: Change time limit to 90 minutes or 3 hours and/or restrict overnight parking 12-6 AM

All properties were in favor of changing the existing two-hour time limit to three hours and prohibiting parking overnight from 12 midnight to 6 AM.

Based on the survey results and the maintenance agreement between the City and property owners, the Public Service Department recommends that the existing time limit be changed from 2 hours to 3 hours and parking be prohibited overnight between 12 midnight and 6 AM to facilitate street maintenance activities.

ENGINEERS REPORT #25-27

PARKING REGULATION SURVEY: JOSEPHINE WAY



**CITY OF LANSING
TRAFFIC CONTROL ORDER**

ORDER NUMBER: 25-26

FILE: Josephine Way

In accordance with the Michigan Uniform Traffic Code R 28.1126 Rule 126, an investigation of the traffic conditions along Josephine Way has been made; and as a result of said investigation, it is hereby directed that:

No vehicle shall remain parked for a period exceeding three (3) hours except between the hours of 12:00 AM (midnight) and 6:00 AM when parking shall be prohibited.

<u>Name of Street</u>	<u>Side Restricted</u>	<u>From</u>	<u>To</u>
Josephine Way	Both	Dori Lane	Cascade Boulevard

Any conflicting traffic regulations on the following Traffic Control Order(s) is/are hereby rescinded: 23-07

APPROVED BY THE CITY COUNCIL OF THE CITY OF LANSING ON:

ISSUED BY:

DATE:

Mitchell J. Whisler
Assistant City Engineer

RECEIVED FOR FILING:

SIGNED BY:

Date

Chris Swope
City Clerk

DATE OF FILING WITH CITY CLERK: _____

Resolution #2026-###

By the Committee on City Operations
Resolved by the City Council of the City of Lansing

WHEREAS, the City received a request from businesses along Josephine Way to change parking regulations along the street to better align with the needs of these businesses. The request was to change the time limit (currently two hours) and prohibit parking overnight to assist with maintenance operations; and

WHEREAS, the Public Service Department conducted a field investigation of this area; and

WHEREAS, Josephine Way is a one block local street between Dori Lane to Cascade Boulevard that provides access to the Hyatt House and AC Hotels and associated businesses. The street provides angled parking and varies from approximately 40 feet wide (parking on one side) to 58 feet wide (parking on both sides). Parking is currently limited to two hours between 8 AM and 8 PM; and

WHEREAS, under an agreement with the City of Lansing, the property owners in the Red Cedar development area provide all maintenance of the public streets in this area. The agreement was made because the commercial properties wanted to provide a higher level of maintenance, especially winter maintenance, than the City provides for local streets. The request for the overnight parking prohibition was made so maintenance activities could be performed overnight to make sure the parking spaces were available during the day; and

WHEREAS, based on the parking change request, the Public Service Department sent a parking survey to property owners along Josephine Way. All properties were in favor of changing the existing two-hour time limit to three hours and prohibiting parking overnight from 12 midnight to 6 AM; and

WHEREAS, based on the survey results and the maintenance agreement between the City and property owners, the Public Service Department recommends that the existing time limit be changed from 2 hours to 3 hours and parking be prohibited overnight between 12 midnight and 6 AM to facilitate street maintenance activities; and

WHEREAS, the Public Service Board, concurs with the recommendation of the Public Service Department; and

WHEREAS, the minutes containing the Public Service Board's recommendation on this matter are on file with the City Clerk's office; and

WHEREAS, the Committee on City Operations met on February 12, 2026, and reviewed the report and concurs with the recommendation of the Public Service Board.

NOW, THEREFORE, BE IT RESOLVED, that the Lansing City Council approves Traffic Control Order No. 25-26, thereby authorizing the Assistant City Engineer to regulate parking along Josephine Way.

BE IT FINALLY RESOLVED that Traffic Control Order No. 25-26 shall become effective when signed by the Assistant City Engineer and filed with the City Clerk and the appropriate signs are installed.

Act-1-2026, 3119 Stoneleigh Drive, Use of Right of Way - STAFF REPORT

An Act 33 Review is a planning level review of the **location, character, and extent** of public improvements and City property transactions. Act 33 Reviews are conducted by the City of Lansing pursuant to the provisions of the Michigan Planning Enabling Act (P.A. 33 of 2008) and Section 208 of the Lansing Code of Ordinances.

APPLICANT	Spalding DeDecker, on behalf of Lansing School District
PROPOSAL:	Use of right-of-way for a bus lane on Stoneleigh Dr.
PARCEL(S):	3119 Stoneleigh Dr. - PID # 33-01-01-26-452-013
CURRENT OWNER(S):	Lansing School District 519 W. Kalamazoo St. Lansing, MI 48933-2500
EXISTING LAND USE & ZONING:	Use: Forest View Elementary School Zoning: R-AR Residential Adaptive Reuse
PROPERTY SIZE AND SHAPE:	10 acres, square
SURROUNDING ZONING & LAND USE	North: R-1, residential South: R-1, residential West: R-1, residential East: R-1, residential

ANALYSIS

BACKGROUND:

Spalding DeDecker, on behalf of the Lansing School District, is requesting use of the Stoneleigh Drive right-of-way for placement of a 282 feet-long, 10 feet-wide bus lane. Part of the proposal includes relocating the public sidewalk onto the school property which will require an easement agreement between the City and the school.

The school is proposing the on-street bus lane to help their on-site circulation and to provide additional space for buses.

LOCATION:

Forest View Elementary is tucked within a quiet single-family neighborhood near Forest Rd. and Aurelius Rd. Stoneleigh Dr. is two-way local street that permits on-street parking during non-school hours. It is serviced by the #7 CATA bus route.

See Aerial.

CHARACTER:

The license and easement area will run alongside the public right-of-way that is currently street, grass, and public sidewalk. The bus lane will be at street grade.

EXTENT:

The bus lane will extend 282 feet along the east of Stoneleigh Drive. The proposed width is 10 feet.

The public sidewalk will be approximately 3.5' on the school property running the same 282'. The entire easement area will be approximately 4,071 square feet of land.

AGENCY REFERRALS

Lansing Board of Water and Light (BWL)

- No comment received.

Public Service Department:

[Dan Danke, Engineer]

- A sidewalk easement will be required for the public sidewalk shifted out of the public ROW. A plan will be required.
- A license agreement should be required for the use of the public ROW for a bus lane.
- The stormwater plan has been reviewed and approved.
- The pavement cross-section is appropriate for a bus lane.
- Six inches of concrete sidewalk is an appropriate thickness for winter maintenance of sidewalk.
- Maintenance of the bus lane should be the responsibility of the Lansing School District. This should include winter maintenance.

[Mitch Whisler, Transportation Engineer]

- The proposed concept is acceptable to Transportation as long as the ADA ramps meet the school Districts needs without requiring the school bus to park within the travel lane. Lansing school district will be responsible for maintenance of the HMA. ramps and curb required for the bus drop off lane

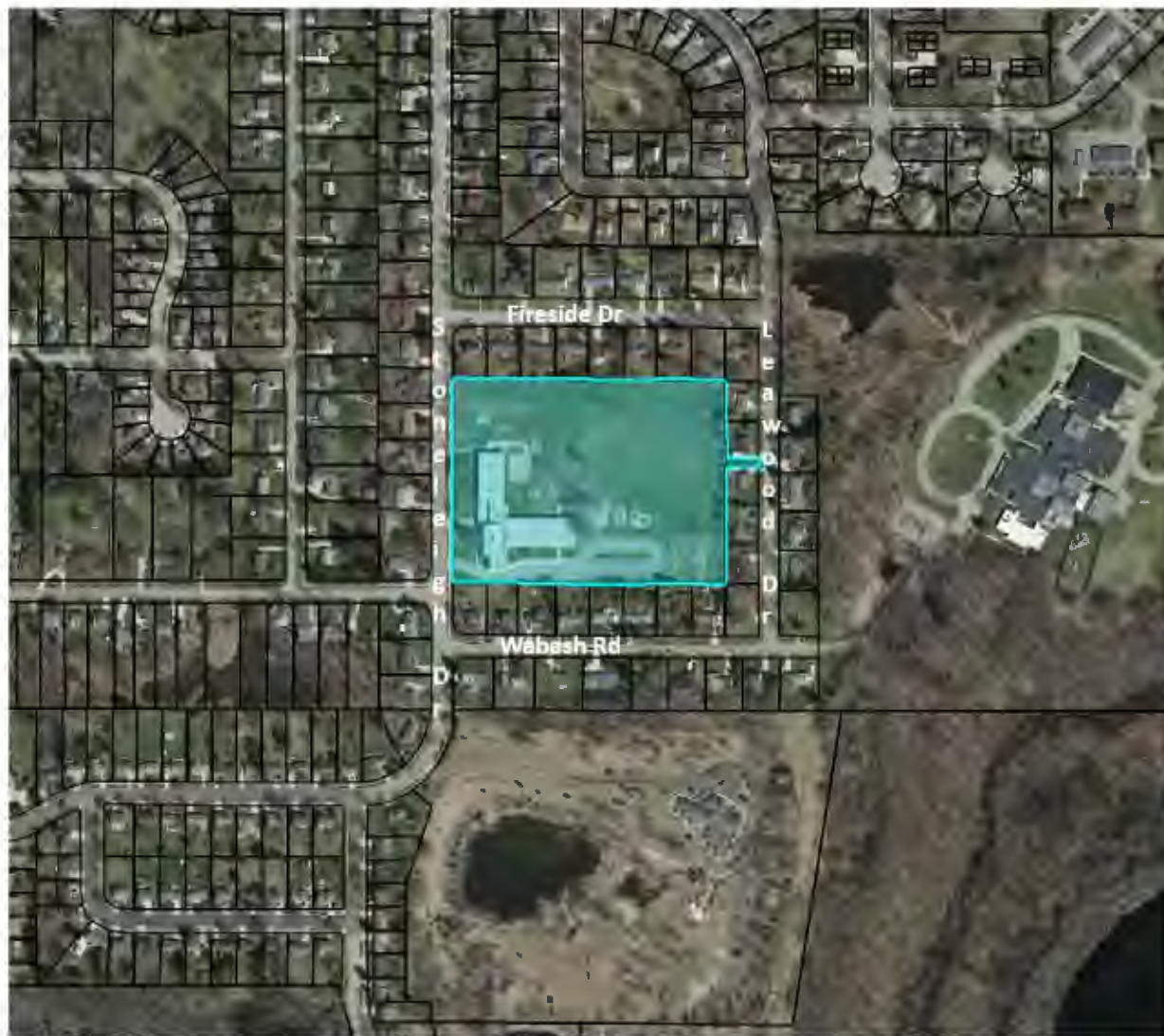
STAFF RECOMMENDATION

Staff recommends approval of Act-1-2026 as proposed, subject to all design and layout requirements of the Public Service Department in the subsequent license and easement agreements.

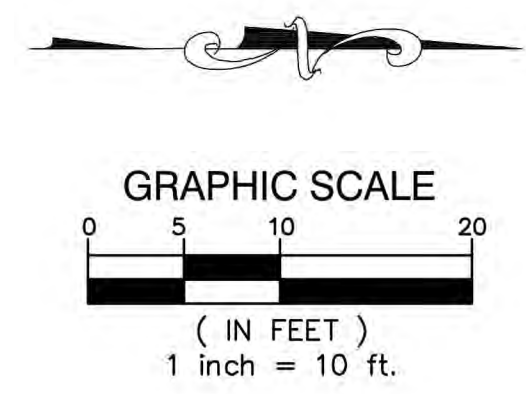
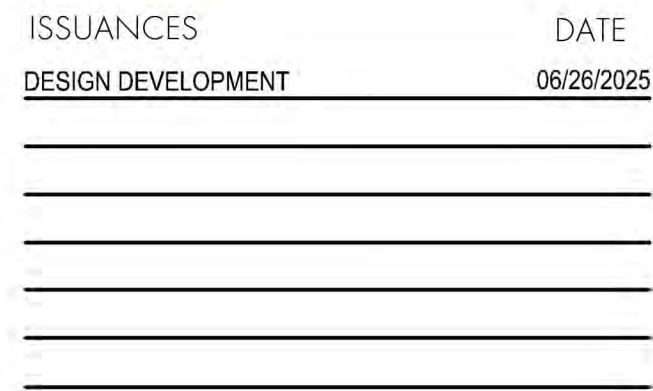
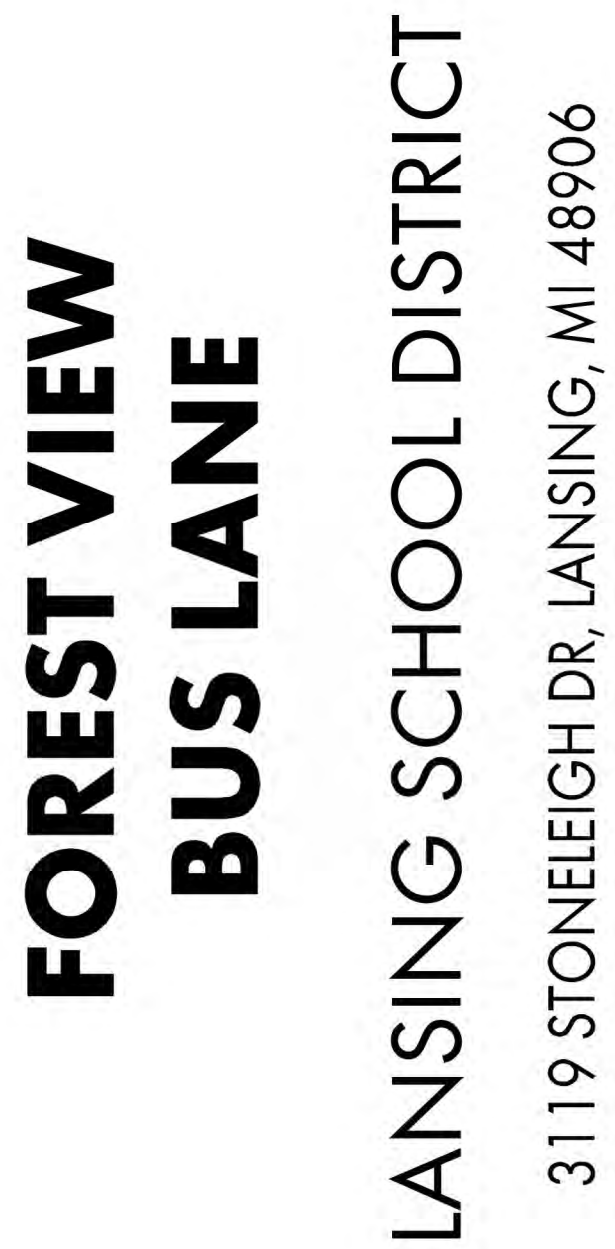
Respectfully submitted,

Andy Fedewa, Planner

Aerial:







LEGEND

----- PROPOSED WATERMAIN ----- PROPOSED SANITARY ----- PROPOSED STORM SEWER ----- PROPOSED GAS MAIN ----- PROPOSED ELECTRIC ● PROPOSED HYDRANT ○ PROPOSED GATE ○ PROPOSED TAPPING SLEEVE ○ VALVE & WELL (CW) ○ VALVE & WELL (BRT) STANDARD BITUMINOUS PAVEMENT HEAVY-DUTY BITUMINOUS PAVEMENT SEMI-STRENGTH BITUMINOUS PAVEMENT CONCRETE PAVEMENT CONCRETE SIDEWALK MILL PAVEMENT	● PROPOSED SAN MANHOLE (SAN) ○ PROPOSED STORM MANHOLE (SM) ■ PROPOSED CATCH BASIN (CB) ○ PROPOSED INLET (NI) — PROPOSED END SECTION (ES) ⊕ PROPOSED FIELD CATCH BASIN (FSB) W/WEEDING COVER OR STANDPIPE (SP) W/ BALL GATE COVER ② — UTILITY CROSSING (SEE DATA TABLE) 69 STRUCT. TYPE 2 20 STRUCT. NO. 20 10 XXX STRUCT. NO. STRUCT. TYPE STORM SEWER STRUCTURE SANITARY SEWER STRUCTURE
---	--

LEGAL DESCRIPTION

PART OF THE SOUTH 1/2 OF SECTION 26, TOWN 4 NORTH, RANGE 2 WEST, CITY OF LANSING, INGHAM COUNTY, MICHIGAN, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHWEST CORNER OF LOT 44, LEAWOOD SUBDIVISION, ACCORDING TO THE PLAT THEREOF AS RECORDED IN LIBER 21 OF PLATS, PAGE 30; THENCE NORTH 00 DEGREES 16 MINUTES 30 SECONDS WEST 568.4 FEET; THENCE WEST 766.75 FEET; THENCE SOUTH 00 DEGREES 16 MINUTES 30 SECONDS EAST 568.4 FEET; THENCE EAST 766.75 FEET TO THE BEGINNING.

USE OF RIGHT-OF-WAY DESCRIPTION

PART OF THE SOUTH 1/2 OF SECTION 26, TOWN 4 NORTH, RANGE 2 WEST, CITY OF LANSING, INGHAM COUNTY, MICHIGAN, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

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EXHIBIT 'A'

ACT 33 EASEMENT

LEGAL DESCRIPTION

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SPALDING DeDECKER
Engineers | Surveyors

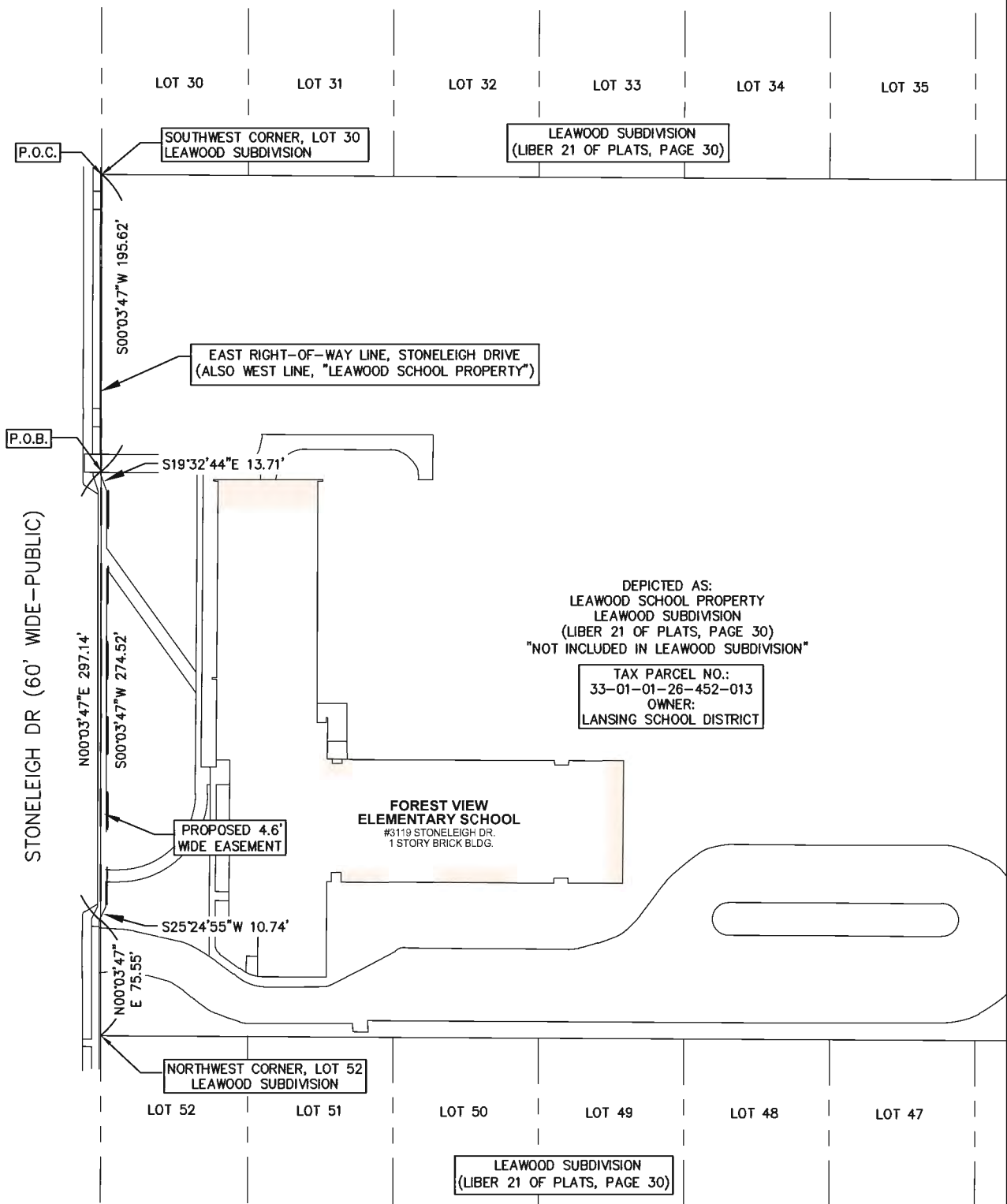
525 OTTAWA AVE NW
GRAND RAPIDS, MI 49503

Phone: (616) 885-5802
Fax: (248) 844-5404

www.sda-eng.com

DRAWN: N.BARTON	DATE: 02/03/26
CHECKED: D.LANSKY	DATE: 02/03/26
MANAGER: D.LANSKY	SCALE: N/A
JOB No. NP24142	SHEET: 1 OF 3
SECTION 26 TOWN 04 NORTH RANGE 02 WEST	
CITY OF LANSING	INGHAM COUNTY, MI

EXHIBIT 'A'
ACT 33 EASEMENT



SPALDING DeDECKER
Engineers | Surveyors

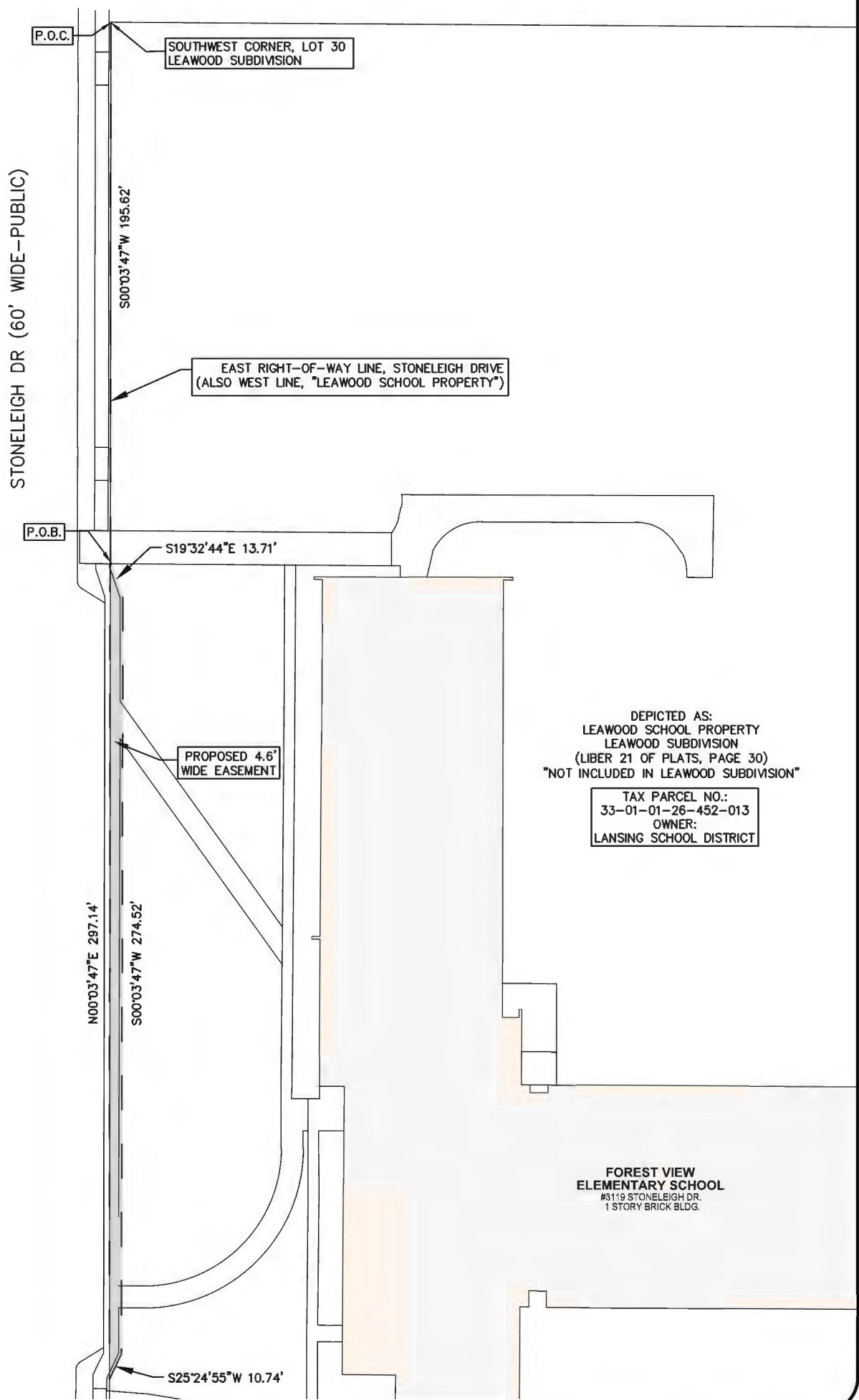
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DRAWN: N.BARTON	DATE: 02/03/26
CHECKED: D.LANSKY	DATE: 02/03/26
MANAGER: D.LANSKY	SCALE: 1"=100'
JOB No. NP24142	SHEET: 2 OF 3
SECTION 26 TOWN 04 NORTH RANGE 02 WEST	
CITY OF LANSING INGHAM COUNTY, MI	

EXHIBIT 'A'
ACT 33 EASEMENT
"DETAIL"



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DRAWN: N.BARTON	DATE: 02/03/26
CHECKED: D.LANSKY	DATE: 02/03/26
MANAGER: D.LANSKY	SCALE: 1"=50'
JOB No. NP24142	SHEET: 3 OF 3
SECTION 26 TOWN 04 NORTH RANGE 02 WEST	
CITY OF LANSING INGHAM COUNTY, MI	

Resolution #2026-###

By the Committee on Development and Planning
Resolved by the City Council of the City of Lansing

Act-1-2026, 3119 Stoneleigh Drive, Use of Right of Way

WHEREAS, Spalding DeDecker, on behalf of the Lansing School District, has requested to license the use of the public street right-of-way along the east side of the 3100 block of Stoneleigh Drive for a bus lane to help the school's on-site circulation and to provide additional space for buses; and

WHEREAS, the use of right of way will extend approximately 10 feet wide by 282 feet long; and

WHEREAS, the proposed bus lane is not expected to negatively impact the circulation network or city operations; and

WHEREAS, the Lansing School District will provide an easement to the City of Lansing for the public sidewalk to be relocated onto the property at 3119 Stoneleigh Drive; and

WHEREAS, on January 6, 2026, the Planning Commission reviewed the location, character, and extent of the proposal for the use of the right of way in accordance with its Act 33 review procedures and voted unanimously (7-0) to recommend approval of Act-1-2026, as proposed; and

WHEREAS, the Committee on Development and Planning met on February 16, 2026, and has reviewed the report and recommendation of the Planning Commission and concurs therewith.

NOW THEREFORE BE IT RESOLVED, the Lansing City Council hereby approves the request to license the use of the public right of way along 3119 Stoneleigh Drive to the Lansing School District, legally described as:

PART OF THE SOUTH 1/2 OF SECTION 26, TOWN 4 NORTH, RANGE 2 WEST, CITY OF LANSING, INGHAM COUNTY, MICHIGAN, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

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SECONDS EAST 289.84 FEET PARALLEL WITH THE EAST RIGHT-OF-WAY LINE OF STONELEIGH DRIVE; THENCE SOUTH 57 DEGREES 58 MINUTES 11 SECONDS EAST 17.09 FEET TO THE EAST RIGHT-OF-WAY LINE OF STONELEIGH DRIVE (ALSO BEING THE WEST LINE OF "LEAWOOD SCHOOL PROPERTY" AS DEPICTED ON LEAWOOD SUBDIVISION) AND THE POINT OF BEGINNING. CONTAINING 4071 SQUARE FEET OF LAND, MORE OR LESS.

With the following conditions:

1. The Lansing School District shall be responsible for all maintenance of the bus lane, including winter maintenance, for the length of the license agreement.

BE IT FURTHER RESOLVED, the Lansing City Council hereby approves the request to obtain an easement area from the Lansing School District legally described as:

PART OF THE SOUTH 1/2 OF SECTION 26, TOWN 4 NORTH RANGE 2 WEST CITY OF LANSING INGHAM COUNTY, MICHIGAN, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

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BE IT FINALLY RESOLVED that the Mayor and his Administration, on behalf of the City, is hereby authorized to sign and execute all documents necessary to complete this transaction, subject to the prior approval as to content and form by the City Attorney.

Act-2-2026, 2000 Lewton Place, Use of Right of Way - STAFF REPORT

An Act 33 Review is a planning level review of the **location, character, and extent** of public improvements and City property transactions. Act 33 Reviews are conducted by the City of Lansing pursuant to the provisions of the Michigan Planning Enabling Act (P.A. 33 of 2008) and Section 208 of the Lansing Code of Ordinances.

APPLICANT	Spalding DeDecker, on behalf of Lansing School District
PROPOSAL:	Use of right-of-way for a bus lane on Lewton Pl.
PARCEL(S):	2000 Lewton Place - PID # 33-01-01-30-201-001
CURRENT OWNER(S):	Lansing School District 519 W. Kalamazoo St. Lansing, MI 48933-2500
EXISTING LAND USE & ZONING:	Use: Lewton Elementary School Zoning: R-AR Residential Adaptive Reuse
PROPERTY SIZE AND SHAPE:	6.6 acres, square
SURROUNDING ZONING & LAND USE	North: R-1, residential South: R-1, residential West: MFR, multi-family residential, senior living East: R-1, residential

ANALYSIS

BACKGROUND:

Spalding DeDecker, on behalf of the Lansing School District, is requesting use of the Lewton Place right-of-way for placement of a 250 feet-long, 11 feet-wide bus lane. Part of the proposal includes relocating the public sidewalk onto the school property which will require an easement agreement between the City and the school.

The school is proposing the on-street bus lane to help their on-site circulation and to provide additional space for buses. The school site is currently undergoing site plan review of a new school building, expected for 2028.

LOCATION:

Lewton Elementary is along W Mt. Hope Rd. at the far west-central area of the City, near the Grand River and the Lansing Country club. Lewton Park is immediately to the south. Lewton Pl. is a short, two-way street adjacent to a single-family neighborhood. It is serviced by the #11 CATA bus route.

See Aerial.

CHARACTER:

The license and easement area will run alongside the public right-of-way that is currently street, grass, and public sidewalk.

EXTENT:

The bus lane will extend 250 feet along the west of the middle portion of Lewton Place. The proposed width is 11 feet. The easement area is approximately 4,065 square feet.

The public sidewalk will be approximately 4.5' on the school property running the same 250'.

AGENCY REFERRALS

Lansing Board of Water and Light (BWL)

- No comment received.

Public Service Department:

[Dan Danke, Engineer]

- A sidewalk easement will be required for the public sidewalk shifted out of the public ROW. A plan will be required.
- A license agreement should be required for the use of the public ROW for a bus lane.
- The stormwater plan has been reviewed and approved.
- The pavement cross-section is appropriate for a bus lane.
- Six inches of concrete sidewalk is an appropriate thickness for winter maintenance of sidewalk.
- Maintenance of the bus lane should be the responsibility of the Lansing School District. This should include winter maintenance.

[Mitch Whisler, Transportation Engineer]

- The closure of the ramps at Belaire Dr crossing Lewton Pl should be shown on this plan as it is required for the installation of the bus lane. Recommend 13 feet bus drop off to meet ADA requirements.

STAFF RECOMMENDATION

Staff recommends approval of Act-2-2026 as proposed, subject to all design and layout requirements of the Public Service Department in the subsequent license and easement agreements.

Respectfully submitted,

Andy Fedewa, Planner

Aerial:





KALAMAZOO | CHELSEA | GRAND RAPIDS | ROYAL OAK

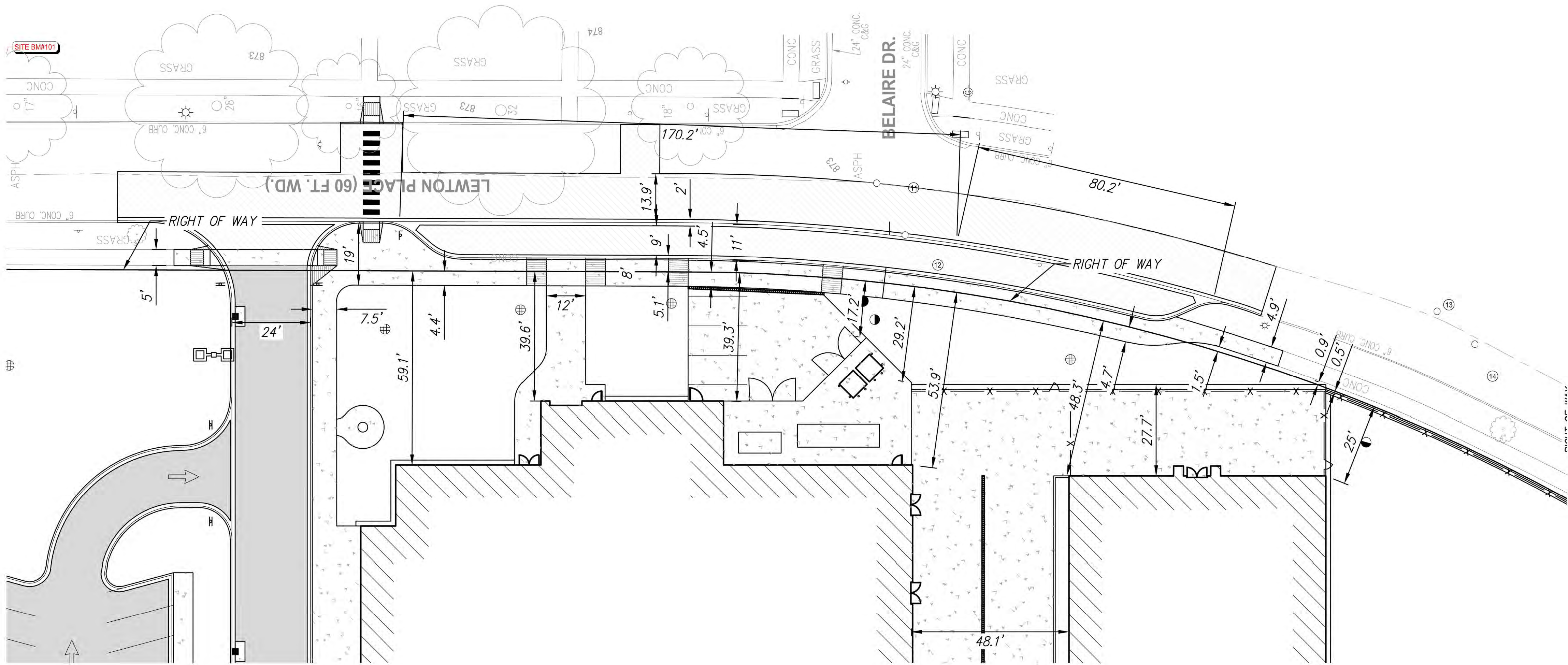
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(800) 598-1600

Lewton School
Lansing School District
2000 Lewton Pl.
Lansing, MI 48915



REVISIONS/REVIEW	DATE
BID & CONSTRUCTION	10/10/2025
ADDENDUM 04	11/13/2025

KEY PLAN



THIS ACT 33 EXHIBIT SHOWS A 250 FT LONG BUS PARKING LANE AND PUBLIC SIDEWALK EXTENDING INTO THE PROPERTY OWNED BY LANSING SCHOOL DISTRICT. AT THE NORTH END AND SOUTH END, THE PUBLIC SIDEWALK EXTENDS INTO THE PRIVATE PROPERTY 4.4 FT AND 4.7 FT RESPECTIVELY.

LEGEND

--- PROPOSED WATERMAIN	● PROPOSED SAN MANHOLE (SAN)
--- PROPOSED SANITARY	● PROPOSED STORM MANHOLE (SM)
--- PROPOSED STORM SEWER	■ PROPOSED CATCH BASIN (CB)
--- PROPOSED GAS MAIN	□ PROPOSED INLET (INL)
--- PROPOSED ELECTRIC	--- PROPOSED END SECTION (ES)
● PROPOSED HYDRANT	③ PROPOSED FIELD CATCH BASIN (FCB) W/BEDWICK COVER OR STANDPIPE (SP) W/ BAR GRADE COVER
⊗ PROPOSED DATE VALVE & WELL (GVW)	② UTILITY CROSSING (SEE DATA TABLE)
⊗ PROPOSED TAPPING SLEEVE, VALVE & WELL (TSW)	② STORM SUMP STRUCTURE
	② SANITARY SEWER STRUCTURE
	② WATERMAIN STRUCTURE

STANDARD BITUMINOUS PAVEMENT	STORM SUMP STRUCTURE
HEAVY-DUTY BITUMINOUS PAVEMENT	SANITARY SEWER STRUCTURE
DEEP-STRENGTH BITUMINOUS PAVEMENT	WATERMAIN STRUCTURE
CONCRETE PAVEMENT	
CONCRETE SIDEWALK	
MILL PAVEMENT	

LSD NO. **S8-0064**
JOB NO. **2616.01G**
SHEET TITLE
ACT 33 EXHIBIT
SHEET NO.

LEGEND

STANDARD BITUMINOUS PAVEMENT	STORM SUMP STRUCTURE
HEAVY-DUTY BITUMINOUS PAVEMENT	SANITARY SEWER STRUCTURE
DEEP-STRENGTH BITUMINOUS PAVEMENT	WATERMAIN STRUCTURE
CONCRETE PAVEMENT	
CONCRETE SIDEWALK	
MILL PAVEMENT	

© KINGSCOTT ASSOCIATES, INC. KALAMAZOO, MICHIGAN

LEGAL DESCRIPTION

OUTLOT "A", EXCEPT COMMENCING 554 FEET SOUTH OF THE NORTHWEST CORNER OF OUTLOT "A"; THENCE EAST PARALLEL TO THE NORTH LINE OF OUTLOT "A" TO THE WESTERLY LINE OF LEWTON PLACE; THENCE SOUTHWESTERLY ON THE WESTERLY AND NORTHERLY LINE OF LEWTON PLACE TO THE SOUTHWEST CORNER OF OUTLOT "A"; THENCE NORTH TO BEGINNING. ETON DOWNS SUBDIVISION.

USE OF RIGHT-OF-WAY DESCRIPTION

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EXHIBIT 'A'

ACT 33 EASEMENT

LEGAL DESCRIPTION

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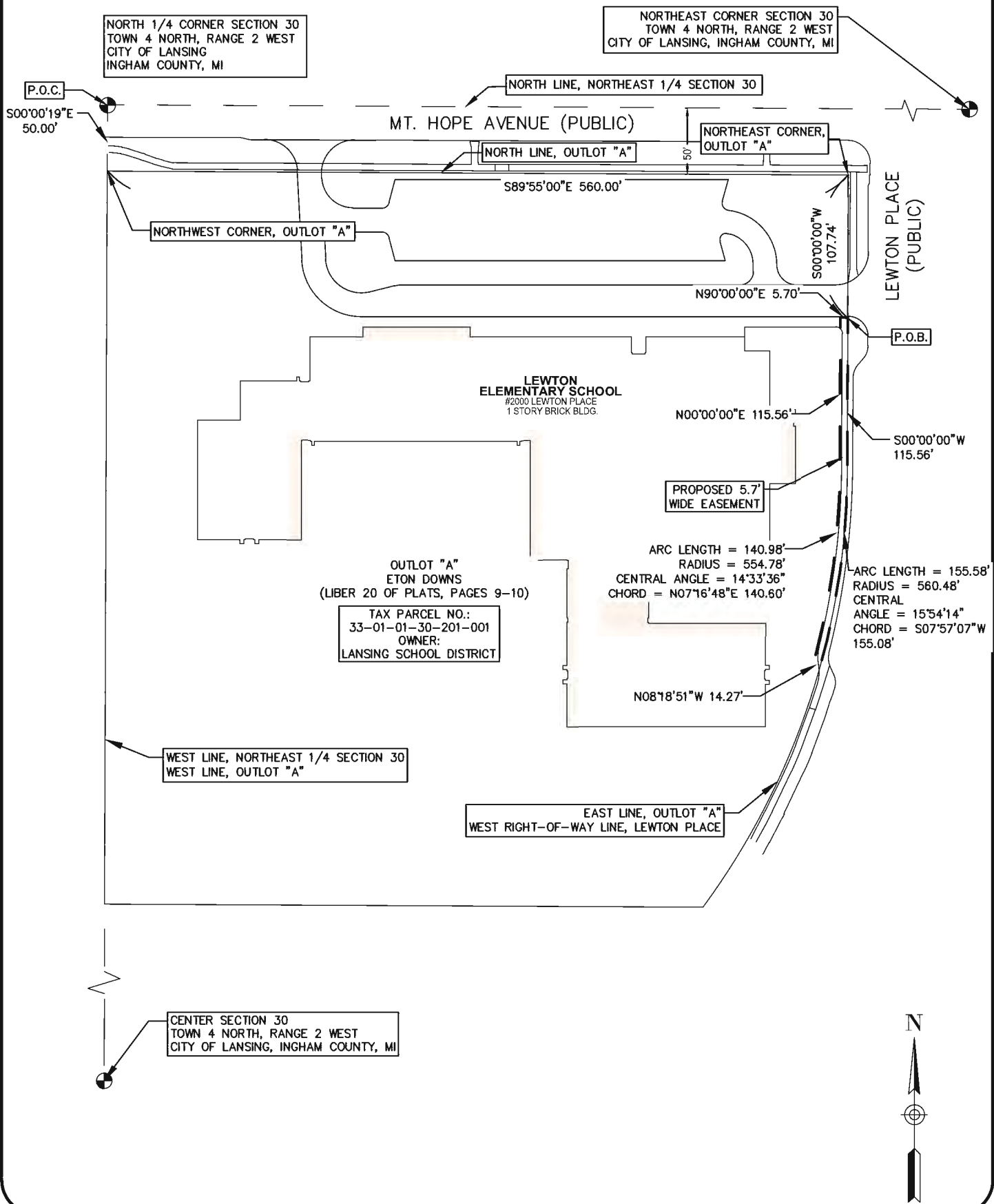


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DRAWN: N.BARTON	DATE: 02/03/26
CHECKED: D.LANSKY	DATE: 02/03/26
MANAGER: D.LANSKY	SCALE: N/A
JOB No. NP23019	SHEET: 1 OF 3
SECTION 30 TOWN 04 NORTH RANGE 02 WEST	
CITY OF LANSING	INGHAM COUNTY, MI

EXHIBIT 'A'
ACT 33 EASEMENT



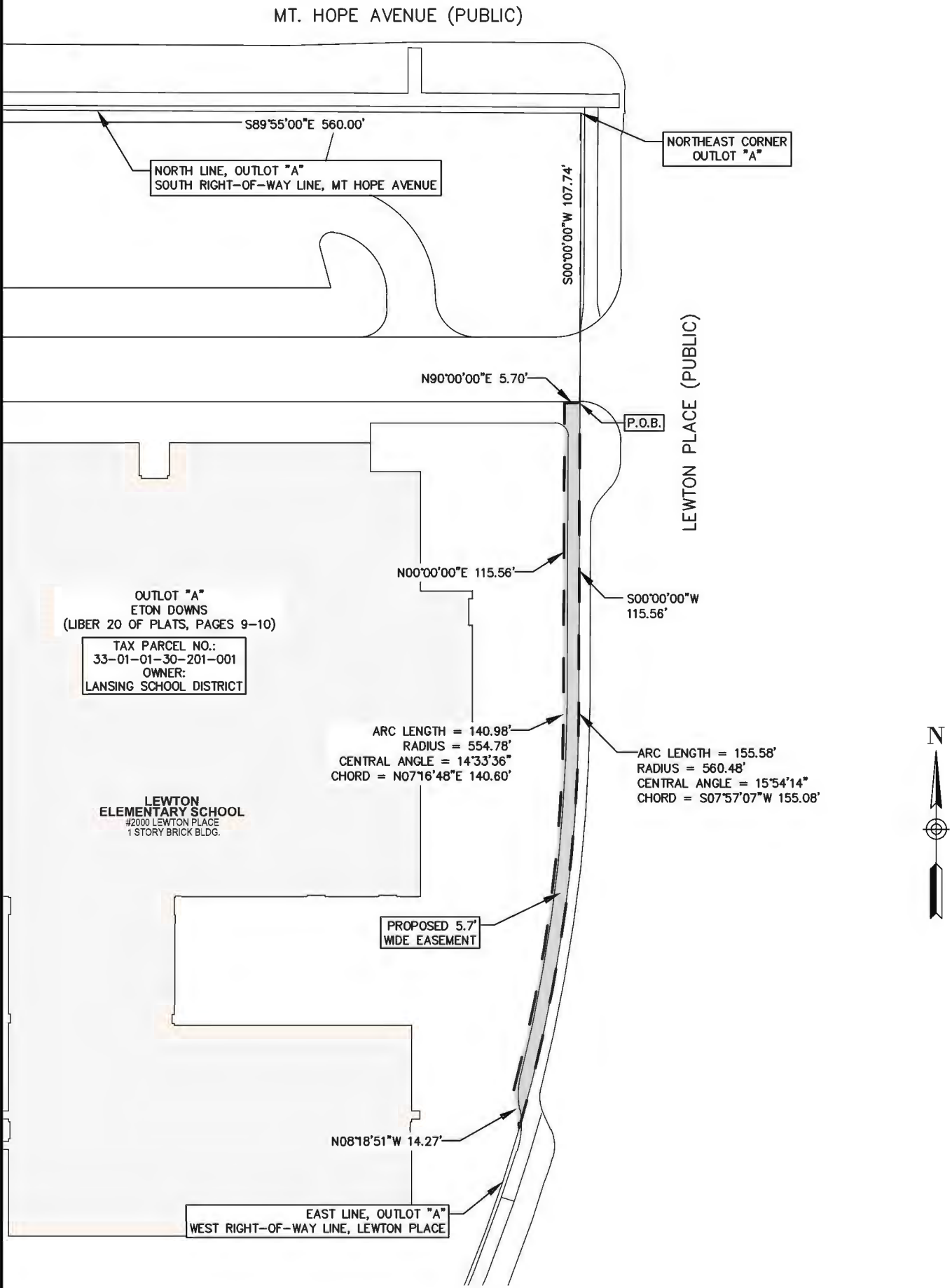
525 OTTAWA AVE NW
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DRAWN: N.BARTON	DATE: 02/03/26
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MANAGER: D.LANSKY	SCALE: 1"=100'
JOB No. NP23019	SHEET: 2 OF 3
SECTION 30 TOWN 04 NORTH RANGE 02 WEST	
CITY OF LANSING INGHAM COUNTY, MI	

EXHIBIT 'A'
ACT 33 EASEMENT
"DETAIL"



SPALDING DeDECKER
Engineers | Surveyors

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DRAWN: N.BARTON	DATE: 02/03/26
CHECKED: D.LANSKY	DATE: 02/03/26
MANAGER: D.LANSKY	SCALE: 1"=50'
JOB No. NP23019	SHEET: 3 OF 3
SECTION 30 TOWN 04 NORTH RANGE 02 WEST	
CITY OF LANSING	INGHAM COUNTY, MI

Resolution #2026-###

By the Committee on Development and Planning
Resolved by the City Council of the City of Lansing

Act-2-2026, 2000 Lewton Place, Use of Right of Way

WHEREAS, Spalding DeDecker, on behalf of the Lansing School District, has requested to license the use of the public street right-of-way along the west side of the 2000 block of Lewton Place for a bus lane to help the school's on-site circulation and to provide additional space for buses; and

WHEREAS, the use of right of way will extend approximately 11 feet wide by 250 feet long; and

WHEREAS, the proposed bus lane is not expected to negatively impact the circulation network or city operations; and

WHEREAS, the Lansing School District will provide an easement to the City of Lansing for the public sidewalk to be relocated onto the property at 2000 Lewton Place; and

WHEREAS, on January 6, 2026, the Planning Commission reviewed the location, character, and extent of the proposal for the use of the right of way in accordance with its Act 33 review procedures and voted unanimously (7-0) to recommend approval of Act-2-2026, as proposed; and

WHEREAS, the Committee on Development and Planning met on February 16, 2026, and has reviewed the report and recommendation of the Planning Commission and concurs therewith.

NOW THEREFORE BE IT RESOLVED, the Lansing City Council hereby approves the request to license the use of the public right of way along 2000 Lewton Place to the Lansing School District, legally described as:

PART OF OUTLOT "A" OF ETON DOWNS AS RECORDED IN LIBER 20 OF PLATS, PAGES 9-10, AND BEING PART OF THE NORTHEAST 1/4 OF SECTION 30, TOWN 4 NORTH, RANGE 2 WEST, CITY OF LANSING, INGHAM COUNTY, MICHIGAN, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION 30; THENCE SOUTH 00 DEGREES 00 MINUTES 19 SECONDS EAST 50.00 FEET ALONG THE WEST LINE OF THE NORTHEAST 1/4 OF SECTION 30 TO THE NORTHWEST CORNER OF SAID OUTLOT "A" BEING LOCATED ON THE SOUTH RIGHT-OF-WAY LINE OF MT. HOPE AVENUE; THENCE SOUTH 89 DEGREES 55 MINUTES 00 SECONDS EAST 560.00 FEET ALONG THE NORTH LINE OF OUTLOT "A" (ALSO BEING THE SOUTH RIGHT-OF-WAY LINE OF MT. HOPE AVENUE) PARALLEL WITH AND 50.00 FEET SOUTH (PERPENDICULAR MEASURE) OF THE NORTH LINE OF THE NORTHEAST 1/4 OF SECTION 30 TO THE NORTHEAST CORNER OF OUTLOT "A" BEING LOCATED ON THE WEST RIGHT-OF-WAY LINE OF LEWTON PLACE; THENCE SOUTH 00 DEGREES 00 MINUTES 00 SECONDS WEST 150.26 FEET ALONG THE EAST LINE OF OUTLOT "A" (ALSO BEING THE WEST RIGHT-OF-WAY

LINE OF LEWTON PLACE) TO THE POINT OF BEGINNING OF THE AREA DESCRIBED HEREIN; THENCE NORTH 40 DEGREES 11 MINUTES 06 SECONDS EAST 26.52 FEET; THENCE PARALLEL WITH THE EAST LINE OF OUTLOT "A" (ALSO BEING PARALLEL WITH THE WEST RIGHT-OF-WAY LINE OF LEWTON PLACE) FOR THE FOLLOWING TWO COURSES; THENCE SOUTH 00 DEGREES 00 MINUTES 00 SECONDS WEST 93.30 FEET; THENCE 166.92 FEET ALONG THE ARC OF A CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 577.59 FEET, A CENTRAL ANGLE OF 16 DEGREES 33 MINUTES 29 SECONDS, AND A CHORD WHICH BEARS SOUTH 08 DEGREES 16 MINUTES 45 SECONDS WEST 166.34 FEET; THENCE NORTH 24 DEGREES 14 MINUTES 55 SECONDS WEST 26.74 FEET TO THE EAST LINE OF OUTLOT "A" (ALSO BEING THE WEST RIGHT-OF-WAY LINE OF LEWTON PLACE); THENCE ALONG THE EAST LINE OF OUTLOT "A" (ALSO BEING THE WEST RIGHT-OF-WAY LINE OF LEWTON PLACE) FOR THE FOLLOWING TWO COURSES; THENCE 141.73 FEET ALONG THE ARC OF A CURVE TO THE LEFT, SAID CURVE HAVING A RADIUS OF 560.48 FEET, A CENTRAL ANGLE OF 14 DEGREES 29 MINUTES 19 SECONDS AND A CHORD WHICH BEARS NORTH 07 DEGREES 14 MINUTES 40 SECONDS EAST 141.35 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST 73.04 FEET TO THE POINT OF BEGINNING. CONTAINING 4065 SQUARE FEET OF LAND, MORE OR LESS.

With the following conditions:

1. The Lansing School District shall be responsible for all maintenance of the bus lane, including winter maintenance, for the length of the license agreement.

BE IT FURTHER RESOLVED, the Lansing City Council hereby approves the request to obtain an easement area from the Lansing School District legally described as:

PART OF OUTLOT "A" OF ETON DOWNS AS RECORDED IN LIBER 20 OF PLATS PAGES 9-10, AND BEING PART OF THE NORTHEAST 1/4 OF SECTION 30, TOWN 4 NORTH RANGE 2 WEST, CITY OF LANSING, INGHAM COUNTY, MICHIGAN, AND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTH 1/4 CORNER OF SAID SECTION 30; THENCE SOUTH 00 DEGREES 00 MINUTES 19 SECONDS EAST 50.00 FEET ALONG THE WEST LINE OF THE NORTHEAST 1/4 OF SECTION 30 TO THE NORTHWEST CORNER OF SAID OUTLOT "A" BEING LOCATED ON THE SOUTH RIGHT-OF-WAY LINE OF MT HOPE AVENUE THENCE SOUTH 89 DEGREES 55 MINUTES 00 SECONDS EAST 560.00 FEET ALONG THE NORTH LINE OF OUTLOT "A" (ALSO BEING THE SOUTH RIGHT-OF-WAY LINE OF MT HOPE AVENUE PARALLEL WITH AND 50.00 FEET SOUTH (PERPENDICULAR MEASURE OF THE NORTH LINE OF THE NORTHEAST 1/4 OF SECTION 30 TO THE NORTHEAST CORNER OF OUTLOT "A" BEING LOCATED ON THE WEST RIGHT-OF-WAY LINE OF LEWTON PLACE THENCE SOUTH 00 DEGREES 00 MINUTES 00 SECONDS WEST 107.7 4 FEET ALONG THE EAST LINE OF OUTLOT "A" (ALSO BEING THE WEST RIGHT-OF-WAY LINE OF LEWTON PLACE) TO THE POINT OF BEGINNING OF THE EASEMENT DESCRIBED HEREIN; THENCE CONTINUE ALONG THE EAST LINE OF OUTLOT "A" (ALSO BEING THE WEST RIGHT-OF-WAY LINE OF LEWTON PLACE) FOR THE FOLLOWING TWO COURSES; THENCE SOUTH 00 DEGREES 00 MINUTES 00 SECONDS WEST 115.5 6 FEET; THENCE 155.58 FEET ALONG THE ARC OF A

CURVE TO THE RIGHT, SAID CURVE HAVING A RADIUS OF 560.48 FEET A CENTRAL ANGLE OF 15 DEGREES 54 MINUTES 14 SECONDS AND A CHORD WHICH BEARS SOUTH 07 DEGREES 57 MINUTES 07 SECONDS WEST 155.08 FEET; THENCE NORTH 08 DEGREES 18 MINUTES 51 SECONDS WEST 14.27 FEET; THENCE 140.98 FEET ALONG THE ARC OF A CURVE TO THE LEFT AND BEING PARALLEL WITH THE EAST LINE OF OUTLOT "A", SAID CURVE HAVING A RADIUS OF 554.78 FEET, A CENTRAL ANGLE OF 14 DEGREES 33 MINUTES 36 SECONDS AND A CHORD WHICH BEARS NORTH 07 DEGREES 16 MINUTES 48 SECONDS EAST 140.60 FEET; THENCE NORTH 00 DEGREES 00 MINUTES 00 SECONDS EAST 115.56 FEET PARALLEL WITH THE EAST LINE OF OUTLOT "A"; THENCE NORTH 90 DEGREES 00 MINUTES 00 SECONDS EAST 5.70 FEET TO THE POINT OF BEGINNING. CONTAINING 1504 SQUARE FEET OF LAND, MORE OR LESS.

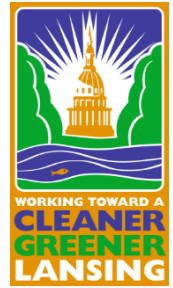
BE IT FINALLY RESOLVED that the Mayor and his Administration, on behalf of the City, is hereby authorized to sign and execute all documents necessary to complete this transaction, subject to the prior approval as to content and form by the City Attorney.



Andy Schor, Mayor

PUBLIC SERVICE DEPARTMENT

7th Floor City Hall
124 West Michigan Avenue
Lansing, Michigan 48933
(517) 483-4455
www.lansingmi.gov/pubserv



To: Andy Schor, Mayor

From: Scott D. Cook, Assistant City Engineer 

Date: January 15, 2026

**Subject: 2025 Transportation Asset Management Plan (TAMP)
Request for City Council Acceptance Resolution**

In accordance with Michigan Public Act 325 of 2018, local road agencies are required to develop and submit an asset management plan to the Transportation Asset Management Council (TAMC).

The Public Service Department has prepared the 2025 Transportation Asset Management Plan and is requesting the City Council to review and provide a resolution accepting the document.

The adopted resolution will be added to the Transportation Asset Management Plan and submitted to the Transportation Asset Management Council.

If you have any questions, please let me know.

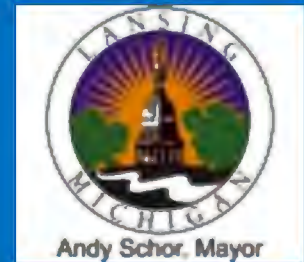
Nicole McPherson, PE, City Engineer

Date: 1-xx-26

Andy Kilpatrick, PE, Director of Public Service

Date: 1-xx-26

City of Lansing 2025 Transportation Asset Management Plan



A plan describing the City of Lansing, Public Service Department's transportation assets and conditions

Prepared by:
Scott D. Cook
Assistant City Engineer
Scott.Cook@lansingmi.gov

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EXECUTIVE SUMMARY

As conduits for commerce and connections to vital services, roads and bridges are some of the most important assets in any community, and other assets like culverts, traffic signs, traffic signals, and utilities support and affect roads and bridges. The City of Lansing's (COL) roads, bridges, and support systems are also some of the most valuable and extensive public assets, all of which are paid for with taxes collected from ordinary citizens and businesses. The cost of building and maintaining these assets, their importance to society, and the investment made by taxpayers all place a high level of responsibility on local agencies to plan, build, and maintain roads, bridges, and support assets in an efficient and effective manner. This asset management plan is intended to report on how COL is meeting its obligations to maintain the public assets for which it is responsible.

This plan identifies COL's assets and condition and how COL maintains and plans to improve the overall condition of those assets. An asset management plan is required by Michigan Public Act 325 of 2018, and this document represents fulfillment of some of COL's obligations towards meeting these requirements. However, this plan and its supporting documents are intended to be much more than a fulfillment of required reporting. This asset management plan helps to demonstrate COL's responsible use of public funds by providing elected and appointed officials as well as the general public with the inventory and condition information of COL's assets, and it gives taxpayers the information they need to make informed decisions about investing in COL's essential transportation infrastructure.

INTRODUCTION

Asset management is defined by Public Act 325 of 2018 as “an ongoing process of maintaining, preserving, upgrading, and operating physical assets cost effectively, based on a continuous physical inventory and condition assessment and investment to achieve established performance goals”. In other words, asset management is a process that uses data to manage and track assets, like roads and bridges, in a cost-effective manner using a combination of engineering and business principles. This process is endorsed by leaders in municipal planning and transportation infrastructure, including the Michigan Municipal League, County Road Association of Michigan, the Michigan Department of Transportation (MDOT), and the Federal Highway Administration (FHWA). The City of Lansing is supported in its use of asset management principles and processes by the Michigan Transportation Asset Management Council (TAMC), formed by the State of Michigan.

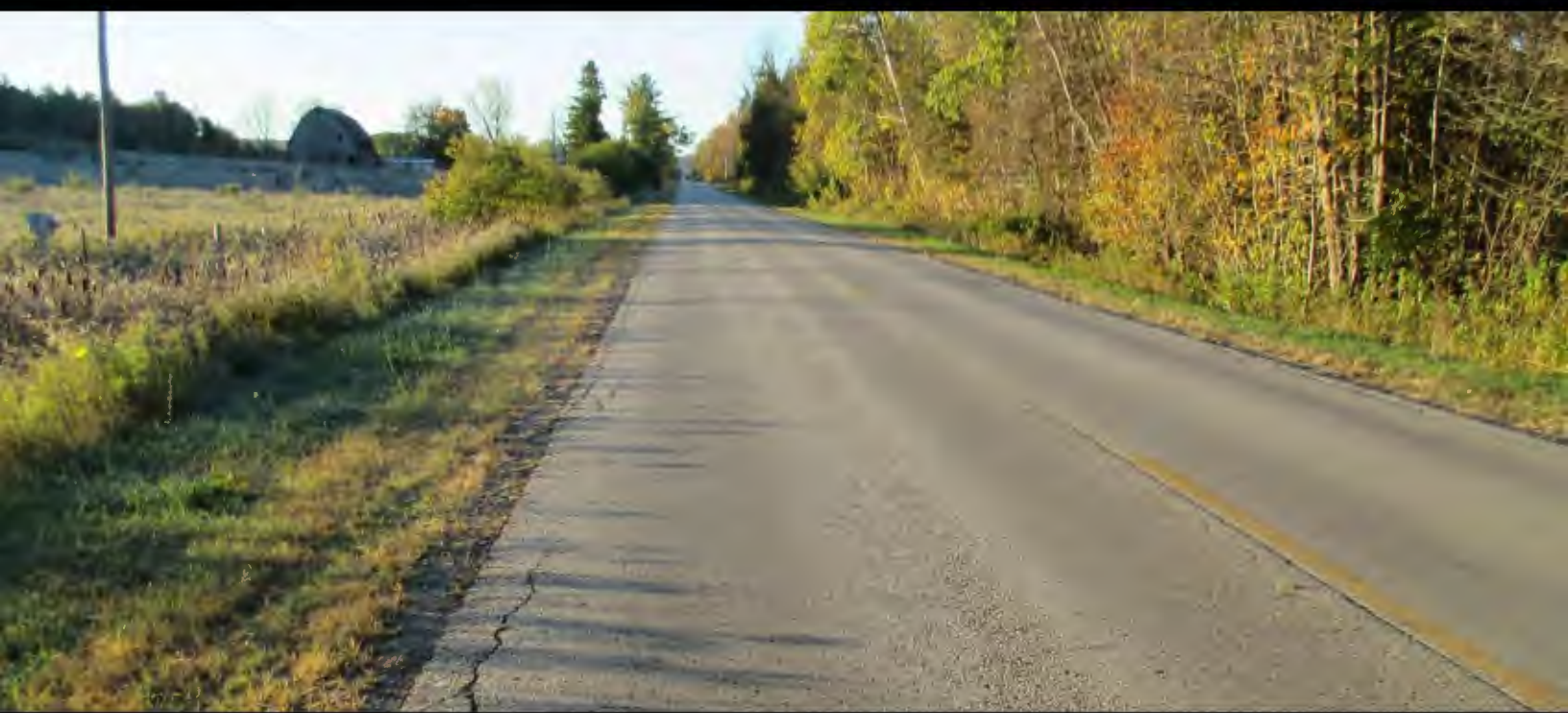
Asset management, in the context of this plan, ensures that public funds are spent as effectively as possible to maximize the condition of the road and bridge network. Asset management also provides a transparent decision-making process that allows the public to understand the technical and financial challenges of managing transportation infrastructure with a limited budget.

The City of Lansing (COL) has adopted an “asset management” business process to overcome the challenges presented by having limited financial, staffing, and other resources while needing to meet road users’ expectations. COL is responsible for maintaining and operating over 416.63 centerline miles of roads and 22 bridge structures. It is also responsible for several culverts and signals.

This 2025 plan identifies COL’s transportation assets and their condition as well as the strategy that COL uses to maintain and upgrade particular assets given COL’s condition goals, priorities of network’s road users, and resources. An updated plan is to be released approximately every three years both to comply with Public Act 325 and to reflect changes in road conditions, finances, and priorities.

Questions regarding the use or content of this plan should be directed to Nicole McPherson, P.E., Lansing City Hall, 517-483-4458 or nicole.mcpherson@lansingmi.gov. A copy of this plan can be accessed on our website at <https://www.lansingmi.gov>.

1. PAVEMENT ASSETS



COL is responsible for 415.63 centerline miles of public roads. An inventory of these miles divides them into different network classes based on road purpose/use and funding priorities as identified at the state level: city major road network, which is prioritized for state-level funding, and city minor road network.

Inventory of Assets



Figure 1: Map showing location of roads managed by COL and the current condition for paved roads in green for good (PASER 10, 9, 8), blue for fair (PASER 7, 6, 5), and red for poor (PASER 4, 3, 2, 1)

Of COL's 415.63 miles of road, 110.43 miles are classified as city major and 305.60 miles are classified as city minor (Figure 1 identifies these paved roads in green, yellow, and red with the colors being determined based on the road segment's condition). COL also manages 13.364 miles that are classified as part of the National Highway System (NHS); the NHS is subject to special rules and regulations and has its own performance metrics dictated by the FHWA. In addition, COL has 5.25 miles of unpaved roads.

More detail about these road assets can be found in COL's Roadsoft database or by contacting COL.

Types

COL has multiple types of pavements in its jurisdiction, including asphalt, concrete, brick/block, and undefined; it also has unpaved roads (i.e., gravel and/or earth). Figure 2 shows a breakdown of these pavement types for all of COL's road assets.

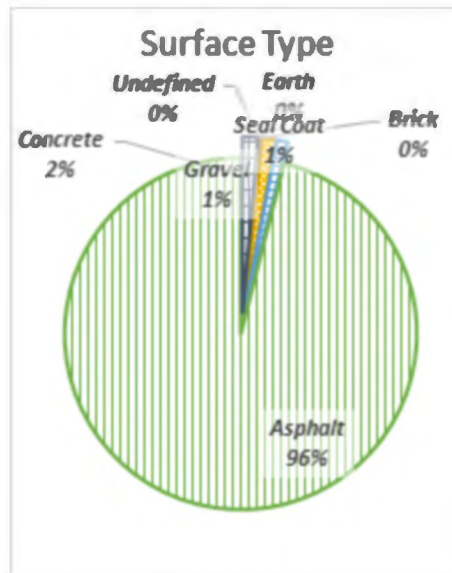


Figure 2: Pavement type by percentage maintained by COL, PSD. Undefined pavements have not been inventoried in COL, PSD's asset management system to date, but will be included as data becomes available.

Condition, Goals, and Trend

Paved Roads

Paved roads in Michigan are rated using the Pavement Surface Evaluation and Rating (PASER) system, which is a 1 to 10 scale with 10 being a newly constructed surface and 1 being a completely failed surface. PASER scores are grouped into TAMC definition categories of good (8-10), fair (5-7), and poor (1-4) categories. COL collects PASER data every two years on 100 percent of those portions of its city major and city minor networks that are eligible for federal funding. In addition, COL uses its own staff and resources to collect PASER data on 50 percent of its city major and city minor networks that are not eligible for federal funding.

Currently, the city major network has 22% of its roads in good condition, 26% in fair condition, and 52% in poor condition, and the city minor network has 16% of its roads in good condition, 15% in fair condition, and 68% in poor condition (Figure 3 and Figure 4). COL's long-range goal for the city major network is to have 50% of roads in good condition, 40% in fair condition, and 10% in poor condition, and for the city minor network is to have 50% of roads in good condition, 40% in fair condition, and 10% in poor condition (Figure 3 and Figure 4). Figure 3 and Figure 4 illustrate the historical and current condition of COL's city major and city minor networks, respectively.

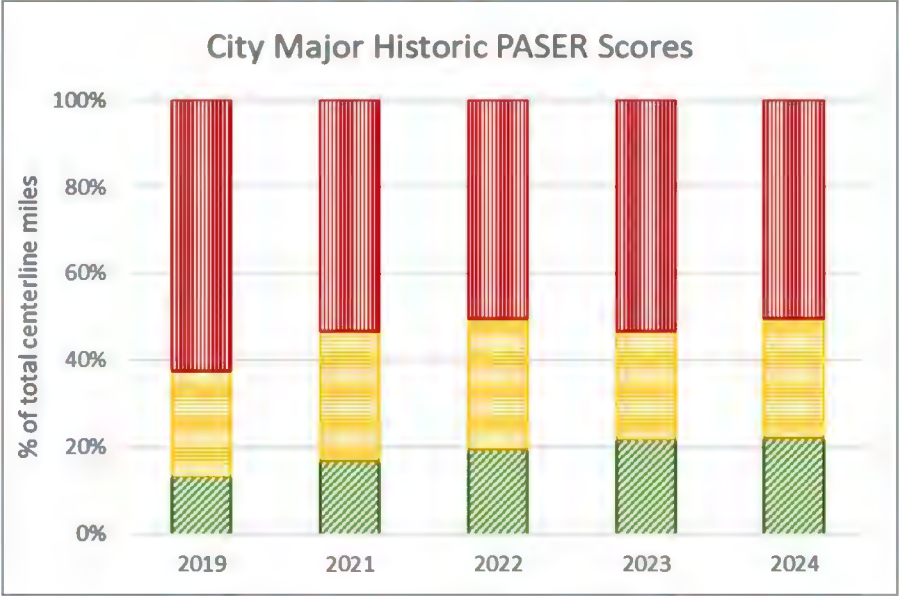


Figure 3: city major network historic condition

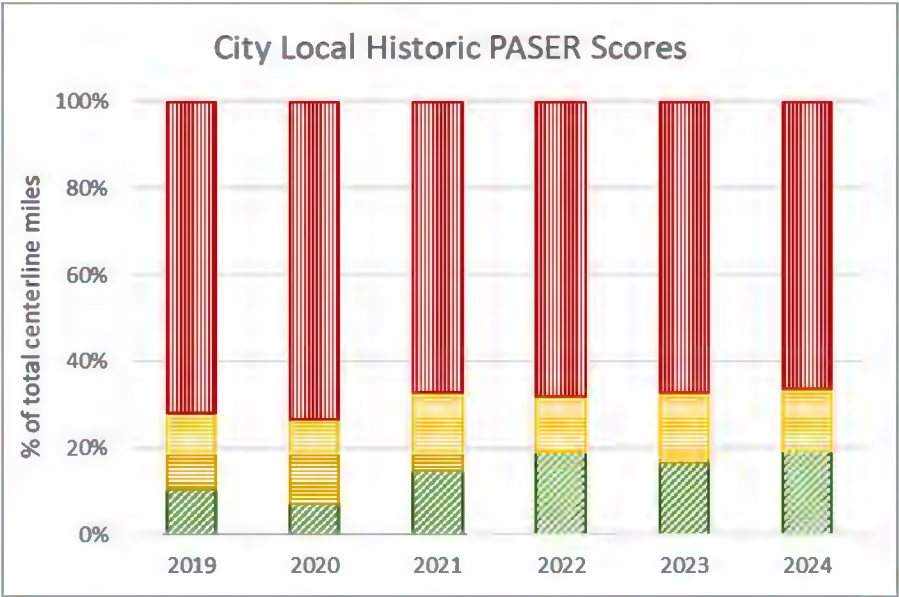


Figure 4: city minor network historic condition

Modelled Trends, Gap Analysis, and Planned Projects

Modelled Trends & Gap Analysis

The Roadsoft network analysis of COL's planned projects for the city major and city minor networks from COL's currently-available budget does not allow COL to reach its pavement condition goals given the projects planned for the next three years.

Results from the Roadsoft for the city major and city minor network condition models indicate that the necessary additional work needed to meet the agency condition goal in 10 years would cost an additional \$44.8 Million per year.

Table 1			Life Extension	Total
		Lane	Per Mile	Life Extension
Project/Treatment	Miles	Miles	(Years)	(lane-mile-years)
2024				
Major Streets				
Reconstruct	1.543	4.741	15	71.115
Crush and Shape	0	0	12	
Mill and Fill, 3.5 inches	0	0	10	
Mill and Fill, 2 inches	0.432	1.074	7	7.518
Mill and Fill, 1.5 inches	0.811	3.243	7	22.701
Chip and Fog Seal	0	0	3	0
Mastic Crack Seal	0	0	2	0
Crack Seal	0	0	2	0
Local (Minor) Streets				
Reconstruct	2.786	5.571	15	83.565
Crush and Shape	0.651	1.303	12	15.636
Mill and Fill, 3.5 inches	0	0	10	0
Mill and Fill, 2 inches	0	0	10	0
Overlay, 1.5 inches	6.673	14.073	7	98.511
Crush, Chip and Micro	0	0	7	0
Chip and Fog Seal	0	0	7	0
Crack Seal	2.813	5.627	2	11.254
			Total System Lane Miles	917.171
			Lane Mile Years Added	310.3
Lane Miles Treated			Yearly Loss Lane Miles	606.871

Unpaved Road Condition Trends

The City does not have a program for gravel streets. Paving of gravel streets is done on a case-by-case basis and is usually initiated by the residents of the street through a petition signed by more than 50 percent of the property owners. A portion of the costs are assessed to the affected property owners, which usually totals to about 30 % of the total construction cost.

Planned Projects

COL has projects planned for the next three years. These projects are identified in Figure 5.

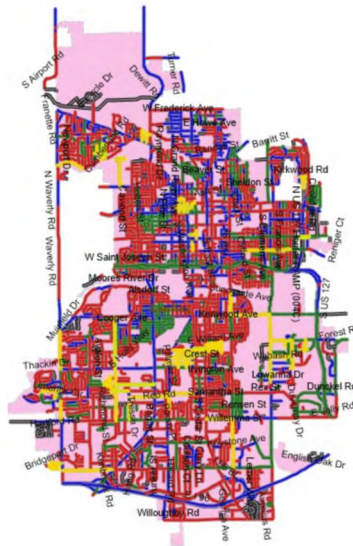
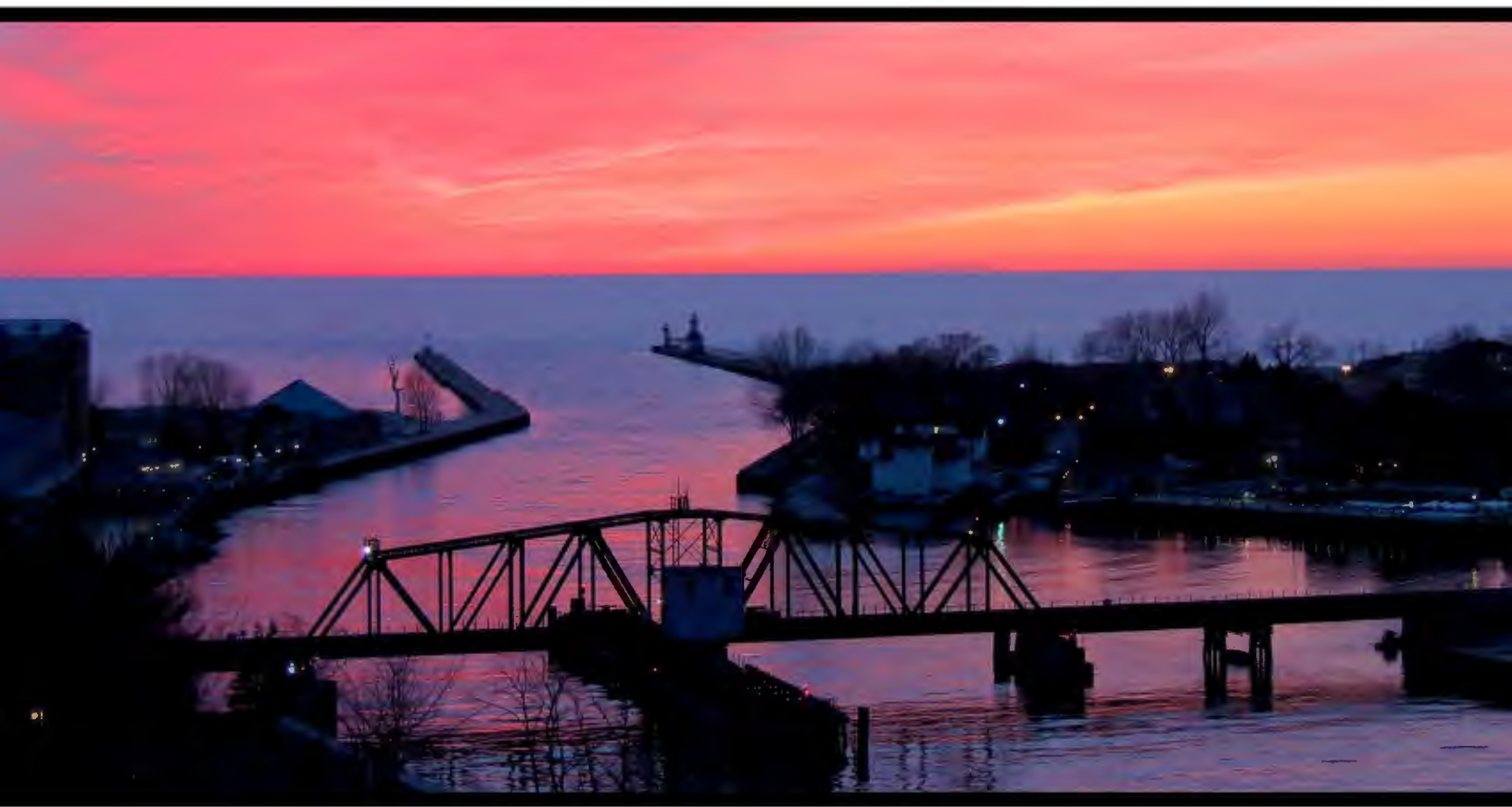


Figure 5 : Map illustrating planned projects for pavement assets

The total pavement cost of the projects illustrated in Figure 5 is approximately \$ 15,000,000.

2. BRIDGE ASSETS



COL is responsible for 22 bridges that provide safe service to road users across the agency network. COL seeks to implement a cost-effective program of preventive maintenance to maximize the useful service life and safety of the local bridges under its jurisdiction.

Inventory of Assets

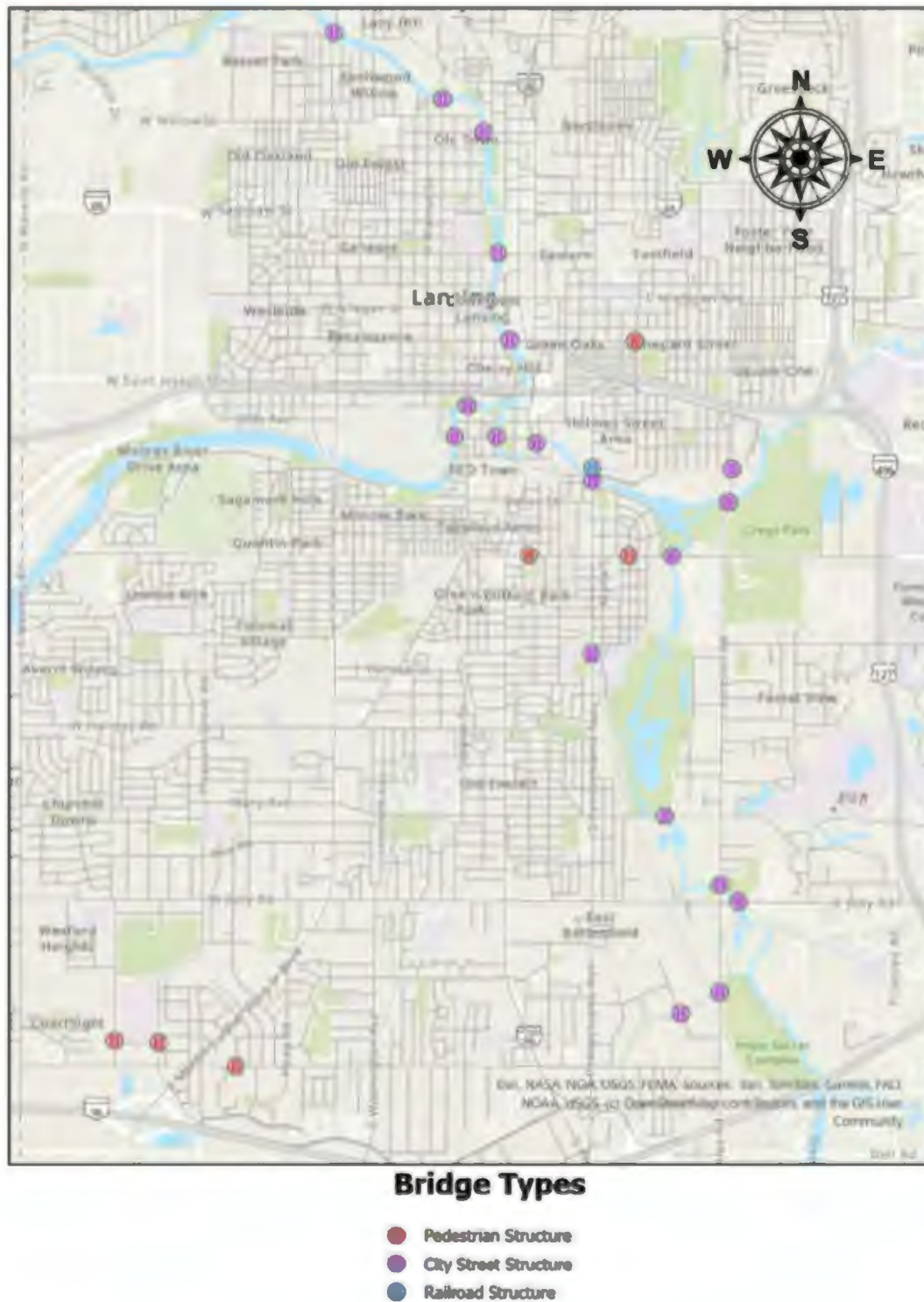


Figure 6: Map illustrating locations of COL's bridge assets

COL has 22 total bridges in its road and bridge network; these bridges connect various points of the road network, as illustrated in Figure 6. These bridge structures can be summarized by type, size, and condition, which are detailed in the Bridge Asset Management Plan. More information about each of these structures can be found in COL’s MiBRIDGE database or by contacting COL.

Condition, Goals, and Trend

Bridges in Michigan are given a good, fair, or poor rating based on the National Bridge Inspection Standards (NBIS) rating scale, which was created by the Federal Highway Administration to evaluate a bridge’s deficiencies and to ensure the safety of road users. The current condition of COL’s bridge network based on the NBIS is structures rated good, structures rated fair, and structures rated poor.

Table 2: Bridge Assets by Type: Inventory, Size, and Condition								
Bridge Type	Total Number of Bridges	Total Deck Area (sq ft)	Condition: Structurally Deficient, Posted, Closed			2023 Condition		
			Struct. Defic	Posted	Closed	Poor	Fair	Good
Concrete – Arch—deck	1	9,050	0	0	0	0	0	1
Concrete – Culvert	1	1,076	0	0	0	0	0	1
Prestressed concrete – Box beam/girders—multiple	3	15,262	1	1	0	1	2	0
Prestressed concrete – Multistringer	4	61,118	0	0	0	0	0	4
Steel – Culvert	2	3,225	1	0	0	1	1	0
Steel – Multistringer	10	123,030	0	0	0	0	9	1
Steel continuous – Multistringer	1	29,344	0	0	0	0	1	0
Total SD/Posted/Closed			2	1	0			
Total	22	242,105				2	13	7
Percentage (%)			9%	5	0	9	59	32

Bridges are designed to carry legal loads in terms of vehicles and traffic. Due to a decline in condition, a bridge may be “posted” with a restriction for what would be considered safe loads passing over the bridge. On occasion, posting a bridge may also restrict other load-capacity-related elements like speed and number of vehicles on the bridge, but this type of posting designates the bridge differently. COL has three structures that are posted for load restriction. Designating a bridge as “posted” has no influence on its condition rating. A “closed” bridge is one that is closed to all traffic. Closing a bridge is contingent upon its ability to carry a set minimum live load. COL has no structures that are closed.

The goal of the program is the preservation and safety of COL’s bridge network.

Figure 7 illustrates the baseline condition, projected trend, and goal that COL has for its good/fair and its structurally deficient bridges.

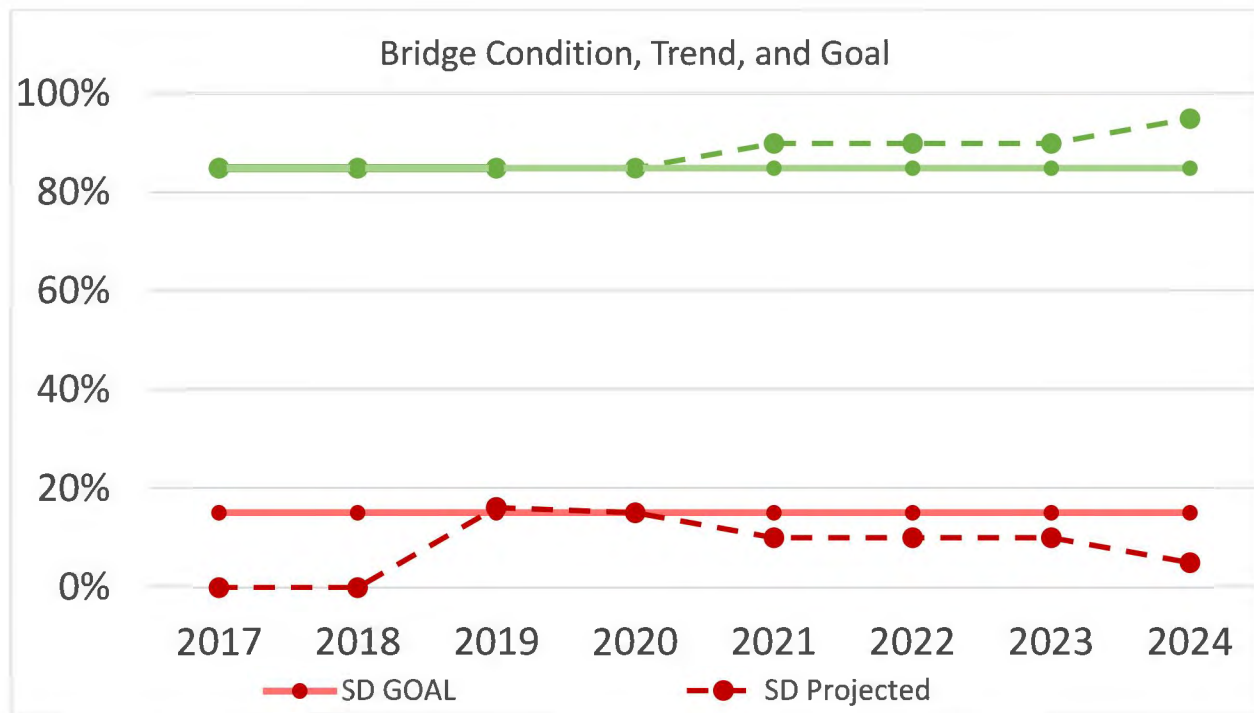


Figure 7: Condition, projected trend, and goal for COL's good/fair and structurally deficient bridges

Programmed/Funded Projects, Gap Analysis, and Planned Projects

COL received \$4,032,000 in total funding for the years 2024-2025. Preventive maintenance is a more effective use of these funds than the costly alternative of major rehabilitation or replacement. Since COL recognizes that limited funds are available for improving the bridge network, it seeks to identify those bridges that will benefit from a planned maintenance program, and it plans to spend \$2,232,500 on preventive maintenance of bridges. By performing the aforementioned preventive maintenance and replacement of bridge structures, COL will achieve its goal of keeping its overall bridge network at the same condition.

Table 3 illustrates the programmed/funded projects that will be undertaken in order to achieve COL's goal. These programmed/funded projects are juxtaposed with priority projects that remain unfunded.

Table 3: Planned Projects and Gap Analysis

Strategy	2025	2026	2027	2028	2029	GAP
New						
Subtotal	\$0	\$0	\$0	\$0	\$0	\$0
Replacement						
13398		\$1,382,000				
3936			\$8,316,000			
13685		\$1,400,000				
Subtotal	\$0	\$ 2,782,000	\$8,316,000	\$0	\$0	\$0
Rehabilitation						
Subtotal	\$0	\$0	\$0	\$0	\$0	\$0
Scheduled Maintenance						
3951	\$140,000					
3940	\$86,000					
3937		\$606,200				
3958		\$75,000				
Subtotal	\$226,000	\$681,200	\$0	\$0	\$0	\$0
Preventive Maintenance						
3952				\$1,192,000		
3932				\$ 330,000		
Subtotal	\$0	\$0	\$0	\$1,522,000	\$0	\$0
Other						
3930					\$31,000	
3935					\$16,000	
3955					\$62,000	
Subtotal	\$0	\$0	\$0	\$0	\$109,000	\$0

3. CULVERT ASSETS



The City of Lansing has many culverts within the City limits, 17 of which cross under roadways and are owned by the City of Lansing.

Inventory of Assets

At present, COL has inventoried 17 culverts, which is 100 percent of the road crossing culverts owned by the COL.

Of the 17 tracked and rated culverts, the COL has 2 culverts considered good, 12 culverts considered fair, 3 culverts considered poor and 0 culverts considered failed based on the culvert inventory and inspections.

Goals

The goal of COL's asset management program is the preservation of its culvert network. COL is responsible for preserving culverts that underlie its entire road network.

Planned Projects

COL's policy is to replace or repair culvert assets concurrent with projects affecting road segments carried by the particular culverts. COL also includes culvert assets in scheduled maintenance projects affecting road segments carried by the particular culverts. There are no culvert projects scheduled at this time.

The following map shows culvert locations within the City of Lansing.



Legend

◆ Culvert



4. SIGNAL ASSETS



Inventory of Assets

At present, COL tracks only inventory data for traffic signals. COL has inventoried 116 traffic signals, which is 100 percent of the 116 traffic signals that COL owns.

The City has also inventoried an additional 90 signals, which are owned by other agencies.

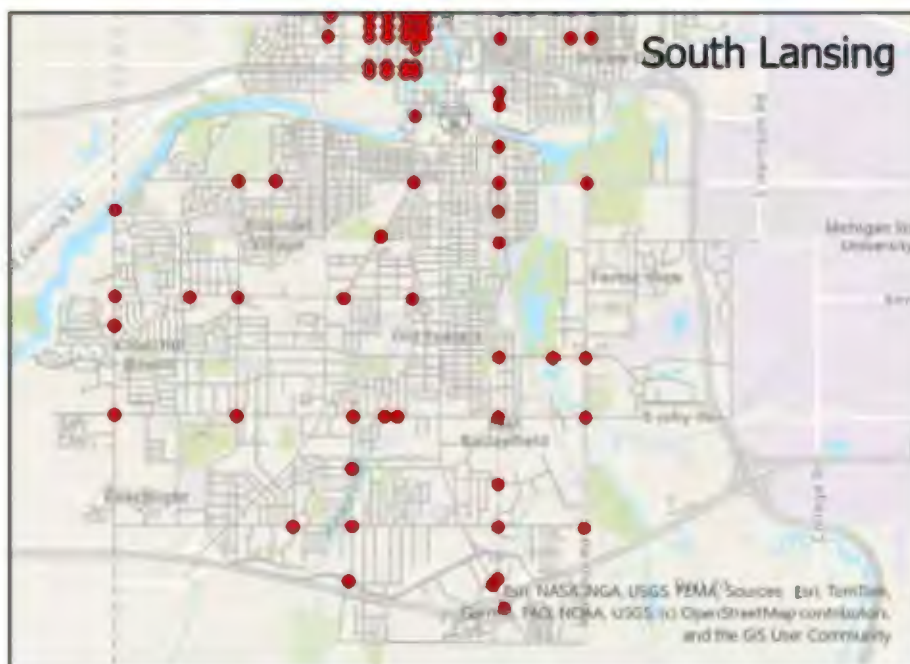
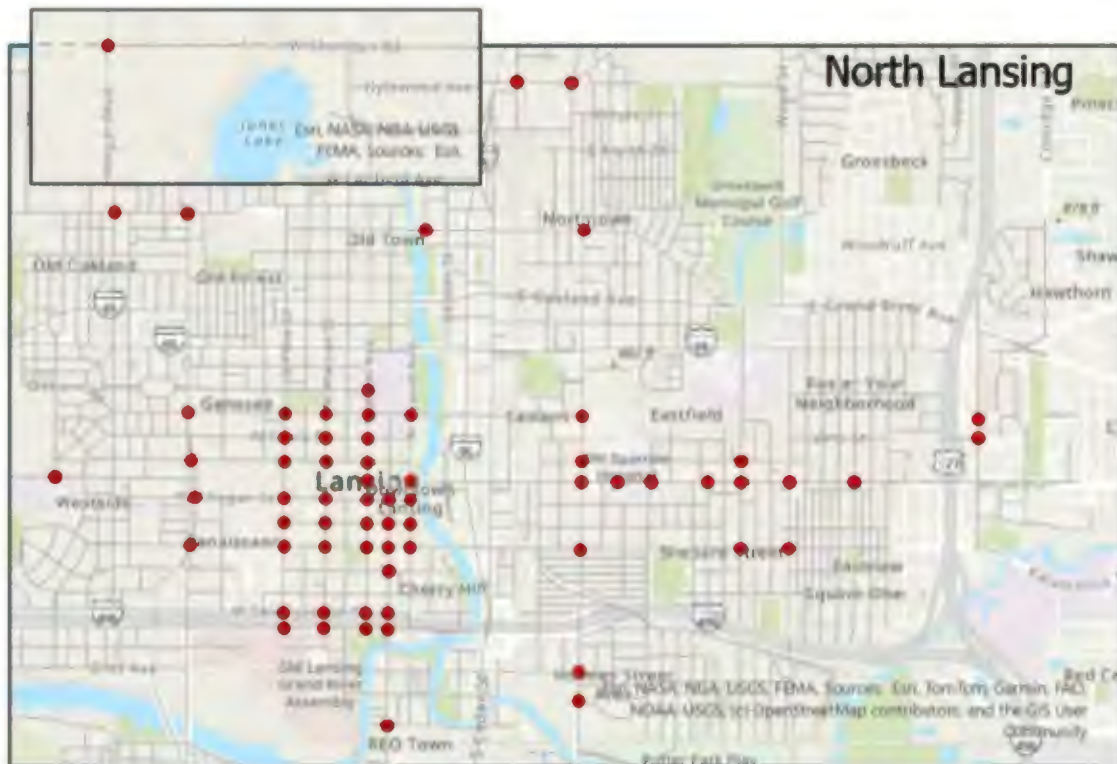
More detail about these traffic signal assets can be obtained by contacting COL.

Goals

The goal of COL's asset management program is the preservation of its traffic signals. COL is responsible for preserving 116 traffic signals along its entire road network.

Planned Projects

COL's policy is to evaluate traffic signal assets based on condition assessment for replacement or repair during any reconstruction, rehabilitation, preventive maintenance, or schedule maintenance activities on the roadway affected by the particular signal. It also conducts replacements or repairs for those traffic signal assets reported as non-functional or as performing with reduced function. COL adheres to regular maintenance and servicing policies outlined in the *Michigan Manual of Uniform Traffic Control Devices*.



5. FINANCIAL RESOURCES

Public entities must balance the quality and extent of services they can provide with the tax resources provided by citizens and businesses, all while maximizing how efficiently funds are used. Therefore, COL will overview its general expenditures and financial resources currently devoted to transportation infrastructure maintenance. This financial information is not intended to be a full financial disclosure or a formal report. Full details of COL's financial status can be found by request submitted to our agency contact (listed in this plan).

Anticipated Revenues & Expenses

COL receives funding from the following sources:

- **State funds** – COL's principal source of transportation funding is received from the Michigan Transportation Fund (MTF). This fund is supported by vehicle registration fees and the state's per-gallon gas tax. Allocations from the MTF are distributed to state and local governmental units based on a legislated formula, which includes factors such as population, miles of certified roads, and vehicle registration fees for vehicles registered in the agency's jurisdiction. COL also receives revenue from the Michigan Department of Transportation to maintain (e.g. plow, patch, mow) the state trunklines within its jurisdictional boundary. Revenue from these maintenance contracts are received on a time and materials basis as resources are expended to maintain the State's roads. While these contracts do not allow for capital gain (profit) and only bring in revenue to cover the cost of the work, they do provide a benefit to COL by allowing an economy of scale that enables us to provide better service at a lower cost for COL's roads while allowing the same for the State of Michigan. Examples of state grants also include local bridge grants, economic development funds, and metro funds.

- **Federal and state grants for individual projects** – These are typically competitive funding applications that are targeted at a specific project type to accomplish a specific purpose. These may include safety enhancement projects, economic development projects, or other targeted funding. Examples of federal funds include Surface Transportation Program (STP) funds, C and D funds, bridge funds, MDOT payments to private contractors, and negotiated contracts.
- **Local government entities or private developer contributions to construction projects for specific improvements** – This category includes funding received to mitigate the impact of commercial developments as a condition of construction of a specific development project, and can also include funding from a special assessment district levied by another governmental unit. Examples of contributions from local units include city, village, and township contributions to the county; special assessments; county appropriations; bond and note proceeds; contributions from counties to cities and villages; city general fund transfers; city municipal street funds; capital improvement funds; and tax millages (see below).
- **Local tax millages** – Many local agencies in Michigan use local tax millages to supplement their road-funding budget. These taxes can provide for additional construction and maintenance for new or existing roads that are also funded using MTF or MDOT funds. COL has local tax millages in its road-funding budget. Millage paving funds are to be used for residential streets. These funds are mostly used for overlays on streets in poor condition that has substantial neighborhood traffic, such as entrances to neighborhoods.
- **Interest** – Interest from invested funds.
- **Permit fees** – Generally, permit fees cover the cost of a permit application review.
- **Other** – Other revenues can be gained through salvage sales, property rentals, land and building sales, sundry refunds, equipment disposition or installation, private sources, and financing.
- **Charges for services** – Funds from partner agencies who contract with COL, PSD to construct or maintain its roads, or roads under joint or neighboring jurisdictions, including state trunkline maintenance and non-maintenance services and preservation.

COL is required to report transportation fund expenditures to the State of Michigan using a prescribed format with predefined expenditure categories. The definitions of these categories according to Public Act 51 of 1951 may differ from common pavement management nomenclature and practice. For the purposes of reporting under PA 51, the expenditure categories are:

- **Construction/Capacity Improvement Funds** – According to PA 51 of 1951, this financial classification of projects includes, “new construction of highways, roads, streets, or bridges, a project that increases the capacity of a highway facility to accommodate that part of traffic having neither an origin nor destination within the local area, widening of a lane width or more, or adding turn lanes of more than 1/2 mile in length.”¹

¹ Public Act 51 of 1951, 247.660c Definitions

- **Preservation and Structural Improvement Funds** – Preservation and structural improvements are “activit[ies] undertaken to preserve the integrity of the existing roadway system.”² Preservation includes items such as a reconstruction of an existing road or bridge, or adding structure to an existing road.
- **Routine and Preventive Maintenance Funds** – Routine maintenance activities are “actions performed on a regular or controllable basis or in response to uncontrollable events upon a highway, road, street, or bridge”.³ Preventive maintenance activities are “planned strategy[ies] of cost-effective treatments to an existing roadway system and its appurtenances that preserve assets by retarding deterioration and maintaining functional condition without significantly increasing structural capacity”.⁴
- **Winter Maintenance Funds** – Expenditures for snow and ice control.
- **Trunkline Maintenance Funds** – Expenditures spent under COL’s maintenance agreement with MDOT for maintenance it performs on MDOT trunkline routes.
- **Administrative Funds** – There are specific items that can and cannot be included in administrative expenditures as specified in PA 51 of 1951. The law also states that the amount of MTF revenues that are spent on administrative expenditures is limited to 10 percent of the annual MTF funds that are received.
- **Other Funds** – Expenditures for equipment, capital outlay, debt principal payment, interest expense, contributions to adjacent governmental units, principal, interest and bank fees, and miscellaneous for cities and villages.

The Table (below) details the revenues and expenditures for COL.

Table 4: Annual Fiscal-Year Revenues & Expenditures per Fiscal Year

REVENUES			EXPENDITURES		
Item	Estimated \$	Percent of Total	Item	Estimated \$	Percent of Total
State funds	\$18,338,629	75.5	Construction & capacity improvement (CCI)	\$9,018,310	37.9
Federal funds	\$923,996	3.8	Preservation & structural improvement (PSI)	\$8,808,952	37
Contributions for local units	\$2,583,903	10.7	Routine maintenance	\$257,831	1.1
Interest, rents, and other			Winter maintenance	\$3,602,213	15.1
Charges for services	\$2,438,517	10	Trunkline maintenance	\$0.00	0.0
			Administrative	\$1,019,078	4.3
			Other	\$1,091,533	4.6
TOTAL	24,285,045	100	TOTAL	23,797,917	100
Verify the information in this table. You can find your agency's information in the TAMC dashboard at https://www.mcgi.state.mi.us/mitrp/tamcDashboards .					

² Public Act 51 of 1951, 247.660c Definitions

³ Public Act 51 of 1951, 247.660c Definitions

⁴ Public Act 51 of 1951, 247.660c Definitions

6. RISK OF FAILURE ANALYSIS

Transportation infrastructure is designed to be resilient. The system of interconnecting roads and bridges maintained by COL provides road users with multiple alternate options in the event of an unplanned disruption of one part of the system. There are, however, key links in the transportation system that may cause significant inconvenience to users if they are unexpectedly closed to traffic. Key transportation links include:

- **Geographic divides:** Areas where a geographic feature (river, lake, hilly terrain, or limited access road) limits crossing points of the feature; bridge failures, in particular, can create loss of access to entire regions of the state
- **Emergency alternate routes for high-volume roads and bridges:** Roads and bridges that are routinely used as alternate routes for high-volume assets are included in an emergency response plan
- **Limited access areas:** Roads and bridges that serve remote or limited access areas that result in long detours if closed
- **Main access to key commercial districts:** Areas with a large concentration of businesses or where large-size business will be significantly impacted if a road is unavailable
- The City of Lansing has no critical assets considered key links based on the above criteria. There are multiple alternate options to navigate the City in the event a road or bridge is closed.

7. COORDINATION WITH OTHER ENTITIES

An asset management plan provides a significant value for infrastructure owners because it serves as a platform to engage other infrastructure owners using the same shared right of way space. The COL communicates with both public and private infrastructure owners to coordinate work in the following ways:

- The City of Lansing holds quarterly meetings with the major utilities to discuss and coordinate projects. This includes Consumers Energy, who supplies the gas for the City. Consumers has ongoing infrastructure upgrade projects through the City, as well as any upgrading needed ahead of planned city projects. With the quarterly meetings and close communication, the City is able to coordinate projects.
- The City also holds quarterly utility meetings with the Lansing Board of Water and Light (BWL), who maintains the drinking water, electricity and steam lines in the City. The BWL often partners with the City on projects to perform any necessary upgrades to their systems in conjunction with city projects. The BWL performs system upgrade projects independently as well, with efforts coordinated with the City to ensure traffic detours do not excessively impede traffic flow.
- The biggest coordination efforts between the utilities and the City is the City's Combined Sewer Overflow (CSO) separation program. Projects are planned years in advance and all infrastructure is updated at once. The streets within the project areas are generally reconstructed when the sewers are replaced. By upgrading the infrastructure all at once, the City does not anticipate major construction needs in an area again for at least 20 years.
- The City also has good working relationships with surrounding community and county agencies. If a project impacts a nearby agency, the City tries to alert them so that any necessary

coordination can take place. The City maintains a map of all planned projects on their website, which includes any utility or MDOT projects within the area as well.

8. PROOF OF ACCEPTANCE

PUBLIC ACT 325

CERTIFICATION OF TRANSPORTATION ASSET MANAGEMENT PLAN

Certification Year: 2025

Local Road-owning Agency Name: City of Lansing

Beginning October 2019 and on a three-year cycle thereafter, certification must be made for compliance to Public Act 325. A local road-owning agency with 100 certified miles or more must certify that it has developed an asset management plan for the road, bridge, culvert, and traffic signal assets. Signing this form certifies that the hitherto referred agency meets with minimum requirements as outlined by Public Act 325 and agency-defined goals and objectives.

This form must be signed by the chairperson of the local road-owning agency or the county executive and chief financial officer of the local road-owning agency.

Signature		Signature	
Printed Name		Printed Name	
Title	Date	Title	Date

Due every three years based on agency submission schedule

Submittal Date: _____

See attached council meeting minutes and/or resolution.

A. PAVEMENT ASSET MANAGEMENT PLAN

An attached pavement asset management plan follows.

City of Lansing 2025 Pavement Asset Management Plan



Andy Schor, Mayor

This is a plan describing the City of Lansing's roadway assets and conditions.

Prepared by:

Scott D. Cook

Assistant City Engineer

Scott.Cook@lansingmi.gov

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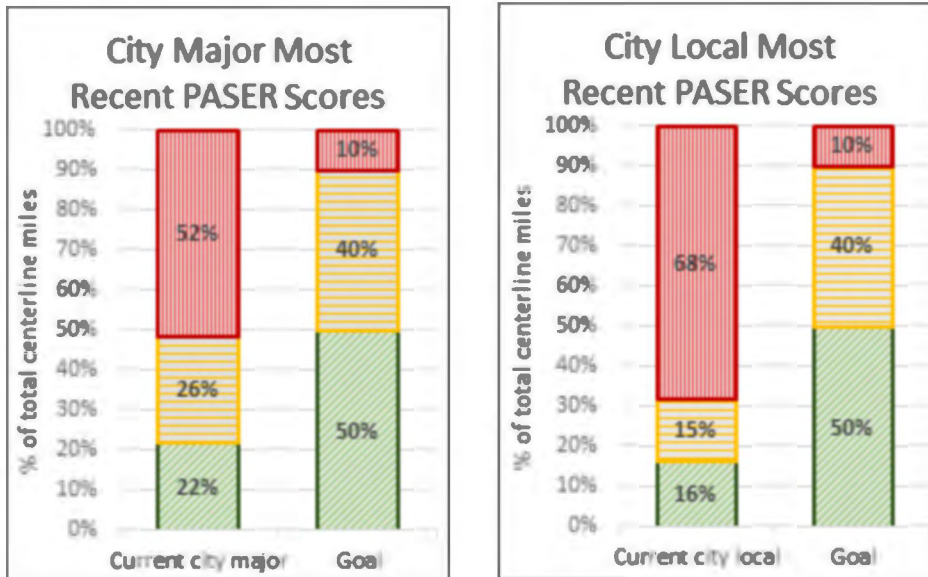
EXECUTIVE SUMMARY

As conduits for commerce and connections to vital services, roads are among the most important assets in any community along with other assets like bridges, culverts, traffic signs, traffic signals, and utilities that support and affect roads. The City of Lansing's (COL) roads, other transportation assets and support systems are also some of the most valuable and extensive public assets—all of which are paid for with taxes collected from ordinary citizens and businesses. The cost of building and maintaining roads, their importance to society, and the investment made by taxpayers all place a high level of responsibility on local agencies to plan, build and maintain the road network in an efficient and effective manner. This asset management plan (AMP) is intended to report on how the COL is meeting its obligations to maintain the public assets for which it is responsible.

This plan overviews the COL's road assets and conditions, and explains how COL works to maintain and improve the overall condition of those assets. These explanations can help answer the following questions:

- What kinds of road assets the COL has in its jurisdiction, who owns them, and the different options for maintaining these assets.
- What tools and processes the COL uses to track and manage road assets and funds.
- What condition the COL's road assets are in compared to statewide averages.
- Why some road assets are in better condition than others and the path to maintaining and improving road asset conditions through proper planning and maintenance.
- How agency transportation assets are funded and where those funds come from.
- How funds are used and the costs incurred during the COL's road assets' normal life cycle.
- What condition the COL can expect of its road assets if those assets continue to be funded at the current funding levels
- How changes in funding levels can affect the overall condition of all of the COL's road assets.

The COL owns and/or manages 415.63 centerline miles of roads. This road network can be divided into the city major network, the city minor network, the unpaved road network and the National Highway System (NHS) network based on the different factors these roads have that influence asset management decisions. A summary of the COL's current network conditions and desired goals for city major minor networks can be seen in the following graphs:



An asset management plan is required by Michigan Public Act 325 of 2018, and this document represents fulfillment of some of the COL's obligations towards meeting these requirements. This asset management plan also helps demonstrate the COL's responsible use of public funds by providing elected and appointed officials as well as the general public with inventory and condition information of the COL's road assets. The AMP also provides taxpayers with the information that they need to make informed decisions about investing in its essential transportation infrastructure.

INTRODUCTION

Asset management is defined by Public Act 325 of 2018 as “an ongoing process of maintaining, preserving, upgrading, and operating physical assets cost effectively, based on a continuous physical inventory and condition assessment and investment to achieve established performance goals.” In other words, asset management is a process that uses data to manage and track assets, like roads and bridges, in a cost-effective manner using a combination of engineering and business principles. This process is endorsed by leaders in municipal planning and transportation infrastructure, including the Michigan Municipal League (MML), County Road Association of Michigan, the Michigan Department of Transportation (MDOT) and the Federal Highway Administration (FHWA). The COL is supported in its use of asset management principles and processes by the Michigan Transportation Asset Management Council (TAMC), formed by the State of Michigan.

Asset management, in the context of this plan, ensures that public funds are spent as effectively as possible to maximize the condition of the road network. Asset management also provides a transparent decision-making process that allows the public to understand the technical and financial challenges of managing road infrastructure with a limited budget.

The COL has adopted an “asset management” business process to overcome the challenges presented by having limited financial, staffing, and other resources while needing to meet road users’ expectations. COL is responsible for maintaining and operating over 415.63 centerline miles of roads.

This plan outlines how the COL determines its strategy to maintain and upgrade road asset condition given agency goals, priorities of its road users and resources provided. An updated plan is to be released approximately every two to three years to reflect changes in road conditions, finances and priorities.

Questions regarding the use or content of this plan should be directed to Nicole McPherson, PE, at 124 W. Michigan Avenue 7th Floor, Lansing, MI 48933 or at 517-483-4458 and/or nicole.mcpherson@lansingmi.gov

A copy of this plan can be accessed on the COL's website at www.lansingmi.gov/streets. Key terms used in this plan are defined in COL's comprehensive transportation asset management plan (also known as the "compliance plan") used for compliance with PA 325 of 2018.

Knowing the basic features of the asset classes themselves is a crucial starting point to understanding the rationale behind an asset management approach. The following primer provides an introduction to pavements.

Pavement Primer

Roads come in two basic forms—paved and unpaved. Paved roads have hard surfaces. These hard surfaces can be constructed from asphalt, concrete, composite (asphalt and concrete), sealcoat and brick-and-block materials. On the other hand, unpaved roads have no hard surfaces. Examples of these surfaces are gravel and unimproved earth.

The decision to pave with a particular material as well as the decision to leave a road unpaved allows road-owning agencies to tailor a road to a particular purpose, environment and budget. Thus, selecting a pavement type or leaving a road unpaved depends upon purpose, available materials and budget. Each choice represents a trade-off between budget and costs for construction and maintenance.

Maintenance enables the road to fulfill its particular purpose. To achieve the maximum service for a pavement or an unpaved road, continual monitoring of a road's condition is essential for choosing the right time to apply the right fix in the right place.

Here is a brief overview of the different types of pavements, how condition is assessed and treatment options that can lengthen a road's service life.

Surfacing

Pavement type is influenced by several different factors, such as cost of construction, cost of maintenance, frequency of maintenance and type of maintenance. These factors can have benefits affecting asset life and road user experience.

Paved Surfacing

Typical benefits and trade-offs for hard surface types include:

- **Concrete Pavement:** Concrete pavement, which is sometimes called a rigid pavement, is durable and lasts a long time when properly constructed and maintained. Concrete pavement can have longer service periods between maintenance activities, which can help reduce maintenance-related traffic disruptions. However, concrete pavements have a high initial cost and can be challenging to rehabilitate and maintain at the end of their service life. A typical concrete pavement design life will provide service for 30 years before major rehabilitation is necessary.
- **Hot-Mix Asphalt Pavement (HMA):** HMA pavement, sometimes known as asphalt or flexible pavement, is currently less expensive to construct than concrete pavement (this is, in some part due to the closer link between HMA material costs and oil prices that HMA pavements have in

comparison with other pavement types). However, they require frequent maintenance activities to maximize their service life. A typical HMA pavement design life will provide service for 18 years before major rehabilitation is necessary. The vast majority of local-agency-owned pavements are HMA pavements.

- **Composite Pavement:** Composite pavement is a combination of concrete and asphalt layers. Typically, composite pavements are old concrete pavements exhibiting ride-related issues that were overlaid by several inches of HMA in order to gain more service life from the pavement before the need for reconstruction. Converting a concrete pavement to a composite pavement is typically used as a “holding pattern” treatment to maintain the road in usable condition until reconstruction funds become available.
- **Sealcoat Pavement:** Sealcoat pavement is a gravel road that has been sealed with a thin asphalt binder coating that has stone chips spread on top (not to be confused with a chip seal treatment over HMA pavement). This type of a pavement relies on the gravel layer to provide structure to support traffic, and the asphalt binder coating and stone chips shed water and eliminate the need for maintenance grading. Nonetheless, sealcoat pavement does require additional maintenance steps that asphalt and gravel do not require. While sealcoat pavement does not last as long as HMA pavement, it provides a low-cost alternative for lightly-trafficked areas and competes with asphalt for ride quality when properly constructed and maintained. Sealcoat pavement can provide service for ten or more years before the surface layer deteriorates and needs to be replaced.

Unpaved Surfacing

Typical benefits and tradeoffs for non-hard surfacing include:

- **Gravel:** Gravel is a low-cost, easy-to-maintain road surface made from layers of soil and aggregate (gravel). However, there are several potential drawbacks such as dust, mud and ride smoothness when maintenance is delayed or traffic volume exceeds design expectations. Gravel roads require frequent low-cost maintenance activities. Gravel can be very cost effective for lower-volume, lower-speed roads. In the right conditions, a properly constructed and maintained gravel road can provide a service life comparable to an HMA pavement and can be significantly less expensive than the other pavement types.

Pavement Condition

Besides traffic congestion, pavement condition is what road users typically notice most about the quality of the roads that they regularly use—the better the pavement condition, the more satisfied users are with the service provided by the roadwork performed by road-owning agencies. Pavement condition is also a major factor in determining the most cost-effective treatment—that is, routine maintenance, capital preventive maintenance, or structural improvement—for a given section of pavement. As pavements age, they transition between “windows” of opportunity when a specific type of treatment can be applied to gain an increase in quality and extension of service life. Routine maintenance is day-to-day, regularly-scheduled and low-cost activity applied to “good” roads to prevent water or debris damage. Capital

preventive maintenance (CPM) is a planned set of cost-effective treatments for “fair” roads that corrects pavement defects, slows further deterioration and maintains the functional condition without increasing structural capacity. COL uses pavement condition and age to anticipate when a specific section of pavement will be a potential candidate for preventive maintenance. More detail on this topic is included in the *Pavement Treatment* section of this primer.

Pavement condition data is also important because it allows road owners to evaluate the benefits of preventive maintenance projects. This data helps road owners to identify the most cost-effective use of road construction and maintenance dollars. Further, historic pavement condition data can enable road owners to predict future road conditions based on budget constraints and to determine if a road network’s condition will improve, stay the same, or degrade at the current or planned investment level. This analysis can help determine how much additional funding is necessary to meet a network’s condition improvement goals.

Paved Road Condition Rating System

COL is committed to monitoring the condition of its road network and using pavement condition data to drive cost-effective decision-making and preservation of valuable road assets. COL uses the Pavement Surface Evaluation and Rating (PASER) system to assess its paved roads. PASER was developed by the University of Wisconsin Transportation Information Center to provide a simple, efficient and consistent method for evaluating road condition through visual inspection. The widely-used PASER system has specific criteria for assessing asphalt, concrete, sealcoat and brick-and-block pavements. Information regarding the PASER system and PASER manuals may be found on the TAMC website at: <http://www.michigan.gov/tamc>.

The TAMC has adopted the PASER system for measuring statewide pavement conditions in Michigan for asphalt, concrete, composite, sealcoat and brick-and-block paved roads. Broad use of the PASER system means that data collected at COL is consistent with data collected statewide. PASER data is collected when trained inspectors in a slow-moving vehicle use GPS-enabled data collection software provided to road-owning agencies at no cost to them. The method does not require extensive training or specialized equipment, and data can be collected rapidly, which minimizes the expense for collecting and maintaining this data.

The PASER system rates surface condition using a 1-10 scale. The scale reads as follows: 10 is a brand new road with no defects that can be treated with routine maintenance, 5 is a road with distresses but is structurally sound that can be treated with preventive maintenance, and 1 is a road with extensive surface and structural distresses that is in need of total reconstruction.

Roads with lower PASER scores generally require costlier treatments to restore their quality than roads with higher PASER scores. The cost effectiveness of treatments generally decreases as the PASER number decreases. In other words, as a road deteriorates, it costs more dollars per mile to fix it, and the dollars spent are less efficient in increasing the road’s service life. Nationwide experience and asset management principles tell us that a road that has deteriorated to a PASER 4 or less will cost more to improve, and the dollars spent will be less efficient. Understanding this cost principle helps to draw meaning from the current PASER condition assessment.

The TAMC has developed statewide definitions of road condition by creating three simplified condition categories—“good,” “fair” and “poor”—that represent bin ranges of PASER scores having similar contexts with regard to maintenance and/or reconstruction. The definitions of these rating conditions are:

- “Good” roads, according to the TAMC, have PASER scores of 8, 9, or 10. Roads in this category have very few, if any, defects and only require minimal maintenance; they may be kept in this category longer using CPM. These roads may include those that have been recently seal coated or newly constructed. Figure 1 illustrates an example of a road in this category.
- “Fair” roads, according to the TAMC, have PASER scores of 5, 6, or 7. Roads in this category still show good structural support, but their surface is starting to deteriorate. Figure 1 illustrates two road examples in this category. CPM can be cost effective for maintaining the road’s “fair” condition or even raising it to “good” condition before the structural integrity of the pavement has been severely impacted. CPM treatments can be compared to shingles on a roof of a house; while the shingles add no structural value, they protect the house from structural damage by maintaining the protective function of a roof covering.
- “Poor” roads, according to the TAMC, have PASER scores of 1, 2, 3, or 4. These roads exhibit evidence that the underlying structure is failing, such as alligator cracking and rutting. These roads must be rehabilitated with treatments like a heavy overlay, crush and shape, or total reconstruction. Figure 1 illustrates a road in this category.



Figure 1: *Top image, right*– PASER 8 road that is considered “good” by the TAMC exhibit only minor defects. *Second image, right*– PASER 5 road that is considered “fair” by the TAMC. Exhibiting structural soundness but could benefit from CPM. *Third image, right*– PASER 6 road that is considered “fair” by the TAMC. *Bottom image, right*– PASER 2 road that is considered “poor” by the TAMC exhibiting significant structural distress.

The TAMC’s good, fair and poor categories are based solely on the above definitions. Therefore, caution should be exercised when comparing other condition assessments with these categories because other condition assessments may have “good,” “fair,” or “poor” designations similar to the TAMC condition

categories but with a potentially different definition. Often, other condition assessment systems define the “good,” “fair” and “poor” categories differently, thus rendering the data of little use for cross-system comparison. The TAMC’s definitions provide a statewide standard for all of Michigan’s road-owning agencies to use for comparison purposes.

PASER data is collected 100 percent every two years on all federal-aid-eligible roads in Michigan. The TAMC dictates and funds the required training and the format for this collection, and it shares the data both regionally and statewide. In addition, COL collects 50 percent of its paved non-federal-aid-eligible network annually using its own staff and resources.

Unpaved Road Condition Rating System (IBR System™)

The condition of unpaved roads can be rapidly changing, which makes it difficult to obtain a consistent surface condition rating over the course of weeks or even days. The PASER system works well on most paved roads, which have a relatively-stable surface condition over several months, but it is difficult to adapt to unpaved roads. To address the need for a reliable condition assessment system for unpaved roads, the TAMC adopted the Inventory Based Rating (IBR) System™; COL also uses the IBR System™ for rating its unpaved roads. Information about the IBR System™ can be found at <http://ctt.mtu.edu/inventory-based-rating-system>.

The IBR System™ gathers reliable condition assessment data for unpaved roads by evaluating three features—surface width, drainage adequacy and structural adequacy—in comparison to a baseline, or generally considered “good” road. These three assessments come together to generate an overall 1-10 IBR number. A high IBR number reflects a road with wide surface width, good drainage and a well-designed, well-constructed base. On the contrary, a low IBR number reflects a narrow road with no ditches and little gravel. A good, fair, or poor assessment of each feature is not an endorsement or indictment of a road’s suitability for use, but simply provides context on how these road elements compare to a baseline condition.

Figure 2 illustrates the range over which features may be assessed. The top example in Figure 2 shows an unpaved road with a narrow surface width, little or no drainage and very little gravel thickness. Using the IBR System™, these assessments would yield an IBR number of “1” for this road.

The middle example in Figure 2 shows a road with fair surface width, fair drainage adequacy and fair structural adequacy. These assessments would yield an IBR number of “7” for this road. The bottom



Figure 2: *Top*— Road with IBR number of 1 road that has poor surface width, poor drainage adequacy, and poor structural adequacy. *Middle*— Road IBR number of 7 that has fair surface width, fair drainage adequacy, and fair structural adequacy. *Bottom*— Road with IBR number of 9 road that has good surface width, good drainage adequacy, and good structural adequacy.

example in Figure 2 shows a road with good surface width, good drainage adequacy and good structural adequacy. These assessments would yield an IBR number of “9” for this road.

Unpaved roads are constructed and used differently throughout Michigan. A narrow, unpaved road with no ditches and very little gravel (low IBR number) may be perfectly acceptable in a short, terminal end of the road network such as on a road segment that ends at a lake or serves a limited number of unoccupied private properties. However, high-volume unpaved roads that serve agricultural or other industrial activities with heavy trucks and equipment will require wide surface width, good drainage and a well-designed and well-constructed base structure (high IBR number). The location and purpose of an unpaved road determines how the road must be constructed and maintained; a road does not need to be upgraded just because it has a low IBR number. The IBR numbers are not an endorsement or indictment of the road’s suitability for use but rather an indication of a road’s capabilities to support different traffic volumes and types in all weather.

The COL has 5.25 miles of unpaved streets; all are city minor streets. This section is included for information purposes. This Asset Management Plan will mainly focus on the paved street network.

Pavement Treatments

Selection of repair treatments for roads aims to balance costs, benefits and road life expectancy. All pavements are damaged by water, traffic weight, freeze/thaw cycles and sunlight. Each of the following treatments and strategies—reconstruction, structural improvements, capital preventive maintenance and others used by COL—counters at least one of these pavement-damaging forces.

Reconstruction

Pavement reconstruction treats failing or failed pavements by completely removing the old pavement and base and constructing an entirely new road (Figure 3). Every pavement has to eventually be reconstructed, which is usually done as a last resort after more cost-effective treatments are done, or if the road requires significant changes to road geometry, base or buried utilities. Compared to the other treatments, which are all improvements of the existing road, reconstruction is the most extensive rehabilitation of the roadway and therefore, also the most expensive per mile and disruptive to regular traffic patterns. Reconstructed pavement will subsequently require one or more of the other maintenance treatments to maximize service

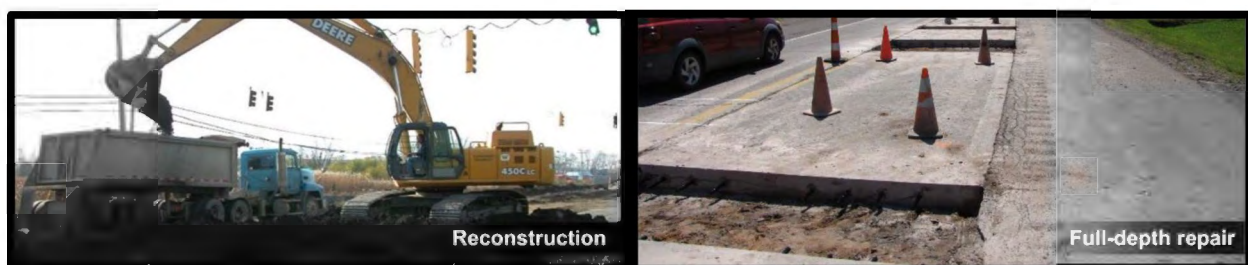


Figure 3: Examples of reconstruction treatments—(left) reconstructing a road and (right) road prepared for full-depth repair.

life and performance. A reconstructed road lasts approximately 15 years and costs \$739,000 per lane mile. The following descriptions outline the main reconstruction treatments used by COL.

Full-depth Concrete Repair

A full-depth concrete repair removes sections of damaged concrete pavement and replaces it with new concrete of the same dimensions (Figure 3). It is usually performed on isolated and deteriorated joint locations or entire slabs that are much further deteriorated than adjacent slabs. The purpose is to restore the riding surface, delay water infiltration, restore load transfer from one slab to the next and eliminate the need to perform costly, temporary patching. This repair lasts approximately 12 years and typically costs \$135,000 per mile.

Structural Improvement

Roads requiring structural improvements exhibit alligator cracking and rutting and are rated poor in the TAMC scale. Road rutting is evidence that the underlying structure is beginning to fail and it must be rehabilitated with a structural treatment. Examples of structural improvement treatments include HMA overlay with or without milling and crush and shape (Figure 4). The following descriptions outline the main structural improvement treatments used by COL.

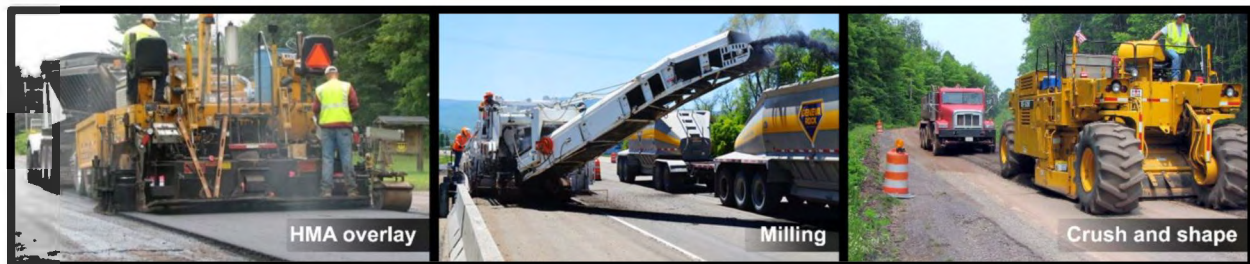


Figure 4: Examples of structural improvement treatments—(from left) HMA overlay on an unmilled pavement, milling asphalt pavement, and pulverization of a road during a crush-and-shape project.

Hot-mix Asphalt (HMA) Overlay with/without Milling

An HMA overlay is a layer of new asphalt (liquid asphalt and stones) placed on an existing pavement (Figure 4). Depending on the overlay thickness, this treatment can add significant structural strength. This treatment also creates a new wearing surface for traffic and seals the pavement from water, debris and sunlight damage. An HMA overlay lasts approximately five to ten years and costs \$397,000 per lane mile. The top layer of severely damaged pavement can be removed by milling, a technique that helps prevent structural problems from being quickly reflected up to the new surface. Milling is also done to keep roads at the same height of curb and gutter that is not being raised or reinstalled in the project. Milling adds \$18,000 per lane mile to the HMA overlay cost.

Crush and Shape

During a crush and shape treatment, the existing pavement and base are pulverized. The road surface is then reshaped and excess material is removed (Figure 4). A new wearing surface (HMA) is added. This treatment is usually done on city minor streets. Crush and shape treatments last approximately 12 years and cost \$477,000 per lane mile.

Capital Preventive Maintenance

Capital preventive maintenance (CPM) addresses pavement problems of fair-rated roads before the structural integrity of the pavement has been severely impacted. CPM is a planned set of cost-effective treatments applied to an existing roadway that slows further deterioration and maintains or improves the functional condition of the system without significantly increasing the structural capacity. Examples of such treatments include crack seal, fog seal, chip seal, slurry seal and microsurface (Figure 5). The purpose of the following CPM treatment is to protect the pavement structure, slow the rate of deterioration and/or correct pavement surface deficiencies. The following descriptions outline the main CPM treatments used by COL:



Figure 5: Examples of capital preventive maintenance treatments—(from left) crack seal, fog seal, chip seal, and slurry seal/microsurface.

Crack Seal

Water that infiltrates the pavement surface softens the pavement structure and allows traffic loads to cause more damage to the pavement than in normal dry conditions. Crack sealing helps prevent water infiltration by sealing cracks in the pavement with asphalt sealant (Figure 5). COL seals pavement cracks early in the life of the pavement to keep it as best and long functioning as possible. Crack sealing lasts approximately two years and costs \$6,900 per lane mile. Even though it does not last very long compared to other treatments, it does not cost very much compared to other treatments. This makes it a very cost effective treatment when the COL evaluates crack filling costs per year of the treatment's life.

Fog Seal

Fog sealing sprays a liquid asphalt coating onto the entire pavement surface to fill hairline cracks and prevent damage from sunlight (Figure 5). Fog seals are best for good to very good pavements and last approximately two years at a cost of \$3,500 per lane mile.

Chip Seal

A chip seal, also known as a sealcoat, is a two-part treatment. First, a liquid asphalt is sprayed onto an old pavement surface. Then, a single layer of small stone chips is spread onto the layer of wet liquid asphalt (Figure 5). The liquid asphalt seals the pavement from water and debris and holds the stone chips in place, providing a new wearing surface for traffic that can correct friction problems and help prevent further surface deterioration. Chip seals are best applied to pavements that are not exhibiting problems with strength since their purpose is to help preserve such strength. These treatments last approximately five years and cost \$32,000 per lane mile. Often a chip seal and a fog seal will be used together.

Partial-Depth Concrete Repair

A partial-depth concrete repair involves removing spalled (i.e., fragmented) or delaminated (i.e., separated into layers) areas of concrete pavement, usually near joints and cracks, and replacing such areas with new concrete (Figure 6). This is done to provide a new wearing surface in isolated areas to slow down water infiltration and to help delay further freeze/thaw damage. This repair lasts approximately five years and typically costs \$28,000 per mile.

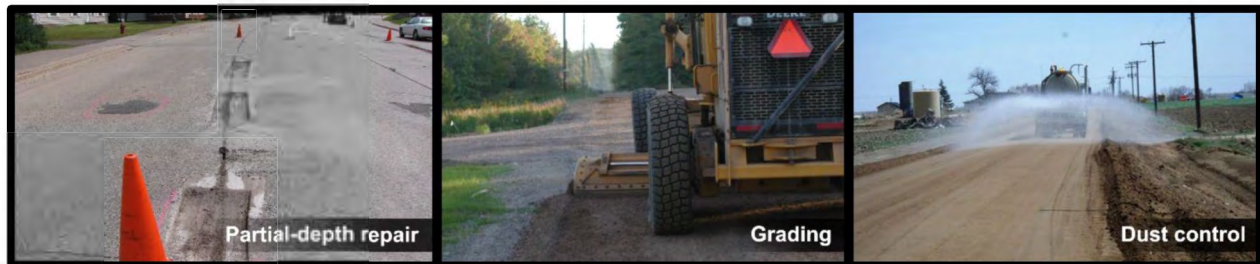


Figure 6: Examples of capital preventive maintenance treatments, cont'd—(from left) concrete road prepared for partial-depth repair, gravel road undergoing maintenance grading, and gravel road receiving dust control application (dust control photo courtesy of Weld County, Colorado, weldgov.com).

Innovative Treatments

Innovative treatments are newer, unique and non-standard treatments that provide ways of treating pavements using established engineering principles in new and cost-effective ways. COL strives to be innovative with its pavement treatments by looking for ways to prevent pavement damage and save taxpayer dollars.

Chip and Fog

In the past few years, the City of Lansing has tried different treatments from those that they have considered in the past. A chip seal would not normally be considered for an urban setting, because it leaves behind loose stones that may end up in the storm sewer system, and the rough surface left by the chip seal is not desirable for residents who are walking or biking on the street. The City has combined two preventive treatments—chip seal and fog seal—to create a “chip and fog” treatment, which has exhibited good results. The chip and fog treatment is applied to streets in the 5-7 PASER range. It is expected to last seven years and costs about \$36,500 per lane mile.

Mastic Crack Seal

The City’s street maintenance crews have started using a mastic crack seal material. The material is used to fill substantial cracks that would not be able to be filled with normal crack seal material. This is used in select locations, because the material and labor costs are higher than crack seal. It is expected to last three years and costs about \$7,600 per lane mile.

Crush and Shape, Chip Seal and Microsurface

The City has seen a slight increase in funding in the past few years, but funding levels are still inadequate to meet our needs. In 2021, the City implemented a treatment of a few select roads to see if it is a viable solution in the long term to improve our street system. A few low volume roads, mostly cul-de-sacs, were chosen to be crushed and shaped and, rather than placing new asphalt, received a double chip seal. The streets became chip seal roads instead of asphalt roads. A few gravel streets also were converted to chip seal (seal coat) roads, helping with some ongoing maintenance issues. One street was treated with a microsurface (thin layer of asphalt) over the chip seal. The project was a success and has been expanded to include more streets with similar traffic counts and conditions. The City now uses a microsurface finish over all newly converted chip seal streets.

Maintenance

Maintenance is the most cost-effective strategy for managing road infrastructure and prevents good and fair roads from reaching the poor category, which require costly rehabilitation and reconstruction treatments to create a year of service life. It is most effective to spend money on routine maintenance and CPM treatments, first; then, when all maintenance project candidates are treated, reconstruction and rehabilitation can be performed as money is available. This strategy is called a “mix-of-fixes” approach to managing pavements.

1. PAVEMENT ASSETS

Building a mile of new road costs over one million dollars or more due to the large volume of materials and equipment that are necessary. The high cost of constructing road assets underlines the critical nature of properly managing and maintaining the investments made in this vital infrastructure. The specific needs of every mile of road within an agency's overall road network is a complex assessment, especially when considering rapidly changing conditions and the varying requisites of road users; understanding each road-mile's needs is an essential duty of the road-owning agency.

In Michigan, many different governmental units (or agencies) own and maintain roads, so it can be difficult for the public to understand who is responsible for items such as planning and funding construction projects, [patching] repairs, traffic control, safety and winter maintenance for any given road. MDOT is responsible for state trunkline roads, which are typically named with "M," "I," or "US" designations regardless of their geographic location in Michigan. Cities and villages are typically responsible for all public roads within their geographic boundary with the exception of the previously mentioned state trunkline roads managed by MDOT. County road commissions (or departments) are typically responsible for all public roads within the county's geographic boundary, with the exception of those managed by cities, villages and MDOT.

In cases where non-trunkline roads fall along jurisdictional borders, local and intergovernmental agreements dictate ownership and maintenance responsibility. Quite frequently, roads owned by one agency may be maintained by another agency because of geographic features that make it more cost effective for a neighboring agency to maintain the road instead of the actual road owner. Other times, road-owning agencies may mutually agree to coordinate maintenance activities in order to create economies of scale and to take advantage of those efficiencies.

The COL is responsible for a total of 415.63 centerline of public roads, as shown in Figure 7.



Figure 7: Map showing location of COL's paved roads (i.e., those managed by COL) and their current condition for paved roads with green for good (i.e., PASER 10, 9, 8), blue for fair (i.e., PASER 7, 6, 5), and red for poor (i.e., PASER 4, 3, 2, 1),

Inventory

Michigan Public Act 51 of 1951 (PA 51), which defines how funds from the Michigan Transportation Fund (MTF) are distributed and spent by road-owning agencies, classifies roads owned by the COL as either city major or city minor roads. State statute prioritizes expenditures on the city major road network.

Figure 8 illustrates the percentage of roads owned by COL that are classified as city major and city minor roads.

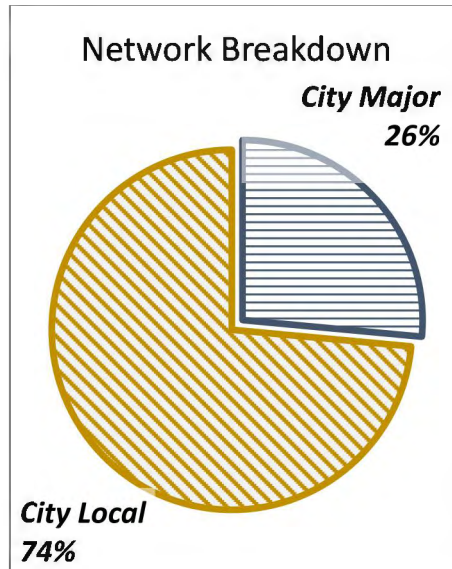


Figure 8: Percentage of city major and city minor roads for COL.

The COL manages 13.364 miles of roads that are part of the National Highway System (NHS)—roads that are critical to the nation’s economy, defense and mobility—and monitors and maintains their condition. The NHS is subject to special rules and regulations and has its own performance metrics dictated by the FHWA. While most NHS roads in Michigan are managed by MDOT, COL manages a percentage of those roads located in its jurisdiction, as shown in Figure 9.

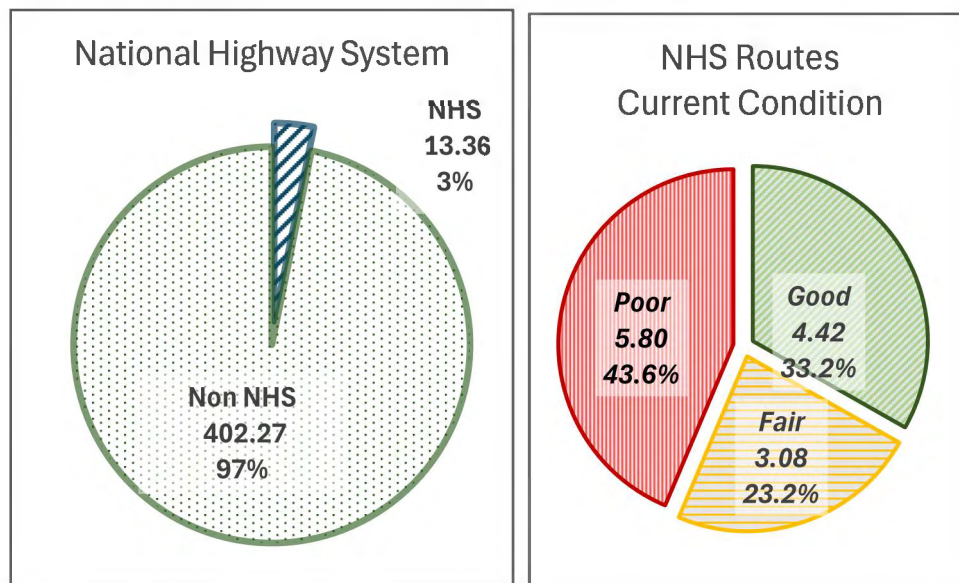


Figure 9: Miles of roads managed by COL that are part of the National Highway System and condition.

COL also owns and manages 5.25 miles of unpaved roads.

Types

The COL has multiple types of pavements in its jurisdiction, including asphalt, concrete and brick/block. The COL also has unpaved roads (i.e, gravel and/or earth). Factors influencing pavement type includes cost of construction, cost of maintenance, frequency of maintenance, type of maintenance, asset life and road user experience. More information on pavement types is available in the *Introduction's Pavement Primer*.

Figure 10 illustrates the percentage of various pavement types that the COL has in its network.

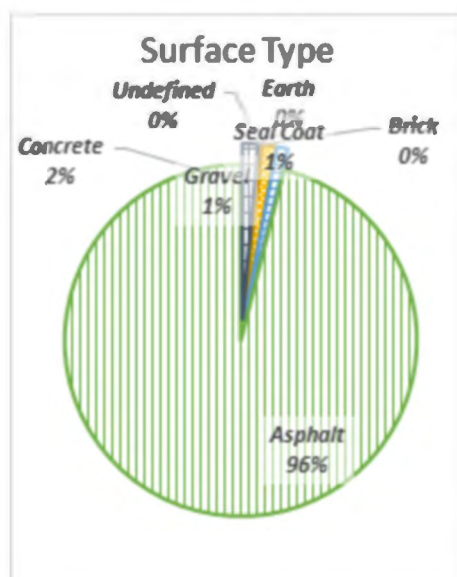


Figure 10: Pavement type by percentage maintained by COL

Locations

Locations and sizes of each asset can be found in the COL's Roadsoft database. For more detail, please refer to the agency contact listed in the *Introduction* of this pavement asset management plan.

Condition

The road characteristic that road users most readily notice is pavement condition. Pavement condition is a major factor in determining the most cost-effective treatment—that is, routine maintenance, capital preventive maintenance, or structural improvement—for a given section of pavement. The COL uses pavement condition and age to anticipate when a specific section of pavement will be a potential candidate for preventive maintenance. Pavement condition data enables the COL to evaluate the benefits of preventive maintenance projects and to identify the most cost-effective use of road construction and maintenance dollars. Historic pavement condition data can be used to predict future road conditions based on budget constraints, as well as to determine if a road network's condition will improve, stay the same, or degrade at the current or planned investment level. This analysis helps to determine how much

additional funding is necessary to meet a network’s condition improvement goals. More detail on this topic is included in the *Introduction’s Pavement Primer*.

Paved Roads

The COL is committed to monitoring the condition of its road network and using pavement condition data to drive cost-effective decision-making and preservation of valuable road assets. The COL uses the Pavement Surface Evaluation and Rating (PASER) system, which has been adopted by the TAMC for measuring statewide pavement conditions, to assess its paved roads. The PASER system provides a simple, efficient and consistent method for evaluating road condition through visual inspection. More information regarding the PASER system can be found in the *Introduction’s Pavement Primer*.

The COL collects 100 percent of its PASER data every two years on all federal-aid-eligible roads in Michigan. In addition, the COL collects 50 percent of its paved non-federal-aid-eligible network annually using its own staff and resources.

The COL’s 2024 paved city major road network has 21.9 percent of roads in the TAMC good condition category, 26.4 percent in fair and 51.7 percent in poor (Figure 11A). The paved city minor road network has 14.2 percent in good, 14.6 percent in fair and 71.2 percent in poor (Figure 11B).

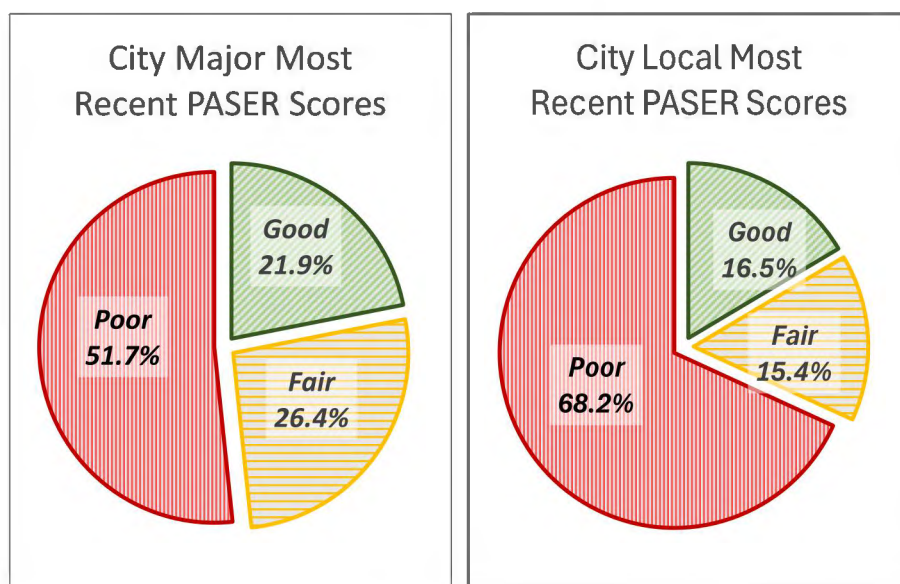


Figure 11: (A) Left: COL paved city major road network conditions by percentage of good, fair, or poor, and (B) Right: paved city minor road network conditions by percentage of good, fair, or poor

In comparison, the statewide paved city major road network has 28 percent of roads in the TAMC good condition category, 41 percent in fair and 31 percent in poor (Figure 12A). The statewide paved city minor road network has 20 percent in good, 37 percent in fair and 43 percent in poor (Figure 12B). Figure 11A and Figure 12A, in comparison, show that the COL’s paved city major road network is worse than similarly-classified roads in the rest of the state. Figure 11B and Figure 12B show that the COL’s paved city minor road network is also worse than similarly-classified roads in the rest of the state. Other road

condition graphs can be viewed on the TAMC pavement condition dashboard at: <http://www.mcgi.state.mi.us/mitrp/Data/PaserDashboard.aspx>.

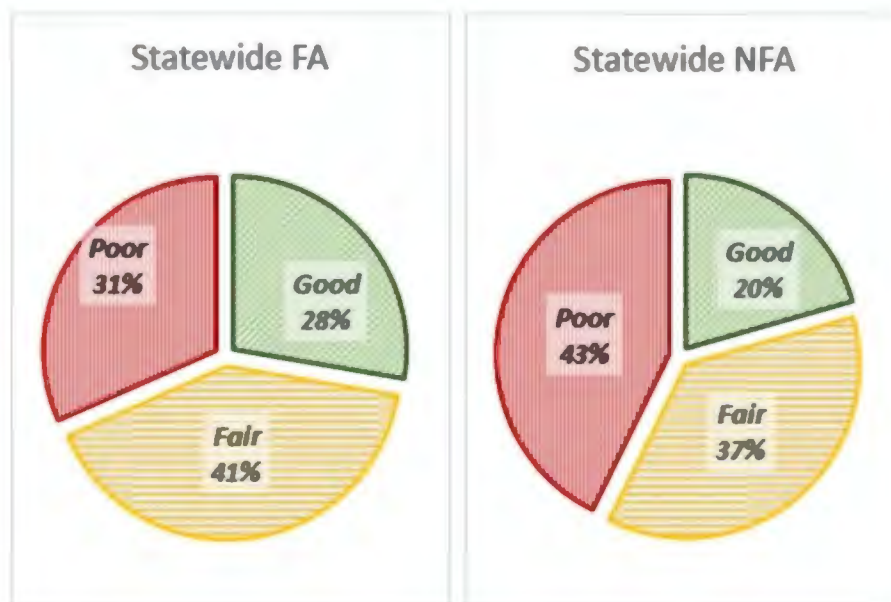


Figure 12: (A) Left: Statewide paved city major road network conditions by percentage of good, fair, or poor, and (B) Right: paved city minor road network conditions by percentage of good, fair, or poor

Many of Michigan's roadways are in rural areas, which means that agencies are able to spread their funding further than in urban areas. Many rural roads have low traffic volumes, which causes less deterioration of the roads. They also generally do not have to contend with other utilities within the roadway, which can deteriorate roads with utility repair cuts. Rural areas also do not generally have to deal with sidewalk crossings, which can devour budget dollars in a roadway project. The COL is an urban area with high traffic roads, many utilities and an extensive sidewalk network that must be updated to current standards—all of which contribute to road decay and funding shortages.

Figure 13 and Figure 14 show the number of miles for the COL's roads with PASER scores expressed in TAMC definition categories for the paved city major road network (Figure 13) and the paved city minor road network (Figure 14). The COL considers road miles on the transition line between good and fair (PASER 8). The COL considers the transition line between fair and poor (PASER 5) as representing parts of the road network where there is a risk of losing the opportunity to apply less expensive treatments that gain significant improvements in service life.

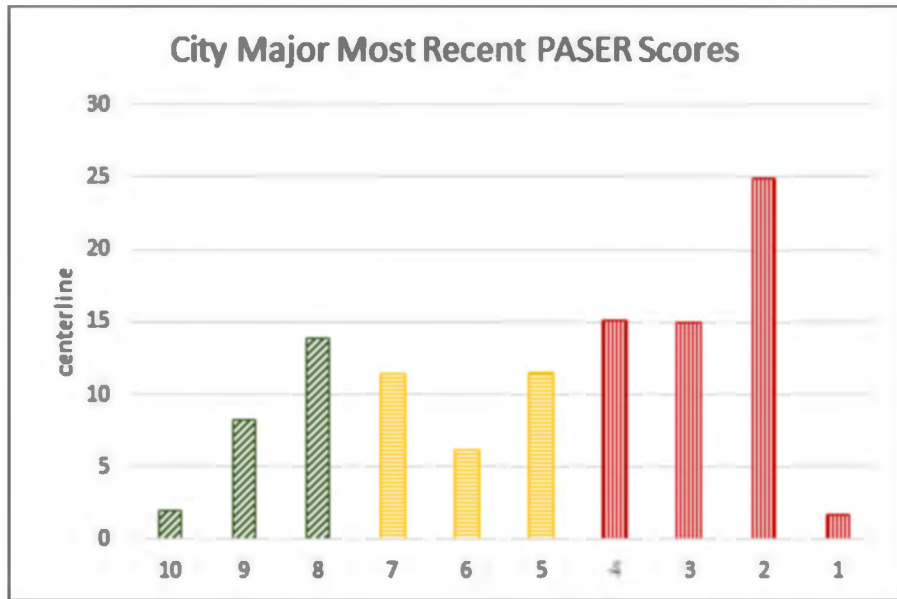


Figure 13: COL paved city major road network conditions. Bar graph colors correspond to good/fair/poor TAMC designation

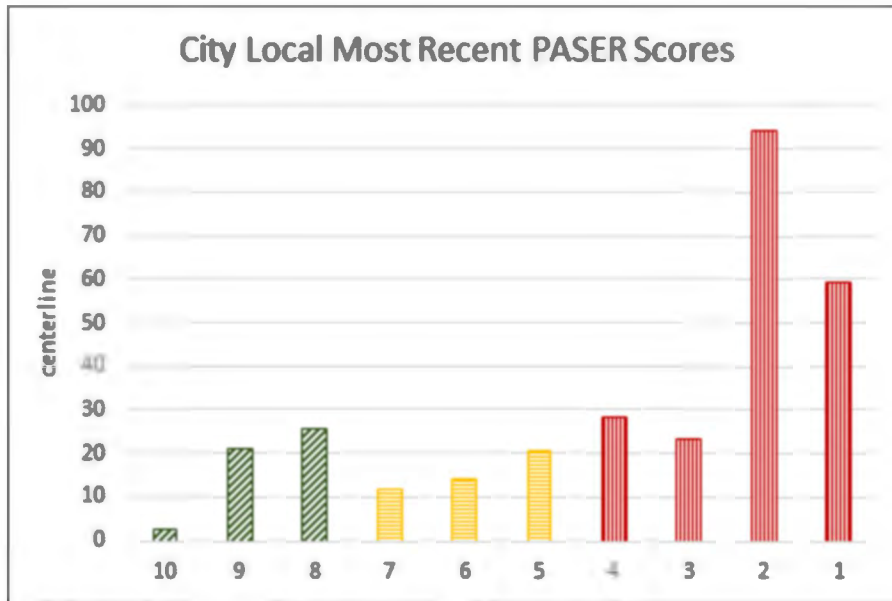


Figure 14: COL paved city minor network condition by PASER rating. Bar graph colors correspond to good/fair/poor TAMC designations.

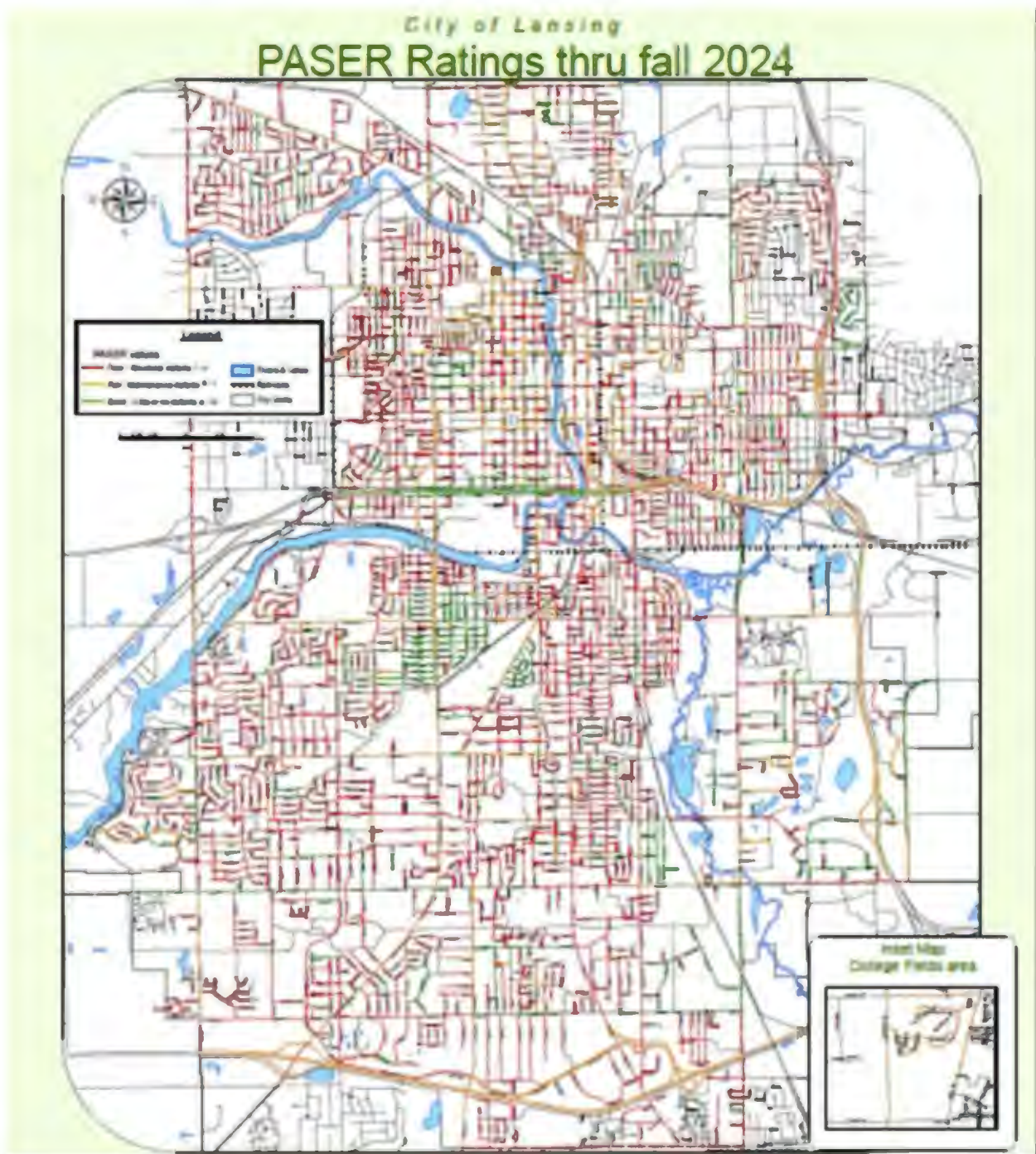


Figure 15: Provides a map illustrating the geographic location of paved roads and their respective PASER condition. An online version of the most recent PASER data is located at <https://www.mcgi.state.mi.us/tamcMap/#/>.

After many years of declining road conditions, there have been slight improvements in the overall quality of the COL's paved major roads in recent years. The increase in overall condition of the COL's paved city major road system can be observed in Figure 16 by noting the decrease in roads that are in poor condition. The percentage remained stable from 2015 to 2019, which may have indicated that the road conditions reaching the maximum percentage of poor condition of the system with the funding. The percentage of poor roads decreased after 2019, which is around the time the COL had slightly more funding and applied more preventive maintenance measures.

Comparing the COL's paved city major road condition trends illustrated in Figure 16 with overall statewide condition trends for similarly-classified roads, which are illustrated in Figure 17, shows a different trend locally in comparison to the rest of the state. The COL roads are improving at a slower rate than the average for the rest of the state.

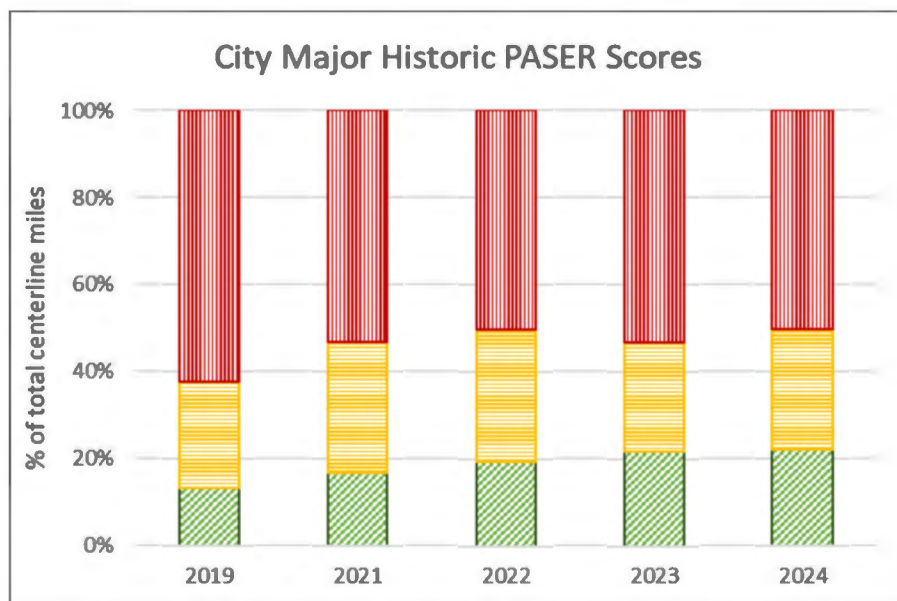


Figure 16: Historical COL paved city major road network condition trend

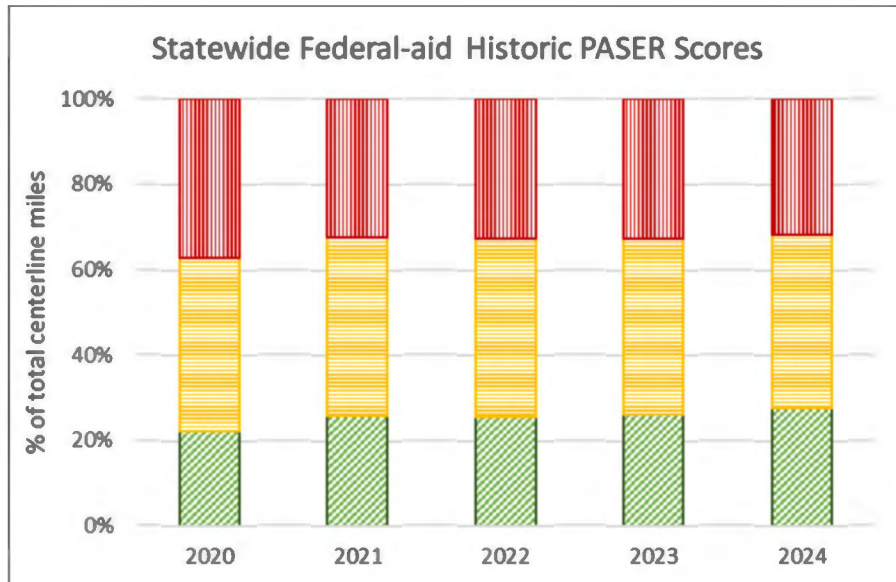


Figure 17: Historical statewide city major road network condition trend

Similarly, the COL paved city minor roads have shown slight increases in condition, in recent years. The COL minor roads have not decreased the amount in poor condition but have more rated good and less rated fair. The addition of previously unused preventive maintenance treatments and roads reconstructed with the CSO program has contributed to the increase in roads rated good.

Comparing the COL's paved city minor road condition trends illustrated in Figure 18 with overall statewide condition trends for all paved city minor roads illustrated in Figure 19 indicates the COL has a greater percentage of roads in poor condition than the statewide average. The year-to-year variation in the paved city minor road network is likely due to the fact that only a portion of the network is collected each year, both locally and statewide. This variation is likely a result of reporting bias since a representative sample of roads is not collected each year statewide.

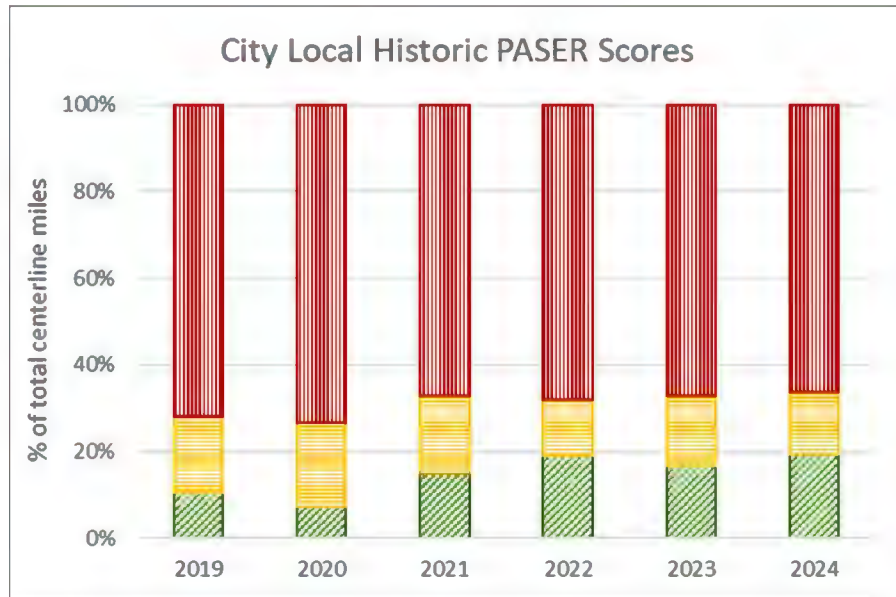


Figure 18: Historical COL paved city minor road network condition trend.

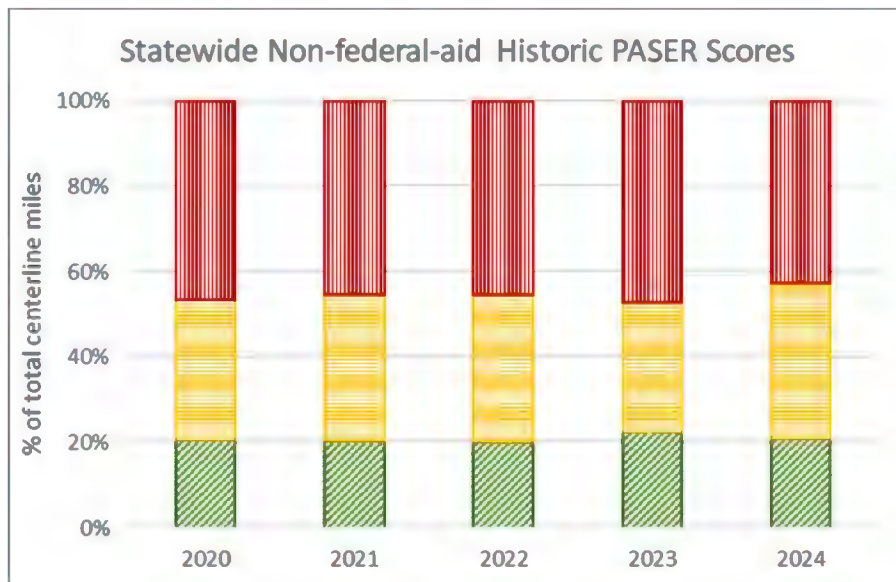


Figure 19: Historical statewide paved city minor road network condition trend

Unpaved Roads

The condition of unpaved roads can rapidly change, which makes it difficult to obtain a consistent surface condition rating over the course of weeks or even days. The TAMC adopted the Inventory Based Rating

(IBR) System™ for rating unpaved roads, which the COL uses. More information regarding the IBR System™ can be found in *Introduction's Pavement Primer*.

The COL's nearly 5.25 miles of unpaved streets are all city minor streets. They consist of short segments of streets, roughly a block or two long, located throughout the City. Historically, the City has assessed property owners for street improvements, like storm sewer and curb and gutter. Much of the City was built by those who developed the area and then turned it over to the City at the time of completion. At one time, the City had a goal and program to pave all of the gravel streets. The funding was from the City's general fund, which has not been set aside since approximately 2007. An economic recession and opposition from residents to assess paving streets contributed to the loss of funding set aside to pave gravel streets. Since then, the City has only paved gravel streets with a valid petition from the affected property owners.

Many gravel street segments are difficult for our city crews to adequately maintain. The Engineering Department works with City Operations and Maintenance (O&M) to create solutions for problem areas. A few areas have had some spot drainage improvements to help with maintaining the street. There have also been some unpaved streets that have been converted to seal coat roads.

Figure 20 shows the percentage of unpaved roads in each IBR number ranges of 10, 9, and 8; 7, 6, and 5; and 4, 3, 2, and 1, for all roads.

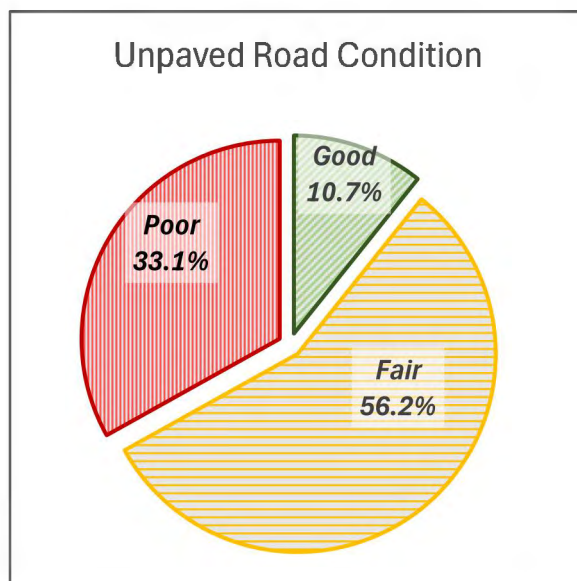


Figure 20: COL's unpaved road network condition by percentage of roads with IBR numbers of 10, 9, and 8; roads with IBR numbers of 7, 6, and 5; and IBR numbers of 4, 3, 2, and 1.

Goals

Goals help set expectations for how pavement conditions will change in the future. Pavement condition changes are influenced by water infiltration, soil conditions, sunlight exposure, traffic loading and repair work performed. The COL is not able to control any of these factors fully due to seasonal weather changes, traffic pattern changes and its limited budget. In spite of the uncontrollable variables, it is still important to set realistic network condition goals that efficiently use budget resources to build and maintain roads meeting taxpayer expectations. An assessment of the progress toward these goals is provided in the *1. Pavement Assets: Gap Analysis* section of this plan.

Goals for Paved City Major Roads

The overall goal for the COL's paved city major road network is to maintain or improve road conditions network-wide each year. The current condition for this goal is illustrated in Figure 21. The ultimate goal for the system, with adequate resources, is shown below.

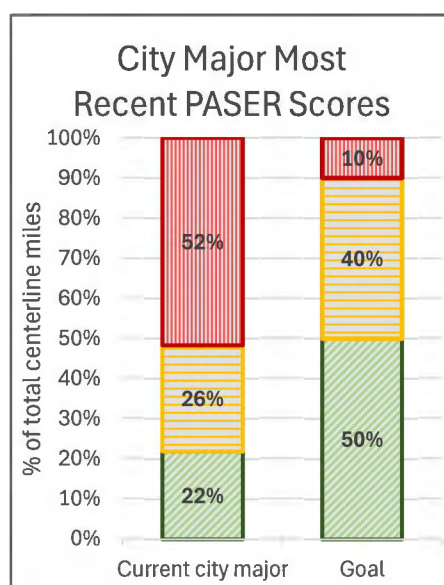


Figure 21: COL's 2024 city major road network condition by percentage of good/fair/poor

The COL's network-level pavement condition strategy for paved city major roads is:

1. Prevent its good and fair (PASER 10 - 5) paved city major from becoming poor (PASER 4 - 1).
2. Keep the percentage of paved city major roads in the poor category from growing.

Goals for Paved City Minor Roads

The overall goal for the COL's paved city minor road network is to maintain or improve road conditions network-wide each year. The current condition for this goal is illustrated in Figure 22. The ultimate goal for the system, with adequate resources, is shown below.

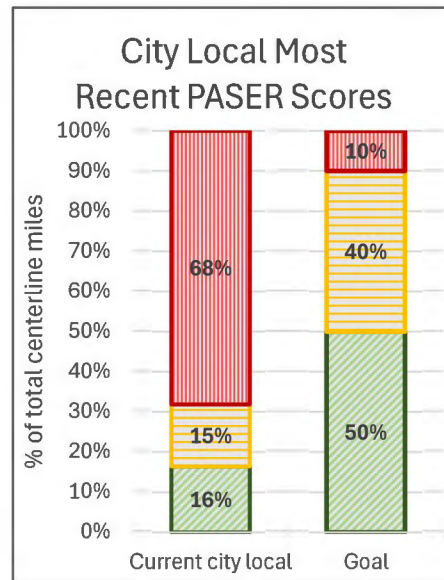


Figure 22: COL 2024 paved city minor road network condition by percentage of good/fair/poor

The COL's network-level pavement condition strategy for paved city minor roads is:

1. Prevent its good and fair (PASER 10 - 5) paved city minor roads from becoming poor (PASER 4 - 1).
2. Keep the percentage of paved city minor roads in the poor category from growing.

Modelled Trends

Roads age and deteriorate just like any other asset. All pavements are damaged by water, traffic weight, freeze/thaw cycles, sunlight and traffic weight. To offset natural deterioration and normal wear-and-tear on the road, the COL must complete treatment projects that either protect and/or add life to its pavements. The year-end condition of the whole network depends upon changes or preservation of individual road section condition that preservation treatments have affected.

The COL uses many types of repair treatments for its roads, each selected to balance costs, benefits and road life expectancy. When agency trends are modeled, any gap between goals and accomplishable work becomes evident. Financial resources influence how much work can be accomplished across the network

within agency budget and what treatments and strategies can be afforded. A full discussion of the COL's financial resources can be found in the 5. *Financial Resources* section.

Treatments and strategies that counter pavement-damaging forces include reconstruction, structural improvement, capital preventive maintenance, innovative treatments and maintenance. For a complete discussion on the pavement treatment tools, refer to the 1. *Introduction's Pavement Primer*.

Correlating with each PASER score are specific types of treatments best performed either to protect the pavement (CPM) or to add strength back into the pavement (structural improvement) (Table 1). MDOT provides guidance regarding when a specific pavement may be a candidate for a particular treatment. These identified PASER scores "trigger" the timing of projects appropriately to direct the right pavement fix at the right time, thereby, providing the best chance for a successful project. The information provided in Table 1 is a guide for identifying potential projects; however, this table should not be the sole criteria for pavement treatment selection. Other information such as future development, traffic volume, utility projects and budget play a role in project selection. This table should not be a substitute for engineering judgement.

Another factor for roads in the COL is the Combined Sewer Overflow (CSO) separation program. Streets are generally reconstructed when the combined sewers are separated in the area. Sometimes, streets are in very poor condition and cannot wait until CSO construction before receiving some kind of maintenance. Such streets are evaluated based on when the CSO construction is expected and are treated based upon the years of road life needed until reconstruction.

When choosing candidates for street projects, the City also tries to balance the funding between the four City Council Wards within the City.

Table 1: Service Life Extension (in Years) for Pavement Types Gained by Fix Type¹

Fix Type	Life Extension (in years)*			
	Flexible	Composite	Rigid	PASER
HMA crack treatment	1-3	1-3	N/A	6-7
Overband crack filling	1-2	1-2	N/A	6-7
One course non-structural HMA overlay	5-7	4-7	N/A	4-5****
Mill and one course non-structural HMA overlay	5-7	4-7	N/A	3-5
Single course chip seal	3-6	N/A	N/A	5-7†
Double chip seal	4-7	3-6	N/A	5-7†
Single course microsurface	3-5	**	N/A	5-6
Multiple course microsurface	4-6	**	N/A	4-6****
Ultra-thin HMA overlay	3-6	3-6	N/A	4-6****
Paver placed surface seal	4-6	**	N/A	5-7
Full-depth concrete repair	N/A	N/A	3-10	4-5***
Concrete joint resealing	N/A	N/A	1-3	5-8
Concrete spall repair	N/A	N/A	1-3	5-7
Concrete crack sealing	N/A	N/A	1-3	4-7
Diamond grinding	N/A	N/A	3-5	4-6
Dowel bar retrofit	N/A	N/A	2-3	3-5***
Longitudinal HMA wedge/scratch coat with surface treatment	3-7	N/A	N/A	3-5****
Flexible patching	**	**	N/A	N/A
Mastic joint repair	1-3	1-3	N/A	4-7
Cape seal	4-7	4-7	N/A	4-7
Flexible interlayer "A"	4-7	4-7	N/A	4-7
Flexible interlayer "B" (SAMI)	4-7	4-7	N/A	3-7
Flexible interlayer "C"	4-7	4-7	N/A	3-7
Fiber reinforced flexible membrane	4-7	4-7	N/A	3-7
Fog seal	**	**	N/A	7-10
GSB 88	**	**	N/A	7-10
Mastic surface treatment	**	**	N/A	7-10
Scrub seal	**	**	N/A	4-8

* The time range is the expected life extending benefit given to the pavement, not the anticipated longevity of the treatment.

** Data is not available to quantify the life extension.

*** The concrete slabs must be in fair to good condition.

**** Can be used on a pavement with a PASER equal to 3 when the sole reason for rating is rutting or severe raveling of the surface asphalt layer.

† For PASER 4 or less providing structural soundness exists and that additional pre-treatment will be required for example, wedging, bar seals, spot double chip seals, injection spray patching or other pre-treatments.

¹ Part of Appendix D-1 from *MDOT Local Agency Programs Guidelines for Geometrics on Local Agency Projects* 2017 Edition **Approved** Preventive Maintenance Treatments

NCPP Network Quick Check to Forecast Future Trends

The National Center for Pavement Preservation (NCPP) has developed an analysis method that gives an overall indicator of likely future road network condition trends. An example of this method along with a description is included as *Appendix D*.

The NCPP Quick Check works under the premise that a one-mile road segment loses one year of life each year that it is not treated with a maintenance, rehabilitation, or reconstruction project. For example, a 100-mile network loses 100 mile-years worth of life each year that it is not treated. Construction and maintenance projects add life to a road network, offsetting the steady yearly loss. For example, an overlay project that is expected to last 10 years and constructed on 5 miles of pavement will add 10-years x 5 miles = 50 mile-years of improvement, which is about half the value lost in one year on the example 100-mile network. In order for the network to remain stable, an agency would need to complete projects every year that offset all of the mile-years of loss. For this example, that would be 100 mile-years.

All Paved City Roads

Table 2 illustrates the calculations for the NCPP Quick Check method of the COL's paved city major road network for FY 2023. Results from the NCPP Quick Check for the paved city street network indicate that the volume of work that the COL has been able to afford falls far short and is not keeping up with the natural deterioration of the road network due to age and use. This number is an average of 606.87 out of an average of 917 lane miles, or 66% deficiency. **In other words, the COL's annual input into road projects is only 34% of the lane miles needed to just keep the roads from further deterioration.** Continuing the current treatment volume on this network will result in an ongoing similar deficit of mile-years of project benefit to stabilize this trend and maintain current conditions.

Table 2			Life Extension	Total
		Lane	Per Mile	Life Extension
Project/Treatment	Miles	Miles	(Years)	(lane-mile-years)
Major Streets				
Reconstruct	1.543	4.741	15	71.115
Crush and Shape	0	0	12	
Mill and Fill, 3.5 inches	0	0	10	
Mill and Fill, 2 inches	0.432	1.074	7	7.518
Mill and Fill, 1.5 inches	0.811	3.243	7	22.701
Chip and Fog Seal	0	0	3	0
Mastic Crack Seal	0	0	2	0
Crack Seal	0	0	2	0
Local (Minor) Streets				
Reconstruct	2.786	5.571	15	83.565
Crush and Shape	0.651	1.303	12	15.636
Mill and Fill, 3.5 inches	0	0	10	0
Mill and Fill, 2 inches	0	0	10	0
Overlay, 1.5 inches	6.673	14.073	7	98.511
Crush, Chip and Micro	0	0	7	0
Chip and Fog Seal	0	0	7	0
Crack Seal	2.813	5.627	2	11.254
			Total System Lane Miles	917.171
			Lane Mile Years Added	310.3
Lane Miles Treated			Yearly Loss Lane Miles	606.871

The NCPP analysis of the COL's planned projects from its currently-available budget does not allow the COL to reach its pavement condition goal given the projects planned for the next three years. The goal for the City street system is an Average PASER rating of 7. In order to achieve that goal within 10 years, the City estimates that the annual street system needs are more than **\$44.8 million**. Each year that this funding level is not achieved, the overall condition of the street system decreases.

Planned Projects

The COL tries to plan construction and maintenance projects a few years in advance. A multi-year planning threshold is required due to the time necessary to plan, design and finance construction and maintenance projects on the paved city major road network. This includes planning and programming requirements from state and federal agencies that must be met prior to starting a project and can include:

- Studies on environmental and archeological impacts
- Review of construction and design documents and plans
- Documentation of rights-of-way ownership
- Planning and permitting for stormwater discharges
- Other regulatory and administrative requirements

Per PA 499 of 2002 (later amended by PA 199 of 2007), road projects for the upcoming three years are required to be reported annually to the TAMC. Planned projects represent the best estimate of future activity; however, changes in design, funding and permitting may require the COL to alter initial plans.

For 2026-2027, the COL plans to do the following projects:

Paved City Major Projects

The COL is currently planning the construction and maintenance projects listed in *Appendix A* for the paved city major road network. The City spends approximately \$4,500,000 per year on construction and maintenance projects on the major streets network.

Paved City Minor Projects

The COL's list of possible construction and maintenance projects for the paved city minor road network can be found in *Appendix B*. The COL spend approx. \$3,500,000 on paving and maintenance projects each year.

Unpaved City Streets

A list of unpaved COL streets is in *Appendix C*. The City does not have a program for gravel streets. Paving of gravel streets is done on a case-by-case basis and is usually initiated by the residents of the street through a petition signed by more than 50 percent of the property owners. A portion of the costs are assessed to the affected property owners, which usually totals to about 30 % of the total construction cost. In writing, there are no planned projects on unpaved streets.

More detailed information on these projects can be found in *Appendix A-C*.

Gap Analysis

The current funding levels that the COL receives are not sufficient to meet the goals for the paved city major road network, the paved city minor road network and the unpaved road network. However, the COL believes that the overall condition of this network can be maintained or improved with additional funding for construction and maintenance. The City is dedicated to preventive maintenance projects on the good and fair streets to extend the life and deter deterioration. The remaining budget is spent on improving the streets and then maintaining them. The City has seen an increase in overall system condition in recent years, but it is very slight and not sustainable without additional funding. The network is currently deteriorating at approximately the same rate as the effort the City can afford to put into the network, as shown in Table 2 above.

2. FINANCIAL RESOURCES

Public entities must balance the quality and extent of services they can provide with the tax resources provided by citizens and businesses, all while maximizing how efficiently funds are used. The COL will overview its general expenditures and financial resources currently devoted to pavement maintenance and construction. This financial information is not intended to be a full financial disclosure or a formal report. Michigan agencies are required to submit an Act 51 Report to the Michigan Department of Transportation each year; this is a full financial report that outlines revenues and expenditures. This report can be obtained by request submitted to the City's agency contact (listed in this plan).

The COL had a total budget for pavement asset management of \$15,000,000 in 2025. While insufficient funding levels continue, the Asset Management Plan will help the City better understand and communicate the consequences of continued under-funding. Likewise, it will enable the City to apply the funds that are available in a manner that is most beneficial for the overall condition of the street system. The estimated annual street system needs are more than **\$44.8 million**. Each year that the funding level is not achieved, the overall condition of the street system decreases.

The City's CSO projects provide substantial funding for reconstruction of city streets within the project areas. The CSO program was suspended from 2011 to 2018. The lowest amount of road funding was in 2011, due to budget cuts during a recession and funding has remained lower than pre-2011 levels, which has contributed to the decline of City streets. A voted millage in recent years has added about \$2 million for use on residential streets.

City Street Network

The COL has historically spent \$2.0 to \$3.0 million annually on pavement-related major street projects. Over the next three years, the COL plans to spend approximately \$4,500,000 or more on city major-network projects consisting of, but not limited to, reconstruction, overlay, and preventive maintenance. Spending on projects depends on revenue from Michigan Transportation Fund (MTF), millage and federal/state programs.

City Minor Network

The COL has historically spent about \$1million of the annual streets budget on pavement-related projects. Over the next three years, the COL plans to spend \$3,500,000 or more on city minor-network projects consisting of, but not limited to reconstruction, overlay, and preventive maintenance. Spending on projects depends on revenue from Michigan Transportation Fund (MTF), millage, and federal/state programs.

3. RISK OF FAILURE ANALYSIS

Transportation infrastructure is designed to be resilient. The system of interconnecting roads and bridges maintained by the COL provides road users with multiple alternate options in the event of an unplanned disruption of one part of the system. There may be, however, key links in a transportation system that may cause significant inconvenience to users if unexpectedly closed to traffic. The following types of situations may be considered critical points of a system:

- **Geographic Divides:** Geographic divides are areas where a geographic feature (river, lake, mountain or limited access road) limits crossing points of the feature.
- **Emergency Alternate Routes for High-Volume Roads:** These are roads that are routinely used as alternate routes for high volume roads or roads that are included in an emergency response plan.
- **Limited Access Areas:** Limited access areas are roads that serve remote or limited access areas that result in long detours if closed.
- **Main Access to Key Commercial Districts:** These are areas where large number or large size business will be significantly impacted if a road is unavailable.

The City of Lansing has no critical assets considered key links based on the above criteria. There are multiple alternate options to navigate the City in the event a road is closed.

4. COORDINATION WITH OTHER ENTITIES

An asset management plan provides a significant value for infrastructure owners because it serves as a platform to engage other infrastructure owners using the same shared right of way space. The COL communicates with both public and private infrastructure owners to coordinate work in the following ways:

- The City of Lansing holds quarterly meetings with the major utilities to discuss and coordinate projects. This includes Consumers Energy, who supplies the gas for the City. Consumers has ongoing infrastructure upgrade projects throughout the City, as well as any upgrading needed ahead of planned city projects. With the quarterly meetings and close communication, the City is able to coordinate projects.
- The City also holds quarterly utility meetings with the Lansing Board of Water and Light (BWL), who maintains the drinking water, electricity and steam lines in the City. The BWL often partners with the City on projects to perform any necessary upgrades to their systems in conjunction with city projects. The BWL performs system upgrade projects independently as well, with efforts coordinated with the City to ensure traffic detours do not excessively impede traffic flow.
- The biggest coordination efforts between the utilities and the City is the City's Combined Sewer Overflow (CSO) separation program. Projects are planned years in advance and all infrastructure is updated at once. The streets within the project areas are generally reconstructed when the sewers are replaced. By upgrading the infrastructure all at once, the City does not anticipate major construction needs in an area again for at least 20 years.
- The City also has good working relationships with surrounding community and county agencies. If a project impacts a nearby agency, the City tries to alert them so that any necessary coordination can take place. The City maintains a map of all planned projects on their website, which includes any utility or MDOT projects within the area as well.

APPENDIX A: PAVED CITY MAJOR STREET PLANNED PROJECTS

Planned Major Street Projects

Project Date	Surface	Surface SubType	Roadsoft Treatment	TAMC Project Classification	NFC	Segment Name	Length	Lanes	Life Expectancy	Project ID
4/15/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Major Collector	Lowcroft Ave	0.220774	2	12	BWL FY2026
4/15/2026	Asphalt	Asphalt-Standard	REC, Reconstruct, 8" base, 5.5" HMA	Reconstruction	Major Collector	N Walnut St	0.090077	2	15	CSO 019
4/15/2026	Asphalt	Asphalt-Standard	MOV Mill & Overlay - 3.5" Thick	Heavy PM	Minor Arterial	Pleasant Grove Rd	1.002677	2	10	Pleasant Grove 2026
5/1/2026	Asphalt	Asphalt-Standard	MOV Mill & Overlay - 3.5" Thick	Heavy PM	Minor Arterial	W Cavanaugh Rd	0.523138	2	10	2026 TIP
5/18/2026	Asphalt	Asphalt-Standard	MOV Mill & Overlay - 3.5" Thick	Heavy PM	Minor Arterial	E Mount Hope Ave	0.756229	3	10	TIP Majors 2026
6/8/2026	Asphalt	Asphalt-Standard	MOV Mill & Overlay - 3.5" Thick	Heavy PM	Minor Arterial	W Miller Rd	0.974057	3	10	Miller 2026
4/15/2028	Asphalt	Asphalt-Standard	MOV Mill & Overlay - 3.5" Thick	Heavy PM	Minor Arterial	E Kalamazoo St	0.907493	3	10	FY2027 Major Street
5/5/2028	Asphalt	Asphalt-Standard	MOV Mill & Overlay - 3.5" Thick	Heavy PM	Minor Arterial	S Pennsylvania Ave	0.852534	5	10	2028 / 2029 TIP
5/5/2028	Asphalt	Asphalt-Standard	MOV Mill & Overlay - 3.5" Thick	Heavy PM	Minor Arterial	S Pennsylvania Ave	0.084799	5	10	2028 / 2029 TIP

Planned Major Street Projects

4/15/2026	Asphalt	Asphalt-Standard	REC, Reconstruct, 8" base, 5.5" HMA	Reconstruction	Minor Arterial	N Walnut St	0.17871	2	15	CSO 019
4/15/2026	Asphalt	Asphalt-Standard	REC, Reconstruct, 8" base, 5.5" HMA	Reconstruction	Minor Arterial	N Capitol Ave	0.179999	2	15	CSO 019
4/15/2028	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Not a certified public road	Sunset Ave	0.040535	2	12	BWL FY2028
5/18/2026	Asphalt	Asphalt-Standard	MOV Mill & Overlay - 3.5" Thick	Heavy PM	Other Principal Arterial	E Jolly Rd	0.503473	4	10	TIP Majors 2026
4/15/2027	Concrete	Concrete-Standard	Reconstruction	Reconstruction	Other Principal Arterial	Waverly Rd	0.385274	3	15	2027 TIP
4/15/2027	Concrete	Concrete-Standard	Reconstruction	Reconstruction	Other Principal Arterial	Waverly Rd	0.747263	4	15	2028 TIP

APPENDIX B: PAVED CITY MINOR STREET PLANNED PROJECTS

Planned Local Street Projects

Project Date	Surface	Surface SubType	Roadsoft Treatment	TAMC Project Classification	NFC	Segment Name	Length	Lanes	Life Expectancy	Project ID
4/15/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Dunlap St	0.37638	2	12	BWL FY2026
4/15/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Tenny St	0.269462	2	12	BWL FY2026
4/15/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Astor Ave	0.287427	2	12	BWL FY2026
4/15/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	W Hodge Ave	0.475846	2	12	BWL FY2026
4/15/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Pierce Rd	0.74986	2	12	BWL FY2026
4/15/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Palmer St	0.133346	2	12	BWL FY2026
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Tecumseh River Rd	0.520564	2	12	Tecumseh 2026
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Emerald Cir	0.031323	2	12	FY26 Local Streets - A
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Imperial Cir	0.031527	2	12	FY26 Local Streets - A
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Majestic Cir	0.035742	2	12	FY26 Local Streets - A
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Kirkwood Rd	0.108306	2	12	FY26 Local Streets - A
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	N Homer St	0.232929	2	12	FY26 Local Streets - A
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Stoneleigh Dr	0.572331	2	12	FY26 Local Streets B
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Staten Ave	0.129694	2	12	FY26 Local Streets B
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	N Wadsworth Dr	0.255561	2	12	FY26 Local Streets D
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Richmond St	0.212565	2	12	FY26 Local Streets D

Planned Local Street Projects

5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Bernard St	0.147648	2	12 FY26 Local Streets D
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Bridgeport Dr	0.254921	2	12 FY26 Local Streets C
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Grenville Ln	0.069191	2	12 FY26 Local Streets C
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Truxton Ln	0.159133	2	12 FY26 Local Streets C
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Rockingham Dr	0.193387	2	12 FY26 Local Streets C
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Gilford Cir	0.079013	2	12 FY26 Local Streets C
5/1/2026	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Trudy Ln	0.242423	2	12 FY26 Local Streets B
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	E Willard Ave	0.311629	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Lyons Ave	0.260498	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Paris Ave	0.529351	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Denver St	0.541599	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Park Blvd	0.038204	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Everett Ln	0.061319	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Everett Ln	0.052482	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Tenny St	0.09052	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	E Hodge Ave	0.259237	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	W Berry Ave	0.540649	2	12 BWL FY2027
4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Palmer St	0.197072	2	12 BWL FY2027

Planned Local Street Projects

4/15/2027	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Park Blvd	0.294993	2	12	BWL FY2027
4/15/2028	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Leon Ave	0.137	2	12	BWL FY2028
4/15/2028	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Cumberland Rd	0.109688	2	12	BWL FY2028
4/15/2028	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Dillingham Ave	0.137529	2	12	BWL FY2028
4/15/2028	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Barstow Rd	0.29673	2	12	BWL FY2028
4/15/2028	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Westbury Rd	0.28815	2	12	BWL FY2028
4/15/2028	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Sunset Ave	0.528563	2	12	BWL FY2028
4/15/2028	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Melvin Ct	0.112431	2	12	BWL FY2028
4/15/2028	Asphalt	Asphalt-Standard	CRSH Crush & Reshape	Rehabilitation	Local	Kaplin St	0.086712	2	12	BWL FY2028
4/15/2026	Asphalt	Asphalt-Standard	REC, Reconstruct, 8" base, 5.5" HMA	Reconstruction	Local	W Madison St	0.31767	2	15	CSO 019
4/15/2026	Asphalt	Asphalt-Standard	REC, Reconstruct, 8" base, 5.5" HMA	Reconstruction	Local	W Kilborn St	0.076893	2	15	CSO 019
4/15/2026	Asphalt	Asphalt-Standard	REC, Reconstruct, 8" base, 5.5" HMA	Reconstruction	Local	Seymour Ave	0.2708	2	15	CSO 019
4/15/2026	Asphalt	Asphalt-Standard	REC, Reconstruct, 8" base, 5.5" HMA	Reconstruction	Local	Grand Ct	0.039636	2	15	CSO 019
4/15/2026	Asphalt	Asphalt-Standard	REC, Reconstruct, 8" base, 5.5" HMA	Reconstruction	Local	N Washington Ave	0.090231	2	15	CSO 019

APPENDIX C: UNPAVED STREETS

City Gravel Streets

RoadName	Length	SegmentName	FromDesc	ToDesc	SurfaceType	SurfaceSubType	CurrentPA SERRating	LastIBRRating	LastIBRRatingDate	Lanes	Width	LegalSystem
Muskegon Ave	0.041	Muskegon Ave		Glenrose	Gravel	Gravel-Standard	2	5	8/26/2022	2	25	CtyLocSt
Labelle St	0.015	Labelle St		Kenbrook Rd	Gravel	Gravel-Standard	2	9	6/24/2022	2	0	CtyLocSt
Taffy Pkwy	0.066	Taffy Pkwy		Haag	Gravel	Gravel-Standard	2	7	6/24/2022	2	0	CtyLocSt
Kenwood Ave	0.062	Kenwood Ave	Pennsylvania	Alpha St	Gravel	Gravel-Standard	2			2	26	CtyLocSt
Summerville Ave	0.049	Summerville Ave	Pavement change	Daleford	Gravel	Gravel-Standard	2			2	20	CtyLocSt
Hughes Rd	0.052	Hughes Rd	Reo	Dead End or Start	Gravel	Gravel-Standard	2	1	6/17/2022	2	0	CtyLocSt
Southgate Ave	0.029	Southgate Ave	Vernon	Parkway	Gravel	Gravel-Standard	4			2	30	CtyLocSt
Fayette St	0.035	Fayette St	Dead End or Start	Ada	Gravel	Gravel-Standard	2			2	26	CtyLocSt
Taylor St	0.036	Taylor St	Attribute Change	Randolph	Gravel	Gravel-Standard	2	5	9/2/2022	2	30	CtyLocSt
Lawler Ct	0.052	Lawler Ct	Chestnut	Dead End or Start	Gravel	Gravel-Standard	2			2	0	CtyLocSt
Emily Ave	0.059	Livernois Ave		Cavanaugh	Gravel	Gravel-Standard	4			2	0	CtyLocSt
Annetta Rd	0.059	Annetta Rd	Kenbrook	Dead End or Start	Gravel	Gravel-Standard	2	7	6/24/2022	2	0	CtyLocSt
E Holmes Rd	0.054	E Holmes Rd	Holmes	Dead End or Start	Gravel	Gravel-Standard	2			2	0	CtyLocSt
Newark Ave	0.052	Newark Ave	Martin Luther King Jr	Dead End or Start	Gravel	Gravel-Standard	2	6	6/24/2022	2	0	CtyLocSt
W Fairfield Ave	0.111	W Fairfield Ave	Felt	Dead End or Start	Gravel	Gravel-Standard	2	1	9/2/2022	2	0	CtyLocSt
W Willow St	0.034	E Willow St	Washington	Dead End or Start	Gravel	Gravel-Standard	2	5	8/19/2022	2	36	CtyLocSt
Kenbrook Rd	0.126	Kenbrook Rd	Annetta Rd	Martin Luther King Jr	Gravel	Gravel-Standard	2	9	6/24/2022	2	0	CtyLocSt
Kenbrook Rd	0.07	Kenbrook Rd	Labelle	Annetta Rd	Gravel	Gravel-Standard	2	9	6/24/2022	2	0	CtyLocSt

City Gravel Streets

Labelle St	0.068	Labelle St	Kenbrook Rd	Grovenburg	Gravel	Gravel-Standard	2	9	6/24/2022	2	0	CtyLocSt
Labelle St	0.034	Labelle St	Labelle		Gravel	Gravel-Standard	2	9	6/24/2022	2	0	CtyLocSt
Daft St	0.015	Daft St	Dead End or Start	Victoria	Gravel	Gravel-Standard	2			2	0	CtyLocSt
Southbrook Ave	0.087	Southbrook Ave	Miller	Dead End or Start	Gravel	Gravel-Standard	2	6	8/12/2022	2	0	CtyLocSt
Balzer St	0.048	Balzer St	Ferley	Dead End or Start	Gravel	Gravel-Standard	2	6	7/1/2022	2	0	CtyLocSt
Worden St	0.111	Worden St	Aurelius	Dead End or Start	Gravel	Gravel-Standard	2			2	0	CtyLocSt
Irene St	0.141	Irene St	Aurelius	Dead End or Start	Gravel	Gravel-Standard	2			2	0	CtyLocSt
Boettcher Ct	0.074	Boettcher Ct	Jolly	Dead End or Start	Gravel	Gravel-Standard	4			2	0	CtyLocSt
Taffy Pkwy	0.11	Taffy Pkwy	Hughes		Gravel	Gravel-Standard	2	7	6/24/2022	2	0	CtyLocSt
Kennedy Dr	0.074	Kennedy Dr	Hughes Rd	Haag	Gravel	Gravel-Standard	2	7	6/24/2022	2	0	CtyLocSt
Kennedy Dr	0.072	Kennedy Dr	Valencia	Hughes Rd	Gravel	Gravel-Standard	2	6	6/24/2022	2	0	CtyLocSt
Kennedy Dr	0.071	Kennedy Dr	Selfridge	Valencia	Gravel	Gravel-Standard	2	6	6/24/2022	2	0	CtyLocSt
Eaton Ct	0.056	Eaton Ct	Martin Luther King Jr	Dead End or Start	Gravel	Gravel-Standard	2	6	6/17/2022	2	26	CtyLocSt
Marion Ave	0.088	Marion Ave	Hillcrest	Pompton	Gravel	Gravel-Standard	2	6	6/17/2022	2	0	CtyLocSt
Starr Ave	0.093	Starr Ave	Reo	Dead End or Start	Gravel	Gravel-Standard	2	6	6/17/2022	2	30	CtyLocSt
Atlas Ave	0.026	Atlas Ave	Dunlap	Dead End or Start	Gravel	Gravel-Standard	2			2	30	CtyLocSt
Stirling Ave	0.027	Stirling Ave	Dunlap St	Dead End or Start	Gravel	Gravel-Standard	2			2	26	CtyLocSt
Stirling Ave	0.062	Stirling Ave	Loa	Dunlap St	Gravel	Gravel-Standard	2			2	26	CtyLocSt
Hoyt Ave	0.164	Hoyt Ave	Aurelius	Ruth	Gravel	Gravel-Standard	4			2	0	CtyLocSt
Ruth Ave	0.073	Ruth Ave	Hoyt Ave	Dead End or Start	Gravel	Gravel-Standard	2			2	0	CtyLocSt

City Gravel Streets

Ruth Ave	0.273	Ruth Ave	Willard	Hoyt Ave	Gravel	Gravel-Standard	4		2	0	CtyLocSt
E Willard Ave	0.166	E Willard Ave	Ruth	Aurelius	Gravel	Gravel-Standard	4		2	26	CtyLocSt
Garfield St	0.059	Garfield St	Greenlawn	Lincoln	Gravel	Gravel-Standard	2		2	26	CtyLocSt
Elmore St	0.051	Elmore St	Clifton	Sunnyside	Gravel	Gravel-Standard	4		2	26	CtyLocSt
Elmore St	0.019	Elmore St	Dead End or Start	Devonshire	Gravel	Gravel-Standard	4		2	26	CtyLocSt
Fauna Ave	0.08	Fauna Ave	Ingham St	Viking	Gravel	Gravel-Standard	2	6 7/29/2022	2	30	CtyLocSt
Fauna Ave	0.094	Fauna Ave	Catherine	Ingham St	Gravel	Gravel-Standard	2	6 7/29/2022	2	30	CtyLocSt
Fauna Ave	0.067	Fauna Ave	Deerfield	Catherine	Gravel	Gravel-Standard	2	6 7/29/2022	2	30	CtyLocSt
Platt St	0.093	Platt St	Elm	E Hazel St	Gravel	Gravel-Standard	2		2	30	CtyLocSt
S Grand Ave	0.03	S Grand Ave	Hazel	Dead End or Start	Gravel	Gravel-Standard	2		2	30	CtyLocSt
Glenn St	0.065	Glenn St	Martin Luther King Jr	Princeton	Gravel	Gravel-Standard	2		2	26	CtyLocSt
Cypress St	0.061	Cypress St	Knollwood	Christopher	Gravel	Gravel-Standard	2	1 8/19/2022	2	26	CtyLocSt
Cross St	0.061	Cross St	Knollwood	Christopher	Gravel	Gravel-Standard	2	1 8/19/2022	2	26	CtyLocSt
Glenrose Ave	0.035	Glenrose Ave	Muskegon	Attribute Change	Gravel	Gravel-Standard	2		2	26	CtyLocSt
Muskegon Ave	0.092	Muskegon Ave	Glenrose	Robertson	Gravel	Gravel-Standard	2	5 8/26/2022	2	25	CtyLocSt
Muskegon Ave	0.143	Muskegon Ave	Comfort		Gravel	Gravel-Standard	2	5 8/26/2022	2	25	CtyLocSt
Redwood St	0.051	Redwood St	Roselawn Ave	Robertson	Gravel	Gravel-Standard	2	1 8/26/2022	2	26	CtyLocSt
Redwood St	0.043	Redwood St	Glenrose	Roselawn Ave	Gravel	Gravel-Standard	2	2 8/26/2022	2	26	CtyLocSt
Kaplin St	0.087	Kaplin St	Sunset	Dead End or Start	Gravel	Gravel-Standard	2	1 8/26/2022	2	30	CtyLocSt
8th Ave	0.017	8th Ave	Dead End or Start	Gier	Gravel	Gravel-Standard	2	1 8/5/2022	2	0	CtyLocSt

City Gravel Streets

Garland St	0.039	Garland St		Orchard Glen	Gravel	Gravel-Standard	2	2	8/5/2022	2	0	CtyLocSt
E Harris St	0.056	E Harris St	Dead End or Start	Creston	Gravel	Gravel-Standard	2	6	9/2/2022	2	26	CtyLocSt
W Paulson St	0.093	W Paulson St	Felt	Dead End or Start	Gravel	Gravel-Standard	2	2	9/2/2022	2	0	CtyLocSt
W Frederick Ave	0.045	W Frederick Ave	Dead End or Start	Northdale	Gravel	Gravel-Standard	2	5	9/2/2022	2	26	CtyLocSt
Stockman Ct	0.072	Stockman Ct	Grand River	Dead End or Start	Gravel	Gravel-Standard	2	6	9/2/2022	2	26	CtyLocSt
E Howe Ave	0.015	E Howe Ave	Dead End or Start	[Surface Segment Split]	Gravel	Gravel-Standard	2	1	9/8/2022	2	0	CtyLocSt
Chilson Ave	0.138	Chilson Ave	Dead End or Start	[Surface Segment Split]	Gravel	Gravel-Standard	2	2	9/8/2022	2	0	CtyLocSt
Windsor St	0.094	Windsor St	Tecumseh Ave	Mildred	Gravel	Gravel-Standard	2	4	9/2/2022	2	26	CtyLocSt
Windsor St	0.079	Windsor St	Greenoak	Tecumseh Ave	Gravel	Gravel-Standard	2	1	9/2/2022	2	26	CtyLocSt
Tecumseh River Rd	0.023	Tecumseh Ave	Biltmore	Attribute Change	Gravel	Gravel-Standard	2	1	9/2/2022	2	30	CtyLocSt
Cady Ct	0.035	Cady Ct	Pennsylvania Ave	Dead End or Start	Gravel	Gravel-Standard	2			2	0	CtyLocSt
McKim Ave	0.02	McKim Ave	Dead End or Start	Donora	Gravel	Gravel-Standard	2			2	26	CtyLocSt
Kenwood Ave	0.042	Kenwood Ave	Alpha St	Dead End or Start	Gravel	Gravel-Standard	2			2	26	CtyLocSt
Kenwood Ave	0.022	Kenwood Ave	Dead End or Start	Donora	Gravel	Gravel-Standard	2			2	26	CtyLocSt
Edison Ave	0.062	Edison Ave	Alpha	Pennsylvania	Gravel	Gravel-Standard	2			2	26	CtyLocSt
Leonard Ct	0.083	Leonard Ct	Madison	Oakland	Gravel	Gravel-Standard	2			2	0	CtyLocSt
Elizabeth St	0.061	Elizabeth St	S Foster Ave	Francis	Gravel	Gravel-Standard	2			2	0	CtyLocSt
Elizabeth St	0.063	Elizabeth St	Hayford	S Foster Ave	Gravel	Gravel-Standard	2			2	0	CtyLocSt
Harton St	0.062	Harton St	Magnolia	Hayford	Gravel	Gravel-Standard	2			2	0	CtyLocSt

City Gravel Streets

Harton St	0.063	Harton St	Fairview	Magnolia	Gravel	Gravel- Standard	2	2	0	CtyLocSt
	5.25									

APPENDIX D

A Quick Check of Your Highway Network Health

*By Larry Galehouse, Director, National Center for Pavement Preservation
and*

Jim Sorenson, Team Leader, FHWA Office of Asset Management

Historically, many highway agency managers and administrators have tended to view their highway systems as simply a collection of projects. By viewing the network in this manner, there is a certain comfort derived from the ability to match pavement actions with their physical/functional needs. However, by only focusing on projects, opportunities for strategically managing entire road networks and asset needs are overlooked. While the “bottom up” approach is analytically possible, managing networks this way can be a daunting prospect. Instead, road agency administrators have tackled the network problem from the “top down” by allocating budgets and resources based on historical estimates of need. Implicit in this approach, is a belief that the allocated resources will be wisely used and prove adequate to achieve desirable network service levels.

Using a quick checkup tool, road agency managers and administrators can assess the needs of their network and other highway assets and determine the adequacy of their resource allocation effort. A quick checkup is readily available and can be usefully applied with minimum calculations.

It is essential to know whether present and planned program actions (reconstruction, rehabilitation, and preservation) will produce a net improvement in the condition of the network. However, before the effects of any planned actions on the highway network can be analyzed, some basic concepts should be considered.

Assume every lane-mile segment of road in the network was rated by the number of years remaining until the end of life (terminal condition). Remember that terminal condition does not mean a failed road. Rather, it is the level of deterioration that management has set as a minimum operating condition for that road or network. Consider the rated result of the current network condition as shown in Figure 1.

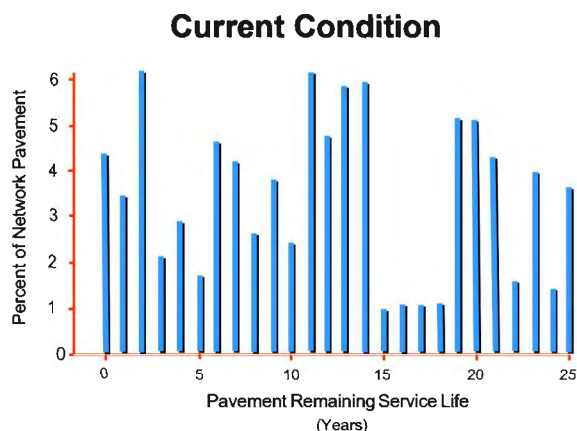


Figure 1 – Current Condition

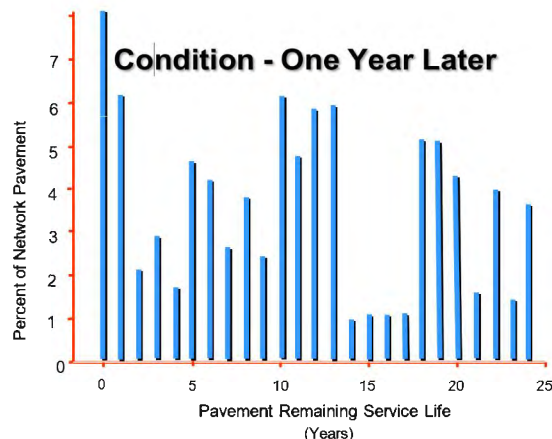


Figure 2 – Condition 1-Year Later

If no improvements are made for one year, then the number of years remaining until the end of life will decrease by one year for each road segment, except for those stacked at zero. The zero- stack will increase significantly because it maintains its previous balance and also becomes the recipient of those roads having previously been stacked with one year remaining. Thus, the entire network will age one year to the condition shown in Figure 2, with the net lane-miles in the zero stack raised from 4% to 8% of the network.

Some highway agencies still subscribe to the old practice of assigning their highest priorities to the reconstruction or rehabilitation of the worst roads. This practice of “worst first”, i.e., continually addressing only those roads in the zero-stack, is a proven death spiral strategy because reconstruction and rehabilitation are the most expensive ways to maintain or restore serviceability. Rarely does sufficient funding exist to sustain such a strategy.

The measurable loss of pavement life can be thought of as the network’s total lane-miles multiplied by 1 year, i.e., lane-mile-years. Consider the following quantitative illustration. Suppose your agency’s highway network consisted of 4,356 lane-miles. Figure 3 shows that without intervention, it will lose 4,356 lane-mile-years per year.

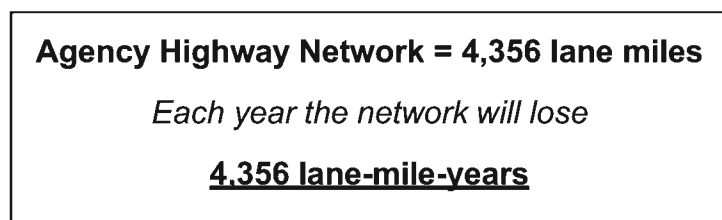


Figure 3 – Network Lane Miles

To offset this amount of deterioration over the entire network, the agency would need to annually perform a quantity of work equal to the total number of lane-mile-years lost just to maintain the status quo. Performing work which produces fewer than 4,356 lane-mile-years would lessen the natural decline of the overall network, but still fall short of maintaining the

status quo. However, if the agency produces more than 4,356 lane-mile-years, it will improve the network.

In the following example, an agency can easily identify the effect of an annual program consisting of reconstruction, rehabilitation, and preservation projects on its network. This assessment involves knowing the only two components for reconstruction and rehabilitation projects: lane-miles and design life of each project fix. Figure 4 displays the agency's programmed activities for reconstruction and Figure 5 displays it for rehabilitation.

Reconstruction Evaluation

Projects this Year = 2

Project	Design Life	Lane Miles	Lane Mile Years	Lane Mile Cost	Total Cost
No. 1	25 yrs	22	550	\$463,425	\$10,195,350
No. 2	30 yrs	18	540	\$556,110	\$10,009,980
Total			= 1,090		\$20,205,330

Figure 4 - Reconstruction

Rehabilitation Evaluation

Projects this Year = 3

Project	Design Life	Lane Miles	Lane Mile Years	Lane Mile Cost	Total Cost
No. 10	18 yrs	22	396	\$263,268	\$5,791,896
No. 11	15 yrs	28	420	\$219,390	\$6,142,920
No. 12	12 yrs	32	384	\$115,848	\$3,707,136
Total			= 1,200		\$15,641,952

Figure 5 – Rehabilitation

When evaluating pavement preservation treatments in this analysis, it is appropriate to think in terms of "extended life" rather than design life. The term design life, as used in the reconstruction and rehabilitation tables, relates better to the new pavement's structural adequacy to handle repetitive loadings and environmental factors. This is not the goal of pavement preservation. Each type of treatment/repair has unique benefits that should be targeted to the specific mode of pavement deterioration. This means that life extension depends on factors such as type and severity of distress, traffic volume, environment, etc. Figure 6 exhibits the agency's programmed activities for preservation.

Preservation Evaluation

Project	Life Extension	Lane Miles	Lane Mile Years	Lane Mile Cost	Total Cost
No. 101	2 yrs	12	24	\$2,562	\$30,744
No. 102	3 yrs	22	66	\$7,743	\$170,346
No. 103	5 yrs	26	130	\$13,980	\$363,480
No. 104	7 yrs	16	112	\$29,750	\$476,000
No. 105	10 yrs	8	80	\$54,410	\$435,280
Total			= 412		\$1,475,850

Figure 6 – Preservation

To satisfy the needs of its highway network, the agency must accomplish 4,356 lane-mile-years of work per year. The agency's program will derive 1,090 lane-mile-years from reconstruction, 1,200 lane-mile-years from rehabilitation, and 412 lane-mile-years from pavement preservation, for a total of 2,702 lane-mile-years. Thus, these programmed activities fall short of the minimum required to maintain the status quo, and hence would contribute to a net loss in network pavement condition of 1,653 lane-mile-years. The agency's programmed tally is shown in Figure 7.

Network Trend

Programmed Activity	Lane-Mile-Years	Total Cost
Reconstruction	1,090	\$20,205,330
Rehabilitation	1,200	\$15,641,952
Preservation	412	\$1,475,850
Total	2,702	\$37,323,132
Network Needs (Loss)	(-) 4,356	
Deficit =		- 1,654

Figure 7 – Programmed Tally

This exercise can be performed for any pavement network to benchmark its current trend. Using this approach, it is possible to see how various long-term strategies could be devised and evaluated against a policy objective related to total-network condition.

Once the pavement network is benchmarked, an opportunity exists to correct any shortcomings in the programmed tally. A decision must first be made whether to improve the network condition or just to maintain the status quo. This is a management decision and system goal.

Continuing with the previous example, a strategy will be proposed to prevent further network deterioration until additional funding is secured.

The first step is to modify the reconstruction and rehabilitation (R&R) programs. An agonizing decision must be made about which projects to defer, eliminate, or phase differently with multi- year activity. In Figure 8, reductions are made in the R&R programs to recover funds for less costly treatments in the pavement preservation program. The result of this decision recovered slightly over \$6 million.

Program Modification

<u>Programmed Activity</u>	<u>Lane-Mile-Years</u>	<u>Cost Savings</u>
Reconstruction <i>31 lane miles</i> (40 lane miles)	<i>820</i> (1,090)	<i>\$5,004,990</i>
Rehabilitation <i>77 lane miles</i> (82 lane miles)	<i>1,125</i> (1,200)	<i>\$1,096,950</i>
Pavement Preservation (84 lane-miles)	(412)	0
Total =	<i>2,357</i> (2,702)	<i>\$6,101,940</i>

Figure 8 – Revised R & R Programs

Modifying the reconstruction and rehabilitation programs has reduced the number of lane-mile- years added to the network from 2,702 to 2,357 lane-mile-years. However, using less costly treatments elsewhere in the network to address roads in better condition will increase the number of lane-mile-years added to the network. A palette of pavement preservation treatments, or mix of fixes, is available to address the network needs at a much lower cost than traditional methods.

Preservation treatments are only suitable if the right treatment is used on the right road at the right time. In Figure 9, the added treatments used include concrete joint resealing, thin hot-mix asphalt (HMA) overlay ($\leq 1.5''$), microsurfacing, chip seal, and crack seal. By knowing the cost per lane-mile and the treatment life-extension, it is possible to create a new strategy (costing \$36,781,144) that satisfies the network need. In this example, the agency saved in excess of \$500,000 from traditional methods (costing \$37,323,132), while erasing the 1,653 lane-mile-year deficit produced by the initial program tally. Network Strategy

Programmed Activity		Lane Mile Years	Total Cost
Reconstruction (31 lane-miles)		820	\$15,200,340
Rehabilitation (77 lane-miles)		1,125	\$14,545,002
Pavement Preservation (84 lane-miles)		412	\$1,475,850
Concrete Resealing	(4 years x 31 lane-miles)	124	\$979,600
Thin HMA Overlay	(10 years x 16 lane-miles)	160	\$870,560
Microsurfacing	(7 years x 44 lane-miles)	308	\$1,309,000
Chip Seal	(5 years x 79 lane-miles)	395	\$1,104,420
Crack Seal	(2 years x 506 lane-miles)	1,012	\$1,296,372
Total =		4,356	\$36,781,144

Figure 9 – New Program Tally

In a real-world situation, the highway agency would program its budget to achieve the greatest impact on its network condition. Funds allocated for reconstruction and rehabilitation projects must be viewed as investments in the infrastructure. Conversely, funds directed for preservation projects must be regarded as protecting and preserving past infrastructure investments.

Integrating reconstruction, rehabilitation, and preservation in the proper proportions will substantially improve network conditions for the taxpayer while safeguarding the highway investment.

APPENDIX E: MEETING MINUTES VERIFYING PLAN ACCEPTANCE BY GOVERNING BODY

B. BRIDGE ASSET MANAGEMENT PLAN

An attached bridge asset management plan follows.

City of Lansing 2025 Bridge Asset Management Plan



Andy Schor, Mayor

A plan describing the City of Lansing's transportation assets and conditions

Prepared by:
Scott D. Cook
Assistant City Engineer
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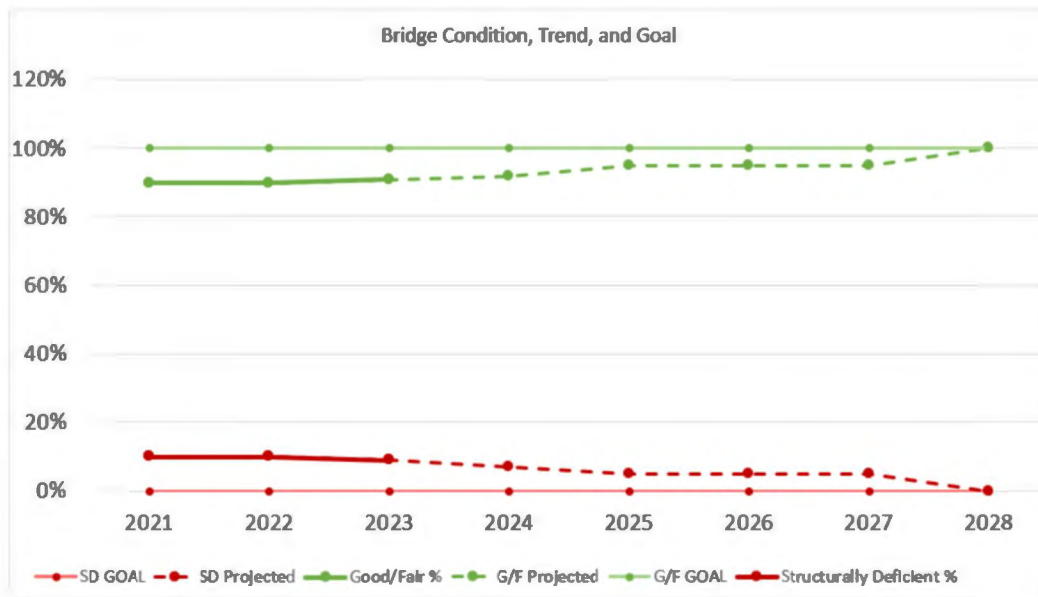
EXECUTIVE SUMMARY

As conduits for commerce and connections to vital services, bridges are among the most important assets in any community along with other assets like roads, culverts, traffic signs, traffic signals, and utilities that support and affect the road network. The City of Lansing's (COL) bridges, other road-related assets, and support systems are some of the most valuable and extensive public assets, all of which are paid for with taxes collected from ordinary citizens and businesses. The cost of building and maintaining bridges, their importance to society, and the investment made by taxpayers all place a high level of responsibility on local agencies to plan, build, and maintain the road and bridge network in an efficient and effective manner. This asset management plan is intended to report on how COL is meeting its obligations to maintain the bridges for which it is responsible.

This plan overviews COL's bridge assets and conditions and explains how City of Lansing works to maintain and improve the overall condition of those assets. These explanations can help answer:

- What kinds of bridge assets COL has in its jurisdiction and the different options for maintaining these assets.
- What tools and processes COL uses to track and manage bridge assets and funds.
- What condition COL's bridge assets are in compared to statewide averages.
- Why some bridge assets are in better condition than others and the path to maintaining and improving bridge asset conditions through proper planning and maintenance.
- How agency bridge assets are funded and where those funds come from.
- How funds are used and the costs incurred during COL's bridge assets' normal life cycle.
- What condition COL can expect of its bridge assets if those assets continue to be funded at the current funding levels
- How changes in funding levels can affect the overall condition of all of COL's bridge assets.

COL owns and/or manages 22 bridges. A summary of its historical and current bridge asset conditions, projected trends, and goals can be seen in the figure, below.



An asset management plan is required by Michigan Public Act 325 of 2018, and this document represents fulfillment of some of COL's obligations towards meeting these requirements. This asset management plan also helps demonstrate COL's responsible use of public funds by providing elected and appointed officials as well as the general public with inventory and condition information of COL's bridge assets, and gives taxpayers the information they need to make informed decisions about investing in essential transportation infrastructure.

INTRODUCTION

Asset management is defined by Public Act 325 of 2018 as “an ongoing process of maintaining, preserving, upgrading, and operating physical assets cost effectively, based on a continuous physical inventory and condition assessment and investment to achieve established performance goals”. In other words, asset management is a process that uses data to manage and track assets, like roads and bridges, in a cost-effective manner using a combination of engineering and business principles. This process is endorsed by leaders in municipal planning and transportation infrastructure, including the Michigan Municipal League, County Road Association of Michigan, the Michigan Department of Transportation (MDOT), and the Federal Highway Administration (FHWA). The City of Lansing is supported in its use of asset management principles and processes by the Michigan Transportation Asset Management Council (TAMC), formed by the State of Michigan.

Asset management, in the context of this plan, ensures that public funds are spent as effectively as possible to maximize the condition of the bridges in City of Lansing’s road network. Asset management also provides a transparent decision-making process that allows the public to understand the technical and financial challenges of managing infrastructure with a limited budget.

The City of Lansing (COL) has adopted an “asset management” business process to overcome the challenges presented by having limited financial, staffing, and other resources while needing to meet safety standards and bridge users’ expectations. COL is responsible for maintaining and operating 22 bridges.

This 2025 plan outlines how COL determines its strategy to maintain and upgrade bridge asset condition given agency goals, priorities of its bridge users, and resources provided. An updated plan is to be released approximately every three years to reflect changes in bridge conditions, finances, and priorities.

Questions regarding the use or content of this plan should be directed to Nicole McPherson at Lansing City Hall or at nicole.mcpherson@lansingmi.gov. A copy of this plan can be accessed on our website at Lansingmi.gov.

Key terms used in this plan are defined in COL's comprehensive transportation asset management plan (also known as the "compliance plan") used for compliance with PA 325 or 2018.

Knowing the basic features of an asset class is a crucial starting point to understanding the rationale behind an asset management approach. The following primer provides an introduction to bridges.

Bridge Primer

Bridge Types

Bridges are structures that span 20 feet or more. These bridges can extend across one or multiple spans.

If culverts are placed side by side to form a span of 20 feet or more (for example, three 6-foot culverts with one-foot between each culvert), then this culvert system would be defined as a bridge. (Note: The Compliance Plan Appendix C contains a primer on culverts not defined as bridges.)

Bridge types are classified based on two features: design and material.

The most common bridge design is the **girder system** (Figure 1). With this design, the bridge deck transfers vehicle loads to girders (or beams) that, in turn, transfer the load to the piers or abutments (see Figure 6).

A similar design that lacks girders (or beams) is a **slab bridge** (Figure 2, and see Figure 6). A slab bridge transfers the vehicle load directly to the abutments and, if necessary, piers.

Truss bridges were once quite common and consist of a support structure that is created when structural members are connected at joints to form interconnected triangles (Figure 4). Structural members may consist of steel tubes or angles connected at joints with gusset plates.

Another common bridge design in Michigan is the three-sided pre-cast box or arch bridge (Figure 4).

Michigan is also home to several unique bridge designs.

Adding another layer of complexity to bridge typing is the primary construction materials used (Figure 5). Bridges are generally constructed from concrete, steel, pre-stressed concrete, or timber. Some historical bridges or bridge components in Michigan may be constructed from stone or masonry.

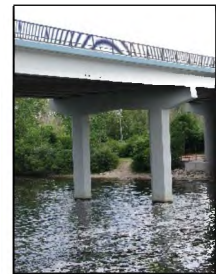


Figure 1: Girder bridge



Figure 2: Slab bridge



Figure 3: Truss bridge



Figure 4: Three-sided box bridge



Figure 5: Examples of common bridge construction materials used in Michigan

Bridge Condition

Michigan inspectors rate bridge condition on a 0-9 scale known as the National Bridge Inventory (NBI) rating scale (see Table for a summary of the NBI Rating scale). Elements of the bridge's superstructure, deck, and substructure receive a 9 if they are in excellent condition down to a 0 if they are in failed condition. A complete guide for Michigan bridge condition rating according to the NBI can be found in the MDOT Bridge Field Services' *Bridge Safety Inspection NBI Rating Guidelines* (https://www.michigan.gov/documents/mdot/BIR_Ratings_Guide_Combined_2017-10-30_606610_7.pdf).

Table 1: Summary of the NBI Rating Scale	
NBI Rating	General Condition
9-7	Like new/good
6-5	Fair
4-3	Poor/serious
2-0	Critical/failed

Bridge Treatments

Replacement

Replacement work is typically performed when a bridge is in poor condition (NBI rating of 4 or less) and will improve the bridge to good condition (NBI rating of 7 or more). The Local Bridge Program, a part of MDOT's Local Agency Program, defines bridge replacement as full replacement, which removes the entire bridge (superstructure, deck, and substructure) before re-building a bridge at the same location (Figure 6). The decision to perform a total replacement over rehabilitation (see below) should be made based on a life-cycle cost analysis. Generally, replacement is selected if rehabilitation costs more than two-thirds of the cost of replacement. Replacement is generally the most expensive of the treatment options.

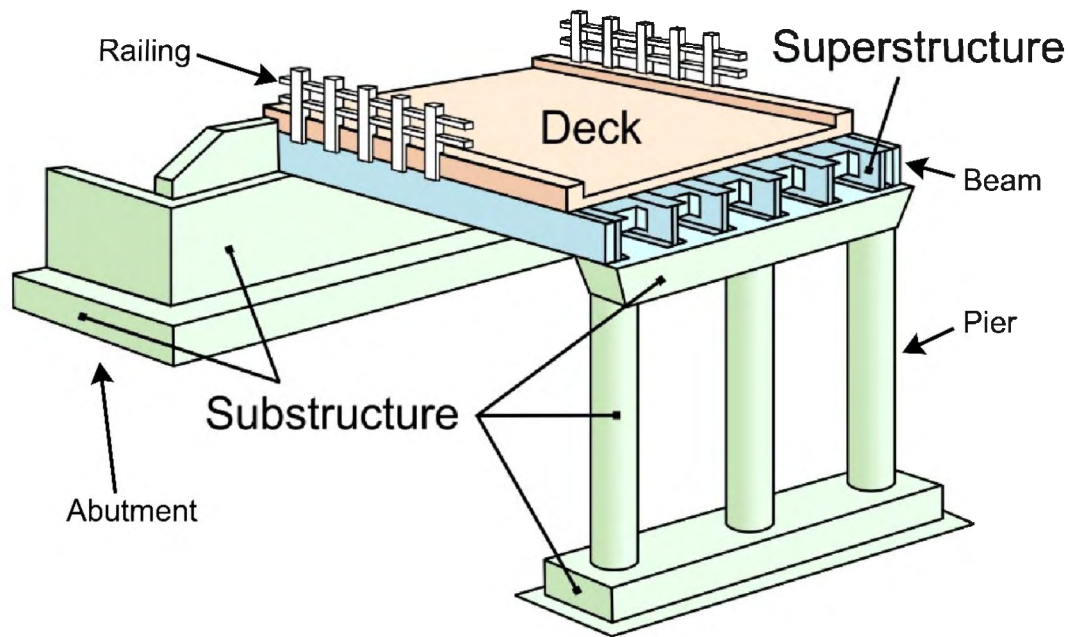


Figure 6: Diagram of basic elements of a bridge

Rehabilitation

Rehabilitation involves repairs that improve the existing condition and extend the service life of the structure and the riding surface. Most often, rehabilitation options are associated with bridges that have degraded beyond what can be fixed with preventive maintenance. Rehabilitation is typically performed on poor-rated elements (NBI rating of 4 or less) to improve them to fair or good condition (NBI rating of 5 or more). Rehabilitation can include superstructure replacement (removal and replacement of beams and deck) or deck replacement. While typically more expensive than general maintenance, rehabilitation treatments may be more cost-effective than replacing the entire structure.

- **Railing retrofit/replacement:** A railing retrofit or replacement either reinforces the existing railing or replaces it entirely (Figure 6). This rehabilitation is driven by a need for safety improvements on poor-rated railings or barriers (NBI rating less than 5).
- **Beam repair:** Beam repair corrects damage that has reduced beam strength (Figure 6). In the case of steel beams, it is performed if there is 25 percent or more of section loss in an area of the beam that affects load-carrying capacity. In the case of concrete beams, this is performed if there is 50 percent or more spalling (i.e., loss of material) at the ends of beams.
- **Substructure concrete patching and repair:** Patching and repairing the substructure is essential to keep a bridge in service. These rehabilitation efforts are performed when the abutments or piers are fair or poor (NBI rating of 5 or 4), or if spalling and delamination affect less than 30 percent of the bridge surface.

Preventive Maintenance

The Federal Highway Administration's (FHWA) *Bridge Preservation Guide* (2018) defines preventive maintenance as "a strategy of extending service life by applying cost-effective treatments to bridge elements...[that] retard future deterioration and avoid large expenses in bridge rehabilitation or replacements."

Preventive maintenance work is typically done on bridges rated fair (NBI rating of 5 or 6) in order to slow the rate of deterioration and keep them from falling into poor condition.

- **Concrete deck overlay:** A concrete deck overlay involves removing and replacing the driving surface. Typically, this is done when the deck surface is poor (NBI rating is less than 5) and the underneath portion of the deck is at least fair (NBI rating greater than 4). A shallow or deep concrete overlay may be performed depending on the condition of the bottom of the deck. The MDOT *Bridge Deck Preservation* matrices provide more detail on concrete deck overlays (see https://www.michigan.gov/mdot/0,4616,7-151-9625_24768_24773---,00.html).
- **Deck repairs:** Deck repairs include three common techniques: HMA overlay with or without waterproof membranes, concrete patching, deck sealing, crack sealing, and joint repair/replacement. An HMA overlay with an underlying waterproof membrane can be placed on bridge decks with a surface rating of fair or lower (NBI of 5 or less) and with deficiencies that cover between 15 and 30 percent of the deck surface and deck bottom. An HMA overlay without a waterproof membrane should be used on a bridge deck with a deck surface and deck bottom rating of serious condition or lower (NBI rating of 3 or less) and with deficiencies that cover greater than 30 percent of the deck surface and bottom; this is considered a temporary holdover to improve ride quality when a bridge deck is scheduled to undergo major rehabilitation within five years. All HMA overlays need to be accompanied by an updated load rating. Patching of the concrete on a bridge deck is done in response to an inspector's work recommendation or when the deck surface is in good, satisfactory, or fair condition (NBI rating of 7, 6, or 5) with minor delamination and spalling. To preserve a good bridge deck in good condition, a deck sealer can be used.

Deck sealing should only be done when the bridge deck has surface rating of fair or better (NBI of 5 or more). Concrete sealers should only be used when the top and bottom surfaces of the deck are free from major deficiencies, cracks, and spalling. An epoxy overlay may be used when between 2 and 5 percent of the deck surface has delaminations and spalls, but these deficiencies must be repaired prior to the overlay. An epoxy overlay may also be used to repair an existing epoxy overlay. Concrete crack sealing is an option to maintain concrete in otherwise good condition that has visible cracks with the potential of reaching the steel reinforcement. Crack sealing may be performed on concrete with a surface rating of good, satisfactory, or fair (NBI rating of 7, 6, or 5) with minor surface spalling and delamination; it may also be performed in response to a work recommendation by an inspector who has determined that the frequency and size of the cracks require sealing.

- **Steel bearing repair/replacement:** Rather than sitting directly on the piers, a bridge superstructure is separated from the piers by bearings. Bearings allow for a certain degree of movement due to temperature changes or other forces. Repairing or replacing the bearings is considered preventive maintenance. Girders and a deck in at least fair condition (NBI of 5 or higher) and bearings in poor condition (NBI rating of 4 or less) identifies candidates for this maintenance activity.
- **Painting:** Re-painting a bridge structure can either be done in totality or in part. Total re-painting is done in response to an inspector's work recommendation or when the paint condition is in serious condition (NBI rating of 3 or less). Partial re-painting can either consist of zone re-painting, which is a preventive maintenance technique, or spot re-painting, which is scheduled maintenance (see below). Zone re-painting is done when less than 15 percent of the paint in a smaller area, or zone, has failed while the rest of the bridge is in good or fair condition. It is also done if the paint condition is fair or poor (NBI rating of 5 or 4).
- **Channel improvements:** Occasionally, it is necessary to make improvements to the waterway that flows underneath the bridge. Such channel improvements are driven by an inspector's work recommendation based on a hydraulic analysis or to remove vegetation, debris, or sediment from the channel and banks (Figure 6).
- **Scour countermeasures:** An inspector's work recommendations or a hydraulic analysis may require scour countermeasures (see the *Risk Management* section of this plan for more information on scour). This is done when a structure is categorized as scour critical and is not scheduled for replacement or when NBI comments in abutment and pier ratings indicate the presence of scour holes.
- **Approach repaving:** A bridge's approach is the transition area between the roadway leading up to and away from the bridge and the bridge deck. Repaving the approach areas is performed in response to an inspector's work recommendation, when the pavement surface is in poor condition (NBI rating of 4 or less), or when the bridge deck is replaced or rehabilitated (e.g., concrete overlay).
- **Guardrail repair/replacement:** A guardrail is a safety feature on many roads and bridges that prevents or minimizes the effects of lane departure incidents. Keeping bridge guardrails in good condition is important. Repair or replacement of bridge guardrail should be done when a guardrail is missing or damaged, or when it needs a safety improvement.

Scheduled Maintenance

Scheduled maintenance activities are those activities or treatments that are regularly scheduled and intend to maintain serviceability while reducing the rate of deterioration.

- **Superstructure washing:** Washing the superstructure, or the main structure supporting the bridge, typically occurs in response to an inspector's work recommendation or when salt-

contaminated dirt and debris collected on the superstructure is causing corrosion or deterioration by trapping moisture.

- **Drainage system cleanout/repair:** Keeping a bridge's drainage system clean and in good working order allows the bridge to shed water effectively. An inspector's work recommendation may indicate drainage system cleanout/repair. Signs that a drainage system needs cleaning or repair include clogs and broken, deteriorated, or damaged drainage elements.
- **Spot painting:** Spot painting is a form of partial bridge painting. This scheduled maintenance technique involves painting a small portion of a bridge. Generally, this is done in response to an inspector's work recommendation and is used for zinc-based paint systems only.
- **Slope repair/reinforcement:** The terrain on either side of the bridge that slopes down toward the channel is called the slope. At times, it is necessary to repair the slope. Situations that call for slope repair include when the slope is degraded, when the slope has significant areas of distress or failure, when the slope has settled, or if the slope is in fair or poor condition (NBI rating of 5 or less). Other times, it is necessary to reinforce the slope. Reinforcement can be added by installing Riprap, which is a side-slope covering made of stones. Riprap protects the stability of side slopes of channel banks when erosion threatens the surface.
- **Vegetation control and debris removal:** Keeping the area around a bridge structure free of vegetation and debris safeguards the bridge structure from these potentially damaging forces. Removing or restricting vegetation around bridges prevents damage to the structure. Vegetation control is done in response to an inspector's work recommendation or when vegetation traps moisture on structural elements or is growing from joints or cracks. Debris in the water channel or in the bridge can also cause damage to the structure. Removing this debris is typically done in response to an inspector's work recommendation or when vegetation, debris, or sediment accumulates on the structure or channel.
- **Miscellaneous repairs:** These are uncategorized repairs in response to an inspector's work recommendation.

1. BRIDGE ASSETS

COL seeks to implement an asset management program for its bridge structures. This program balances the decision to perform reconstruction, rehabilitation, preventive maintenance, scheduled maintenance, or new construction, with COL's bridge funding in order to maximize the useful service life and to ensure the safety of the local bridges under its jurisdiction. In other words, COL's bridge asset management program aims to preserve and/or improve the condition of its local bridge network within the means of its financial resources.

Nonetheless, COL recognizes that limited funds are available for improving the bridge network. Since preservation strategies like preventive maintenance are generally a more effective use of these funds than costly alternative management strategies like major rehabilitation or replacement, COL seeks to identify those bridges that will benefit from a planned maintenance program while addressing those bridges that pose usability and/or safety concerns.

The three-fold goal of COL's asset management program is the preservation and safety of its bridge network, increase of its bridge assets' useful service life by extending of the time that bridges remain in good and fair condition, and reduction of future maintenance costs. To quantify this goal, COL specifically aims to have to have 100% or more of the agency's local bridges in fair to good condition and to have 0% classify as structurally deficient over its five-year plan.

Thus, COL's asset management plan objectives are:

- To establish the current condition of the county's bridges
- To develop a "mix of fixes" that will:
 - Program scheduled maintenance actions to impede deterioration of bridges in good condition
 - Implement selective corrective repairs or rehabilitation for degraded bridge elements order to restore functionality
 - Identify and program those eligible bridges in need of replacement
- To identify available funding sources, such as:

- Dedicated county resources
- County funding through Michigan’s Local Bridge Program
- Opportunities to obtain other funding
- To prioritize the programmed actions within available funding limitations
- To improve the condition of bridges currently rated poor (4 or lower) and preserve bridges currently rated fair (5) or higher in their current condition in order to extend their useful service life.

Inventory

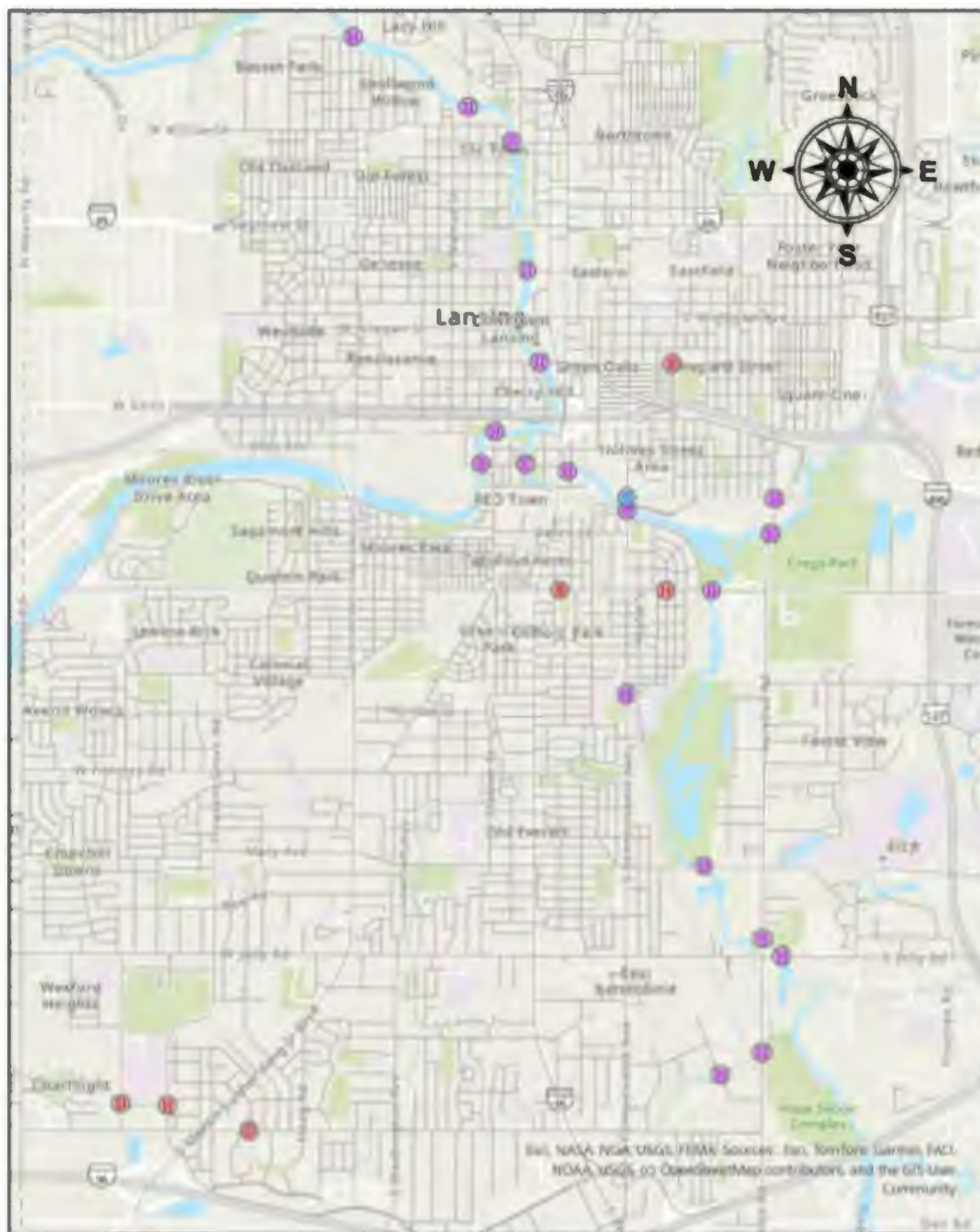
COL is responsible for 22 local bridges. Table 2 summarizes COL’s bridge assets by type, sizes by bridge type, and condition by bridge type. Additional inventory data, condition ratings, and proposed preventive maintenance actions for each bridge are contained in the tables in Appendixes 3, 4, and 5. The bridge inventory data was obtained from MDOT MiBRIDGE and other sources, and the 2023 condition data and maintenance actions are taken from the inspector’s summary report (see Appendix 2).

Types

Of the COL’s 22 structures, 2 are concrete bridges, 13 are steel bridges, 7 are pre-stressed concrete bridges, and 0 are timber bridges.

Locations and Sizes

Figure 7 illustrates the locations of bridge assets owned by COL. Details about the locations and sizes of each individual asset can be found in COL’s MiBRIDGE database. For more information, please refer to the agency contact listed in the *Introduction* of this bridge asset management plan.



Bridge Types

- Pedestrian Structure
- City Street Structure
- Railroad Structure

Figure 7: Map illustrating locations COL's of bridge assets

Condition

COL evaluates its bridges according to the National Bridge Inspection Standards rating scale, with a rating of 9 to 7 being like new to good condition, a rating of 6 and 5 being fair condition, and a rating of 4 or lower being poor or serious/critical condition. The current condition of COL's bridge network is 7 (32%) are good, 12 (59%) are fair, and 2 (9%) are poor or lower.

Another layer of classification of COL's bridge inventory classifies 2 (9%) bridges as structurally deficient, 1 (5) bridges as posted, and 0 (0) bridges as closed. Structurally deficient bridges are those with a deck, superstructure, substructure, and/or culvert rated as "poor" according to the NBI rating scale, with a load-carrying capacity significantly below design standards, or with a waterway that regularly overtops the bridge during floods. Posted bridges are those that have declined in condition to a point where a restriction is necessary for what would be considered a safe vehicular or traffic load passing over the bridge; designating a bridge as "posted" has no influence on its condition rating. Closed bridges are those that are closed to all traffic; closing a bridge is contingent upon its ability to carry a set minimum live load.

Table 2: Bridge Assets by Type: Inventory, Size, and Condition								
Bridge Type	Total Number of Bridges	Total Deck Area (sq ft)	Condition: Structurally Deficient, Posted, Closed			2023 Condition		
			Struct. Defic.	Posted	Closed	Poor	Fair	Good
Concrete – Arch—deck	1	9,050	0	0	0	0	0	1
Concrete – Culvert	1	1,076	0	0	0	0	0	1
Prestressed concrete – Box beam/girders—multiple	3	15,262	1	1	0	1	2	0
Prestressed concrete – Multistringer	4	61,118	0	0	0	0	0	4
Steel – Culvert	2	3,225	1	0	0	1	1	0
Steel – Multistringer	10	123,030	0	0	0	0	9	1
Steel continuous – Multistringer	1	29,344	0	0	0	0	1	0
Total SD/Posted/Closed			2	1	0			
Total	22	242,105				2	13	7
Percentage (%)			9%	5	0	9	59	32

Statewide, MDOT’s statistics for local agency bridges show that 14% are poor and 86% are good/fair, indicating that the COL has a lesser percentage of poor bridges compared to the statewide average for local agencies. Correspondingly, COL has 91% of its bridges in fair/good condition versus the statewide average of 86% for local agency bridges. Statewide, 97% of local agency bridge deck area classifies as structurally deficient compared to 9% of COL’s bridge deck area.

Goals

The goal of COL’s asset management program is the preservation and safety of its bridge network; it also aims to extend the period of time that bridges remain in good and fair condition, thereby increasing their useful service life and reducing future maintenance costs.

Specifically, this goal translates into long-range goals of having 100% of its bridges rated fair/good and having less than 0% classify as structurally deficient within 10 years. These goals are juxtaposed with the historic and current condition and the projected trend in Figure 8.

Several metrics will be used to assess the effectiveness of this asset management program. COL will monitor and report the annual change in the number of its bridges rated fair/good (5 or higher) and the annual change in the number of its bridges classified as structurally deficient.

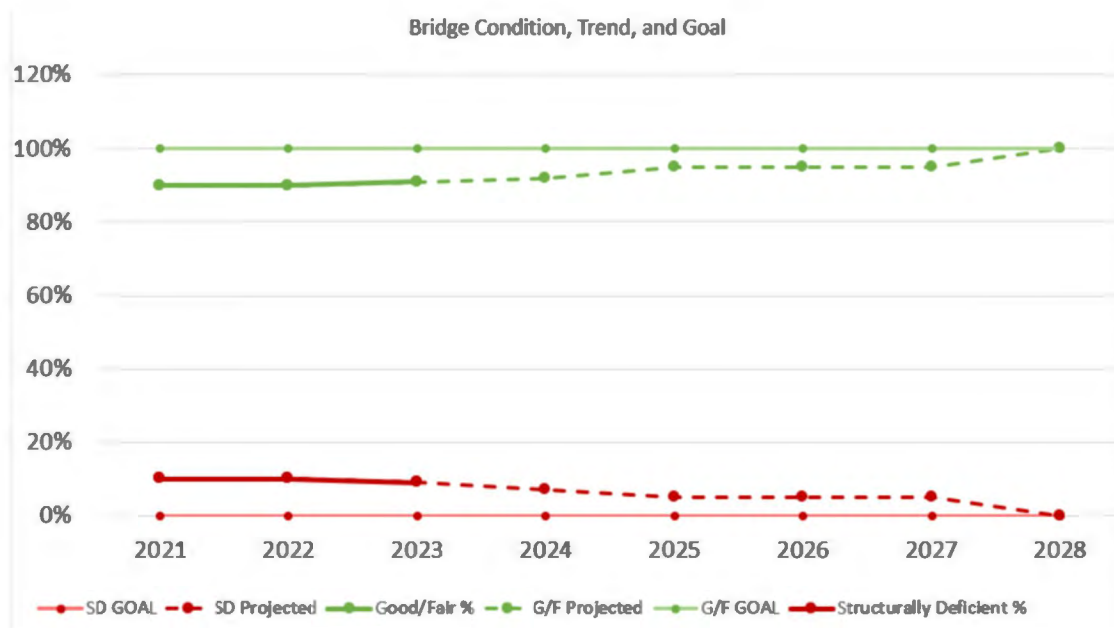


Figure 8: Progress tracking graph indicating COL's historic and current bridge conditions, projected trends, and goals.

Based on past inspection records and condition ratings, COL will establish a baseline of past performance by determining the average period of time that a bridge remains in good or fair condition. The performance measure will be the increased average amount of time a bridge is in the good or fair condition status after implementation of the asset management strategy when compared to the baseline time before implementation.

Prioritization, Programmed/Funded Projects, and Planned Projects

Prioritization

COL's asset management program aims to address the structures of critical concern by targeting elements rated as being in poor condition and to improve and maintain the overall condition of the bridge network to good or fair condition through a "mix of fixes" strategy. Therefore, COL prioritizes bridges for projects by evaluating five factors and weighting them as follows: condition –30%, load capacity –25%, traffic –20%, safety –20%, and detour –5%. There are several components within each factor that are used to arrive at its score. Each project under consideration is scored, and its total score is then compared with other proposed project to establish a priority order.

COL annually reviews the current condition of each of its bridges using the NBIS inspection data contained in the *MDOT Bridge Safety Inspection Report* and the inspector's work recommendations contained in MDOT's *Bridge Inspection Report*. The inspection inventory and condition data are consolidated in spreadsheet format for COL's bridges in Appendix 3. COL then determines management and preservation needs and corresponding actions for each bridge (Appendix 4) As well as inspection follow-up actions (Appendix 5). The management and preservation actions are selected in accordance with criteria contained in the *Summary of Preservation Criteria* table (below) and adapted to COL's specific bridge network.

Table 3: Summary of Preservation Criteria		
Preservation Action	Bridge Selection Criteria	Expected Service Life
Replacement		
Total Replacement	- NBI rating of 3 or less [1] [2] - OR Cost of rehabilitation exceeds cost of replacement [1] - OR Bridge is scour critical with no counter-measures available [1]	70 years
Rehabilitation		
Superstructure Replacement	- NBI rating of 4 or less for the superstructure [1] [2] - OR Cost of superstructure and deck rehabilitation exceeds cost of replacement [1]	40 years ^[1]
Deck Replacement Epoxy Coated Steel Black Steel	- Use guidelines in MDOT's Bridge Deck Preservation Matrix [3] [4] - NBI rating of 4 or less for the deck surface and deck bottom [1] [2] - Deck bottom has more than 25% total area with deficiencies [1] - OR Replacement cost of deck is competitive with rehabilitation [1]	60+ years ^{[3] [4]}
Substructure Replacement (Full or Partial)	- NBI rating of 4 or less for abutments, piers, or pier cap [1] [2] - Has open vertical cracks, signs of differential settlement, or active movement [1] - Pontis rating of 3 or 5 for more than 30 percent of the substructure [1] [5] - OR Bridge is scour critical with no counter-measures available	40 years ^[1*]
Steel Beam Repair	- More than 25% section loss in an area of the beam that affects load carrying capacity [1] - OR To correct impact damage that impairs beam strength [1]	40 years ^[1*]
Prestressed Concrete Beam Repair	- More than 5% spalling at ends of prestressed I-beams [1] - OR Impact damage that impairs beam strength or exposes prestressing strands [1]	40 years ^[1*]
Substructure Concrete Patching and Repair	- NBI rating of 5 or 4 for abutments or piers, and surface has less than 30% area spalled and delaminated [1] [2] - OR Pontis rating of 3 or 4 for the column or pile extension, pier wall, and/or abutment wall and surface has between 2% and 30% area with deficiencies [1] [5] - OR In response to inspector's work recommendation for substructure patching [1]	
Abutment Repair/Replacement	- NBI rating of 4 or less for the abutment [1] [2] - OR Has open vertical cracks, signs of differential settlement, or active movement	

Table 3: Summary of Preservation Criteria		
Preservation Action	Bridge Selection Criteria	Expected Service Life
Railing/Barrier Replacement	- NBI rating greater than 5 for the deck [1] [2] - NBI rating less than 5 for the railing with more than 30% total area having deficiencies [1] [2] - OR Pontis rating is 4 for railing [1] [5] - OR Safety improvement is needed [1]	
Culvert Repair/Replacement	- NBI rating of 4 or less for culvert or drainage outlet structure - OR Has open vertical cracks, signs of deformation, movement, or differential settlement	
Preventive Maintenance		
Shallow Concrete Deck Overlay	- NBI rating is 5 or less for deck surface, and deck surface has more than 15% area with deficiencies [1] [2] - NBI rating of 4 or 5 for deck bottom, and deck bottom has between 5% and 30% area with deficiencies [1] [2] - OR In response to inspector's work recommendation [1]	12 years
Deep Concrete Deck Overlay	- NBI rating of 5 or less for deck surface, and deck surface has more than 15% area with deficiencies [1] [2] - NBI deck bottom rating is 5 or 6, and deck bottom has less than 10% area with deficiencies [1] [2] - OR In response to inspector's work recommendation [1]	25 years
HMA Overlay with Waterproofing Membrane	- NBI rating of 5 or less for deck surface, and both deck surface and bottom have between 15% and 30% area with deficiencies [1] [2] - OR Bridge is in poor condition and will be replaced in the near future and the most cost-effective fix is HMA overlay [1]	
HMA Overlay Cap without Membrane	- Note: All HMA caps should have membranes unless scheduled for replacement within five years. - NBI rating of 3 or less for deck surface and deck bottom, and deck surface and deck bottom have more than 30% area with deficiencies. Temporary holdover to improve ride quality for a bridge in the five-year plan for rehab/replacement. [1] [2]	3 years
Concrete Deck Patching	- NBI rating of 5, 6, or 7 for deck surface, and deck surface has between 2% and 5% area with delamination and spalling [1] [2] - OR In response to inspector's work recommendation [1]	5 years
Steel Bearing Repair/Replacement	NBI rating of 5 or more for superstructure and deck, and NBI rating 4 or less for bearing [2]	
Deck Joint Replacement	- Always include when doing deep or shallow concrete overlays [1] - NBI rating of 4 or less for joints [1] [2] - OR Joint leaking heavily [1] - OR In response to inspector's work recommendation for replacement [1]	
Pin and Hanger Replacement	- NBI rating of 4 or less for superstructure for pins and hangers [1] [2] - Pontis rating of 1, 2, or 3 for a frozen or deformed pin and hanger [1] [5] - OR Presence of excessive section loss, severe pack rust, or out-of-plane distortion [1]	15 years
Zone Repainting	NBI rating of 5 or 4 for paint condition, and paint has 3% to 15% total area failing [1] [2]	10 years

Table 3: Summary of Preservation Criteria		
Preservation Action	Bridge Selection Criteria	Expected Service Life
	• OR During routine maintenance on beam ends or pins and hangers [1] • OR less than 15% of existing paint area has failed and remainder of paint system is in good or fair condition [1]	
Complete Repainting	• NBI rating of 3 or less for paint condition [1] [2] • OR Painted steel beams that have greater than 15% of the existing paint area failing [1]	
Partial Repainting	• See Zone or Spot Painting	
Channel Improvements	• Removal of vegetation, debris, or sediment from channel and banks to improve channel flow • OR in response to inspector's work recommendation	
Scour Countermeasures	• Pontis scour rating of 2 or 3 and is not scheduled for replacement [1] [5] • OR NBI comments in abutment and pier ratings indicate presence of scour holes [1] [2]	
Approach Repaving	• Approach pavement relief joints should be included in all projects that contain a significant amount of concrete roadway (in excess of 1000' adjacent to the structure). The purpose is to alleviate the effects of pavement growth that may cause distress to the structure. Signs of pavement growth include: ○ Abutment spalling under bearings [1] ○ Beam end contact [1] ○ Closed expansion joints and/or pin and hangers [1] ○ Damaged railing and deck fascia at joints [1] ○ Cracking in deck at reference line (45 degree angle) [1]	
Guard Rail Repair/Replacement	• Guard rail missing or damaged ^[2*] • OR Safety improvement is needed ^[2*]	
Scheduled Maintenance		
Superstructure Washing	• When salt contaminated dirt and debris collected on superstructure is causing corrosion or deterioration by trapping moisture [1] • OR Expansion or construction joints are to be replaced and the steel is not to be repainted [1] • OR Prior to a detailed replacement [1] • OR In response to inspector's work recommendation [1]	2 years
Drainage System Clean-Out/Repair	• When drainage system is clogged with debris [1] • OR Drainage elements are broken, deteriorated, or damaged [1] • OR NBI rating comments for drainage system indicate need for cleaning or repair [1] [2]	2 years
Spot Repainting	• For zinc-based paint systems only. Do not spot paint with lead-based paints. • Less than 5% of paint area has failed in isolated areas [1] • OR In response to inspector's work recommendation [1]	5 years
Slope Paving Repair	• NBI rating is 5 or less for slope protection [1] [2] • OR Slope is degraded or sloughed • OR Slope paving has significant areas of distress, failure, or has settled [1]	

Table 3: Summary of Preservation Criteria		
Preservation Action	Bridge Selection Criteria	Expected Service Life
Riprap Installation	To protect surface when erosion threatens the stability of side slopes of channel banks	
Vegetation Control	- When vegetation traps moisture on structural elements [1] - OR Vegetation is growing from joints or cracks [1] - OR In response to inspector's work recommendation for brush cut [1]	1 year
Debris Removal	- When vegetation, debris, or sediment accumulates on the structure or in the channel - OR In response to inspectors work recommendation	1 year
Deck Joint Repair	- Do not repair compression joint seals, assembly joint seals, steel armor expansions joints, and block out expansion joints; these should always be replaced. [1] - NBI rating is 5 for joint [1] [2] - OR In response to inspector's work recommendation for repair [1]	
Concrete Sealing	- Top surface of pier or abutments are below deck joints and, when contaminated with salt, salt can collect on the surface [1] - OR Surface of the concrete has heavy salt exposure. Horizontal surfaces of substructure elements are directly below expansion joints [1]	
Concrete Crack Sealing	- Concrete is in good or fair condition, and cracks extend to the depth of the steel reinforcement [1] - OR NBI rating of 5, 6, or 7 for deck surface, and deck surface has between 2% and 5% area with deficiencies [1] [2] - OR Unsealed cracks exist that are narrow and/or less than 1/8" wide and spaced more than 8' apart [1] - OR In response to inspector's work recommendation [1]	5 years
Minor Concrete Patching	- Repair minor delaminations and spalling that cover less than 30% of the concrete substructure [1] - OR NBI rating of 5 or 4 for abutments or piers, and comments indicate that their surface has less than 30% spalling or delamination [1] [2] - OR Pontis rating of 3 or 4 for the column or pile extension, pier wall and/or abutment wall, and surface has between 2% and 30% area with deficiencies [1] [5] - OR In response to inspector's work recommendation [1]	
HMA Surface Repair/Replacement	- HMA surface is in poor condition - OR In response to inspector's work recommendation	
Seal HMA Cracks/Joints	- HMA surface is in good or fair condition, and cracks extend to the surface of the underlying slab or sub course - OR In response to inspector's work recommendation	
Timber Repair	- NBI rating of 4 or less for substructure for timber members - OR To repair extensive rot, checking, or insect infestation	
Miscellaneous Repair	Uncategorized repairs in response to inspector's work recommendation	
This table was produced by TransSystems and includes information from the following sources: [1] MDOT, <i>Project Scoping Manual</i>, MDOT, 2019. [2] MDOT, <i>MDOT NBI Rating Guidelines</i>, MDOT, 2017.		

Table 3: Summary of Preservation Criteria		
Preservation Action	Bridge Selection Criteria	Expected Service Life
	[3] MDOT, <i>Bridge Deck Preservation Matrix - Decks with Uncoated "Black" Rebar</i>, MDOT, 2017. [4] MDOT, <i>Bridge Deck Preservation Matrix - Decks with Epoxy Coated Rebar</i>, 2017. [5] MDOT, <i>Pontis Bridge Inspection Manual</i>, MDOT, 2009. * From source with interpretation added.	

In terms of management and preservation actions, COL's asset management program uses a "mix of fixes" strategy that is made up of replacement, rehabilitation, preventive maintenance, and scheduled maintenance.

Replacement involves substantial changes to the existing structure, such as bridge deck replacement, superstructure replacement, or complete structure replacement, and is intended to improve critical or closed bridges to a good condition rating.

Rehabilitation is undertaken to extend the service life of existing bridges. The work will restore deficient bridges to a condition of structural or functional adequacy, and may include upgrading geometric features. Rehabilitation actions are intended to improve the poor or fair condition bridges to fair or good condition.

Preventive maintenance work will improve and extend the service life of fair bridges, and will be performed with the understanding that future rehabilitation or replacement projects will contain appropriate safety and geometric enhancements. Preventive maintenance projects are directed at limited bridge elements that are rated in fair condition with the intent of improving these elements to a good rating. Most preventive maintenance projects will be one-time actions in response to a condition state need. Routine preventive work will be performed by contracted agencies.

COL's **scheduled maintenance** program is an integral part of the preservation plan, and is intended to extend the service life of fair and good structures by preserving the bridges in their current condition for a longer period of time. Scheduled maintenance is proactive and not necessarily condition driven. In-house maintenance crews will perform much of this work.

Certain of the severely degraded and structurally deficient bridges require replacement or major rehabilitation. Several of the remaining bridges require one-time preventive maintenance actions to repair defects and restore the structure to a higher condition rating. Most bridges are included in a scheduled maintenance plan with appropriate maintenance actions programmed for groups of bridges of similar material and type, bundled by location.

The replacement, rehabilitation, and preventive maintenance projects are generally eligible for funding under the local bridge program, and any requests for funding will be submitted with City of Lansing's annual applications.

To achieve its goals, a primary objective of COL's asset management program is improvement of two bridges rated poor (4 or lower) to a rating of fair (5) or higher within a five-year time period through management and/or preservation activities. The primary work activities that will be used to meet this improvement objective include replacement. The work has been prioritized by considering each individual bridge's needs, its importance, the present costs of improvements, and the impact of deferral (i.e., cost increase due to increased degradation). Additionally, COL's asset management program incorporates preservation of bridges currently rated fair (5) or higher in their current condition in order to extend their useful service life. The primary work activities used to meet this preservation objective include preventive maintenance and scheduled maintenance. A bridge-by-bridge preservation—or maintenance—plan is presented in the Appendix 4.

Programmed/Funded Projects

COL received \$4,032,000 in total funding for the years 2024-2025. To achieve its goals, COL plans to spend \$2,232,500 on preventive maintenance of bridges. COL plans to replace two bridges at a cost of \$1,800,000. By performing the aforementioned preventive maintenance and replacement of bridge structures, COL will not meet its overall bridge network condition goals.

COL computes the estimated cost of each typical management and/or preservation action using unit prices in the latest *Bridge Repair Cost Estimate* spreadsheet contained in MDOT's *Local Bridge Program Call for Projects*. The cost of items of varying complexity, such as maintenance of traffic, staged construction, scour counter-measures, and so forth, are computed on a bridge-by-bridge basis. The cost estimates are reviewed and updated annually. A summary of the programmed/funded projects and investments can be found in Table 4, the Cost Projection table, below.

Planned Projects

COL identifies additional priority projects that remain unfunded. These are identified according to high, medium, and low priority in Table 4.

Table 4: Cost Projection Table

Strategy	2025	2026	2027	2028	2029	GAP
New						
Subtotal	\$0	\$0	\$0	\$0	\$0	\$0
Replacement						
13398		\$1,382,000				
3936			\$8,316,000			
13685		\$1,400,000				
Subtotal	\$0	\$ 2,782,000	\$8,316,000	\$0	\$0	\$0
Rehabilitation						
Subtotal	\$0	\$0	\$0	\$0	\$0	\$0
Scheduled Maintenance						
3951	\$140,000					
3940	\$86,000					
3937		\$606,200				
3958		\$75,000				
Subtotal	\$226,000	\$681,200	\$0	\$0	\$0	\$0
Preventive Maintenance						
3952				\$1,192,000		
3932				\$ 330,000		
Subtotal	\$0	\$0	\$0	\$1,522,000	\$0	\$0
Other						
3930					\$31,000	
3935					\$16,000	
3955					\$62,000	
Subtotal	\$0	\$0	\$0	\$0	\$109,000	\$0

Gap Analysis

When COL compares its funding and its programmed/funded projects with all of its prioritized projects as shown in Table 4, COL believes it should be able to achieve some of its asset management goals for the period of this plan. For projects that it is unable to complete, COL will continue to monitor those bridge

assets and take any necessary steps within its budget to prevent or mitigate a condition decline or a need to post or close the structure.

2. FINANCIAL RESOURCES

Anticipated Revenues

COL has programmed projects and/or has been granted funding from several sources including, but not limited to MDOT local aid, a county appropriation of monies for bridge preservation, and federal programs, for the purpose(s) of reconstruction, replacement, rehabilitation, preventive maintenance, and scheduled maintenance for the following bridge(s): 13398, 3940, 3951, 13685, 3693, 3694, and MRD Culvert. This funding is intended for use in the following funding year(s): 2024-2025.

COL applied for funding from several sources including, but not limited to MDOT local aid, a county appropriation of monies for bridge preservation, and federal programs, in 2023-2025 for the purpose(s) of replacement, rehabilitation, and preventive maintenance for the following bridge(s): 3936, 3932, 3937, 3952, 3958, 3930, 3935, 3939, 3940, and 3944. This funding would be intended for use in the following funding year(s): 2026-2028

COL plans to prepare and submit applications for MDOT local-aid funding, a county appropriation of monies for bridge preservation, and federal funding, for the purpose(s) of preventive maintenance for the following bridge(s): 3932, and 3952. This funding would be intended for use in the following funding year(s): 2029.

Any projects submitted to the local aid program that are not selected for funding will be added to the agency's program.

Anticipated Expenses

Scheduled maintenance activities and minor repairs that are not affiliated with any applications, grants, or other funded projects will be performed by the agency's in-house maintenance forces and funded through the agency's annual operating budget.

3. RISK MANAGEMENT

COL recognizes that the potential risks associated with bridges generally fall into several categories:

- Personal injury and property damage resulting from a bridge collapse or partial failure;
- Loss of access to a region or individual properties resulting from bridge closures, restricted load postings, or extended outages for rehabilitation and repair activities; and
- Delays, congestion, and inconvenience due to serviceability issues, such as poor quality riding surface, loose expansion joints, or missing expansion joints.

COL addresses these risks by implementing regular bridge inspections and a preservation strategy consisting of preventive maintenance.

COL administers the biennial inspection of its bridges in accordance with NBIS and MDOT requirements. The inspection reports document the condition of COL's bridges and evaluates them in order to identify new defects and monitor advancing deterioration. The summary inspection report in Appendix 1 identifies items needing follow-up, special inspection actions, and recommended bridge-by-bridge maintenance activities.

Bridges that are considered "scour critical" pose a risk to COL's road and bridge network. Scour is the depletion of sediment from around the foundation elements of a bridge commonly caused by fast-moving water. According to MDOT's *Michigan Structure Inventory and Appraisal Coding Guide*, a scour critical bridge is one that has unstable abutment(s) and/or pier(s) due to observed or potential (based on an evaluation study) scour. Bridges receiving a scour rating of 3 or less are considered scour critical. COL has scour critical bridges, which are listed in Table 5.

Table 5: Bridges that are Considered Scour Critical

Scour Critical Bridges	
Bridge Structure Number	Scour Critical Rating
3932	3
3935	3
3936	3
3937	3
3944	3
3947	3
3952	3
3955	3

COL has posted or closed bridges that are critical to accessing entire areas or individual properties within its jurisdiction. These bridges are listed in Table 6.

Table 6: Posted or Close Bridges that are Critical Links

Posted/Closed Bridges that are Critical Links	
Bridge Structure Number	Comments
P/K	E Elm Street over the red Cedar River is posted, but is not a critical link.

The preservation strategy identifies actions in the operations and maintenance plan that are preventive or are responsive to specific bridge conditions. The actions are prioritized to correct critical structural safety and traffic issues first, and then to address other needs based on the operational importance of each bridge

and the long-term preservation of the network. The inspection results serve as a basis for modifying and updating the operations and maintenance plan annually.

City of Lansing 2023 Bridge Inspection Report

EXECUTIVE SUMMARY

1. Federal and State Requirement

Inspection of bridges is required for all structures on the National Bridge Inventory (NBI) by the Federal Government through the Code of Federal Regulations 23 CFR Part 650 entitled the National Bridge Inspection Standards (NBIS). NBIS requires that inspection be performed by a qualified bridge inspector. NBIS establishes maximum bridge inspection frequencies for each type of bridge safety inspection. Routine inspections must occur at regular intervals that do not exceed 24 months. The regulations also require each state to establish criteria for reduced inspection frequencies through the consideration of factors such as age, traffic characteristics, and condition state. The NBIS does not apply to tunnels, bridges that carry only pedestrians, railroad tracks, pipelines, or other types of non-highway passageways. However, MDOT requires that all structures that are over moving traffic be inspected to the same guidelines as NBIS.

For bridges over waterways there are additional requirements based on scour concerns, including scour action plans, taking waterway cross sections, and underwater inspections. Scour action plans are required for all bridges that are deemed scour critical. To determine if a bridge is not scour critical, a scour analysis is required. There are two levels of scour analysis. A Level One analysis is the first step and it consists of gathering information that covers stream characteristics, land use, stream stability, lateral stability, vertical stream stability, and channel response to change. If the results of a Level One analysis do not conclude that a bridge is not scour critical then a Level Two analysis is required. A Level Two scour analysis is an analytical process to define stream stability and scour problems that incorporates flood history, hydraulic conditions, geotechnical evaluation, watershed sediment yield, incipient motion analysis, armoring potential, rating curve shifts, and scour conditions.

For all bridges that are scour critical, a scour action plan needs to be created. These action plans need to be updated each time a routine inspection is completed at a minimum, as well as after each major storm event. Waterway cross sections frequency is determined based on MDOT's Guidelines for Bridge Inspection Frequencies. The City of Lansing's bridges that are coded as scour critical have not had any observed scour, so the cross-section frequency is 48 months. The bridges that are coded as scour critical and have observed scour have a cross-section frequency of 60 months.

Underwater inspections are performed where the water depth exceeds 10 feet where normal probing is not sufficient to detect any signs of scour. All bridges where the water depth meets these requirements require an underwater inspection regardless if the bridge is scour critical or not. The City has six bridges that require underwater inspections. All six bridges have a 60-month inspection frequency.

In accordance with MDOT Bridge Advisory BA-2023-01 and FHWA memorandum dated July 19, 2023, all uncoated weather steel bridges must be identified and categorized as Group 1 or 2. Group 1 bridges have uncoated weathering steel elements in the substructure and/or non-redundant superstructure with condition ratings of 4 or less. All other uncoated weathering steel bridges are Group 2. The City does not own any bridges categorized as Group 1 and owns three bridges categorized as Group 2. For such bridges, required preventative maintenance or preservation activities must be identified.

Bridge load ratings need to be updated any time work has been done to a structure that has changed the loading to the bridge, or the condition of the bridge has dropped to a level where the load carrying member capacities have been reduced.

2. Bridge Inspection Frequency

This year's routine inspections were completed for all the City's bridges that are on an odd year cycle. The City's bridges are all on a 24-month inspection cycle, except where noted otherwise below:

- 1 - SN 3927 Woodgate Walkover over Miller Road
- 2 - N/A, removed SN 3928 in 2024
- 3 - N/A, removed SN 3931 in 2024
- 4 - SN 3933 Ray Street Walkover over East Mount Hope Avenue (12-month inspection cycle)
- 5 - SN 3934 Harding Avenue Walkover over East Mount Hope Avenue
- 6 - SN 3938 Holmes Street Walkover over East Kalamazoo Street
- 7 - N/A, removed SN 3941 in 2024
- 9 - N/A, removed SN 3943 in 2025
- 10 - N/A, removed SN 3946 in 2024
- 11 - N/A, removed SN 3949 in 2024
- 12 - SN 3950 Potter Park River Trail over Pennsylvania Avenue
- 13 - SN 3957 Harley Franks School Walkover over Wise Road
- 14 - N/A
- 15 - SN 3953 Grand Trunk Railroad over Pennsylvania Avenue
- 16 - SN 3929 Jolly Road over Sycamore Creek
- 17 - SN 3930 Cavanaugh Road over Sycamore Creek
- 18 - SN 3932 Mount Hope Avenue over Sycamore Creek
- 19 - SN 3935 Elm Avenue over the Grand River
- 20 - SN 3936 East Elm Street over the Red Cedar River (12-month inspection cycle)
- 21 - SN 3937 Kalamazoo Street over the Grand River
- 22 - SN 3939 Shiawassee Street over the Grand River
- 23 - SN 3940 Cesar Chavez Avenue over the Grand River
- 24 - SN 3944 North Martin Luther King Jr. Boulevard over the Grand River
- 25 - SN 3947 North Grand River Avenue over the Grand River
- 26 - SN 3948 South Washington Avenue over the Grand River
- 27 - SN 3951 Pennsylvania Avenue over Norfolk Southern Railroad
- 28 - SN 3952 Pennsylvania Avenue over the Red Cedar River
- 29 - SN 3954 Aurelius Road over Sycamore Creek
- 30 - SN 3955 Aurelius Road over the Red Cedar River
- 31 - SN 3956 Aurelius Road over Grand Trunk Railroad
- 32 - SN 3958 Beech Street over Red Cedar River
- 33 - SN 13398 Aurelius Road over Pawlowski Creek Drain (12-month inspection cycle)
- 34 - N/A
- 35 - SN 13398 Enterprise Drive over Pawlowski Creek Drain
- 36 - SN 14606 Baulistrol Drive over Unnamed Drain (not inspected in 2023, it was inspected in 2022)
- 37 - SN 3693 Michigan Avenue over the Grand River
- 38 - SN 3694 Michigan Avenue over Museum Drive

In addition, one bridge owned by Lansing Board of Water & Light was inspected in 2023. Island Avenue over the Grand River.

3. Summary of RFA's and Work Recommendations

The list of work recommendations can be seen in the Bridge Maintenance Items and Priorities Table. Four Requests for Action were submitted for 2023:

- I. SN 3931 Averill Road Walkover over W. Holmes Road.
 - The structure was removed in 2024; therefore, resolving the RFA.
- II. SN 3941 Massachusetts Avenue Walkover over Cesar Chavez Avenue
 - The structure was removed in 2024; therefore, resolving the RFA.
- III. SN 3944 N. Martin Luther King Jr. Boulevard over the Grand River
 - This was addressed in the 2024 rehabilitation project.
- IV. SN 3946 Willow Street Walkover over N. Martin Luther King Jr. Boulevard
 - The structure was removed in 2024, therefore, resolving the RFA.

There were no Request for Actions submitted in the 2024 off-year inspections.

4. Underwater Inspection

The City's bridges requiring underwater inspection have a 60-month frequency.

The following bridges required underwater inspections this year and would not require another underwater inspection until 2028:

- I. SN 3935 Elm Avenue over Grand River
- II. SN 3936 East Elm Street over the Red Cedar River
- III. SN 3937 Kalamazoo Street over the Grand River
- IV. SN 3939 Shiawassee Street over the Grand River

The following bridges had underwater inspections last performed in 2020 and will require underwater inspections in 2025:

- I. SN 3952 Pennsylvania Avenue over the Red Cedar
- II. SN 3955 Aurelius over the Red Cedar
- III. SN 3693 Michigan Avenue over the Grand River

5. Scour Criticality, Channel Cross-Sections and Scour Action Plans

Channel cross-sections are taken and plotted for the bridges that are over water and are currently considered scour critical. The cross-sections are taken on both the upstream and downstream faces of the bridge. The purpose of the cross-sections is to determine if the channel is changing over time which could provide an indication of ongoing scour. Small variations in the channel cross-sections are to be expected due to difficulties in taking elevations underwater and since the measurements are not taken in the exact same locations each time. Since the channels appear stable without notable change, the channel cross-sections are on a four-year cycle.

Channel cross-sections were taken this year for the following bridges:

- I. SN 3930 Cavanaugh Road over Sycamore Creek
- II. SN 3932 Mount Hope Avenue over Sycamore Creek
- III. SN 3935 Elm Avenue over the Grand River
- IV. SN 3936 East Elm Street over the Red Cedar River
- V. SN 3937 Kalamazoo Street over the Grand River
- VI. SN 3944 N. Martin Luther King Jr. Boulevard over the Grand River
- VII. SN 3952 Pennsylvania Avenue over the Red Cedar River
- VIII. SN 3955 Aurelius Road over the Red Cedar River

One bridge is coded as stable but has observed scour. It is on a 60 month cycle and will require a channel cross-section in 2024.

- I. SN 3939 Shiawassee Street over the Grand River

Two bridges are coded as scour critical and are on a 24 month cycle. They will require channel cross-sections in 2025.

- I. SN 3936 East Elm Street over the Red Cedar River
- II. SN 3937 Kalamazoo Street over the Grand River

All the City's bridges over water required new Level I Scour Analyses and, if required, revised Item #113 coding in conformance with current MDOT guidelines. These are being updated as part of the current bridge inspection cycles. No Level II Scour Analyses are required in the future.

Nine bridges required updates to the Level I Scour Analysis in 2023:

- I. SN 3930 Cavanaugh Road over Sycamore Creek
- II. SN 3932 Mount Hope Avenue over Sycamore Creek
- III. SN 3937 Kalamazoo Street over the Grand River
- IV. SN 3944 N. Martin Luther King over the Grand River
- V. SN 3948 South Washington Avenue over the Grand River
- VI. SN 3952 Pennsylvania Avenue over the Red Cedar River
- VII. SN 3954 Aurelius Road over Sycamore Creek
- VIII. SN 3955 Aurelius Road over the Red Cedar River
- IX. SN 13398 Enterprise Drive over Pawlowski Creek Drain

6. Uncoated Weathering Steel Bridges

All uncoated weathering steel bridges in the Group 2 category require that preventative maintenance or preservation activities are identified and communicated to ensure satisfactory performance. This list of activities will be updated the next time the bridge is due for inspection.

The City owns three Group 2 uncoated weathering steel bridges:

- I. SN 3937 Kalamazoo Street over the Grand River
- II. SN 3954 Aurelius Road over Sycamore Creek
- III. SN 3955 Aurelius Road over the Red Cedar River

7. Load ratings

Load ratings are required to be updated if any changes are made to a structure that affect the structure's loading, any changes to condition of the structure that would affect its load carrying capacity, or to bring a load rating up to current standards.

No load ratings were required to be performed this year as part of the inspection program.

8. Completing the process

After the inspections are complete, the reports (including photographs) are completed on MDOT's MiBridge website. The results of the inspection are then reviewed by the City of Lansing to determine which bridges will be submitted to receive funding under the Michigan Local Agency Bridge Program.

9. Upcoming Inspections

Seven bridges will be inspected in 2024.

One of these bridges will inspected because it is on ten even year cycle.

- II. SN 14606 Baulistrol Drive over Unnamed Drain

Three of these bridges will be inspected because they are on a 12-month inspection cycle:

- III. SN 3933 Ray Street Walkover over East Mount Hope Avenue
- IV. SN 3936 East Elm Street over the Red Cedar River
- V. SN 13398 Aurelius Road over Pawlowski Creek Drain

Aurelius Road over Pawloski Creek Drain is scheduled to be reconstructed in the spring of 2026. Yearly inspections will continue until the project is completed. The project was awarded in the fall of 2025 with anticipated construction beginning in March 2026 and being completed in May 2026

The next full round of biennial inspections will be held in October 2025.

Appendix 2

City of Lansing Public Service Department 2023 & 2024 Bridge Inspection Report Executive Summary

General Recommendations

3929 Jolly Road over Sycamore Creek

Constructed: 1963 **Widened:** 1993 **Rehabilitated:** 2017 **General Condition:** Fair

Description: The structure is a two-span steel bridge constructed in 1963, widened in 1993 and rehabilitated in 2017. The 2017 work consisted of hydrodemolition and a deep concrete overlay, expansion joint replacement, beam end repairs, zone painting, substructure repair, placement of rip rap, and approach pavement replacement. The bridge is in fair condition.

Recommendations:

- Repair spalls along north sidewalk curbline.
- Coordinate with utility company to support hanging conduit in second bay from south.
- Coordinate with utility company for repair of damaged conduit hangers on south fascia.
- Remove trees/brush adjacent to the bridge.
- Retrofit concrete parapet railing to meet current AASHTO standards for clear openings.

3930 Cavanaugh Road over Sycamore Creek

Constructed: 1990 **Rehabilitation:** 2017 **General Condition:** Fair

Description: The structure is a single-span constructed in 1990 and rehabilitated in 2017. The superstructure consists of 33-inch deep adjacent precast concrete box beams with a concrete deck. Rehabilitation work consisted of hydrodemolition, shallow concrete overlay, replacement of the south sidewalk and railing, southwest and southeast returnwall replacement (above the bearing seats), abutment crack repair, and approach work. The bridge is in overall fair condition.

Recommendations:

- Patch small spalls in deck overlay (west end in eastbound lanes).
- Clean and seal joints between approach pavement and bridge deck at each reference line.
- Apply weed killer to plants growing between fascia beam and backwall in southwest quadrant.
- Place additional riprap at the abutments.

3932 Mt Hope Avenue over Sycamore Creek

Constructed: 1962 **Reconstructed:** 2013, 2018 (paint) **General Condition:** Good

Description: The structure is a two-span steel bridge originally constructed in 1962, rehabilitated in 2013, and the beams cleaned and recoated in 2018. The rehabilitation consisted of a new deck sidewalk and railings, beam end repairs, beam cleaning & coating, and approach work. The bridge is in overall good condition..

Recommendations:

- Replace missing and loose screws at pedestrian railings.
- Place bituminous wedges at north approach sidewalks.
- Remove debris on upstream end of pier.
- Patch the cracks in grouted rip rap at abutments.
- Place additional rip rap along the sides of the piers.

3935 W Elm Street over the Grand River

Constructed: 2003

Reconstructed:

General Condition: Good

Description: The bridge consists of a 2-span prestressed concrete I-beam superstructure on a concrete pier wall and cantilever abutments. It was constructed in 2003. The bridge is in good condition.

Recommendations:

- Patch 3sf spall in deck surface and repair wide cracks in sidewalk over pier.
- Add additional riprap scour protection in SE quadrant in front of abutment.
- Spray for vegetation along curb line in approaches.
- Repair erosion on NW quadrant and fill void under approach sidewalk.
- Reseal poured joints adjacent to the east sleeper slab.

3936 E Elm Street over the Red Cedar River

Constructed: 1980

Reconstructed:

General Condition: Poor

Description: This bridge consists of a 2-span, adjacent prestressed concrete box beam superstructure super by a single pier wall and tall cantilever abutments. The superstructure and pier were reconstructed in 1980. The bridge is in poor condition due to severe box beam deterioration. *Note this structure is programmed for replacement in 2026 or 2027.*

Recommendations:

- Fill spalls in sidewalk surface with epoxy patch material.
- Remove incipient spalls on the bottom of beams over the pedestrian walkway as required.
- Install tube or fencing to fill gap at bottom of open parapet railings.
- Replace missing nuts at north aluminum tube railing.
- Total bridge replacement.

3937 Kalamazoo Street over the Grand River

Constructed: 1979

Reconstructed: 2010

General Condition: Fair

Description: The bridge is three spans continuous steel plate girders constructed in 1979. In 2010 the structure has a new concrete overlay placed and the girders were painted. The bridge is in fair condition. *Note this structure is programmed for Preventative Maintenance in 2026.*

Recommendations:

- Seal cracks in HMA approaches with hot poured rubber sealant.
- Clean expansion joints.
- Repair erosion in the southwest quadrant under sidewalk approach.
- Scale shallow spalls in railing posts and coat with sealer.
- Apply healer sealer or epoxy overlay on the deck and sidewalk surfaces.

- Replace end diaphragm cross frames with holes in bay 1S near both abutments.
- Replace deck drain extensions.
- Re-align rocker bearings at east abutment.
- Add scour countermeasures at east pier footing and near the drainage culvert outlet.

3939 Shiawassee Street over the Grand River

Constructed: 1996 **Reconstructed:** **General Condition:** Good

Description: . The bridge consists of a 3-span, prestressed concrete I-beam superstructure built in 1996. The bridge is in good condition. *Note this structure had Preventative Maintenance completed in 2024.*

Recommendations:

- Add riprap at pier 1W to address footing exposure.
- Replace HMA approaches due to poor surface and settlement issues at joint ends.
- Patch spalled areas of brush blocks. Apply a silane surface sealer to aesthetic balustrade rail.
- Apply epoxy healer sealer to sidewalk.
- Chase cracks with epoxy sealer in deck surface.

3940 E Cesar Chavez Avenue over the Grand River

Constructed: 1929 **Reconstructed:** 2006 **General Condition:** Good

Description: The bridge consists of a 3-span, prestressed concrete I-beam superstructure on two pier walls in the water and tall cantilever abutments. Constructed in 1929, it received a superstructure replacement in 2006. The bridge is in good condition. *Note this structure had Preventative Maintenance completed in 2025.*

Recommendations:

- Correct settlement problems at NW and SE quadrants.
- Seal Sidewalk surface with Epoxy healer sealer.
- Place additional riprap near face of abutments to prevent future scour.

3944 N Martin Luther king Jr Boulevard over the Grand River

Constructed: 1960 **Reconstructed:** 2001 **General Condition:** Good

Description: The bridge consists of a 7-span rolled steel beam superstructure on 6-column piers built in 1960. The deck was replaced in 2001. The bridge is in good condition. *Note this structure had Preventative Maintenance completed in 2024.*

Recommendations:

- Detailed inspection of pin and hangers to verify cotter-pins are bent at pind ends. Complete beam end inspection with pitting and verify condition of tack welds for stiffeners.
- Patch spalls in the sidewalk curb faces and repair spalls in railing, consider railing replacement for north half of bridge.
- Chase cracks in deck with epoxy sealer or consider adding an epoxy overlay. Patch deck surface and apply healer sealer to sidewalks.
- Place riprap along Pier 6S to prevent further slumping.

- Fill small potholes near end joints.
- 3947 N Grand River Avenue over the Grand River**
Constructed: 1924 **Rehabilitated:** 2021 **General Condition:** Good
Description: The bridge consists of three closed-spandrel, earth-filled, reinforced concrete arches with two concrete pier walls. The bridge was constructed in 1924, and the sidewalks and railings replaced in 1979. This structure was recently rehabilitated and was re-opened to traffic in November 2021. The bridge is now in good condition.
Recommendations:
- Seal cracks in deck surface and sidewalks.
 - Update Scour Evaluation to account for riprap placed around pier footings. Consider coding scour vulnerability as 7-Countermeasures in place.
- 3948 S Washington Avenue over the Grand River**
Constructed: 1986 **Reconstructed:** **General Condition:** Fair
Description: The bridge is a single-span steel bridge constructed in 1986. The bridge is in overall fair condition. *Note this structure had Preventative Maintenance completed in 2024.*
Recommendations:
- Fasten down expansion plate cover at the east sidewalk.
 - Replace expansion joint and patch curb faces.
 - Zone paint corroded beam ends at north abutment and at splice at second beam from east.
 - Apply healer sealer to deck and sidewalks.
 - Replace approach guardrail.
 - Retrofit concrete parapet railing to meet current AASHTO clear opening standards.
- 3951 Pennsylvania Avenue over the Norfolk Southern (Jackson & Lansing) Railroad**
Constructed: 2005 **Reconstructed:** **General Condition:** Fair
Description: The structure is a single-span steel bridge constructed in 2005. The bridge consists of steel plate girders spanning on a skew relative to the direction of traffic due to the orientation of the railroad tracks below. Each fascia beam has a kicker beam parallel to traffic. The resulting superstructure has “bumpout” area behind the railing on each side. The bridge is in fair condition. *Note this structure had Preventative Maintenance completed in 2025.*
Recommendations:
- Repair or replace south bridge sidewalks at expansion joint and replace compression seals.
 - Place bituminous wedges at approach sidewalks.
 - Repair spalls in approach pavement.
 - Repair surface spalls in bridge deck.
 - Repair spall on top of the south backwall in southbound lanes.
 - Repair cracks and spalls at the northwest returnwall and the at the west end of the north backwall.
 - Periodically clean out expansion joint.
 - Remove trees at top of MSE walls in southeast and northwest quadrants.
 - Remove trees from in front of south MSE wall.

- Fill in settlement at top of north MSE wall at west end.

3952 Pennsylvania Avenue over the Red Cedar River

Constructed: 1963

Rehabilitated: 2011-12

General Condition: Fair

Description: The bridge consists of a 3-span rolled steel beam superstructure on two pier walls and tall cantilever abutments. It was constructed in 1963, received an overlay in 2011 and several beam end repairs in 2012.

Recommendations:

- Consider budgeting for an epoxy overlay.
- Place riprap in front of abutments to prevent future scour.
- Replace south approach and reseal south end joints.
- Scale and patch median brush block. Apply healer sealer.
- Patch spalls in near construction joints and epoxy inject vertical cracks in substructure.
- Secure utility plate in span 3S, west sidewalk.

3954 Aurelius Road over Sycamore Creek

Constructed: 1978

Rehabilitated: 2017

General Condition: Good

Description: The structure is a single-span steel bridge constructed in 1978. The bridge had maintenance work in 2017 consisting of deck patching, epoxy overlay, and east sidewalk patching. The bridge is in overall good condition.

Recommendations:

- Clean and seal joints between bridge deck and approach pavement at each reference line.
- Repair spall in deck at reference line in southeast quadrant.
- Replace approach guardrail.
- Retrofit the east concrete parapet railing to meet current AASHTO standards for clear openings.

3955 Aurelius Road over the Red Cedar River

Constructed: 1972

Rehabilitated: 2009

General Condition: Good

Description: The structure is a three-span steel bridge constructed in 1972 and rehabilitated in 2009. The beams are unpainted A588 weathering steel with pin and hangers. The bridge is in overall good condition.

Recommendations:

- Repair vertical cracks and spalls in abutment walls.
- Clean out expansion joints.

3956 Aurelius Road over the Grand Trunk Railroad

Constructed: 2021

Reconstructed:

General Condition: Excellent

Description: The structure is a single-span constructed in 2021. The superstructure consists of 42-inch deep precast concrete bulb tee beams with a concrete deck. The bridge is in excellent condition.

Recommendations:

- The bridge was replaced in 2021. There are no current recommendations.

3958 Beech Street over the Red Cedar River

	Constructed: 2007	Reconstructed:	General Condition: Very Good
	Description: The structure is a three-span concrete box beam bridge constructed in 2007. The bridge is in generally very good condition. <i>Note this structure is programmed for Preventative Maintenance in 2026.</i>		
	Recommendations:		
	○ Remove weeds behind slope walls in northeast and northwest quadrants. ○ Place additional rip rap along south slope in front of abutment. ○ Remove logs and debris in front of timber retaining wall on the north side. ○ Periodically clean out expansion joints. ○ Apply healer-sealer to deck.		
13398	Aurelius Road over Pawlowski Creek Drain		
	Constructed: South pipe – pre-1973; North pipe - 1978	General Condition: Serious	
	Description: The Aurelius Road Culvert at the Pawlowski Creek Drain consists of two galvanized steel corrugated steel plate arched pipes. The larger north pipe is the main culvert while the south pipe is for overflow during high water events. The construction date of the south pipe is unknown. In 1978 the north pipe was added, the south pipe extended and new concrete headwalls constructed. The culvert is in serious condition and is on a 12-month inspection cycle. <i>Note this structure is programmed for Replacement in spring 2026.</i>		
	Recommendations:		
	○ Seal cracks in road surface. ○ Repair guardrail post, west side near south end. ○ Replace culvert.		
13685	Enterprise Drive over Pawlowski Creek Drain		
	Constructed: North Pipe- 1968; South Pipe - 1978	General Condition: Fair	
	Description: The structure consists of two galvanized steel corrugated steel plate arched pipes. It originally consisted as a single pipe constructed in 1968. A second pipe was added on the south side in 1978. The culvert is in fair condition. <i>Note this structure is programmed for Replacement in 2026 or 2027.</i>		
	Recommendations:		
	○ Replace settled curb in northeast quadrant. ○ Patch leaking around pipe penetrations in north pipe.		
14606	Baulistrol Drive over Unnamed Drain		
	Constructed: 2003	General Condition: Good	
	Description: Single span precast concrete Hyspan 3-sided box culvert. The culvert crosses an unnamed drain connecting two wetlands and was constructed in 2003. The culvert is in good condition.		
	Recommendations:		
	○ Install railing or fencing at east headwall.		
3693	Michigan Avenue over the Grand River		
	Constructed: 1975	Rehabilitated: 2018	General Condition: Fair

Description: Two span steel structure with 54" welded weathering steel plate girders supporting a CIP deck, sidewalk, and precast barrier/fascia panels. The bridge is in overall fair condition. *Note this structure is programmed for Preventative Maintenance in 2026.*

Recommendations:

- Repair grout between the sandstone blocks.
- Repair spalls in railing.
- Scale deck bottom surface under Span 2W, bay 1S over river.

3694

Michigan Avenue over Museum Drive

Constructed: 1987

Rehabilitated:

General Condition: Fair

Description: Single Span steel structure with superstructure consisting of 24" rolled beams supporting a CIP deck, sidewalk, and parapet type railing. The structure is in overall fair condition. *Note this structure is programmed for Preventative Maintenance in 2026.*

Recommendations:

- Seal end joints.
- Patch delamination at the center lane of east reference line.
- Epoxy overlay.

Appendix 3

Inventory Data							
Bridge Type	Structure Number	Bridge ID	Facility Carried	Features Intersected	Primary or Secondary Route	Structure Type Main Span (Item 43A - Material)	Structure Type Main Span (Item 43B)
Steel – Multistringer	3693	334385006775B01	M-143 E MICH AVE	GRAND RIVER	Primary	3	2
Steel – Multistringer	3694	334385033060S01	M-143 E MICH AVE	MUSEUM DRIVE	Primary	3	2
Steel – Multistringer	3929	334385000010B01	JOLLY ROAD	SYCAMORE CREEK	Primary	3	2
Prestressed concrete – Box beam/girders—multiple	3930	334385000018B01	CAVANAUGH ROAD	SYCAMORE CREEK	Primary	5	5
Steel – Multistringer	3932	334385000038B01	MT HOPE AVENUE	SYCAMORE CREEK	Primary	3	2
Prestressed concrete – Multistringer	3935	334385000042B01	ELM STREET	GRAND RIVER	Primary	5	2
Prestressed concrete – Box beam/girders—multiple	3936	334385000043B01	E ELM STREET	RED CEDAR RIVER	Primary	5	5
Steel continuous – Multistringer	3937	334385000054B01	KALAMAZOO STREET	GRAND RIVER	Primary	4	2
Prestressed concrete – Multistringer	3939	334385000072B01	SHIAWASSEE STREET	GRAND RIVER	Primary	5	2
Prestressed concrete – Multistringer	3940	334385000075B01	CESAR CHAVEZ AVE	GRAND RIVER	Primary	5	2
Steel – Multistringer	3944	334385000109B01	N MARTINLUTHERKING	GRAND RIVER	Primary	3	2
Concrete – Arch—deck	3947	334385000124B01	N GRAND RIVER	GRAND RIVER	Primary	1	11
Steel – Multistringer	3948	334385000127B01	S WASHINGTON AVE	GRAND RIVER	Primary	3	2
Steel – Multistringer	3951	334385000142R01	PENNSYLVANIA AVE	NORFOLK SOUTHERN RR	Primary	3	2
Steel – Multistringer	3952	334385000144B01	PENNSYLVANIA AVE	RED CEDAR RIVER	Primary	3	2
Steel – Multistringer	3954	334385000150B01	AURELIUS ROAD	SYCAMORE CREEK	Primary	3	2
Steel – Multistringer	3955	334385000151B01	AURELIUS ROAD	RED CEDAR RIVER	Primary	3	2
Prestressed concrete – Multistringer	3956	334385000151R01	AURELIUS ROAD	GRAND TRUNK RAILROAD	Primary	5	2
Prestressed concrete – Box beam/girders—multiple	3958	334385000971B01	BEECH STREET	RED CEDAR RIVER	Primary	5	5
Steel – Culvert	13398	334385000150C01	AURELIUS ROAD	PAWLOWSKI CREEK DRAIN	Primary	3	19
Steel – Culvert	13685	335385000028C01	ENTERPRISE DRIVE	PAWLOWSKI CREEK DRAIN	Secondary	3	19
Concrete – Culvert	14606	335385099999C01	BAULISTROL DR	UNNAMED DRAIN	Secondary	1	19

APPENDIX A-1

						Inspection Findings						
Number of Main Span (Item 45)	Total Str Length (Item 49)	Year Built (Item 27)	Year Reconstr (Item 106)	ADT	Year of ADT	Inspection Date	Operational Status (Item 41)	Deck Rating (Item 58)	Deck Bottom Rating (Item XX)	SuperStr Rating (Item 59)	Substr Rating (Item 60)	Channel Rating (Item 61)
2	234	1975		8009	2015	7/1/2024	A	6	6	6	6	7
1	38.7	1987		8882	2007	7/1/2024	A	7	7	6	7	N
2	142	1992		15500	2015	10/8/2025	A	6	6	6	6	6
1	76	1990		4000	2015	10/8/2025	A	6	N	6	6	7
2	110	1962	2013	8725	2013	10/8/2025	A	8	N	5	6	5
2	174.1	2003		950	2011	10/22/2023	A	7	7	8	7	7
2	128.6	1980		2000	2011	10/9/2024	P	4	N	3	5	6
3	418	1979		7875	2006	10/22/2023	A	6	6	6	6	6
3	384	1996		7341	2023	10/22/2023	A	7	7	8	7	7
3	179.8	1929	2006	5825	2006	10/30/2023	A	7	8	8	7	7
7	441.5	1960	2001	12955	2023	10/30/2023	A	6	7	6	7	6
3	202	1924	1979	3815	2009	10/30/2023	A	7	N	7	7	7
1	154	1987		11477	2023	10/9/2025	A	7	7	5	6	8
1	213.3	2005		13400	2007	10/8/2025	A	8	N	7	6	N
3	152.9	1963		17675	2010	10/18/2023	A	6	6	7	6	6
1	65	1978		5500	2015	10/8/2025	A	7	7	6	6	7
3	195	1972	2009	9450	2010	10/9/2025	A	8	N	7	7	7
1	104.5	2021		8715	2019	10/9/2025	A	8	N	8	8	N
3	159	2007		1580	2001	10/9/2025	A	5	N	6	7	8
2	26.8	1978		13294	2010	10/8/2025	A	N		N	N	4
2	23.3	1978		4525	2009	10/8/2025	A	N		N	N	5
1	20.7	2003		700	2022	10/9/2024	A	N		N	N	8

					Appraisal				
Culvert Rating (Item 62)	Surface Rating (Item 58A)	Paint Rtg	Exp Joint Rating (Item XX)	Other Joints	Structure Evaluation	Structurally Deficient	Sufficiency Rating	Section Loss	Scour Critical (Item 113)
N	7	6	6	5	F		97.4	2	3
N	6	6		4	F	Funct Obs	93.3	2	N
N	6	5	6	5	F	Funct Obs		3	7
N	6	N	N	6	F			2	7
N	8	8	N	7	F			3	3
N	7	N	7	5	G	Funct Obs	85.4	N	3
N	6	N	6	4	P	Struct Def	32.6	1	3
N	6	7	6	6	F		80.1	2	3
N	7	N	6	4	G	Funct Obs	80.3	3	5
N	7	N	7	7	G		81.5	N	5
N	6	7	6	4	F		91.9	2	3
N	8	N	N	8	G	Funct Obs	80.3	N	3
N	8	5	6	6	F			2	7
N	8	7	7	8	F	Funct Obs		N	N
N	7	7	6	3	F	Funct Obs	74.8	2	3
N	7	N	N	7	F			N	7
N	7	7	7	7	G			3	3
N	8	N	7	8	G			N	N
N	5	N	6	7	F			N	5
3					P	Struct Def			5
5					F				3
8					G		90.3		8

Appendix 4

Inventory Data							
Bridge Type	Structure Number	Bridge ID	Facility Carried	Features Intersected	Structure Type Main Span (Item 43A - Material)	Structure Type Main Span (Item 43B)	Number of Main Span (Item 45)
Steel – Multistringer	3693	334385006775B01	M-143 E MICH AVE	GRAND RIVER	3	2	2
Steel – Multistringer	3694	334385033060S01	M-143 E MICH AVE	MUSEUM DRIVE	3	2	1
Steel – Multistringer	3929	334385000010B01	JOLLY ROAD	SYCAMORE CREEK	3	2	2
Prestressed concrete – Box beam/girders—multiple	3930	334385000018B01	CAVANAUGH ROAD	SYCAMORE CREEK	5	5	1
Steel – Multistringer	3932	334385000038B01	MT HOPE AVENUE	SYCAMORE CREEK	3	2	2
Prestressed concrete – Multistringer	3935	334385000042B01	ELM STREET	GRAND RIVER	5	2	2
Prestressed concrete – Box beam/girders—multiple	3936	334385000043B01	E ELM STREET	RED CEDAR RIVER	5	5	2
Steel continuous – Multistringer	3937	334385000054B01	KALAMAZOO STREET	GRAND RIVER	4	2	3
Prestressed concrete – Multistringer	3939	334385000072B01	SHIAWASSEE STREET	GRAND RIVER	5	2	3
Prestressed concrete – Multistringer	3940	334385000075B01	CESAR CHAVEZ AVE	GRAND RIVER	5	2	3
Steel – Multistringer	3944	334385000109B01	N MARTIN LUTHER KING	GRAND RIVER	3	2	7
Concrete – Arch—deck	3947	334385000124B01	N GRAND RIVER	GRAND RIVER	1	11	3
Steel – Multistringer	3948	334385000127B01	S WASHINGTON AVE	GRAND RIVER	3	2	1
Steel – Multistringer	3951	334385000142R01	PENNSYLVANIA AVE	NORFOLK SOUTHERN RR	3	2	1
Steel – Multistringer	3952	334385000144B01	PENNSYLVANIA AVE	RED CEDAR RIVER	3	2	3
Steel – Multistringer	3954	334385000150B01	AURELIUS ROAD	SYCAMORE CREEK	3	2	1
Steel – Multistringer	3955	334385000151B01	AURELIUS ROAD	RED CEDAR RIVER	3	2	3
Prestressed concrete – Multistringer	3956	334385000151R01	AURELIUS ROAD	GRAND TRUNK RAILROAD	5	2	1
Prestressed concrete – Box beam/girders—multiple	3958	334385000971B01	BEECH STREET	RED CEDAR RIVER	5	5	3
Steel – Culvert	13398	334385000150C01	AURELIUS ROAD	PAWLOWSKI CREEK DRAIN	3	19	2
Steel – Culvert	13685	335385000028C01	ENTERPRISE DRIVE	PAWLOWSKI CREEK DRAIN	3	19	2
Concrete – Culvert	14606	335385099999C01	BAULISTROL DR	UNNAMED DRAIN	1	19	1

			Replacement				Rehabilitation					
Total Str Length (Item 49)	Total Str Width (Item 52)	Total Str (sq ft)	Total	Super-structure	Deck	Sub-structure	Deep Overlay	Shallow Overlay	HMA Overlay w/ Membrane	HMA Cap	Replace/Retrofit Railing	Steel Beam Repairs
234	103	24102										
38.7	117.1	4532										
142	63.3	8989										
76	50.2	3815										
110	61.5	6765										
174.1	65.3	11369										
128.6	42.4	5453	X									
418	70.2	29344										
384	75.1	28838										
179.8	83	14923										
441.5	60.3	26622										
202	44.8	9050										
154	77.4	11920										
213.3	60.4	12883										
152.9	76.1	11636										
65	59.4	3861										
195	60.1	11720										
104.5	57.3	5988										
159	37.7	5994										
26.8	66	1769	X									
23.3	62.5	1456	X									
20.7	52	1076										

APPENDIX A-2

					Proposed Preventive Maintenance							
P/S Conc Beam Repairs	Repair/Replac e Culvert	Repair/Replac e Retaining Wall	Geometric Upgrades	Patch Substruct Concrete	Repair/Replac e Deck	Repair/Replac e Steel Bearings	Complete Painting	Zone Painting	Epoxy Overlays	HMA Cap w/o Membrane	Concrete Deck Patching	Channel Improvements
				X	X			X	X		X	
					X			X	X		X	
				X	X				X			
					X				X		X	
					X				X		X	
X									X			

Proposed Scheduled Maintenance												
Scour Counter Measures	Superstruc Washing	Concrete Surface Washing	Vegetation Control	Debris Removal	Clean Drainage System	Spot Painting	Repair/Replace HMA Surface	Seal HMA Cracks/Joints	Seal Concrete Cracks/Joints	Minor Concrete Patching	Timber Repairs	Repair/Replace Guardrails
			X									
				X								
X												
			X									
			X									
				X								

Appendix 5

APPENDIX A-3

Inventory Data

Bridge Type	Structure Number	Bridge ID	Facility Carried	Features Intersected	Structure Type Main Span (Item 43A - Material)	Structure Type Main Span (Item 43B)	Number of Main Span (Item 45)
Steel – Multistringer	3693	334385006775B01	M-143 E MICH AVE	GRAND RIVER	3	2	2
Steel – Multistringer	3694	334385033060S01	M-143 E MICH AVE	MUSEUM DRIVE	3	2	1
Steel – Multistringer	3929	334385000010B01	JOLLY ROAD	SYCAMORE CREEK	3	2	2
Prestressed concrete – Box beam/girders—multiple	3930	334385000018B01	CAVANAUGH ROAD	SYCAMORE CREEK	5	5	1
Steel – Multistringer	3932	334385000038B01	MT HOPE AVENUE	SYCAMORE CREEK	3	2	2
Prestressed concrete – Multistringer	3935	334385000042B01	ELM STREET	GRAND RIVER	5	2	2
Prestressed concrete – Box beam/girders—multiple	3936	334385000043B01	E ELM STREET	RED CEDAR RIVER	5	5	2
Steel continuous – Multistringer	3937	334385000054B01	KALAMAZOO STREET	GRAND RIVER	4	2	3
Prestressed concrete – Multistringer	3939	334385000072B01	SHIAWASSEE STREET	GRAND RIVER	5	2	3
Prestressed concrete – Multistringer	3940	334385000075B01	CESAR CHAVEZ AVE	GRAND RIVER	5	2	3
Steel – Multistringer	3944	334385000109B01	N MARTIN LUTHER KING	GRAND RIVER	3	2	7
Concrete – Arch—deck	3947	334385000124B01	N GRAND RIVER	GRAND RIVER	1	11	3
Steel – Multistringer	3948	334385000127B01	S WASHINGTON AVE	GRAND RIVER	3	2	1
Steel – Multistringer	3951	334385000142R01	PENNSYLVANIA AVE	NORFOLK SOUTHERN RR	3	2	1
Steel – Multistringer	3952	334385000144B01	PENNSYLVANIA AVE	RED CEDAR RIVER	3	2	3
Steel – Multistringer	3954	334385000150B01	AURELIUS ROAD	SYCAMORE CREEK	3	2	1
Steel – Multistringer	3955	334385000151B01	AURELIUS ROAD	RED CEDAR RIVER	3	2	3
Prestressed concrete – Multistringer	3956	334385000151R01	AURELIUS ROAD	GRAND TRUNK RAILROAD	5	2	1
Prestressed concrete – Box beam/girders—multiple	3958	334385000971B01	BEECH STREET	RED CEDAR RIVER	5	5	3
Steel – Culvert	13398	334385000150C01	AURELIUS ROAD	PAWLOWSKI CREEK DRAIN	3	19	2
Steel – Culvert	13685	335385000028C01	ENTERPRISE DRIVE	PAWLOWSKI CREEK DRAIN	3	19	2
Concrete – Culvert	14606	335385099999C01	BAULISTROL DR	UNNAMED DRAIN	1	19	1

			Inspection Items							
Total Str Length (Item 49)	Total Str Width (Item 52)	Total Str (sq ft)	Initial Inspection	In Depth Steel Inspection	Pin and Hanger Inspection	Diving Inspection	Provide Monitoring	Review Scour Criticality	Load Rating	Update SIA
234	103	24102	X			X				
38.7	117.1	4532	X							
142	63.3	8989	X							
76	50.2	3815	X							
110	61.5	6765	X							
174.1	65.3	11369	X							
128.6	42.4	5453	X							
418	70.2	29344	X							
384	75.1	28838	X							
179.8	83	14923	X							
441.5	60.3	26622	X							
202	44.8	9050	X							
154	77.4	11920	X							
213.3	60.4	12883	X							
152.9	76.1	11636	X			X				
65	59.4	3861	X							
195	60.1	11720	X			X				
104.5	57.3	5988	X							
159	37.7	5994	X							
26.8	66	1769	X							
23.3	62.5	1456	X							
20.7	52	1076	X							

C. CULVERT ASSET MANAGEMENT PLAN SUPPLEMENT

Culvert Primer

Culverts are structures that lie underneath roads, enabling water to flow from one side of the roadway to the other (Figure C-1 and Figure C-2). The important distinguishing factor between a culvert and a bridge is the size. Culverts are considered anything under 20 feet while bridges, according to the Federal Highway Administration, are 20 feet or more. While similar in function to storm sewers, culverts differ from storm sewers in that culverts are open on both ends, are constructed as straight-line conduits, and lack intermediate drainage structures like manholes and catch basins. Culverts are critical to the service life of a road because of the important role they play in keeping the pavement layers well drained and free from the forces of water building up on one side of the roadway.

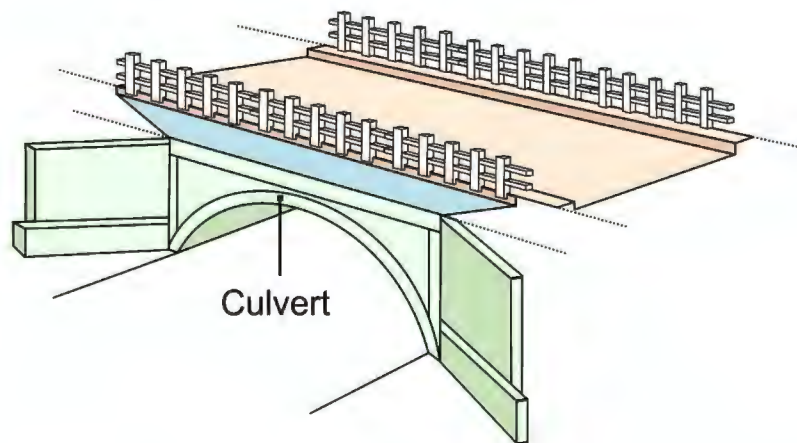


Figure C-1: Diagram of a culvert structure

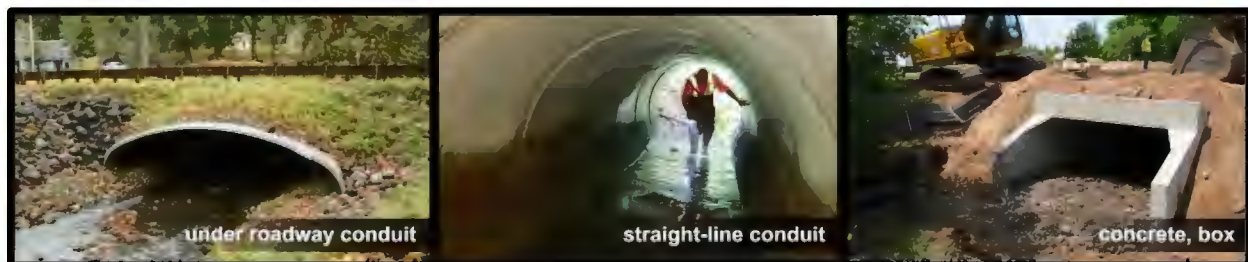


Figure C-2: Examples of culverts. Culverts allow water to pass under the roadway (left), they are straight-line conduits with no intermediate drainage structures (middle), and they come in various materials (left: metal; middle and right: concrete) and shapes (left: arch; middle: round; right: box).

Culvert Types

Michigan conducted its first pilot data collection on local agency culverts in the state in 2018. Of almost 50,000 culverts inventoried as part of the state-wide pilot project, the material type used for constructing culverts ranged from (in order of predominance) corrugated steel, concrete, plastic, aluminum, and masonry/tile, to timber materials. The shapes of the culverts were (in order of predominance) circular, pipe arch, arch, rectangular, horizontal ellipse, or box. The diameter for the majority of culverts ranged from less than 12 inches to 24 inches; a portion, however, ranged from 30 inches to more than 48 inches.

Culvert Condition

Several culvert condition assessment practices exist. The FHWA has an evaluation method in its 1986 *Culvert Inspection Manual*. In conjunction with descriptions and details in the Ohio Department of Transportation's 2017 *Culvert Inspection Manual* and Wisconsin DOT's *Bridge Inspection Field Manual*, the FHWA method served as the method for evaluating Michigan culverts in the pilot. In 2018, Michigan local agencies participated in a culvert pilot data collection, gathering inventory and condition data; full detail on the condition assessment system used in the data collection can be found in Appendix G of the final report (https://www.michigan.gov/documents/tamc/TAMC_2018_Culvert_Pilot_Report_Complete_634795_7.pdf).

The Michigan culvert pilot data collection used a 1 through 10 rating system, where 10 is considered a new culvert with no deterioration or distress and 1 is considered total failure. Each of the different culvert material types requires the assessment of features unique to that material type, including structural deterioration, invert deterioration, section deformation, blockage(s) and scour. Corrugated metal pipe, concrete pipe, plastic pipe, and masonry culverts require an additional assessment of joints and seams. Slab abutment culverts require an additional assessment of the concrete abutment and the masonry abutment. Assessment of timber culverts only relied on blockage(s) and scour. The assessments come together to generate condition rating categories of good (rated as 10, 9, or 8), fair (rated as 7 or 6), poor (rated as 5 or 4), or failed (rated as 3, 2, or 1).

Culvert Treatments

The *MDOT Drainage Manual* addresses culvert design and treatments. Of most importance to the longevity of culverts is regular cleaning to prevent clogs. More extensive treatments may include re-positioning the pipe to improve its grade and lining a culvert to achieve more service life after structural deterioration has begun.

D. TRAFFIC SIGNALS ASSET MANAGEMENT PLAN SUPPLEMENT

Traffic Signals Primer

Types

Electronic traffic control devices come in a large array of configurations, which include case signs (e.g., keep right/left, no right/left turn, reversible lanes), controllers, detection (e.g., cameras, push buttons), flashing beacons, interconnects (e.g., DSL, fire station, phone line, radio), pedestrian heads (e.g., hand-man), and traffic signals. This asset management plan is only concerned with traffic signals (Figure D-1) as a functioning unit and does not consider other electronic traffic control devices.



Figure D-1: Example of traffic signals

Condition

Traffic signal assessment considers the functioning of basic tests on a pass/fail basis. These tests include battery backup testing, components testing, conflict monitor testing, radio testing, and underground detection.

Treatments

Traffic signals are maintained in accordance with the *Michigan Manual on Uniform Traffic Control Devices*. Maintenance of traffic signals includes regular maintenance of all components, cleaning and servicing to prevent undue failures, immediate maintenance in the case of emergency calls, and provision of stand-by equipment. Timing changes are restricted to authorized personnel only.

E. GLOSSARY & ACRONYMS

Glossary

Alligator cracking: Cracking of the surface layer of an asphalt pavement that creates a pattern of interconnected cracks resembling alligator hide. This is often due to overloading a pavement, sub-base failure, or poor drainage.⁵

Asset management: A process that uses data to manage and track road assets in a cost-effective manner using a combination of engineering and business principles. Public Act 325 of 2018 provides a legal definition: “an ongoing process of maintaining, preserving, upgrading, and operating physical assets cost effectively, based on a continuous physical inventory and condition assessment and investment to achieve established performance goals”.⁶

Biennial inspection: Inspection of an agency’s bridges every other year, which happens in accordance with National Bridge Inspection Standards and Michigan Department of Transportation requirements.

Bridge inspection program: A program implemented by a local agency to inspect the bridges within its jurisdiction systematically in order to ensure proper functioning and structural soundness.

Capital preventative maintenance: Also known as CPM, a planned set of cost-effective treatments to address of fair-rated infrastructure before the structural integrity of the system has been severely impacted. These treatments aim to slow deterioration and to maintain or improve the functional condition of the system without significantly increasing the structural capacity. Light capital preventive maintenance is a set of treatments designed to seal isolated areas of the pavement from water, such as crack and joint sealing, to protect and restore pavement surface from oxidation with limited surface thickness material, such as fog seal; generally, application of a light CPM treatment does not provide a corresponding increase in a segment’s PASER score. Heavy capital preventive maintenance is a set of surface treatments designed to protect pavement from water intrusion or environmental weathering without adding significant structural strength, such as slurry seal, chip seal, or thin (less than 1.5-inch) overlays for bituminous surfaces or patching or partial-depth (less than 1/3 of pavement depth) repair for concrete surfaces.

Chip seal: An asphalt pavement treatment method consisting of, first, spraying liquid asphalt onto the old pavement surface and, then, a single layer of small stone chips spread onto the wet asphalt layer.

City major: A road classification, defined in Michigan Public Act 51, that encompasses the generally more important roads in a city or village. City major roads are designated by a municipality’s governing body and are subject to approval by the State Transportation Commission. These roads do not include roads under the jurisdiction of a county road commission or trunkline highways.

City minor: A road classification, defined in Michigan Public Act 51, that encompasses the generally less important roads in a city or village. These roads include all city or village roads that are not city major road and do not include roads under the jurisdiction of a county road commission.

⁵ https://en.wikipedia.org/wiki/Crocodile_cracking

⁶ Inventory-based Rating System for Gravel Roads: Training Manual

Composite pavement: A pavement consisting of concrete and asphalt layers. Typically, composite pavements are old concrete pavements that were overlaid with HMA in order to gain more service life.

Concrete joint resealing: Resealing the joints of a concrete pavement with a flexible sealant to prevent moisture and debris from entering the joints. When debris becomes lodged inside a joint, it inhibits proper movement of the pavement and leads to joint deterioration and spalling.

Concrete pavement: Also known as rigid pavement, a pavement made from portland cement concrete. Concrete pavement has an average service life of 30 years and typically does not require as much periodic maintenance as HMA.

Cost per lane mile: Associated cost of construction, measured on a per lane, per mile basis. Also see *lane-mile segment*.

County local: A road classification, defined in Michigan Public Act 51, that encompasses the generally less important and low-traffic roads in a county. This includes all county roads that are not classified as county primary roads.

County primary: A road classification, defined in Michigan Public Act 51, that encompasses the generally more important and high-traffic roads in a county. County primary roads are designated by board members of the county road commissions and are subject to approval by the State Transportation Commission.

CPM: See *Capital preventive maintenance*.

Crack and seat: A concrete pavement treatment method that involves breaking old concrete pavement into small chunks and leaving the broken pavement in place to provide a base for a new surface. This provides a new wear surface that resists water infiltration and helps prevent damaged concrete from reflecting up to the new surface.

Crack seal: A pavement treatment method for both asphalt and concrete pavements that fills cracks with asphalt materials, which seals out water and debris and slows down the deterioration of the pavement. Crack seal may encompass the term “crack filling”.

Crush and shape: An asphalt pavement treatment method that involves pulverizing the existing asphalt pavement and base and then reshaping the road surface to correct imperfections in the road’s profile. Often, a layer of gravel is added along with a new wearing surface such as an HMA overlay or chip seal.

Crust: A very tightly compacted surface on an unpaved road that sheds water with ease but takes time to be created.

Culvert: A pipe or structure used under a roadway that allows cross-road drainage while allowing traffic to pass without being impeded; culverts span up to 20 feet.⁷

Dowel bar retrofit repair: A concrete pavement treatment method that involves cutting slots in a cracked concrete slab, inserting steel bars into the slots, and placing concrete to cover the new bars and fill the slots. It aims to reinforce cracks in a concrete pavement.

⁷ Adapted from Inventory-based Rating System for Gravel Roads: Training Manual

Dust control: A gravel road surface treatment method that involves spraying chloride or other chemicals on the gravel surface to reduce dust loss, aggregate loss, and maintenance. This is a relatively short-term fix that helps create a crusted surface.

Expansion joint: Joints in a bridge that allow for slight expansion and contraction changes in response to temperature. Expansion joints prevent the build up of excessive pressure, which can cause structural damage to the bridge.

Federal Highway Administration: Also known as FHWA, this is an agency within the U.S. Department of Transportation that supports state and local governments in the design, construction, and maintenance of the nation's highway system.⁸

Federal-aid network: Portion of road network that is comprised of federal-aid routes. According to Title 23 of the United States Code, federal-aid-eligible roads are “highways on the federal-aid highways systems and all other public roads not classified as local roads or rural minor collectors”.⁹ Roads that are part of the federal-aid network are eligible for federal gas-tax monies.

FHWA: See *Federal Highway Administration*.

Flexible pavement: See *hot-mix asphalt pavement*.

Fog seal: An asphalt pavement treatment method that involves spraying a liquid asphalt coating onto the entire pavement surface to fill hairline cracks and prevent damage from sunlight and oxidation. This method works best for good to very good pavements.

Full-depth concrete repair: A concrete pavement treatment method that involves removing sections of damaged concrete pavement and replacing it with new concrete of the same dimensions in order to restore the riding surface, delay water infiltration, restore load transfer from one slab to the next, and eliminate the need to perform costly temporary patching.

Geographic divides: Areas where a geographic feature (e.g., river, lake, mountain) limits crossing points of the feature.

Grants: Competitive funding gained through an application process and targeted at a specific project type to accomplish a specific purpose. Grants can be provided both on the federal and state level and often make up part of the funds that a transportation agency receives.

Gravel surfacing: A low-cost, easy-to-maintain road surface made from aggregate and fines.

Heavy capital preventive maintenance: See *Capital preventive maintenance*.

HMA: See *hot-mix asphalt pavement*.

Hot-mix asphalt overlay: Also known as HMA overlay, this a surface treatment that involves layering new asphalt over an existing pavement, either asphalt or concrete. It creates a new wearing surface for traffic and to seal the pavement from water, debris, and sunlight damage, and it often adds significant structural strength.

Hot-mix asphalt pavement: Also known as HMA pavement, this type of asphalt creates a flexible pavement composed of aggregates, asphalt binder, and air voids. HMA is heated for placement and

⁸ Federal Highway Administration webpage <https://www.fhwa.dot.gov/>

⁹ Inventory-based Rating System for Gravel Roads: Training Manual

compaction at high temperatures. HMA is less expensive to construct than concrete pavement, however it requires frequent maintenance activities and generally lasts 18 years before major rehabilitation is necessary. HMA makes up the vast majority of local-agency-owned pavements.

IBR: See *IBR element*, *IBR number*, and/or *Inventory-based Rating System*TM.

IBR element: A feature used in the IBR SystemTM for assessing the condition of roads. The system relies on assessing three elements: surface width, drainage adequacy, and structural adequacy.¹⁰

IBR number: The 1-10 rating determined from assessments of the weighted IBR elements. The weighting relates each element to the intensity road work needed to improve or enhance the IBR element category.¹¹

Interstate highway system: The road system owned and operated by each state consisting of routes that cross between states, make travel easier and faster. The interstate roads are denoted by the prefix “I” or “U.S.” and then a number, where odd routes run north-south and even routes run east-west. Examples are I-75 or U.S. 2.¹²

Inventory-based Rating SystemTM: Also known as the IBR SystemTM, a rating system designed to assess the capabilities of gravel and unpaved roads to support intended traffic volumes and types year round. It assesses roads based on how three IBR elements, or features—surface width, drainage adequacy, and structural adequacy—compare to a baseline, or “good”, road.¹³

Investment Reporting Tool: Also known as IRT, a web-based system used to manage the process for submitting required items to the Michigan Transportation Asset Management Council. Required items include planned and completed maintenance and construction activity for roads and bridges and comprehensive asset management plans.

IRT: See *Investment Reporting Tool*.

Jurisdiction: Administrative power of an entity to make decisions for something. In Michigan, the three levels of jurisdiction classification for transportation assets are state highways, county roads, and city and village streets. State highways are under the jurisdiction of the Michigan Department of Transportation, county roads are under the jurisdiction of the road commission for the county in which the roads are located, and city and village streets are under the jurisdiction of the municipality in which the roads are located.

Jurisdictional borders: Borders between two road-owning-agency jurisdictions, or where the roads owned by one agency turn into roads owned by another agency. Examples of jurisdictional borders are township or county lines.

Lane-mile segment: A segment of road that is measured by multiplying the centerline miles of a roadway by the number of lanes present.

Lane-mile-years: A network’s total lane-miles multiplied by one year; a method to quantify the measurable loss of pavement life.

¹⁰ Inventory-based Rating System for Gravel Roads: Training Manual

¹¹ Inventory-based Rating System for Gravel Roads: Training Manual

¹² <https://www.fhwa.dot.gov/interstate/faq.cfm#question3>

¹³ Adapted from Inventory-based Rating System for Gravel Roads: Training Manual

Light capital preventive maintenance: See *Capital preventive maintenance*.

Limited access areas: Areas—typically remote areas—serviced by few or seasonal roads that require long detours routes if servicing roads are closed.

Main access to key commercial districts: Areas where large number or large size business will be significantly impacted if a road is unavailable.

Maintenance grading: A surface treatment method for unpaved roads that involves re-grading the road to remove isolated potholes, washboarding, and ruts, and then restoring the compacted crust layer.

MDOT: See *Michigan Department of Transportation*.

MDOT's Local Bridge Program Call for Projects: A call for project proposals for replacement, rehabilitation, and/or preventive maintenance of local bridges that, if granted, receives bridge funding from the Michigan Department of Transportation. The Call for Projects is made by the Local Bridge Program.

MGF: See *Michigan Geographic Framework*.

Michigan Department of Transportation: Also known as MDOT, this is the state of Michigan's department of transportation, which oversees roads and bridges owned by the state or federal government in Michigan.

Michigan Geographic Framework: Also known as MGF, this is the state of Michigan's official digital base map that contains location and road information necessary to conduct state business. The Michigan Department of Transportation uses the MGF to link transportation assets to a physical location.

Michigan Public Act 51 of 1951: Also known as PA 51, this is a Michigan legislative act that served as the foundation for establishing a road funding structure by creating transportation funding distribution methods and means. It has been amended many times.¹⁴

Michigan Public Act 325 of 2018: Also known as PA 325, this legislation modified PA 51 of 1951 in regards to asset management in Michigan, specifically 1) re-designating the TAMC under Michigan Infrastructure Council (MIC); 2) promoting and overseeing the implementation of recommendations from the regional infrastructure asset management pilot program; 3) requiring local road three-year asset management plans beginning October 1, 2020; 4) adding asset classes that impact system performance, safety or risk management, including culverts and signals; 5) allowing MDOT to withhold funds if no asset management plan submitted; and 6) prohibiting shifting finds from a country primary to a county local, or from a city major to a city minor if no progress toward achieving the condition goals described in its asset plan.¹⁵

Michigan Public Act 499 of 2002: Also known as PA 499, this legislation requires road projects for the upcoming three years to be reported to the TAMC.

Michigan Transportation Asset Management Council: Also known as the TAMC, a council comprised of professionals from county road commissions, cities, a county commissioner, a township official, regional and metropolitan planning organizations, and state transportation department personnel. The

¹⁴ Inventory-based Rating System for Gravel Roads: Training Manual

¹⁵ Inventory-based Rating System for Gravel Roads: Training Manual

council reports directly to the Michigan Infrastructure Council.¹⁶ The TAMC provides resources and support to Michigan's road-owning agencies, and serves as a liaison in data collection requirements between agencies and the state.

Michigan Transportation Fund: Also known as MTF, this is a source of transportation funding supported by vehicle registration fees and the state's per-gallon gas tax.

Microsurface treatment: An asphalt pavement treatment method that involves applying modified liquid asphalt, small stones, water, and portland cement for the purpose of protecting a pavement from damage caused by water and sunlight.

Mill and hot-mix asphalt overlay: Also known as a mill and HMA overlay, this is a surface treatment that involves the removal of the top layer of pavement by milling and the replacement of the removed layer with a new HMA layer.

Mix-of-fixes: A strategy of maintaining roads and bridges that includes generally prioritizes the spending of money on routine maintenance and capital preventive maintenance treatments to impede deterioration and then, as money is available, performing reconstruction and rehabilitation.

MTF: See *Michigan Transportation Fund*.

National Bridge Inspection Standards: Also known as NBIS, standards created by the Federal Highway Administration to locate and evaluate existing bridge deficiencies in the federal-aid highway system to ensure the safety of the traveling public. The standards define the proper safety for inspection and evaluation of all highway bridges.¹⁷

National Center for Pavement Preservation: Also known as the NCPP, a center that offers education, research, and outreach in current and innovative pavement preservation practices. This collaborative effort of government, industry, and academia entities was established at Michigan State University.

National Functional Class: Also known as NFC, a federal grouping system for public roads that classifies roads according to the type of service that the road is intended to provide.

National highway system: Also known as NHS, this is a network of roads that includes the interstate highway system and other major roads managed by state and local agencies that serve major airports, marine, rail, pipelines, truck terminals, railway stations, military bases, and other strategic facilities.

NBIS: See *National Bridge Inspection Standards*.

NCPP: See *National Center for Pavement Preservation*.

NCPP Quick Check: A system created by the National Center for Pavement Preservation that works under the premise that a one-mile road segment loses one year of life each year that it is not treated with a maintenance, rehabilitation, or reconstruction project.

NFC: See *National Functional Class*.

Non-trunkline: A local road intended to be used over short distances but not recommended for long-distance travel.

¹⁶ Inventory-based Rating System for Gravel Roads: Training Manual

¹⁷ <https://www.fhwa.dot.gov/bridge/nbis/>

Other funds: Expenditures for equipment, capital outlay, debt principal payment, interest expense, contributions to adjacent governmental units, principal, interest and bank fees, and miscellaneous for cities and villages.

PA: See *Michigan Public Act 51*, *Michigan Public Act 325*, and/or *Michigan Public Act 499*.

Partial-depth concrete repair: A concrete pavement treatment method that involves removing spalled or delaminated areas of concrete pavement, usually near joints and cracks, and replacing with new concrete. This is done to provide a new wearing surface in isolated areas, to slow down water infiltration, and to help delay further freeze-thaw damage.

PASER: See *Pavement Surface Evaluation and Rating system*.

Pavement reconstruction: A complete removal of the old pavement and base and construction of an entirely new road. This is the most expensive rehabilitation of the roadway and also the most disruptive to traffic patterns.

Pavement Surface Evaluation and Rating system: Also known as the PASER system, the PASER system rates surface condition on a 1-10 scale, where 10 is a brand new road with no defects, 5 is a road with distress but that is structurally sound and requires only preventative maintenance, and 1 is a road with extensive surface and structural distresses that is in need of total reconstruction. This system provides a simple, efficient, and consistent method for evaluating the condition of paved roads.¹⁸

Pothole: A defect in a road that produces a localized depression.¹⁹

Preventive maintenance: Planned treatments to an existing asset to prevent deterioration and maintain functional condition. This can be a more effective use of funds than the costly alternative of major rehabilitation or replacement.

Proactive preventive maintenance: Also known as PPM, a method of performing capital preventive maintenance treatments very early in a pavement's life, often before it exhibits signs of pavement defect.

Public Act 51: See *Michigan Public Act 51 of 1951*

Public Act 325: See *Michigan Public Act 325 of 2018*

Public Act 499: See *Michigan Public Act 499 of 2002*

Reconstruction and rehabilitation programs: Programs intended to reconstruct and rehabilitate a road.

Restricted load postings: A restriction enacted on a bridge structure when is incapable of transporting a state's legal vehicle loads.

Rights-of-way ownership: The owning of the right-of-way, which is the land over which a road or bridge travels. In order to build a road, road agencies must own the right-of-way or get permission to build on it.

Rigid pavement: See *concrete pavement*.

¹⁸ Adapted from Inventory-based Rating System for Gravel Roads: Training Manual

¹⁹ Inventory-based Rating System for Gravel Roads: Training Manual

Road infrastructure: An agency's road network and assets necessary to make it function, such as traffic signage and ditches.

Road: The area consisting of the roadway (i.e., the travelled way or the portion of the road on which vehicles are intended to drive), shoulders, ditches, and areas of the right of way containing signage.²⁰

Roadsoft: An asset management software suit that enables agencies to manage road and bridge related infrastructure. The software provides tools for collecting, storing, and analyzing data associated with transportation infrastructure. Built on an optimum combination of database engine and GIS mapping tools, Roadsoft provides a quick, smooth user experience and almost unlimited data handling capabilities.²¹

Ruts/rutting: Deformation of a road that usually forms as a permanent depression concentrated under the wheel path parallel to the direction of travel.²²

Scheduled maintenance: Low-cost, day-to-day activities applied to bridges on a scheduled basis that mitigates deterioration.²³

Sealcoat pavement: A gravel road that has been sealed with a thin asphalt binder coating that has stone chips spread on top.

Service life: Time from when a road or treatment is first constructed to when it reaches a point where the distresses present change from age-related to structural-related (also known as the critical distress point).²⁴

Slurry seal: An asphalt pavement treatment method that involves applying liquid asphalt, small stones, water, and portland cement in a very thin layer with the purpose of protecting an existing pavement from being damaged by water and sunlight.

Structural improvement: Pavement treatment that adds strength to the pavement. Roads requiring structural improvement exhibit alligator cracking and rutting and are considered poor by the TAMC definitions for condition.

Subsurface infrastructure: Infrastructure maintained by local agencies that reside underground, for example, drinking water distribution systems, wastewater collection systems, and storm sewer systems.

TAMC: See *Michigan Transportation Asset Management Council*.

TAMC pavement condition dashboard: Website for viewing graphs of pavement and bridge conditions, traffic and miles travelled, safety statistics, maintenance activities, and financial data for Michigan's cities and villages, counties, and regions, as well as the state of Michigan.

TAMC's good/fair/poor condition classes: Classification of road conditions defined by the Michigan Transportation Asset Management Council based on bin ranges of PASER scores and similarities in defects and treatment options. Good roads have PASER scores of 8, 9, or 10, have very few defects, and require minimal maintenance. Fair roads have PASER scores of 5, 6, or 7, have good structural support but a deteriorating surface, and can be maintained with CPM treatments. Poor roads have PASER scores

²⁰ Inventory-based Rating System for Gravel Roads: Training Manual

²¹ Inventory-based Rating System for Gravel Roads: Training Manual

²² Paving Class Glossary

²³ Inventory-based Rating System for Gravel Roads: Training Manual

²⁴ Inventory-based Rating System for Gravel Roads: Training Manual

of 1, 2, 3, or 4, exhibit evidence that the underlying structure is failing, such as alligator cracking and rutting. These roads must be rehabilitated with treatments like heavy overlay, crush and shape, or total reconstruction.

Tax millages: Local tax implemented to supplement an agency's budget, such as road funding.

Thin hot-mix asphalt overlay: Application of a thin layer of hot-mix asphalt on an existing road to re-seal the road and protect it from damage caused by water. This also improves the ride quality and provides a smoother, uniform appearance that improves visibility of pavement markings.²⁵

Transportation infrastructure: All of the elements that work together to make the surface transportation system function including roads, bridges, culverts, traffic signals, and signage.

Trigger: When a PASER score gives insight to the preferred timeline of a project for applying the correct treatment at the correct time.

Trunkline abbreviations: The prefixes *M-*, *I-*, and *US* indicate roads in Michigan that are part of the state trunkline system, the Interstate system, and the US Highway system. These roads consist of anything from 10-lane urban freeways to two-lane rural highways and even one non-motorized highway; they cover 9,668 centerline miles. Most of the roads are maintained by MDOT.

Trunkline bridges: Bridge present on a trunkline road, which typically connects cities or other strategic places and is the recommended route for long-distance travel.²⁶

Trunkline maintenance funds: Expenditures under a maintenance agreement with MDOT for maintenance activities performed on MDOT trunkline routes.

Trunkline: Major road that typically connects cities or other strategic places and is the recommended route for long-distance travel.²⁷

Washboarding: Ripples in the road surface that are perpendicular to the direction of travel.²⁸

Wedge/patch sealcoat treatment: An asphalt pavement treatment method that involves correcting the damage frequently found at the edge of a pavement by installing a narrow, 2- to 6-foot-wide wedge along the entire outside edge of a lane and layering with HMA. This extends the life of an HMA pavement or chip seal overlay by adding strength to significantly settled areas of the pavement.

Worst-first strategy: Asset management strategy that treats only the problems, often addressing the worst problems first, and ignoring preventive maintenance. This strategy is the opposite of the "mix of fixes" strategy. An example of a worst-first approach would be purchasing a new automobile, never changing the oil, and waiting till the engine fails to address any deterioration of the car.

List of Acronyms

CPM: capital preventive maintenance

²⁵ [second sentence] <http://www.kentcountyroads.net/road-work/road-treatments/ultra-thin-overlay>

²⁶ https://en.wikipedia.org/wiki/Trunk_road

²⁷ https://en.wikipedia.org/wiki/Trunk_road

²⁸ Inventory-based Rating System for Gravel Roads: Training Manual

FHWA: Federal Highway Administration
HMA: hot-mix asphalt
I: trunkline abbreviation for routes on the Interstate system
IBR: Inventory-based Rating
M: trunkline abbreviation for Michigan state highways
MDOT: Michigan Department of Transportation
MTF: Michigan Transportation Fund
NBIS: National Bridge Inspection Standards
NCPP: National Center for Pavement Preservation
NHS: National Highway System
PA 51: Michigan Public Act 51 of 1951
PASER: Pavement Surface Evaluation and Rating
R&R: reconstruction and rehabilitation programs
TAMC: (Michigan) Transportation Asset Management Council
US: trunkline abbreviation for routes on the US Highway system

Resolution #2026-###

By the Committee on City Operations
Resolved by the City Council of the City of Lansing

Acceptance of Transportation Asset Management Plan

WHEREAS, Michigan Public Act 325 of 2018 requires local road agencies to develop and submit an asset management plan to the Transportation Asset Management Council (TAMC) including an asset inventory, performance goals, risk of failure analysis, anticipated revenues and expenses and performance outcomes to be submitted to TAMC; and

WHEREAS, local road agencies responsible for 100 or more certified miles of road, based on the 2017 PA 51 Mileage Certification, including all 83 Michigan counties and 39 Michigan cities are required to submit their completed asset management plans in designated phases beginning October 1, 2020; and

WHEREAS, the City of Lansing Public Service Department has completed a Transportation Asset Management Plan containing the required information; and

WHEREAS, the City of Lansing Public Service Department has updated the Transportation Asset Management Plan in 2025; and

WHEREAS, the TAMC requires a resolution accepting the updated Asset Management Plan.

NOW, THEREFORE, BE IT RESOLVED that the City Council hereby accepts the 2025 Transportation Asset Management Plan.

BE IT FINALLY RESOLVED that a copy of this resolution be added to the Transportation Asset Management Plan before submittal to the TAMC.

RESOLUTION 2026-01-01

Easement Grant to Lansing MI Ventures, LLC

RESOLVED, that the Board of Commissioners hereby recommends that Lansing City Council grant a drainage easement to Lansing MI Ventures, LLC. The easement will be located on property occupied and maintained by the Lansing Board of Water & Light, specifically a portion of 2030 Lake Lansing Road and 2320 Wood Road, Lansing, MI 48912; and

FURTHER RESOLVED, the General Manager of the Lansing Board of Water & Light is authorized to execute all documents to effectuate this easement grant once approved by the Lansing City Council.

Staff Comments: Lansing MI Ventures, LLC requested an easement for drainage. The BWL has performed an assessment and negotiated mutually agreeable terms of said easement (together with a construction and cost sharing agreement} in exchange for \$25,000.

Motion by Commissioner Christopher Harkins, **Seconded** by Commissioner Sandra Zerkle to approve the Resolution for the Grant Easement to Lansing MI Ventures, LLC at a Board Meeting held on January 27, 2026.

Action: Motion Carried.

DRAIN EASEMENT TO CONNECT TO THE
WOOD STREET BRANCH OF SMEDLEY-COOLIDGE DRAIN

City of Lansing, by its **Board of Water & Light**, a Michigan municipal utility, whose address is 1201 S. Washington Avenue, P.O. Box 13007, Lansing, Michigan 48901 (“Grantor”), who is the owner of land known as Parcel No. 33-21-01-02-302-003 and Parcel No. 33-21-01-02-302-008, hereby conveys, warrants, and releases to **Lansing MI Ventures, LLC**, a Michigan limited liability company, whose address is 29201 Telegraph Road, Southfield, Michigan 48034 (“Grantee”), (collectively, the “Parties”) a permanent easement over and across the land owned by it for drainage and detention purposes, as described in the attached Exhibit A (“Easement Area”), subject to the terms herein.

1. **Background.** Grantor and Grantee own adjacent parcels fronting on Lake Lansing Road in Lansing Charter Township, Ingham County, Michigan. Grantor is the owner in fee title of the parcel of property described on the attached **Exhibit A** (“Parcel A”). Grantee is the owner in fee title of the parcel of property described on the attached Exhibit A (“Parcel B”). To provide for stormwater drainage on their respective parcels, they are each installing drains along the southern boundary of their respective parcels which will connect to the Wood Street Branch of Smedley-Coolidge Drain owned and operated by the Ingham County Drain Commission (“ICDC Drain”). In order for Grantee to discharge its stormwater to the ICDC Drain, it needs a twenty (20) foot wide Easement along the southern boundary of Parcel A as shown on **Exhibit B**.

2. **Consideration.** Grantor acknowledges receipt of Twenty-Five Thousand Dollars (\$25,000.00) as consideration for granting this Easement. Grantee shall be responsible for all cost and expense as forth in the Drain Construction and Cost Sharing Agreement entered into by and between Grantor and Grantee effective November 8, 2024 (“Construction Agreement”), under which the Grantee and Parcel B are subject to certain obligations with respect to this Easement. The Construction Agreement is incorporated herein by reference, including but not limited to its designated share of construction, development, permitting, and related costs set forth in the Cost Sharing Worksheet. This Easement is exempt from transfer tax pursuant to MCL 207.505(f).

3. **Grant of Easement.** Grantor grants to Grantee the non-exclusive right to drain and flow stormwater, at a rate not to exceed 0.05 cubic feet per second (cfs) for all storm events that do not exceed the 100-year 24-hour event through the drain depicted on **Exhibit C**, which will be jointly constructed pursuant to the Construction Agreement (the “Drain”). In addition, the rate shall not exceed 0.40 cfs in a back-to-back 100-year 24-hour storm event. Grantee, at its own cost and expense, shall maintain the Drain and ancillary facilities in a safe condition, in thorough repair and suitable for its intended use. Grantee shall be responsible for all permitting, maintenance, and repair to the Drain. Prior to performing any work on the Drain, Grantee shall obtain Grantor’s advance written approval, which shall not be unreasonably withheld. Grantee, at its sole cost and

expense, shall repair or replace any damage to the Grantor's property, including but not limited to Parcel A, caused by or related in any way to the Grantee's use hereunder to its condition prior to being damaged.

4. **Relocation.** Grantor shall have the right to cause Grantee to relocate the Drain, the cost of which shall be borne by Grantor, subject to the review and approval of the Ingham County Drain Commissioner.

5. **Use.** The Easement may be used by the owner of Parcel B for the purposes of flowing surface stormwater drainage through the Drain to the ICDC Drain only and shall not be used for any other purpose.

6. **Insurance.** Grantee bears all risks of loss or damage to the Drain and any ancillary facilities. Grantee must take caution of any on-site structures including but not limited to utility poles. At its own expense, Grantee shall acquire and continue in effect for the duration of this Easement, insurance providing the following coverage or such other coverages as the Grantor shall reasonably require:

- a. Commercial General Liability Insurance on an occurrence basis. This coverage shall include Personal Injury, Contractual Liability, and Products/Completed Operations insurance. The limit of liability shall be at least \$1,000,000 combined single limit for bodily injury and property damage. There shall be no exclusion for work within any distance of railroad property. There shall be coverage for explosion, collapse, and underground hazards (x, c, & u coverage).
- b. Automobile liability insurance that complies with the requirements of the Michigan No-fault law with residual liability limit of at least \$1,000,000 combined single limit for bodily injury and property damage. There shall be coverage for owned, hired, and non-owned vehicles.
- c. Worker's compensation insurance as required by Michigan law.
- d. Excess or umbrella liability insurance with a limit of at least \$2,000,000.
- e. Pollution Liability insurance with minimum limits of \$1,000,000 combined single limit per occurrence and \$1,000,000 General Aggregate.

Grantee shall purchase insurance from companies reasonably acceptable to Grantor. Generally, a company rated A- or better by A.M. Best and domiciled in the United States will be acceptable to the Grantor. The A.M. Best website can be found at: <http://www.ambest.com>. Grantee shall name the "City of Lansing, by its Board of Water and Light, its employees, Board Members, and officers" as additional insureds on all liability coverage other than workers compensation. The coverage granted to the Grantor as an additional insured shall apply on a primary basis. The Grantor's coverage shall be excess. Deductibles and retentions shall be clearly stated on any certificate of insurance and shall be the responsibility of Grantee and not Grantor. If liability policies do not contain the ISO separation of insureds provision, the policies shall be endorsed to provide cross-liability coverage. Neither the issuance of any insurance policy required by this provision, nor the minimum limits specified with respect to any insurance coverage, shall be deemed to limit or restrict in any way the liability of Grantee or its subcontractors arising under or out of this Grantee. Upon execution and annual thereafter as well as before performing any work on Parcel A, Grantee shall provide copies of the applicable insurance certificates to the person

designated in the Grantor. Certificates of insurance shall state that they will not be canceled nor any changes made, which alters, restricts or reduces the insurance provided or changes the name of the insured, without first giving thirty (30) days' notice in writing to the Corporate Secretary, Lansing Board of Water and Light, 1201 S. Washington Ave., P.O. Box 13007, Lansing, Michigan 48910-1650, as evidenced by the Grantor's receipt of a letter to that effect. Grantee waives all rights against the City of Lansing, by its Board of Water and Light, its employees, Board Members, and officers for recovery of damages and expenses to the extent that these damages and expenses are covered by any of Grantee's insurance coverage.

7. **Taxes and Assessments.** Grantee shall be responsible for any and all assessments (special or otherwise) related in any way to this Easement, the Drain, Parcel B, or Grantee. Such that in the event that Grantor's property is taxed or assessed (or there is an increase in any tax or assessment) in any manner related to or arising from this Easement, the Drain, Parcel B, or Grantee's use of Parcel A, Grantee shall promptly advance payment to Grantee or the government entity at Grantor's direction.

8. **Conformity with Law and Grantor's Rules.** Grantee's use of Parcel A, including, without limitation, all construction, operations, inspections, repairs, and maintenance conducted by Grantee on the Drain, shall be in conformity with safe practices and shall at all times be in compliance with all local, state, and federal laws, statutes, rules, and regulations pertaining thereto. Grantee shall be solely responsible for obtaining and maintaining any and all permits or other easements required for the Drain or Grantee's use of Parcel A hereunder.

Grantee shall comply with all reasonable rules, regulations, guidelines, procedures, protocols, directives, and the like established from time to time by Grantor relating to the Parcel A or the Drain and of which Grantee is given notice (collectively, the "**Rules and Regulations**"). Grantee shall cause all Contractors to comply with the Rules and Regulations and this Easement.

9. **Environmental.** Without limiting any other provision of this Easement, Grantee shall comply in all material respects with all applicable constitutional provisions, laws, ordinances, orders, requirements, rules, and regulations made by any governmental entity, body, or authority relating to its use of the Parcel A as well as its drainage, equipment, materials, and other property. If Grantee's use of the Parcel A or Parcel B results in the presence on, in, or under the Parcel A (which includes but is not limited to the groundwater underlying the Parcel A) of contaminants, hazardous waste, hazardous substances or constituents, or toxic substances, as currently or hereafter defined in the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USCA 9601 et seq; the Resource Conservation and Recovery Act (RCRA), 42 USCA 6901 et seq; the Toxic Substances Control Act (TSCA), 15 USCA 2601 et seq; the Michigan Natural Resources and Environmental Protection Act, MCL 324.101 et seq; or any other similar existing or future statutes, Grantee will to the extent caused by Grantee, its employees, agents, contractors, and subcontractors or anyone authorized by or on behalf of Grantee at no cost to Grantor, immediately notify Grantor's Environmental Department at 517-702-6639 and promptly take: 1) all actions that are required by any federal, state, or local governmental agency or political subdivision, and 2) all actions that are necessary to restore the Parcel A to the condition existing prior to the release or introduction of such contaminants, hazardous waste, hazardous substances or constituents, or toxic substances, notwithstanding any lesser standard of remediation allowable under applicable law or governmental policies. The actions required by Grantee pursuant

to this paragraph include but are not limited to: a) the investigation of the environmental condition of the Parcel A; b) the preparation of any feasibility studies, reports, or remedial plans required by law or governmental policy, and c) the performance of cleanup, remediation, containment, operation, maintenance, monitoring, or restoration work, whether on or off the Parcel A. Grantee will proceed continuously and diligently with such investigatory and remedial actions. The Parties will provide to each other free of cost to the other copies of all test results and reports generated in connection with the above activities and copies of all reports submitted to any governmental entity. No cleanup, remediation, restoration, or other work required to be performed pursuant to this paragraph will require or result in the imposition of any limitation or restriction on the use of the Parcel A without prior notification and approval, which shall not be unreasonably withheld, to the other. The provisions of this paragraph will survive the term or any termination of this Easement.

10. **Subcontractors.** Grantee is responsible for the actions and activities of its respective contractors, vendors, and subcontractors (collectively, "Contractor(s)"). Grantor has the right to review and reject any Contractor's use of the Parcel A. Grantee must present Grantor with a list of all Contractors and such list shall be updated as necessary and provided to Grantor before access to the Parcel A is permitted to any new Contractor. Included in that list should be what materials and/or services that will be provided by the respective Contractors. Grantor must also provide additional information pertaining to the Contractors as reasonably requested by Grantor. After receiving the information, Grantor will notify Grantee within seven (7) days if any Contractor's use of the Parcel A hereunder is unacceptable.

Grantor's approval of any Contractor shall not relieve Grantee of any responsibilities or liabilities. Grantee agrees that it is as fully responsible to Grantor for the acts and omissions of its Contractors and of all persons either directly or indirectly employed by the Contractors as it is for the acts and omissions of persons directly employed by Grantor. Nothing contained in this Grantee shall create any contractual relationship between Grantor and Contractors.

11. **Liens.** Grantee shall not permit any liens on the Parcel A for any labor or material furnished to Grantee in connection with its use of Parcel A. In the event same shall be recorded, Grantee shall have the lien discharged within 10 days or be deemed in default of this Grantee.

12. **Event of Default.** In the event that Grantee (or its successor or assigns) fails to fulfill any of its duties or obligations hereunder or under the Construction Agreement (and if such failure is susceptible to cure and Grantee fails to cure it within thirty (30) days, or such other period expressly set forth herein or dedicated by the circumstances (e.g. third party deadline), after receiving written notice thereof with a simultaneous duplicate copy of such notice to Grantee's mortgagee, provided Grantor has received written notice identifying such mortgagee), unless waived in writing by Grantor, Grantor shall have all rights and remedies available to it in law or in equity to enforce such duties and obligations, including, but not limited to, the right following the expiration of the applicable cure period, but not the obligation, to cure such default by the payment of money or the performance of some other action for the account of and at the expense of Grantee; provided, however, that in the event such default shall constitute an emergency condition, Grantor, acting in good faith, shall have the right to cure such default upon such advance notice as is reasonably possible under the circumstances or, if necessary, without advance notice, so long as notice is given as soon as possible thereafter. In the event Grantor shall cure a default as described herein, Grantee shall immediately reimburse Grantor for all costs and expenses

incurred in connection with such curative action (including attorney fees); provided, however, that Grantor will provide Grantee with reasonable documentation supporting the expenditures made upon written request for same. The cost and expense incurred by Grantor to cure such default shall constitute a lien against Parcel B, and Grantor shall record a claim of lien in the office of the Register of Deeds of Ingham County by Grantor to perfect its lien hereunder. The lien may be enforced in any judicial proceedings allowed by law, including without limitation, a suit in the nature of a suit to foreclose a mortgage or mechanic's lien under the applicable provisions of the law of the State of Michigan and to foreclose by advertisement in the same manner that a mortgage is foreclosed.

13. **Waste or Nuisance.** Grantee shall not commit or suffer to be committed any waste or nuisance upon Parcel A. Grantee shall take such action as may be reasonably necessary to prevent or terminate any such nuisance or waste arising out of Grantee's use of the Easement area or Parcel A, including, without limitation, any nuisance created by any Grantee or anyone claiming a right or interest to use Parcel A through Grantee.

14. **Indemnification.** Grantee agrees to indemnify and hold harmless Grantor from any and all liens, claims, damages, lawsuits, costs and expenses (including but not limited to attorney fees), arising out of or incurred as a result of the this Easement, the Drain, or Grantee's use of Parcel A, including but not limited to any assessments, fines, charges, or other responsibilities under any federal, state and/or local environmental laws and regulations (including all future amendments to such laws or regulations and the administrative and judicial interpretation thereof), to the Drain Commissioner, or otherwise arising out of any action by the Grantee, except for liability arising out of the gross negligence or intentional wrongful conduct of the Grantor or its agents.

15. **Waiver of Responsibility.** Neither Grantor nor its Board of Commissioners, agents, employees, or contractor shall be liable for, and Grantee waives, all claims for loss or damage, economic or otherwise, to Grantee's to persons or property sustained by Grantee or any person claiming by, through or under Grantee resulting from any accident or occurrence in, on or about the Parcel A, including, without limitation, claims for loss, theft or damage, resulting from any cause whatsoever. To the maximum extent permitted by law, Grantee shall use and occupy the Easement area and such other portions of the Parcel A as Grantee is herein given the right to use, at Grantee's own risk. Notwithstanding anything contained in this Easement to the contrary, the foregoing waiver does not apply to claims caused by Grantor.

16. **Modification.** Any waiver, alteration, or modification of any of the provisions of this Easement shall not be valid unless in writing and signed by the Parties.

17. **Parties bound.** This Easement shall be binding upon and inure to the benefit of the Parties, together with their respective assigns, successors in interest, and successors in office, and shall run with the land in perpetuity.

18. **Governing law.** This Easement shall be governed by and construed in accordance with the laws of the State of Michigan and venue for any disputes for this Easement shall lie in Ingham County, Michigan.

19. **Effective date.** This Easement supersedes and replaces that certain Drain Pipe License to Connect to Smedley-Coolidge Drain effective November 8, 2024, recorded on December 2, 2024, in Instrument Number 2024-028278, Ingham Count Records, and shall be effective as November 8, 2024.

SIGNATURES ON THE FOLLOWING PAGE[S]

GRANTOR:

CITY OF LANSING through its Board of Water &
Light, a municipal corporation

By: _____
Name: Richard R. Peffley
Title: General Manager

By: _____
Name: LaVella J. Todd
Title: Corporate Secretary

STATE OF MICHIGAN)
) ss
COUNTY OF _____)

Acknowledged before me on _____, by Richard R. Peffley, the General
Manager, of City of Lansing, through its Board of Water & Light, a municipal corporation, for said
municipal corporation.

Notary's Name:
County _____
Acting in the County of _____
My Commission expires:

STATE OF MICHIGAN)
) ss
COUNTY OF _____)

Acknowledged before me on _____, by LaVella J. Todd, the Corporate
Secretary, of City of Lansing, through its Board of Water and Light, a municipal corporation, for said
municipal corporation.

Notary's Name:
County _____
Acting in the County of _____
My Commission expires:

GRANTEE:

Lansing MI Ventures, LLC, a Michigan
limited liability company

By: _____

Name: Gregory Erne

Title: Manager

STATE OF MICHIGAN)
) ss
COUNTY OF _____)

On this _____ day of _____, _____, before me,

the undersigned Notary Public, personally appeared Gregory Erne, Manager, on behalf of Lansing MI Ventures, LLC, a Michigan limited liability company, personally known to me or provided to me on the basis of satisfactory evidence to be the person whose name is subscribed to the within instrument, acknowledged to me that he executed the same for the purposes therein stated.

Notary's Name:

County _____

Acting in the County of _____

My Commission expires:

Drafted by and when recorded return to:

Ellen E. Ward, Esq.

Oade, Stroud & Kleiman PLC

200 Woodland Pass

East Lansing, MI 48823

Exhibit A
Legal Description of Parcel A (Grantor's Property)

The following described premises situated in the County of Ingham, and State of Michigan, and particularly described as follows:

Parcel 1:

A parcel being part of the Southwest 1/4, Section 2, Town 4 North, Range 2 West, Lansing Charter Township, Ingham County, Michigan, described as; Commencing at the Southwest corner of said Section 2; thence North 00°04'59" East 1315.47 feet along the West line of said Section 2; thence South 89°41'38" East 189.50 feet, along the South line of the Northwest 1/4 of the Southwest 1/4 of Section 2, to the Point of Beginning of the following described parcel; thence North 00°11'50" East 637.57 feet, parallel with the East line of the Northwest 1/4 of the Southwest 1/4 of Section 2, to the centerline of Lake Lansing Road; thence North 89°46'59" East 200.00 feet along said centerline; thence South 00°11'50" West 639.40 feet to the South line of the Northwest 1/4 of the Southwest 1/4 of said Section 2, said point measuring North 89°41'38" West 933.50 feet (recorded 933.70 feet) from the Southeast corner of the Northwest 1/4 of the Southwest 1/4 of Section 2; thence North 89°41'38" West 200.00 feet to the Point of Beginning.

Tax Parcel No.: 33-21-01-02-302-003

Commonly known as: 2030 Lake Lansing Road, Lansing, MI 48912

Parcel 2:

Commencing at the West 1/8 post of the Southwest 1/4 of Section 2, T4N, R2W, Lansing Township, Ingham County, Michigan; thence East 234 feet; thence South 194 feet; thence West 234 feet; thence North 194 feet to point of beginning.

And more particularly described as:

That part of the Southwest 1/4 of the Southwest 1/4 of Section 2, T4N, T2W, Lansing Township, Ingham County, Michigan, beginning at a point on the West line of Section 2, South 1315.71 feet from the West 1/4 corner of Section 2, T4N, R2W, said point being the West 1/4 corner of the Southwest 1/4 of Section 2, T4N, R2W; thence S89°45'10"E, 234.0 feet; thence South, 194.0 feet; thence N89°45'10"W, 234.0 feet; thence North, 194.0 feet on the West line of Section 2, to the point of beginning.

Tax Parcel No.: 33-21-01-02-302-008

Commonly known as: 2320 Wood Road, Lansing, MI 48912

Legal Description of Parcel B (Grantee's Property)

The following described premises situated in the County of Ingham, and State of Michigan, and particularly described as follows:

A parcel of land in the Southwest 1/4 of Section 2, T4N, R2W, Lansing Township, Ingham County, Michigan, the surveyed boundary of said parcel described as: Commencing at the Southwest corner of said Section 2; thence N00°04'59"E along the West line of said Section 2 a distance of 1315.54 feet to the South line of the North 1/2 of the Southwest 1/4 of said Section 2; thence S89°41'45"E along said South line 389.35 feet to the point of beginning of this description; thence N00°11'48"E parallel with the East line of the West 1/2 of the Southwest 1/4 of said Section 2 a distance of 639.08 feet to the centerline of Lake Lansing Road; thence N89°47'03"E along said centerline 266.81 feet; thence S00°11'48"W parallel with said East line 641.50 feet to said South line; thence N89°41'45"W along said South line 266.80 feet to the point of beginning; said parcel containing 3.92 acres, more or less,

including 0.20 acre, more or less, presently in use as public right-of-way for Lake Lansing Road; said parcel subject to all easements and restrictions, if any.

Tax Parcel No.: 33-21-01-02-302-004

Commonly known as: 2110 Lake Lansing Road, Lansing, MI 48912

Exhibit B
Easement Area and Drain

See Attached.

39512:00001:202260061-1

Resolution #2026-###

By the Committee on City Operations
Resolved by the City Council of the City of Lansing

2030 Lake Lansing & 2320 Wood, LBWL Drain Easement to Lansing MI Ventures, LLC

WHEREAS, the Lansing Board of Water and Light (LBWL) Board of Commissioners, by its Resolution #2026-01-01, recommends that Lansing City Council grant a permanent, non-exclusive drainage easement to Lansing MI Ventures, LLC, which will be located on property purchased with ratepayer funds, and occupied and maintained by the LBWL; and

WHEREAS, the drainage easement would be located along the south side of 2030 Lake Lansing Road and the north side of 2320 Wood Street, both parcels being LBWL property in Lansing Charter Township, as depicted on Exhibit B to this Resolution, to the benefit of the neighboring parcel located at 2110 Lake Lansing Road, also in Lansing Charter Township, owned by Lansing MI Ventures, LLC; and

WHEREAS, the LBWL has confirmed that if granted this drainage easement will not interfere with its occupation or use of the subject LBWL parcels; and

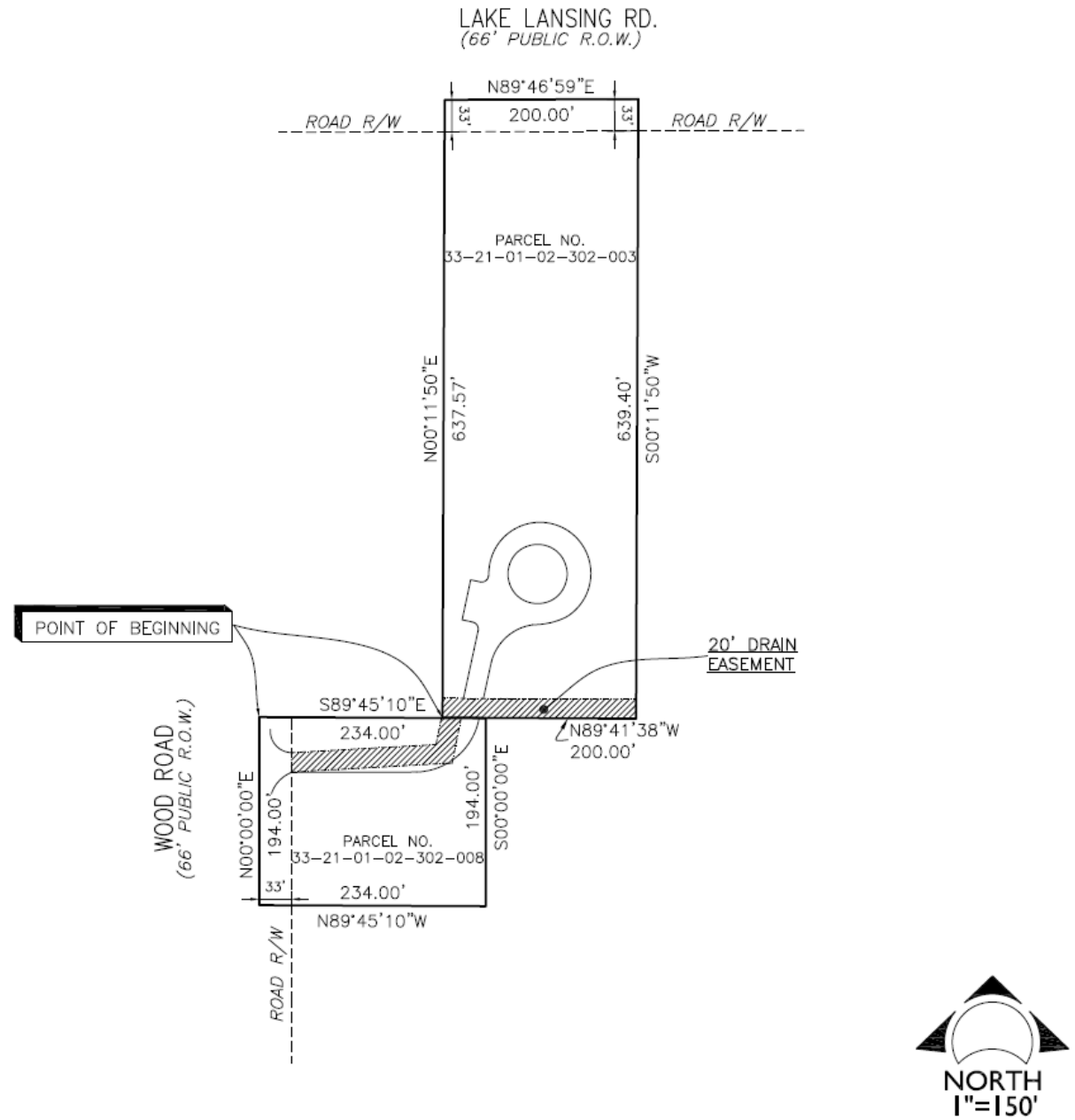
WHEREAS, the Committee on City Operations met on February 12, 2026, and has reviewed the recommendation and concurs therewith.

NOW THEREFORE BE IT RESOLVED, the Lansing City Council hereby approves the granting of the proposed permanent, non-exclusive drainage easement to Lansing MI Ventures, LLC, said easement being 20 feet wide and running east-west along the southern portion of parcel 33-21-01-02-302-003, and approximately 30 feet south of the northern boundary of parcel 33-21-01-02-302-008, and more fully depicted in Exhibit B to this Resolution, for the sum of \$25,000.00.

BE IT FURTHER RESOLVED, that upon closing of the easement, all net proceeds from the transaction may be retained by LBWL.

BE IT FINALLY RESOLVED, that the Mayor, on behalf of the City, is hereby authorized to sign and execute all documents to complete this transaction, subject to prior approval as to content and form by the City Attorney.

EXHIBIT B



BOARD OF WATER AND LIGHT EASEMENT EXHIBIT



HOMETOWN PEOPLE. HOMETOWN POWER.

GRANTOR: LANSING BOARD OF WATER & LIGHT

LOCATION: 2030 LAKE LANSING, 2320 WOOD, LANSING, 48912
PART OF S.W. 1/4 OF SEC. 34, T4N, R2W, LANSING TWP, INGHAM CO. MI

PAGE 1 OF 1

DATE: 9-13-24

DRAWN: ATB

CHK'D: DLT

EASEMENT NO.: 3301-02-3042