FINAL AGENDA FOR THE COUNCIL MEETING
CITY OF PORTAGE
SEPTEMBER 7, 2021

7:00 p.m. Call to Order.

Invocation.

Pledge of Allegiance.

Roll Call.

Proclamations:

1. National Senior Center Month 2021

A. Consent Agenda:

1. Approval of City Council Meeting Minutes:
   a. Regular Meeting of August 24, 2021.
   b. Pre-Council Meeting of September 7, 2021.
2. Approve the Accounts Payable Register of September 7, 2021 as presented.
3. Accept and approve the 2020 Transportation Asset Management Plan and associated documents, adopt the associated Resolution, and authorize the Acting City Manager and Director of Finance to certify the plan for compliance with Public Act 325 on behalf of the city.
4. Award a contract to perform engineering services for the Romence Road Reconstruction Project to Wightman & Associates, Incorporated, of Kalamazoo, Michigan in the not-to-exceed amount $198,908 and authorize the Acting City Manager to execute all documents related to the contract on behalf of the city.
5. Award a contract to Cripps Fontain Excavating, Incorporated, of Kalamazoo, Michigan, for the Valleywood Storm Water Drainage Improvement Project in the not-to-exceed amount of $124,888.50 and authorize the Acting City Manager to execute all documents related to this project on behalf of the city.
6. Approve the purchase of network server hardware and installation services from Insight in the amount of $113,245 and authorize the Acting City Manager to execute all documents related to the contract on behalf of the city.
7. Award a one-year contract, with the option for up to four one-year extensions, to Michigan Municipal Police & Fire Repair, LLC, for the maintenance of all Department of Public Safety Police Division vehicles at a labor rate of $60.00 per hour and authorize the Acting City Manager to execute all documents related to this action on behalf of the city.
8. Adopt the resolution to authorize a new fee structure for copies of police accident reports from the Department of Public Safety.
9. Minutes of Boards & Commissions.
10. Materials Transmitted of August 20, 2021
11. Calendar of Meetings:

- Environmental Board, September 8, 2021 at 7:00 p.m. in City Hall Room #1.
- Human Services Board, September 9, 2021 at 6:00 p.m. in City Hall Room #1.
- Zoning Board of Appeals, September 13, 2021 at 7:00 p.m. in Council Chambers
- Senior Citizens Advisory Board, September 15, 2021 at 2:30 p.m. at the Portage Senior Center.
- Planning Commission - training session, September 16, 2021 at 7:00 p.m. in Council Chambers.
- Youth Advisory Committee, September 20, 2021 at 6:00 p.m. in City Hall Room #1.
- *NOTE: All above meetings are subject to cancellation or inclusion/transition of a "virtual" aspect due to the on-going health crisis. Please monitor the City of Portage website at www.portagemi.gov for*

additional information. Major meetings may be viewed live on Charter channel 995 and AT&T channel 99 or live streaming at portagemi.gov/205.

B. Petitions and Statements of Citizens:

C. Communications:

D. Public Hearings:

E. Regular Business Agenda:

F. Unfinished Business:

G. Council Committee Reports:

H. New Business:

I. Statements of Citizens:

J. Statements of City Council and City Manager.

Adjournment.

CITY OF PORTAGE
PROCLAMATION

National Senior Center Month Proclamation 2021

WHEREAS, older Americans are significant members of our society, investing their wisdom and experience to help enrich and better the lives of younger generations; and

WHEREAS, Kalamazoo County has a senior population of 35,000 with more than 7,200 seniors residing in Portage. The American Association of Retired Persons estimates that 10,000 "Baby Boomers" reach retirement age (65) every day - a trend that will continue into 2030 and beyond; and

WHEREAS, the Portage Senior Center has acted as a catalyst for mobilizing the creativity, energy, vitality, and commitment of the older residents of the City of Portage and beyond; and

WHEREAS, to meet the growing needs and population of Portage, the Engage Empower Enrich campaign announced the new Charles & Lynn Zhang Portage Community Senior Center at 203 East Centre Avenue, which should be complete in February 2022; and

WHEREAS, through the wide array of services, programs, and activities, the Portage Senior Center empowers older citizens of Kalamazoo County to contribute to their own health and well-being and the health and well-being of their fellow citizens of all ages; and

WHEREAS, during the pandemic the Portage Senior Center has been a community partner in ensuring that our most vulnerable citizens – people ages 65 and older, many with underlying medical conditions – are cared for and able to stay safe and healthy; and

WHEREAS, the Portage Senior Center affirms the dignity, self-worth, and independence of older persons by facilitating their decisions and actions; tapping their diverse experiences, skills and knowledge; and enabling their continued contributions to the community; and

WHEREAS, the Portage Senior Center programs and services reach over 2,000 individuals per year; and

WHEREAS, the Portage Senior Center has achieved national recognition and is the first Senior Center in Michigan to be accredited by the National Council on Aging and the National Institute of Senior Centers and continues to work to meet the highest standards set for senior center operations.

NOW, THEREFORE, BE IT RESOLVED THAT I, Patricia M. Randall, do hereby proclaim September 2021 as National Senior Center Month in Portage and call on all citizens to recognize the special contributions of the senior center participants, volunteers and staff who work every day to enhance the well-being of the older citizens of our community.

Signed this 7th day of September, 2021

Patricia M. Randall, Mayor

CITY COUNCIL MEETING MINUTES FROM AUGUST 24, 2021

Mayor Patricia Randall called the Regular Meeting to order at 07:01 PM. The regular meeting was held in a partial virtual format as permitted by PA 228, in accordance with the December 2020 Kalamazoo County Emergency Declaration. Mayor Patricia M. Randall, Mayor Pro Tem Jim Pearson, and Councilmembers Chris Burns, Lori Knapp, Vic Ledbetter, Claudette Reid, and Terry Urban were present. Mayor Pro Tem Pearson, Councilmember Ledbetter, and Councilmember Urban participated virtually from Portage, Michigan. Councilmember Knapp participated virtually from Cognashene, Georgian Bay, Canada. Also in attendance were Acting City Manager Adam Herringa, City Attorney Catherine Kaufman, Deputy City Manager Mike Carroll, and City Clerk Erica Eklov.

At the request of Mayor Randall, the audience observed a moment of silence to remember Kalamazoo County Sheriff Sergeant Ryan J. Proxmire. Following the moment of silence, Eagle Scout Sam Dunfield (Troop 244) led the City Council in reciting the Pledge of Allegiance. Troop leader Mike Dunfield acknowledged the five new Eagle Scouts from Troop 244 of the Pathfinder District, including his son, Sam Dunfield. Mayor Randall commended the Scouts on their achievement.

CONSENT AGENDA: Mayor Randall shared where the public can access the meeting agenda and asked if any Councilmember or anyone in the audience would like an item removed from the Consent Agenda. Motion by Reid, seconded by Burns, to approve the Consent Agenda as presented. Upon a roll call vote, motion carried 7 to 0.

City Council Meeting Minutes: Motion by Reid, seconded by Burns, to approve the City Council Meeting Minutes as presented. Upon a roll call vote, motion carried 7 to 0.

Accounts Payable Register: Motion by Reid, seconded by Burns, to approve the Accounts Payable Register of August 24, 2021, as presented. Upon a roll call vote, motion carried 7 to 0.

IDD No. 90 for 6501 Portage Road (Kenco) - District Expansion: Motion by Reid, seconded by Burns, to adopt Resolution #1 to set a hearing at Portage City Hall on September 21, 2021, at 7:00 p.m. or as soon thereafter as may be heard, and provide the City Assessor and a representative of each of the taxing units which levies ad valorem taxes in the City of Portage an opportunity to be heard on the question of the expansion of the Stryker Corporation's Industrial Development District No. 90 at 6501 Portage Road. Upon a roll call vote, motion carried 7 to 0.

Minutes of Boards and Commissions: Motion by Reid, seconded by Burns, to accept the Environmental Board meeting minutes of June 9, 2021. Upon a roll call vote, motion carried 7 to 0.

Calendar of Meetings: Motion by Reid, seconded by Burns, to receive the Calendar of Meetings as presented. Upon a roll call vote, motion carried 7 to 0.

PETITIONS AND STATEMENTS OF CITIZENS: Dr. Carrie Porco of Athletico Physical Therapy announced the newly opened location in Portage within the Carillon Centre at 6778 South Westnedge Avenue. She provided a summary of the physical therapy field and invited the City Council to the official ribbon-cutting event on September 3, 2021, at 10:30 a.m.

COMMUNICATIONS:

Presentation by Jane Ghosh, President and CEO of Discover Kalamazoo: Jane Ghosh, President and CEO of Discover Kalamazoo, gave a presentation regarding visitor trends for Portage and how Discover Kalamazoo tracks visitors and visitor spending. Ms. Ghosh noted July 2021 set a record high number of lodging stays in the area while illustrating that the 2020 lockdown period was a record low. She also stressed that the hospitality industry is experiencing increased instances of being short-staffed, both nationally and locally, as a result of the pandemic. Ms. Ghosh also highlighted the top ten visited locations in Portage, with the South Westnedge Avenue Meijer store and Chick-fil-a restaurant

as the top two locations. Councilmember Reid inquired whether Discover Kalamazoo had data regarding the number of visitors to Portage with personal connections, such as friends and family. Ms. Ghosh replied that approximately fifty percent of visitors to the area had a personal connection with someone local. Mayor Randall commended Ms. Ghosh on Discover Kalamazoo's regularly mailed dashboard update and asked how the organization distinguished between visitors attending more for food and drink as compared to lodging. Ms. Ghosh responded that Discover Kalamazoo contracted with a firm that measured cell phone "pings" that could track visitor behavior.

Motion by Burns, seconded by Reid, to receive the presentation by Jane Ghosh, President and CEO of Discover Kalamazoo, regarding recent visitor trends in Kalamazoo County and key places in Portage, upcoming events in the community, and Discover Kalamazoo's strategies for increasing visitors and visitor spending. Upon a roll call vote, motion carried 7 to 0.

FY 2020-21 Planning Commission Work Program Final Update and Proposed FY 2021-22 Planning Commission Work Program: Mayor Randall introduced Planning Commission Chair Dan Corradini to present the Commission's Work Programs. Mr. Corradini summarized the Planning Commission's report and noted several hurdles the Commission has encountered during the 2020 calendar year, including virtual meeting formats due to COVID-19, staff and commissioner turnover, as well as the need for continuing education for commissioners. Mr. Corradini relayed that the Planning Commission has begun reviewing more diverse types of development proposals as the city matures and looks forward to the Master Plan update in the coming year with the hope of including a youth perspective.

Mayor Randall noted the upcoming October interview session for Boards and Commissions and encouraged the Planning Commission to work on recruiting new members. The presentation concluded with a discussion on the implementation of electronic agendas to the Planning Commission, similar to the format utilized by the Council, in the fall of 2021.

Motion by Reid, seconded by Burns, to receive the FY 2020-21 Planning Commission Work Program Final Update and Proposed FY 2021-22 Planning Commission Work Program. Upon a roll call vote, motion carried 7 to 0.

COUNCIL COMMITTEE REPORTS: None.

STATEMENTS OF CITIZENS: None.

STATEMENTS OF CITY COUNCIL AND CITY MANAGER:

Councilmember Reid offered her condolences to the family of Sheriff's Sergeant Ryan Proxmire, noting she appreciated his work in the community. She then highlighted recent national and local debates regarding vaccines and face mask requirements related to the COVID-19 pandemic, urging everyone to remain engaged and informed. Councilmember Reid relayed the new FDA approval of Pfizer's vaccine and stated COVID-19 could only be addressed using a comprehensive community approach.

Councilmember Burns acknowledged the upcoming events of the annual PCOC Strut Run/Walk scheduled for September 11, 2021, as well as the "Open Doors" event in Bronson Park on August 29 with a focus on housing assistance.

Councilmember Knapp also highlighted the September 11th PCOC Strut event. She then thanked Jane Ghosh from Discover Kalamazoo for her presentation to the City Council and encouraged the public to seek out Discover Kalamazoo.

Councilmember Ledbetter also offered condolences to the family of Sergeant Proxmire, noting that his death highlighted the national epidemic of gun violence. He encouraged increased gun control and safety practices.

Councilmember Urban also extended condolences to the family of Sergeant Proxmire, as well

as the entire area law enforcement community as they deal with the tragedy. He then advised caution for the upcoming autumn season and avoiding potential car-deer collisions, citing his own recent accident.

Acting City Manager Herringa noted the magnitude of the recent community funeral for Sergeant Proxmire and commended the Portage Police and Fire Divisions for their demonstrations of support. He commended all Public Safety staff for their daily work in the field.

Mayor Pro Tem Pearson echoed the statements of the other Councilmembers.

Mayor Randall stated she had never attended a public safety officer's funeral before Sergeant Proxmire's and noted the extent of the somber event. She then thanked the Portage Police Division for covering other area agencies to allow for others to attend Sergeant Proxmire's funeral. Mayor Randall noted her recent attendance at the Michigan Association of Mayors Conference in Sault Ste. Marie, as well as her work with the filming of a city anti-hate video. She highlighted another donation for bike lights by Bike Friendly Kalamazoo and thanked the organization. Mayor Randall closed with a mention of a "Welcome Back" event hosted by the Portage Public Schools on August 24 that highlighted the District's 100th anniversary.

ADJOURNMENT: Mayor Randall adjourned the meeting at 08:00 PM.

Erica L. Eklov, City Clerk

DRAFT

PRE-COUNCIL MEETING
MINUTES FROM SEPTEMBER 7, 2021

Mayor Patricia Randall called the meeting to order at 08:02 AM. The regular meeting was held in a partially virtual format as permitted by PA 228, in accordance with December 2020 Kalamazoo County Emergency Declaration. Mayor Patricia M. Randall, Mayor Pro Tem Jim Pearson and Councilmembers Chris Burns, Lori Knapp, and Claudette Reid were present. All members joined from Portage, Michigan. Councilmembers Vic Ledbetter and Terry Urban were absent with excuse. Also in attendance were Acting City Manager Adam Herringa, Deputy City Manager Mike Carroll, and Deputy City Clerk Tammy Durian. Citizen Lisa Brayton also attended.

With regard to the Proclamation, Mayor Randall inquired as to who would be reading the document and requested Acting City Manager Herringa provide an update on the construction progress of the new Community Senior Center. Mr. Herringa confirmed two members of the Senior Citizen Advisory Board would be reading the proclamation and he would provide an update.

With regard to Item A.3, 2020 Transportation Asset Management Plan, Councilmember Reid inquired whether City Council had received the document in the past. She also inquired about the noted future goals in maintaining the current PASER ratings as compared to improving the ratings. Acting City Manager Herringa stated he would have the Transportation & Utilities Department provide additional information. Mayor Pro Tem Pearson expressed concern regarding diagrams dated from 2019 that appeared to be outdated. Acting City Manager Herringa stated he would research and respond.

With regard to Item A.5, Valleywood Storm Water Drainage Improvement Project, Councilmember Reid inquired about the potential effects to the adjacent Brookwood neighborhood sewer project. She further asked for a report about public access on city-owned properties and whether such access to the location would have an impact on the proposed storm water drainage project. Acting City Manager Herringa stated he would research and respond.

With regard to Item A.7, Department of Public Safety Police Division Vehicle Maintenance, Councilmember Reid expressed concern with the lack of vendor response and asked how the City Administration could increase vendor interest to encourage additional bids. She also proposed collaborating with the City of Kalamazoo to present a joint contract. Mayor Pro Tem Pearson agreed with Councilmember Reid and asked whether the proposed hourly rate could be negotiated each year under the contract. Acting City Manager Herringa stated he would further research and respond. He further relayed prior contract renewals and the same limited vendor responses. Councilmember Burns inquired about the special technician certification requirement. He asked for additional information regarding the certification.

PETITIONS AND STATEMENTS OF CITIZENS: None.

ADJOURNMENT: Following a summary of the meeting, Mayor Randall adjourned the meeting at 8:25 AM.

Tammy Durian, Deputy City Clerk

DRAFT

TO: Honorable Mayor and City Council

FROM: Adam Herringa, Acting City Manager

SUBJECT: Accounts Payable Register

SUPPORTING PERSONNEL: Lauren VanderVeen, Finance Director

ACTION RECOMMENDED: Approve the Accounts Payable Register of September 7, 2021 as presented.

The City Council reviews and approves the bi-weekly Accounts Payable Register which includes automated clearing house payments, paper checks, auto-pay payments and electronic payments. The attached Accounts Payable Register covers the period August 15, 2021 through August 28, 2021 and notes $671,624.57 in automated clearing house payments, $818,384.44 in paper checks, $6,521.53 in autopay payments, and $2,745,795.34 in electronic payments for a grand total of $4,242,325.88.

FUNDING: Not Applicable

Attachments: 1. Accounts Payable Register of September 7, 2021

Check Type: ACH Transactions

Check Date	Check	Vendor Name	Description	Amount
08/20/2021	15639(A)	A NEW LEAF	CITY HALL PLANT CARE	93.50
08/20/2021	15640(A)	ABONMARCHE CONSULTANTS, INC	NW TRAIL LANDSCAPE PLAN SERVICES	762.00
08/20/2021	15641(A)	AIRGAS USA LLC	WELDING SUPPLIES	69.28
08/20/2021	15642(A)	AKERS WOOD PRODUCTS	STUMP REMOVAL	200.00
08/20/2021	15643(A)	ALKHAMIS, ZACHARY ZIAD	SNAP DUFB REIMBURSEMENT	58.00
08/20/2021	15644(A)	ALRO STEEL CORPORATION	REPAIR AND MAINTENANCE SUPPLIES	61.25
08/20/2021	15645(A)	AMAZON.COM SALES, INC.	YOUTH ADVISORY COMMITTEE - SUMMER MOVIE	270.19
08/20/2021	15646(A)	AMERICAN SAFETY & FIRST AID	SAFETY AND FIRST AID SUPPLIES	443.08
08/20/2021	15647(A)	ANIMAL REMOVAL SERVICE, LLC	ANIMAL BARRIER INSTALLATION	660.00
08/20/2021	15648(A)	AUMACK, MICHAEL	2021 UMPIRE PAYROLL	375.00
08/20/2021	15649(A)	BAUCKHAM, SPARKS, THALL, SEEBER AND	FILING FEE - 8TH DIST COURT WRIT OF GARN	15.00
08/20/2021	15650(A)	BEEBE, RONALD E.	2021 UMPIRE PAYROLL	300.00
08/20/2021	15651(A)	BELL EQUIPMENT COMPANY	REPAIR AND MAINTENANCE SUPPLIES	181.49
08/20/2021	15652(A)	BEST WAY DISPOSAL, INC.	CURBSIDE RECYCLING PROGRAM	57,556.77
08/20/2021	15653(A)	BLUE CARE NETWORK-GREAT LAKES	BCNA HEALTH INSURANCE	150,152.11
08/20/2021	15654(A)	BYHOLT INC.	STONE AND SAND	1,622.75
08/20/2021	15655(A)	C D W GOVERNMENT, INC.	20 APC BACK-UP UPS, SCANNER	2,305.94
08/20/2021	15656(A)	C M P DISTRIBUTORS, INC.	MISC POLICE SUPPLIES	1,145.00
08/20/2021	15657(A)	CAPITAL ADVANTAGE LEASING	LEASED COMPUTERS PAYMENT	8,801.15
08/20/2021	15658(A)	CARLETON EQUIPMENT CO.	REPAIR AND MAINTENANCE SUPPLIES	315.06
08/20/2021	15659(A)	CARRIER & GABLE	TRAFFIC SIGNAL MAINTENANCE	3,341.84
08/20/2021	15660(A)	CARSTAR PORTAGE	POLICE VEHICLE REPAIRS	3,493.50
08/20/2021	15661(A)	CHARTER COMMUNICATIONS	CABLE TV	674.21
08/20/2021	15662(A)	CLARKE, GERALD	SNAP REIMBURSEMENT	60.00
08/20/2021	15663(A)	CLEAN EARTH ENVIRONMENTAL SERV	FIRE FACILITY MAINT	870.00
08/20/2021	15664(A)	DEPATIE FLUID POWER CO., INC.	HYDRAULIC REPAIRS	67.92
08/20/2021	15665(A)	ED & TED'S EXCELLENT ADVENTURES	TRIP VENDOR PAYMENT - VIRGINIA BEACH	19,466.00
08/20/2021	15666(A)	EDWARDS, HENRY	2021 UMPIRE PAYROLL	94.00
08/20/2021	15667(A)	EGGERDING, GREGORY T.	2021 UMPIRE PAYROLL	50.00
08/20/2021	15668(A)	ENGINEERED PROTECTION SYSTEMS, INC.	ALARM MONITORING	161.52
08/20/2021	15669(A)	EXTREME POWER EQUIPMENT, INC.	WEED WHIP REPAIR	290.44
08/20/2021	15670(A)	F D LAKE COMPANY	CHAIN REPAIRS	1,445.35

Check Date	Check	Vendor Name	Description	Amount
08/20/2021	15671(A)	FORSHEE, MARK	2021 UMPIRE PAYROLL	150.00
08/20/2021	15672(A)	FULL CIRCLE FARM	SNAP DUFB WIC REIMBURSEMENT	70.00
08/20/2021	15673(A)	GLEESING, KEVIN	POLICE SCHOOL OF STAFF & COMMAND - WEEK 6	533.40
08/20/2021	15674(A)	GOODYEAR TIRE & RUBBER COMPANY	FIRE APPARATUS MAINT	22.40
08/20/2021	15675(A)	GORDON WATER SYSTEMS	WATER SERVICE	517.20
08/20/2021	15676(A)	GRAINGER INC	HI-VIZ T-SHIRTS FOR PPE	1,559.06
08/20/2021	15677(A)	GRIFFIN PEST SOLUTIONS	PEST CONTROL- RAMONA BEACH HOUSE	113.00
08/20/2021	15678(A)	GRYPHON PLACE	FY 20/21 HUMAN SERVICES BOARD	1,850.00
08/20/2021	15679(A)	HOTRUM, ROBERT	2021 UMPIRE PAYROLL	100.00
08/20/2021	15680(A)	INDUSCO SUPPLY CO., INC.	JANITORIAL SUPPLIES	510.82
08/20/2021	15681(A)	INSIGHT PUBLIC SECTOR, INC.	WEBEX RENEWAL	8,013.44
08/20/2021	15682(A)	IP CONSULTING, INC.	IPC BLOCK TIME	3,750.00
08/20/2021	15683(A)	IRISH AYRES ENTERPRISES, LLC	MOWING AND LANDSCAPE BED MAINT	5,812.06
08/20/2021	15684(A)	J & J LAWN SERVICE, INC.	UTILITY MOWING & TRIMMING	9,199.08
08/20/2021	15685(A)	JONS TO GO PORTABLE RESTROOM	CENTRAL,RAMONA PK CONCERT-PORTABLE RSTRM	690.00
08/20/2021	15686(A)	KENDALL ELECTRIC, INC.	LIGHT BULBS	25.89
08/20/2021	15687(A)	LAMARGO, JOSEPH	TRAVEL REIMBURSEMENT	250.52
08/20/2021	15688(A)	LEWIS PAPER PLACE, INC.	PAPER	1,458.75
08/20/2021	15689(A)	LIFEGUARD STORE	RAMONA UNIFORMS	18.00
08/20/2021	15690(A)	LOUTHAN, WILLIAM F	2021 UMPIRE PAYROLL	24.00
08/20/2021	15691(A)	LOWE'S HOME CENTER	REPAIR/MAINT SUPPLIES	38.34
08/20/2021	15692(A)	MAPLE HILL SPRINKLING, INC.	IRRIGATION INSTALLS	4,250.00
08/20/2021	15693(A)	MATERIALS RESOURCES	LATEX GLOVES AND SUPPLIES	739.28
08/20/2021	15694(A)	MCNALLY ELEVATOR CO.	ELEVATOR MAINTENANCE	147.70
08/20/2021	15695(A)	MEEKHOF TIRE SALES & SERVICE INC.	TIRES AND SERVICES	412.60
08/20/2021	15696(A)	MEJEUR ELECTRIC LLC	HARBORS WEST PARK LIGHT REPAIR	140.00
08/20/2021	15697(A)	MOORE, LARRY	REIMB FIRE TRAINING EXP - FDIC	426.16
08/20/2021	15698(A)	MULDERS LANDSCAPE SUPPLIES INC	TOP SOIL/SAND DELIVERY	800.00
08/20/2021	15699(A)	MURRAY, MICHAEL R	SNAP REIMBURSEMENT	12.00
08/20/2021	15700(A)	NORMAN CAMERA CO.	NIKON D7500 KIT W18-140 CAMERAS/CASE/ACC	2,876.40
08/20/2021	15701(A)	NYE UNIFORMS	MISC UNIFORMS	268.33
08/20/2021	15702(A)	ONE WAY PRODUCTS	JANITORIAL SUPPLIES	915.82
08/20/2021	15703(A)	PARIS CLEANERS	LAUNDRY CONTRACT	1,010.34

Check Date	Check	Vendor Name	Description	Amount
08/20/2021	15704(A)	PERCEPTIVE CONTROLS, INC.	FLOAT SYSTEM BACKUP INSTALLATIONS	10,585.00
08/20/2021	15705(A)	PHILLIPS, KIMBERLY	REIMB FOR EXPENSES-REOPENING TO PUB	184.62
08/20/2021	15706(A)	PRECISION PRINTER SERVICES INC	INK FOR SEC. PRINTER, 2 OF EA COLOR	234.87
08/20/2021	15707(A)	PREMIER SAFETY	FIRE SCBA MAINTENANCE	750.00
08/20/2021	15708(A)	PRINTING SERVICES INC	BANNERS FOR SUMMER/FALL/WINTER EVENTS	656.75
08/20/2021	15709(A)	QUADRANT II MARKETING, LLC	NEWSLETTER PRODUCTION, SEPT & OCT	1,982.00
08/20/2021	15710(A)	R W LAPINE INC.	FIRE FACILITY MAINT/HVAC SVCS	1,625.56
08/20/2021	15711(A)	REPUBLIC SERVICES OF WEST MICHIGAN	WASTE SERVICES - CITY FACILITIES	1,349.26
08/20/2021	15712(A)	RHODES, KEVIN	2021 UMPIRE PAYROLL	450.00
08/20/2021	15713(A)	RIDDERMAN & SONS OIL CO. INC.	BULK GASOLINE DELIVERY	18,629.38
08/20/2021	15714(A)	RIDGE AUTO NAPA	REPAIR & MAINTENANCE SUPPLIES	621.63
08/20/2021	15715(A)	VOID		0.00
08/20/2021	15716(A)	ROAD EQUIPMENT PARTS CENTER	SHOP & MAINTENANCE SUPPLIES	907.53
08/20/2021	15717(A)	ROBERT LAMSON, LLC	POST OFFER CONDITION PSYCH EVALS	1,860.00
08/20/2021	15718(A)	ROSE, MESHIA	IAAO ANNUAL CONFERENCE EXP	255.00
08/20/2021	15719(A)	RYKSE & CO LLC	SNAP REIMBURSEMENT	49.00
08/20/2021	15720(A)	S B F ENTERPRISES, INC.	INSERT ENVELOPES FOR WATER/SEWER BILL	2,438.81
08/20/2021	15721(A)	SARKOZY BAKERY LLC	SNAP REIMBURSEMENT	55.00
08/20/2021	15722(A)	SEVERANCE ELECTRIC COMPANY,INC	TRAFFIC SIGNAL MAINTENANCE	4,670.00
08/20/2021	15723(A)	SMITH DAWSON & ANDREWS, INC.	FEDERAL ADVOCACY SERVICES	5,000.00
08/20/2021	15724(A)	SUEZ WATER ENVIRONMENTAL SERVICES	UTILITY OPERATION SYSTEM	181,605.49
08/20/2021	15725(A)	TRUCK & TRAILER SPECIALTIES	PLOW TRUCK OUTFITTING	113,593.74
08/20/2021	15726(A)	USA SOFTBALL OF MICHIGAN	FALL & SPRING SOFTBALLS	3,000.00
08/20/2021	15727(A)	VERPLANK TRUCKING CO.	LIMESTONE FOR DURAPATCHER	3,095.09
08/20/2021	15728(A)	VIRIDIS DESIGN GROUP	DR MARTIN LUTHER KING JR PARK A&E	1,500.00
08/20/2021	15729(A)	WARNER NORCROSS & JUDD LLP	LEGAL & RETAINER FEES	6,620.00
08/20/2021	15730(A)	WEST SHORE FIRE, INC.	FIRE APPARATUS MAINT	768.30
08/20/2021	15731(A)	WIGHTMAN	PROFESSIONAL ENGINEERING SERVICES	610.00
08/20/2021	15732(A)	WOLFE, MATTHEW	REIMB TR EXP-NIAIA ANNUAL CONFERENCE	1,358.95
08/20/2021	15733(A)	WOLVERINE LAWN SERVICE, INC.	SPRINKLER HEAD REPAIRS	420.93
08/20/2021	15734(A)	XEROX CORPORATION	XEROX COPIER FEE	216.18
08/27/2021	15735(A)	CHARTER COMMUNICATIONS	CABLE TV	129.60
08/27/2021	15736(A)	FIDELITY SECURITY LIFE INSURANCE CO	VISION INSURANCE	1,332.66

Check Date	Check	Vendor Name	Description	Amount
08/27/2021	15737(A)	PORTAGE FIREFIGHTERS	IAFF DUES FOR AUGUST 2021	1,800.00
08/27/2021	15738(A)	PORTAGE ON-CALL FIREFIGHTERS	ONCALL DUES FOR AUGUST 2021	20.00
08/27/2021	15739(A)	PORTAGE POLICE OFFICERS ASSOC	PPOA DUES FOR AUGUST 2021	581.00
08/27/2021	15740(A)	UNITED AUTO. IMPLEMENT WORKERS 2290	UAW DUES FOR AUGUST 2021	561.28
			Total ACH	**671,624.57**

Check Type: Paper

08/20/2021	317521	ACE PARKING LOT STRIPING, INC.	PARKING LOT STRIPING	1,280.00
08/20/2021	317522	ADVANCE II LLC	AUGUST SPECIAL ELECTION - TEMPORARY STAFF	5,200.03
08/20/2021	317523	ALLEGRA PRINT & IMAGING	PRINTING SERVICES	698.00
08/20/2021	317524	AMERICAN ARBOR LLC	EMERALD ASH BORER INJECTION TRMT	600.00
08/20/2021	317525	ARTWEAR APPAREL GRAPHICS, INC.	POLO SHIRTS - DPW	684.00
08/20/2021	317526	AT&T	ELECTRONIC COMMUNICATIONS	1,890.58
08/20/2021	317527	AUTO TRIM	WINDOW TINTINT FOR POLICE VEHICLE	178.00
08/20/2021	317528	AVB CONSTRUCTION LLC	COMMUNITY SR CENTER CONSTRUCTION MGMT	416,024.80
08/20/2021	317529	BAILEY TERRA NOVA FARMS	SNAP REIMBURSEMENT	19.00
08/20/2021	317530	BARNEBEE, ASHLEY	GRAIN ELEVATOR DEPOSIT REFUND	150.00
08/20/2021	317531	BAUMANN, AMY	GREAT AMERICAN CAMPOUT REFUND	50.00
08/20/2021	317532	BAY AREA TOUCHLESS CARWASH LLC	CAR WASHES	204.00
08/20/2021	317533	BEAR CREEK FARM AND MARKET LLC	DUFB REIMBURSEMENT	20.00
08/20/2021	317534	BEERS, BRYAN	2020-21 PHOTO CONTEST WINNER	25.00
08/20/2021	317535	BLAIN SUPPLY, INC.	EQUIPMENT REPAIRS/OPERATING SUPPLIES	28.76
08/20/2021	317536	BLOOM SLUGGETT, PC	LITIGATION-S WESTNEDGE AVE STORM SEWER PRJ	200.00
08/20/2021	317537	BLOOM, KATIE	SMART CYCLING TRAFFIC SKILLS REFUND	50.00
08/20/2021	317538	BOLDT, RYAN	HAYLOFT & AMPHITHEATRE DEPOSIT REFUND	300.00
08/20/2021	317539	BONAMEGO, LOUIS	ESLS SNAP DUFB WIC SPF REIMBURSEMENT	338.00
08/20/2021	317540	BRADY VANDERVEEN	REIMB-MI PERMIT PLAN REV LICENSE	225.00
08/20/2021	317541	BRENDLINGER, LILY	2020-21 PHOTO CONTEST WINNER	100.00
08/20/2021	317542	BROEKHUIZEN, MARGARET	CENTRAL PAVILION RENTAL REFUND	110.00
08/20/2021	317543	BRONSON HEALTHCARE GROUP	LEGAL BLOOD DRAWS	200.00
08/20/2021	317544	BRUCE'S TRUCK & AUTO ACCESSORIES	BUMPER STEP FOR F250	345.00
08/20/2021	317545	BURKE, ROBYN	SWIM LESSONS SESSION 1 - PARTIAL REFUND	22.50
08/20/2021	317546	BYCE & ASSOCIATES, INC.	COMMUNITY SENIOR CENTER A&E DESIGN	3,000.00

Check Date	Check	Vendor Name	Description	Amount
08/20/2021	317547	CARDNO, INC.	INVASIVE SPECIES REMOVAL SERVICES	2,319.51
08/20/2021	317548	CITY OF KALAMAZOO TREASURER	WATER SERVICES	438.17
08/20/2021	317549	COLLETTI, ILENE	PICKLEBALL BEGINNER SESSION 2 REFUND	25.00
08/20/2021	317550	COSTAR REALTY INFORMATION, INC.	COMM REAL ESTATE DATABASE	367.23
08/20/2021	317551	COURTHOUSE ATHLETIC CENTER PORTAGE	BALL OUT EVENT FACILITY RENTAL FEE	2,700.00
08/20/2021	317552	DALLAS OSBORN OR PAMELA TRAMMELL	REFUND OF OVERPAID FINAL WATER BILL	12.26
08/20/2021	317553	DAVE'S CONCRETE PRODUCTS, INC.	CEMETERY FOUNDATIONS/PROJECT SUPPLIES	2,374.75
08/20/2021	317554	DIGITAL IMPACT DESIGN, INC.	MEMORIAL PLAQUES	18.66
08/20/2021	317555	DONLIN, LISA	STUART MANOR DEPOSIT REFUND	150.00
08/20/2021	317556	ELECTIONS OPERATING LLC	ELECTION SUPPLIES	515.00
08/20/2021	317557	ELHART, JOSLYN	JULY - YOUNG BIRDERS ACADEMY REFUND	5.00
08/20/2021	317558	EMERGENCY VEHICLE PRODUCTS	POLICE VEHICLE REPAIR/MAINTENANCE	114.00
08/20/2021	317559	EMPSON, MINDY JO	ESLS SNAP DUFB REIMBURSEMENT	119.00
08/20/2021	317560	ENGRAVING & AWARDS OF N.E., INC	CEREMONIAL I-BEAM KEY CHAINS	595.60
08/20/2021	317561	EVENT PRODUCTION SERVICES OF MI LLC	AUG & SEPT FRIDAY AT THE FLATS SOUND	869.00
08/20/2021	317562	FACE, GEORGE	REIMB-FIREHOUSE EXPO TRAINING EXP	280.75
08/20/2021	317563	FIRST AMERICAN TITLE CO.	INFORMATION TITLE FOR MLK PARK	500.00
08/20/2021	317564	FLETCHER ENTERPRISES	GRAFFITI REMOVAL	350.00
08/20/2021	317565	FREED, KAMMELYN	JUNE - YOUNG BIRDERS ACADEMY REFUND	5.00
08/20/2021	317566	FRIENDS OF PORTAGE SENIOR CENTER	REIMBURSEMENT FOR DONATIONS RECEIVED	1,670.00
08/20/2021	317567	GIBSON, BRADY	2020-21 PHOTO CONTEST WINNER	170.00
08/20/2021	317568	GORDON FOOD SERVICE	RAMONA CONCESSIONS	850.89
08/20/2021	317569	GRAYBAR ELECTRIC CO.	ELECTRICAL PLUGS	214.82
08/20/2021	317570	H & H PROPERTY MAINTENANCE, LLC	WOOD CHIP TRAIL/WOODLAWN CT & WOODY NOLL	2,500.00
08/20/2021	317571	HARING, MARC	RAMONA PAVILION RENTAL REFUND	110.00
08/20/2021	317572	HEMKER, BRIAN	FALL LEAGUE - MONDAY COED REFUND	400.00
08/20/2021	317573	HERSON, JOHN	MEN'S OVER 50 UMPIRE FEES REFUND	150.00
08/20/2021	317574	HODGMAN, MICHELLE	RAMONA PARK PARKING VOUCHER REFUND	30.00
08/20/2021	317575	HOLOCENE ENVIRONMENTAL LLC	UST "A" AND "B" OPERATOR SERVICE	175.00
08/20/2021	317576	HOME DEPOT	REPAIR/MAINTENANCE SUPPLIES	1,243.75
08/20/2021	317577	VOID		0.00
08/20/2021	317578	HUBER, MEGAN	CORNHOLE LEAGUE REFUND	50.00
08/20/2021	317579	IBISON, MISTY	YAC SUMMER MOVIE NIGHT EVENT-FOOD	101.00

Check Date	Check	Vendor Name	Description	Amount
08/20/2021	317580	J & B PROFESSIONAL TREE SERVIC	TREE REMOVALS	7,075.00
08/20/2021	317581	J & J LOCKSMITHS	RESTOCK PARK PADLOCKS	1,620.43
08/20/2021	317582	J AND B DICK ORCHARDS	ESLS SNAP DUFB SPF	119.00
08/20/2021	317583	JOHNSON, REBECCA	JULY - YOUNG BIRDERS ACADEMY REFUND	5.00
08/20/2021	317584	JUSTFOIA INC	JUSTFOIA FOIA AUTOMATION SOFTWARE	7,800.00
08/20/2021	317585	KAL-CREEK COMMERCIAL APPRAISERS, LC	9112 S. WESTNEDGE APPRAISAL	1,750.00
08/20/2021	317586	KALAMAZOO COUNTY TREASURER	COLONIAL ACRES JULY 2021 MOBILE HOME TAX	455.00
08/20/2021	317587	KALAMAZOO COUNTY TREASURER	DELINQUENT TAX PARCEL ACQUISITION	519.67
08/20/2021	317588	KALAMAZOO LITERACY COUNCIL	FY 20-21 HUMAN SERVICES BOARD	500.00
08/20/2021	317589	KALAMAZOO OIL COMPANY	REC-90 GASOLINE	161.76
08/20/2021	317590	KALAMAZOO PICKLEBALL	2021 SESSION 2 LEAGUES AND CLINICS	1,475.00
08/20/2021	317591	KENTWOOD OFFICE FURNITURE INC.	SERVICE CALL FOR DESK SWITCH REPAIR	255.33
08/20/2021	317592	KONICA MINOLTA BUSINESS SOLUTIONS	COPIER CONTRACT - COMMUNICATION SVCS	364.00
08/20/2021	317593	KRUMREI, CHRISTOPHER	MEN'S OVER 50 UMPIRE FEES REFUND	150.00
08/20/2021	317594	LAKE, DIRK	MEN'S OVER 50 UMPIRE FEES REFUND	150.00
08/20/2021	317595	LERMA, INC	LERMA VIRTUAL FALL CONFERENCE	25.00
08/20/2021	317596	LERMA, INC	LERMA VIRTUAL FALL CONFERENCE	25.00
08/20/2021	317597	LOPEZ, SANDRA I	SNAP REIMBURSEMENT	80.00
08/20/2021	317598	LUST, CAROL	JUNE/JULY YOUNG BIRDERS ACADEMY REFUND	10.00
08/20/2021	317599	LUTZ, LIZ	2020-21 PHOTO CONTEST WINNER	100.00
08/20/2021	317600	MAHN	MAHN ANNUAL CONFERENCE	150.00
08/20/2021	317601	MATTESON, SCOTT	SCHRIER PARK DEPOSIT REFUND	150.00
08/20/2021	317602	MCCORMICK, CONNOR	FALL LEAGUE - WED MEN'S REFUND	400.00
08/20/2021	317603	MCDONALD'S TOWING & RESCUE, INC.	POLICE TOWING SERVICES	15.00
08/20/2021	317604	MCMULLAN, LAUREN	JUNE - YOUNG BIRDERS ACADEMY REFUND	5.00
08/20/2021	317605	MI-TOKEN INC.	MI-TOKEN RENEWAL	600.00
08/20/2021	317606	MICH MUNICIPAL POLICE & FIRE REPAIR	POLICE VEHICLE REPAIR AND MAINT	1,289.45
08/20/2021	317607	MICHIANA LAND SERVICES	SENIOR CENTER EASEMENT AMENDMENT	1,600.00
08/20/2021	317608	MICHIGAN ASSOC. OF SENIOR CENTERS	MICH ASSOC OF SR CENTERS MEMBERSHIP	75.00
08/20/2021	317609	MICHIGAN CRISIS RESPONSE ASSOC.	FIRE TRAINING-MCRA	235.00
08/20/2021	317610	MICHIGAN PAVEMENT MARKINGS LLC	AUX LOT LINE PAINTING	500.00
08/20/2021	317611	MLIVE MEDIA GROUP	LEGAL NOTICE	531.41
08/20/2021	317612	MOSES FIRE EQUIPMENT, INC.	FIRE APPARATUS MAINT	1,273.50

Check Date	Check	Vendor Name	Description	Amount
08/20/2021	317613	MOSHER, DONYA	SCHRIER PARK DEPOSIT REFUND	150.00
08/20/2021	317614	MOSQUITO CONTROL OF SW MICHIGAN	MOSQUITO SPRAY-CELERY FLATS	780.00
08/20/2021	317615	MULDER'S MOVING AND STORAGE	TRANSPORTATION OF ELECTION EQUIPMENT	2,418.75
08/20/2021	317616	O'REILLY AUTO PARTS	FLEET MAINTENANCE	6.64
08/20/2021	317617	OFFICE DEPOT, INC.	OFFICE SUPPLIES	1,416.37
08/20/2021	317618	VOID		0.00
08/20/2021	317619	OVERNEATH CREATIVE COLLECTIVE LLC	CONSULTATION & PRODUCTION	390.00
08/20/2021	317620	PAPPAS, LYNN M	ESLS SNAP DUFB SPF REIMBURSEMENT	271.00
08/20/2021	317621	PATESEL, TERRANCE	MEN'S OVER 50 UMPIRE FEES REFUND	150.00
08/20/2021	317622	PETERMAN CONCRETE CO.	YARD U-CART	179.25
08/20/2021	317623	PHELPS, MIKE	REIMB SMEMSIC MEMBERSHIP	75.00
08/20/2021	317624	PHOENIX SAFETY OUTFITTERS, LLC	KVCC POLICE ACADEMY CADET UNIFORMS	307.92
08/20/2021	317625	PITNEY BOWES INC	PITNEY BOWES RELAY 2500 FOLDER INSERTER	6,920.60
08/20/2021	317626	PLAYFORD, LOU	FIREHOUSE EXPO TRAINING	186.75
08/20/2021	317627	PORTAGE BUDGET STORAGE, LLC	STORAGE UNIT RENTAL-3 UNITS	2,160.00
08/20/2021	317628	PORTAGE PUBLIC SCHOOLS (TRANS)	BUS FOR FISH CAMP	232.81
08/20/2021	317629	PROJECT FISH	FISH CAMP SUPPLIES	390.00
08/20/2021	317630	RATHCO SAFETY SUPPLY, INC.	TRAFFIC CONTROL SERVICES & SUPPLIES	6,711.35
08/20/2021	317631	RMUS LLC	AUTEL ROBOTICS EVO II GIMBAL CAMERA	879.00
08/20/2021	317632	ROAD COMMISSION OF KALAMAZOO COUNTY	EMULSION FOR DURAPATCHER	210,577.69
08/20/2021	317633	ROSE STREET ADVISORS, LLC	JOB DESCRIPTION REVIEW & UPDATES	2,375.00
08/20/2021	317634	ROWERDINK, INC.	FIRE APPARATUS MAINT	152.76
08/20/2021	317635	SAM BROWN SHIELDS INC	FM HELMET SHIELD	50.00
08/20/2021	317636	SEECLICKFIX, INC.	SEE CLICK FIX ANNUAL LICENSING	5,677.81
08/20/2021	317637	SEELYE FORD, INC.	POLICE REPAIR/MAINTENANCE	142.95
08/20/2021	317638	SHI INTERNATIONAL CORP.	VARONIS RENEWAL	29,673.88
08/20/2021	317639	SIMMONS, ANDY	MEN'S OVER 50 UMPIRE FEES REFUND	150.00
08/20/2021	317640	SITEONE LANDSCAPE SUPPLY LLC	PARKS IRRIGATION REPAIR SUPPLIES	170.82
08/20/2021	317641	SMEMSIC	FIRE TRAINING-SMEMSIC REGISTRATION	135.00
08/20/2021	317642	SOMMERFELD, JEFF	MEN'S OVER 50 UMPIRE FEES REFUND	150.00
08/20/2021	317643	SPALSBURY, AMY	CULINARY ACA CLASS	175.00
08/20/2021	317644	SPARKS, KAREN	STUART MANOR RENTAL FEES REFUND	170.00
08/20/2021	317645	ST. BARNABAS EPISCOPAL CHURCH	FY 20-21 HUMAN SERVICES BOARD	1,875.00

Check Date	Check	Vendor Name	Description	Amount
08/20/2021	317646	STATE OF MICHIGAN	SOR PAYMENTS	150.00
08/20/2021	317647	STATE SYSTEMS RADIO, INC	ANNUAL TOWER LEASE CONTRACT	2,457.17
08/20/2021	317648	STEENSMA LAWN & POWER EQUIPMENT	BILLY GOAT DEBRIS LOADER	8,895.54
08/20/2021	317649	STURGIS BANK & TRUST	OVERPAYMENT STAX21 PARCEL 09000-028-A	1,900.83
08/20/2021	317650	SUDS MOBILE CLEANING SYSTEMS, LLC	HEAVY TRUCK & EQUIP CLEANING	1,430.00
08/20/2021	317651	SUPERIOR BUSINESS SOLUTIONS	POLICE BUSINESS CARDS	103.09
08/20/2021	317652	T-SHIRT PRINTING PLUS, INC.	INSPECTOR SHIRTS	148.00
08/20/2021	317653	THAD REEDER AUTOMOTIVE LLC	VEHICLE REPAIRS/ALIGNMENTS	105.99
08/20/2021	317654	THE POSTMAN AND CONCRETE DESIGNS	GATE REPAIR, PARK FENCE REPAIR	600.00
08/20/2021	317655	TR SYSTEMS, LLC	TEXA ANNUAL SUPPORT	1,690.00
08/20/2021	317656	TRUGREEN PROCESSING	FIRE STATIONS WEED AND FEED	185.00
08/20/2021	317657	TWELVE BASKETS FOOD PANTRY	FY 20-21 HUMAN SERVICES BOARD	2,075.00
08/20/2021	317658	UNDERGROUND SECURITY COMPANY	ANNUAL RECORDS STORAGE FEE	3,007.15
08/20/2021	317659	UNITED DISTRIBUTION GROUP	RAMONA CONCESSIONS	339.50
08/20/2021	317660	UNITED PARCEL SERVICE	UPS WEEKLY	37.22
08/20/2021	317661	USPS	PORTAGER POSTAGE SEPT & OCT 2021	8,500.00
08/20/2021	317662	VANGUARD FIRE & SUPPLY CO., INC.	FIRE EXTINGUISHER INSPECTIONS	749.00
08/20/2021	317663	VERIZON CONNECT NWF, INC.	EQUIPMENT GPS SERVICES	690.79
08/20/2021	317664	VERIZON WIRELESS	CELLULAR PHONES	2,774.25
08/20/2021	317665	VICKSBURG HARDWARE	SMALL EQUIPMENT REPAIRS	73.28
08/20/2021	317666	WASHCO, LLC	ELIASON NATURE PRESERVE SIGN	275.00
08/20/2021	317667	WEST MICHIGAN REALTORS TITLE CO	OVERPAYMENT WATER BILL	18.45
08/20/2021	317668	WHITE, ROBIN	SCHRIER PARK DEPOSIT REFUND	150.00
08/20/2021	317669	WILD, JED	REIMB EXP-QLTY IMPROVEMENT FOR ACRED TR	1,048.24
08/20/2021	317670	WINFIELD, CLYDE	MEN'S OVER 50 UMPIRE FEES REFUND	150.00
08/20/2021	317671	WMCJTC	ADVANCED EVIDENCE COLLECTION	300.00
08/20/2021	317672	WOLVERTON, KRISTINE	GRAIN ELEVATOR DEPOSIT REFUND	150.00
08/20/2021	317673	WORMBRAND, RONALD	PHOTO CONTEST WINNER	145.00
08/20/2021	317674	YEO & YEO	2020-2021 AUDIT AND ACFR PREPARATION	4,000.00
08/20/2021	317675	YWCA INC	FY 20-21 HUMAN SERVICES BOARD	9,500.00
08/24/2021	317676	HANSON, WALT	BD BOND REFUND	2,456.00
08/24/2021	317677	MICHIGAN RECREATION & PARK ASSOC.	CPSI COURSE AND EXAM	1,400.00
08/27/2021	317678	ANDREWS, STEVE & MICHELLE	GRAVE MARKER FOUNDATION REFUND	277.20

Check Date	Check	Vendor Name	Description	Amount
08/27/2021	317679	BLUE CROSS/BLUE SHIELD OF MICH	MA PLUS HEALTH INSURANCE	577.20
08/27/2021	317680	ELECTIONS OPERATING LLC	ABSENT VOTER APPLICATION POSTAGE	2,135.86
08/27/2021	317681	GREATER KALAMAZOO FOP LODGE 98	FOP PORTION OF PPOA DUES FOR AUGUST 2021	2,828.38
08/27/2021	317682	RANDALL, PATRICIA	TRAVEL REIMB-MI ASSOC OF MAYORS WKSHOP	655.40
08/27/2021	317683	VERIZON WIRELESS	WIRELESS CARDS	472.94
			Total Paper Check	**818,384.44**
Check Type: Auto-Pay Payments				
08/16/2021		CONSUMERS AUTOPAY	GAS-ELECTRIC	375.82
08/17/2021		CONSUMERS AUTOPAY	GAS-ELECTRIC	4,648.02
08/18/2021		CONSUMERS AUTOPAY	GAS-ELECTRIC	251.85
08/26/2021		CONSUMERS AUTOPAY	GAS-ELECTRIC	1,245.84
			Total Auto-Pay Payments	**6,521.53**
Check Type: Electronic Payment				
08/12/2021		CITY OF PORTAGE EMPLOYEE	PAYROLL ADJUSTMENT	440.77
08/13/2021		MULTIPLE	IAFF,PPCOA,PPOA PENSION PAYMENTS	70,252.83
08/16/2021		ATTORNEY	LEGAL & ARBITRATION	18,810.00
08/20/2021		MULTIPLE	WEEKLY TAX DISBURSEMENT 8/13/21	2,614,381.19
08/27/2021		ICMA	PENSION WITHHOLDINGS	39,715.65
08/27/2021		SBF	WATER/SEWER BILL POSTAGE	2,194.90
			Total Electronic Payments	**2,745,795.34**
			Grand Total	**4,242,325.88**

TO: Honorable Mayor and City Council

FROM: Adam Herringa, Acting City Manager

SUBJECT: Transportation Asset Management Plan

SUPPORTING PERSONNEL: Lauren VanderVeen, Finance Director
Rod Russell, Director of Public Works
Kendra Gwin, Director of Transportation & Utilities

ACTION RECOMMENDED: Accept and approve the 2020 Transportation Asset Management Plan and associated documents, adopt the associated Resolution, and authorize the Acting City Manager and Director of Finance to certify the plan for compliance with Public Act 325 on behalf of the city.

Michigan Public Act 325 of 2018 requires that local road-owning agencies with 100 or more miles of roadway develop an asset management plan for their road, bridge, culvert and traffic signal assets. Asset management as defined by Public Act 325 of 2018 is *"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."*

Asset management is a process that uses data to manage and track assets, such as 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, the County Road Association of Michigan, the Michigan Department of Transportation, and the Federal Highway Administration. The City of Portage is supported in its use of asset management principles and processes by the Michigan Transportation Asset Management Council formed by the State of Michigan.

The City of Portage is responsible for 72.04 centerline miles of major streets, 148.92 centerline miles of local streets, 3 bridges, 114 culverts, and 54 traffic signals. 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. An updated plan reflecting changes in road conditions, finances, maintenance techniques and priorities must be approved by City Council every three years. Staff began preparation of this report in September of 2020 and subsequently received notification from the Michigan Transportation Asset Management Council that the deadline was being waived due to the effects of the COVID-19 pandemic and submission would be permitted until October 1, 2024.

Therefore, it is recommended that City Council accept and approve the 2020 Transportation Asset Management Plan and associated documents, adopt the Resolution and authorize the Acting City

Manager and Director of Finance to certify the plan for compliance with Public Act 325 on behalf of the city.

FUNDING: N/A

Attachments:
1. Transportation Asset Management Plan
2. Resolution of Acceptance

City of Portage
2020 Transportation Asset Management Plan

Prepared by:

Department of Transportation & Utilities
Jamie Harmon, Assistant City Engineer

Department of Public Works
Ray Waurio, Deputy Director

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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. Other assets like culverts, traffic signs, traffic signals, and utilities support and affect roads and bridges. The City of Portage (Portage) roads, bridges, and support systems are some of the most valuable and extensive public assets, all of which are supported with taxes collected from 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 Portage is meeting its obligations to maintain the public assets for which it is responsible.

An asset management plan is a plan for managing the asset base over a period of time in order to deliver the agreed levels of service and performance targets in the most cost-effective way. The Moving Ahead for Progress in the 21st Century (MAP-21) Act defines asset management as a strategic and systematic process of operating, maintaining, and improving physical assets, with a focus on engineering and economic analysis based upon quality information, to identify a structured sequence of maintenance, preservation, repair, rehabilitation, and replacement actions that will achieve and sustain a desired state of good repair over the lifecycle of the assets at minimum practicable cost.

This asset management plan identifies transportation assets and their condition and explains how Portage 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 Portage 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 Portage'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 Portage assets. The plan provides the information needed by City Councilmembers 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”. 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 (CRAM), the Michigan Department of Transportation (MDOT), and the Federal Highway Administration (FHWA). Portage 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.

Portage has adopted an “asset management” business process to overcome the challenges presented by having limitations in financial, staffing, and other resources while needing to meet road users’ expectations. Portage is responsible for maintaining and operating over 220 centerline miles of roads and 3 bridge structures. Portage also owns, operates and maintains traffic signals at 54 intersections and 91 culverts.

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

Questions regarding the use or content of this plan should be directed to Ray Waurio, 7719 S. Westnedge Ave., Portage, MI 49002, (269) 329-4430 and/or waurior@portagemi.gov. A copy of this plan can be viewed at www.portagemi.gov/301/Transportation.

1. PAVEMENT ASSETS

Portage is responsible for 220.96 centerline miles of public roads. An inventory of these miles divides them into two different network classes based on road purpose/use and funding priorities as identified at the state level: 1) city major road network, which is prioritized for state-level funding, and 2) city minor road network.

Inventory of Assets

Of the 220.96 miles of road that Portage maintains, 72.04 miles are classified as city major and 148.92 miles are classified as city minor. Figure 1 identifies these roads corresponding to the road segment's condition using green for good, yellow for fair and red for poor. Of the 72.04 miles of city major road, 19.74 miles are 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.

More detail about these road assets are located in Appendix A.

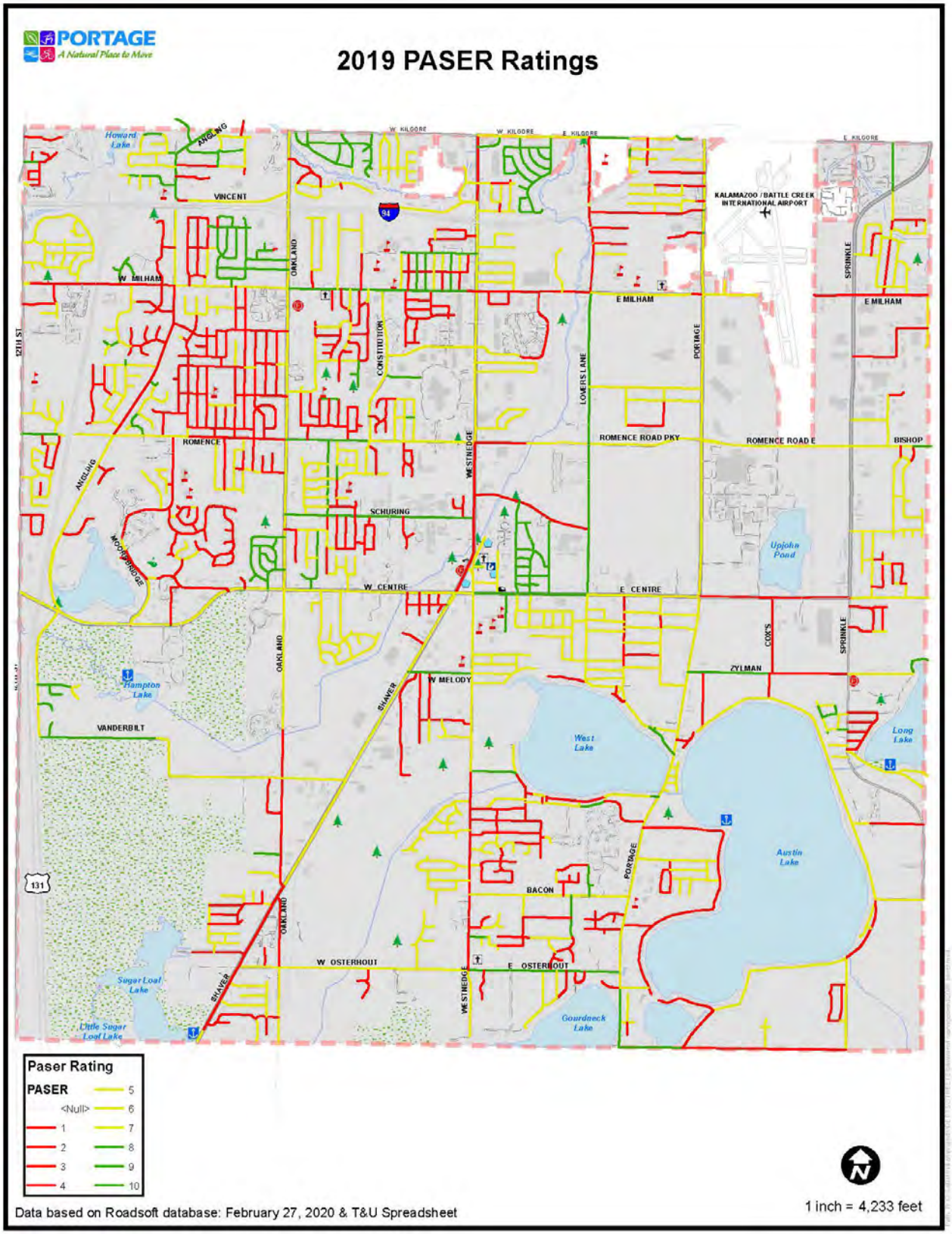


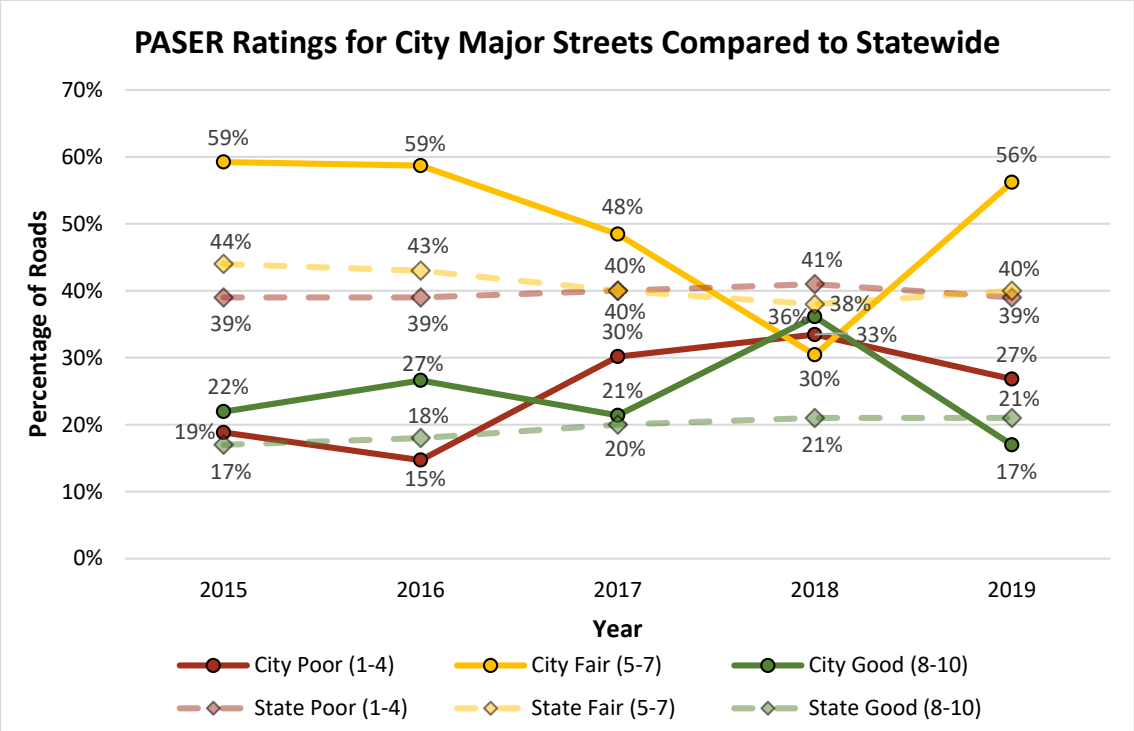
Figure 1: 2019 Portage PASER Ratings

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 road and 1 being a completely failed road. PASER scores are grouped into TAMC definition categories of “good/green” (8-10), “fair/yellow” (5-7), and “poor/red” (1-4) categories. Portage collects PASER data every year for the majority of all major roads eligible for federal funding. In addition, Portage uses its own staff contracted resources to collect PASER data on 100 % of its city major and city minor networks that are not eligible for federal funding every 2 years.

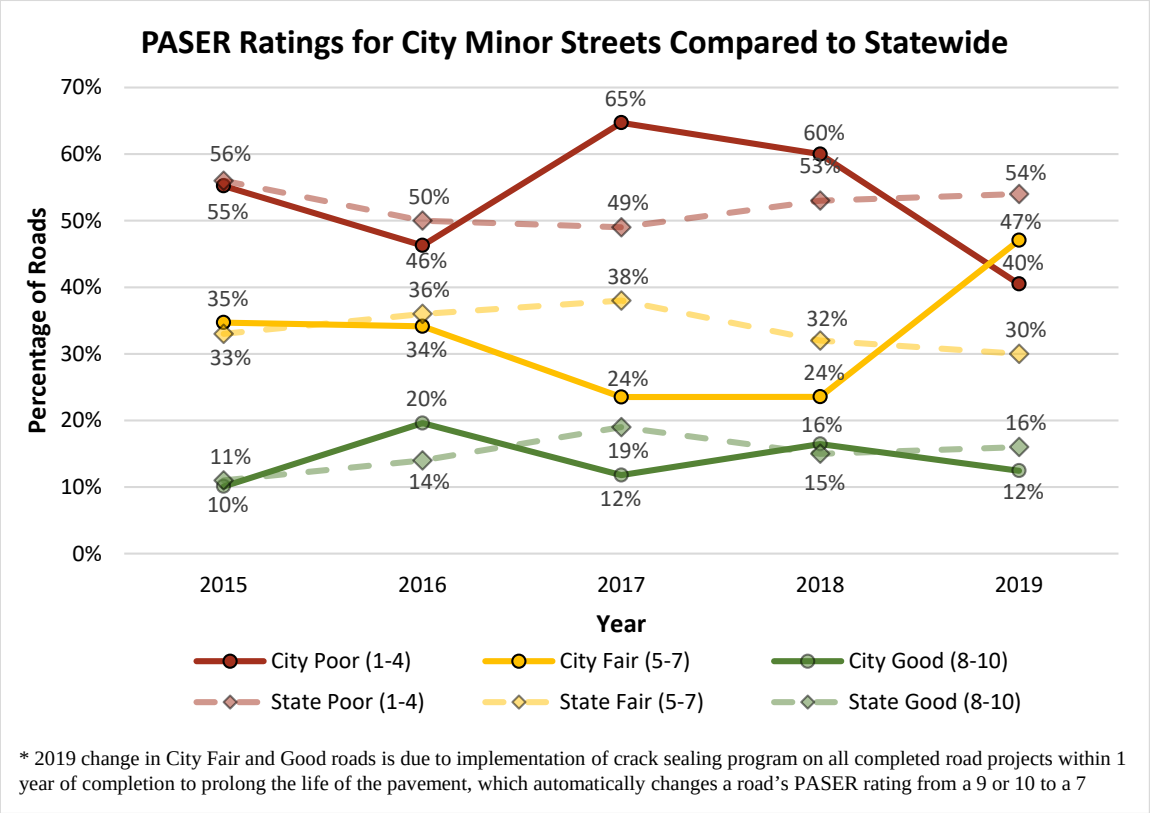
Comparing Portage city major road condition trends with overall statewide condition trends for similarly classified roads shows a different trend locally as compared to the state average, as shown in Figure 2. During 2019, Portage had an average good rating of 17 percent as compared to the statewide average of 21 percent. For the fair rating, Portage scored 56 percent while the statewide average had a 40 percent. Finally, the poor rating for Portage was 27 percent as compared to 39 percent scored by the state. The trend shows Portage placing a fair amount of money towards the improvement of major streets thus achieving better ratings than statewide major streets.



* 2019 change in City Fair and Good roads is due to implementation of crack sealing program on all completed road projects within 1 year of completion to prolong the life of the pavement, which automatically changes a road’s PASER rating from a 9 or 10 to a 7

Figure 2: Historical Portage & Statewide Paved Major Road Network Condition Trends

The overall quality of Portage city minor roads has been similar to the statewide minor roads. The city minor road network lacks a source of state and federal funding and therefore must be 100 percent supported locally. Comparing Portage city minor road condition trends illustrated in Figure 3 with overall statewide condition trends for all city minor roads indicates a slightly better trend locally as compared to the rest of the state. During 2019, Portage had an average good rating of 12.5 percent as compared to the statewide average of 16 percent. For the fair rating, Portage scored 47 percent while the statewide average had a 30 percent. Finally, the poor rating for Portage was 40.5 percent as compared to 54 percent scored by the state.



* 2019 change in City Fair and Good roads is due to implementation of crack sealing program on all completed road projects within 1 year of completion to prolong the life of the pavement, which automatically changes a road's PASER rating from a 9 or 10 to a 7

Figure 3: Historical Portage & Statewide Paved Minor Road Network Condition Trends

Planned Projects

Portage has several projects planned for the next three years. Major projects are identified in Figure 4 and minor projects are identified in Figure 5, color-coded by year of construction.

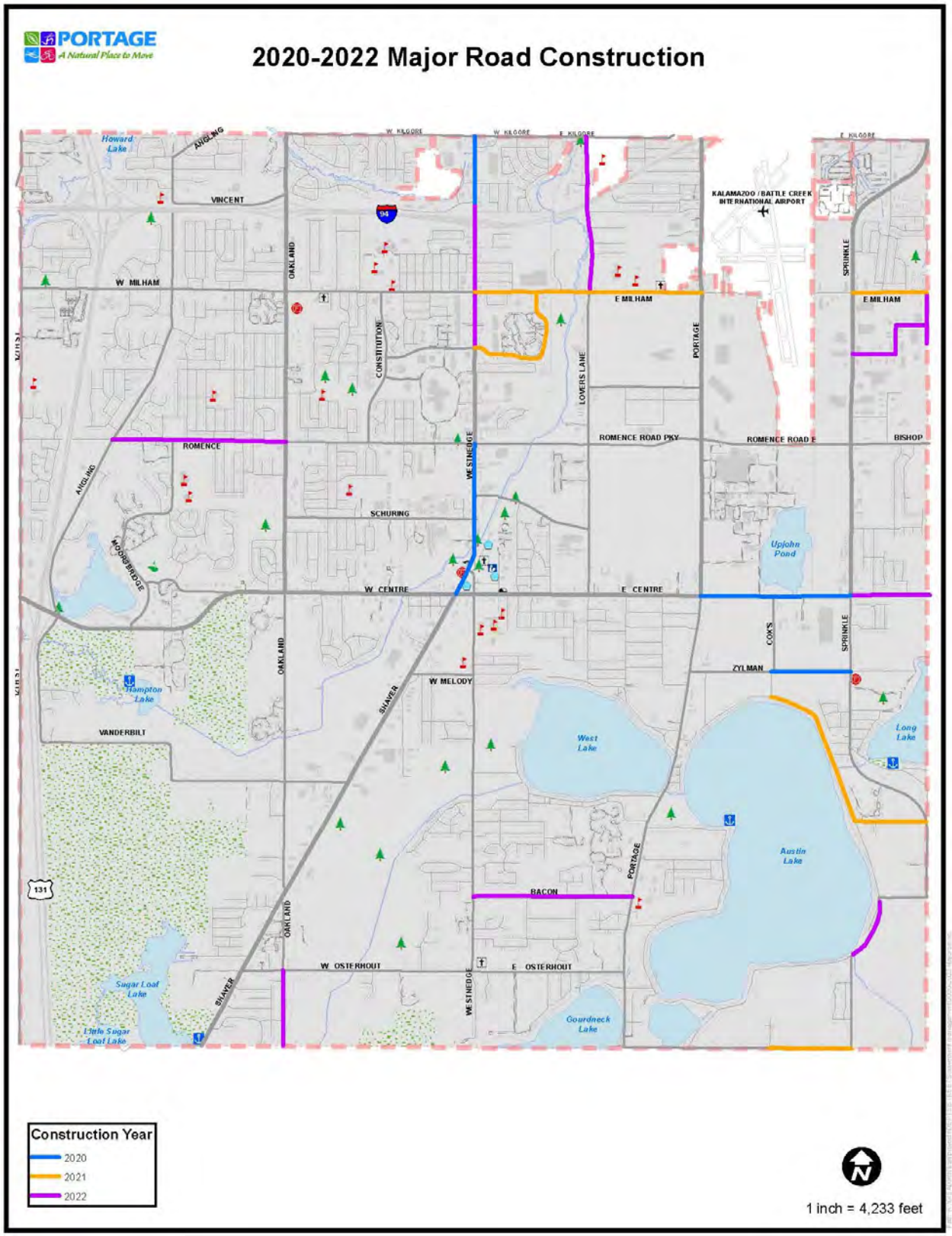


Figure 4: Map Showing Paved City Major Road Projects Planned for 2020 – 2022

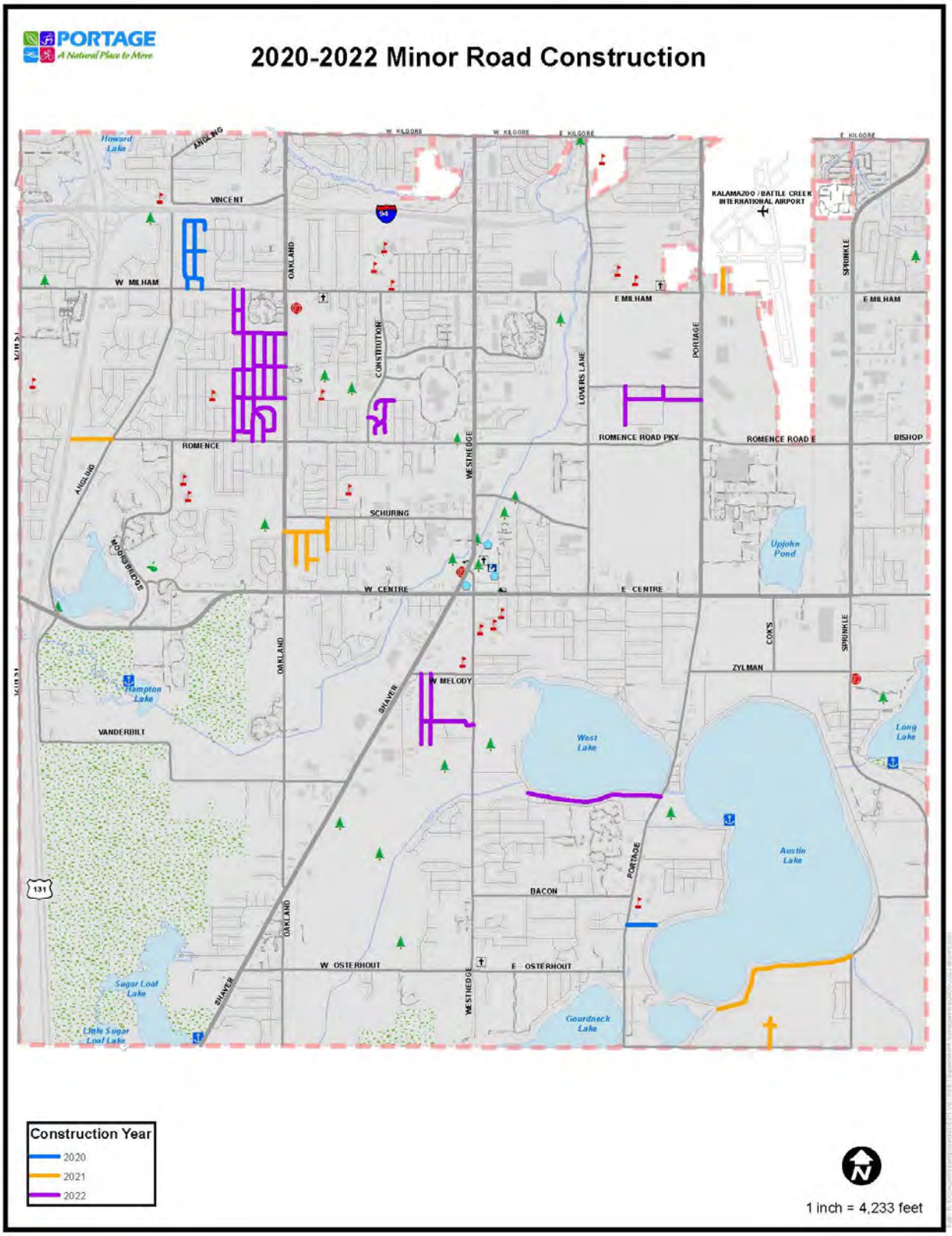


Figure 5: Map Showing Paved City Minor Road Projects Planned for 2020-2022

2. BRIDGE ASSETS

Inventory of Assets

Portage is responsible for three bridges that provide safe service to road users across the agency network. Portage 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.

The three Portage 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 Table 1. More information about each of these structures can be found in the Bridge Asset Management Plan in Appendix B, in the Portage MiBRIDGE database or by contacting the Portage Department of Transportation & Utilities.

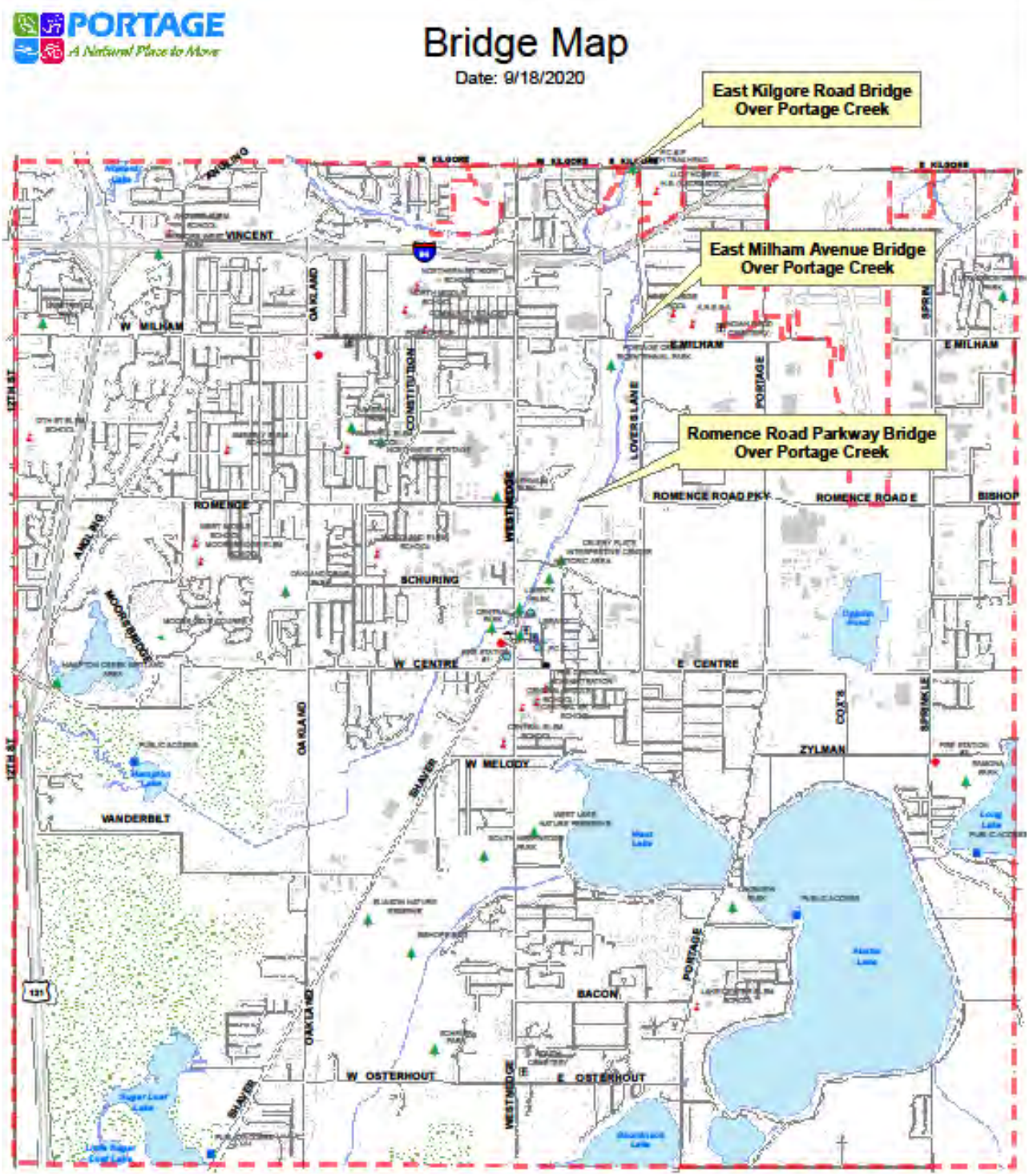


Figure 6: Map Illustrating Locations of Portage Bridge Assets

Bridge	Bridge Type	Year Built	Total Deck Area (sq ft)	Condition: Structurally Deficient, Posted, or Closed			2019 Condition		
				Structurally Deficient	Posted	Closed	Poor	Fair	Good
ROMENCE ROAD	Concrete Box Beam	1992	4,862		X				X
MILHAM AVE	Concrete Culvert	1990	1,318						X
KILGORE ROAD	Concrete Culvert	2013	2,428						X

Table 1: Type, Size, and Condition of Portage Bridge Assets

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 the Portage bridge network based on the NBIS is three structures rated good.

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. Portage has one structure that is 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. Portage does not have any structures that are closed.

The goal of the program is the preservation and safety of the Portage bridge network.

Programmed/Funded Projects and Planned Projects

Portage will budget $7,500 annually in funding for the years 2021-2025. Preventive maintenance is a more effective use of these funds than the costly alternative of major rehabilitation or replacement. Since Portage 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 up to $7,500 per year for the next five years on preventive maintenance of bridges. By performing the aforementioned preventive maintenance and replacement of bridge structures, Portage will achieve its goal of keeping its overall bridge network at the same condition.

Table 2 illustrates the programmed/funded projects that will be undertaken in order to achieve the goal for Portage. These programmed/funded projects are juxtaposed with priority projects that remain unfunded.

Strategy	2020	2021	2022	2023	2024
New	$0	$0	$0	$0	$0
Replacement	$0	$0	$0	$0	$0
Rehabilitation	$0	$0	$0	$0	$0
Scheduled Maintenance	$2,500	$2,500	$2,500	$2,500	$2,500
Preventive Maintenance	$5,000	$5,000	$5,000	$5,000	$5,000

Table 2: Cost Projection

3. CULVERT ASSETS

Inventory of Assets

Portage tracks inventory and condition data of its culvert assets. Portage has inventoried 164 culverts within the city. Portage owns and maintains 91 culverts, 10 culverts are under the jurisdiction of the Road Commission of Kalamazoo County and 63 are private culverts. Of the inventoried culverts, Portage has 67 culverts rated good, 86 culverts rated fair and 11 culverts not rated based on the culvert rating system as discussed further in the *Culvert Asset Management Plan Supplement* in Appendix C. The inspection form used to rate culverts is also included in Appendix C.

More detail about these culvert assets can be found in the Portage Roadsoft database or by contacting Portage.

Goals

The goal of the Portage asset management program is the preservation of its culvert network. Portage is responsible for preserving 91 culverts in the City of Portage.

Planned Projects

Portage policy is to replace or repair culvert assets concurrent with projects affecting road segments carried by the particular culverts. Portage also includes culvert assets in scheduled maintenance projects affecting road segments carried by the particular culverts. Portage has budgeted for the inspection of 18 culverts on major streets in the fall of 2021.

4. TRAFFIC SIGNAL ASSETS

Inventory of Assets

Portage tracks inventory data for traffic signals. Portage has inventoried 65 traffic signals within the City of Portage, of which 54 are owned and maintained by Portage. The other traffic signals are owned and maintained by MDOT (4), RCKC (5) and the City of Kalamazoo (2).

More detail about these traffic signal assets can be obtained by contacting the Portage Department of Transportation & Utilities.

Goals

The goal of Portage's asset management program is the preservation of its traffic signals. Portage is responsible for maintaining 54 traffic signals. Portage contracts out inspections on all traffic signals and the complete maintenance and upkeep of the city's traffic signal system annually. Maintenance goals include the following:

- All signal lenses and reflectors are cleaned and incandescent signal lamps replaced at least twice annually
- All cable clamps, bracket and other equipment used to hold signals, controllers, messenger cables, mast arms or signs in place shall be inspected annually
- The height of signals shall be measured at least once a year to insure all signals are at least sixteen feet in height above roadway
- Inspect damaged or worn visors on internally illuminated case signs and pedestrian signals annually and replace as needed
- Inspect and realign twisted vehicular signal heads, pedestrian signal heads, case signs, flashing beacons, speed feedback signs and overhead signs annually or as required by severe weather
- Inspect permanent traffic count stations and provide traffic count data annually
- Inspect elbow covers or conduit, steel pole hand-hole cover plates and hand-hole rings and covers annually and replace as needed
- Inspect steel pole caps, pedestal caps, weather heads and risers annually and tighten/align as needed
- Conduct routine tests for conflict monitors in service
- Conduct routine maintenance of speed feedback signs including solar panel clean up
- Conduct routine maintenance/testing of fiber optic cables, switches, video encoders, media converters traffic operation software, KITS software, video monitoring software, video, data and back-up servers and traffic operation center equipment
- Voltage checks on each signalized intersection shall be made every six months

Planned Projects

Portage's policy is to evaluate traffic signal assets based on condition assessment for replacement or repair during any reconstruction or rehabilitation 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. Portage adheres to regular maintenance and servicing policies outlined in the Michigan Manual of Uniform Traffic Control Devices (MMUTCD). The life of a traffic signal is approximately 20 years. Portage budgets to replace two traffic signals annually.

5. FINANCIAL RESOURCES

Public entities must balance the quality and extent of services provided with the tax resources provided by citizens and businesses, all while maximizing how efficiently funds are used. Therefore, Portage 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.

Anticipated Revenues & Expenses

Portage receives funding from the following sources:

- **State funds** – The principal source of Portage 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. Examples of state grants include local bridge grants and economic development 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, Transportation Economic Development Fund (TEDF), and local bridge program.
- **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 the local government. Examples of contributions from local units include special assessments; bond and note proceeds; 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. Portage has local tax millages in its road-funding budget. Local tax millages are used to create the "Complete Streets" program that repairs asphalt streets, curbs, sidewalks, storm water drainage and pavement markings.
- **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.

Portage 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.
- **Preservation and Structural Improvement Funds** – Preservation and structural improvements are activities undertaken to preserve the integrity of the existing roadway system. 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. Preventive maintenance activities are planned strategies 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.
- **Winter Maintenance Funds** – Expenditures for snow and ice control.
- **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.

6. RISK OF FAILURE ANALYSIS

Transportation infrastructure is designed to be resilient. The system of interconnecting roads and bridges maintained by Portage 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

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. Portage communicates with both public and private infrastructure owners to coordinate work in the following ways:

- Roads which are in poor condition that have a subsurface infrastructure project planned which will destroy more than half the lane will be rehabilitated or reconstructed full lane width.
- Subsurface infrastructure projects which will cause damage to pavements in good condition will be delayed as long as possible or will consider methods that do not require pavement cuts. The city has a policy where newly resurfaced roadways cannot be cut within 5 years of resurfacing except for emergency utility repairs, or in the case of new development, the entire width of the lane disturbed is resurfaced.
- Subsurface utilities not owned by the city are directed to be installed within the greenspace outside the roadway to avoid road disruption as much as possible.
- Subsurface utility projects will be coordinated with both public and private ownership to allow all underground utility assets to be upgraded in same project.
- Coordination with the RCKC for street and traffic signal improvement projects.
- Coordination with the MDOT for street, freeway interchange and traffic signal improvement projects.
- Coordination with the City of Kalamazoo for street and water main projects.
- Coordination with the Kalamazoo Area Transportation Study for major street projects that would include planning, funding, traffic control, and PASER updates.
- Coordination with Metro Transit for the placement of bus routes and bus passenger pickup points.
- Coordination with Portage Public Schools to ensure signage, lighting, sidewalks and bus routes are established for safe transportation of school children.

COORDINATED PLANNING

Portage coordinates with multiple agencies that maintain drinking water, sanitary, and storm sewer assets in addition to transportation assets. Portage follows an asset management process for all of its assets by coordinating the upgrade, maintenance, and operation of all major assets.

Planned projects for sub-surface infrastructure that Portage owns are listed in the following asset management plans: water system asset management plan, and wastewater system asset management plan. These two sub-surface utility plans are coordinated with the transportation infrastructure plans to maximize value and minimize service disruptions and cost to the public.

8. PROOF OF ACCEPTANCE

PUBLIC ACT 325

CERTIFICATION OF TRANSPORTATION ASSET MANAGEMENT PLAN

Certification Year: _____

Local Road-owning Agency Name: _____

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.

Appendix A

City of Portage
2020 Pavement
Asset Management Plan

Prepared by:

Department of Transportation & Utilities
Jamie Harmon, Assistant City Engineer

Department of Public Works
Ray Waurio, Deputy Director

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EXECUTIVE SUMMARY

As conduits for commerce and connections to vital services, roadways 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. City of Portage (Portage) 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 residents and businesses. The cost of building and maintaining roadways, 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 is intended to report on how Portage is meeting its obligations to maintain the public assets for which it is responsible.

This plan provides an overview of Portage road assets and conditions, and explains how Portage works to maintain and improve the overall condition of those assets. These explanations can help answer the following questions:

- What kinds of road assets Portage has in its jurisdiction, who owns them and the different options for maintaining these assets.
- What tools and processes Portage uses to track and manage road assets and funds.
- What condition Portage 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 normal life cycle of Portage road assets.
- How changes in funding levels can affect the overall condition of all of Portage road assets.

Portage maintains 220.96 centerline of roads. This road network can be divided into city major and city minor networks based on the different factors these roads have that influence asset management decisions.

An asset management plan is required by Michigan Public Act 325 of 2018, and this document represents fulfillment of obligations towards meeting these requirements. The Portage asset management plan demonstrates responsible use of public funds by providing elected and appointed officials as well as the general public with inventory and condition information of Portage road assets, and gives City Council the information needed 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”. 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). Portage 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.

Portage 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. Portage is responsible for maintaining and operating over 220 centerline miles of roads.

This plan outlines how Portage 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 three years to reflect changes in road conditions, finances, and priorities.

Questions regarding the use or content of this plan should be directed to Ray Waurio at 7719 S. Westnedge Avenue, Portage, MI 49002 or at (269)-329-4430 and/or waurior@portagemi.gov. A copy of this plan can be viewed at www.portagemi.gov/301/transportation. Key terms used in the Portage plan are defined in the city’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 is a crucial starting point to understanding the rationale behind an asset management approach. The following section provides an introduction to pavements.

Pavement Introduction

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. All Portage roads are paved roads.

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, materials available, 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 pavement 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 tradeoffs for hard surface types include:

- **Concrete pavement:** Concrete pavement, which is sometimes called a rigid pavement, is durable and has a long service life 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 pavements:** 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 it would need 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 with stone chips spread on top (not to be confused with a chip seal treatment over HMA pavement). This type of pavement relies on the gravel layer to provide structure to support traffic. 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 and does not last as long as HMA pavement. However, sealcoat pavement 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 a road—the better the pavement condition, the more satisfied users are with the service provided 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 a day-to-day, regularly-scheduled, low-cost activity applied to "good" roads to prevent water or debris intrusion. 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. Portage 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

Portage 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. Portage 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/0,7308,7-356-82158_82627---,00.html.

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 by Portage is consistent with data collected statewide. PASER data is collected

using trained inspectors in a slow-moving vehicle using GPS-enabled data collection software provided to road-owning agencies at no cost. 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 where 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 are 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 PPM. 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 likened 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.

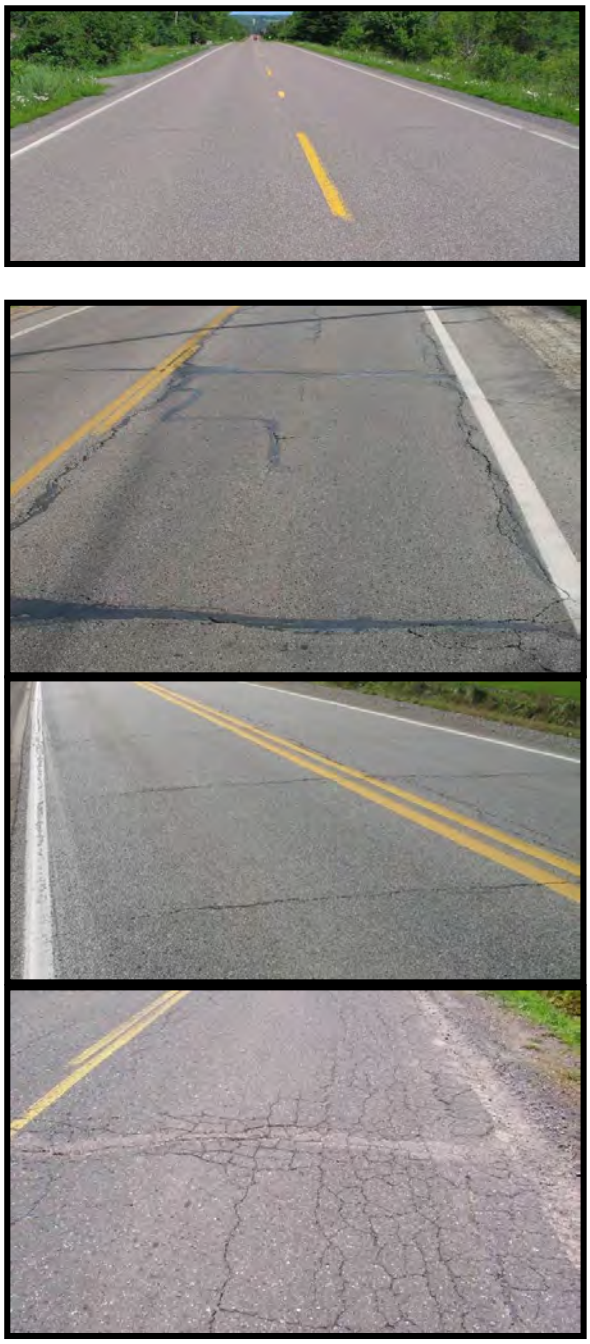


Figure 1: *Top image* – PASER 8 road that is considered "good" by the TAMC exhibit only minor defects. *Second image* – PASER 5 road that is considered "fair" by the TAMC. Exhibiting structural soundness but could benefit from CPM. *Third image* – PASER 6 road that is considered "fair" by the TAMC. *Bottom image* – 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 definitions above. 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 may not share the same 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 (unless unforeseen circumstances arise whereas the collection of PASER data is not possible). The TAMC dictates and funds the required training and the format for this collection, and it shares the data regionally and statewide. In addition, Portage collects 100 percent of its paved non-federal-aid-eligible network using contractors or city staff and resources.

Pavement Treatments

Selection of repair treatments for roads aims to balance costs, benefits, and road life expectancy. All pavements can be 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 Portage—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 2). Every pavement has to eventually be reconstructed and it 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 most disruptive to regular traffic patterns. Reconstructed pavement will subsequently require one or more of the previous maintenance treatments to maximize service life and performance. A reconstructed road lasts approximately 15 years and costs $250,000 per lane mile for major streets.

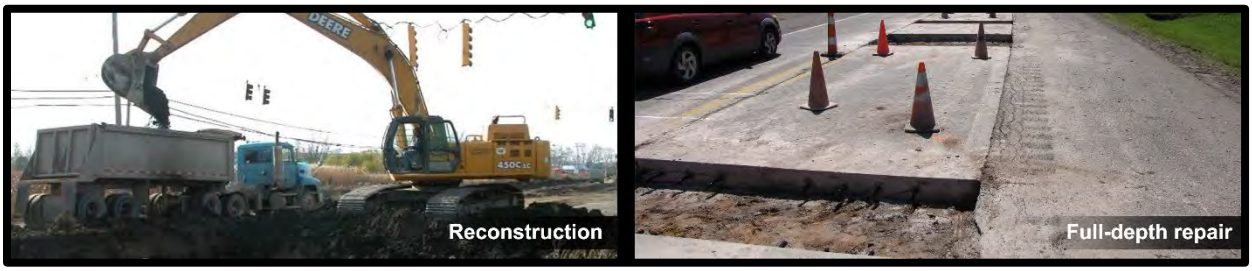


Figure 2: Examples of reconstruction treatments—(left) reconstructing a road and (right) road prepared for full-depth repair.

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 3). The following descriptions outline the main structural improvement treatments used by Portage.

Figure 3: 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 3). 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 from five to ten years and costs $50,000 to $100,000 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 existing curb and gutter. Milling adds $10,000 per lane mile to the HMA overlay cost.

Crush and Shape

During a crush and shape treatment, the existing pavement and base are pulverized and then the road surface is reshaped to correct imperfections in the road's profile (Figure 3). An additional layer of gravel is often added along with a new wearing surface such as an HMA overlay or chip seal. Additional gravel and an HMA overlay give an increase in the pavements structural capacity. This treatment is usually done on rural roads with severe structural distress; Adding gravel and a wearing surface makes it more prohibitive for urban roads if the curb and gutter are not raised. Crush and shape treatments last approximately 14 years and cost $150,000 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 that 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 4). The purpose of the following CPM treatments 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 that can be applied.

Figure 4: 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 4). Portage seals pavement cracks early in the life of the pavement to keep it functioning as strong as it can and for as long as it can. This can be noted on new pavement applications where the joints are sealed to prolong the pavement life. Crack sealing lasts approximately two years and costs $4,000 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 Portage looks at what crack sealing costs per year of the treatment's life.

Note: Changes in the city's "fair/yellow" and "good/green" roads PASER ratings is due to the implementation of the Crack Sealing Program on all completed road projects within one year of completion to prolong the life of the pavement, which automatically changes a road's PASER rating from a 9 or 10 after resurfacing to a 7.

Fog Seal

Fog sealing sprays a liquid asphalt coating onto the entire pavement surface to fill hairline cracks and prevent damage from sunlight (Figure 4). Fog seals are best for good to very good pavements and last approximately two years at a cost of $1,000 per lane mile.

Chip Seal

A chip seal, also known as a sealcoat, is a two-part treatment that starts with liquid asphalt sprayed onto the old pavement surface followed by a single layer of small stone chips spread onto the wet liquid asphalt layer (Figure 4). 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 to prevent further surface deterioration. Chip seals are best applied to pavements that are not exhibiting problems with strength, and their purpose is to help preserve that strength. Chipseal treatments last approximately five years and cost $12,000 per lane mile. In 2018, Portage chip sealed East Shore Drive from Mandigo Avenue to Woodhams Avenue, as part of a joint government project with the Road Commission of Kalamazoo County.

Slurry Seal/Microsurface

The purpose of a slurry seal or microsurface is to protect existing pavement from being damaged by water and sunlight. The primary ingredients are liquid asphalt (slurry seal) or modified liquid asphalt (microsurface), small stones, water and portland cement applied in a very thin (less than a half an inch) layer (Figure 4). The main difference between a slurry seal and a microsurface is that the modified liquid asphalt used in microsurfacing provides different curing and durability properties, which allows microsurfacing to be used for filling pavement ruts. Since the application is very thin, these treatments do not add any strength to the pavement and only serves to protect the pavement's existing strength by sealing the pavement from sunlight and water damage. Slurry seal and microsurface treatments work best when applied before cracks are too wide and too numerous. A slurry seal treatment lasts approximately four years and costs $20,000 per lane mile, while a microsurface treatment tends to last for seven years and costs $25,000 per lane mile.

Innovative Treatments

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

Hot in Place Asphalt

The paving contractor in this innovative pavement recycling treatment heats and mills the existing road surface, adds new asphalt binding agent and then reapplies the material onto the street. This paving technique was applied to West Romence Road from Oakland Avenue to Angling Road in 2009.

Geotextile Fabric

During the street paving process, a geotextile fabric can be added to the road surface before the final asphalt layer is applied. The fabric is designed to reduce street surface cracking. This fabric techniques has been applied to the following streets:

- East Romence Road Parkway from Portage Road to Lovers Lane
- Lovers Lane from (East Centre Avenue to Forest Drive
- West Romence Road from South Westnedge Avenue to Constitution
- Angling Road from West Centre Avenue to Squire Heath Lane

Onyx Seal Coating

This pavement preservation treatment seals oxidized asphalt pavement and was applied to Ramona Avenue from Lovers Lane to Portage Road in 2016. The mastic surface treatment is a mixture of polymers modified asphalt emulsion, fine aggregates, dark color enhancers and breaking/setting additives.

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 invest on routine maintenance and CPM treatments first. Then, when all maintenance project candidates are treated, reconstruction and rehabilitation can be performed as funds become available. This strategy is called a “mix-of-fixes” approach to managing pavements.

1. PAVEMENT ASSETS

Building a mile of new road can cost more than $1 million due to the large volume of materials and equipment that is 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 the need of each road-mile 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 which is responsible for duties such as planning and funding construction projects, 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 take advantage of those efficiencies.

Portage is responsible for a total of 220.96 centerline miles of public roads.

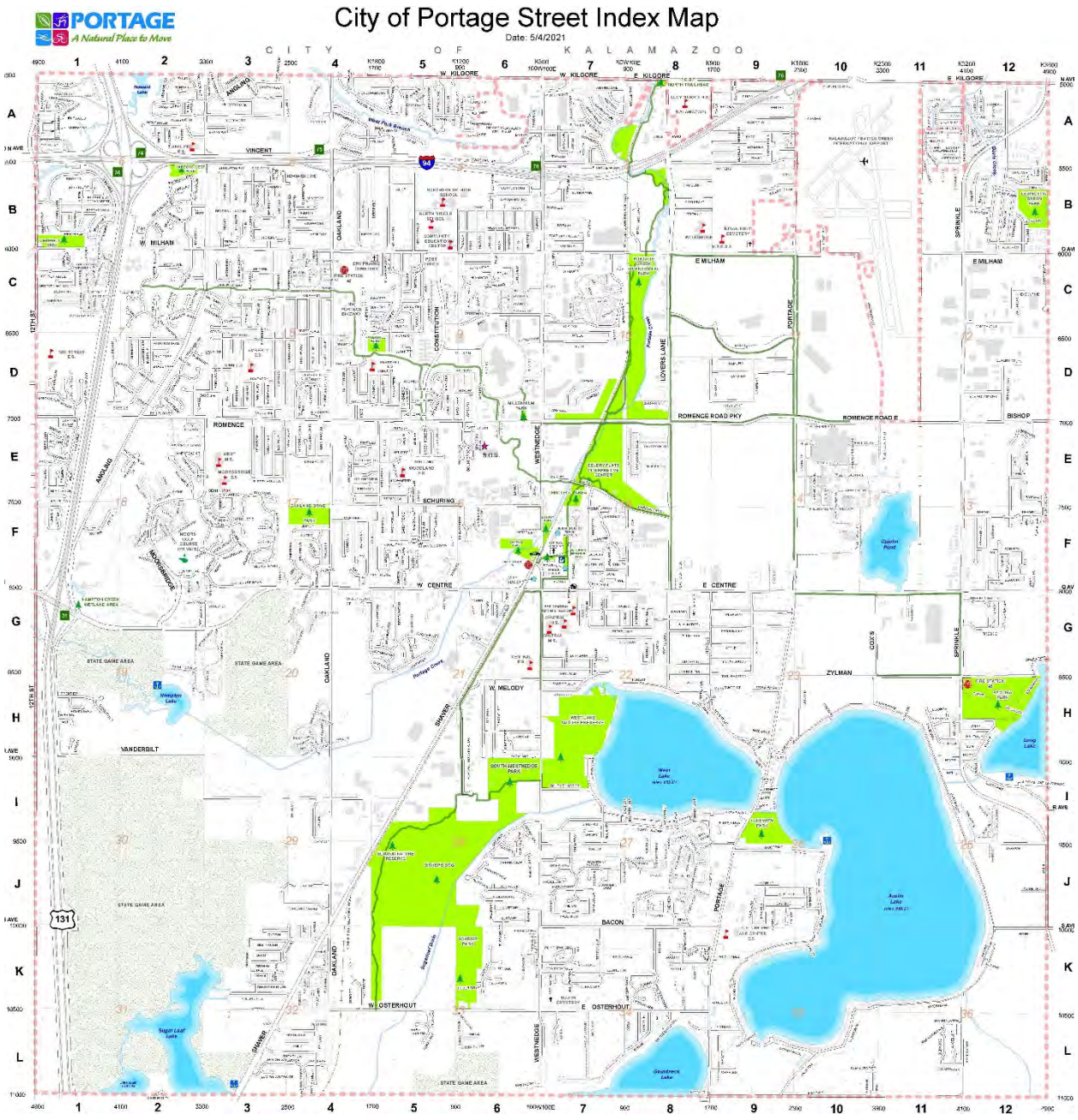


Figure 5: Map Showing Location of Portage's Street Network

The entire Portage street system is shown in figure 5 and a full size version of this map with the street legend is included in Appendix A. A total of 72.04 miles of major roads are shown in Figure 6. Minor roads make up 148.92 miles of roads as shown in Figure 7. There are 19.74 miles of roadways in Portage belonging to the National Highway System (NHS) and are shown in Figure 8.

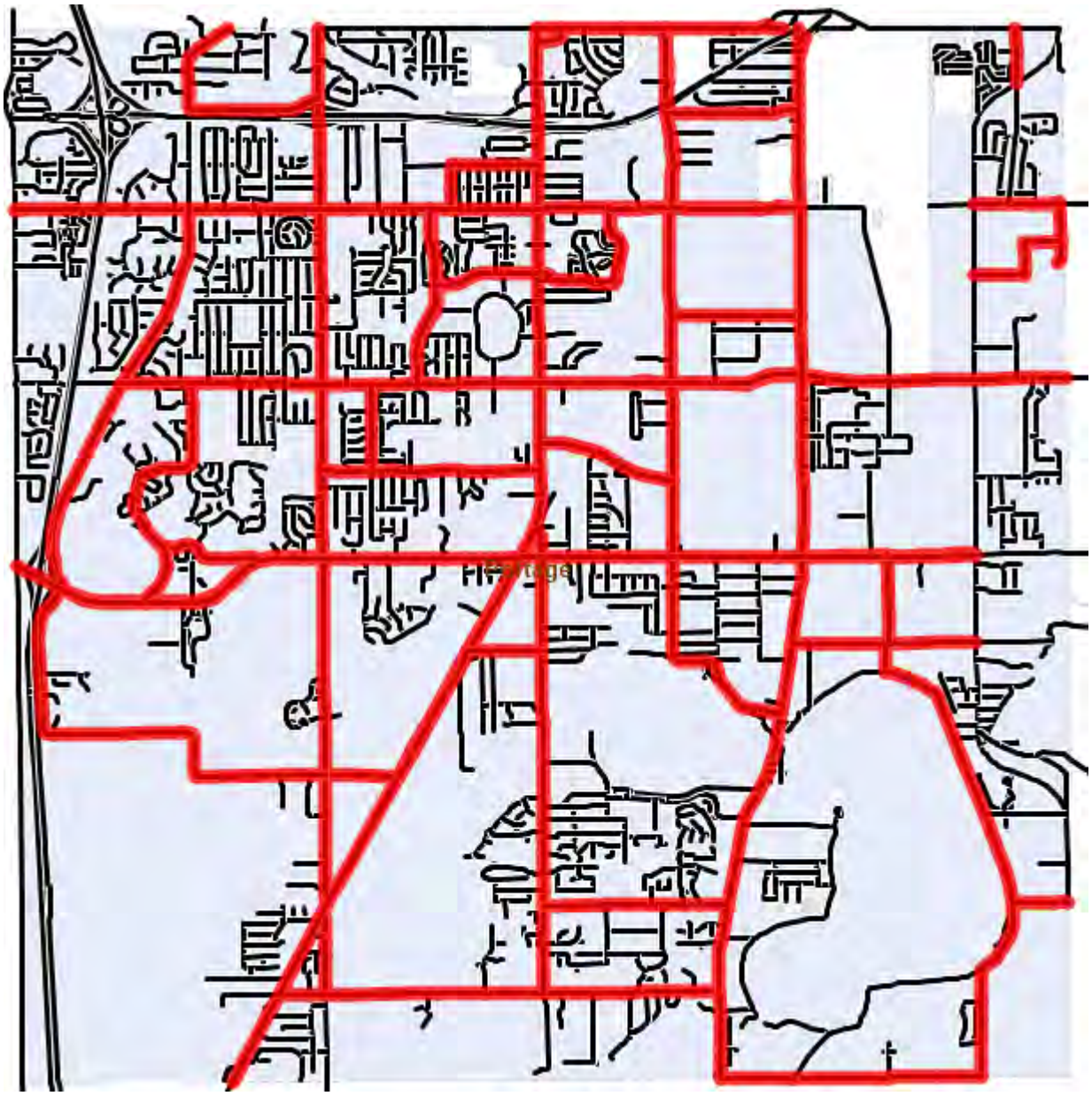


Figure 6: Map showing Location of Portage's Major Roads

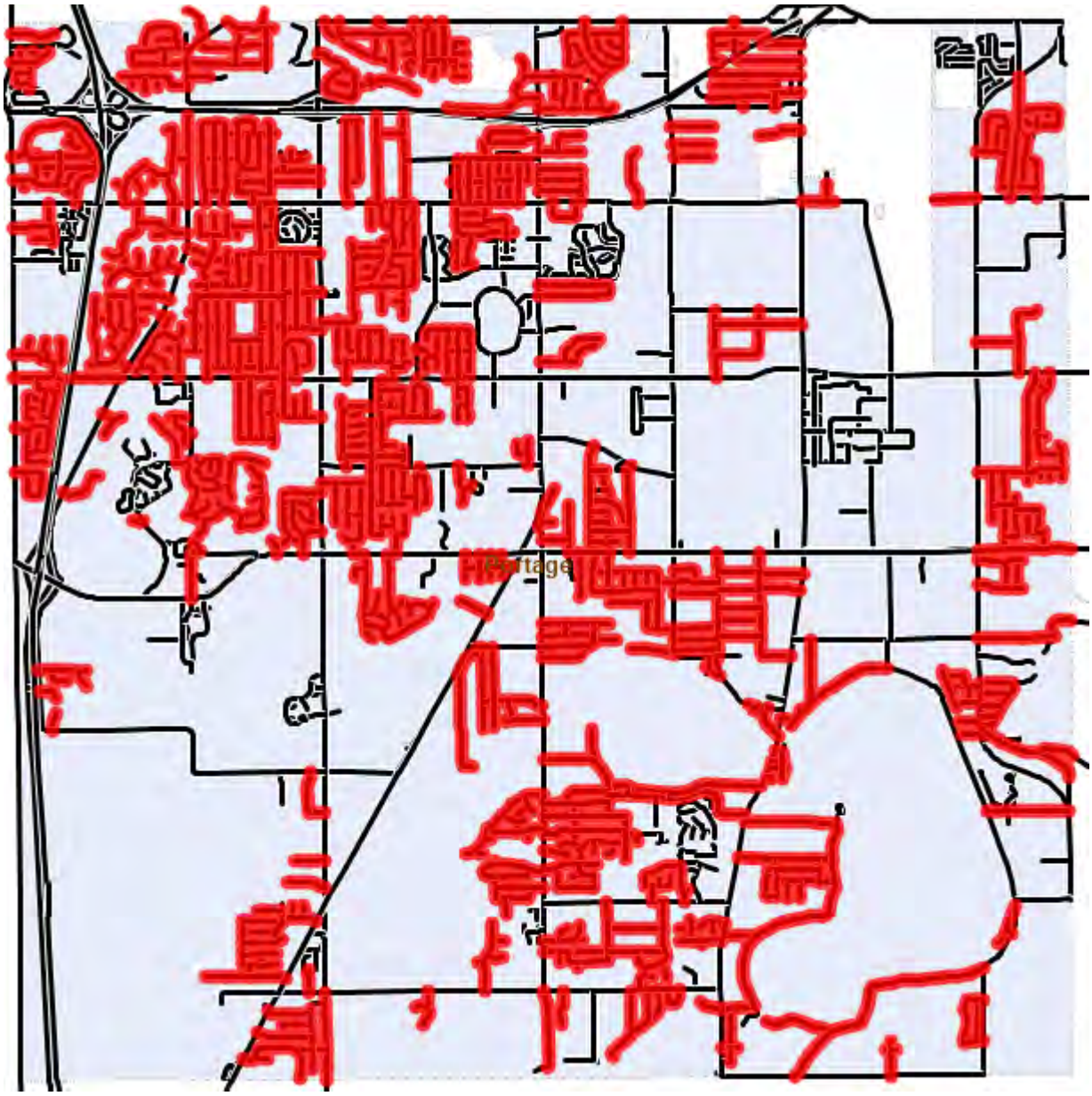


Figure 7: Map Showing Location of Portage's Minor Roads

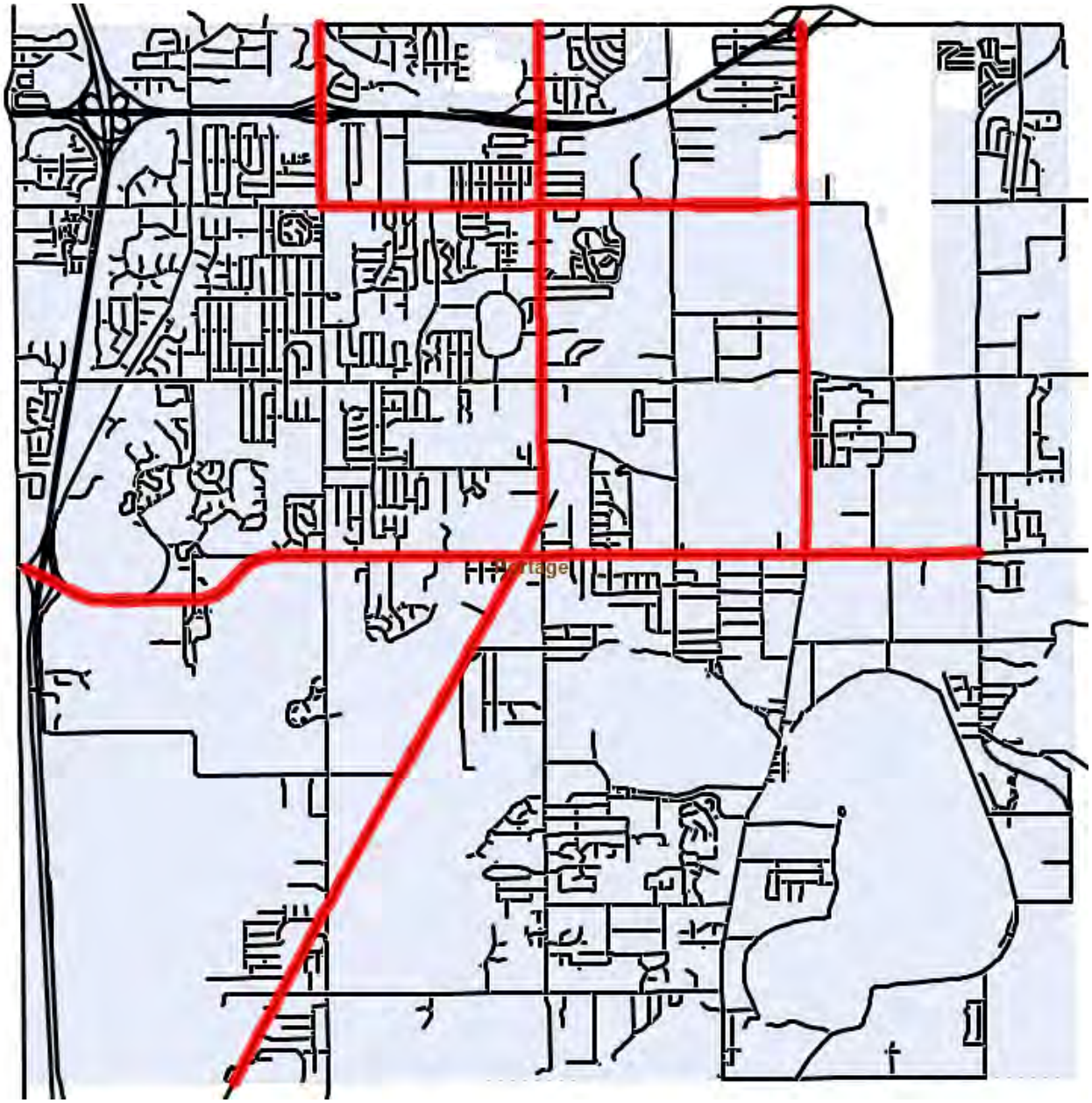


Figure 8: Map Showing Location of Portage's Roads in the National Highway System

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 Portage as either city major or city minor roads. State statute prioritizes expenditures on the city major road network.

Figure 9 illustrates the percentage of roads owned by Portage that are classified as city major and city minor roads.

Figure 9: Percentage of City Major and City Minor Roads for Portage.

As previously stated, Portage manages 19.74 miles of roads that are part of the NHS, which are roads that are critical to the nation's economy, defense, and mobility. 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, Portage manages a percentage of those roads located in its jurisdiction, as shown in Figure 8. All NHS roads maintained by Portage fall within the Portage major road network. The number of NHS miles compared to the entire Portage road network is shown in Figure 10 and a breakdown of PASER ratings of the NHS is shown in Figure 11.

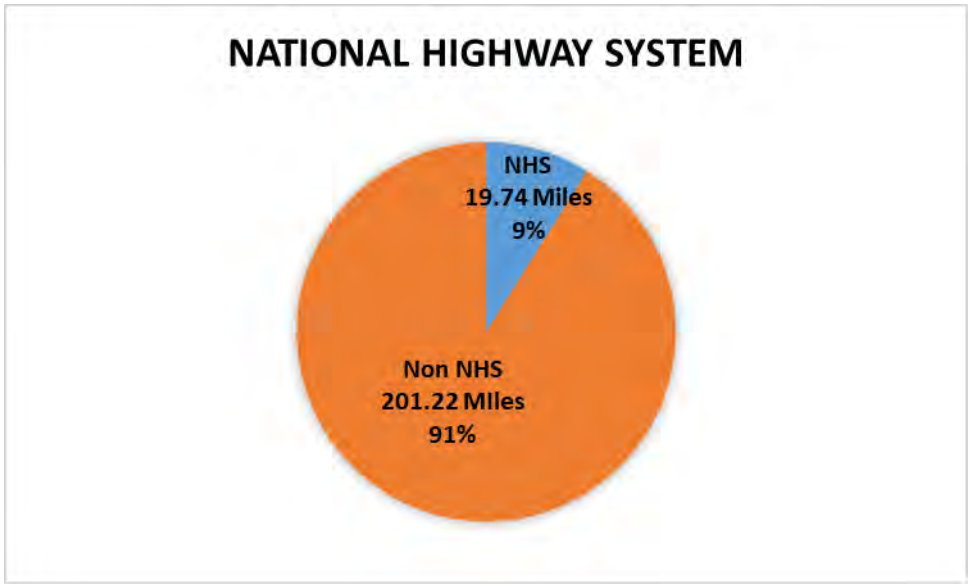


Figure 10: Miles of Roads in Portage that are Part of the National Highway System and Condition.

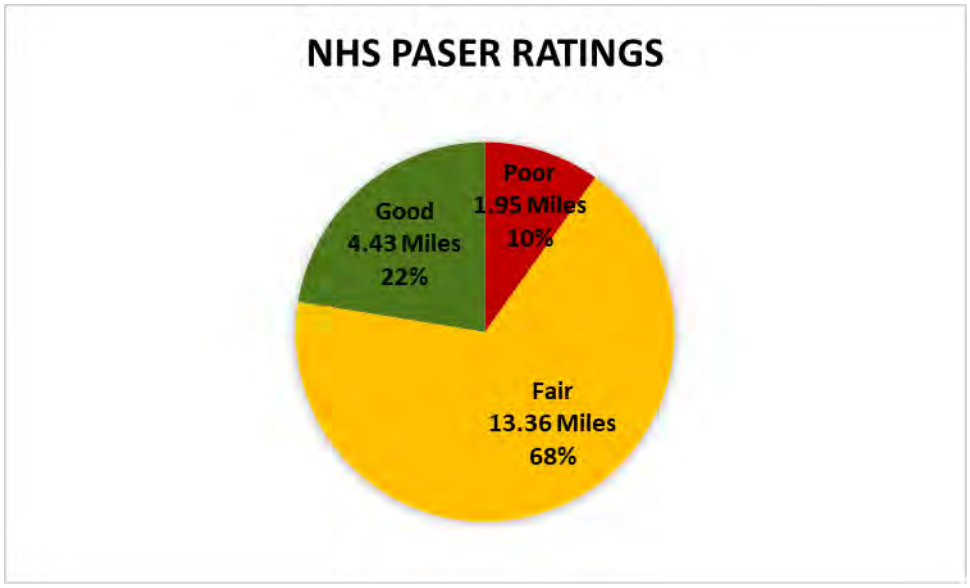


Figure 11: National Highway System Road Condition in Portage.

Types

The Portage street network is entirely asphalt. Factors influencing pavement type include 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 Pavement Introduction.

Locations

Locations and sizes of each asset can be found in the Portage Roadsoft database. For more detail, please contact the Portage Department of Public Works.

Condition

The road characteristic that drivers most readily notice is pavement condition. Pavement condition is a major factor in determining the most cost-effective treatment, be it routine maintenance, capital preventive maintenance, or structural improvement for a given section of pavement. Portage 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 Portage 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 and to determine if the condition of a road network 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.

Roads

Portage 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. As previously stated, Portage uses the PASER system, which has been adopted by the TAMC for measuring statewide road pavement conditions. 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 Pavement Introduction.

Portage collects 100 percent of road PASER condition every two years on all federal-aid-eligible roads in Michigan with partnership of the Kalamazoo Area Transportation Study. In addition, Portage collects 100 percent of its non-federal-aid-eligible network using its own staff and resources or contracted services.

A history of aggressive funding by Portage has led to a superior road network in Portage when compared to other Michigan communities. In addition, Portage residents approved a road millage for the funding of road reconstruction. It will be important to maintain an aggressive funding plan to ensure that street conditions continue to improve.

Figures 12 and 13 show the percentage of PASER ratings for Portage roads expressed in TAMC definition categories for the city major road network and the city minor road network. Portage considers road miles on the transition line between good and fair (PASER 8) and 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.

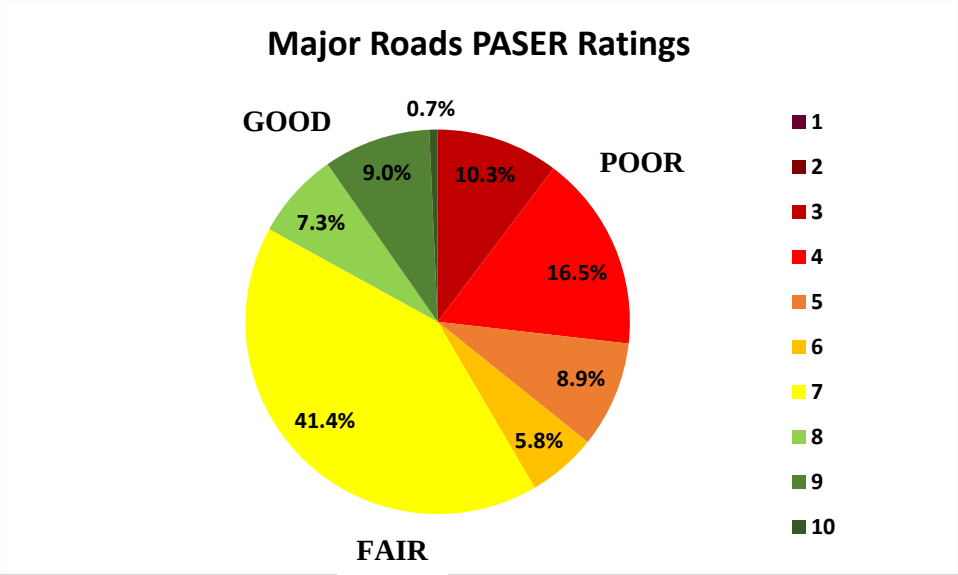


Figure 12: Portage city major road network conditions.

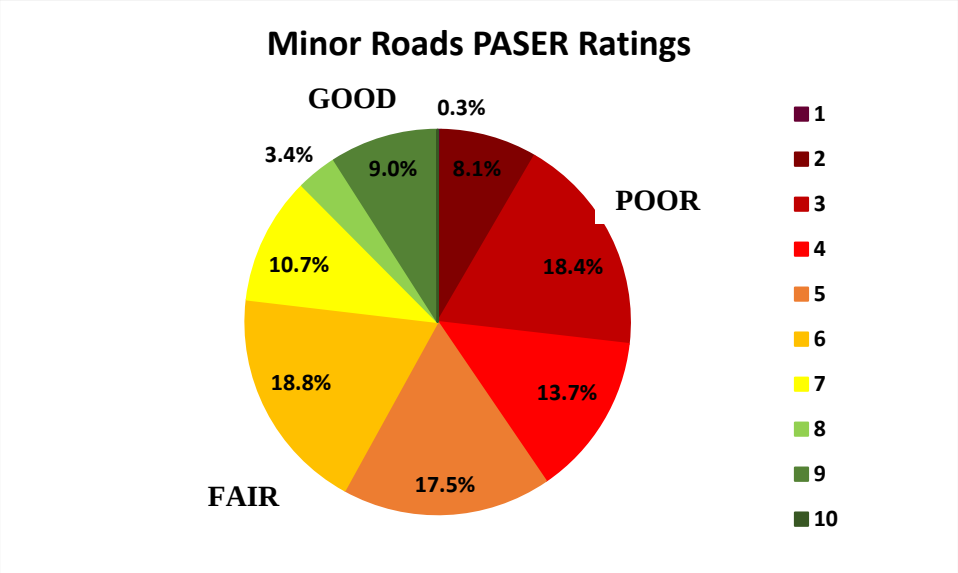


Figure 13: Portage city minor network conditions.

Trends of PASER ratings in the good, fair and poor categories from 2015 - 2019 with average PASER ratings are shown in Figure 14 for the major road network and Figure 15 for the minor road network. Changes in the city's fair and good roads PASER ratings is due to the implementation of the Crack Sealing Program on all completed road projects within one year of completion to prolong the life of the pavement. This action automatically lowers a road's PASER rating from a 9 or 10 after resurfacing to a 7. PASER ratings collected in 2021 and beyond will not penalize streets that are crack sealed following a project as a preventative maintenance measure to seal the pavement joints.

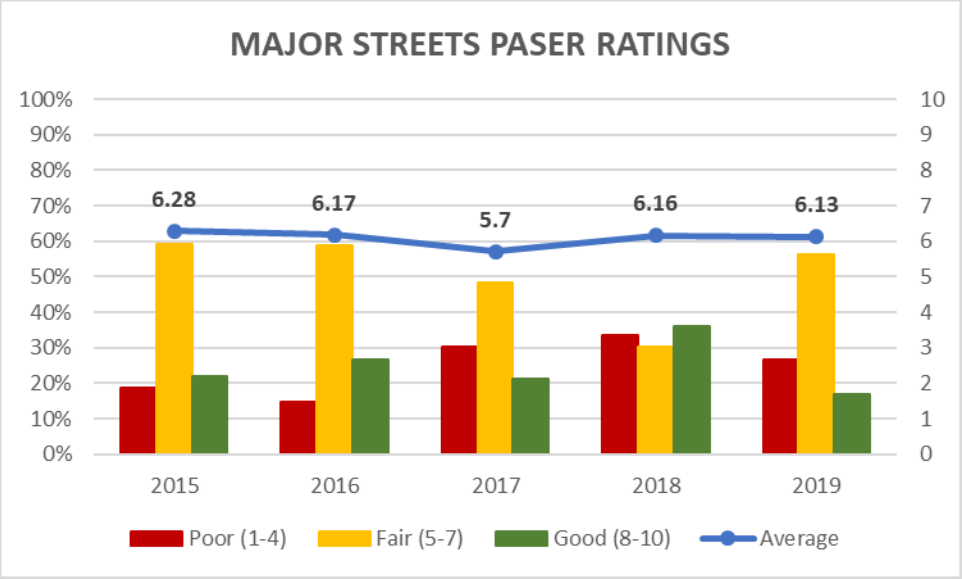


Figure 14: Portage Major Streets PASER Ratings

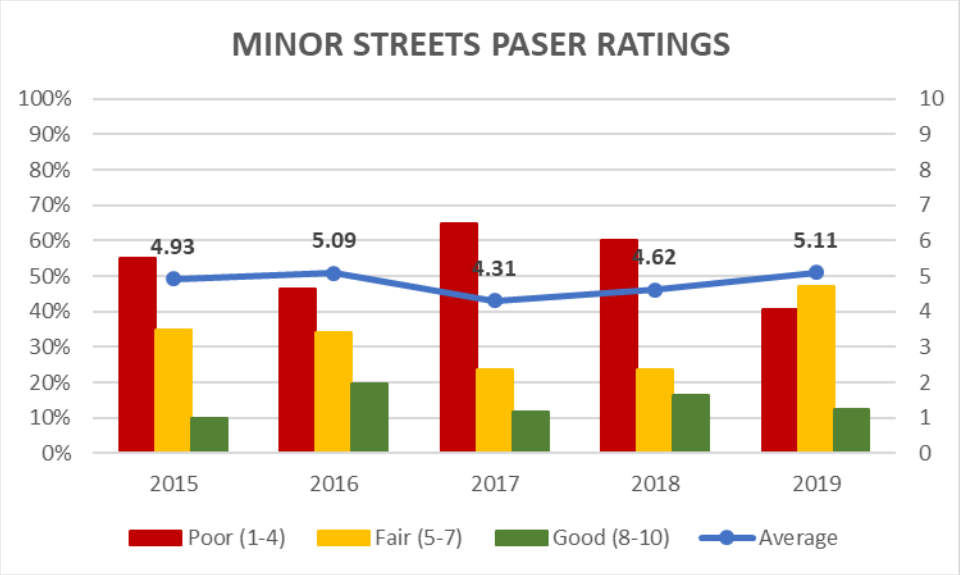


Figure 15: Portage Minor Streets PASER Ratings

An online version of the most recent PASER data is located at https://www.mcgi.state.mi.us/tamcMap/.

Figure 16 provides a map illustrating the geographic location of roads and their respective PASER condition.

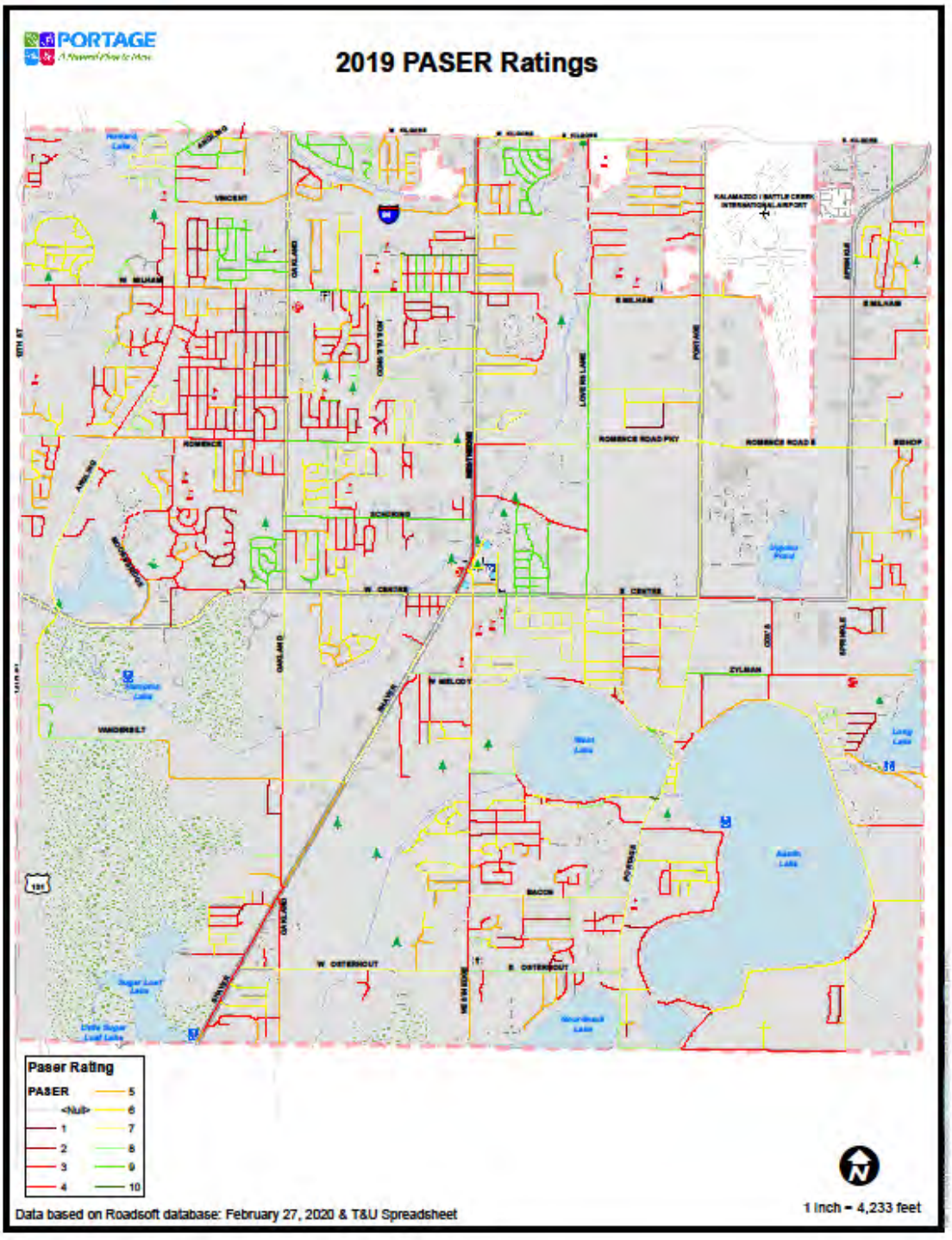


Figure 16: Portage 2019 PASER Ratings for Entire Network

City of Portage Street Network

Historically, the overall quality of Portage city major roads have been fairly steady, as can be observed in Figure 17, which shows the five-year trend and average PASER of the entire Portage road network. City streets are built at great cost and their decline can have reaching effects on business activity, property values and city operating expenditures. Deferring maintenance of such assets can also create significant unfunded liabilities. In general, street maintenance expenditures in constant dollars per mile should remain relatively stable. A declining trend in street maintenance expenditures in constant dollars per mile may be an early warning sign that the city's streets will begin to deteriorate. If the trend is allowed to persist, the deterioration will eventually cause an increase in maintenance expenditures.

Analysis: Maintenance expenditures for the city streets are dependent in large part on Act 51 revenue received from the State of Michigan. These revenues are relatively elastic with respect to economic fluctuations and may be impacted by the COVID-19 virus outbreak. Additional fluctuation in these expenditures is also dependent on winter weather experienced; the severity of the winter will directly affect the cost of snow removal.

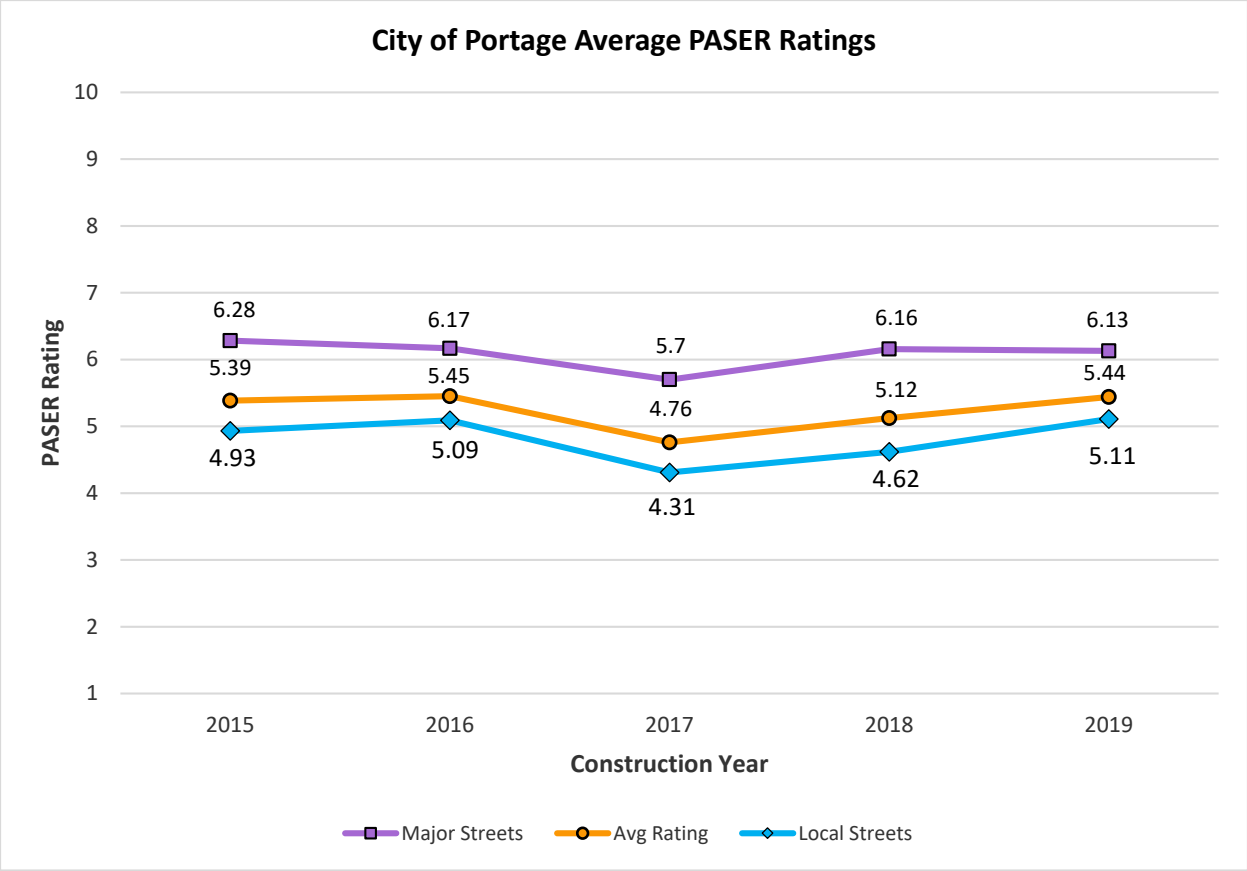
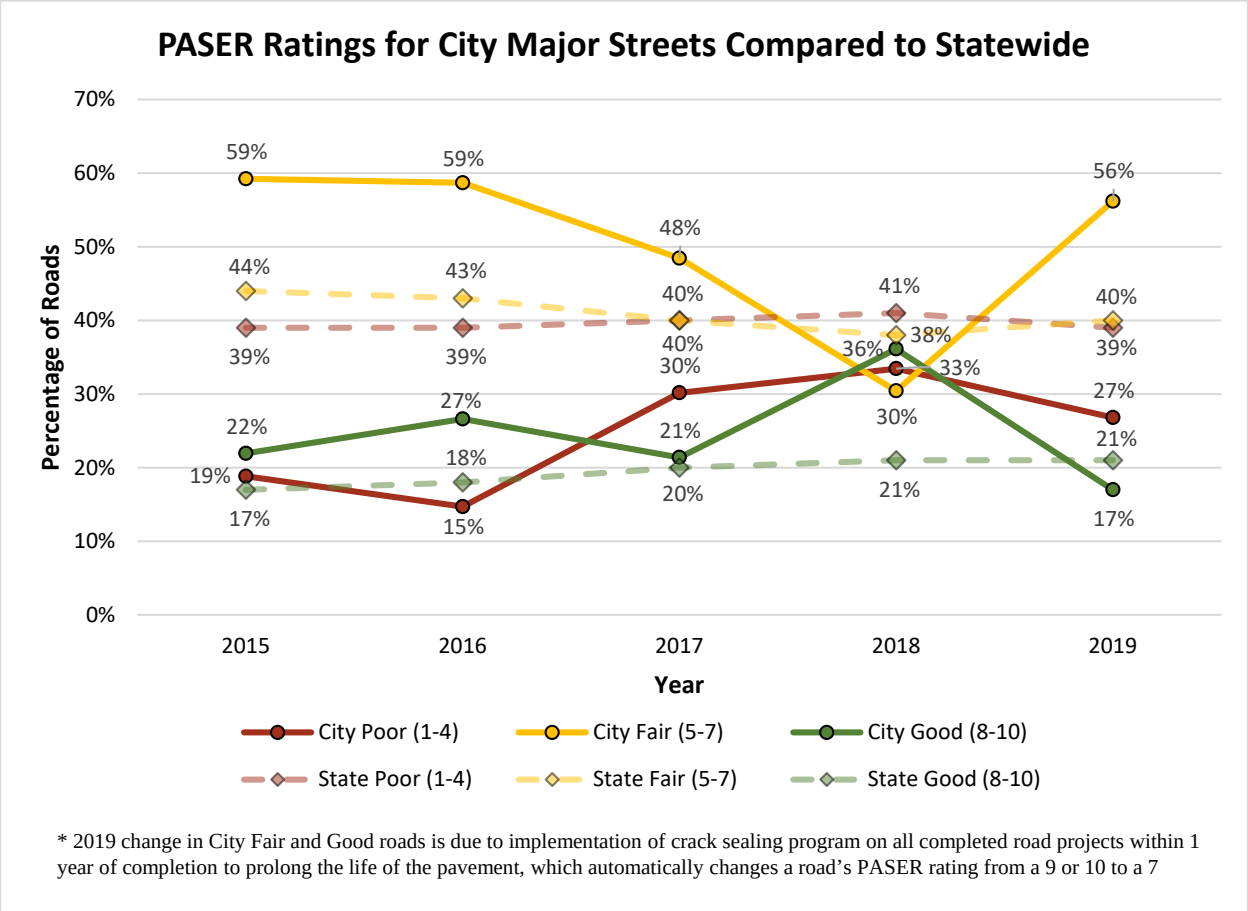


Figure 17: Historical Portage Road Network Condition Trend and Average

A comparison of Portage city major road condition trends with overall statewide condition trends for similarly classified roads is illustrated in Figure 18 and shows a different trend locally as compared to the state average.

During 2019, Portage had an average good rating of 17 percent as compared to the statewide average of 21 percent. For the fair rating, Portage scored 56 percent while the statewide average had a 40 percent rating. Finally, the poor rating for the Portage was 27 percent as compared to 39 percent scored by the state. The trend shows Portage placing a fair amount of money towards the improvement of major streets thus achieving better ratings than statewide major streets.



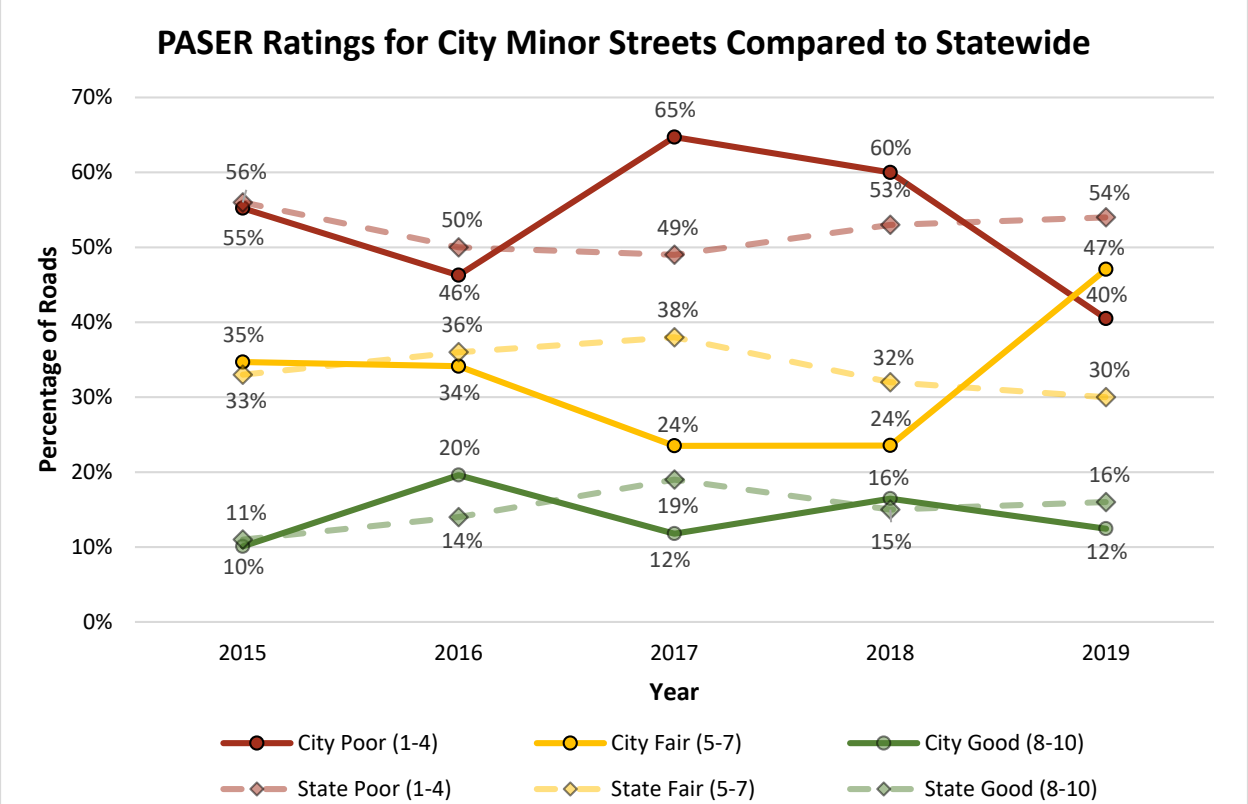
* 2019 change in City Fair and Good roads is due to implementation of crack sealing program on all completed road projects within 1 year of completion to prolong the life of the pavement, which automatically changes a road's PASER rating from a 9 or 10 to a 7

Figure 18: Historical Portage & Statewide Major Road Network Condition Trends

The overall quality of Portage city minor roads has been similar to the statewide minor roads. The city minor road network lacks a source of state and federal funding and therefore must be 100 percent supported locally. Figure 19 illustrates the condition of the city minor road network in Portage as compared to similar roads statewide.

Comparing Portage city minor road condition trends illustrated in Figure 19 with overall statewide condition trends for all city minor roads indicates a slightly better trend locally as compared to the rest of the state. During 2019, Portage had an average good rating of 12.5 percent as compared to the statewide average of 16 percent. For the fair rating, the Portage scored 47 percent while the statewide average had a 30 percent rating. Finally, the poor rating for the Portage was 40.5 percent as compared to 54 percent scored by the state.

The year-to-year variation in the city minor road network is likely because the city's minor road network is collected every 2 years and not annually like the city major road network.



* 2019 change in City Fair and Good roads is due to implementation of crack sealing program on all completed road projects within 1 year of completion to prolong the life of the pavement, which automatically changes a road's PASER rating from a 9 or 10 to a 7

Figure 19: Historical Portage & Statewide Minor Road Network Condition Trends

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, and traffic loading – all uncontrollable factors. Furthermore, the amount of repair work performed is directly tied to budget restrictions. In spite of 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.

Goals for City Major Roads

The overall goal for the Portage city major road network is to improve road conditions for all major roads by preventing its good and fair major roads from becoming poor and reducing the percentage of major roads in the poor category.

The Portage network-level pavement condition strategy for city major roads is:

- Crack seal all major roads with PASER rating 9 – 6 annually
- Microsurface projects on major roads with PASER rating of 7 – 6
- Mill and fill program used on major roads with PASER rating of 6 – 4
- Durapatch maintenance used on major roads with PASER rating of 4 – 2
- Pavement markings on all major roads applied annually
- Permanent signage replaced with all road reconstruction projects
- PASER ratings for all major roads collected annually

Goals for City Minor Roads

The overall goal for the Portage city minor road network is to improve road conditions for all minor roads by preventing its good and fair minor roads from becoming poor and reducing the percentage of minor roads in the poor category.

The Portage network-level pavement condition strategy for city minor roads is

- Crack seal all minor roads with PASER rating 9 – 6 annually
- Mill and fill program used on minor roads with PASER rating of 6 – 4
- Durapatch maintenance used on minor roads with PASER rating of 4 – 2
- Permanent signage replaced with all road reconstruction projects
- PASER ratings for all minor roads collected every two years

Rising construction costs and the addition of “Complete Streets” elements into local neighborhoods have resulted in a decreas in the number of streets resurfaced. The city minor road system is in need of increased funding to increase PASER ratings and decrease the number of city minor roads in the poor (PASER 4-1) category.

Maintenance Strategies

Roads age and deteriorate just like any other asset. All pavement types are damaged by water, traffic weight, freeze/thaw cycles and sunlight. To offset natural deterioration and normal wear and tear on the road, the city must complete treatment projects that either protect and/or add life to its pavements. The condition of the entire network depends on changes or preservation of individual road sections to which preservation treatments have been applied.

The city uses many types of repair treatments for its roads, each selected to balance cost, benefit and road life expectancy. Financial resources influence how much work can be accomplished across the network within agency budget and which treatments and strategies can be afforded.

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 *Pavement Introduction.*

Correlating with each PASER score are specific types of treatments best performed either to protect the pavement (capital preventive maintenance) or add strength back into the pavement (structural improvement). 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 as shown in Figures 20 and 21. 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, and utility projects play a role in project type selection. Completing a section of a neighborhood as part of the “Complete Streets” plan is also considered. This table should not be a substitute for engineering judgement.

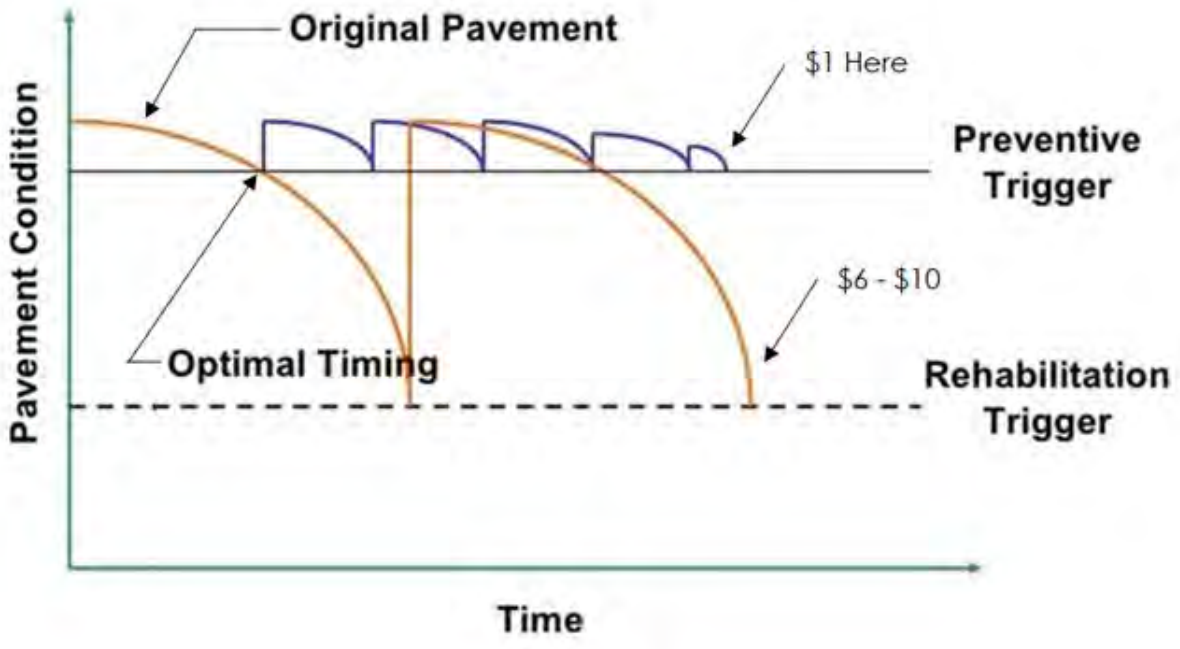


Figure 20: Pavement Condition vs. Time Chart

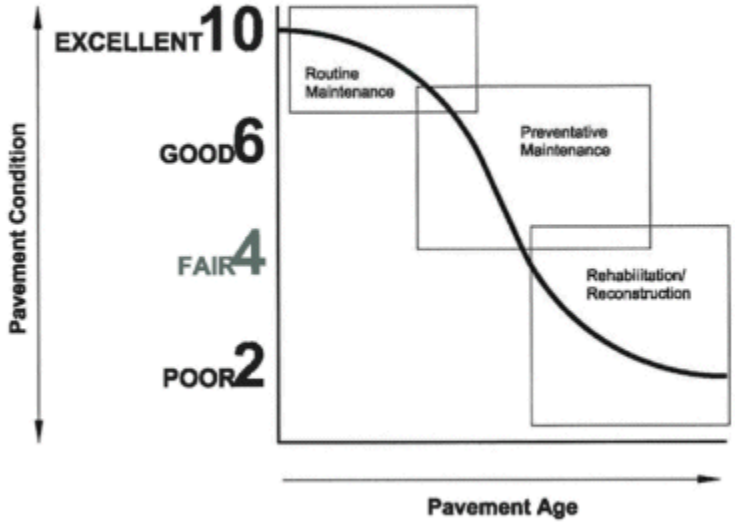


Figure 21: Pavement Condition vs. Pavement Age Chart

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

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

Planned Projects

Portage plans construction and maintenance projects several years in advance. A multi-year planning process is beneficial due to the time necessary to plan, design, and finance construction and maintenance projects. Furthermore, state and federal agency planning and programming requirements must be met prior to initiating 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 storm water discharges, coordination of utility upgrades, and 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 often require Portage to alter initial plans. Project planning information is used to predict the future condition of the road networks that Portage maintains.

For 2020-2022, Portage plans to perform City Major and City Minor projects, as shown on the following pages.

City Major Projects

Portage is currently planning the construction and maintenance projects listed in Appendix B for the city major road network. The locations of these projects for 2020, 2021 and 2022 are shown in Figure 22. The total cost of these projects is approximately $10,250,000.

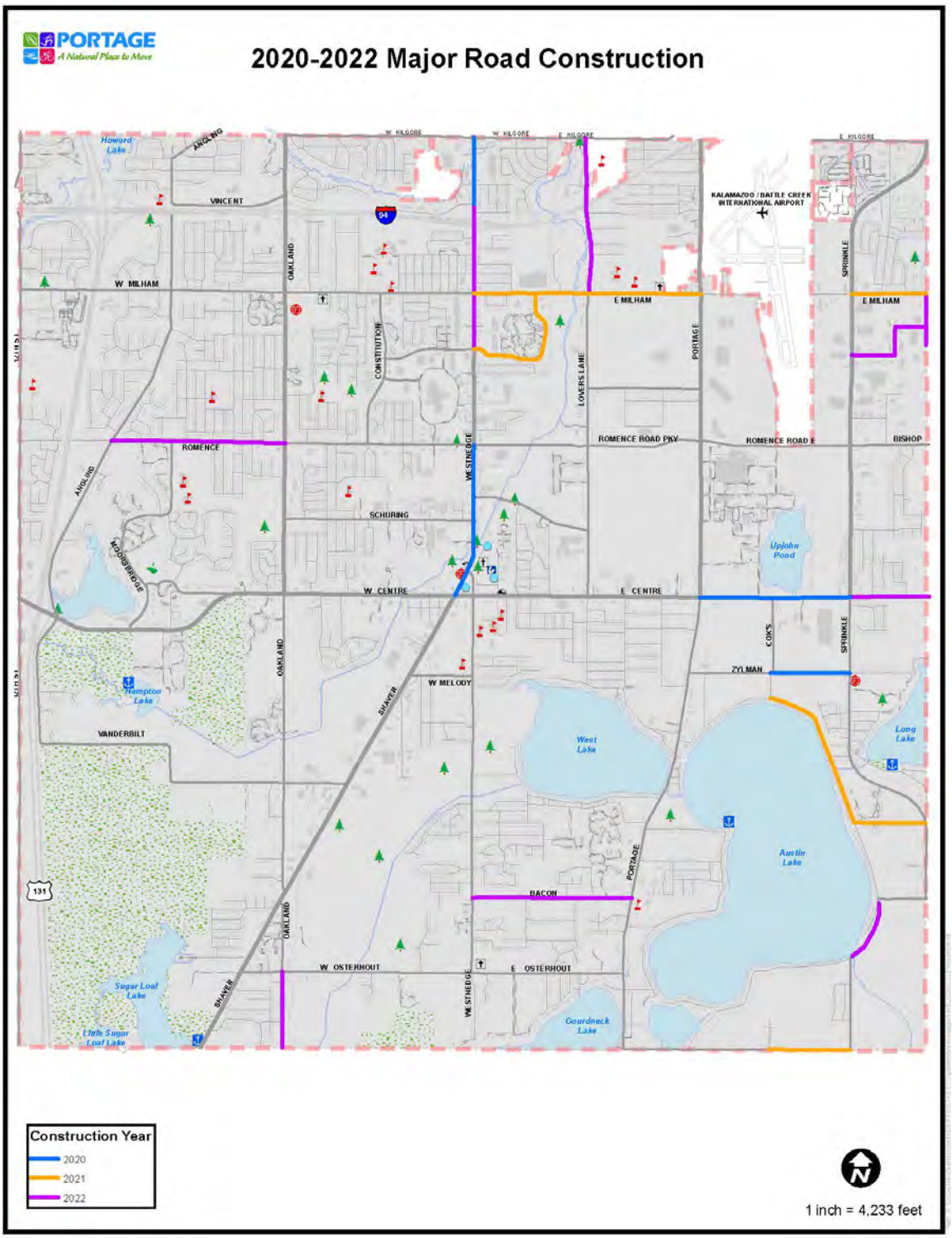


Figure 22: Major Road Projects Planned for 2020 - 2022 Construction

City Minor Projects

Portage is currently planning the construction and maintenance projects listed in Appendix C for the city minor road network. The locations of these projects over the next three years are shown in Figure 23. The total cost of these projects is approximately $5,100,000.

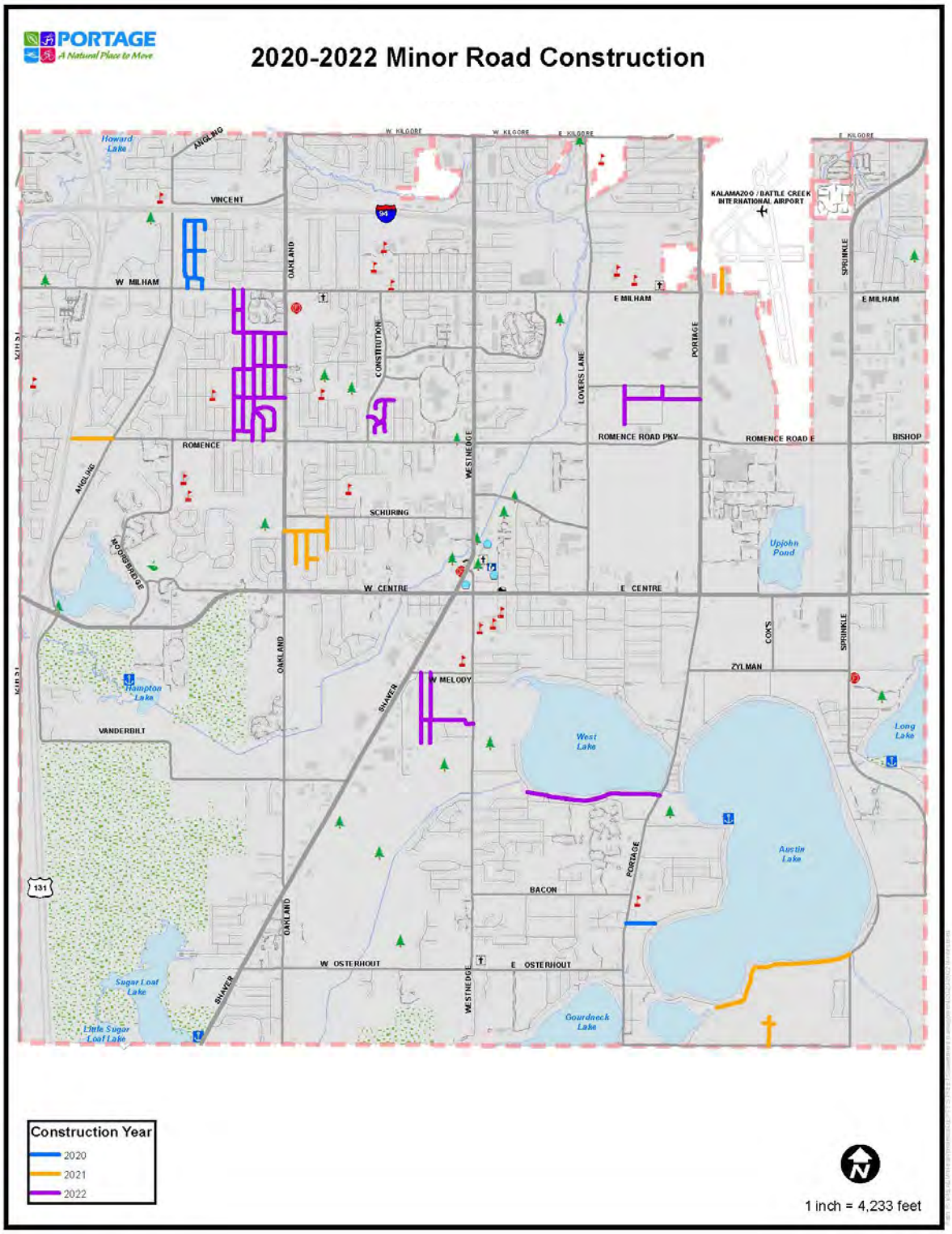


Figure 23: Minor Road Projects Planned for 2020 - 2022 Construction

More information on these projects can be found in the *Financial Resources* section, which begins on page 33.

The current funding levels that the city receives are not sufficient to meet the goals for the city road network. The overall condition of this network can be maintained or improved with additional funding for construction and maintenance.

The Asset Management Plan will help city staff better understand and communicate the consequences of insufficient funds for maintenance items such as crack sealing. 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. Each year that the funding level is not achieved, the overall condition of the street system decreases.

2. FINANCIAL RESOURCES

Public entities must balance the quality and extent of services that can be provided with the tax resources provided by citizens and businesses, all while maximizing how efficiently funds are used. The following 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 (a full financial report that outlines revenues and expenditures). This report can be obtained by contacting the Portage Department of Public Works.

Portage currently has an estimated three-year budget of approximately $14,450,000 for pavement asset management of the city major and minor network.

City Major Network

Portage historically budgets approximately $550,000 annually on pavement-related maintenance projects for the city major network, which include the mill and fill, chip seal, crack seal and durapatch progams. Reconstruction and heavy maintenance projects for the city major network require engineering design and vary considerably depending on scope of work and the number of lane miles. From 2020 - 2022, Portage plans to invest approximately $10,250,000 on city major-network projects consisting of, but not limited to, reconstruction, overlay, and preventive maintenance. Expenditures on projects depend on revenue from Michigan Transportation Fund (MTF), bonds, millages, and federal/state programs. The planned major road construction and maintenance projects are listed below.

2020 Planned Major Road Projects

STREET	FROM	TO	PASER	MAINTENANCE	ESTIMATED COST
Zylman	Cox's	Sprinkle	4	Reconstruction	$1,800,000
S Westnedge	Trade Centre	Kilgore	4	4" Mill/Resurface	$850,000
S Westnedge	Shaver	Romence	3-4	4" Mill/Resurface	$1,550,000
Shaver	W Centre	S Westnedge	3-4	4" Mill/Resurface	$375,000
E Centre	Portage	Sprinkle	4	4" Mill/Resurface	$1,000,000
Multiple Locations			7-10	Crack Seal	$27,500
Multiple Locations			1-4	Durapatch	$28,000
Total 2020 Planned Major Road Projects					**$5,630,500**

2021 Planned Major Road Projects

STREET	FROM	TO	PASER	MAINTENANCE	ESTIMATED COST
E Milham	S Westnedge	Portage	3-5	4" Mill/Resurface	$1,520,000
Gladys	S Westnedge	Newport	4-5	1.5" Mill & Fill	$80,000
Newport	Gladys	E Milham	4	1.5" Mill & Fill	$74,000
E Milham	Sprinkle	E City Limit	3	1.5" Mill & Fill	$88,500
Mandigo	Autumn View	E Shore	3	1.5" Mill & Fill	$88,000
Nash	Sprinkle	E Shore	6	Chip Seal	$10,000
E Shore	Nash	Cox's	7	Chip Seal	$50,000
Multiple Locations			7-10	Crack Seal	$30,250
Multiple Locations			1-4	Durapatch	$30,500
Total 2021 Planned Major Road Projects					**$1,971,250**

2022 Planned Major Road Projects

STREET	FROM	TO	PASER	MAINTENANCE	ESTIMATED COST
Lovers	E Milham	Kilgore	3	4" Mill/Resurface	$1,075,000
Romence	Angling	Oakland	3-5	4" Mill/Resurface	$900,000
S Westnedge	Mall	Trade Centre	7	Microsurface	$250,000
E Shore	Woodhams	Nash	4	1.5" Mill & Fill	$77,000
Commercial	Sprinkle	American	4	1.5" Mill & Fill	$113,000
American	Commercial	Executive	3	1.5" Mill & Fill	$51,500
Executive	American	Corporate	3	1.5" Mill & Fill	$70,000
Corporate	E Milham	Dead End	7	Chip Seal	$14,000
Bacon	S Westnedge	Portage	7	Chip Seal	$41,000
Multiple Locations			7-10	Crack Seal	$33,250
Multiple Locations			1-4	Durapatch	$33,500
Total 2020 Planned Major Road Projects					**$2,658,250**

City Minor Network

Portage historically budgets approximately $1,600,000 annually on pavement-related maintenance projects for the city minor network, which include the local streets program, mill and fill, chip seal, crack seal and durapatch programs. Reconstruction projects for the city minor network are typically utility related projects that require the road to be reconstructed to install or replace new sanitary sewer or water. In these cases, the projects are funded through the water and sewer fund whichever is appropriate. Over the next three years, Portage plans to invest approximately $4,200,000 on all city minor network projects consisting of, but not limited to, reconstruction, overlay, and preventive maintenance. Expenditures on projects depends on revenue from local tax sources. The planned minor road construction and maintenance projects are listed below.

2020 Planned Minor Road Projects

STREET	FROM	TO	PASER	MAINTENANCE	ESTIMATED COST
Wetherbee	Portage	Woodlawn	2	Reconstruction	$250,000
Grand Traverse	W Milham	Sturgeon Bay	2-3	1.5" Mill/Resurf.	$125,000
Thunder Bay	French Bay	Sturgeon Bay	2	1.5" Mill/Resurf.	$106,500
Sturgeon Bay	Grand Traverse	Old Mission	2-3	1.5" Mill/Resurf.	$29,500
Beacon Harbor	Grand Traverse	Old Mission	2	1.5" Mill/Resurf.	$29,500
French Bay	Grand Traverse	Old Mission	2-3	1.5" Mill/Resurf.	$29,500
Multiple Locations			7-10	Crack Seal	$27,500
Multiple Locations			1-4	Durapatch	$14,000
Total 2020 Planned Minor Road Projects					**$611,500**

2021 Planned Minor Road Projects

STREET	FROM	TO	PASER	MAINTENANCE	ESTIMATED COST
Willoughby	E Milham	Dead End	6	Reconstruction	$50,000
Romence	Angling	Dead End	5	Reconstruction	$150,000
Andrea	Charter	Dead End	3	1.5" Mill & Fill	$32,000
Wendy	Charter	Dead End	6	1.5" Mill & Fill	$41,500
Joy	Wendy	Julie	5	1.5" Mill & Fill	$11,000
Charter	Oakland	Primrose	3-5	1.5" Mill & Fill	$48,000
Primrose	Royal Oak	Schuring	3	1.5" Mill & Fill	$39,500
Autumn View	Mandigo	Dead End	6	Chip Seal	$6,000
Summerwood	Dead End	Dead End	6	Chip Seal	$2,000
Woodhams	Andrews	E Shore	6	Chip Seal	$34,000
Mulitple Locations			7-10	Crack Seal	$30,250
Multiple Locations			1-4	Durapatch	$15,000
Total 2021 Planned Minor Road Projects					**$459,250**

2022 Planned Minor Road Projects

STREET	FROM	TO	PASER	MAINTENANCE	ESTIMATED COST
Lakeview Dr	S Shore	Lakeview Ct	4-6	Reconstruction	$1,200,000
Kalarama	Cypress	Oakland	2-4	1.5" Mill/Resurf.	
Tattersall	Cypress	Oakland	2-5	1.5" Mill/Resurf.	
Ridgefield	Cypress	Oakland	2-4	1.5" Mill/Resurf.	
Radcliffe	Cypress	W Hickory Point	3	1.5" Mill/Resurf.	
Westchester	Ridgefield	Kalarama	2-3	1.5" Mill/Resurf.	
Westshire	Ridgefield	Kalarama	2-3	1.5" Mill/Resurf.	$1,320,000
Trotwood	Ridgefield	Kalarama	2-3	1.5" Mill/Resurf.	
Evergreen	Radcliffe	W Milham	3	1.5" Mill/Resurf.	
Cypress	Romence	Tattersall	2-3	1.5" Mill/Resurf.	
Cypress	Kalarama	W Milham	2-3	1.5" Mill/Resurf.	
Hickory Point	Romence	Trotwood	2-3	1.5" Mill/Resurf.	
Oakland	S City Limit	W Osterhout	5	1.5" Mill & Fill	$138,000
Dolphin	Melody	Dead End	3	1.5" Mill & Fill	$75,000
Newhouse	Melody	Dead End	3-6	1.5" Mill & Fill	$87,000
Crocket	Dolphin	S Westnedge	3-4	1.5" Mill & Fill	$64,500
Rainbow	Bratcher	Dead End	3	1.5" Mill & Fill	$43,500
Orchard Meadow	Rainbow	Dead End	3	1.5" Mill & Fill	$67,000
Somerset Bluff	Constitution	Orchard Meadow	2	1.5" Mill & Fill	$21,000
Crest Point	Orchard Meadow	Dead End	2	1.5" Mill & Fill	$26,000
E Centre	Sprinkle	E City Limit	6	Chip Seal	$17,000
Gertrude	Ramona	Dead End	6	Chip Seal	$7,500
Lansing	Gertrude	Portage	5-6	Chip Seal	$15,000
Linneman	Lansing	Ramona	6	Chip Seal	$2,500
Multiple Locations			7-10	Crack Seal	$33,250
Multiple Locations			1-4	Durapatch	$17,000
Total 2022 Planned Minor Road Projects					**$3,134,250**

3. RISK MANAGEMENT

Transportation infrastructure is designed to be resilient. The system of interconnecting roads and bridges maintained by Portage 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.

- **Geographic divides:** 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:** Roads which are routinely used as alternate routes for high volume roads or roads that are included in an emergency response plan
- **Limited access areas:** Roads that serve remote or limited access areas that result in long detours if closed
- **Main access to key commercial districts:** Areas where large number or large size business will be significantly impacted if a road is unavailable.

The City of Portage road network includes the following critical assets:

- South Westnedge Avenue
- Portage Road
- Oakland Drive
- Lovers Lane
- Kilgore Road
- Milham Avenue
- Romence Road
- Centre Avenue
- Osterhout Avenue

Other critical assets within the City of Portage that are owned and maintained by other jurisdictions include:

- I-94 (MDOT)
- US-131 (MDOT)
- South Sprinkle Road (RCKC)
- South 12th Street (RCKC)
- Kilgore Road (shared with City of Kalamazoo)

4. COORDINATION WITH OTHER ENTITIES

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

The Portage Department of Transportation & Utilities works closely with the Portage Department of Public Works to coordinate upcoming capital improvement plan projects with street maintenance projects. This ensures that funds are utilized efficiently and that problematic areas are identified and addressed before significant road work is initiated. Additionally, storm sewer systems are inspected ahead of project construction, and cast iron water mains are replaced and upsized when appropriate and where recommended by the city's water asset management plan and reliability study.

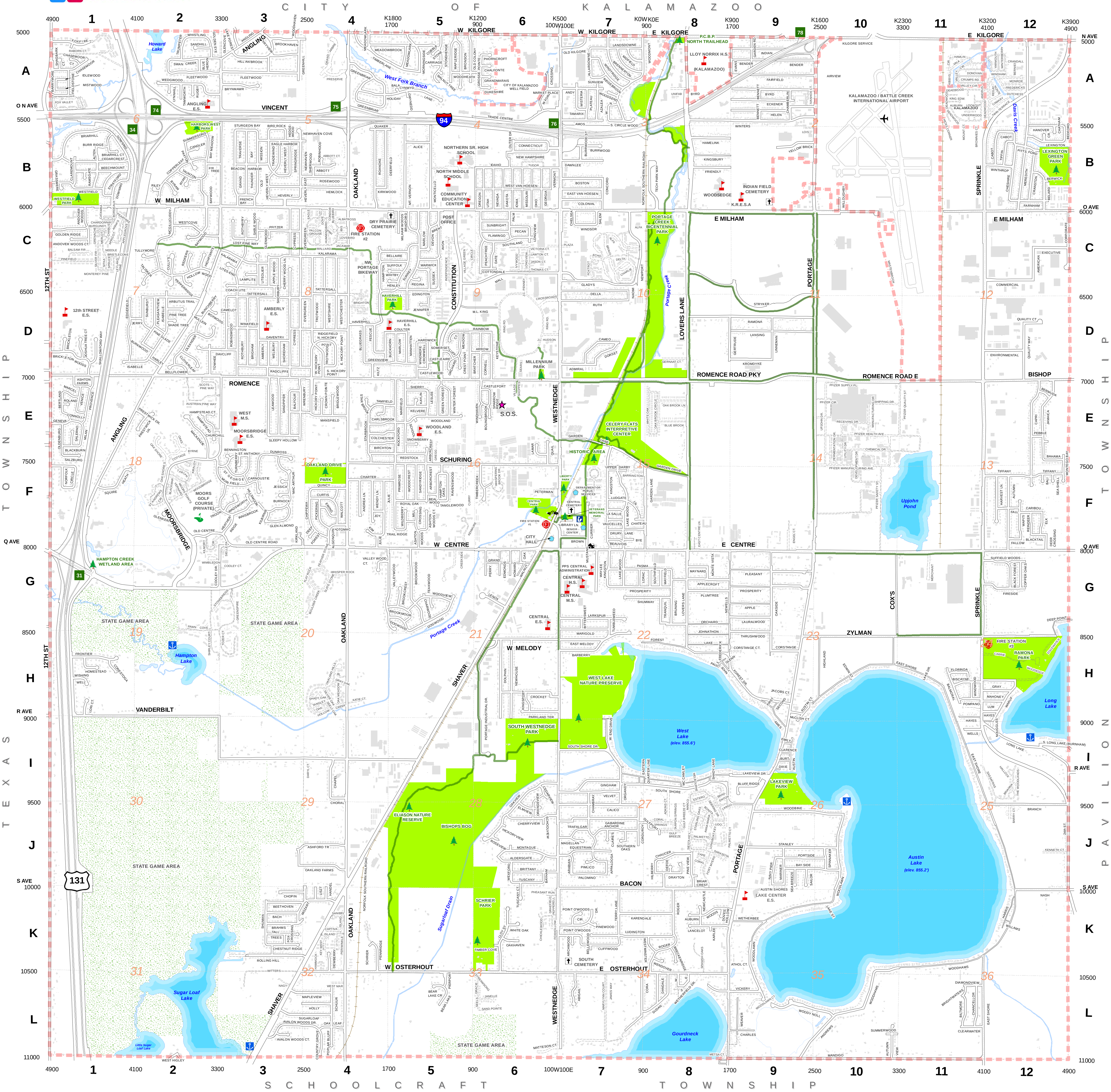
Portage takes advantage of coordinated infrastructure work to reduce cost and maximize value using the following policies:

- Roads in poor condition that have a subsurface infrastructure project planned that will destroy more than half the lane will be rehabilitated or reconstructed full lane width.
- Subsurface infrastructure projects that will cause damage to pavements in good condition will be delayed as long as possible or will be undertaken with methods that do not require pavement cuts. By city policy, no open-cuts are allowed on roadways for five years following construction/reconstruction, except for emergency utility repairs, or in the case of new development, the entire width of the lane disturbed is resurfaced.
- Subsurface utilities not owned by the city are directed to be installed within the greenspace outside the roadway to avoid road disruption as much as possible.
- Subsurface utility projects will be coordinated with both public and private ownership to allow all underground utility assets to be upgraded in same project.
- Coordination with the RCKC for street and traffic signal improvement projects.
- Coordination with the MDOT for street, freeway interchange and traffic signal improvement projects.
- Coordination with the City of Kalamazoo for street and water main projects.
- Coordination with the Kalamazoo Area Transportation Study for major street projects that would include planning, funding, traffic control, and PASER updates.
- Coordination with Metro Bus for the placement of bus routes and passenger pickup points.
- Coordination with Portage Public Schools in ensure signage, lighting, sidewalks and bus routes are established for safe transportation of school children.

City of Portage Street Index Map

PORTAGE
A Natural Place to Move

Date: 5/12/2021



Street Index

Street	Grid
ABBOTT AVE	B-4
ABBOTT CT (PVT)	B-4
ABIGAIL ST	L-7
ADKINS CT (PVT)	I-8
ADMIRAL AVE	D-7
AIRVIEW BLVD	A-10
ALBATROSS CT (PVT)	C-4
ALDERSGATE DR	J-6
ALFA CT (PVT)	C-7
ALGONQUIN ST	F-4
ALICE AVE	B-5
ALLARDOWNE ST	A-7
ALTEN ST	B-1
AMBERLY ST	D-3
AMERICAN AVE	C-12
AMES DR	H-9
AMOS AVE	A-7
ANCHOR LN	J-7
ANDOVER WOODS CT	C-1
ANDOVER WOODS RD	C-1
ANDREA LN	F-4
ANDREWS ST	L-9/10
ANDRUS CT (PVT)	A-11
ANDY AVE	A-7
ANGLING RD	A-3/H-1
ANNA MARIA CT (PVT)	J-8
ANNA'S LN (PVT)	C-1
APPALOOSA ST	J-7
APPLE ST	G-9
APPLECROFT AVE	G-8
APPLEGROVE LN (PVT)	C-1
APPLEWOOD ST	C-3
APRICOT CT (PVT)	C-1
ARABIAN DR	J-7
ARBORCREST CT	E-5
ARBORCREST ST	F-5
ARBUTUS TR	D-2
ARCHWOOD DR	K-7
ARROW AVE	D-5/6
ASHFORD TR	J-3
ASHTON FARMS BLVD	E-1
ASHTON WOODS CT	F-5
ASHTON WOODS DR	F-5
ATHOL CT (PVT)	K-9
AUBURN CT	A-11
AUBURN WOODS TR	K-8
AUSTIN CT	H-9
AUSTIN DR	I-9
AUSTIN SHORES AVE	J-9
AUSTRIAN PINE WAY (PVT)	E-2
AUTUMN ST	F-12
AUTUMN VIEW LN	L-10
AVALON WOODS CT	L-3
AVALON WOODS DR	L-3/4
AVON ST	C-5
AZALEA ST	A-7
BACH AVE	K-3
BACON AVE	J-7/8
BAHAMA LN	E-12
BALA CYNWYD CT	A-5
BALFOUR DR	E-3
BALI CT	F-12
BALMORAL ST	H-11
BALSAM FIR	C-1
BARBERRY AVE	H-7
BARRINGTON DR (PVT)	F-7
BARRY CT (PVT)	J-12
BARRYMORE ST	A-1
BAY MEADOW TR	B-2
BAY SIDE AVE	J-9/10
BAYHAM ST	J-6
BAYWOOD DR	B/C-2
BEACON HARBOR AVE	B-3
BEALWOOD AVE	F-5
BEAR LAKE CR	L-5
BEAR LAKE TR	L-5
BEAUVOIS AVE	F-7
BEDFORD ST	B-12
BEECHMOUNT AVE	B-1
BEETHOVEN AVE	K-3/4
BELARD ST	B-12
BELLEWOOD ST	K-7
BELLAIRE AVE	C-4/5
BELLFLOWER DR	D-2
BENDER RD	A-9
BENNETT ST	A-9
BENNINGTON CT	E-3
BERMUDA ST	E-12
BERNIES BLVD (PVT)	A-12
BERTLAND DR	E-1
BERWICK AVE	B-12
BILTMORE LN	L-11
BIOTECH RD (PVT)	E-10
BIRCHTON AVE	E-4
BIRD ROCK ST	B-3
BISCAYNE AVE	H-11
BISHOP AVE	D-12
BITTERSWEET ST	G-7
BLACK FOREST DR	G-12
BLACKBURN AVE	E-1
BLACKMAR CIR (PVT)	F-2
BLACKTAIL AVE	F-12
BLUE BROOK LN (PVT)	E-8
BLUE HERON ST	A-2
BLUEBIRD CT (PVT)	C-4
BLUEGRASS ST	D-4
BLUFF RIDGE CT	I-9
BOLINGBROOK DR	E-6
BONITA CT (PVT)	J-8
BONTE DR (PVT)	A-12
BORDEAUX LN (PVT)	C-1
BOSTON AVE	B-7
BOULDER CREEK PT (PVT)	G-4
BOXWOOD CT (PVT)	D-2
BRADENTON PLACE (PVT)	I-8
BRADFORD ST	C-5
BRAHMS AVE	K-3
BRANCH AVE	I-12
BRATCHER ST	D-5
BRAVO CT (PVT)	C-7
BRECKENRIDGE WAY	K-8
BRENNERTON DR	A-7
BRENT AVE	C-5
BRIANNA TR (PVT)	I-12
BRIAR CREST DR	J-8
BRIAHILL CT	B-1
BRIARHILL DR	B-1
BRICKELTON CT	D-1
BRICKELTON WOODS DR	D-1
BRIDLEWOOD CIR	E-4
BRIGHTON LN (PVT)	D-4
BRIGHTWATERS LN	L-11
BRISTLECONE DR (PVT)	C-1
BRIGHAM ST	D-3
BRITTANY DR	J-6
BRONSON BLVD	A-5
BROOKCREST DR	G-5
BROOKHAVEN DR	A-3
BROOKMOOR LN	G-5
BROOKWOOD DR	G-5
BROWN AVE	F-7
BROWNIES CT	A-11
BRUNING ST	G-8
BRYNMAWR DR	A-3
BUCKHORN ST	D-4
BUNCHBERRY DR	D-2
BURGUNDY LN (PVT)	C-1
BURKWOOD DR	D-2
BURNHAM ST	I-12
BURNOCK DR	F-3
BURRWOOD AVE	B-7
BURRWOOD ST	B-7
BURR RIDGE RD	B-1
BURT DR	I-9
BYE ST	F-7
BYRAM CIR	B-2
BYRD DR	A-8/9
BYRNE CT (PVT)	E-2
CABOT ST	B-12
CALICO AVE	J-7
CAMARY CT (PVT)	A-12
CAMELOT ST	D-3
CAMEO AVE	D-7
CAPE CORAL WY (PVT)	J-8
CAPRI ST	E-12
CAPTIVA ISLAND (PVT)	K-4
CARIBOU ST	F-12
CARLSBROOK LN	E-4
CARNOUSTIE ST	F-3
CARRIAGE PL	A-5
CARRIE LN (PVT)	H-12
CASTLEAIRE AVE	D-5
CASTLEFORT AVE	E-6
CASTLEWOOD AVE	D-5
CATAWBA LN (PVT)	C-1
CEDARCREST AVE	B-1
CEDARVIEW DR	I-6
CENTRE AVE	G/F-1/12
CHABLIS LN (PVT)	C-1
CHALFONTE AVE	A-6
CHAMBERLIN ST	A-9
CHAMBRAY ST	I/J-7
CHANCELLOR ST	L-11
CHAPEL ST	I-4
CHARDONNAY LN (PVT)	C-1
CHARLES ST	L-9
CHARLIE CT (PVT)	C-7
CHARTER AVE	F-4
CHARWOOD DR	G-5
CHASEMOOR CT	A-1
CHASEMOOR DR	A-1
CHATEAU DR	F-7
CHATHAM ST	B-12
CHAUCER AV	J-8
CHELSEA LN	C-7
CHEMICAL DR (PVT)	E-10
CHERRYVIEW DR	J-6
CHERRYWOOD ST	C-3
CHESHIRE ST	B-12
CHESTNUT RIDGE AVE	K-3
CHIPPEWA ST	F-4
CHOPIN AVE	K-3
CHORAL AVE	I-4
CHURCHILL LN	E-2
CIRCLEWOOD DR (N,S,W)	A-7
CLAIRE'S CT	J-7
CLARA ST (PVT)	A-6
CLAREMOUNT ST	B-1
CLARENCE DR	I-9
CLEARWATER TC	L-11
CLIFFWOOD AVE	K-7
CLOVERLEAF LN	D-2
COACHLITE AVE	C-3
COBBLESTONE LN	A-5
COLCHESTER AVE	E-4
COLONIAL AVE	B-7
COMMERCIAL AVE	C-12
CONCORD ST	B-7
CONDOR CT (PVT)	C-4
CONESTOGA ST	H-1
CONNECTICUT DR	B-6
CONNOLLY LN	E-1
CONSTITUTION BLVD	C/D-5
COOLEY CT (PVT)	G-3
COOLEY DR	G-2
COOPERAGE CT (PVT)	K-6
COPPER OAKS ST	G-12
COPPERLEAF TR	B-2
CORA DR	L-7
CORAL SPRINGS DR (PVT)	J-8
CORDUROY ST	J-7
CORNELL ST	D-6
CORPORATE AVE	C-12
CORSTANGE CT (PVT)	H-9
CORSTANGE RD	H-9
COTTAGE OAKS DR (PVT)	E-2
COTTONDALE AVE	C-6
COULTER AVE	D-4/5
COUNTRY GROVE CIR	L-4
COX'S DR	G/H-10
CRANDALL AVE (PVT)	A-12
CRANSTON ST	B-12
CREEKSIDE DR (PVT)	G-5
CREST POINT CT	D-5
CRICKLEWOOD CT (PVT)	K-6
CROCKET AVE	H-6
CROMWELL ST	D-5
CROSSROADS DR (PVT)	D-6
CROWN POINTE CIR	E-4
CRUMPS RD (PVT)	A-11
CULLY'S TR	C-2
CURRIER DR	F-7
CURRY LN (PVT)	F-5
CURTIS AVE	F-4
CYPRESS ST	C/D-3
DAKOTA AVE	B-6
DANDALE ST	L-8
DARYL CT (PVT)	I-3
DATE ST	C-6
DAVCLIFF AVE	D-2/3
DAVENTRY AVE	D-3
DAWNLEE AVE	B-7
DEADWOOD DR	A-11
DEEP FOREST CT	F-4
DEEP POINT DR	G-12
DEER CROSSING ST	F-12
DEERFIELD ST	B-4
DEFOE CT	J-8
DELLA ST	C-7
DELTA CT (PVT)	C-7
DERHAMMER AVE (PVT)	G-6
DEVELOPMENT RD (PVT)	E/F-10
DEVON ST	C-5
DEWBERRY ST	K-4
DIAMONDVIEW DR	L-11
DIXIE DR	I-9
DOGWOOD DR	G-5
DOLPHIN ST	H-6
DONOVAN DR (PVT)	A-11
DORSET ST	D-7
DOVE CT (PVT)	C-4
DOVES HOLLOW CT	K-8
DOWNING ST	B-1
DRAYTON CT	J-8
DRURY LN	F-7
DUKESHIRE AVE	A-6
DUNROSS DR	E/F-3
DUTCHESS DR (PVT)	A-12
EAGLE CT (PVT)	C-4
EAGLE HARBOR AVE	B-3
EAST CENTRE CT (PVT)	F-8
EAST SHORE DR	H-10/L-11
EASTERN AVE	I-7
ECHO CT (PVT)	C-7
ECKENER DR	A-9
EDGEFIELD ST	D-1
EDGEWATER DR (PVT)	H-12
EDINGTON ST	C-4/5
EDMONDS ST	G-6
EDWIN ST	H-10
ELK ST	F-12
ELLE AV	D-4
ELMVIEW DR	J-6
EMILY DR	I-9
ENGEL CT (PVT)	F-9
ENVIRONMENTAL DR	D-12
EQUESTRIAN DR	J-7
ESTERO DR (PVT)	I-8
EVANS ST	A-9
EVERGREEN ST	C/D-3
EWING AVE	F-4
EXECUTIVE DR	C-12
FAIRFIELD RD	A-9
FAIRLANE AVE (PVT)	J-9
FALCON CT (PVT)	C-4
FALL AVE	F-12
FALLOW AVE	F-12
FARNHAM AVE	B-12
FAWN COVE LN (PVT)	H-2
FEATHER STONE TER (PVT)	G-4
FERMENTATION RD (PVT)	E-10
FESCUE ST	D-4
FIELDSTONE DR	A-1
FIR TREE AVE	B-2
FIRESIDE AVE	G-12
FIRST DR	H-9
FLAMINGO AVE	C-6
FLAT ROCK RDG	G-4
FLEETWOOD DR	A-2/3
FLORINDA AVE	H-11
FOREST DR	H-8/9
FORT MYERS PKY (PVT)	J-8
FOX CROSSING ST	K-3
FOX VALLEY AVE	A-1
FOX VALLEY DR	A-1
FOXFIRE TR	A-1
FOXHOLLOW CT (PVT)	K-6
FOXTROT CT (PVT)	C-7
FREDERICK DR	H-8
FREDERICK LN (PVT)	A-12
FRENCH BAY DR	B-3
FRIENDLY AVE	B-8
FRONTIER AVE	H-1
GABARDINE AVE	J-7
GARDEN DR	E-7
GARDEN LN	E/F-7
GARDEN RD	A-9
GENEVA AVE	E-1
GEORGIA AVE	B-6
GERNAAT CT (PVT)	D-8
GERTRUDE DR	D-8
GINGHAM AVE	I-7
GLADYS ST	C-7
GLENALMOND DR	F-3
GLENCOVE CT (PVT)	A-2
GLENKERRY CT	F-2
GLENN DR	H-8
GLENWOOD CIR	C-3
GOLDEN EYE DR	A-2
GOLDEN RIDGE TR	C-1
GRACIE LN (PVT)	L-6
GRAEFIELD CT (PVT)	K-6
GRAND ARBRE TR (PVT)	A-4
GRAND ST	G-6
GRAND TRAVERSE LN	B-3
GRANDMARAIS AVE	A-6
GRASSMERE ST	B-1
GRAY ST	H-12
GRAY OAK CV (PVT)	H4
GREEN FOREST DR	E-5
GREENBRIAR DR	A-4
GREENHILL ST	A-3
GREENSPIRE DR (PVT)	G-3
GREENVIEW AVE	D-4/5
GREGG CT (PVT)	E-5
GRENACHE LN (PVT)	C-1
GROSSE POINTE ST	A-6
GROUSE CT (PVT)	C-4
GULF BREEZE CT (PVT)	J-8
GULF BREEZE RD (PVT)	J-8
GULFPORT TR	J-8
GWYNEDD DR	A-5
HAILEY CT	D-4
HALLOCK CIR	I-12
HAMMOCK CIR	K-4
HAMELINK DR	B-8
HAMLIN DR (PVT)	A-11
HAMPSTEAD CT	E-2
HAMPSTEAD LN	E-2
HAMPTON OAKS DR	F-5
HAMPTON ST	C-4
HANDEL ST	K-4
HANOVER AVE	B-12
HARDWICK AVE	D-5
HARLEY AVE	D-2
HARRIS DR	K-12
HARVEST LN	F-12
HAVERHILL AVE	D-4
HAYES ST	H-11/12
HEATHER RIDGE DR	F-3
HEDGEWOOD ST	B-3
HELEN AVE	A-9
HEMLOCK AVE	B-3/4
HENLEY AVE	C-5
HEVERLY DR EAST	B-3
HEVERLY DR WEST	B-3
HEVERLY DR	B-3
HICK'S CORNER	A-11
HICKORY POINT DR (N,S,E,W)	D/E-4
HICKORYVIEW DR	J-6
HIGH POINTE CIR	C-2
HIGHLAND DR	H-10
HIGLEY CIR (E,W)	L-2
HILBERRY DR	J-8
HILL 'AN' BROOK DR	A-3
HILLSMOOR LN	F-3
HOLIDAY LN	A-4/5
HOLLOW CREEK TR	H-3
HOLLOW WOOD DR	C-2
HOLLY AVE	L-4
HOMESTEAD LN	H-1
HONEY CREEK TR	J-3
HOWARD ST	G-6
HUMMINGBIRD CT (PVT)	C-4
IBIS CT (PVT)	C-4
IDAHO AVE	B-6
IDLEWOOOD AVE	A-1
INDEPENDENCE DR (PVT)	C-5
INDIAN RD	A-9
INNISBROOK DR	F-3
INTERSTATE 94	A-1/9
IOWA AVE	B-6
ISABELLE ST	D-1/2
ISOLATION DR (PVT)	E-10
IVANHOE CT (PVT)	A-9
IVYWOOD DR (PVT)	C-6
J.C. PENNEY DR (PVT)	C-6
J.L. HUDSON DR (PVT)	D-6
JACAMAR CT (PVT)	C-4
JACOB'S CT (PVT)	H-9
JAMAICA LN	E-12
JAMES WAY (PVT)	L-7
JANELLE CT (PVT)	L-6
JASON CT (PVT)	C-6
JENNIFER ST	D-5
JERRY LN	D-2
JESSICA DR	F-3
JOHN ST	H-8
JONATHON DR	H-8
JOSHUA TREE CT	D-1
JOY AVE	F-4
JULIE DR	F-4
KALARAMA AVE	C-3/4
KARENDALE AVE	K-7/8
KARLEE CT	K-8
KATIE CT (PVT)	H-4
KAYLIN CT	E-5
KELSEA TR (PVT)	I-12
KELVERE AVE	E-5
KENMURE DR (PVT)	F-5
KENNETH CT (PVT)	J-12
KEY WEST (PVT)	K-4
KEYSTONE ST	D-6
KIBBY'S CIR (PVT)	A-11
KILBIRNIE DR	F-3
KILGORE RD	A-4/12
KILGORE SERVICE RD	A-10
KILMORY CIR (PVT)	F/G-2
KILTZ ST	D-4
KIM AVE	F-4
KING EDWARD'S CT	A-11
KINGSBURY DR	B-8
KINGSPORT RD	H-6
KINGSTON DR	E/G-7
KIRKALDY CIR (PVT)	F-2
KIRKLAND CT	F-3
KIRKWOOD AVE	B-4
KIWI CT (PVT)	C-4
KROMDYKE AVE	D-9
LA SALLE ST	F-7
LAKE AVE	H-8
LAKE DR	H-11
LAKE FOREST DR	A-3
LAKE ST	K-10
LAKE WOOD DR	F/G-7
LAKEVIEW DR	I-7/9
LAMAR DR	E-6
LAMPLITE CIR	C-3
LANCELOT CT	K-8
LANDSDOWNE AVE	A-7
LANSING AVE	D-9
LARGO BLVD (PVT)	I-8
LARKSPUR AVE	G-7
LAURALWOOD AVE	G-9
LAWTON CT (PVT)	C-6
LEAWOOD ST	E-3
LENOX AVE	G-6
LESLEE ST	E-5
LEXINGTON AVE	B-12
LEXINGTON CIR	B-12
LEYLAND PINE ST (PVT)	C-1
LIBRARY LN	F-7
LIDO TERRACE (PVT)	J-8
LINNEMAN AVE	D-9
LISZT ST	K-4
LITEOLIER ST	C-3
LITES-END CT	C-3
LLOY ST	K-6
LOIS LANE (PVT)	B-9
LONG LAKE DR	I-12
LONGBOAT KEY RD (PVT)	J-8
LONGVIEW CT (PVT)	C-6
LONGVIEW ST	C-6
LOOKOUT LN	A-11
LORAC ST	G-7
LORI CT	H-1
LOST PINE WAY	C-3
LOVEBIRD CT (PVT)	C-4
LOVERS LANE	A/H-8
LUDINGTON AVE	K-7/8
LUDGATE LN	F-7
LUM ST	H-12
LYNHILL ST	A-2
MAC ARTHUR LN	F-3
MACKENZIE LN	E-2
MAGELLAN CT	J-7
MAHONEY ST	H-12
MALL DR	C-5/6
MALLARD CIR (PVT)	C-4
MANDIGO AVE	L-9/11
MANHATTAN ST	D-5
MANSFIELD AVE	E-3/4
MANUFACTURING RD (PVT)	E-10
MAPLERIDGE DR	A-5
MAPLEVIEW AVE	L-4
MARCEL AV	E-1
MARCO DR (PVT)	J-8
MARFIELD ST	E-5
MARIGOLD AVE	G-7
MARINER ST	J-9
MARKET PLACE	A-6
MARLOW ST	C/D-5
MARTIN LUTHER KING DR (PVT)	D-5/6
MARYLYNN CT (PVT)	L-7
MASTENBROOK DR (PVT)	C/D-10
MATTESON CT (PVT)	L-6
MAYFIELD ST	G-8
MAYNARD AVE	G-8
MC CAMLEY DR	I-8
MC CLISH CT	H-9
MCGILLICUDDY LN	C-2
MEADOWBROOK LN	A-4/5
MEADOWLARK DR	A-4
MEADOWLARK LN	A-5
MELBOURNE CT (PVT)	I-8
MELODY AVE	H-6/7
MERCHANT PLACE (PVT)	G-11
MEREDITH ST	A/B-12
MERLOT CT (PVT)	C-1
MERRYVIEW DR	A-3
METSA CT (PVT)	L-8
MIDFIELD DR	A-7
MILAN DR	E-1
MILHAM AVE	B-1/12
MILHAM WOODS CT	C-5
MILL CROSSING AVE	F-5
MISSOURI AVE	B-6
MISTWOOD AVE	A-1
MONROE AVE (PVT)	A-12
MONTAGUE DR	J-6
MONTEGO BAY ST	E-12
MONTE VISTA ST	G-8
MONTEREY PINE AVE (PVT)	C-1
MONTICELLO AVE	B-5
MOORS POINTE WAY (PVT)	F-2
MOORSBRIDGE RD	E/G-2
MORNINGSIDE DR	A-5
MOUNT CT	A-11
MOUNT VERNON AVE	B-5
MOZART ST	K-3/4
MUIRFIELD DR	F-2/3
MULLEIN LN	D-2
MUSTANG DR (PVT)	G-7
NAGY CT (PVT)	L-3
NAOMI ST	C-7
NASH AVE	J-12
NAVY PIER ST	J-9
NEVADA AVE	B-6
NEW HAMPSHIRE DR	B-6
NEWCASTLE CT	K-8
NEWELL'S LN	G/H-8
NEWHAVEN COVE	B-3
NEWHAVEN DR	B-3
NEWHOUSE ST	H-6
NEWPORT RD	C-7
NORFOLK CIR	F-1
NOUGGLES CT (PVT)	I-12
OAK BROOK CIR (PVT)	E-8
OAK BROOK LN (PVT)	E-8
OAK LEAF TR	L-4
OAK MEADOW CV	H-3
OAK SHORES DR (PVT)	E-2
OAK SHORES DR. SOUTH (PVT)	F-2
OAK ST	G-6
OAKHAVEN DR	K-6
OAKLAND DR	A/L-4
OAKLAND FARMS TR	J-4
OAKLAND HILLS BL. (PVT)	H-3
OAKLAND HILLS CIR. (PVT)	H-3
OAKSIDE ST	G-9
OAKVIEW DR	I/J-6
OHIO AVE	B-6
OLD CENTRE RD	F-2/3
OLD COLONY RD	A-5
OLD KILGORE RD	A-7
OLD MISSION ST	B-3
OLEANDER LN	D-2
OLDENBERG LN	E-1
ORANGEVIEW DR	J-6
ORCHARD DR	G-8
ORCHARD MEADOW CT	D-5
ORCHARD MEADOW DR	D-5
OREGON AVE	B-6
ORGANDY ST	I-7
OSTERHOUT AVE	K-4/8
OUTER DR	B-6
PALM ST	C-6
PALMETTO CT (PVT)	J-8
PALMETTO DR (PVT)	J-8
PALOMINO AVE	J-7
PARKLAND TER	H-6
PASMA AVE	G-7/8
PAUL CT	H-8
PAXTON CT	B-2
PEACHTREE ST	C-6
PEARTREE LN (PVT)	C-1
PEBBLE LN	E-12
PECAN AVE	C-6
PENNRIDGE DR	K-4
PEPPERELL CT (PVT)	K-6
PEPPERIDGE CIR	C-2
PERIWINKLE (PVT)	K-4
PERRY ST	G-6
PETERMAN LN (PVT)	F-6
PFITZER AVE	C-3
PFIZER CIR	E-10
PFIZER HEALTH AVE (PVT)	E-10
PFIZER MANUFACTURING DR (PVT)	E-10
PFIZER QUALITY ST (PVT)	E-10
PFIZER SAFETY ST (PVT)	E-10
PFIZER SUPPLY PL (PVT)	E-10
PHEASANT RUN (PVT) (N,S)	K-6
PHORNCROFT AVE	A-6
PICKERING ST	F-4
PIERPORT DR	L-5
PIMLICO CT	J-7
PINE TREE TER	D-2
PINE VIEW DR	J-8
PINEFIELD AVE	C-1
PINEGLADE DR	D-2
PINEWOOD CIR	K-7
PITTSFORD AVE	B-12
PLATEAU ST	A-7
PLEASANT DR	G-9
PLEASANTVIEW DR	D-2
PLUMTREE AVE	G-8
POINT O'WOODS CIR	K-7
POINT O'WOODS DR	K-7
POMPANO AVE	H-11
POPLAR BLUFF CT	L-4
PORTAGE INDUSTRIAL DR	H/I-6
PORTAGE RD	A/L-9
PORTSIDE AVE	J-9/10
POTOMAC AVE	F-4
PRESERVE BLVD (PVT)	A-4
PRESTWICK DR	E-2
PRESTWICK LN	E-2
PRIMROSE LN	F-5
PROSPERITY DR	G-7/9
PROVENCE DR	E-1
QUAIL ST	E-6
QUAKER AVE	B-4
QUALITY CT	D-12
QUALITY WAY	D-12
QUARTER LINE DR	I-8
QUINCY AVE	F-4
RABORN CT (PVT)	A-1
RADCLIFFE AVE	D-3
RAINBOW AVE	D-5/6
RAINBOW CT	D-5
RAMONA AVE	D-8/9
RAMSGATE ST	B-1
RAVENSWOOD DR	F-5
RECEIVING DR (PVT)	E-10
REDFERN CIR	C-2
REDSTOCK AVE	E-4/5
REGAY CT (PVT)	A-12
REGINA AVE	C-5
REINDEER ST	F-12
RILEY RIDGE	B-2
RIDGEBROOK DR	A-7
RIDGEFIELD RD	D-3/4
RING ROAD (PVT)	D-6
ROANOKE ST	B-4
ROBINHOOD DR	B-4
ROBINSWOOD ST	D-3
ROCKFORD ST	E-5
ROGER ST	K-8
ROLAND CIR	E-1
ROLLING HILL AVE	K-3
ROMENCE RD (EAST)	D-10/11
ROMENCE RD	D-1/6
ROMENCE ROAD PKWY	D-7/9
ROSEVIEW DR	J-6
ROSEWOOD AVE	B-4
ROTHBURY ST	C/D-3
ROYAL OAK AVE	F-5
RUGBY ST	A-2
RUTH ST	D-7
RYAN CT	B-2
SABLEWOOD CIR	C-3
SAILOR CT	J-9
SALEM LN	C-7
SALERNO CIR	E-1
SALZBURG CIR	E-1
SANDHILL LN	A-2
SANDPIPER ST	E-3
SANDYRIDGE ST	F-5
SAND POINTE TRL	L-6
SANIBEL ISLAND (PVT)	K-4
SARASOTA TR. (PVT)	J-8
SASSAFRAS TR (PVT)	I-12
SCHOOL DR	E-5
SCHOOLVIEW DR	J-6
SCHRIER LN	K-4
SCHURING RD	E-4/6
SCHUUR ST	L-4
SCOTS PINE WAY (PVT)	E-2
SEA BREEZE CT	J-9
SEA SHELL CT	F-12
SEARS DR (PVT)	D-6
SEBRING DR (PVT)	I-8
SECOND DR	H-9
SEELS WAY (PVT)	L-6
SEELY OAK LN	D-2
SHADE TREE TER	I-8
SHADY LN	H-4
SHADY OAK CV	A-1
SHAGBARK CT	D-1
SHALLOWFORD WAY	F-6/L-3
SHAVER RD	E-5
SHERRY DR	B-4
SHERWOOD DR	E-10
SHIPPING DR (PVT)	G/H-2
SHIRLEY CT (PVT)	C-3
SHORBURY ST	D-3
SHOREHAM ST	K-3
SHUMAN ST	G-7/8
SHUMWAY AVE	G-3
SIELLE PATH (PVT)	J-8
SIESTA KEY DR (PVT)	C-1
SILVER FIR ST (PVT)	H-4
SILVER OAK CV (PVT)	C-1
SITKA SPRUCE ST (PVT)	G-4
SLATE STONE CR (PVT)	E-3
SLEEPY HOLLOW DR	E-5
SNOWBERRY CT	D-5
SOMERSET BLUFF TR	I-12
SOUTH LONG LAKE DR (BURNHAM)	I-7/9
SOUTH SHORE DR	J-7
SOUTHERN OAKS CT	G-8
SOUTHFIELD ST	C-6
SOUTHLAND AVE	K-8
SPANISH OAKS (PVT)	E-6
SPARROW RIDGE ST	J-10
SPINNAKER ST	B-3
SPRINGRIDGE ST	A/J-12
SPRINKLE RD	F-1
SQUIRE HEATH LN	F-2
ST. ANDREW'S CIR (E,W) (PVT)	E-3
ST. ANTHONY DR	F-3
ST. GEORGE CIR	J-9/10
STANLEY AVE	E-4
STARBROOK ST	J-8
STERLING OAKS DR (PVT)	G-3
STONEBRIDGE CT (PVT)	K-6
STONECROFT CT (PVT)	A-5
STONEHENGE DR	B-1
STRATFORD DR	B-3
STURGEON BAY AVE	L-6
STREAMSONG BLVD (PVT)	L-7/8
SUDAN ST	G-12
SUFFIELD WOODS AVE	C-4/5
SUFFOLK AVE	L-4
SUGARLOAF AVE	L-10
SUMMERWOOD AVE	
SUMMERSONG PA	B-2
SUNBRIGHT AVE	C-6
SUNBURST DR	D-2
SUNVIEW AVE	A-7
SURREY ST	C-5
SUSSEX ST	C/D-5
SWAN CREEK DR	A-2
SYLVAN CT (PVT)	H-12
TALISKER CT	C-2
TALL TREES AVE	K-3
TAMARIX AVE	A-7
TAMFIELD AVE	E-4
TAMWORTH ST	A-2
TANGLEY OAK CT	H-4
TANGLEWOOD DR	F-5
TARPON SPRINGS DR (PVT)	J-8
TARTAN CIR (PVT)	F-2
TAUNTON TR	B-2
TATTERSALL RD	D-3/4
TEAKWOOD ST	G-5
TECH PARK WAY	B-8
TERRY LN	K-7
THE WOODLANDS TR (PVT)	I-12
THOMAS CT (PVT)	C-6
THRUSHWOOD AVE	G-9
THUNDER BAY ST	B-3
TIFFANY AVE	F-12
TIFFIN ST	B-12
TIMBER COVE DR	K-6
TIMBERCREEK CT	F-6
TIMBERCREEK LN	F-6
TIMBERLANE DR	A-4/5
TOWHEE ST	D-2
TOZER CT (PVT)	G/H-3
TRADE CENTRE WY	A-6
TRADEWIND DR	B-3
TRAFALGAR TR	J-7
TRAIL RIDGE AVE	F-5
TRANQUIL ST	G-8
TROON CT	F-2
TROTWOOD ST	C/D-4
TRUMPETER DR	A-2
TUDOR CIR (PVT)	B-6
TULLYMORE PT	C-2
TUMBLEWEED ST	G-7
TURNBERRY CT	E/F-3
TUSCANY CT	J/K-6
TUSCANY DR	J-6
TWELFTH (12TH) ST	A/L-1
TWENTY FOURTH (24TH) ST	I-12
TWIN TER (PVT)	A-12
U.S. HIGHWAY 131	A/L-1
UNDERWOOD CT	A-11
UNIFAB CT (PVT)	A-8
UPJOHN RD (PVT)	E-10
UPPER DARBY	F-7
UTAH AVE	B-6
UTILITY RD (PVT)	E-10
VALK ST (PVT)	A-11
VALLEY CIR (N,S,W) (PVT)	A-11
VALLEYWOOD CT	G-5
VALLEYWOOD LN	G-5
VAN HOESEN BLVD (E,W)	B-6/7
VANDERBILT AVE	I-1/5
VAUCELLES ST	F-7
VELVET AVE	I-7
VENICE DR	E-1
VERMONT AVE	B-6
VERNARD DR (PVT)	F-2
VICKERY RD	L-8/9
VICTORIA CT (PVT)	C-6
VILLAGE GREEN CIR (PVT)	C-5
VILLAGE SHOPPES BLVD (PVT)	E-6
VINCENT DR	A-3/4
WADSWORTH LN	F-3
WALCOTT ST	F-4
WALNUT ST	G-6
WALNUT TREE TER	A-5
WAPITI ST	F-12
WARUF AVE	H-12
WARWICK ST	C-5
WAYLEE ST	G-7
WEAVER DR	L-9
WEDGWOOD DR	A-2
WELBURY ST	D-3
WELLS ST	I-11
WENDOVER CT	K-8
WENDY LN	F-4
WEST END DR	I-7
WEST FORK CROSSING	A-6
WEST MAR CT (PVT)	L-4
WESTCHESTER ST	C/D-4
WESTCOVE DR	C-2
WESTFIELD AVE	B-1
WESTMINSTER CIR	K-8
WESTNEDGE AVE	A/L-6
WESTSHIRE ST	C/D-4
WETHERBEE AVE	K-9
WETHERFIELD DR (E,W,S)	L-8
WEXFORD DR	J-6
WHISPER ROCK TR (PVT)	G-4
WHISPERING BROOK DR (PVT)	F-6
WHISTLING LN	A-2
WHITBY AVE	C-5
WHITE OAK CIR (PVT)	E-8
WHITE OAK DR	K-6
WILDBERRY CT	F-5
WILLIAMS AVE	K-12
WILLOUGHBY DR	B-10
WIMBLEDON DR (PVT)	G-2
WINDEMERE ST	D-5
WINDHAM AVE (PVT)	A-12
WINDHAVEN CT	E-6
WINDSOR LN	C-7
WINDWOOD ST	H-11
WINDYRIDGE DR	A-7
WINKFIELD AVE	D-3
WINSFORD CT (PVT)	K-6
WINTER FOREST DR	E-6
WINTERBERRY ST (PVT)	A-12
WINTERS DR	A-8/9
WINTHROP AVE	B-12
WISHING WELL CT	H-1
WISTERIA ST	A-7
WITTERS CT (PVT)	L-3
WOODBINE AVE	J-9/10
WOODBRIDGE LN (PVT)	F-2
WOODCREST ST	F-5
WOODEDGE CT (PVT)	H-12
WOODHAMS AVE	K/L-10/11
WOODHAVEN DR	A-3
WOODHEATH AVE	A-5
WOODLAND DR	E-4/5
WOODLAWN CT (PVT)	L-9
WOODLAWN DR	J/L-9/10
WOODMONT DR	A-7
WOODS END	A-7
WOODVIEW DR	G-5
WOODY NOLL DR	L-9/10
WRENBURY ST	E-3
YARMOUTH AVE (PVT)	A-12
YELLOW BRICK RD	B-9
ZYLMAN AVE	G-10/12

(PVT) = PRIVATE
CITY OF KALAMAZOO

Legend

- AIRPORT
- PUBLIC ACCESS
- GOLF COURSE
- CEMETERY
- FIRE STATION
- SECRETARY OF STATE (S.O.S.)
- LIBRARY
- CITY PARK
- PUBLIC SCHOOL
- POLICE
- MUNICIPAL
- MULTI USE TRAIL
- PORTAGE COMMUNITY CENTER
- CITY BOUNDARY
- CITY PARKS
- STATE GAME AREA
- CITY OF KALAMAZOO
- 31 EXIT NUMBER
- 1 SECTION LINE & SECTION NUMBER

1,500 750 0
Feet

CITY OF PORTAGE

RESOLUTION

At a regular meeting of the Council of the City of Portage**,** Kalamazoo County, Michigan, held at the City Hall in said City on the _____ day of _____, 2021 at 7:00 p.m., local time.

PRESENT: _____

ABSENT: _____

The following resolution was offered by Councilmember _____ and seconded by Councilmember _____.

WHEREAS, Michigan Public Act 325 of 2018 requires local road agencies to develop and submit asset management plan to the Transportation Asset Management Council including an asset inventory, performance goals, anticipated revenues and expenses and performance outcomes to be submitted to the Transportation Asset Management Council; 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 Portage staff have completed a Transportation Asset Management Plan containing the required information; and

WHEREAS, the Transportation Asset Management Council requires a resolution accepting the Transportation Asset Management Plan.

NOW, THEREFORE, BE IT RESOLVED, that the City Council hereby accepts the 2020 Transportation Asset Management Plan; and

BE IT FINALLY RESOLVED that a copy of this resolution be added to the Transportation Asset Management Plan before submittal to the Transportation Asset Management Council.

ADOPTED: YEAS:

NAYS:

ABSENT:

_____

Erica L. Eklov, City Clerk

CERTIFICATION

I hereby certify this _____ day of _____, 2021 that the foregoing is a true and complete copy of the original on file in my office.

_____

Erica L. Eklov, City Clerk

Appendix B

City of Portage
2020 Bridge
Asset Management Plan

Prepared by:

Department of Transportation & Utilities
Jamie Harmon, 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 Portage (Portage) 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 Portage is meeting its obligations to maintain the bridges for which it is responsible.

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

- The types of bridge assets within Portage and the different options for maintaining these assets.
- What tools and processes Portage uses to track and manage bridge assets and funds.
- The condition of Portage bridge assets 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 the origin of those funds.
- How funds are used and what costs may be incurred during the normal life cycle of bridge assets in Portage.
- The condition Portage can expect of its bridge assets if those assets continue to be funded at the current level.
- How changes in funding levels can affect the overall condition of bridge assets in Portage.

Portage owns and/or manages three bridges and all are rated in good condition.

An asset management plan is required by Michigan Public Act 325 of 2018, and this document represents fulfillment of some of Portage obligations towards meeting these requirements. This asset management plan also helps demonstrate the responsible use of public funds by providing elected and appointed officials, as well as the general public, with inventory and condition information of Portage bridge assets. The report further provides taxpayers with 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 Portage 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 the Portage 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.

Portage 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. Portage is responsible for maintaining and operating three bridges.

This 2020 plan outlines how Portage determines its strategy to maintain and upgrade bridge asset condition given agency goals, priorities of 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 Jamie Harmon at 7719 South Westnedge Avenue, Portage MI 49002, (269) 329-4422, or via email at harmonj@portagemi.gov.

Key terms used in this plan are defined in the Portage 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 and which 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.

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

Figure 1: Girder Bridge

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).

Figure 2: Slab Bridge

A similar design that lacks girders (or beams) is a **slab bridge** (Figures 2 and 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 3). Structural members may consist of steel tubes or angles connected at joints with gusset plates.

Figure 3: Truss Bridge

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 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 1 for a summary of the NBI Rating scale.) Elements of a 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 would cost more than two-thirds of the cost of replacement. Replacement is generally the most expensive of the treatment options.

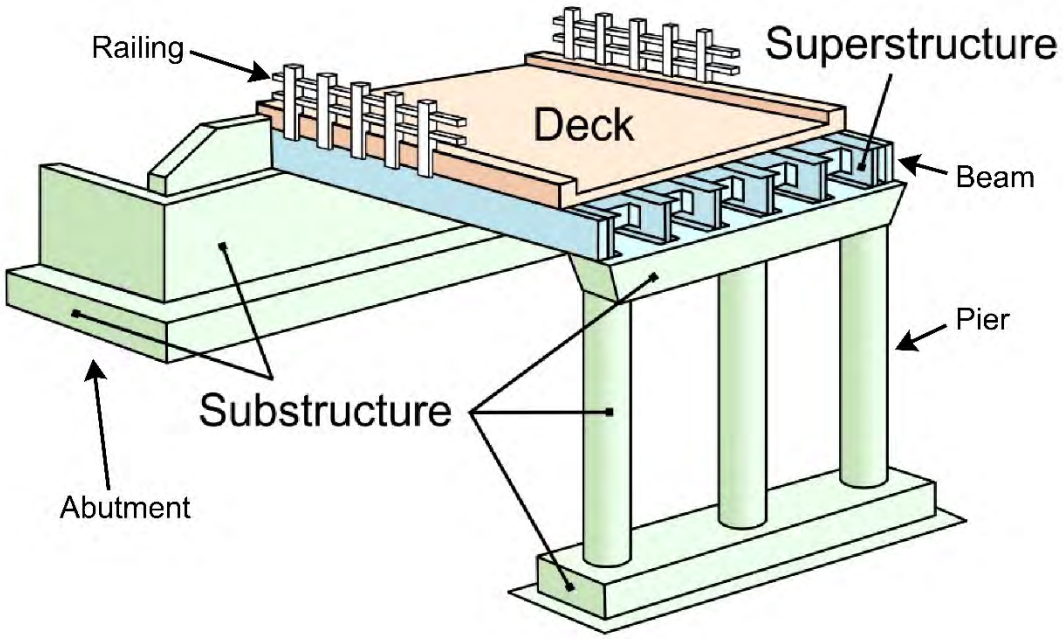


Figure 6: Diagram of Basic Elements of a Bridge

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 repaired 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 repair is performed if spalling (i.e., loss of material) exists on 50 percent or more of the beam ends.
- **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 (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 performed 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 in poor condition (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 must 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 (NBIS 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:** The approach to a bridge 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 the need for 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

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

Thus, the Portage asset management plan objectives are:

- To establish the current condition of the Portage 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 eligible bridges in need of replacement
- To identify available funding sources, such as:
    - Dedicated city resources
    - 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/or preserve bridges currently rated fair (5 or higher) in their current condition in order to extend their useful service life.

Inventory

Portage is responsible for three local bridges. Table 2 summarizes Portage 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 1, 2, and 3. The bridge inventory data was obtained from MDOT MiBRIDGE and other sources, and the 2019 condition data and maintenance actions are taken from the inspector's summary report (see Appendix 2).

Types

All three bridges in Portage are concrete bridges.

Locations and Sizes

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

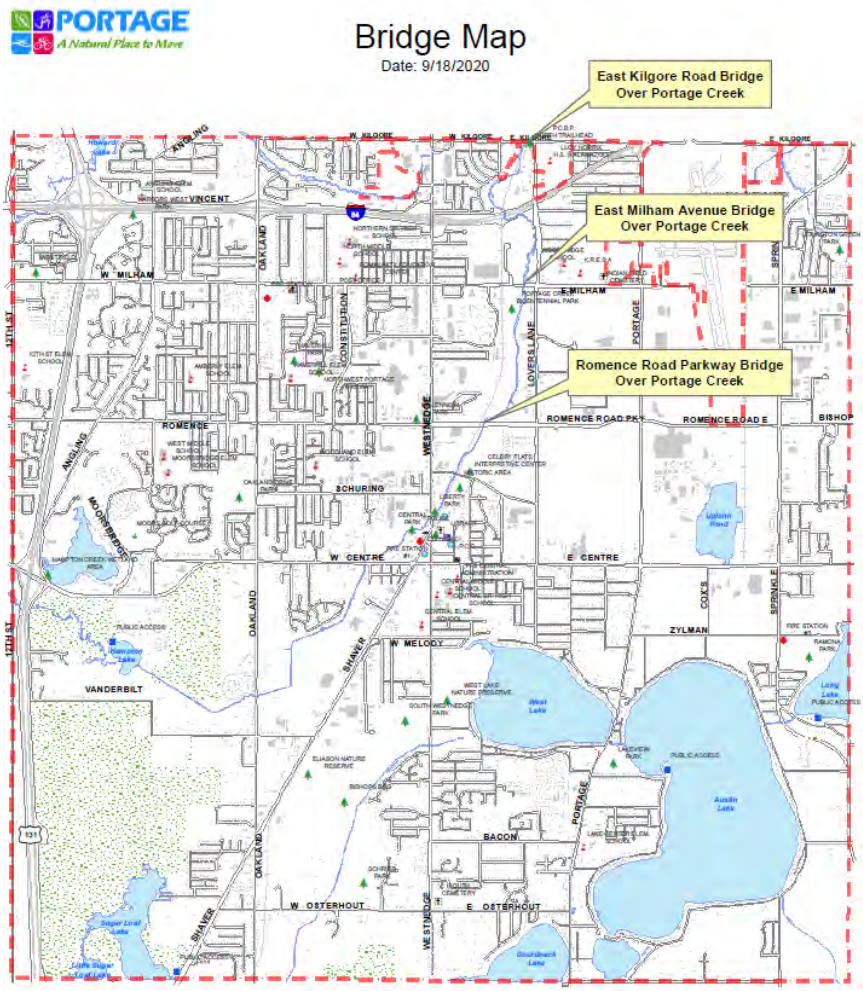


Figure 7: Map Illustrating Locations of Portage Bridge Assets

Condition

Portage 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. All three bridges (100%) in Portage are in good condition.

Another layer of classification of the Portage bridge inventory classifies 0 (0%) bridges as structurally deficient, one (33%) bridge 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: Type, Size, and Condition of Portage Bridge Assets

Bridge	Bridge Type	Year Built	Total Deck Area (sq ft)	Condition: Structurally Deficient, Posted, or Closed			2019 Condition		
				Structurally Deficient	Posted	Closed	Poor	Fair	Good
ROMENCE ROAD	Concrete Box Beam	1992	4,862		X				X
MILHAM AVE	Concrete Culvert	1990	1,318						X
KILGORE ROAD	Concrete Culvert	2013	2,428						X

Statewide, MDOT's statistics for local agency bridges show that 14% are poor and 86% are good/fair, indicating that Portage has a percentage of poor bridges that has not been evaulated compared to the statewide average for local agencies. Correspondingly, Portage has 100% of its bridges in fair/good condition versus the statewide average of 86% for local agency bridges. Statewide, 8% of local agency bridge deck area classifies as structurally deficient compared to 0% of Portage bridge deck area.

Goals

The goal of the Portage 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% classified as structurally deficient within five years.

Several metrics will be used to assess the effectiveness of this asset management program. Portage 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.

Based on past inspection records and condition ratings, Portage 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

The Portage 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. Portage prioritizes bridges for projects by evaluating five factors and weighting them as follows:

- Condition – 30%
- Load Capacity – 10%
- Traffic – 10%
- Safety – 40%
- Detour – 10%

Several components within each factor determine a score. Each project under consideration is scored, which is then compared with other proposed projects to establish a priority order.

Portage annually reviews the current condition of each of the 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 Portage bridges in Appendix 1. Portage then determines management and preservation needs and corresponding actions for each bridge (Appendix 2), as well as inspection follow-up actions (Appendix 3). The management and preservation actions are selected in accordance with criteria contained in the *Summary of Preservation Criteria* table (below) and adapted to the Portage 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]	40 years [1]

Table 3: Summary of Preservation Criteria		
Preservation Action	**Bridge Selection Criteria**	**Expected Service Life**
	• *OR* Cost of superstructure and deck rehabilitation exceeds cost of replacement [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	
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]	25 years

Table 3: Summary of Preservation Criteria		
Preservation Action	**Bridge Selection Criteria**	**Expected Service Life**
	• *OR* In response to inspector's work recommendation [1]	
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] • *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]	10 years
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	

Table 3: Summary of Preservation Criteria		
Preservation Action	**Bridge Selection Criteria**	**Expected Service Life**
	pavement growth that may cause distress to the structure. Signs of pavement growth include: o Abutment spalling under bearings [1] o Beam end contact [1] o Closed expansion joints and/or pin and hangers [1] o Damaged railing and deck fascia at joints [1] o 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]	
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]	

Table 3: Summary of Preservation Criteria		
Preservation Action	**Bridge Selection Criteria**	**Expected Service Life**
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, *Project Scoping Manual*, MDOT, 2019.

[2] MDOT, *MDOT NBI Rating Guidelines*, MDOT, 2017.

[3] MDOT, *Bridge Deck Preservation Matrix - Decks with Uncoated "Black" Rebar*, MDOT, 2017.

[4] MDOT, *Bridge Deck Preservation Matrix - Decks with Epoxy Coated Rebar*, 2017.

[5] MDOT, *Pontis Bridge Inspection Manual*, MDOT, 2009.

* From source with interpretation added.

In terms of management and preservation actions, the Portage asset management program uses a "mix of fixes" strategy that is made up of 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 the agency's in-house maintenance crews while larger, more complex work will be contracted.

The City of Portage'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 often 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 Portage annual applications.

To achieve its goals, a primary objective of the Portage asset management program is improvement of bridges rated poor (4 or lower) to a rating of fair (5) or higher and/or preservation of bridges currently rated fair (5) or higher in their current condition within a five-year time period through management and/or preservation activities. A bridge-by-bridge preservation—or maintenance—plan is presented in the Appendix 4.

Programmed/Funded Projects

Portage budgets $7,500 in total funding per year for the years 2021-2025. To achieve its goals, Portage plans to invest $1,000-$7,500 per year on preventive maintenance of bridges. Portage does not plan to replace any bridges. By performing the aforementioned preventive maintenance and replacement of bridge structures, Portage will meet its overall bridge network condition goals.

Portage 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

Portage 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	2020	2021	2022	2023	2024
New	$0	$0	$0	$0	$0
Replacement	$0	$0	$0	$0	$0
Rehabilitation	$0	$0	$0	$0	$0
Scheduled Maintenance	$2,500	$2,500	$2,500	$2,500	$2,500
Preventive Maintenance	$5,000	$5,000	$5,000	$5,000	$5,000

2. FINANCIAL RESOURCES

Anticipated Revenues

Portage does not plan to submit any projects for funding at this time as the bridges in Portage are in good condition and only preventive maintenance projects are needed at this time.

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

Portage 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.

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

Portage administers the biennial inspection of its bridges in accordance with NBIS and MDOT requirements. The inspection reports document the condition of Portage 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 the Portage 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. Portage has a scour critical rating of 8 for all three of its bridges, which are listed in Table 5.

Table 5: Scour Critical Bridges	
Bridge	**Scour Critical Rating**
Romence Road	8
Milham Avenue	8
Kilgore Road	8

Portage has one bridge that is posted, meaning it is critical to accessing entire areas or individual properties within its jurisdiction. This bridge is listed in Table 6.

Table 6: Posted/Closed Bridges that are Critical Links		
Bridge	**P/C**	**Comments**
Milham Avenue	Posted	31 tons/1 unit vehicles 52 tons/2 unit vehicles 70 tons/3 unit vehicles

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.

4. BRIDGE INSPECTIONS

Portage 2019 Bridge Inspection Report Summary

General Recommendations

- Update ADT Counts for Milham Avenue and Romence Road
- Romence Road over Portage Creek: Elevations required next in 2023
- Milham Avenue over Portage Creek: Elevations required next in 2023
- Kilgore Road over Portage Creek: Elevations required next in 2023

4688 Romence Road over Portage Creek

Constructed: 1992 **Reconstructed:** N/A **General Condition:** Good

Description: Two-span (54 feet, 26 feet) concrete box beam with concrete deck and bituminous approaches. The box beams bear on elastomeric bearings on a concrete pier and concrete abutments.

Condition:

Nomenclature: Spans numbered west to east; beams numbered north to south by Span-Beam-End-Side-Defect-Details, 20 beams total per span; piers numbered east to west and columns north to south; by Pier-Part-Face-Defect-Details, 1 pier total

- Multiple longitudinal cracking across entire concrete deck surface.
- Deterioration of approach at reference lines was patched.
- Consistent cracking every 3–4 feet across South bridge railing. Crack lines up with bolts in one location of South rail.
- Spall in top of rail in NE Quadrant.
- Slight impact damage to guardrail in Southwest quadrant.
- Guardrail in Northeast & Northwest quadrants too low to ground.
- Minor efflorescence East side between: Beams 14 & 15, 6 FT; Beams 15 & 16, 6 FT; and Beams 16 & 17, 12 FT.
- Beams 8-9 E side, Crack in grout line, 10 FT from pier.
- Beams 7-8, Grout line patched 10 FT from pier, holding up.
- Beams 6-7, Crack in joint, patched sporadically, 15 FT.
- Loss of grout between beams 16 & 17 and 17 & 18.
- Spalling/Honeycombing of underside of pier cap at North end.
- Pier cap wet on east side from leakage through beam joints.

Maintenance Recommendations:

- Clean out expansion joint to allow for movement.
- Raise guardrail in Northeast & Northwest quadrants.

4689 Milham Avenue over Portage Creek

Constructed: 1990 **Reconstructed:** N/A **General Condition:** Good

Description: Single 20’ span three-sided concrete Conspan culvert with bituminous overlay

Condition:

Nomenclature: Precast sections numbered north to south. 7 sections total.

- Minor transverse & longitudinal cracking of bituminous surface.
- Buried cable and end section too low in Southeast quadrant.
- Erosion in Northwest quadrant behind storm drain casting.
- Spalling and leakage at the North and South curb lines between sections 1 & 2 and 7 & 8.

Maintenance Recommendations:

- Continue to seal cracks in bituminous overlay.
- Remove vegetation from behind sheeting in Southwest quadrant.
- Erosion in NE Quad. Make sure drainage on structure is cleaned at all times to prevent erosion.
- Repair slope and reinforce with mulch blanket.
- Remove tree and other debris in channel downstream.

4690 Kilgore Road over Portage Creek

Constructed: 2013 **Reconstructed:** N/A **General Condition:** Good

Description: Single 27.5’ span by 88.29’ long three-sided Conspan culvert with 48’ curb to curb bituminous roadway on fill

Condition:

Nomenclature: Sections (12 total) numbered downstream to upstream; by Section-Side-Defect-Details

- Bituminous approach pavement was patched on east side.
- Spall of curb at drain casting in SW quadrant.
- Railing minor cracks in concrete at posts.
- Burn mark on section 10, east side. Speculated to be from cutting torch before placement.
- 2 ft void under riprap in northwest quadrant.

Maintenance Recommendations:

- Patch spall in curb at SW drain casting.
- Fill in void under riprap in northwest quadrant.

Appendix 1

Inventory Data												Inspection Findings												Appraisal			
Bridge Type	Structure Number	Facility Carried	Features Intersected	Primary or Secondary Route	Structure Type Main Span (Item 43A - Material)	Structure Type Main Span (Item 43B)	Number of Main Span (Item 45)	Total Str Length (Item 49)	Year Built (Item 27)	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)	Culvert Rating (Item 62)	Surface Rating (Item 58A)	Paint Rtg	Exp Joint Rating (Item XX)	Other Joints	Structure Evaluation	Structurally Deficient	Section Loss	Scour Critical (Item 113)
Concrete Box Beam	**4688**	ROMENCE ROAD	PORTAGE CREEK	Primary	2	5	2	79.7	1992	10000	1993	9/23/2019	A	8	N	8	8	8	N	7	N	7	6	G	Funct Obs	N	8
Concrete Culvert	**4689**	MILHAM AVE	PORTAGE CREEK	Primary	1	19	1	21.6	1990	18009	1988	9/23/2019	P	N		N	N	8	7					G	Funct Obs		8
Concrete Culvert	**4690**	KILGORE ROAD	PORTAGE CREEK	Primary	1	19	1	27.5	2013	15000	2013	9/23/2019	A	N		N	N	7	9					G	Funct Obs		8

Appendix 2

Inventory Data										Rehabilitation	Proposed Scheduled Maintenance								
Bridge Type	Structure Number	Facility Carried	Features Intersected	Structure Type Main Span (Item 43A - Material)	Structure Type Main Span (Item 43B)	Number of Main Span (Item 45)	Total Str Length (Item 49)	Total Str Width (Item 52)	Total Str (sq ft)	Deep Overlay	Vegetation Control	Clean Drainage System	Seal HMA Cracks /Joints	Seal Concrete Cracks/ Joints	Minor Concrete Patching	Repair/ Replace Guardrails	Repair Slopes	Install RipRap
Concrete Box Beam	**4688**	ROMENCE ROAD	PORTAGE CREEK	2	5	2	79.7	61	4862		X	X		X	X	X		
Concrete Culvert	**4689**	MILHAM AVE	PORTAGE CREEK	1	19	1	21.6	61	1318	X	X	X	X	X			X	
Concrete Culvert	**4690**	KILGORE ROAD	PORTAGE CREEK	1	19	1	27.5	88.3	2428		X	X	X	X				X

Appendix 3

Inventory Data										Inspection Items		
Bridge Type	Structure Number	Facility Carried	Features Intersected	Structure Type Main Span (Item 43A - Material)	Structure Type Main Span (Item 43B)	Number of Main Span (Item 45)	Total Str Length (Item 49)	Total Str Width (Item 52)	Total Str (sq ft)	Review Scour Criticality	Load Rating	Update SIA
Concrete Box Beam	**4688**	ROMENCE ROAD	PORTAGE CREEK	2	5	2	79.7	61	4862	X	X	X
Concrete Culvert	**4689**	MILHAM AVE	PORTAGE CREEK	1	19	1	21.6	61	1318	X	X	X
Concrete Culvert	**4690**	KILGORE ROAD	PORTAGE CREEK	1	19	1	27.5	88.3	2428	X		X

Appendix 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.

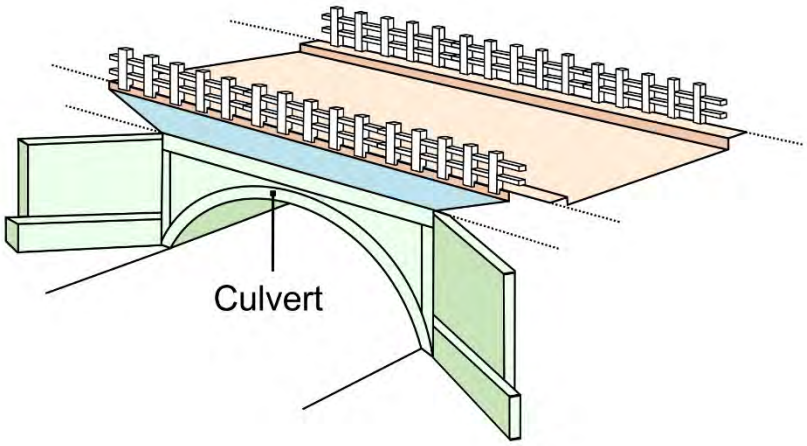


Figure C-1: Diagram of a culvert structure

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 at 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).

Portage is using the following condition assessment for rating culverts during inspection, which is included on the inspection forms used in the field.

1	Emergency action required, re-route traffic and close.
2	Highest priority, discontinue other work if required, emergency basis.
3	High priority, schedule as soon as possible in current season.
4	Review work plan for relative priority and adjust schedule if possible for current season.
5	Schedule current season at first reasonable opportunity.
6	Add to work scheduled for completion by end of next season.
7	No immediate plan for repair, examine possibility of increased level of inspection.
8	No repairs needed, list specific items for close inspection during next regular inspection.
9	No repairs needed.
10	New culvert.

Figure C-3 includes a map of the culverts in Portage. A pdf map that can be zoomed in for better visibility can be provided by contacting the Department of Transportation & Utilities.

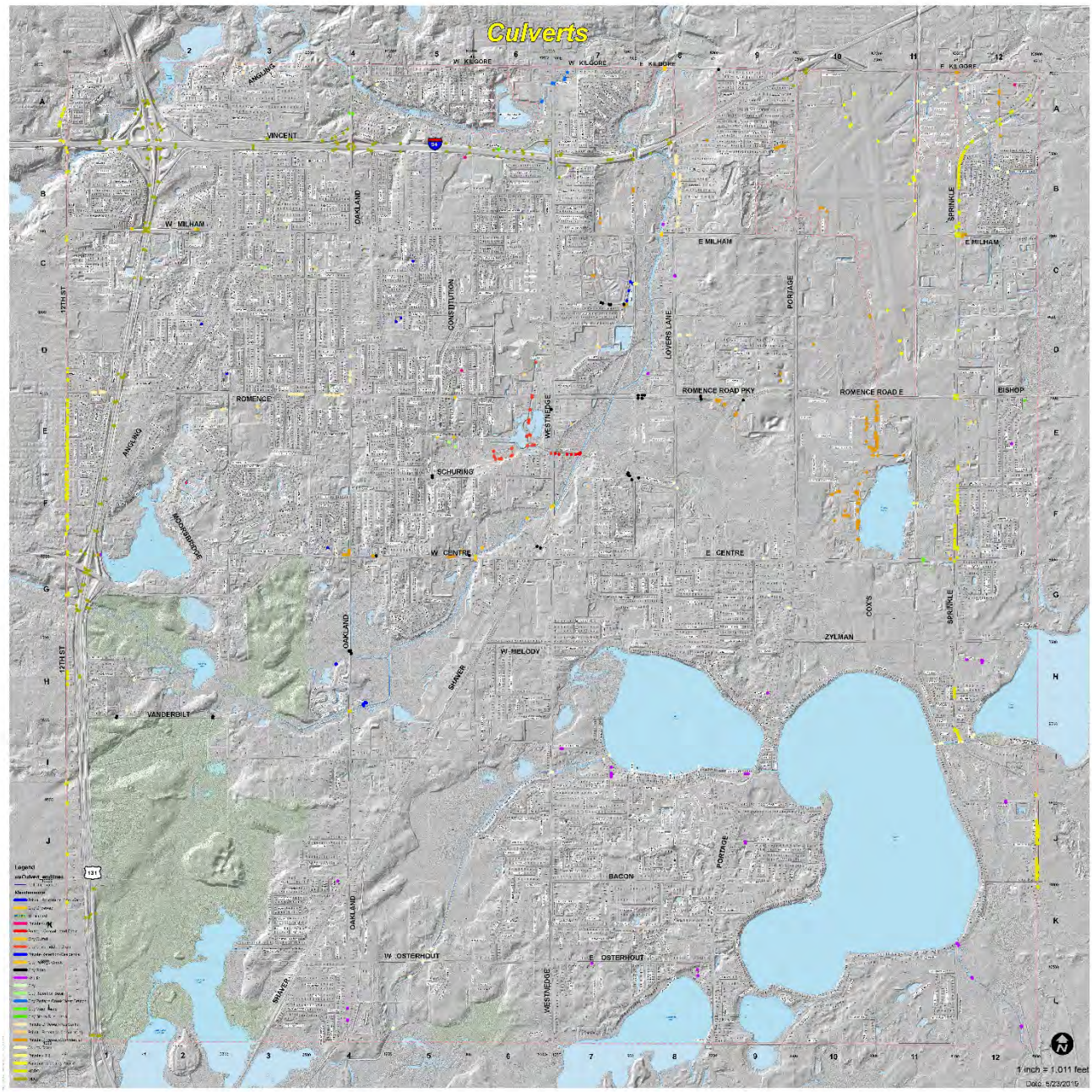


Figure C-3: Map of Culverts in Portage

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.

Appendix D

Traffic Signals Asset Management Plan Supplement

Traffic Signals Primer

Traffic Signal 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. The Portage traffic signal system has 54 traffic signals, 26 school/pedestrian flashing beacons and 5 speed feedback signs. This asset management plan focuses on traffic signals (Figure D-1) as a functioning unit and does not consider other electronic traffic control devices.

Traffic Signal 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.

Traffic Signal Maintenance

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.

Portage has historically contracted with a private contractor annually for the maintenance of its traffic signal system. Maintenance of the city’s system includes traffic control signals of all types, poles, mast arms, light emitting diode signal heads, overhead street name signs, pedestrian pushbutton pedestals and signals, underground loop detectors for signal actuation, overhead video detection, fiber optic cable, permanent traffic count stations and battery back-up power systems.

APPENDIX 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.[1]

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".[2]

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.

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.

[1] https://en.wikipedia.org/wiki/Crocodile_cracking
[2] Inventory-based Rating System for Gravel Roads: Training Manual

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.[3]

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.

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.

[3] Adapted from Inventory-based Rating System for Gravel Roads: Training Manual

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.[4]

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".[5] 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 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.

[4] Federal Highway Administration webpage https://www.fhwa.dot.gov/
[5] Inventory-based Rating System for Gravel Roads: Training Manual

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

IBR element: A feature used in the IBR System™ for assessing the condition of roads. The system relies on assessing three elements: surface width, drainage adequacy, and structural adequacy.[6]

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.[7]

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.[8]

Inventory-based Rating System™: Also known as the IBR System™, 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.[9]

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.

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.

[6] Inventory-based Rating System for Gravel Roads: Training Manual
[7] Inventory-based Rating System for Gravel Roads: Training Manual
[8] https://www.fhwa.dot.gov/interstate/faq.cfm#question3
[9] Adapted from Inventory-based Rating System for Gravel Roads: Training Manual

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.[10]

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.[11]

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 council reports directly to the Michigan Infrastructure Council.[12] 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.

[10] Inventory-based Rating System for Gravel Roads: Training Manual
[11] Inventory-based Rating System for Gravel Roads: Training Manual
[12] Inventory-based Rating System for Gravel Roads: Training Manual

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.[13]

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.

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.

[13] https://www.fhwa.dot.gov/bridge/nbis/

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.[14]

Pothole: A defect in a road that produces a localized depression.[15]

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.*

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.[16]

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

[14] Adapted from Inventory-based Rating System for Gravel Roads: Training Manual
[15] Inventory-based Rating System for Gravel Roads: Training Manual
[16] Inventory-based Rating System for Gravel Roads: Training Manual

tools, Roadsoft provides a quick, smooth user experience and almost unlimited data handling capabilities.[17]

Ruts/rutting: Deformation of a road that usually forms as a permanent depression concentrated under the wheel path parallel to the direction of travel.[18]

Scheduled maintenance: Low-cost, day-to-day activities applied to bridges on a scheduled basis that mitigates deterioration.[19]

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).[20]

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 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.[21]

[17] Inventory-based Rating System for Gravel Roads: Training Manual
[18] Paving Class Glossary
[19] Inventory-based Rating System for Gravel Roads: Training Manual
[20] Inventory-based Rating System for Gravel Roads: Training Manual

[21] [second sentence] http://www.kentcountyroads.net/road-work/road-treatments/ultra-thin-overlay

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 rout for long-distance travel.[22]

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.[23]

Washboarding: Ripples in the road surface that are perpendicular to the direction of travel.[24]

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

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

[22] https://en.wikipedia.org/wiki/Trunk_road
[23] https://en.wikipedia.org/wiki/Trunk_road
[24] Inventory-based Rating System for Gravel Roads: Training Manual

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

CITY OF PORTAGE

RESOLUTION

At a regular meeting of the Council of the City of Portage, Kalamazoo County, Michigan, held at the City Hall in said City on the _____ day of _____, 2021 at 7:00 p.m., local time.

PRESENT: _____

ABSENT: _____

The following resolution was offered by Councilmember _____ and seconded by Councilmember _____.

WHEREAS, Michigan Public Act 325 of 2018 requires local road agencies to develop and submit asset management plan to the Transportation Asset Management Council including an asset inventory, performance goals, anticipated revenues and expenses and performance outcomes to be submitted to the Transportation Asset Management Council; 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 Portage staff have completed a Transportation Asset Management Plan containing the required information; and

WHEREAS, the Transportation Asset Management Council requires a resolution accepting the Transportation Asset Management Plan.

NOW, THEREFORE, BE IT RESOLVED, that the City Council hereby accepts the 2020 Transportation Asset Management Plan; and

BE IT FINALLY RESOLVED that a copy of this resolution be added to the Transportation Asset Management Plan before submittal to the Transportation Asset Management Council.

ADOPTED: YEAS:

NAYS:

ABSENT:

_____

Erica L. Eklov, City Clerk

CERTIFICATION

I hereby certify this _____ day of _____, 2021 that the foregoing is a true and complete copy of the original on file in my office.

_____

Erica L. Eklov, City Clerk

APPROVED AS TO FORM FOR CITY OF PORTAGE
BAUCKHAM, SPARKS, THALL,
SEEBER, & KAUFMAN, PC
By: CATHERINE P. KAUFMAN
Date: 9/1/2021

TO: Honorable Mayor and City Council

FROM: Adam Herringa, Acting City Manager

SUBJECT: Romence Road Reconstruction Project - Tabulation of Proposals

SUPPORTING PERSONNEL: Kendra Gwin, Director of Transportation & Utilities

ACTION RECOMMENDED: Award a contract to perform engineering services for the Romence Road Reconstruction Project to Wightman & Associates, Incorporated, of Kalamazoo, Michigan in the not-to-exceed amount $198,908 and authorize the Acting City Manager to execute all documents related to the contract on behalf of the city.

The Fiscal Year 2021-2022 Capital Improvement Program budget includes funding for the Major Street Reconstruction Program. Major street reconstruction projects are selected based on pavement condition, average daily traffic, federal aid eligibility, as well as potential development activities. Future work will focus on preserving and restoring pavement conditions on major streets, which will allow additional roadway mileage to be restored yearly. Romence Road from Angling Road to Oakland Drive is included in the Major Street Reconstruction Program. The project cost is $1,250,000 and will be financed through the Municipal Street Fund.

On August 26, 2021, three proposals were received for design and construction engineering services for the Romence Road project. Based upon review of the proposals, staff has determined that the proposal from Wightman & Associates, Incorporated, of Kalamazoo best fits the needs of the project. Wightman & Associates has significant experience with the city's policies and procedures and is pre-qualified with the Michigan Department of Transportation.

Therefore, it is recommended that City Council award a contract to Wightman & Associates, Incorporated, to perform engineering services for the Romence Road Reconstruction Project in the not-to-exceed amount $198,908 and authorize the Acting City Manager to execute all documents related to the contract on behalf of the city.

FUNDING: Fiscal Year 2021-2022 Capital Improvement Program budget.

Attachments: 1. Romence Road Reconstruction Project - Bid Tabulation

TABULATION OF PROPOSALS

2021 RFP Professional Engineering Services for Romence Road Reconstruction
Proposal Opening: 8/26/2021 @ 4 pm

FIRM	TOTAL BID AMOUNT
Wightman & Associates, Incorporated 433 East Ransom Street Kalamazoo, MI 49007	$198,908.00
Abonmarche Consultants, Incorporated 700 Mall Drive Ste C Portage, MI 49024	$201,250.00
Mannik Smith Group 1345 Monroe Avenue NW, Suite 269 Grand Rapids, MI 49505	$230,786.00

TO: Honorable Mayor and City Council

FROM: Adam Herringa, Acting City Manager

SUBJECT: Valleywood Storm Water Drainage Improvement Project - Bid Tabulation

SUPPORTING PERSONNEL: Kendra Gwin, Director of Transportation & Utilities

ACTION RECOMMENDED: Award a contract to Cripps Fontain Excavating, Incorporated, of Kalamazoo, Michigan, for the Valleywood Storm Water Drainage Improvement Project in the not-to-exceed amount of $124,888.50 and authorize the Acting City Manager to execute all documents related to this project on behalf of the city.

Funds are budgeted annually to perform major maintenance on storm water facilities. As part of the Fiscal Year 2021-2022 Water Fund budget for the Transportation & Utilities Department, funds have been allocated to rehabilitate the storm water outfall on Valleywood Lane. The Valleywood Lane storm water outfall, constructed in 1976, has not undergone major maintenance since construction and is in need of complete rehabilitation.

In 2019, the city contracted the professional services of Hurley & Stewart, LLC, to complete the engineering design for the rehabilitation. Hurley & Stewart, LLC, also secured the necessary permits from the Michigan Department of Environment, Great Lakes and Energy (EGLE). The rehabilitation would include clearing massive overgrowth, removing accumulated sedimentation and installing a mechanical storm water treatment device.

On August 26, 2021, two construction bids were received for the Valleywood Storm Water Drainage Improvement Project, with the low bid submitted by Cripps Fontain Excavating, Incorporated of Kalamazoo, Michigan, in the amount of $124,888.50. Cripps Fontain Excavating has successfully completed similar projects for the city in the past; most recently as the underground sub-contractor for the Lovers Lane Realignment Project. If approved by Council, the construction work for the Valleywood Storm Water Drainage Improvement Project would be completed by June 2022.

This project, as well as the ownership and accessibility of this city property, has generated significant interest from adjoining property owners and residents of the Brookwood Highlands neighborhood. The matter was brought to the attention of the Office of the City Manager earlier this summer when an adjoining property owner expressed concern about residents using a 20-foot-wide strip of city-owned land to access the larger adjacent parcel (see attached graphic). City staff researched the matter and found that the 1978 Brookwood Highlands No.1 Plat Map designated the land as "Brookwood Park - Public" and "maintained by the City of Portage." A search of city records found no documents to either support or refute the designation indicated on the plat map.

City staff from the Department of Public Works, Transportation & Utilities and the Office of the City

Manager visited this property several weeks ago and met with an adjoining property owner concerned about the number of residents walking along his property line to access the city-owned land. (Apparently there has been a recent spike in the number of people accessing the property due to a social media post on a neighborhood Facebook group.) Additionally, and as the attached aerial indicates, another property owner has placed a gazebo and fence on the city property. This property owner has been informed of the need to relocate the structures. Aerial photography is approximate and field verification will be used to determine exact property boundaries. Further, neighborhood residents have been accessing this property and mowing walking trails for decades due to the designation on the 1978 plat map. The City Attorney and staff have been asked about the history and legality of either permitting or denying access to this piece of city-owned land. At present, an immediate legal remedy remains elusive as the land is publicly-owned, has been utilized by residents for decades and has a plat map on file indicating the public nature of the property.

As indicated above, this particular stormwater drainage improvement project has been under development since 2019, with much of that time dedicated to EGLE reviewing and approving the necessary permits to allow the work. Following receipt of the permits from EGLE in December 2020, the storm water drainage project was put out for bid in June 2021. After the deadline closed without any bids, the project was put out for bid a second time. It has also been determined there is an endangered bat species in the area, limiting tree removal efforts to late fall, winter and early spring. In anticipation of issuance of the permits last summer, the Department of Public Works topped several trees in early 2020 while the bats were not present. The tree tops and branches located on the 20-foot-wide strip of the city property were removed this summer.

Nonetheless, the Valleywood Lane storm water outfall is in need of complete rehabilitation and it is recommended that the project moves forward. It is recommended that City Council award a contract to Cripps Fontain Excavating, Incorporated for the Valleywood Storm Water Drainage Improvement Project in the not-to-exceed amount of $124,888.50 and authorize the Acting City Manager to execute all documents related to this project on behalf of the city.

FUNDING: Sufficient funding is available in the FY 2021-2022 Water Capital Outlay budget.

Attachments:
1. Valleywood Storm Water Drainage Improvement Project - Bid Tabulation
2. Brookwood Plat Map
3. 8220 Valleywood Lane Map
4. 8220 Valleywood Lane Map - Close Up

TABULATION OF PROPOSALS

2021 RFB - Valleywood Drain Improvements
Proposal Opening: 8/26/2021 @ 3pm

FIRM	TOTAL BID AMOUNT
Cripps Fontaine Excavating, Inc. 7729 Douglas Avenue Kalamazoo, MI 49009	$124,888.50
Hoffman Bros. Inc. 8574 Verona Road Battle Creek, MI 49014	$144,129.48

Sheet 3 of 3 Sheets

BROOKWOOD HIGHLANDS NO. 1

N.E. ¼ of Sec. 20 & W. ½ of Sec. 21, T. 3 S., R. 11 W.

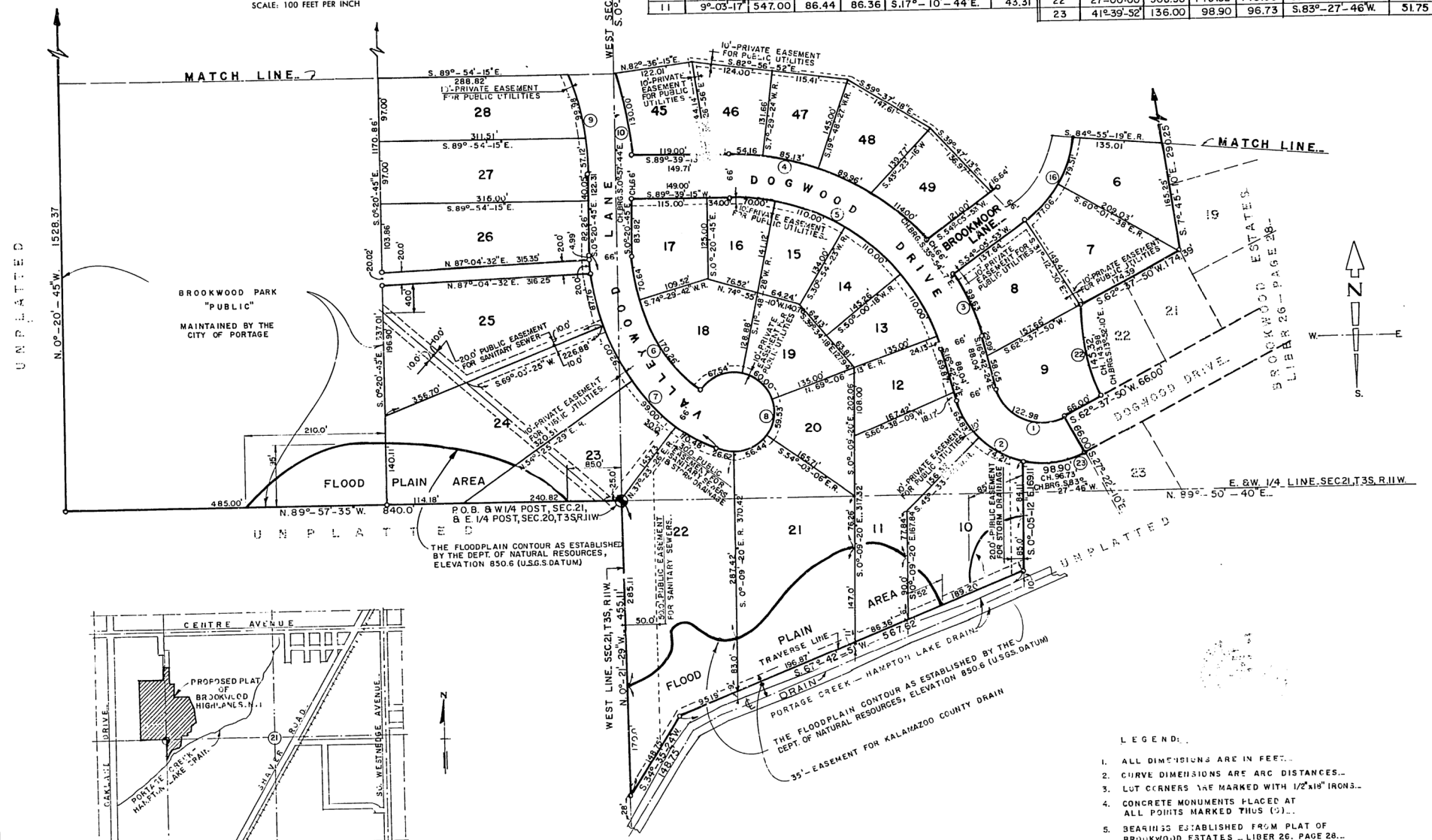
City of Portage, County of Kalamazoo, Michigan

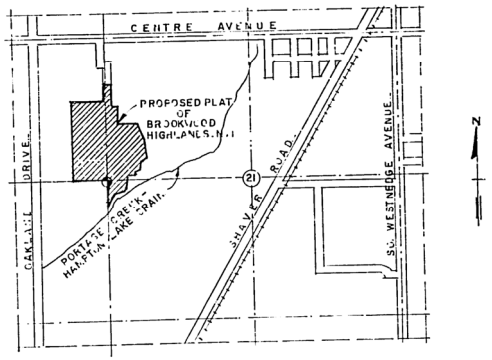
SCALE: 100 FEET PER INCH

CURVE DATA

CURVE No.	DELTA	RADIUS	LENGTH	CHORD	CHORD BEARING	TANGENT
1	100°-39'-46"	70.00	122.98	107.76	N.67°-02'-17"W.	84.41
2	100°-39'-46"	136.00	238.94	209.37	N.67°-02'-17"W.	164.00
3	14°-24'-56"	396.00	99.63	99.37	N.23°-54'-52"W.	50.08
4	49°-39'-50"	396.00	343.25	332.61	S.65°-30'-50"E.	183.25
5	73°-38'-21"	330.00	424.13	395.54	S.53°-31'-35"E.	247.05
6	51°-41'-43"	267.00	240.90	232.81	S.26°-11'-36"E.	129.35
7	64°-23'-26"	333.00	374.23	354.85	S.33°-02'-28"E.	209.66
8	257°-56'-52"	60.00	270.12	93.29	S.13°-42'-37"E.	74.16
9	21°-21'-38"	467.00	174.10	173.10	S.10°-42'-54"E.	88.07
10	18°-24'-07"	533.00	171.18	170.45	S. 9°-32'-48"E.	86.34
11	9°-03'-17"	547.00	86.44	86.36	S.17°-10'-44"E.	43.31

CURVE No.	DELTA	RADIUS	LENGTH	CHORD	CHORD BEARING	TANGENT
12	26°44'-55"	547.00	255.37	253.05	S. 7°-38'-26"W.	130.05
13	42°-43'-16"	613.00	457.07	446.55	S. 0°-20'-45"E.	239.75
14	21°-21'-38"	467.00	174.10	173.10	S. 9°-51'-04"W.	88.07
15	21°-21'-38"	533.00	198.71	197.56	S. 9°-51'-04"W.	100.52
16	105°-44'-19"	183.00	337.72	291.80	S.1°-13'-44"W.	241.70
17	0°-33'-55"	736.00	7.26	7.26	S.51°-55'-24"E.	3.63
18	105°-44'-19"	117.00	215.92	186.56	S. 1°-13'-44"W.	154.53
19	47°33'-09"	670.00	556.06	540.24	S.75°-25'-00"E.	295.17
20	22°51'-17"	736.00	293.59	291.64	S.68°-50'-54"E.	148.77
21	13°-46'-18"	736.00	176.91	176.48	N.87°-41'-35"E.	88.88
22	27°00'-00"	308.38	145.32	143.98	S.13°-52'-10"E.	74.03
23	41°-39'-52"	136.00	98.90	96.73	S.83°-27'-46"W.	51.75





LOCATION MAP.
NOT TO SCALE.

LEGEND:

1. ALL DIMENSIONS ARE IN FEET.
2. CURVE DIMENSIONS ARE ARC DISTANCES.
3. LOT CORNERS ARE MARKED WITH 1/2"x18" IRONS.
4. CONCRETE MONUMENTS PLACED AT ALL POINTS MARKED THUS (●).
5. BEARINGS ESTABLISHED FROM PLAT OF BROOKWOOD ESTATES - LIBER 26, PAGE 28.
6. "R" = RADIAL LOT LINE.

56399

PORTAGE
A Natural Place to Move

8220 Valleywood Lane

Map Publication:
08/31/2021 8:10 AM

100m
300ft

powered by FetchGIS

Disclaimer: This map does not represent a survey or legal document and is provided on an "as is" basis. City of Portage expresses no warranty for the information displayed on this map document.

PORTAGE
A Natural Place to Move

8220 Valleywood Lane

Close Up

Map Publication:
08/31/2021 8:12 AM

20m
60ft

powered by FetchGIS

Disclaimer: This map does not represent a survey or legal document and is provided on an "as is" basis. City of Portage expresses no warranty for the information displayed on this map document.

TO: Honorable Mayor and City Council

FROM: Adam Herringa, Acting City Manager

SUBJECT: Network Server Hardware Replacement

SUPPORTING PERSONNEL: Devin Mackinder, Director of Technology Services
Victoria Barboza, Purchasing Manager

ACTION RECOMMENDED: Approve the purchase of network server hardware and installation services from Insight in the amount of $113,245 and authorize the Acting City Manager to execute all documents related to the contract on behalf of the city.

The city network consists of primary network servers, which are no longer supported and are considered end of life. This group of servers is planned for replacement in the city Technology Plan in order to accomplish the following primary enhancements:

- on premise and hybrid cloud capability
- faster processing speeds
- advanced security and remote management
- data storage optimization

The Technology Services Department and Purchasing Department conducted a Request for Bids process in order to receive the lowest and best pricing and services. The city received three qualified bids, with the lowest and best bid submitted by Insight in the total amount of $113,245.

FIRM	TOTAL CONTRACT VALUE
Insight	$113,245.00
Connections	$137,720.16
SHI	$156,827.86

Therefore, it is recommended that Council approve this purchase at a total cost of $113,245 and authorize the Acting City Manager to execute all documents related to the contract on behalf of the city.

FUNDING: Funds have been allocated in Technology Services Capital Improvement Plan.

Attachments: 1. Tabulation of Proposals - 2021 RFP City Hall Infrastructure Updates - Servers

TABULATION OF PROPOSALS

2021 RFB - City Hall Infrastructure Updates – Servers

FIRM	TOTAL CONTRACT VALUE
Insight	$113,245.00
Connection	$137,720.16
SHI	$156,827.86

TO: Honorable Mayor and City Council

FROM: Adam Herringa, Acting City Manager

SUBJECT: Police Department Vehicle Maintenance - Bid Tabulation

SUPPORTING PERSONNEL: Rod Russell, Director of Public Works

ACTION RECOMMENDED: Award a one-year contract, with the option for up to four one-year extensions, to Michigan Municipal Police & Fire Repair, LLC, for the maintenance of all Department of Public Safety Police Division vehicles at a labor rate of $60.00 per hour and authorize the Acting City Manager to execute all documents related to this action on behalf of the city.

Proposals were recently solicited for maintenance of city-owned vehicles in the Police Division of the Department of Public Safety. The proposed contract would cover a one-year base period with the option of four one-year extensions. Requests for Proposals (RFPs) were announced on MLive and via the City website. No bidders attended the pre-bid meeting that was offered to clarify questions or concerns regarding this project. The Statement of Work required a bidder to employ State Certified Mechanics with at least one (1) of these mechanics being a certified Emergency Vehicle Technician (EVT L-1 Law Enforcement Installation Certified) to ensure quality, timely and expertly performed services. This requires the mechanic/technician to have the additional technical knowledge of the specialized computer systems, warning lights and siren systems included in a police vehicle. This same certification was required during the prior Request for Proposals in 2016 and is a standard requirement of emergency/public safety vehicle maintenance and repair contracts.

One bid was received and it was from Michigan Municipal Police & Fire Repair, LLC, which is the city's current emergency vehicle maintenance vendor who has provided the city with excellent vehicle maintenance and service since 2012. The bid of $60.00 per hour received from Michigan Municipal Police & Fire Repair is an increase of $15.00 per hour over the current contract price. This has been consistent over the course of the two prior City Council contract approvals and continues to be a lower rate than the industrial average of $85.00 to $100.00 per hour. As information, the City of Kalamazoo currently handles its Police and Fire vehicle maintenance in-house. Due to the specialized nature of the technicians at Michigan Municipal Police & Fire Repair, LLC, the vendor also services vehicles from the Grand Rapids and Muskegon areas. The estimated value of the one-year contract for the City of Portage with Michigan Municipal Police & Fire Repair is $55,800.

Given the quality of work performed by this vendor in the past and an hourly rate that is less than industry average, it is recommended that City Council award a one-year contract to Michigan Municipal Police & Fire Repair, LLC, with the option for up to four one-year extensions and authorize the Acting City Manager to execute all documents related to these actions on behalf of the city.

FUNDING: Funds are available in the Fiscal Year 2021-2022 Department of Public Safety – Police Division operating budget.

Attachments: 1. Tabulation of Proposals_2021 RFP - Police Department Vehicle Maintenance

TABULATION OF PROPOSALS

2021 RFP - Police Department Vehicle Maintenance

FIRM	TOTAL CONTRACT VALUE
Michigan Municipal Police & Fire Repair LLC	$55,800/year for up to 5 years (max. $279,000.00 total)

TO: Honorable Mayor and City Council

FROM: Adam Herringa, Acting City Manager

SUBJECT: Police Report Fee Structure Resolution

SUPPORTING PERSONNEL: Nicholas Armold, Director of Public Safety - Police / Fire Chief

ACTION RECOMMENDED: Adopt the resolution to authorize a new fee structure for copies of police reports from the Department of Public Safety.

The Police Division continues to explore strategies that leverage technology to create operational efficiencies and improve customer service. For the past several months, members of the department have researched the feasibility of implementing an online reporting platform for new complaints. As technology evolves, there is an increasing demand from citizens for this service. Police Division staff currently field complaints online in a variety of ways, including: SeeClickFix and ReportIt! (from the city website), and the Public Safety Facebook page. In almost all cases, an officer must follow-up with the complainant as these platforms do not solicit the information necessary for proper field reporting and Michigan Incident Crime Reporting (MICR). By allowing citizens to file select non-priority reports online, patrol staff will have more discretionary time to conduct proactive patrols instead of time for report intake, which is inherently reactive.

The Police Division has had a decade-long relationship with LexisNexis, the provider of the platform for both the department's traffic crash reporting system (eCrash) and traffic citation system (eCitation). The department will be adding the Desk Officer Reporting System (DORS) to the existing platform to handle minor reports online. The recent COVID-19 pandemic has reinforced the importance of having such a platform available.

As part of this process, the Police Division reviewed the reporting fee structure. The Police Division currently charges $3.50 per accident report and such reports are most commonly requested by insurance companies following vehicular accidents. According to LexisNexis, the $3.50 fee is extremely low compared to other LexisNexis customers with most other departments charging between $5.00 and $10.00 per report. Research was conducted by administrative staff into the fees charged by other neighboring agencies, which confirmed the information provided by LexisNexis. Agency fees per report were as follows:

- Michigan State Police: $10.00
- Kalamazoo County Sheriff's Department: $5.00
- Battle Creek Public Safety: $6.00 (and up)
- Kalamazoo Department of Public Safety: $6.00
- Lansing Police Department: $10.00
- Benton Harbor Police Department: $10.00

An increase of the City of Portage fee to $7.00 per report would be in line with surrounding agencies. Additionally, it is estimated that a fee of $7.00 per report will allow the city to recoup approximately $8,000 of the $13,000 annual fee for the additional DORS platform. Therefore, it is recommended that the City Council adopt the resolution to increase the fee for Portage Public Safety accident reports from $3.50 per report to a new rate of $7.00 per report.

FUNDING: N/A

Attachments: 1. Police Report Resolution

CITY OF PORTAGE, MICHIGAN

RESOLUTION TO CHANGE POLICE RECORDS FEE

At a regular meeting of the Council of the City of Portage, Kalamazoo County, Michigan, held at the City Hall in said City on the __th day of September, 2021, at 7:00 p.m. local time. PRESENT:_____

ABSENT:_____

Resolution offered by:_____

Seconded by:_____

WHEREAS, the Portage Department of Public Safety (hereinafter "PDPS") continues to explore strategies that leverage technology that results in operational efficiencies and improved customer service.

WHEREAS, PDPS intends to add the LexisNexis Desk Officer Reporting System (DORS) to the PDPS platform that currently holds both the department's traffic crash reporting system (eCrash) and traffic citation system (eCitation). By adding DORS, the department will be able field minor reports online.

WHEREAS, the recent COVID-19 pandemic reinforced the importance of having such a platform.

WHEREAS, PDPS currently charges $3.50 for a copy of an accident report which is procured from LexisNexis.

WHEREAS, our $3.50 fee is very low and at this time PDPS desires to double the fee to $7.00 per report to be in line with industry standards.

NOW, BE IT RESOLVED that the City Council makes the following findings:

1. The Portage Department of Public Safety shall contract with LexisNexis to add the LexisNexis Desk Officer Reporting System to LexisNexis Law Enforcement Agreement that is currently in place.

2. That the copy fees for accident reports procured from LexisNexis be changed to $7.00 per report.

All resolutions or parts of resolutions are, to the extent of any conflict with this resolution, rescinded.

YEAS:_____

NAYS:_____

ABSENT:_____

_____
Erica Eklov, City Clerk

STATE OF MICHIGAN)
)SS
COUNTY OF KALAMAZOO)

I, the undersigned, the duly qualified and acting City Clerk of the City of Portage, Kalamazoo County, Michigan, do hereby certify that the foregoing is a true and complete copy of a resolution adopted at a regular meeting of the City Council of said City, held on the ___ day of September, 2021, the original of which resolution is on file in my office.

IN WITNESS WHEREOF, I have hereto affixed my official signature this ____ day of _____, 2021.

_____
Erica Eklov, City Clerk

APPROVED AS TO FORM FOR CITY OF PORTAGE
BAUCKHAM, SPARKS, THALL,
SEEBER, & KAUFMAN, PC
By: CATHERINE P. KAUFMAN
Date: 8/27/2021

Minutes of Boards & Commissions

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MATERIALS TRANSMITTED

Friday, August 20, 2021

1. Communication from Mayor Randall regarding Adam Herringa's appointment to the Kalamazoo County Consolidated Dispatch Authority Board of Directors – Information Only

2. Communication from Mayor Randall regarding Adam Herringa's appointment to the Policy Committee at the Kalamazoo Area Transportation Study – Information Only

3. Communication from the Acting City Manager regarding the Bi-Monthly Financial Report – Information Only

Adam Herringa, Acting City Manager

cc Michael Carroll, Deputy City Manager

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MATERIALS TRANSMITTED
August 20, 2021

TO: City Council

FROM: Patricia M. Randall, Mayor

SUBJECT: Kalamazoo County Consolidated Dispatch Authority Board Appointment

SUPPORTING PERSONNEL: Adam Herringa, Acting City Manager

A copy of Mayor Patricia M. Randall's letter to the Kalamazoo County Consolidated Dispatch Authority appointing Adam Herringa to the Board of Directors is attached.

Attachments: KCCDA Board Appointment Letter

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Mayor Patricia M. Randall

August 20, 2021

Jeff Troyer, Executive Director
Kalamazoo County Consolidated Dispatch Authority
7040 Stadium Drive
Kalamazoo, MI 49009

Re: Kalamazoo County Consolidated Dispatch Authority Board appointment

Dear Executive Director Troyer,

Pursuant to the *Interlocal Agreement Creating the Kalamazoo County Consolidated Dispatch Authority*, I am appointing Adam Herringa to the Kalamazoo County Consolidated Dispatch Authority Board of Directors as a representative for the City of Portage effective August 20, 2021. Mr. Herringa will fill the seat previously held by Joseph S. La Margo.

Sincerely,

Patricia M. Randall
Mayor, City of Portage

cc Jan Van Der Kley, Chairperson
Michael Carroll, Deputy City Manager
Portage City Council

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MATERIALS TRANSMITTED
August 20, 2021

TO: City Council

FROM: Patricia M. Randall, Mayor

SUBJECT: Kalamazoo Area Transportation Study Policy Committee Appointment

SUPPORTING PERSONNEL: Adam Herringa, Acting City Manager

A copy of Mayor Patricia M. Randall's letter to the Kalamazoo Area Transportation Study appointing Adam Herringa to the Policy Committee is attached.

Attachments: KATS Policy Committee Appointment Letter

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Mayor Patricia M. Randall

August 20, 2021

Steven L. Stepek, AICP, Executive Director
Kalamazoo Area Transportation Study
5220 Lovers Lane, Suite 110
Portage, MI 49002

Re: Kalamazoo Area Transportation Study Policy Committee Appointment

Dear Executive Director Stepek,

Pursuant to the *Kalamazoo Area Transportation Study Policy Committee Bylaws*, I am appointing Adam Herringa to the Kalamazoo Area Transportation Study Policy Committee as a representative for the City of Portage effective August 20, 2021. Mr. Herringa will fill the seat previously held by Joseph S. La Margo

Sincerely,

Patricia M. Randall
Mayor, City of Portage

cc Michael Carroll, Deputy City Manager
Portage City Council

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MATERIALS TRANSMITTED
August 19, 2021

TO: Honorable Mayor and City Council

FROM: Adam Herringa, Acting City Manager

SUBJECT: Bi-Monthly Financial Report

SUPPORTING PERSONNEL: Lauren VanderVeen, Finance Director

Prudent practices require that the governing body be periodically apprised of the ongoing financial status of city operations. Attached is a report of revenue and expenditure levels as compared to budget through the most recently completed bi-weekly period.

Attachments: July 31, 2021 Financial Report

Fund	DESCRIPTION	2021-22 ORIGINAL BUDGET	2021-22 AMENDED BUDGET	2021-22 ACTIVITY	8% Percent of Amended Collected/Used
REVENUES					
0000		26,292,710	26,292,710	1,927,760	7%
1720 - City Manager		500	500	0	0%
2053 - Finance Treasury		1,500	1,500	2	0%
2110 - Technology Services		4,750	4,750	3,700	78%
2133 - Public Information		218,000	218,000	0	0%
2415 - City Clerk		166,050	166,050	1,164	1%
2491 - City Clerk Elections		0	0	46,589	0%
2865 - Parks Maintenance		1,000	1,000	0	0%
2876 - Cemeteries		58,500	58,500	5,451	9%
2877 - Parks & Rec - Parks		50,300	50,300	13,435	27%
2878 - Parks & Rec - Kalamazoo In Bloom		0	0	0	0%
2881 - Parks & Rec - Farmers Market		11,000	11,000	820	7%
2882 - Parks & Rec - Team Sports		105,280	105,280	7,115	7%
2885 - Parks & Rec - Programs		10,400	10,400	2,567	25%
2886 - Parks & Rec - Ramona Park		69,200	69,200	25,846	37%
2887 - Parks & Rec - Special Events		15,000	15,000	50	0%
2888 - Parks & Rec - Millennium Park		47,800	47,800	0	0%
3005 - Police Administration		109,950	109,950	4,510	4%
3010 - Police Patrol		1,500	1,500	100	7%
3021 - Police Training-Grant Funded		8,000	8,000	0	0%
3030 - Police Public Safety Dispatch/ts		12,000	12,000	10,173	85%
3050 - Police Drug Law Enforcement		100	100	0	0%
3065 - Police Facility Management		70,000	70,000	0	0%
3310 - Fire Admin		110	110	0	0%
3340 - Fire Prevention		950	950	50	5%
3710 - Comm Dev Building Services		750,000	750,000	204,535	27%
3720 - Comm Dev Planning & Development		50,050	50,050	8,234	16%
3730 - Comm Dev Neighborhood Services		209,000	209,000	106,781	51%
6720 - Senior Center		275,207	275,207	4,271	2%
6721 - Senior Center Trips		200,000	200,000	0	0%
6722 - Senior Center Activities		20,000	20,000	0	0%
6725 - Aging Mastery Program		0	0	0	0%
Total Revenues- General Fund		28,758,857	28,758,857	2,373,152	8%

Fund	DESCRIPTION	2021-22 ORIGINAL BUDGET	2021-22 AMENDED BUDGET	2021-22 ACTIVITY	8% Percent of Amended Collected/Used
EXPENDITURES					
1001 - City Council		93,600	93,600	176	0%
1085 - City Council-Human Services		178,750	178,750	0	0%
1720 - City Manager		902,011	902,011	48,182	5%
2001 - Finance Accounting		313,466	313,466	15,472	5%
2002 - Finance & Budget		409,182	409,182	14,114	3%
2053 - Finance Treasury		176,897	176,897	19,322	11%
2110 - Technology Services		946,701	946,701	37,300	4%
2133 - Public Information		433,537	433,537	14,643	3%
2209 - Assessor		473,740	473,740	19,604	4%
2247 - Assessor Board Of Review		36,144	36,144	935	3%
2310 - Attorney		251,000	251,000	18,810	7%
2415 - City Clerk		169,161	169,161	9,368	6%
2416 - City Clerk Records Management		71,032	71,032	3,049	4%
2491 - City Clerk Elections		255,710	255,710	5,763	2%
2610 - Human Resources		700,204	700,204	30,914	4%
2733 - Purchasing		82,740	82,740	3,866	5%
2734 - Purchasing Risk Management		24,685	24,685	880	4%
2865 - Parks Maintenance		1,403,011	1,403,011	59,590	4%
2876 - Cemeteries		72,073	72,073	2,863	4%
2877 - Parks & Rec - Parks		700,618	700,618	37,352	5%
2878 - Parks & Rec - Kalamazoo In Bloom		17,000	17,000	0	0%
2880 - Parks & Rec - Rec Admin		221,286	221,286	12,606	6%
2881 - Parks & Rec - Farmers Market		21,360	21,360	2,012	9%
2882 - Parks & Rec - Team Sports		63,500	63,500	2,158	3%
2885 - Parks & Rec - Programs		42,650	42,650	604	1%
2886 - Parks & Rec - Ramona Park		194,472	194,472	24,517	13%
2887 - Parks & Rec - Special Events		149,574	149,574	19,418	13%
2888 - Parks & Rec - Millennium Park		86,275	86,275	2,230	3%
3005 - Police Administration		1,192,373	1,192,373	37,354	3%
3006 - Police Youth Services		510,066	510,066	21,953	4%
3007 - Police Investigation		710,665	710,665	41,268	6%
3010 - Police Patrol		5,948,325	5,948,325	602,812	10%

Fund	DESCRIPTION	2021-22 ORIGINAL BUDGET	2021-22 AMENDED BUDGET	2021-22 ACTIVITY	8% Percent of Amended Collected/Used
3020 - Police Training		296,634	296,634	3,439	1%
3021 - Police Training-Grant Funded		9,000	9,000	0	0%
3030 - Police Public Safety Dispatch/ts		60,619	60,619	1,552	3%
3031 - Police Emergency Sirens		38,676	38,676	0	0%
3040 - Police Records & PST		719,449	719,449	37,835	5%
3050 - Police Drug Law Enforcement		341,537	341,537	21,396	6%
3065 - Police Facility Management		415,420	415,420	3,464	1%
3090 - Police KCCDA support		0	0	0	0%
3310 - Fire Admin		1,049,432	1,049,432	44,792	4%
3320 - Fire Operations		3,860,709	3,860,709	419,229	11%
3330 - Fire On Call Firefighters		106,037	106,037	3,486	3%
3331 - Fire Emergency Operations		4,950	4,950	0	0%
3340 - Fire Prevention		139,711	139,711	8,759	6%
3350 - Fire Training		263,966	263,966	11,462	4%
3365 - Fire Facility Management		143,700	143,700	514	0%
3710 - Comm Dev Building Services		629,391	629,391	25,413	4%
3720 - Comm Dev Planning & Development		527,618	527,618	12,921	2%
3730 - Comm Dev Neighborhood Services		450,274	450,274	21,034	5%
3765 - Comm Dev Building Maintenance		232,761	232,761	13,697	6%
4210 - City-wide Services		696,100	696,100	44,251	6%
6050 - Contagious Diseases		0	0	0	0%
6720 - Senior Center		536,568	536,568	17,403	3%
6721 - Senior Center Trips		225,143	225,143	1,776	1%
6725 - Aging Mastery Program		0	0	0	0%
6740 - Senior Center Transition		0	0	11	0%
9610 - Transfers Out		1,159,354	1,159,354	0	0%
TOTAL EXPENDITURES - GENERAL FUND		28,758,857	28,758,857	1,801,567	6%
202	Major Street Fund- Revenues	5,413,589	5,413,589	384,890	7%
	Major Street Fund- Expenditures	5,413,589	5,413,589	137,351	3%
203	Local Street Fund- Revenues	1,945,952	1,945,952	118,503	6%
	Local Street Fund- Expenditures	1,945,952	1,945,952	67,426	3%

Fund	DESCRIPTION	2021-22 ORIGINAL BUDGET	2021-22 AMENDED BUDGET	2021-22 ACTIVITY	Percent of Amended Collected/Used
204	Municipal Street Fund- Revenues	1,421,060	1,421,060	144,576	10%
	Municipal Street Fund- Expenditures	1,421,060	1,421,060	0	0%
223	Curbside Recycling- Revenues	773,352	773,352	92,396	12%
	Curbside Recycling- Expenditures	772,732	772,732	2,183	0%
226	Leaf Pickup/Spring Cleanup- Revenues	879,375	879,375	81,133	9%
	Leaf Pickup/Spring Cleanup- Expenditures	878,236	878,236	19,964	2%
230	CDBG Program Income Fund- Revenues	175,000	175,000	0	0%
	CDBG Program Income Fund- Expenditures	175,000	175,000	0	0%
252	West Lake Weed Mgmt- Revenues	36,025	36,025	0	0%
	West Lake Weed Mgmt- Expenditures	32,500	32,500	0	0%
296	Community Development Block Grant- Rev	218,239	218,239	0	0%
	Community Development Block Grant- Exp	218,239	218,239	28,943	13%
298	Cable Television Fund- Revenues	749,400	749,400	26,132	3%
	Cable Television Fund- Expenditures	749,400	749,400	32,605	4%
400	Capital Improvement General- Revenues*	14,064,930	10,966,821	495,728	5%
	Capital Improvement General- Expenditures*	45,875,471	26,578,000	153,680	1%
490	Capital Improvement Sewer- Revenues*	5,205,000	5,205,000	0	0%
	Capital Improvement Sewer- Expenditures*	3,877,773	3,739,066	0	0%
491	Capital Improvement Water- Revenues*	11,301,974	11,301,974	0	0%
	Capital Improvement Water- Expenditures*	13,088,672	10,899,946	6,213	0%
590	Sewer Fund- Revenue	9,430,042	9,430,042	1,476,824	16%
	Sewer Fund- Expenditures	9,415,762	9,415,762	273,096	3%
591	Water Fund- Revenues	6,835,288	6,835,288	1,306,778	19%
	Water Fund- Expenditures	6,678,416	6,678,416	360,536	5%
TOTAL REVENUES - ALL FUNDS**		87,208,083	84,109,974	6,500,112	
TOTAL EXPENDITURE - ALL FUNDS**		119,301,659	97,676,755	2,883,563	

** The Capital Improvement Program uses project-length budgets, original is current fiscal year, amended budgets of prior year projects continued.*

***Debt Service and Internal Service Funds not included.*