City of Goshen

Pavement Management Plan

November 2021

Approved by:

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Definitions

1. **Transverse Crack** - Cracks perpendicular to the pavement's centerline.
2. **Longitudinal Crack** - Cracks parallel to the pavement's centerline.
3. **Rutting** - Surface depression in the wheel path of the pavement.
4. **Block Cracking** - Interconnected cracks that divide the pavement up into rectangular pieces.
5. **Alligator Cracking** - A series of interconnected cracks caused by fatigue failure of the HMA surface under repeated traffic loading.
6. **Raveling** - The progressive disintegration of an HMA layer from the surface downward as a result of the dislodgement of aggregate particles.

Report Overview

The purpose of this inspection report was to rate the current pavement conditions of each street segment and to identify needed maintenance and repair of the 137 roadway miles under the jurisdiction of the City of Goshen utilizing the PASER guidelines. The results of the study will be the basis for the development of programs depending on availability of funds. The study should be kept current on an annual basis.

Goals and Objectives

It is the City of Goshen's goal to use the inventory and condition ratings to apply appropriate roadway preservation techniques in order to extend the life of the City's roadways in a cost effective manner. It is the City's goal to reduce the number of poor roads (PASER rating 1-4) from 70% to 30% in the next 20 years.

What is the PASER System?

The Pavement Surface Evaluation and Rating (PASER) system visually evaluates the condition of road segments. Ratings are applied to road segments of varying length, with segment values ranging from 10 for a new road segment to 1 for a completely failed segment, and specific ratings determined by the number and type of surface defects. The rating is based upon the worst area within the street segment.

PASER also recommends needed maintenance or repair, based on the condition of the roadway. PASER Ratings for this report are divided into the following maintenance categories:

PASER Rating	Pavement Quality
10	Excellent
9	
8	
7	
6	
5	
4	
3	
2	
1	Poor

- **Roads with PASER ratings of 8-10 (Good Condition) require Routine Maintenance.** Routine maintenance encompasses day-to-day maintenance activities, such as street sweeping, drainage, shoulder gravel grading, and sealing cracks to prevent standing water and water penetration.

PASER Rating 9

There are no visible distresses in PASER ratings 9 and 10 because they are new constructions or recent overlays.

Pictured is River Race Drive between Madison Street and Monroe Street shows no signs of wear.

PASER Rating 8

Roadways with a PASER rating 8 have no longitudinal cracks, except for reflection of pavement joints. Occasional transverse cracks spaced 40 feet or more apart. All cracks are sealed or tight (open less than 1/4").

Pictured is Martin Avenue from the Meijer Access Road to Corporate limits. This roadway has small occasional cracks, and requires very little maintenance.

- **Roads with PASER ratings of 5-7 (Fair Condition) require Capital Preventative Maintenance.** Capital preventative maintenance is a planned set of cost-effective treatments to an existing roadway system that slow down future deterioration and maintain or improve the functional condition of the system without significantly increasing structural capacity. The purpose of capital preventative maintenance fixes is to protect the pavement structure, slow the rate of pavement deterioration, and/or correct pavement surface deficiencies. These treatments are targeted at pavement surface defects primarily caused by the environment and by pavement material deficiencies.

PASER Rating 7

PASER rating 7 pavement can include very slight or no raveling and shows some surface wear. Longitudinal cracks from reflection or paving joints can be up to 1/4" wide and transverse cracks can be up to 1/4" wide and spaced between 10' and 40' apart. There is little or slight crack raveling, no patching, or very few patches in excellant condition.

Pictured is Wheatland Drive from Barley Lane to Oatfield Lane. This roadway has some longitudinal cracks. There are also transverse cracks 10'-40' apart. Most of the cracks are not open due to being crack sealed in 2015.

PASER Rating 6

Roadways with a PASER rating of 6 are starting to show signs of traffic wear and/or raveling. There are open longitudinal cracks with a width between 1/4"-1/2". Transverse cracks are open with a width between 1/4"-1/2" with some being less than 10' apart. The first signs of block cracking can appear, slight to moderate flushing or polishing, and it may have occasional patches in good condition.

Pictured is Waterford Mills Parkway between Regent Street and Edison Drive. This roadway has transverse cracks that are open between ¼" and ½" and are less than 10 feet apart. Some longitudinal cracking along the corridor.

PASER Rating 5

Roadways with a PASER rating of 5 have moderate to severe raveling, longitudinal and transverse cracks open 1/2" or more and secondary cracks. Block cracking on up to 50% of the pavement surface, extensive to severe polishing, and some patching or wedging in good condition.

Pictured is Mountain Ash Lane between Redspire Boulevard and Tulip Boulevard. This roadway has transverse cracks that are greater than 1/2" wide.

Roads with PASER ratings of 1-4 (Poor Condition) require Structural Improvements. This category includes work identified as rehabilitation and reconstruction, addressing the structural integrity of a road.

PASER Rating 4

PASER rating 4 roadways have severe surface raveling, multiple longitudinal and transverse cracks with slight raveling, block cracking over 50% of the surface, patching in fair condition, and rutting of less than 1/2".

Pictured is Sixth Street between Lincoln Avenue and Washington Street. This roadway has longitudinal cracks in the wheel path and the block cracking.

PASER Rating 3

Roadways with PASER rating 3 may have closely spaced longitudinal and transverse cracks, severe block cracking, alligator cracking on less than 25% of the surface, patches in fair to poor condition, occasional potholes, and rutting between 1/2" and 2".

Pictured is Lincoln Avenue between Greene Road and Silverwood Lane. This roadway has longitudinal and transverse cracks that are showing erosion, and there is also rutting in the wheel path.

PASER Rating 2

A PASER rating 2 road has cracking over 25% of the surface, rutting greater than 2", patches in poor condition, and potholes.

Pictured is VanGuilst Drive between Alfalfa Street and Michigan Street. This roadway has alligator cracking over 25% of the surface, and patches that are in poor condition.

PASER Rating 1

PASER rating 1 roadways have severe distress with a loss of surface integrity.

Pictured is Westfield Drive between Pike Street and Wilkinson Street. This roadway has extensive alligator cracking and multiple patches that are in poor condition making it a PASER rating 1.

Study Methodology

The City of Goshen utilized 2-person data collection teams. Each roadway segment was driven. At the end of the segment, the team discussed the roadway and documented on a data collection sheet the factors that resulted in the segment rating. All segments were entered into a spreadsheet that will allow for easy data presentation. Data for the 2020 report was collected between March 9, 2020 and March 16, 2020.

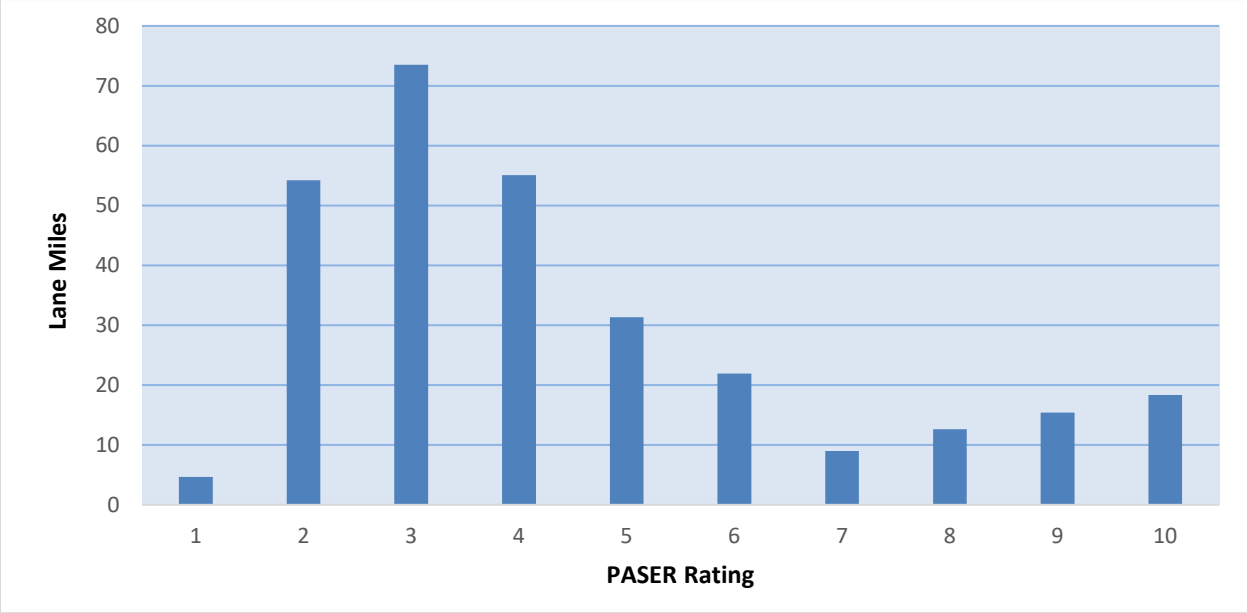
Team members of the data collection attended a training session that took place in Shipshewana hosted by Indiana Local Technical Assistance Program (LTAP) on March 28, 2018. Participants received an overview of the project and were given instructions on how to use the PASER road rating system for data collection.

Goshen's Existing Roadway Conditions

A detailed table of the system is included in Appendix A. The table below provides a summary of the mileage and condition rating for the City. A rating of 5 is the minimum acceptable pavement condition, because it is the last rating that does not require structural repairs. Currently the average rating per lane mile for the City's network is **4.49**.

Rating and Mileage Summary		
Ratings	**Miles**	**Percentage**
0-4	92.3	63.4%
5-7	30.7	21.1%
8-10	22.4	15.4%
Total	145.5	

Results of the 2020 PASER ratings are shown below in chart form.



A color-coded map of the PASER ratings for every street within the City of Goshen Street network is included in Appendix A.

How to use the PASER Data?

The 2020 PASER data is in spreadsheet form. The City can easily sort this data in a variety of ways. Possible data sorting scenarios include the following:

- All data sorted by PASER rating (high to low).
- Road classification sorted by PASER rating.

Pavement Maintenance and Cost Considerations

A good pavement maintenance program involves a combination of activities that revolve around the principal that once pavement gets to a certain condition, that the deterioration of the pavement accelerates. Maintenance items such as crack sealing on roads with PASER ratings in the Good categories (PASER Ratings 8-10) and sealing or micro-surfacing roadways with PASER ratings in the Fair categories (PASER Rating 5-7) are an essential part of roadway maintenance program. Crack sealing is a low-cost method to keep the roads from needing high cost reconstruction.
Structural improvements are recommended for streets with a PASER Rating of 4 or below. Streets with a PASER Rating 3-4 are typically slated for milling and overlay with full depth patches. Street with a PASER Rating 1-2 are typically full-depth pavement reconstruction projects.
The following table summarizes the anticipated costs associated with the City of Goshen's streets.

Cost Summary of Goshen's Roadway Network (Based on 2020 PASER Ratings)

PASER Rating	Centerline Miles	Treatment	Estimated Cost Per Mile	Estimated Cost	Typical Performance Period (Years)
8-10 (Good)	22.4	Crack Seal	$8,000	$179,278	2-4
7 (Fair)	4.4	Chip Seal	$22,000	$96,746	4-6
6 (Fair)	10.9	Slurry Seal	$32,000	$347,668	4-6
5 (Fair)	15.5	Micro-Surface	$62,000	$960,200	5-7
4 (Poor)	27.1	Mill & Overlay w/ 5% Full-Depth Patching	$165,000	$4,469,386	5-10
3 (Poor)	35.9	Mill & Overlay w/ 25% Full-Depth Patching	$313,000	$11,235,718	5-10
1-2 (Poor)	29.3	Full Reconstruction	$1,018,000	$29,848,988	20-30
			Total =	**$47,137,984**	

The above methods are the most used methods for the City of Goshen. The costs alone show why it is so important maintain the higher rated streets and keep them from failure. The crack sealing and chip sealing is typically done with in-house crews, whereas the other options are bid and done by a contractor.

Roadway Improvements Scheduled for 2022

(Known projects as of report date)

Reconstruction
Jefferson St from 3rd to Main
Dykstra Street from 22nd to 29th
Hickory Street from Summer to Dewey

Mill/Pave
College Avenue – 15th to RR
Madison Street – Main to US 33
Berkey Avenue – Dewey to Greene
Homeacres Drive – Colonial Manor to Greene
Edgewood Drive – Bashor to Homeacres
Clover Trails – Sections TBD

Concrete
Kentfield Drive
Haywood Court
Woodstone Court
Brookstone Court
Garland Drive
Canton Drive
Elmhurst Court
Ashton Court
Winstead Drive

Roadway Improvements Completed in 2021

Roadway	From	To	2021 Treatment
College Manor Dr	Cul-de-sac	College Ave	Concrete - Joint/Crack Sealing
Hampton Cir	Winsted Dr	Winsted Dr	Concrete - Joint/Crack Sealing
Kentfield Way	Pembroke Cir	Pembroke Cir	Concrete - Joint/Crack Sealing
Kentfield Way	Pembroke Ci	16th St	Concrete - Joint/Crack Sealing
Kentfield Way	Winsted Dr	Pembroke Ci	Concrete - Joint/Crack Sealing
Pembroke Cir	Kentfield Way	Kentfield Way	Concrete - Joint/Crack Sealing
Winsted Dr	Kentfield Way	Kentfield Way	Concrete - Joint/Crack Sealing
Winsted Dr	Kentfield Way	Auten Ct	Concrete - Joint/Crack Sealing
Winsted Dr	Auten Ct	Hampton Cr	Concrete - Joint/Crack Sealing
Ashton Ct	Dead End	Kentfield Way	Concrete - Joint/Crack Sealing
Auten Ct	Dead End	Winsted Dr	Concrete - Joint/Crack Sealing
Brookfield Ct	Dead End	Kentfield Way	Concrete - Joint/Crack Sealing
Canton Dr	Garland Dr	Kentfield Way	Concrete - Joint/Crack Sealing
Elmherst Ct	Dead End	Kentfield Way	Concrete - Joint/Crack Sealing
Garland Dr	Canton Dr	Sutton Ct	Concrete - Joint/Crack Sealing
Garland Dr	Sutton Ct	Kentfield Way	Concrete - Joint/Crack Sealing
Kentfield Way	Elmherst Ct	Ashton Ct	Concrete - Joint/Crack Sealing
Kentfield Way	Garland Dr	Winsted DR	Concrete - Joint/Crack Sealing
Kentfield Way	Ashton Ct	Garland Dr	Concrete - Joint/Crack Sealing
Kentfield Way	Canton Dr	Elmherst Ct	Concrete - Joint/Crack Sealing
Sutton Ct	Dead End	Garland Dr	Concrete - Joint/Crack Sealing
Winsted Dr	College Ave	Kentfield Way	Concrete - Joint/Crack Sealing
Woodstone Ct	Dead End	Kentfield Way	Concrete - Joint/Crack Sealing
Barclay Dr	Woodmere Ln	Cul-de-Sac	Concrete - Slab Replacement
Constitution Ave	Clinton St	Cul-de-Sac	Concrete - Slab Replacement
Marabou Pl	Marshwood Rd	Cul-de-Sac	Concrete - Slab Replacement
Marabou Pl	Cul-de-Sac	Marshwood Rd	Concrete - Slab Replacement
Marshwood Rd	Cul-de-Sac	Marabou Pl	Concrete - Slab Replacement
Marshwood Rd	Russett Ave	Saybrook Dr	Concrete - Slab Replacement
Marshwood Rd	Russet Ave	Sweetbriar Dr	Concrete - Slab Replacement
Russet Ave	Circle	Marshwood Rd	Concrete - Slab Replacement
Saybrook Dr	Circle	Marshwood Rd	Concrete - Slab Replacement
Sweetbriar Dr	Woodmere Ln	Wilden Ave	Concrete - Slab Replacement
Woodmere Ln	Circle	Barclay Dr	Concrete - Slab Replacement
Manor Haus Ct	College Manor Dr	Manor Haus Ct	Crack Seal
Egbert Ave	16th ST	15th St	Crack Seal
Egbert Ave	15th St	Lincolnway East	Crack Seal
10th St	Alley 250	Cul-de-Sac	Crack Seal

Roadway	From	To	2021 Treatment
12th St	Douglas St	Reynolds St	Crack Seal
12th St	Plymouth Ave	Douglas St	Crack Seal
15th St	Monroe St	Sanders Ave	Crack Seal
15th St	Sanders Ave	Egbert Ave	Crack Seal
1st St	Pike St	Wilkinson St	Crack Seal
1st St	Wilkinson St	River Ave	Crack Seal
2nd St	River Race Dr	Purl St	Crack Seal
5th St	Crescent St	Middlebury St	Crack Seal
5th St	Main St	Purl St	Crack Seal
5th St	Purl St	Monroe St	Crack Seal
5th St	Monroe St	Madison St	Crack Seal
5th St	Lincoln Ave	Clinton St	Crack Seal
5th St	Clinton St	Pike St	Crack Seal
8th St	Bridge St	Mercer Ave	Crack Seal
8th St	Cross St	Center St	Crack Seal
8th St	Mercer Ave	Cross St	Crack Seal
Arehart St	Oakridge Ave	Wilden Ave	Crack Seal
Arehart St	Garden St	Oakridge Ave	Crack Seal
Arehart St	Middlebury St	Garden St	Crack Seal
Basswood Dr	Palmetto Ln	Dead end	Crack Seal
Basswood Dr	Weaver Woods Dr	Cul-de-Sac	Crack Seal
Basswood Dr	Palmetto Ln	Cul-de-Sac	Crack Seal
Colorado Dr	Pike St	Nebraska Dr	Crack Seal
Cottage Ave	Bridge St	Railroad Tracks	Crack Seal
Cottage Ave	Bridge St	Lincoln Ave	Crack Seal
County Home Rd	Midway Rd	Ferndale Rd	Crack Seal
County Rd 19	Indiana Ave	Compost Site	Crack Seal
Cypress Ln	Weaver Woods Dr	Palmetto Ln	Crack Seal
Cypress Ln	Palmetto Ln	Dead end	Crack Seal
Elders Dr	Hackberry Dr	Linden Dr	Crack Seal
Firethorn Dr	Linden Dr	Kercher Rd	Crack Seal
Firethorn Dr	Maple City Dr	Linden Dr	Crack Seal
Hackberry Dr	Sourwood Dr	Dierdorff Rd	Crack Seal
Hackberry Dr	Dead End	Firethorn Dr	Crack Seal
Hackberry Dr	Firethorn Dr	Elders Dr	Crack Seal
Hackberry Dr	Elders Dr	Sourwood Dr	Crack Seal
Kansas Dr	Pike St	Nebraska Dr	Crack Seal
Kercher Rd	Main St	Martin Manor Dr	Crack Seal
Kercher Rd	Salem Dr	Violett Rd	Crack Seal
Kercher Rd	Island View Dr	Salem Dr	Crack Seal
Kercher Rd	Woodland Dr	Island View Dr	Crack Seal

Roadway	From	To	2021 Treatment
Kercher Rd	Martin Manor Dr	Woodland Dr	Crack Seal
Linden Dr	Firethorn Dr	Elders Dr	Crack Seal
Linden Dr	Elders Dr	Sourwood Dr	Crack Seal
Madison St	10th St	9th St	Crack Seal
Madison St	11th St	10th St	Crack Seal
Madison St	Dead End	11th St	Crack Seal
Middlebury St	Fifth St	Main St	Crack Seal
Middlebury St	Zollinger Rd	Steury Ave	Crack Seal
Middlebury St	6th St	5th St	Crack Seal
Middlebury St	7th St	6th St	Crack Seal
Middlebury St	8th St	7th St	Crack Seal
Middlebury St	9th St	8th St	Crack Seal
Middlebury St	Olive St	9th St	Crack Seal
Middlebury St	Steury Ave	Olive St	Crack Seal
Monroe St	3rd St	River Race Dr	Crack Seal
Monroe St	East Corp Limits	Blackport Dr	Crack Seal
Monroe St	Hillcrest Dr	City Limits	Crack Seal
Palmetto Ln	Cypress Ln	Tyler Ln	Crack Seal
Palmetto Ln	Basswood Dr	Cypress Ln	Crack Seal
Park Ave	Pike St	Elkhart Rd	Crack Seal
Purl St	3rd St	River Race Dr	Crack Seal
Sanders Ave	15th St	14th St	Crack Seal
Sanders Ave	14th St	Lincolnway East	Crack Seal
Sourwood Dr	Hackberry Dr	Linden Dr	Crack Seal
Sourwood Dr	Linden Dr	Kercher Rd	Crack Seal
Sourwood Dr	Hackberry Dr	Corrie Dr	Crack Seal
Supreme Ct	Dead End	Kercher Rd	Crack Seal
Tyler Ln	Palmetto Ln	Dead end	Crack Seal
Tyler Ln	Weaver Woods Dr	Palmetto Ln	Crack Seal
Weaver Woods Dr	Cypress Ln	Basswood Dr	Crack Seal
Weaver Woods Dr	Cypress Ln	Tyler Ln	Crack Seal
Weaver Woods Dr	Basswood Dr	Dead end	Crack Seal
Weaver Woods Dr	CR 28	Tyler Ln	Crack Seal
7th St	Franklin St	Jackson St	Mill and Overlay - 1.5"
7th St	Jackson St	Plymouth Ave	Mill and Overlay - 1.5"
Adams St	15th St	14th St	Mill and Overlay - 1.5"
Adams St	12th St	11th St	Mill and Overlay - 1.5"
Adams St	13th St	12th St	Mill and Overlay - 1.5"
Adams St	14th St	13th St	Mill and Overlay - 1.5"
Douglas St	14th St	13th St	Mill and Overlay - 1.5"
Douglas St	15th St	14th St	Mill and Overlay - 1.5"

Roadway	From	To	2021 Treatment
Douglas St	11th St	10th St	Mill and Overlay - 1.5"
Douglas St	12th St	11th St	Mill and Overlay - 1.5"
Douglas St	13th St	12th St	Mill and Overlay - 1.5"
Woodward Pl	River Vista Dr	Westwood Rd	Mill and Overlay - 1.5"
6th St	Wilden Ave	Walnut Ave	Mill and Overlay - 2"
6th St	Oakridge Ave	Wilden Ave	Mill and Overlay - 2"
6th St	Middlebury St	Garden St	Mill and Overlay - 2"
6th St	Garden St	Oakridge Ave	Mill and Overlay - 2"
6th St	Oakridge Ave	Oakridge Ave	Mill and Overlay - 2"
6th St	Hilltop St	Dead End	Mill and Overlay - 2"
6th St	Walnut Ave	Hilltop St	Mill and Overlay - 2"
6th St	Garden St	Garden St	Mill and Overlay - 2"
7th St	Dead End	Walnut	Mill and Overlay - 2"
7th St	Wilden Ave	Walnut Ave	Mill and Overlay - 2"
7th St	East St	Wilden Ave	Mill and Overlay - 2"
7th St	Middlebury St	Oakridge Ave	Mill and Overlay - 2"
7th St	Oakridge Ave	East St	Mill and Overlay - 2"
Berkey Ave	Greene Rd	Wentworth Dr	Mill and Overlay - 2"
Berkey Ave	Waneta Dr	City Limits	Mill and Overlay - 2"
Berkey Ave	Wentworth Dr	Waneta Dr	Mill and Overlay - 2"
Colonial Manor Dr	Bashor Rd	Homeacres Dr	Mill and Overlay - 2"
Colonial Manor Dr	William Dr	Edward Dr	Mill and Overlay - 2"
Colonial Manor Dr	Homeacres Dr	William Dr	Mill and Overlay - 2"
Colorado St	Lismore Dr	Pine Manor Dr	Mill and Overlay - 2"
Colorado St	Pine Manor Dr	Evergreen Ln	Mill and Overlay - 2"
Garden St	Arehart St	6th St	Mill and Overlay - 2"
Garden St	5th St	Main St	Mill and Overlay - 2"
Garden St	6th St	5th St	Mill and Overlay - 2"
Greene Rd	Plymouth Ave	Greenwood Dr	Mill and Overlay - 2"
Greene Rd	Greenwood Dr	Berkey Ave	Mill and Overlay - 2"
Greene Rd	Greenwood Dr	Greenwood Dr	Mill and Overlay - 2"
Hilltop St	5th St	Main St	Mill and Overlay - 2"
Hilltop St	Hilltop St	6th St	Mill and Overlay - 2"
Hilltop St	6th St	5th St	Mill and Overlay - 2"
Lantern Ln	Eagle Dr	Edward Dr	Mill and Overlay - 2"
Liberty Ct	Cul-de-Sac	William Dr	Mill and Overlay - 2"
Lombardy Dr	Kercher Rd	Caragana Ct	Mill and Overlay - 2"
Messick Dr	Eisenhower Dr S	Kercher Rd	Mill and Overlay - 2"
Oakridge Ave	6th St	5th St	Mill and Overlay - 2"
Oakridge Ave	5th St	Main St	Mill and Overlay - 2"
Oakridge Ave	Arehart St	6th St	Mill and Overlay - 2"

Roadway	From	To	2021 Treatment
Oakridge Ave	7th St	Arehart St	Mill and Overlay - 2"
Pine Manor Ave	Colorado St	Kercher Rd	Mill and Overlay - 2"
Walnut Ave	7th St	6th St	Mill and Overlay - 2"
Walnut Ave	5th St	Main St	Mill and Overlay - 2"
Walnut Ave	6th St	5th St	Mill and Overlay - 2"
West Ave	Dewey Ave	Harrison St	Mill and Overlay - 2"
West Ave	Harrison St	Summer Ave	Mill and Overlay - 2"
West Ave	Winter Ave	Riverside Blvd	Mill and Overlay - 2"
West Ave	Summer Ave	Winter Ave	Mill and Overlay - 2"
Wilden Ave	Dead End	7th St	Mill and Overlay - 2"
Wilden Ave	N 6th St	N 5th St	Mill and Overlay - 2"
Wilden Ave	Arehart St	N 6th St	Mill and Overlay - 2"
William Dr	Liberty Ct	Edward Dr	Mill and Overlay - 2"
William Dr	Liberty Ct	Colonial Manor Dr	Mill and Overlay - 2"
Resevoir Pl	Dead End	River Vista Dr	Overlay - 1.5"
16th St	Reynolds St	Douglas St	Reconstruction - Asphalt
16th St	Jackson St	Plymouth Ave	Reconstruction - Asphalt
16th St	Illinois St	Fairfield Ave	Reconstruction - Asphalt
16th St	Fairfield Ave	Jackson St	Reconstruction - Asphalt
16th St	College Ave	Illinois St	Reconstruction - Asphalt
16th St	Kentfield Way	Illinois St	Reconstruction - Asphalt
16th St	Egbert Ave	Reynolds St	Reconstruction - Asphalt
Douglas St	Reynolds St	16th St	Reconstruction - Asphalt
Douglas St	16th St	Lincolnway East	Reconstruction - Asphalt
Eishenhower Dr N	15th Ave	Industrial Park Dr	Reconstruction - Asphalt
Eishenhower Dr N	Carmen Ct	15th St	Reconstruction - Asphalt
Eishenhower Dr N	Dierdorff Rd	Carment Ct	Reconstruction - Asphalt
Eishenhower Dr S	Messick Dr	Industrial Park Dr	Reconstruction - Asphalt
Eishenhower Dr S	Dierdorff Rd	Messic Dr	Reconstruction - Asphalt
Reynolds St	Douglas St	16th St	Reconstruction - Asphalt
Reynolds St	16th St	Lincolnway East	Reconstruction - Asphalt

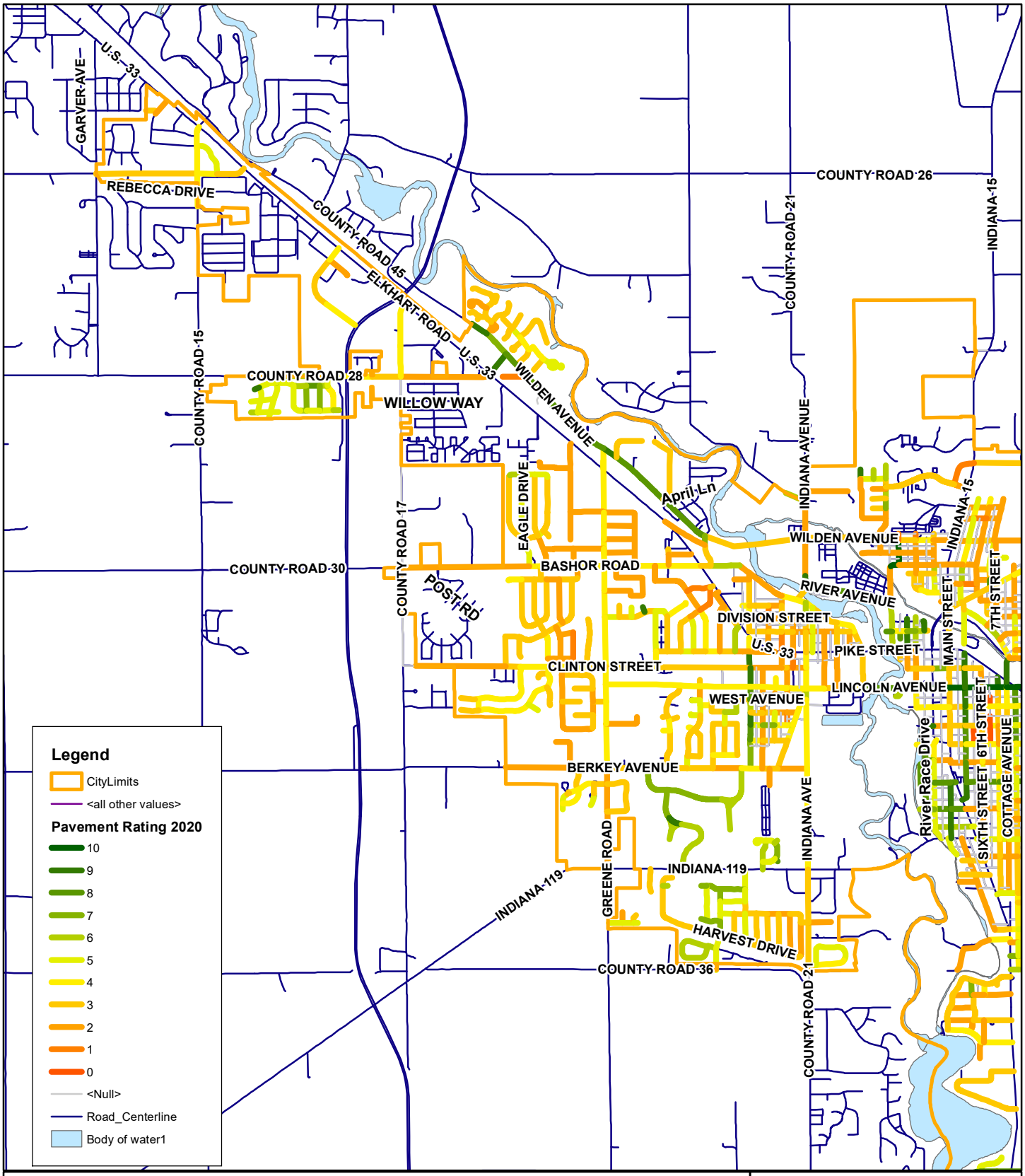
Recommendations and Conclusions

This report provides the City with valuable information to assist in determining the annual maintenance budget. The results of this plan provide the City with a summary of the potential costs and different life cycle options that can be used in creating a plan for road maintenance. However, if more manhours were available, much more could be done to better track the deterioration and current condition of the pavement and the associated costs of maintenance. With the improved data, analysis and optimization, there would be a potential for a significant increase in the amount of improvement realized per dollar spent.

While many of the City's streets are not in need of complete reconstruction, the overall network is currently deteriorating year over year. There are several options that are currently used and some that are being considered to help preserve and extend the life of City streets. It is important to utilize preventative maintenance treatments early on in the life cycle of pavement, while the pavement is in good condition in order to extend the life of the pavement.
Biennial monitoring of all streets will need to be done to ensure that roadways are deteriorating at expected rates. This will help to find what maintenance methods help extend the lifecycle of the pavement most efficiently. Drainage conditions need to be looked at as well to determine if a drainage issue is causing the pavement failure. With overlays and reconstructions, the drainage catch basins may need to be adjusted to make sure that water is not trapped on the pavement. The following is a list of recommendations presented in this report:

- Adopt this plan as a framework for future maintenance and rehabilitation of the City of Goshen's Streets.
- The City should perform routine maintenance on streets with condition ratings of 7 and higher to extend the life of those streets.
- The City should also perform routine maintenance on streets with condition ratings of 5-6 but may also need to look at performing some structural repairs and patchwork or overlays.
- The City should perform patching or mill and overlays for ratings of 3-4.
- The City should perform full reconstruction on streets will a rating of 1-2.
- The City should consider investment in a comprehensive asset management program to better optimize each dollar spent.

Appendix



City of Goshen
2021 PASER Ratings
Northwest - Map 1 of 2

N

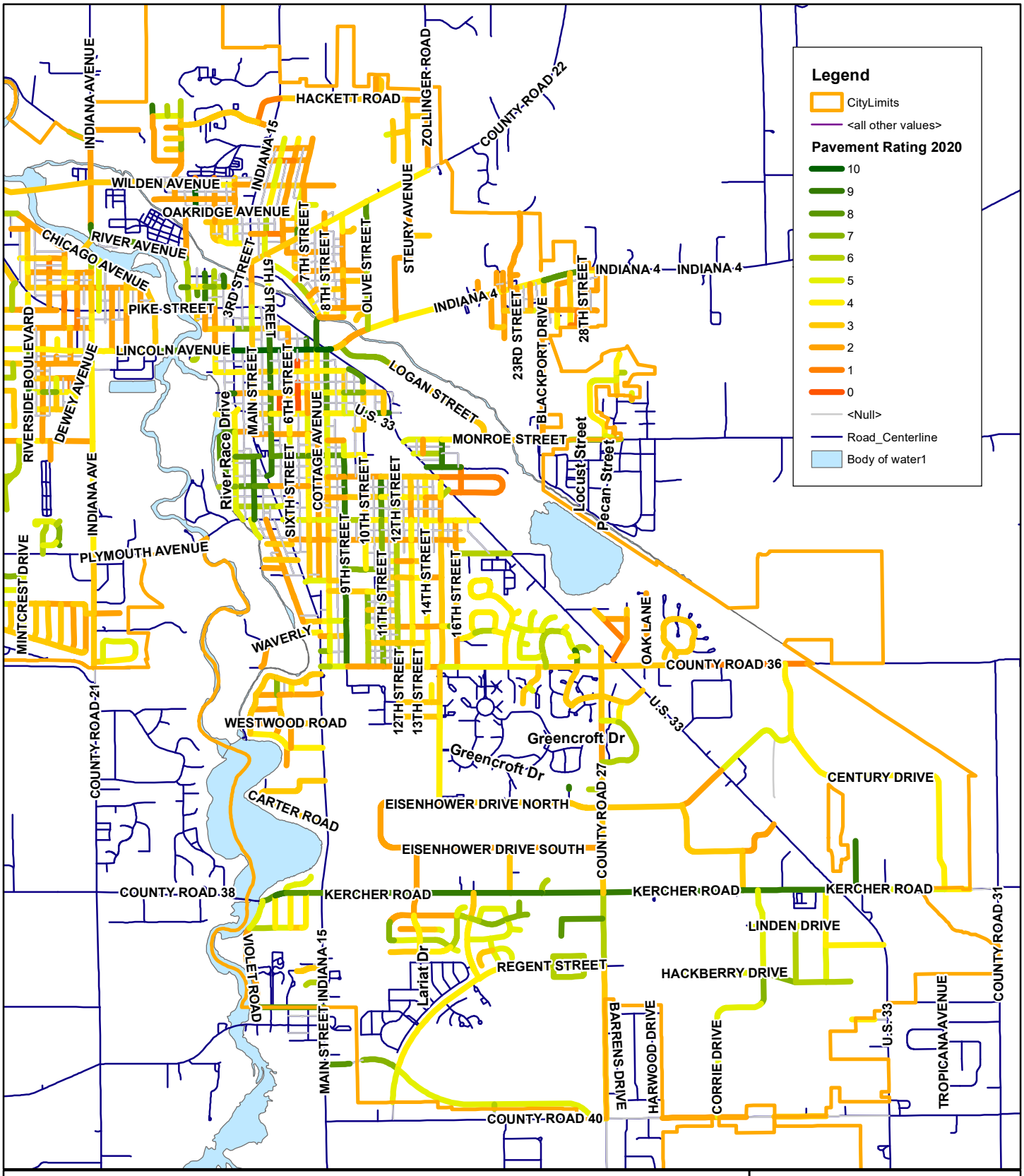
Feet

0 1,0002,000 4,000

1 inch = 3,557.407407 feet

Date: 11/25/2020

Drawn by: JSC



City of Goshen
2021 PASER Ratings
Southeast - Map 2 of 2

Date: 11/25/2020
Drawn by: JSC

N
Feet
0 900 1,800 3,600
1 inch = 3,173.865035 feet