



MINUTES OF WORK SESSION ABOUT GOSHEN ROADWAY CONDITIONS

Goshen Common Council

10 a.m., August 9, 2024

Held at Goshen Chamber of Commerce, 232 S. Main Street, Goshen, IN

Common Council members present:

Linda Gerber (At-Large)

Megan Peel (District 4)

Brett Weddell (At-Large)

Phil Lederach (District 5)

Donald Riegsecker (District 1)

Doug Nisley (District 2)

Matt Schrock (District 3)

Redevelopment Commission members present: Brian Garber

City staff members present included:

Deputy Mayor Mark Brinson

City Director of Public Works & Utilities Dustin Sailor

City Project Manager Andrew Lund

City Asset Manager Boston Snyder

City GIS Coordinator Mattie Lehman

City Redevelopment Director Becky Hutsell

City Street Commissioner David Gibbs

City Planner Rhonda Yoder

City Building Commissioner Myron Grise

City Parks & Recreation Superintendent Tanya Heyde

BACKGROUND & SUMMARY:

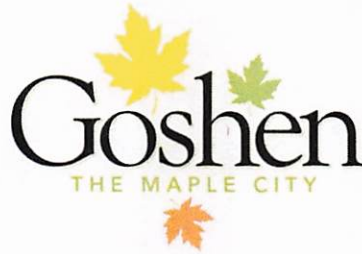
The City of Goshen is responsible for maintaining 146.45 miles of roadway. The City uses a rating system, known as the Pavement Surface Evaluation Rating (PASER), to assess roadway conditions. Over the past few years, the overall condition of City roads has declined. The City's roadway budget, which includes State and federal funds, pays for annual repairs and improvements. Because of the declining conditions of roads and funding shortfalls, Goshen faces the challenge of maintaining and improving many more miles roadways every year. Today's work session included an in-depth assessment of Goshen's roads and maintenance and funding options for improving them.

PRESENTATION & DISCUSSION BY PARTICIPANTS ON AUG. 9, 2024:

1) Welcome by Mayor Leichty, Engineering Team Introductions & Overview

Mayor Gina Leichty called the work session to order at 10:00 a.m.

Mayor Leichty thanked everyone for being present and acknowledged the work of the City Redevelopment Commission in improving the City's roadways. At the Mayor's request, all those present introduced themselves and their roles in the work session.



City Director of Public Works & Utilities Dustin Sailor gave an overview of the Engineering Department presentation, which he said would be given by the following staff members: City GIS Coordinator Mattie Lehman, City Project Manager Andrew Lund and City Asset Manager Boston Snyder.

Using a 54-slide PowerPoint presentation titled "Transportation Funding Work Session, City of Goshen," Lehman, Lund and Snyder presented the following information. At times they paused during the presentation to answer questions from Council members and other attendees.

2) PASER Dashboard

The City Engineering Department has established a Pavement Surface Evaluation Rating (PASER) Dashboard with which people can review roadway conditions from 2016 to 2024. Users can click on and view the condition of road segments. Data is collected in the spring and fall and the dashboard is updated. City of Goshen staff can access it at: <https://maps.goshencity.com/portal/apps/dashboards/c54580e4efef4a048b326593b566acb1>

3) TRANSPORTATION FUNDING PRESENTATION

a. PASER

i. PASER is known as the Pavement Surface Evaluation Rating

- Roadways are divided into segments, which vary in length
- In urban areas, segments typically are situated from intersection to intersection
- Based on their condition, roadway segments are given a PASER score of 1–10
- 10 is the score given to a brand-new roadway segment
- 1 rating is used for a roadway segment that has completely failed
- A PASER survey is performed every Spring by the Goshen Street Department

PASER purpose and reporting requirements

Why roadways are rated:

- PASER surveys are conducted to inventory roadway conditions
- They help prioritize roadway treatments and reconstruction projects, which can range from just a patching to a total roadway reconstruction
- PASER provides crucial data for the development of a local Pavement Asset Management Plan (PAMP)
- PAMPs are required by the Indiana Department of Transportation (INDOT) for communities that seek to be eligible for Federal Highway Administration funding for local roadway projects
- INDOT adopted PASER as State of Indiana's standard pavement rating system

Asphalt Pavement Basics

Hot Mix Asphalt (HMA) Pavement Layers consist of the following:

- Surface (Wearing) Layer
- Intermediate (Binder) Layer
- Base Layer



Subbase (Aggregate)

- Crushed stone or crushed concrete

Subgrade

- Compacted soil

Asphalt Pavement Wear types and factors

Environmental Aging

- Natural elements (sun, oxygen, rain, snow, ice) degrade asphalt binder
- Pavement loses “elasticity”
- Cracks form more easily

Traffic Loads

- Repeated stresses from vehicles crack pavement

Effects of Moisture

- Cracks allow water into pavement structure
- Freezing creates more cracks
- Moisture softens and erodes the subbase

Freeze-Thaw Cycle

- Another critical factor affecting pavement wear is an area’s annual free-thaw cycle – when the air temperature drops low enough to freeze water (32°F), then increases enough for it to thaw
- The freeze-thaw cycle can cause potholes, cracks and other road damage
- The City of Goshen experienced 62 free-thaw cycles in the winter of 2023-2024

PASER Rating Process

Pavement distress can be manifested by the following

- Cracks (Longitudinal, Transverse, Block, Wheel-path, Alligator and Crack Openings)
- Rutting
- Raveling (disintegration of the surface)
- Patches
- Potholes
- Polishing, Bleeding

Note: The Roadway Segment Rating is based on the worst distress detected in the segment

PASER Rating system and Pavement Integrity

- | | |
|----------------------|---|
| Good – 10, 9 and 8 | Good condition and no repairs necessary |
| Fair – 7, 6, 5 and 4 | Repairs necessary and of increasing seriousness |
| Poor – 3, 2 and 1 | Roadway needs replacement |

Note in response to a Councilor question, City staff members said the City has the equipment to make even major road repairs.



PASER rating example: PASER rating 9

(Photo displayed of a road segment in very good condition)

- Like new condition
- No defects

PASER rating example: PASER rating 6

(Photo of road with some cracks and a lighter asphalt color)

- Cracks are tight (hairline) = 8
- Longitudinal cracks at joints = 8
- Transverse cracks (less than 10' apart = 6)

PASER rating example: PASER rating 4

(Photo of road with faded asphalt surface, more cracks and asphalt patches)

- Cracks are open, 1/4" - 1/2" = 6
- Longitudinal crack at joint = 8
- Transverse cracks (Less than 10' apart = 6)
- Block cracking (1' - 5' Blocks = 5)
- Wheel-path cracking = 4

PASER rating example: PASER Rating = 2

(Photo of road in far worse condition and requiring at least some reconstruction)

Roads in the distress with the following:

- Wheel-path cracking = 4
- Potholes, occasional = 3
- Alligator cracking, which indicates damage to the base (greater than 25% = 2)

PASER rating example: PASER Rating = 1

(Photo of road in the worst condition and requiring major reconstruction)

Roads in the worst distress with the following:

- Cracks (close spacing and eroded = 2)
- Potholes, frequent = 2
- Alligator cracking (greater than 25% = 2)
- Severe surface distress and Hot Mix Asphalt base is visible = 1

ii. 2024 City of Goshen Pavement Surface Evaluation Rating (PASER) Survey results

The City of Goshen has 146.45 Total Miles of Roadway

- Up from 146.04

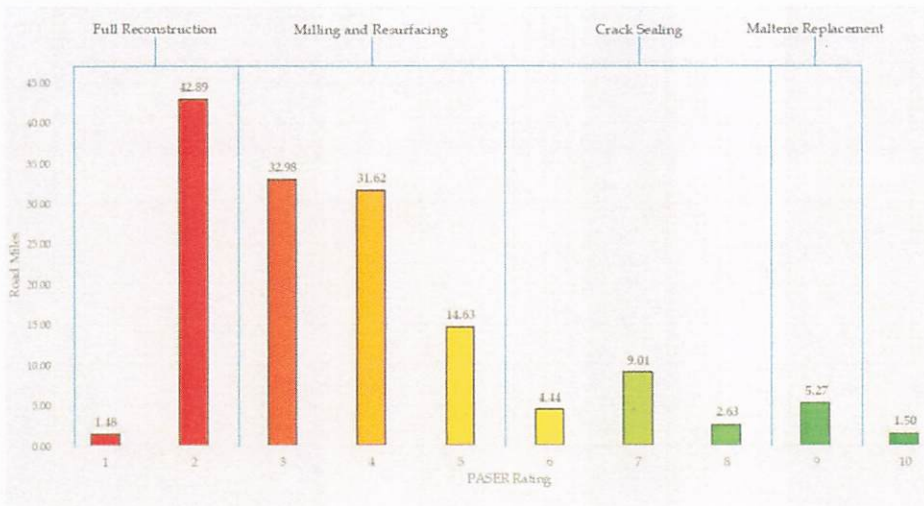
3.90 Average PASER Score as of Spring 2024

- Down from 4.26



THE FOLLOWING CHARTS SHOW THE CITY'S SPRING 2024 PASER RATINGS BY ROAD MILES:

Rating and Mileage Summary		
Rating	Road Miles	Percentage
1	1.48	1.01%
2	42.89	29.29%
3	32.98	22.52%
4	31.62	21.59%
5	14.63	9.99%
6	4.44	3.03%
7	9.01	6.15%
8	2.63	1.79%
9	5.27	3.60%
10	1.50	1.02%



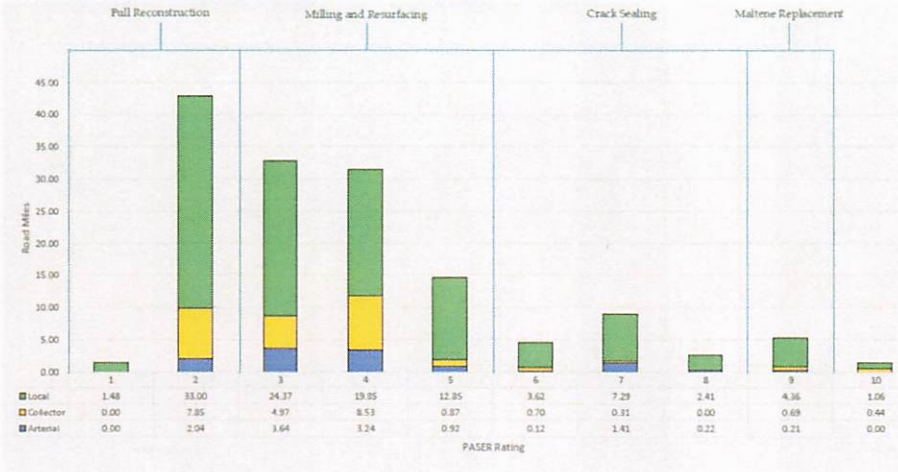
NOTE: In response to Councilor questions, City staff discussed types of road repairs, the process and scope of conducting PASER surveys, how data is collected and when they are done – every Spring and Fall.

2024 CITY OF GOSHEN PASER Survey Results – Classifications by road types

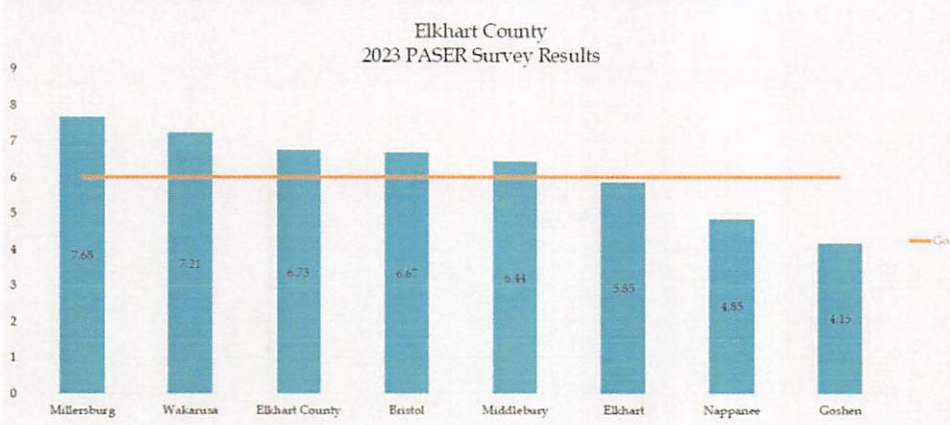
- Arterial - 4.35 Average PASER Score
Minimum PASER Score goal of 6.0
- Collector – 3.75 Average PASER Score
Minimum PASER Score goal of 6.0
- Local – 3.88 Average PASER Score
Minimum PASER Score goal of 4.0



2024 PASER SURVEY RESULTS – CLASSIFICATIONS



ELKHART COUNTY 2023 PASER SURVEY RESULTS (Land Miles):



NOTE: In response to Councilor questions, staff described how PASER surveys are conducted in Elkhart County, efforts toward ensuring more consistent surveying countywide, and access to past PASER data.

iii. Projected PASER scores

2024 Season

- New construction will raise Goshen's PASER rating 0.19 to 4.09
- The average construction increase is expected to be 0.24

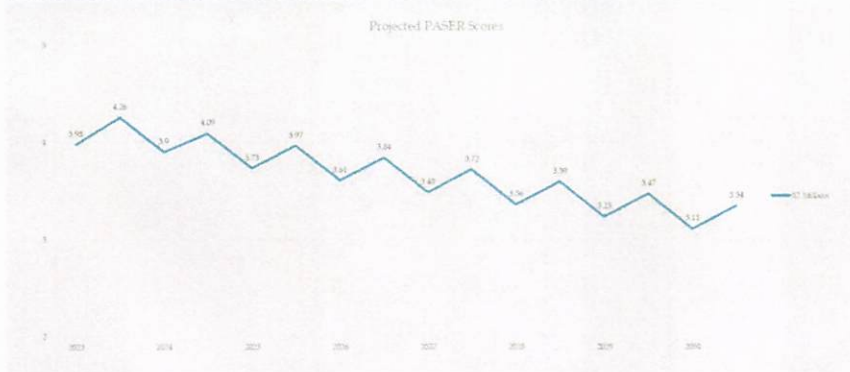
Winter Season

- The average decrease to Goshen's PASER score is 0.36

The City usually loses more points over the winter than it gains through new construction.



CURRENT PASER SCORES AND THOSE PROJECTED UNTIL 2030:

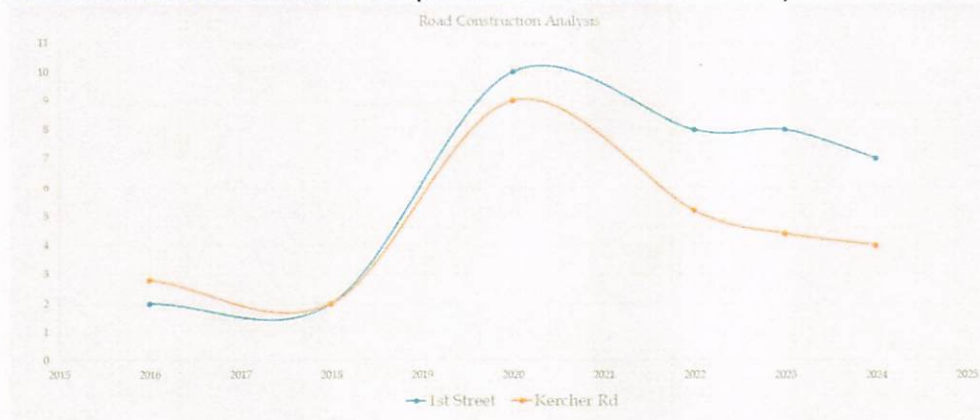


b. Data Science and Analysis

i. Roadway analysis

- The City mapped out roadway degradation curves for all projects since 2014
- Correct treatments at the correct time have shown positive results
- Asphalt mix specifications have shown positive results
- Early intervention is cheaper than full replacement
- Evaluating treatment alternatives
- The City has better data to plan for utility and drainage work minimizing premature excavation of new roadway

ROAD CONSTRUCTION ANALYSIS (DECREASE IN PASER SCORES) FOR TWO RECENT PROJECTS:

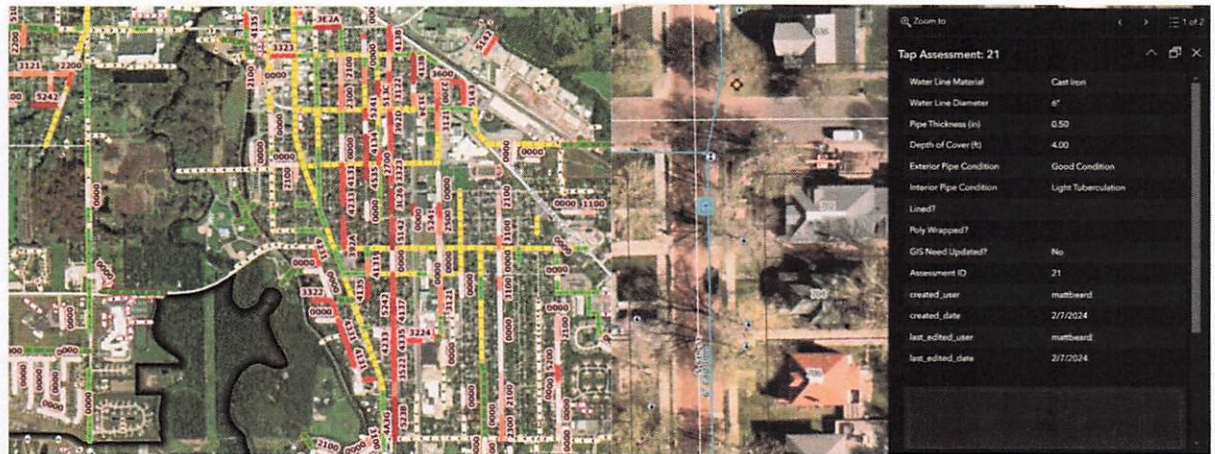


City staff explained that the high PASER ratings after these two road improvements declined over time. They explained that the Kercher Road project degraded at a faster rate than the 1st Street project, in part because of more truck traffic on Kercher.



Staff also described efforts to better assess the condition of related City assets of sewer, water and stormwater systems.

ii. Additional considerations
Utility Planning = Long Road Life



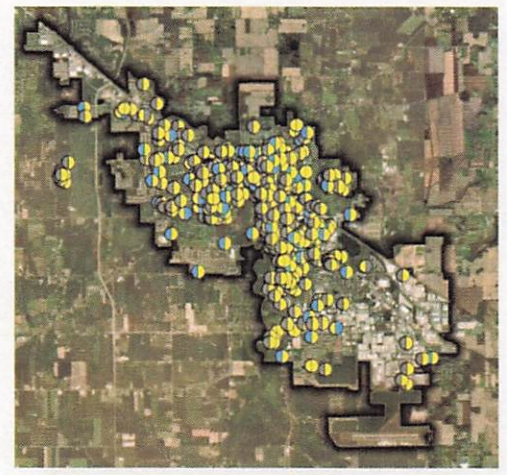
SEWER
Televising Software

WATER
Break History, Field Assessments & Modeling

Looking Ahead - Water Service Line Replacements

Material	Number of Lines	Must Replace?
Non-Lead	3,469	No
Galvanized Requiring Replacement	1,435	Yes (?)
Lead	0	Yes
Unknown	6,857	Part of Replacement Pool
Total	11,761	

Under proposed Lead/Copper rule, City would be required to eliminate all lead and galvanized requiring replacement lines within 10 years.





City staff explained that the City is required to complete a lead water service line inventory in October.

Solving Drainage = Long Road Life

City staff explained that improving Stormwater Management while roads are being improved can extend the life of roadways. There are many locations that are in need of improvement of stormwater systems.

c. Roadway Funding

i. Current funding sources

Transportation Funding			
Fund	Max Available	Guaranteed vs. Awarded	Restrictions
Motor Vehicle Highway (local fees and taxes)	\$3,709,240.50	Guaranteed	Fuel tax deficiencies, fuel tax expires in 2028, covers salaries, equipment, materials, etc...
Motor Vehicle Highway Restricted (local fees and taxes)	\$743,269.11	Guaranteed	Fuel tax deficiencies, fuel tax expires in 2028, covers salaries, equipment, materials, etc..., 50% must be used for road maintenance
Local Roads and Streets (local fees and taxes)	\$641,477.74	Guaranteed	Fuel tax deficiencies, fuel tax expires in 2028, covers salaries, equipment, materials, etc...
Civil City - EDIT	\$2,000,000.00	Requested	
Redevelopment (TIF)	variable	Requested	Can only reconstruct, location-specific, benefit to new development, expires in 2034
Civil City - Cum. Cap.	\$465,000.00 (2023)	Requested	
Community Crossings	Up to \$1.5 million annually	Awarded	Asset management plan approval, must provide financial match, not always awarded

REDEVELOPMENT

City redevelopment project funding has contributed a significant amount for roadway work, including:

- Downtown Streetscape (Main Street from Pike Street to Madison Street)
- Waterford Mills Parkway
- Eisenhower Drive Reconstruction
- East College Development (Brinkley Way)
- 10th Street
- Lincoln and Steury streets
- Consolidated Courts Roadway Improvements (Reliance and Peddlers Village roads)



REDEVELOPMENT

Future roadway work contributions expected:

- Dierdorff Road
- Eisenhower Drive
- Century Drive
- College Avenue
- Southeast Goshen Industrial
- Corrie Drive
- Sourwood Drive
- Firethorn Drive
- Hackberry Drive
- Linden Drive
- Caragana Court
- County Road 40

ii. Funding expenditures

Prior Roadway Treatment Summary

Treatment	2019 Mileage	2020 Mileage	2021 Mileage	2022 Mileage	2023 Mileage	Total Miles	Costs
Crack Seal	9.5	18.37	8.46	4.34	12.25	53.12	\$ 531,200.00
Maltene Replacement Treatment	-	-	-	-	4.31	4.31	\$ 101,986.50
Overlay - 1.5"	0.51	0.41	0.19	1.68	0.34	3.13	\$ 234,750.00
Mill and Resurface - 1.5"	1.1	0	0	3.3	0	4.4	\$ 1,320,000.00
Mill and Resurface - 2"	4.06	0.58	3.92	0	1.9	10.46	\$ 3,399,500.00
Mill and Resurface - 4"	0	0	0	0	0.56	0.56	\$ 224,000.00
Reconstruction - Asphalt	2.22	0.45	3.53	1.02	1.4	8.62	\$ 6,465,000.00
Reconstruction - Concrete	-	0.7	0.4	0.67	-	1.77	\$ 1,539,900.00
Total Miles	17.39	20.51	16.5	11.21	20.76	84.6	-
Costs	\$ 3,447,750.00	\$1,349,450.00	\$ 4,368,350.00	\$ 1,926,400.00	\$ 2,141,486.50	-	\$13,816,336.50

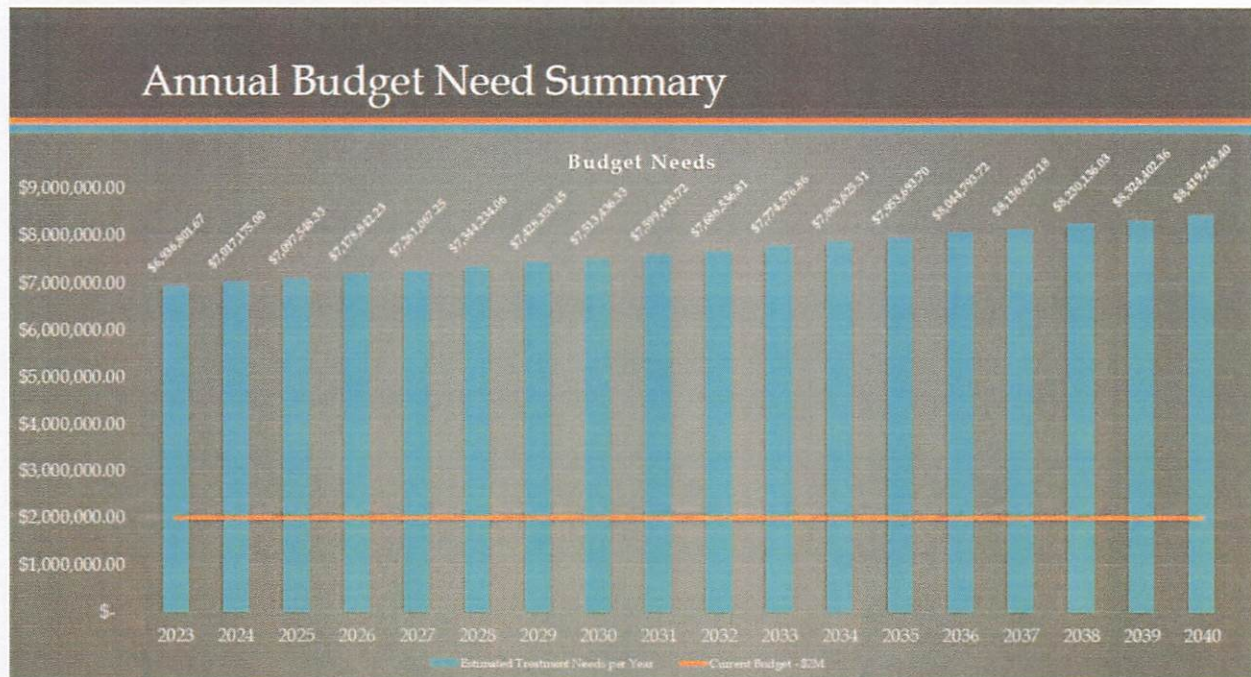


iii. Funding needs

Indicates the amount of City roadway funding needed yearly – \$7 million

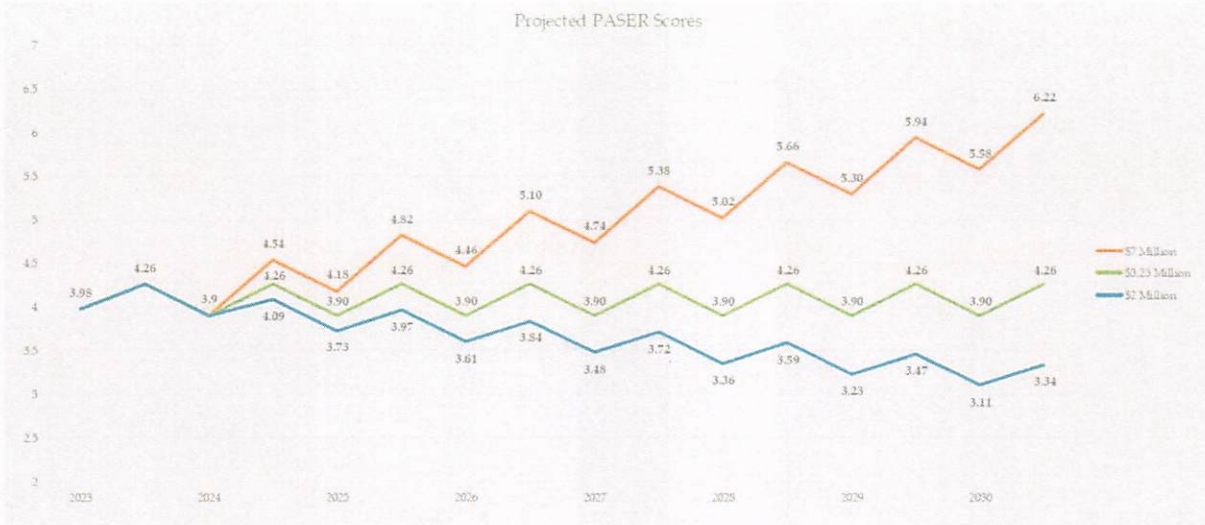
Annual Budget Need Summary

Year	Estimated PASER Score	Treatment	Estimated Cost
2	9	MRT	\$ 2,750.00
4	8	Crack Seal	\$ 1,100.00
10	6	Crack Seal	\$ 1,100.00
13	4	Mill and Resurface	\$ 33,000.00
18	7	Crack Seal	\$ 1,100.00
21	6	Crack Seal	\$ 1,100.00
24	3	Mill and Resurface	\$ 33,000.00
27	6	Crack Seal	\$ 1,100.00
30	2	Reconstruction	\$ 82,500.00
Segment cost per life cycle			\$ 156,750.00
Segment cost per year			\$ 5,225.00
Total number of segments			1343
Total budget needed per year			\$ 7,017,175.00





IMPACT ON PASER SCORES OF \$7 MILLION VS. \$2 MILLION IN ANNUAL ROADS FUNDING:

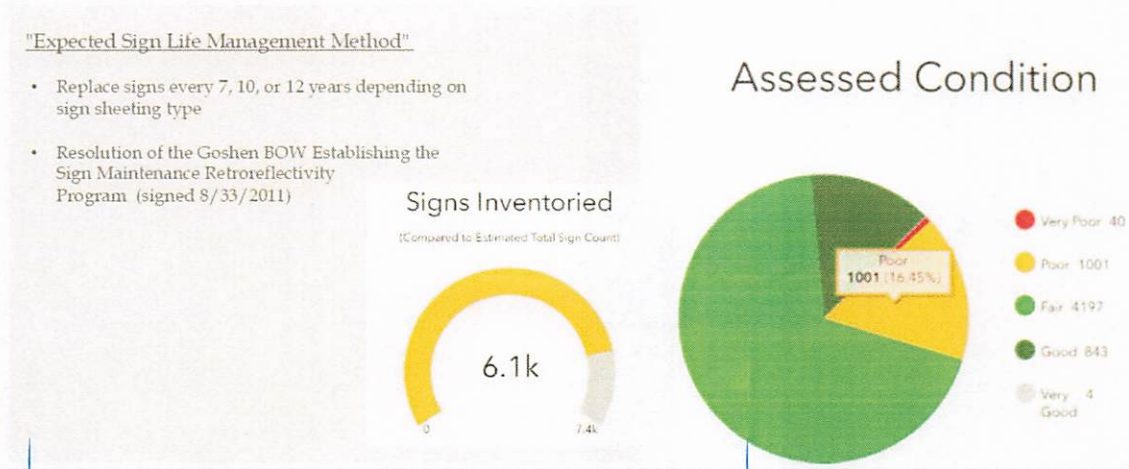


d. The Holistic Approach (also part of a road) and it would be wise to include these in planning:

- Signs
- Sidewalks and Multi-Use Paths
- Curb Ramps
- Pavement Markings

NOTE: There is not necessarily any dedicated funding to meet these needs.

i. Street Signs





CONDITION OF GOSHEN SIGNS BASED ON 2011 CITY REPLACEMENT STANDARDS:

Street Signs

City Owned Signs

Sign Type	Inventoried	Older than Expected Life	% Needing Replaced	Cost Estimate
Regulatory	2,746	2,106	77%	\$176,904
Warning	517	338	65%	\$28,140
Other	2,304	1,821	79%	\$152,964
Sign Total	5,567	4,265	76%	\$358,008
Poles		1,519		\$296,964
Regulatory, Warning, and Poles				\$502,008

*** Preliminary Numbers ONLY, Inventory is Ongoing ***

ii. Sidewalks

2024 Inventory

- City has 57.8 Miles of sidewalks
- More than 2,500 trip hazards have been identified
- About \$1 million would be needed to address all trip hazards

Next Step

- Work with community partners to prioritize routes
- Gap analysis, repair prioritization, and more

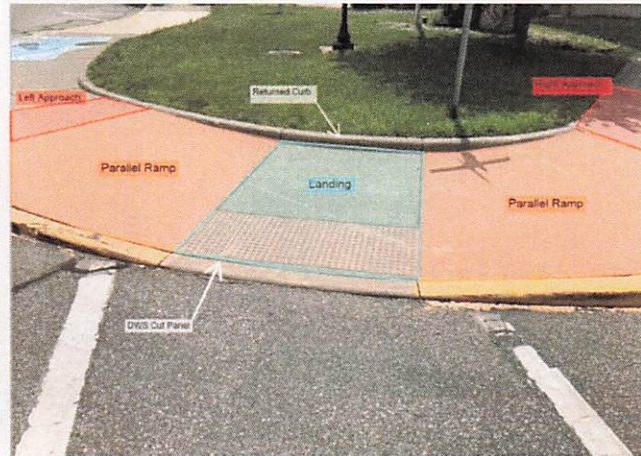
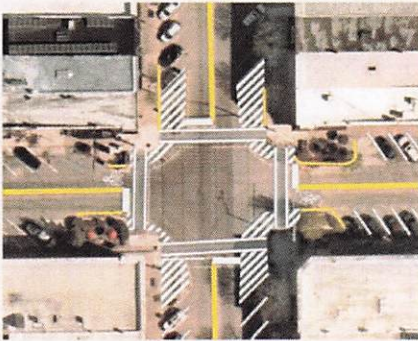
NOTE: In response to Councilor questions, City staff said it has been a challenge for the City to pay for new and replacement street signs. Although a 2011 City ordinance mandated the replacement of old signs, no funds were set aside for this purpose. However, better data collection is allowing for better decision-making. For example, the City just completed its first survey on the condition of the City's 58 miles of sidewalks, which identified hundreds of trip hazards. Although property owners have some responsibility to maintain and pay for new sidewalks, City staff said that realistically, the City bears the responsibility because sidewalks are in the right of way. Staff also said trees damage fewer sidewalks than is generally believed.

iii. Pavement markings and curb ramps

Pavement Markings & Curb Ramps

Ongoing Inventory Effort

- 269 curb ramps inventoried this summer of 1,628
- Pavement Markings



e. Redevelopment Case Study – 10th Street

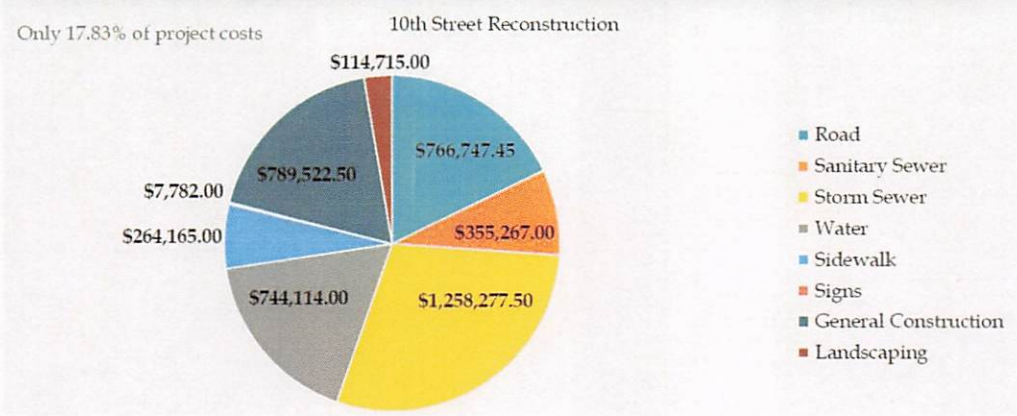
Case Study = 10th St. (the "Cadillac" treatment)

Cost

- Approximately \$4,300,000.00
- Full Corridor Project

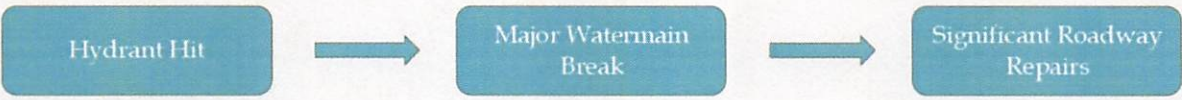


Case Study = 10th St. (the "Cadillac" treatment)



f. Utility Emergency Case Study – Denver Street (damage caused by a truck striking a fire hydrant)

Case Study = Denver (the "scramble")



Infrastructure	Fund (s)	Cost
Asphalt Material Only	Civil/Streets	\$91,240.50
Water Main Material	Utility Rates	\$83,075
Water Services	Utility Rates	\$7,825
Sidewalk	Civil/Streets	\$2,400
Sanitary Sewer	Utility Rates	\$10,820
Stormwater Drainage	Stormwater Fee	\$7,900
Other/General	Civil/Streets/Utility Rates	\$21,702.50

NOTE: In response to Councilor questions, City staff said the City has had to assume the full costs of the repairs because the driver fled the scene. However, the City is still attempting to locate the driver responsible so that some costs can be reimbursed.



g. Closing thoughts:

i. Meeting the City's transportation needs

- Roads are deteriorating faster than current funding supports
- Supporting and active transit assets also have maintenance deficits
- The City is using data to evaluate its methods and make decisions that maximize outcomes per dollar
- The funding options are currently maxed out

ii. What the City needs every year vs. current funding and outcomes:

- \$2,000,000: At this funding level, the PASER score will decrease to 3.34 in 5 years
- \$3,230,000: City can hold PASER score steady at 4.26 at this funding level
- \$7,000,000: City can maintain its entire roadway network and increase PASER score to 6.22 in 5 years
- Currently, there is no dedicated funding for active transit assets, such as signs and sidewalks

iii. Discussion topics

- What infrastructure condition is Goshen willing to live with?
- What investment balance does the Council want to see between active transit and roadway assets?
- Where will the city get more money? And how will its condition goals and needs?

iv. Additional revenue options

- Local wheel tax (has been set at \$25 for years)
- Environmental fee (the city could impose trash collection fees)
- Local food and beverage tax

City Director of Public Works & Utilities Dustin Sailor said the Engineer Department wasn't expecting answers from the Common Council today, but wanted to provide roadway data and learn what funding levels may be possible to expect. Sailor said the City faces decisions on how best to manage roadways and other assets, including sidewalks, with the available funding.

Sailor said the City could opt for road chip sealing, which involves treating the pavement surface with liquid asphalt material covered by crushed stone to provide a new roadway surface. Although this treatment prevents further deterioration, it is not as smooth a surface as new asphalt and hasn't been as popular with motorists. Still, the City of Madison, Wisconsin chip seals about 70 miles of roadways a year with good results.

4) Open Discussion/Q&A

During the subsequent discussion, work session participants:

- Discussed the amount of Community Crossings funding available over the next year by the State as well as other grant funding;
- Said that besides more state funding and grants, money could be freed up for more road work by cutting other parts of the City budget and prioritizing spending;
- Discussed providing closer Council scrutiny about how the City spends its money;



- Talked about the positive role of the City's redevelopment efforts in improving roads;
- Concluded that it may be necessary to chip seal more of Goshen's roads to prevent further degradation, although the resulting roads can be more slippery for bicyclists and motorcyclists and this treatment will only delay more extensive repairs;
- Learned from staff that applying the right road treatment at the right time is essential for improving roads and preventing further degradation;
- Learned that road projects often become more expensive and time consuming because water and sewer repairs are often necessary and should be done at the same time;
- Also learned that infrastructure costs are more expensive in low-density subdivisions;
- Were told that concrete roads can have higher PASER ratings than asphalt roads, but concrete panels can be expensive to replace, especially if the original concrete roads were not very thick;
- Discussed the increasing costs of asphalt and other materials for road work;
- And learned that the City Street Department is doing an excellent job repairing and maintaining roads.

Adjournment:

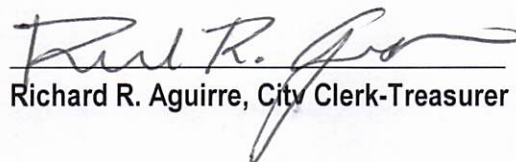
Mayor Leichty adjourned the meeting at 11:48 a.m. after thanking Engineering Department staff members for their good work and excellent information.

APPROVED:



Gina Leichty, Mayor of Goshen

ATTEST:



Richard R. Aguirre, City Clerk-Treasurer