CITY OF WHEATLAND

CITY COUNCIL MEETING
STAFF REPORT

February 22, 2022

SUBJECT: Consider and accept the City of Wheatland 2022 Pavement Management Program

PREPARED BY: Dane H. Schilling – City Engineer

Recommendation

City Staff recommends that the City Council accept the attached 2022 City of Wheatland Pavement Management Program (PMP) Report as prepared and presented by Coastland Civil Engineering (Coastland).

Background/Discussion

The City owns and maintains over 18-miles of streets. In February of 2021 the City embarked on the preparation of its first pavement management program (PMP). A PMP is an asset management tool that includes detailed street data and field assessments of current pavement conditions, forecasts of pavement lifecycles, approaches to pavement maintenance, and associated costs to maintain various levels of repair. This PMP Report is presented for discussion and recommendations for further staff efforts to plan, estimate, and prioritize future pavement maintenance and rehabilitation efforts.

The StreetSaver software used for this effort is most useful as a continually evolving tool and will be updated periodically as staff implements the annual pavement maintenance program activities. Street segments are given a Pavement Condition Index (PCI). The PCI values for each year's annual list of streets will be updated to reflect the activities undertaken. Since each street responds to environmental and traffic factors in a different manner, the field distress surveys need to be updated every 2 to 5 years depending on street classification. The Arterials and Major Collectors are subject to higher stresses so need to be reinspected on a more frequent basis or every 2 to 3 years. The Minor Collectors and Local/Residential streets need to be reinspected every 3 to 5 years

Unfortunately, the City's overall average PCI is at 50 out of 100 points which means the system is nearing the last 25% of its useful life and it means that keeping the City's streets in good condition will become more and more expensive as the pavements degrade at a

structural level. For comparison, other local communities have the following PCI's: City of Colfax PCI=52, City of Auburn PCI=66, and City of Lincoln PCI=71.

The City of Wheatland receives about $126,000 annually for pavement maintenance activities. The following PMP funding scenarios were developed to demonstrate the funding needed to achieve various PCI levels within the City:

1. **$0 annual budget** – City-wide PCI declines from 50 to 32 over 10-yrs.
2. **$126,000 current annual budget** – City-wide PCI declines from 50 to 37 in 10-yrs.
3. **PCI target of 51**, requires $1.1M per year.
4. **$1.0M annual budget** - City-wide PCI increases from 50 to 62 over 10-yrs
5. **PCI target of 70**, requires $14.3M over 10 years.

Given the extreme funding need and condition of the City's streets, staff is recommending the following approach to future project programming and annual budgets:

1. Allocate a significant portion of the $126,000 annual budget toward preventative maintenance activities such as crack sealing, slurry seals and cape seals to preserve those streets that are in good condition or better.
2. Set aside sufficient monies as matching funds to leverage the use of outside funding for larger capital maintenance projects.
3. Projects that present an opportunity to leverage outside monies should be prioritized above others to take advantage of outside monies.
4. Follow the priority order of streets to be treated for maintenance in accordance with the current Pavement Management Program.
5. Pursue federal-aid funding on federal-aid designated streets.

Fiscal Impact

There are no direct fiscal impacts by accepting the PMP Report. Programming of pavement maintenance projects will be performed by staff and projects will be brought to Council under separate actions.

Attachments

Attachment 1 – 2022 Pavement Management Program Report

CITY OF WHEATLAND
2022 PAVEMENT MANAGEMENT PROGRAM

February 17, 2022

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TABLE OF CONTENTS

Contents

Appendix

EXISTING NETWORK SUMMARY
- OVERALL PCI (NETWORK SUMMARY STATISTICS)
- NETWORK REPLACEMENT COST
- STREET INVENTORY WITH INSPECTED PCI RATINGS

DECISION TREE -TREATMENT COSTS & DESCRIPTIONS
- PCI BREAKPOINTS
- DECISION TREE
- NEEDS – PROJECTED PCI/COST SUMMARY
  - NEEDS – PREVENTATIVE MAINTENANCE TREATMENT/COST SUMMARY
  - NEEDS – REHABILITATION TREATMENT/COST SUMMARY

SCENARIO 1 - $0 FUNDING, DO NOTHING
- NETWORK CONDITION & COST SUMMARY

SCENARIO 2 – EXPECTED ANNUAL BUDGETS (CURRENT FUNDING)
- NETWORK CONDITION & COST SUMMARY

SCENARIO 3 – MAINTAIN CURRENT PCI OF 51
- NETWORK CONDITION & COST SUMMARY
- PAVEMENT NETWORK CONDITION MILES

SCENARIO 4 – INCREASE ANNUAL BUDGET TO $1 MILLION
- NETWORK CONDITION & COST SUMMARY

SCENARIO 5 – INCREASE PCI TO 70
- NETWORK CONDITION & COST SUMMARY
- PAVEMENT NETWORK CONDITION MILES

Background and Purpose

Background

With this report, the City of Wheatland is embarking on its initial Pavement Management Program (PMP) as prepared by Coastland Engineering (Coastland). The City Council goal is to improve the conditions of public streets and the first step in accomplishing this goal is to evaluate the current condition of pavement throughout the City to assist in prioritizing pavement projects. This PMP is designed to systematically evaluate current and project future pavement conditions for all City maintained streets. The PMP will recommend annual budget requirements for maintenance and rehabilitation of the City street system based on the City's goals and available funding.

Coastland's scope of work included compiling and verifying an inventory of City owned streets and performing pavement condition surveys on the entire network. The field inspection surveys as well as the data entries were conducted during spring and late summer 2021. Note that the condition surveys focused strictly on the pavement condition and did not address traffic, safety and road hazards, geometric issues, road shoulders, sidewalks, curb and gutters, drainage or short-term maintenance needs.

The PMP analysis method used by Coastland was originally developed in the mid 1980's by the Metropolitan Transportation Commission (MTC) of the San Francisco Bay region. This was done in response to the rising construction costs and declining street revenues faced by most jurisdictions. The method developed and further refined by MTC resulted in a cost-effective approach using a systematic strategy for accessing street pavements, maintenance and repairs that meet the needs of local jurisdictions.

As recommended by Coastland, the City purchased a subscription to MTC's latest PMP software StreetSaver. The StreetSaver software is a nationally recognized tool that uses field inspection information to develop pavement condition ratings (Pavement Condition Index – PCI), provides for various treatment options and aids in the decision-making process of road maintenance and repair. StreetSaver software optimizes use of available street maintenance funds and forecasts the financial and physical consequences of deferred street maintenance.

This is the first PMP developed for the City so very little data was available to use and the City did not have a street inventory or PMP software prior to this effort. Coastland used readily available street lists, City records, and interviews with City staff to develop a comprehensive street inventory.

Purpose

PMP is a tool that allows a jurisdiction to be pro-active in the management of their street pavement system. To be effective and provide accurate recommendations, a PMP must be updated regularly.

The purpose of the 2021 PMP for the City of Wheatland is to satisfy following street pavement needs:

1. A systematic and consistent method of evaluating current pavement conditions as well as projecting future pavement conditions for all City maintained streets.

2. Development of current and future annual budget estimates to assist in developing a multi-year capital improvement program for street maintenance. These budget estimates are based on the specific unit costs input for the distinct types of preventative maintenance and rehabilitation pavement treatments used by the City.

Before the widespread use of PMP, municipalities typically maintained their streets reactively as they showed a need for repair – typically taking a "worst first" approach. This reactive method of managing pavement maintenance by waiting to respond until the problem was obvious did not use available street maintenance funds in the most cost-effective way. The use of a PMP for the management of the street system will result in implementing the most cost-effective maintenance to a valued asset and ensure that the City is getting the most for the money expended. Implementation of the PMP can also significantly reduce the future cost of street maintenance and repair.

Typically, jurisdictions respond to street funding shortfalls by deferring preventative maintenance work on what appears to be the better condition streets. Preventative maintenance is defined as low-cost pavement treatments such as crack sealing, slurry sealing and sometimes a thin asphalt overlay of a paved street. As jurisdictions concentrate their limited resources on the most obvious needs, such as filling potholes or rehabilitating streets with the worst pavement conditions, the critical area of preventive maintenance is neglected. This approach results in streets that are in better condition to experience prolonged periods of deterioration.

Unfortunately, the rate of street deterioration is not linear. As more time passes, the rate of deterioration on the better condition streets increases over time. Extensive research shows street pavement, without any preventative maintenance, deteriorates in quality in a relatively slower rate during the first 75% of its useful life. Then, it significantly deteriorates in quality at a much faster rate in the next 12% of its useful life. **Figure 1 - Pavement Life Cycle** shows the typical degradation of street pavement over time without any type of pavement treatment. Providing preventative maintenance and/or repair prior to pavement reaching 75% of its useful life are critical to cost effectively extending the useful life of any pavement.
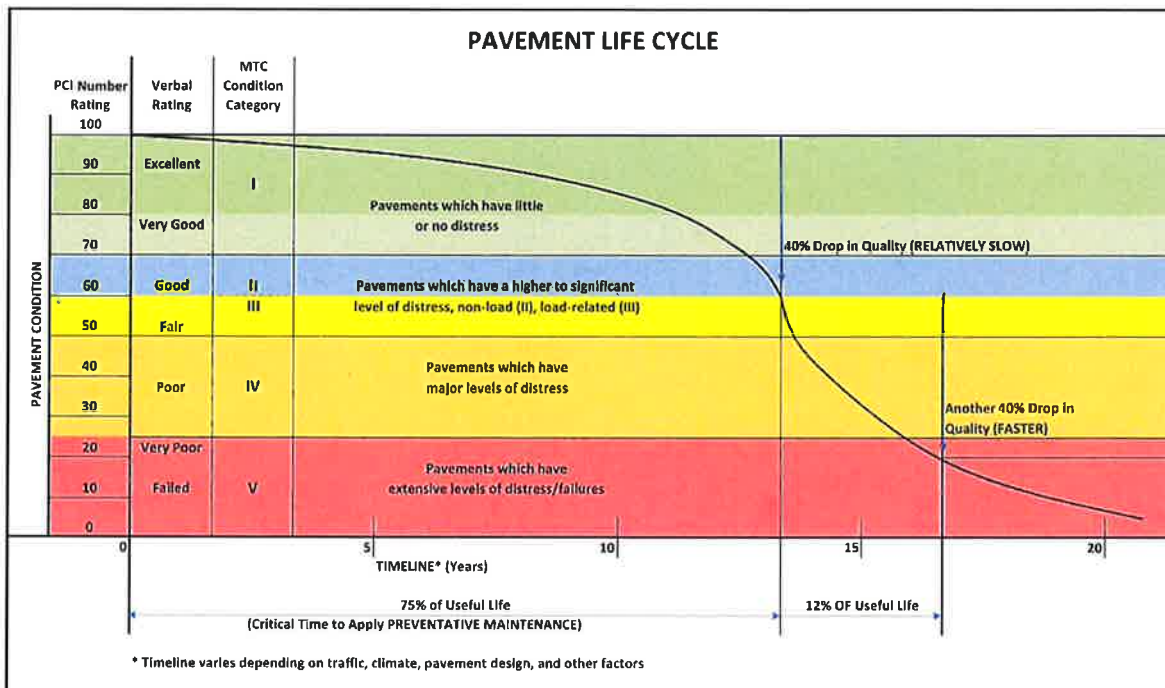
Figure 1-Pavement Life Cycle

The cost of applying preventive maintenance treatments before 75% of a pavement's useful life expires is generally one-tenth to one-fifth the cost of applying the required expensive rehabilitation or reconstruction treatment after 75% of a pavement's useful life. Comparative studies of preventative maintenance versus rehabilitation treatment strategies have further found the sum of the expenses to apply low-cost preventative maintenance treatments is significantly less for streets in a "very good" to "excellent" condition (PCI = 70 to 100), than the one-time expense to apply high-cost rehabilitation/reconstruction treatments to streets allowed to deteriorate to the "poor" to "failed" conditions (PCI = 0 to 25). The ultimate goal of the PMP is to raise the overall condition of the entire street network system to a "very good" to "excellent" condition so low-cost preventive maintenance treatments are the primary pavement strategies being applied. Figure 2 "Pavement Treatment Application Strategies vs. Pavement Condition Index" shows the various treatment methods used based on the PCI of a street.

The PMP program is also a decision-making tool that allows the City to query the program to allocate actual or desired funds in a cost-effective manner to all or selected streets. This report provides the current and the 10-year projected average PCI of all City maintained streets with and without the stated recommended treatments. It provides a recommended 10-year Street CIP including the type of pavement maintenance needed and the associated costs. It also provides the financial and physical impacts of deferred maintenance to every street in the street system. Calculations beyond 10 years are not recommended as the output reporting becomes less reliable due to varying roadway degradation over time. Using a PMP could lower the overall cost of maintaining the street network system over time and significantly extend the useful life of the street system.

Pavement Network and Current Conditions

The City of Wheatland currently maintains 18.3 centerline miles of paved streets with an inventory of 104 sections as shown in the table below. It should be noted that the only arterial street within the City is Highway 65 which is owned and maintained by Caltrans. The total replacement value of the City's pavement infrastructure is approximately $34.2M.

Functional Classification	Maintained Streets	# of Sections
Arterial Streets (Hwy 65) Direct, relatively high-speed service Longer trips Large traffic volumes Mobility emphasized; access limited	0.0 centerline miles	0
Collector Streets Balance Mobility with access Shorter trips and slower speeds Collect traffic from local roads	7.6 centerline miles	27
Residential/Local Streets High access, low mobility Direct access to individual homes	10.8 centerline miles	87
Total	**18.3 miles**	**114**

The pavement condition index, or PCI, is a measurement of pavement grade or condition and ranges from 0 to 100. A newly constructed street has a PCI of 100, while a failed street has a PCI of 25 or less. **Figure 2**, below, illustrates the definitions of the pavement condition categories.

Each street section consists of a segment that is generally uniform in its pavement condition, material, and width. These street sections are the basic management units of the PMP. Shorter streets (approximately 1,000 feet or less) consist of one section; longer streets may consist of multiple street sections. The descriptive and historical data of these street sections include the section number, begin point, end point, length, width, surface type, number of lanes, year of construction, and functional class of each section.

Generally, an inspection unit is at least 10 percent of the length of the street section. The inspection unit, typically 100 continuous feet in length, was examined and evaluated in detail. The criterion used in selecting the inspection unit is the continuous length of street having the most representative pavement condition of the entire length of street section.

PAVEMENT TREATMENT APPLICATION STRATEGIES
VS. PAVEMENT CONDITION INDEX (PCI)
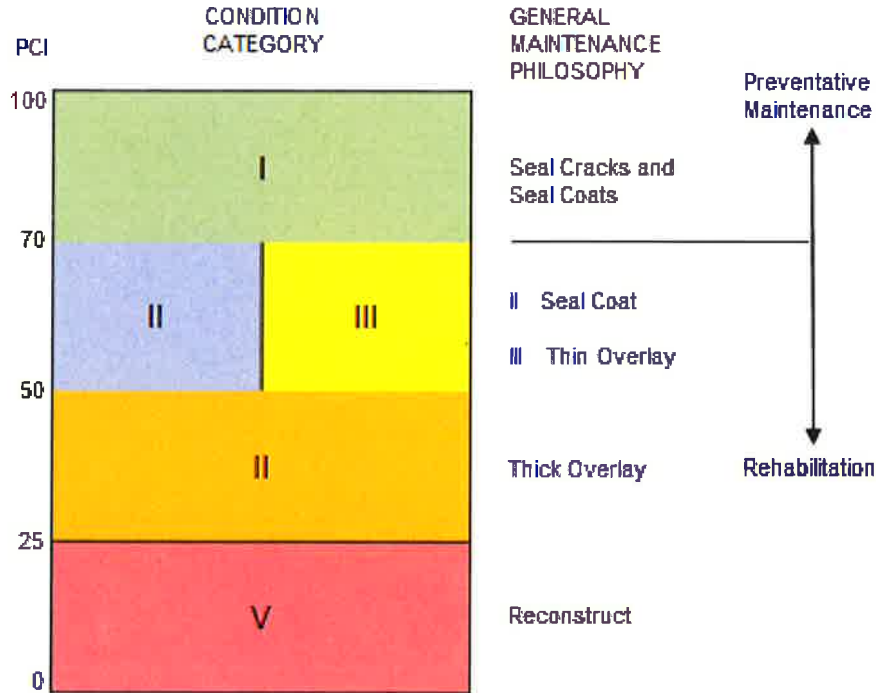
Figure 2

A field distress survey of existing street conditions, measurements, and observations, was conducted on the entire area of each inspection unit for the following pavement distress categories:
- Alligator cracking
- Block cracking
- Distortions
- Longitudinal and transverse cracking
- Patching
- Rutting
- Weathering

The methodology used for the field distress surveys is found in the Distress Identification Manual for the Long-Term Pavement Performance Program, FHWA-HRT-13-092, Revised May 2014. Once the existing surface distresses were identified, evaluated, and quantified, the information was entered into the PMP program database.

Findings

City maintained streets in the City of Wheatland can be characterized as:

- Low traffic volume
- Low speeds
- Low to moderate vehicle loads
- Mostly older pavements with patching where needed
- Some recent subdivisions and maintenance efforts that raise the overall PCI
- Typically, good structural strength remaining with substantially weathered surface
- Arterial street (Hwy-65) is maintained by Caltrans

The average Pavement Condition Index (PCI) is 50 which is at the lower limit of Category III – "Fair/At Risk" and beginning to exhibit significant levels of distress. This city-wide rating is based on a pro-rated calculation of all individual street ratings for which the individual street ratings vary widely from a low of 0 to a high of 99. This ranking indicates that, in general, the City's streets have about 25% of their useful life remaining. As shown on **Figure 1**, streets have reached the steep downward slope of the life cycle curve where degradation is expected to accelerate, and more extensive maintenance will be required. **Figure 3, "Condition Categories"**, demonstrates the current condition of the street system.
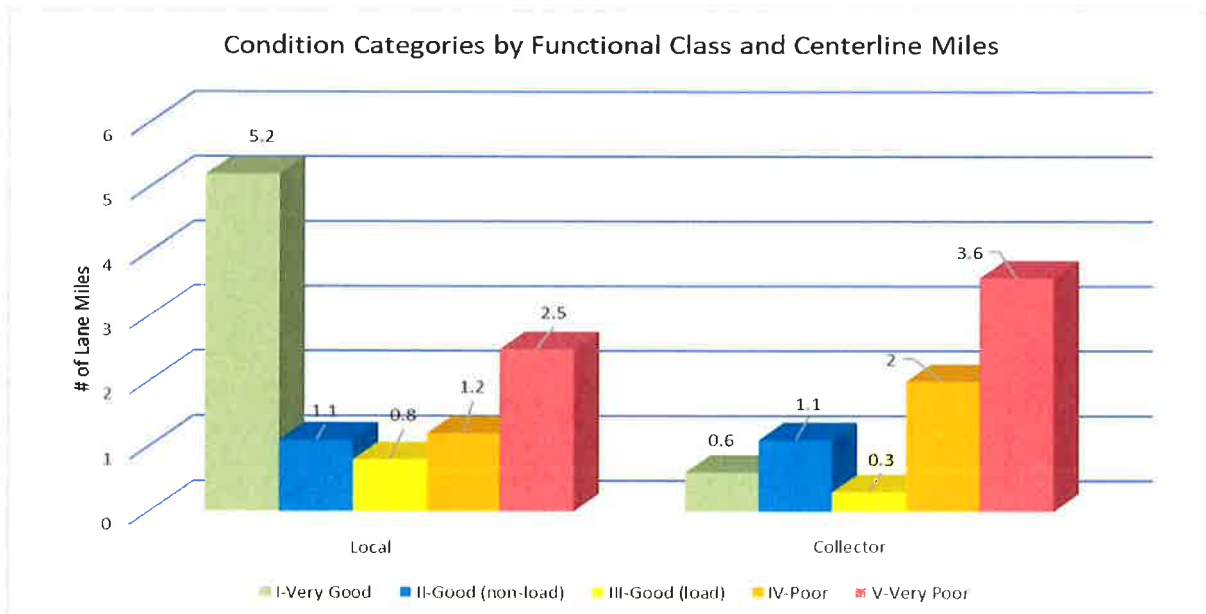
Figure 3 -Condition Categories by Functional Classification

Additionally, the average PCIs by functional classification shown in **Figure 4**, indicates that all collector streets have an averaged PCI of 36 and all residential streets have an averaged PCI of 58.
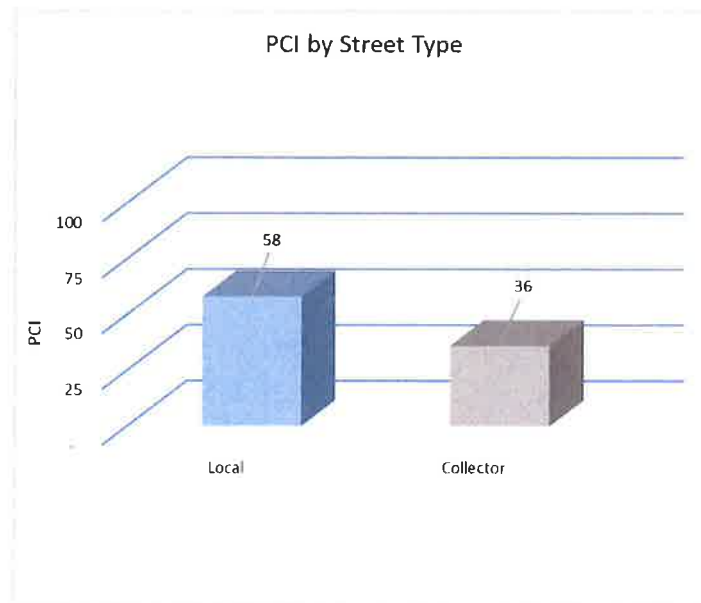
Figure 4-Weighted PCI by Functional Classification

The City's overall 2021 PCI of 50 is projected to degrade to a PCI of 32 over ten years if no further street maintenance is performed. As a street segment's PCI approaches or drops below 50, expensive asphalt overlays and reconstruction of the street would become the primary type of treatments necessary to raise the overall PCI. It is evident that many of the City's streets are at or beyond the brink of requiring the more costly treatment of reconstruction.

The PMP program is a decision-making tool that allows the City to query the program to allocate actual or desired street funds in a cost-effective manner to all or selected streets. The appendix of this report provides the current and the 10-year projected PCI of every City maintained street with and without the stated recommended treatments. It provides a recommended 10-year Street CIP including the type of pavement maintenance needed and the associated costs. It also provides the financial and physical impacts of deferred maintenance to every street in the street system.

Maintenance and Budget Scenarios

Preventative Maintenance and Rehabilitation Treatment Costs and Strategies

Recommended types of preventive maintenance and rehabilitation pavement treatments such as crack sealing, slurry seals, and AC overlays with pavement fabric were input in the StreetSaver program's Decision Tree (included in the Appendix). Construction costs used in this report were estimated based on:

- 2020-2021 construction cost data from a variety of pavement maintenance projects (slurry seals) and road rehabilitation projects (pavement reconstruction)
- Minimum construction cost of $100,000 for re-surfacing and $200,000 for reconstruction projects
- Costs for construction, including an allowance for engineering, project administration, bidding, inspection, and contingency.
- Rehabilitation costs include added amounts for features such as pedestrian ramps (ADA upgrades), sidewalk repairs and drainage structures.

PCI	Condition	Treatment Type/Cost
100	Very Good to Excellent	**Preventative Maint. – Surface Seals** ($4-$5/Sq. Yd.)
70	Good (non-load)	**Chip & Slurry Seal** ($10/Sq. Yd)
	Good (load)	**Thin AC Overlay** ($36-$45/Sq. Yd.)
50	Poor	**Thick AC Mill & Overlay** ($54-$56/Sq. Yd.)
25	Failed	**Reconstruct Road** ($90-$110/Sq. Yd.)

The PMP results can be used as a basis for the City to prepare a customized strategy that considers other non-technical factors such as distributing projects in various neighborhoods equitably, grouping of projects to reduce construction costs, future development projects and future utility work that may impact newly treated streets. Treatment assignments are dependent on the street's functional classification (arterial, collector, or residential), paved surface types (asphalt or concrete), and pavement treatment history (original asphalt, asphalt overlay on original asphalt, original concrete, and asphalt overlay over original concrete). The PMP software calculations match each street section with the recommended pavement treatment

based on its PCI. For example, pavements within the PCI Category I (PCI is between 70-100), typically are assigned "Preventive Maintenance Treatments" including crack sealing, slurry seals, or sometimes thin asphalt overlays. Pavements within the PCI Categories II, III, IV and V typically are assigned "Rehabilitation Treatments" ranging from, thin asphalt overlays, to thick overlays, to full pavement reconstruction.

The different paved street surfaces typically considered in a PMP include: asphalt concrete (AC), asphalt concrete overlay over existing asphalt concrete (AC over AC), Portland cement concrete (PCC), asphalt concrete overlay over existing Portland cement concrete (AC over PCC), and Surface Treatment such as sequential chip seals, (ST).

Needs Analysis

The PMP software program is designed to determine the most cost-effective preventative maintenance and rehabilitation treatments necessary to raise and maximize the PCI of the overall City-wide system during a ten-year period A 10-year period was used in this analysis to spread estimated costs over time although the MTC recommends limiting the projections to a 5-year period. When the PMP program is running the Needs Analysis, it evaluates the relative effectiveness of each pavement treatment in raising the PCI of the overall street network and determines the associated treatment costs. The PMP program then selects street sections to receive preventative maintenance and rehabilitation that will best benefit the overall street network. The PMP program goal is to raise the average PCI of the overall street system to an idealized PCI in the 80's placing it in the "Very Good" to "Excellent" range. This calculation is based on the field work performed and data entry input during the spring/summer of 2021. The idealized calculation of funding required to raise the quality of city streets to the Very Good-Excellent range is $20.2 million of which $13.0 million would be expended in the first year of the 10-year period.

Budget Scenarios

Having determined the maintenance needs of the road network, the next step in developing a cost-effective maintenance and rehabilitation strategy is to conduct several "what-if" analyses. Using the PMP software budget scenario module, the impacts of various budget "scenarios" can be evaluated. The program projects the effects of the different scenarios on PCI and deferred maintenance (backlog.) By examining how various budget scenarios effects these indicators, the advantages and disadvantages of different funding levels and maintenance strategies, the City can use this information to determine the best budget scenario to implement. The following scenarios were performed for the purposes of this report. Detailed information for each scenario can be found in the Appendix. All budget scenarios assume an increase in funding/revenue of 5% per year and inflationary increase of 3% per year.

Scenario 1 - $0 Funding-Do Nothing Budget

The "Do Nothing" budget analysis assumes all types of annual street pavement maintenance and repair are ignored, except for filling potholes. Consequently, the program projects the annual City-wide PCI degradation and the annual individual PCI degradation for each of the street sections in each year for ten years. As calculated, if no funds are available for street maintenance over the next 10 years, the average PCI for the City of Wheatland is projected to drop from its current PCI of 50 to a PCI of 32. It is worth noting this is only a computer projection. It is expected the City will continue to perform regular maintenance and re-inspection updates to the PMP. The "Do Nothing" analysis results in a deferred need of $23.7 million after ten years.

Scenario 2 - Expected Budget

As provided by City staff, the most realistic expected annual street funding that may be available for street pavement maintenance over the next six years is:

- FY 21/22: Gas Tax $49,600 (4-year average) and Transportation Development Act $76,700 (4-year average) = $126,000
- Future budgets are assumed to rise by 5% per year and Inflation is assumed to be 3% per year.
- Some special funding is available from the Bishop Pumpkin Farm (BPF) joint use fund to help fund projects on City streets that are directly serving the Bishop Pumpkin Farm event. These funds can only be used on projects mutually agreed to by the City and the BPF operator.

Currently the City has no capital maintenance projects planned for the 2021/22 construction season.

If the City applies the currently anticipated budget mentioned above, then the resulting PCI at the end of ten years is projected to decline to 37 which is 5 basis points above the "Do Nothing" result of 32. It results in a deferred need of $22.5 million.

Scenario 3 – Maintain Existing PCI of 51 (Target-Driven)

The purpose of this scenario is to determine the required budget to maintain the current overall PCI of 51 over the ten-year period. PCI of 51 was selected to place it just above the lower Condition Category threshold of 50. The resulting cost is $6.5 million with a deferred need of $18.0 million.

The Target-Driven Scenarios are not constrained by annual budgets and are used to calculate total funding needed to obtain a specific objective such as, minimum PCI, minimum pavement life, or similar criteria. They also typically assume that a very large portion of the needed amount can be spent in the first year of the analysis period.

Scenario 4 – Increase annual Budget to $1 million per year

The purpose of this scenario is to demonstrate the PCI improvement if a substantial increase is made in the annual budget. It results in a PCI increase to 62 after 10 years although it costs a total of $11.7 million with a deferred need of $11.5 million.

Scenario 5 – Increase PCI to 70 (Target-Driven)

The purpose of this scenario is to determine the required budget to raise the overall PCI to 70 (minimum "Good" condition) over the ten-year period. The resulting cost is $14.3 million with a deferred need of $7.3 million.

A complete listing of recommended treatments generated by the StreetSaver software can be found in the Appendix report scenarios under Sections Selected for Treatments.

Conclusion

The City of Wheatland has a substantial investment in their street network. The 2021 average City-wide PCI for the streets maintained by the City of Wheatland is 50 with a ten-year projection of 32. These ratings underscore the need to make street maintenance and the pursuit of external funding a high priority for the City. Continued long-term implementation of the PMP recommendations will help to ensure that the City's street infrastructure is maintained to the highest level possible.

Pavement Maintenance Budget
The expected annual street funding that may be available for street pavement maintenance is approximately $126,000 per year unless additional funding is secured.

Pavement Maintenance Strategies
The City's pavement maintenance strategies include surface seals, overlays and reconstruction. It is important to preserve pavement that is in "Good" to "Excellent" condition by maintaining the surface of the pavement. Crack sealing, one of the least expensive treatments, can keep moisture out of pavements and prevent the underlying aggregate base from premature failure. Life-extending surface seals, such as slurry seal and cape seals, are also very cost-effective for pavements in good condition. Accordingly, we recommend that the City maintain the efforts in current preventive maintenance program as outlined in the decision tree i.e. crack seals as well as slurry and cape seals, while at the same time, rehabilitate the streets with lower PCI's. It should be noted that use of cape seals will trigger the need to determine if curb ramp meet current ADA standards and if not, they will need to be upgraded as part of the project work.

Re-inspection Strategies
It is important to update the City's PMP database regularly in the future with new field inspection surveys to reflect the most current condition of the City streets. When the City carries out any preventative maintenance and rehabilitation treatments, this information should also be recorded in the database to retain "Maintenance and Rehabilitation History". As each street section in the database is updated, the PMP program will provide the most current condition of the street system. Continued input will further increase the ability of the PMP program to provide the best output and, therefore, the greatest return on available street funds invested.

Below are the State deadlines as they apply to a certified 2021 PMP program. The years listed are in calendar years, not in fiscal years:

Functional Classification (Street Category)	Current PMP Update	PMP Certification Renewal Due
1. Collector Streets	2021	2024
2. Residential Streets	2021	2026

Maintenance and Rehabilitation Decision Tree

The maintenance and rehabilitation decision tree and the associated unit costs should be reviewed and updated annually to reflect new construction techniques/repairs and changing costs so the budget analysis results can be reliable and accurate. The complete listing of recommended treatments can be found in the appendices.

Future Street Maintenance Funding

In its current condition, the City's pavement is nearing the last 25% of its useful life and degrading at a rate of approximately 2 PCI points per year. This rate will increase as the pavements degrade further (see Figure 1-Pavement Life Cycle). The City needs to spend approximately $1.1 million per year just to maintain the current city-wide average PCI of 51. Current projected annual Gas Tax revenues budgeted for streets is $126,000 yielding an annual shortfall of $0.97 million . Increasing annual funding to $1 million per year results in an increase of the city-wide average PCI to 62. Greater increases in the overall quality of the city road system could be achieved with higher funding amounts.

Glossary

Aggregate Base - a layer of material, usually quarried rock or recycled asphalt concrete that is laid on top of native soil or an aggregate subbase. It provides a foundation to support the surface layer of asphalt or concrete pavement.

Alligator Cracking – a series of interconnecting cracks in the surface of asphalt pavement caused by heavy wheel loads (fatigue) that looks like an alligator hide. It is a clear sign of structural failure.

Arterial Street - Direct routes that serve to connect areas and regions characterized by relatively high-speed service, longer trips, large traffic volumes, mobility emphasized, access limited to occasional signalized intersections.

Asphalt – a by-product of the petroleum refining process that is used as a binding agent in asphalt concrete pavement. Also used as a generic term for asphalt concrete pavement.

Asphalt Concrete – a composite mix of aggregate and asphalt binder that is the most frequently used surface material for road and parking lot construction. Also referred to as Hot Mix Asphalt.

Base – a layer of materials, usually aggregate, placed just beneath the asphalt concrete surface layer and above the subbase that provides additional load distribution and helps drain water away from the pavement layer.

Block Cracking – a combination of longitudinal and transverse cracking in asphalt concrete that generally results as the binding agent evaporates and the asphalt hardens and shrinks. It has a distinctive checkerboard pattern.

Cape Seal – a combination of a chip (aggregate) layer overcoated with a slurry seal. The chip seal is placed first followed within a few days by the slurry seal that binds the chips and prevents loose aggregate. A cape seal provides a new wear surface, prevents water damage to the roadbed and addresses minor pavement defects.

Chip Seal - a two-step process that combines a layer of aggregate followed by a high viscosity emulsion seal coat. Used primarily on low-volume roads, it covers surface imperfections, improves surface friction and adds a new wear surface.

Collector Street - Streets that collect traffic from local roads, balance mobility with access, shorter trips and slower speeds, signalized and 4-way stop intersections.

Crack Seal – an inexpensive emulsion of hot, fluid rubberized asphalt used to seal longitudinal, transverse and block cracking to prevent water from seeping beneath the asphalt to the subgrade where structural damage occurs. It also seals against abrasive dirt and sand.

Digout – a localized repair or patch that involves digging out or excavating an area of damaged pavement, such as a pothole, to the subgrade layer and replacing it with new asphalt concrete. It is designed to prevent further damage to the subgrade.

Flexible Pavement – a structural section of road made up of asphalt concrete and one or more layers of aggregate that is designed to distribute loading to the underlying supporting soils. If properly designed, flexible pavement can flex and stretch to absorb the passage of heavy wheel loads.

Fog Seal – an inexpensive, short-lived treatment of diluted asphalt emulsion applied to an oxidized (weathered) asphalt concrete pavement to seal and restore flexibility to the pavement surface.

Full-Depth Asphalt – a pavement structure using hot mix asphalt (HMA) for both the base and surface materials.

Functional Classification - Categorization of streets, road and highways established by the Federal Highway Administration (FHWA) that takes into consideration the traffic volume, purpose of the roadway, vehicle speeds and truck traffic. Classifications include Major Arterial, Minor Arterial, Collector and Residential/Local roadways.

HMA – Hot Mix Asphalt - a high quality, temperature-controlled hot mixture of asphalt binder and aggregate, ranging from coarse to very fine particles, that can be compacted into a uniform dense mass. It can be made from new or recycled material.

HMAC - Hot Mix Asphalt Concrete.

Inspection Unit - an inspection unit is at least 10 percent of the length of the street section. The inspection unit, typically 100 continuous feet in length, is inspected and evaluated in detail as a representative sample of the rest of the section.

Longitudinal Cracking - cracks in asphalt concrete pavement that run parallel to the pavement's centerline or laydown direction. It results primarily from environmental aging.

Mill and Fill – a pavement rehabilitation process that involves milling (removal by a grinding machine) the surface layer of pavement to a predetermined depth and filling it with new or recycled HMA. It creates a smooth ride by eliminating tire ruts and other defects.

Milling - the controlled removal of an existing asphalt pavement layer by a machine to correct and restore the surface to a specified profile.

MTC – Metropolitan Transportation Commission (MTC) is the regional planning organization for roads and transit in the San Francisco Bay Area.

Overlay – a pavement rehabilitation process for severely deteriorated pavement that overlays bituminous asphalt concrete on top of existing pavement to strengthen its overall structure, improve ride and extend service life.

Patching - filling of potholes or other surface deficiencies consisting of asphalt patch mix shoveled into the hole and compacted by small equipment or by wheel-rolling with a maintenance truck.

Pavement – the surface layer of a structural section of road that carries traffic. It is composed either of asphalt concrete or Portland cement concrete.

Pavement Condition Index, PCI – A rating system composed of a scale from 100 (best) to 0 (worst) used to grade the condition of pavements. See also Pavement Life Cycle for further definition.

Pavement Life Cycle - The progression of decay of pavement beginning with new pavement; to pavement with minor surface degradation that can be resolved by preventative maintenance; to pavement degraded to an extent that rehabilitation such as asphalt overlays are required; and degradation to the point when none of the pavement can be rehabilitated and must be removed and replaced.

PCC – Portland Cement Concrete. PCC is rigid and more durable than flexible asphalt pavement, and as such, is a pavement alternative for areas affected by heavy wheel loads from buses, garbage trucks and service vehicles.

Potholes – bowl-shaped holes caused by water damage to asphalt pavement that may extend into the base layers.

Preventative Maintenance – regularly timed pavement preservation treatments necessary for safety and to extend service life, typically for up to five years. Maintenance treatments can include crack sealing, seal coats, slurry seals, chip seals and overlays or any combination of these and other treatments.

Raveling – also called weathering, raveling is the progressive and gradual deterioration of the HMA layer. It results as the asphalt concrete binder oxidizes, separating it from the coarser aggregates and making the surface rough and uneven

Reconstruction - replacing an existing pavement structure that has reached the end of its service life or is badly deteriorated with a new, equivalent pavement structure that may use new or recycled paving materials or a combination of both.

Recycling – A process of milling (removing) the top asphalt concrete surface, which is pulverized, sized, and mixed with an additive, reshaped and compacted, and reapplied as a new surface.

Reflection Cracking - cracks that generally occur on pavements where an asphalt concrete surface is placed over older pavement that is cracked. Reflective cracking occurs directly over underlying cracks or joints and migrates to the surface of the new pavement layer.

Rehabilitation – a process that extends the service life of existing pavement by placing additional surfacing (overlay) or other treatment to restore an existing roadway to structural or functional adequacy for a minimum of 10 years. Rehabilitation may include partial or complete removal and replacement of portions of the structural section.

Replacement Cost - The cost of removing and replacing the surface layer of pavements. Typically used to place a value on the pavement assets for accounting purposes.

Residential/Local Street - Low volume roads characterized by direct access to driveways, low mobility, low speeds and light vehicle loads.

RHMA – Rubberized Hot Mix Asphalt. RHMA is a type of asphalt that combines granulated (crumb) rubber with hot asphalt to form an elastic binder with less susceptibility to temperature changes. RHMA is generally specified to retard reflection cracking, resist thermal stresses created by wide temperature variations and add flexibility to a structural overlay.

Rutting - longitudinal surface depressions in the wheel path of a pavement often caused by an inadequate structural foundation.

Seal Coat –a mix of approximately 85% emulsion and 15% aggregate used to seal rough or raveled pavement in areas with traffic speeds less than 15 mph. A seal coat fills in minor cracks and provides a smooth finish that protects against the environment.

Sections – see Street Segments/Sections

Service Life – the approximate lifespan of newly constructed pavement before major rehabilitation or reconstruction is required. Because of traffic, climate and other variables, service life may be considerably shorter or longer than that for which it was designed.

Slurry Coat – a mix of approximately 15% emulsion and 85% aggregate used to seal rough or raveled pavement in areas with traffic speeds greater than 15 mph. A slurry seal fills in cracks and provides a smooth finish that protects against the environment. It has roughly twice the lifespan of a seal coat.

Street Network – The entirety of publicly owned streets in a jurisdiction.

Street Segment/Section - The basic management units of the PMP consisting of a segment that is generally uniform in its pavement condition, material and width. Shorter streets (approximately 1,000 feet or less) consist of one section; longer streets may consist of multiple street sections. See also Inspection Unit.

Structural Section – the designed layers of materials placed over native subgrade to support estimated traffic loads over a specified period of time. Generally, the structural section normally consists of a subbase, base and pavement surface.

Subbase – a layer of aggregate designed in thickness and quality placed on top of the native soil or subgrade that serves as a foundation for the base layer.

Subgrade or Native Subgrade - the base or soil upon which the pavement structure is built. It may be augmented by engineered fill material.

Traffic Index (TI) — A metric used in traffic engineering that estimates the number or vehicles and trucks that traverse a roadway. TIs measure of the number of Equivalent Single Axle Loads (ESALs) expected in the traffic lane over the pavement design life. One ESAL is equivalent to one 18,000-pound axle load. Traffic Index is used in the design of pavements.

Transverse Cracking – cracks in asphalt concrete pavement that run at right angles to the pavement's centerline or laydown direction. It results primarily from environmental aging.

Weathering - also called raveling, weathering is the progressive and gradual deterioration of the HMA layer. It results as the asphalt concrete binder oxidizes, separating it from the coarser aggregates and making the surface rough and uneven.

January 18, 2022

City of Wheatland – StreetSaver Pavement Management Program – Index of Reports

Network Summary Statistics

	Total Sections	Total Center Miles	Total Lane Miles	Total Area (sq. ft.)	PCI
Major Collector (5)	18	6.30	12.60	855,640	26
Minor Collector (6)	9	1.28	2.50	233,375	74
Local (7)	87	10.76	21.52	2,017,972	58
Total	**114**	**18.34**	**36.62**	**3,106,987**	
			Overall Network PCI as of 1/18/2022:		**50**

** Combined Sections are excluded from totals. These Sections do not have a PCI Date - they have not been inspected or had a Treatment applied.

Network Replacement Cost

Functional Class	Surface Type	Lane Miles	Unit Cost/ Square Foot	Pavement Area/ Square Feet	Cost To Replace/ (in thousands)
Local (7)	AC	21.5	$10.00	2,017,972	$20,180
	AC	12.6	$12.22	855,640	$10,458
Minor Collector (6)	AC	2.5	$12.22	233,375	$2,852
	Grand Total:	36.6		3,106,987	$33,490

Street ID	Section ID	Street Name	From	To	Length	Width	Area	Functional Class	Surface Type	Current PCI	Remaining Life
AND-10	AND-10	Anderson Way	Johnson St	Hudson Way	1,230	35	42,435	L - Local (7)	A - AC	89	31.87
BST-10	BST-10	B Street	Sixth Street	Main Street	320	36	11,520	L - Local (7)	A - AC	7	-
BST-20	BST-20	B Street	Main Street	Fourth Street	330	36	11,880	L - Local (7)	A - AC	1	-
BST-30	BST-30	B Street	Fourth Street	Meadow Way	715	38	27,170	L - Local (7)	A - AC	29	1.30
BLK-10	BLK-10	Blackford Court	Griffith Way	Cul-de-sac	325	35	11,375	L - Local (7)	A - AC	79	30.52
BOW-10	BOW-10	Bowers Way	McDevitt Drive	Prop. Line 710/712	430	33	14,190	L - Local (7)	A - AC	77	28.22
BOW-20	BOW-20	Bowers Way	Griffith Way	McDevitt Drive	475	33	15,675	L - Local (7)	A - AC	87	30.35
BOW-30	BOW-30	Bowers Way	Prop. Line 710/712	Cul-de-sac	100	33	3,300	L - Local (7)	A - AC	60	13.95
BRK-10	BRK-10	Brock Drive	Johnson Street	Cyrus Dam Dr	325	41	13,325	L - Local (7)	A - AC	42	6.25
BRK-20	BRK-20	Brock Drive	Cyrus Dam	McDonald	475	41	19,475	L - Local (7)	A - AC	33	2.74
CST-10	CST-10	C Street	Sixth Street	Main Street	327	36	11,772	L - Local (7)	A - AC	17	-
CST-20	CST-20	C Street	Main Street	Fourth Street	332	36	11,952	L - Local (7)	A - AC	7	-
CST-30	CST-30	C Street	Fourth Street	Third Street	266	36	9,576	L - Local (7)	A - AC	87	30.35
CST-40	CST-40	C Street	Third Street	North City Limits	1,645	40	65,800	L - Local (7)	A - AC	86	29.77
CAN-10	CAN-10	Carney Circle	Cyrus Dam Rd	Brock Rd	810	34	27,540	L - Local (7)	A - AC	17	-
CAC-10	CAC-10	Carpenter Court	Rose Avenue	Cul-de-sac	370	34	12,580	L - Local (7)	A - AC	70	21.44
CAP-10	CAP-10	Carpenter Place	Cul-de-sac	Redwood Ave	300	34	10,200	L - Local (7)	A - AC	54	11.24
CAR-10	CAR-10	Carpenter Way	Redwood Ave	E. of Spruce	780	34	26,520	L - Local (7)	A - AC	60	14.16
CAR-20	CAR-20	Carpenter Way	W. of Rose	Rose Avenue	270	34	9,180	L - Local (7)	A - AC	51	9.67
CHA-10	CHA-10	Chana Way	McDevitt	S. of Cul-de-sac	450	33	14,850	L - Local (7)	A - AC	88	30.89
COR-10	COR-10	Corbin Drive	Johnson St	Hudson Way	580	33	19,140	L - Local (7)	A - AC	81	26.69
CYD-10	CYD-10	Cyrus Dam Road	Nichols Rd	Brock Dr	810	41	33,210	L - Local (7)	A - AC	19	-
DON-10	DON-10	Donner Court	Cul-de-sac	Nightengale Way	250	33	8,250	L - Local (7)	A - AC	91	32.66
EST-10	EST-10	E Street	Main Street	First Street	1,115	36	40,140	L - Local (7)	A - AC	18	-
EVR-10	EVR-10	Evergreen Drive	State Route 65	City Limits	1,790	40	71,600	L - Local (7)	A - AC	87	30.35
FST-10	FST-10	F Street	Third Street	Wheatland Rd	690	33	22,770	L - Local (7)	A - AC	5	-
FIR-10	FIR-10	First Street	E Street	East End	850	40	34,000	L - Local (7)	A - AC	70	21.45
FOR-10	FOR-10	Fourth Street	Olive Street	C Street	840	36	30,240	L - Local (7)	A - AC	76	26.95
FOR-20	FOR-20	Fourth Street	C Street	Hwy 65	930	36	33,480	L - Local (7)	A - AC	54	11.02
FOR-30	FOR-30	Fourth Street	Hwy 65	180' south of E Street	600	36	21,600	L - Local (7)	A - AC	79	30.19
FRA-10	FRA-10	Fraser Court	G Street	End	230	33	7,590	L - Local (7)	A - AC	5	-
FRO-10	FRO-10	Front Street	Main Street	Fourth Street	325	64	20,800	L - Local (7)	A - AC	87	30.35
FRO-20	FRO-20	Front Street	Mesa Street	North End	200	28	5,600	L - Local (7)	A - AC	68	19.88
GST-10	GST-10	G Street	City Limits	Wheatland Rd	990	40	39,600	L - Local (7)	A - AC	6	-
GRF-10	GRF-10	Griffith Way	Wheatland Park Dr	Bowers Way	1,115	34	37,910	L - Local (7)	A - AC	81	26.69
HAM-10	HAM-10	Hamon Court	McDevitt Dr	Cul-de-sac	480	34	16,320	L - Local (7)	A - AC	71	22.31
HAR-10	HAR-10	Harding Place	Cul-de-sac	Spruce Ave	800	33	26,400	L - Local (7)	A - AC	30	1.65
HOL-10	HOL-10	Holland Court	G Street	Cul-de-sac	210	34	7,140	L - Local (7)	A - AC	48	8.21
HOP-10	HOP-10	Hooper Street	1st Street	Olive Street	290	24	6,960	L - Local (7)	A - AC	50	9.04
HOP-20	HOP-20	Hooper Street	Olive Street	Crosswalk at Wheatland ES (south)	400	30	12,000	L - Local (7)	A - AC	19	-
HOP-30	HOP-30	Hooper Street	Crosswalk at Wheatland ES (south)	Hwy 65	320	38	12,160	L - Local (7)	A - AC	70	21.47
HUC-10	HUC-10	Hudson Court	Cul-de-sac	Hudson Way	490	33	16,170	L - Local (7)	A - AC	93	33.32
HUD-10	HUD-10	Hudson Way	Sullivan Way	Anderson Way	1,570	34	53,380	L - Local (7)	A - AC	91	32.66
JNC-10	JNC-10	Johnson Court	Cul-de-sac	Brock Drive	215	34	7,310	L - Local (7)	A - AC	67	19.02
JHN-10	JHN-10	Johnson Street	Brock Drive	McCurry Street	1,190	34	40,460	L - Local (7)	A - AC	88	30.89
KEM-10	KEM-10	Kempton Court	Wheatland Park Dr	Cul-de-sac	260	33	8,580	L - Local (7)	A - AC	79	30.52

Prepared by Coastland Civil Engineering   PMP Rev 3
Michael Karoly, PE   99-SectionPCIRSLListing_01-18-2022
1/3

Street ID	Section ID	Street Name	From	To	Length	Width	Area	Functional Class	Surface Type	Current PCI	Remaining Life
KEY-10	KEY-10	Keyser Drive	Lofton Road	N of Lofton Rd	488	33	16,104	L - Local (7)	A - AC	66	18.26
LOF-10	LOF-10	Lofton Road	Redwood Ave	Rose Avenue	930	33	30,690	L - Local (7)	A - AC	82	27.33
MAN-10	MAN-10	Main Street	West City Limits	E Street	350	52	18,200	L - Local (7)	A - AC	41	5.21
MAN-20	MAN-20	Main Street	E Street	Hwy 65	400	50	20,000	L - Local (7)	A - AC	57	12.64
MAN-30	MAN-30	Main Street	Hwy 65	C Street	930	50	46,500	L - Local (7)	A - AC	74	25.00
MAN-40	MAN-40	Main Street	C Street	Spenceville Road	1,440	50	72,000	L - Local (7)	A - AC	72	23.18
MAL-10	MAL-10	Malone Avenue	Main Street	560' south of Main	560	20	11,200	L - Local (7)	A - AC	66	18.26
MCC-10	MCC-10	McCurry Street	Spenceville Road	Hudson Way	1,040	36	37,440	L - Local (7)	A - AC	91	32.66
MCD-10	MCD-10	McDevitt Drive	W. of Bowers	State Route 65	1,260	41	51,660	MiC - Minor Collector (6)	A - AC	66	10.93
MCD-20	MCD-20	McDevitt Drive	Wheatland Park Dr	W. of Bowers	1,140	36	41,040	MiC - Minor Collector (6)	A - AC	69	12.30
MDO-10	MDO-10	McDonald Drive	Johnson Street	Brock Dr	800	33	26,400	L - Local (7)	A - AC	92	33.17
MED-10	MED-10	Meadow Way	Nichols Road	End	1,315	33	43,395	L - Local (7)	A - AC	69	20.61
MEL-10	MEL-10	Melton Way	McDonald Drive	Corbin Drive	680	33	22,440	L - Local (7)	A - AC	90	32.29
MES-10	MES-10	Mesa Street	Front Street	Nichols Road	1,700	40	68,000	L - Local (7)	A - AC	49	8.68
NIL-10	NIL-10	Nichols Road	Spenceville Road	Meadow Way	520	46	23,920	L - Local (7)	A - AC	64	16.81
NIL-20	NIL-20	Nichols Road	Meadow Way	Cyrus Dam Road	530	36	19,080	L - Local (7)	A - AC	63	16.12
NIC-10	NIC-10	Nightingale Court	Nightingale Way	Cul-de-sac	300	36	10,800	L - Local (7)	A - AC	79	30.52
NIT-10	NIT-10	Nightingale Way	Bowers Way	Nightingale Ct	530	33	17,490	L - Local (7)	A - AC	92	33.17
OAK-10	OAK-10	Oakley Lane	Wheatland Road	Southern City Limits	1,800	23	41,400	L - Local (7)	A - AC	1	-
OLV-10	OLV-10	Olive Street	Main Street	West Side of 4th Street	700	42	29,400	MiC - Minor Collector (6)	A - AC	92	21.55
OLV-20	OLV-20	Olive Street	West side of 4th Street	C Street	900	16	14,400	L - Local (7)	A - AC	24	-
OLV-30	OLV-30	Olive Street	C Street	West end	450	30	13,500	L - Local (7)	A - AC	63	16.30
OLV-40	OLV-40	Olive Street	Hwy 65	Hooper Street	150	28	4,200	MiC - Minor Collector (6)	A - AC	87	19.15
OLV-50	OLV-50	Olive Street	Hooper Street	West side of ES Drive	460	44	20,240	MiC - Minor Collector (6)	A - AC	45	4.18
OLV-60	OLV-60	Olive Street	East Side ES Drive	West end at Curve	350	35	12,250	MiC - Minor Collector (6)	A - AC	99	24.26
OLV-70	OLV-70	Olive Street	Wheatland Rd/Park	East end	370	25	9,250	L - Local (7)	A - AC	35	3.48
RDW-10	RDW-10	Redwood Avenue	North End	South side of Lofton	510	33	16,830	L - Local (7)	A - AC	89	31.40
RDW-20	RDW-20	Redwood Avenue	South side Lofton	110' south of Evergreen	370	41	15,170	L - Local (7)	A - AC	3	-
RDW-30	RDW-30	Redwood Avenue	110' South of Evergreen	Rich Place	390	33	12,870	L - Local (7)	A - AC	81	26.69
RIC-10	RIC-10	Rich Court	Redwood Ave	Cul-de-sac	290	33	9,570	L - Local (7)	A - AC	91	32.66
RCH-10	RCH-10	Rich Place	Cul-de-sac	Redwood Ave	300	33	9,900	L - Local (7)	A - AC	70	21.44
ROS-10	ROS-10	Rose Avenue	McDevitt Dr.	Star Ct.	760	33	25,080	L - Local (7)	A - AC	56	12.36
ROS-20	ROS-20	Rose Avenue	Star Ct.	Carpenter Way	760	33	25,080	L - Local (7)	A - AC	56	12.37
ROS-30	ROS-30	Rose Avenue	South end off Evergree	Lofton Rd.	290	33	9,570	L - Local (7)	A - AC	5	-
SEC-10	SEC-10	Second Street	E Street	Olive Street	1,300	36	46,800	L - Local (7)	A - AC	76	27.14
SIX-10	SIX-10	Sixth Street	Railroad Tracks	B Street	880	41	36,080	L - Local (7)	A - AC	5	-
SIX-20	SIX-20	Sixth Street	B Street	South A Street	520	33	17,160	L - Local (7)	A - AC	1	-
SAS-10	SAS-10	South A Street	Sixth Street	Main Street	390	24	9,360	L - Local (7)	A - AC	5	-
SPN-10	SPN-10	Spenceville Road	Main Street	2031 Spenceville Road	1,109	25	27,725	MaC - Major Collector (5)	A - AC	4	-
SPN-12	SPN-12	Spenceville Road	2031 Spenceville Road	McCurry Street	709	25	17,725	MaC - Major Collector (5)	A - AC	53	6.29
SPN-13	SPN-13	Spenceville Road	McCurry Street	2176 Spenceville Road	2,038	25	50,950	MaC - Major Collector (5)	A - AC	20	-
SPN-13	SPN-13	Spenceville Road	McCurry Street	2176 Spenceville Road	2,038	25	50,950	MaC - Major Collector (5)	A - AC	20	-
SPN-14	SPN-14	Spenceville Road	2176 Spenceville Road	Jasper Ln	1,358	25	33,950	MaC - Major Collector (5)	A - AC	66	11.04
SPN-15	SPN-15	Spenceville Road	Jasper Ln	*1st* Carrie Ln	1,771	25	44,275	MaC - Major Collector (5)	A - AC	37	2.30
SPN-16	SPN-16	Spenceville Road	*1st* Carrie Lane	Boyd Lane	1,113	25	27,825	MaC - Major Collector (5)	A - AC	55	6.93
SPN-17	SPN-17	Spenceville Road	Boyd Ln	2495 Spenceville Rd	988	26	25,688	MaC - Major Collector (5)	A - AC	39	2.77

Street ID	Section ID	Street Name	From	To	Length	Width	Area	Functional Class	Surface Type	Current PCI	Remaining Life
SPN-18	SPN-18	Spenceville Road	2495 Spenceville Road	550' w/o 2636 Spenceville Rd	1,940	25	48,500	MaC - Major Collector (5)	A - AC	26	0.20
SPN-19	SPN-19	Spenceville Road	550' w/o 2636 Spenceville Rd	620' e/o 2658 Spenceville Rd	2,910	25	72,750	MaC - Major Collector (5)	A - AC	29	0.80
SPN-20	SPN-20	Spenceville Road	620' e/o 2658 Spenceville Road	2870 Spenceville Road	5,350	25	133,750	MaC - Major Collector (5)	A - AC	10	-
SPN-21	SPN-21	Spenceville Road	2870 Spenceville Road	210' w/o Eric Lane	5,450	25	136,250	MaC - Major Collector (5)	A - AC	15	-
SPR-10	SPR-10	Spruce Avenue	McDevitt	S of Evergreen	1,131	33	37,323	L - Local (7)	A - AC	81	26.69
SPR-20	SPR-20	Spruce Avenue	S of Evergreen	Evergreen Dr	140	33	4,620	L - Local (7)	A - AC	59	13.55
STR-10	STR-10	Star Court	Rose Avenue	Cul-de-sac	340	33	11,220	L - Local (7)	A - AC	68	19.80
STA-10	STA-10	State Street	Main Street	S Grasshopper Creek	385	18	6,930	MiC - Minor Collector (6)	A - AC	84	17.41
STA-20	STA-20	State Street	Hwy 65	S Grasshopper Crk	965	19	18,335	MiC - Minor Collector (6)	A - AC	67	11.38
STN-10	STN-10	Stineman Court	Cul-de-sac	McDevitt	295	33	9,735	L - Local (7)	A - AC	67	19.01
SUL-10	SUL-10	Sullivan Way	McDonald Drive	N of Hudson Way	840	33	27,720	L - Local (7)	A - AC	85	29.19
THD-10	THD-10	Third Street	G Street	State Route 65	1,550	38	58,900	L - Local (7)	A - AC	5	-
THD-20	THD-20	Third Street	State Route 65	Olive Street	1,390	38	52,820	L - Local (7)	A - AC	45	6.86
THD-30	THD-30	Tulip Street	Evergreen	N of Evergreen	170	33	5,610	L - Local (7)	A - AC	19	-
WHP-10	WHP-10	Wheatland Park Dr	Wheatland Rd	McDevitt Drive	1,370	36	49,320	MiC - Minor Collector (6)	A - AC	80	15.94
WHT-10	WHT-10	Wheatland Road	E Street	245' w/o G Street	1,120	46	51,520	MaC - Major Collector (5)	A - AC	47	4.73
WHT-20	WHT-20	Wheatland Road	245' w/o G Street	End Sidewalk at HS	1,120	35	39,200	MaC - Major Collector (5)	A - AC	16	-
WHT-30	WHT-30	Wheatland Road	End HS Sidewalk	Wheatland Park Drive	1,040	24	24,960	MaC - Major Collector (5)	A - AC	68	11.78
WHT-40	WHT-40	Wheatland Road	Wheatland Park Dr	Lewis Rd	1,353	24	32,472	MaC - Major Collector (5)	A - AC	9	-
WHT-50	WHT-50	Wheatland Road	Lewis Rd	Oakley Ln	1,315	24	31,560	MaC - Major Collector (5)	A - AC	8	-
WHT-60	WHT-60	Wheatland Road	Oakley Lane	PL 4587/4573 Wheatland Rd	1,140	22	25,080	MaC - Major Collector (5)	A - AC	2	-
WHT-70	WHT-70	Wheatland Road	4601 Wheatland Road	Stinemans Farm Supply - 4509 Wheatland Road (west PL)	1,430	22	31,460	MaC - Major Collector (5)	A - AC	41	3.25
WLF-10	WLF-10	Wolf Court	Rose Ave	Cul-de-sac	340	33	11,220	L - Local (7)	A - AC	59	13.55
	115 sections				98,876 Ft.		3,157,937 sq. ft.			49.8 Avg. PCI	
					18.7 Miles		72.5 acres				

PCI Breakpoints

Functional Class	Surface Type	PCI Cap	Breakpoint I	Breakpoint II/III	Breakpoint IV/V
Arterial	AC	90	70	50	25
	AC/AC	90	70	50	25
	AC/PCC	90	70	50	25
	PCC	90	70	50	25
	ST	90	70	50	25
Collector	AC	90	70	50	25
	AC/AC	90	70	50	25
	AC/PCC	90	70	50	25
	PCC	90	70	50	25
	ST	90	70	50	25
Other	AC	90	70	50	25
	AC/AC	90	70	50	25
	AC/PCC	90	70	50	25
	PCC	90	70	50	25
	ST	90	70	50	25
Residential/Local	AC	90	70	50	25
	AC/AC	90	70	50	25
	AC/PCC	90	70	50	25
	PCC	90	70	50	25
	ST	90	70	50	25

Condition Categories

PCI Cap

100		
90		
70		
50		
25		

Very Good - I

Good - II/III
- Non Load - II
- Load - III

Using Transitional Windows

Poor - IV

Using Transitional Windows

Very Poor - V
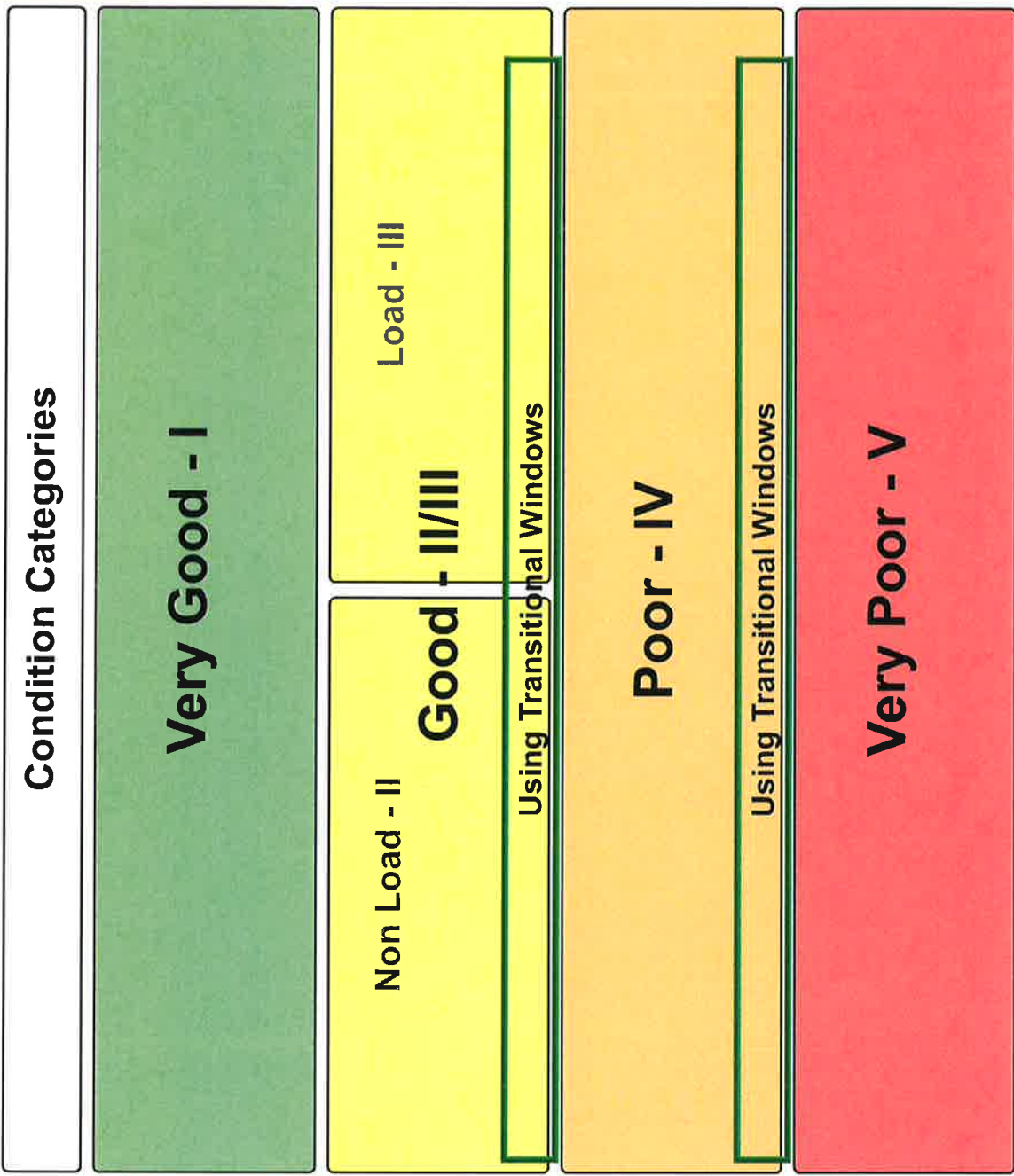
Functional Class	Surface Type	Condition Category	Treatment Type	Treatment	Cost/Sr. Yd., Seal Cracks/LF	Yrs Between Crack Seals	Yrs Between Surface Seals	# of Surface Seals before Overlay
Collector	AC	I - Very Good	Crack Treatment	SEAL CRACKS	$2.00	4		
			Surface Treatment	SLURRY SEAL	$5.00		7	
			Restoration Treatment	MILL AND THIN OVERLAY	$36.00			3
		II - Good, Non-Load Related		CHIP SEAL AND SLURRY SEAL	$10.00			
		III - Good, Load Related		THIN AC OVERLAY(1.5 INCHES)	$45.00			
		IV - Poor		THICK AC OVERLAY(2.5 INCHES)	$56.00			
		V - Very Poor		RECONSTRUCT STRUCTURE (AC)	$110.00			
Residential/Local	AC	I - Very Good	Crack Treatment	SEAL CRACKS	$2.00	4		
			Surface Treatment	SLURRY SEAL	$4.00		8	
			Restoration Treatment	MILL AND THIN OVERLAY	$36.00			3
		II - Good, Non-Load Related		CHIP SEAL AND SLURRY SEAL	$10.00			
		III - Good, Load Related		THIN AC OVERLAY(1.5 INCHES)	$45.00			
		IV - Poor		THICK AC OVERLAY(2.5 INCHES)	$54.00			
		V - Very Poor		RECONSTRUCT STRUCTURE (AC)	$90.00			

Needs - Projected PCI/Cost Summary

Inflation Rate = **3.00** %   Printed: 1/18/2022

Year	PCI Treated	PCI Untreated	PM Cost	Rehab Cost	Cost
2022	85	50	$324,151	$12,703,647	$13,027,798
2023	85	47	$76,832	$1,951,060	$2,027,892
2024	86	45	$28,320	$1,049,989	$1,078,309
2025	86	42	$0	$1,230,471	$1,230,471
2026	86	40	$17,197	$677,440	$694,637
2027	86	39	$1,856	$317,597	$319,453
2028	84	37	$1,433	$54,449	$55,882
2029	84	35	$531,403	$23,294	$554,697
2030	87	34	$967,639	$73,593	$1,041,232
2031	86	32	$178,789	$0	$178,789

		% PM	PM Total Cost	Rehab Total Cost	Total Cost
		10.53%	$2,127,620	$18,081,540	$20,209,160

Needs - Preventive Maintenance
Treatment/Cost Summary

Inflation Rate = **3.00** **%**   Printed: 1/18/2022

Treatment	Year	Area Treated		Cost
SEAL CRACKS	2026	4,221.73	sq. yd.	$9,537
	2027	797.98	sq. yd.	$1,856
	2028	598.03	sq. yd.	$1,433
	2029	207.05	sq. yd.	$511
	2030	197.92	sq. yd.	$505
	2031	25.2	sq. yd.	$68
	Total	6,047.92		$13,910
SINGLE CHIP SEAL	2029	19,982.22	sq. yd.	$163,676
	2030	26,336.67	sq. yd.	$222,197
	2031	8,049.44	sq. yd.	$69,950
	Total	54,368.33		$455,823
	2022	79,357.11	sq. yd.	$324,151
	2023	17,831.11	sq. yd.	$76,832
	2024	6,673.33	sq. yd.	$28,320
	2026	1,361.11	sq. yd.	$7,660
	2029	59,715.22	sq. yd.	$367,216
	2030	142,825.89	sq. yd.	$744,937
	2031	20,840	sq. yd.	$108,771
	Total	328,603.78		$1,657,887
	Total Quantity	389,020.03		$2,127,620

Needs - Rehabilitation
Treatment/Cost Summary

Inflation Rate =   **3.00 %**   Printed: 1/18/2022

Treatment	Year	Area Treated	Cost
CHIP SEAL AND SLURRY SEAL	2022	21,618.78 sq.yd.	$216,192
	2023	6,275.56 sq.yd.	$64,640
	2024	8,000 sq.yd.	$84,872
	2025	1,500 sq.yd.	$16,391
	2026	8,843.22 sq.yd.	$99,534
	2028	4,560 sq.yd.	$54,449
	2029	1,893.89 sq.yd.	$23,294
	2030	5,809.44 sq.yd.	$73,593
	Total	**58,500.89** sq.yd.	**$632,965**
RECONSTRUCT STRUCTURE (AC)	2022	101,623.44 sq.yd.	$10,206,086
	2023	13,472.22 sq.yd.	$1,526,404
	2024	5,952.22 sq.yd.	$568,325
	2025	9,937.56 sq.yd.	$1,147,205
	2026	1,027.78 sq.yd.	$104,110
	Total	**132,013.22** sq.yd.	**$13,552,130**
THICK AC OVERLAY(2.5 INCHES)	2022	29,189.44 sq.yd.	$1,599,169
	2023	3,762.78 sq.yd.	$213,344
	2024	6,811.67 sq.yd.	$396,792
	2025	1,133.33 sq.yd.	$66,875
	2026	7,795.56 sq.yd.	$473,796
	2027	5,073.33 sq.yd.	$317,597
	Total	**53,766.11** sq.yd.	**$3,067,573**
THIN AC OVERLAY(1.5 INCHES)	2022	15,160 sq.yd.	$682,200
	2023	3,164.44 sq.yd.	$146,672
	Total	**18,324.44** sq.yd.	**$828,872**

Total Cost   **$18,081,540**

City of Wheatland

Scenarios - Cost Summary

Year	PM	Budget	Rehabilitation		Preventative Maintenance		Surplus PM	Deferred		Stop Gap
2022	0%	$0	II	$0	Non-Project	$0	$0	$13,027,782	Funded	$0
			III	$0	Project	$0			Unmet	$89,885
			IV	$0						
			V	$0						
		Total		$0						
		Project		$0						
2023	0%	$0	II	$0	Non-Project	$0	$0	$15,050,052	Funded	$0
			III	$0	Project	$0			Unmet	$12,863
			IV	$0						
			V	$0						
		Total		$0						
		Project		$0						
2024	0%	$0	II	$0	Non-Project	$0	$0	$15,652,816	Funded	$0
			III	$0	Project	$0			Unmet	$7,474
			IV	$0						
			V	$0						
		Total		$0						
		Project		$0						
2025	0%	$0	II	$0	Non-Project	$0	$0	$16,860,056	Funded	$0
			III	$0	Project	$0			Unmet	$8,718
			IV	$0						
			V	$0						
		Total		$0						
		Project		$0						
2026	0%	$0	II	$0	Non-Project	$0	$0	$17,319,730	Funded	$0
			III	$0	Project	$0			Unmet	$3,413
			IV	$0						
			V	$0						
		Total		$0						
		Project		$0						
2027	0%	$0	II	$0	Non-Project	$0	$0	$19,045,510	Funded	$0
			III	$0	Project	$0			Unmet	$105,497
			IV	$0						
			V	$0						
		Total		$0						
		Project		$0						
2028	0%	$0	II	$0	Non-Project	$0	$0	$20,350,886	Funded	$0
			III	$0	Project	$0			Unmet	$19,581
			IV	$0						
			V	$0						
		Total		$0						
		Project		$0						
2029	0%	$0	II	$0	Non-Project	$0	$0	$23,077,434	Funded	$0
			III	$0	Project	$0			Unmet	$23,746
			IV	$0						
			V	$0						
		Total		$0						
		Project		$0						

Scenarios Criteria:

Criteria:

MTC StreetSaver

Year	PM	Budget	Rehabilitation		Preventative Maintenance		Surplus PM	Deferred		Stop Gap
2030	0%	$0	II	$0	Non-Project	$0	$0	$22,516,501	Funded	$0
			III	$0					Unmet	$11,526
			IV	$0	Project	$0				
			V	$0						
			Total	$0						
			Project	$0						
2031	0%	$0	II	$0	Non-Project	$0	$0	$23,703,958	Funded	$0
			III	$0					Unmet	$11,791
			IV	$0	Project	$0				
			V	$0						
			Total	$0						
			Project	$0						

Summary

Functional Class	Rehabilitation	Prev. Maint.	Funded Stop Gap	Unmet Stop Gap
Collector	$0	$0	$0	$153,560
Residential/Local	$0	$0	$0	$140,934
Grand Total:	$0	$0	$0	$294,494

Scenarios - Network Condition Summary

Interest: 5%　　　　**Inflation: 3%**　　　Printed: 1/18/2022

Scenario: Do Nothing

Year	Budget	PM	Year	Budget	PM	Year	Budget	PM
2022	$0	0%	2026	$0	0%	2030	$0	0%
2023	$0	0%	2027	$0	0%	2031	$0	0%
2024	$0	0%	2028	$0	0%			
2025	$0	0%	2029	$0	0%			

Projected Network Average PCI by Year

Year	Never Treated	With Selected Treatment	Treated Centerline Miles	Treated Lane Miles
2022	50	50	0	0
2023	47	47	0	0
2024	45	45	0	0
2025	42	42	0	0
2026	40	40	0	0
2027	39	39	0	0
2028	37	37	0	0
2029	35	35	0	0
2030	34	34	0	0
2031	32	32	0	0

Percent Network Area by Functional Class and Condition Category

Condition in base year 2022, prior to applying treatments.

Condition	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	3.3%	32.2%	0.0%	35.5%
II / III	0.0%	6.9%	10.8%	0.0%	17.8%
IV	0.0%	9.5%	7.8%	0.0%	17.3%
V	0.0%	15.4%	14.1%	0.0%	29.4%
Total	**0.0%**	**35.1%**	**64.9%**	**0.0%**	**100.0%**

Condition in year 2022 after schedulable treatments applied.

Condition	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	3.3%	32.2%	0.0%	35.5%
II / III	0.0%	6.9%	10.8%	0.0%	17.8%
IV	0.0%	9.5%	7.8%	0.0%	17.3%
V	0.0%	15.4%	14.1%	0.0%	29.4%
Total	**0.0%**	**35.1%**	**64.9%**	**0.0%**	**100.0%**

Condition in year 2031 after schedulable treatments applied.

Condition	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	1.3%	16.6%	0.0%	18.0%
II / III	0.0%	1.9%	18.1%	0.0%	20.0%
IV	0.0%	5.5%	8.4%	0.0%	13.8%
V	0.0%	26.3%	21.9%	0.0%	48.2%
Total	**0.0%**	**35.1%**	**64.9%**	**0.0%**	**100.0%**

Scenarios - Cost Summary

Interest: 5.00%   **Inflation: 3.00%**   Printed: 1/18/2022

Scenario: Current Funding

Year	PM	Budget	Rehabilitation		Preventative Maintenance		Surplus PM	Deferred		Stop Gap
2022	50%	$126,000	II	$53,723	Non-Project	$0	$0	$12,974,060	Funded	$72,278
			III	$0	Project	$0			Unmet	$16,909
			IV	$0						
			V	$0						
			Total	$53,723						
			Project	$0						
2023	50%	$132,300	II	$64,582	Non-Project	$54,292	$0	$14,875,847	Funded	$12,528
			III	$0	Project	$0			Unmet	$0
			IV	$0						
			V	$0						
			Total	$64,582						
			Project	$0						
2024	50%	$138,915	II	$61,692	Non-Project	$68,454	$0	$15,343,244	Funded	$7,474
			III	$0	Project	$0			Unmet	$0
			IV	$0						
			V	$0						
			Total	$61,692						
			Project	$0						
2025	50%	$145,861	II	$66,640	Non-Project	$66,178	$0	$16,513,084	Funded	$8,718
			III	$0	Project	$0			Unmet	$0
			IV	$0						
			V	$0						
			Total	$66,640						
			Project	$0						
2026	50%	$153,154	II	$22,930	Non-Project	$92,420	$0	$16,869,372	Funded	$2,657
			III	$31,515	Project	$0			Unmet	$0
			IV	$0						
			V	$0						
			Total	$54,445						
			Project	$0						
2027	50%	$160,811	II	$26,967	Non-Project	$0	$0	$18,581,576	Funded	$98,399
			III	$0	Project	$0			Unmet	$6,473
			IV	$32,136						
			V	$0						
			Total	$59,103						
			Project	$0						
2028	50%	$168,852	II	$54,449	Non-Project	$69,334	$0	$19,351,386	Funded	$16,293
			III	$0	Project	$0			Unmet	$0
			IV	$23,643						
			V	$0						
			Total	$78,092						
			Project	$0						
2029	50%	$177,295	II	$77,388	Non-Project	$68,024	$156	$21,577,539	Funded	$20,467
			III	$0	Project	$0			Unmet	$0
			IV	$0						
			V	$0						
			Total	$77,388						
			Project	$0						

Scenarios Criteria:

Criteria:

1

Year	PM	Budget	Rehabilitation		Preventative Maintenance	Surplus PM	Deferred		Stop Gap
2030	50%	$186,159	II	$25,807	Non-Project	$49,139	$33,448	$21,216,595	**Funded**	$10,492
			III	$0					**Unmet**	$0
			IV	$0	Project	$0				
			V	$0						
			Total	$25,807						
			Project	$0						
2031	50%	$195,467	II	$71,502	Non-Project	$84,046	$3,678	$22,461,479	**Funded**	$10,010
			III	$0					**Unmet**	$0
			IV	$0	Project	$0				
			V	$0						
			Total	$71,502						
			Project	$0						

Summary

Functional Class	Rehabilitation	Prev. Maint.	Funded Stop Gap	Unmet Stop Gap
Collector	$389,374	$42,076	$150,262	$0
Residential/Local	$223,600	$509,811	$109,054	$23,382
Grand Total:	$612,974	$551,887	$259,316	$23,382

Scenarios - Network Condition Summary

Interest: 5%   **Inflation: 3%**   Printed: 1/18/2022

Scenario: Current Funding

Year	Budget	PM	Year	Budget	PM	Year	Budget	PM
2022	$126,000	50%	2026	$153,154	50%	2030	$186,159	50%
2023	$132,300	50%	2027	$160,811	50%	2031	$195,467	50%
2024	$138,915	50%	2028	$168,852	50%			
2025	$145,861	50%	2029	$177,295	50%			

Projected Network Average PCI by Year

Year	Never Treated	With Selected Treatment	Treated Centerline Miles	Treated Lane Miles
2022	50	51	0.26	0.51
2023	47	48	1.02	2.04
2024	45	46	1.09	2.11
2025	42	44	1.14	2.27
2026	40	43	1.32	2.63
2027	39	41	0.19	0.38
2028	37	40	2.60	5.12
2029	35	39	1.95	3.89
2030	34	38	1.54	3.07
2031	32	37	1.26	2.44

Percent Network Area by Functional Class and Condition Category

Condition in base year 2022, prior to applying treatments.

Condition	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	3.3%	32.2%	0.0%	35.5%
II / III	0.0%	6.9%	10.8%	0.0%	17.8%
IV	0.0%	9.5%	7.8%	0.0%	17.3%
V	0.0%	15.4%	14.1%	0.0%	29.4%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Condition in year 2022 after schedulable treatments applied.

Condition	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	4.6%	32.5%	0.0%	37.1%
II / III	0.0%	5.6%	10.6%	0.0%	16.2%
IV	0.0%	9.5%	7.8%	0.0%	17.3%
V	0.0%	15.4%	14.1%	0.0%	29.4%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Condition in year 2031 after schedulable treatments applied.

Condition	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	6.3%	30.4%	0.0%	36.6%
II / III	0.0%	0.0%	5.0%	0.0%	5.0%
IV	0.0%	2.5%	7.7%	0.0%	10.2%
V	0.0%	26.3%	21.9%	0.0%	48.2%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Scenarios Criteria:

Criteria: 1   MTC StreetSaver

Target-Driven Scenarios - Cost Summary

Interest: 5%   **Inflation: 3%**   Printed: 1/18/2022

Scenario: Maintain Current PCI				
Objective: Minimum Network Average PCI				**Target: Overall 51**

Year		Rehabilitation	Preventive Maintenance		Total Cost	Deferred
2022	II	$0	Non-Project	$111,884	**$111,884**	**$12,915,900**
	III	$0	Project	$0		
	IV	$0				
	V	$0				
	Total	**$0**				
	Project	$0				
2023	II	$287,317	Non-Project	$295,469	**$1,107,095**	**$13,827,733**
	III	$394,593	Project	$0		
	IV	$129,716				
	V	$0				
	Total	**$811,626**				
	Project	$0				
2024	II	$84,872	Non-Project	$28,320	**$1,019,057**	**$13,524,295**
	III	$126,884	Project	$0		
	IV	$778,981				
	V	$0				
	Total	**$990,737**				
	Project	$0				
2025	II	$57,612	Non-Project	$0	**$1,032,277**	**$14,169,441**
	III	$247,504	Project	$0		
	IV	$392,203				
	V	$334,958				
	Total	**$1,032,277**				
	Project	$0				
2026	II	$57,077	Non-Project	$9,282	**$893,525**	**$14,778,037**
	III	$0	Project	$0		
	IV	$473,796				
	V	$353,370				
	Total	**$884,243**				
	Project	$0				
2027	II	$74,819	Non-Project	$4,890	**$790,139**	**$15,558,530**
	III	$0	Project	$0		
	IV	$317,597				
	V	$392,833				
	Total	**$785,249**				
	Project	$0				

Year		Rehabilitation	Preventive Maintenance		Total Cost	Deferred
2028	II	$0	Non-Project	$1,381	$460,508	$15,783,474
	III	$0				
	IV	$0	Project	$0		
	V	$459,127				
	Total	$459,127				
	Project	$0				
2029	II	$0	Non-Project	$34,512	$649,712	$16,596,074
	III	$0				
	IV	$140,796	Project	$0		
	V	$474,404				
	Total	$615,200				
	Project	$0				
2030	II	$0	Non-Project	$155,102	$155,102	$17,191,585
	III	$0				
	IV	$0	Project	$0		
	V	$0				
	Total	$0				
	Project	$0				
2031	II	$0	Non-Project	$267,669	$267,669	$17,984,108
	III	$0				
	IV	$0	Project	$0		
	V	$0				
	Total	$0				
	Project	$0				

Summary

Functional Class	Rehabilitation	Prev. Maint.	
Collector	$3,063,505	$141,286	
Residential/Local	$2,514,954	$767,223	
Total:	$5,578,459	$908,509	Grand Total: $6,486,968

Target-Driven Scenarios
Network Condition Summary

Interest: 5.00%   **Inflation: 3.00%**   Printed: 1/18/2022

Scenario: Maintain Current PCI

Objective: Minimum Network Average PCI   **Target: Overall 51**

Projected Network Average PCI by year

Year	Never Treated	With Selected Treatment	Without Selected Treatment
2022	50	51	50
2023	47	51	47
2024	45	51	45
2025	42	51	42
2026	40	51	40
2027	39	52	39
2028	37	51	37
2029	35	52	35
2030	34	51	34
2031	32	51	32

Percent Network Area by Functional Classification and Condition Class

Condition in base year 2022, prior to applying treatments.

Condition Class	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	3.3%	32.2%	0.0%	35.5%
II / III	0.0%	6.9%	10.8%	0.0%	17.8%
IV	0.0%	9.5%	7.8%	0.0%	17.3%
V	0.0%	15.4%	14.1%	0.0%	29.4%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Condition in year 2022 after schedulable treatments applied.

Condition Class	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	3.3%	32.2%	0.0%	35.5%
II / III	0.0%	6.9%	10.8%	0.0%	17.8%
IV	0.0%	9.5%	7.8%	0.0%	17.3%
V	0.0%	15.4%	14.1%	0.0%	29.4%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Condition in year 2031 after schedulable treatments applied.

Condition Class	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	13.5%	44.1%	0.0%	57.6%
II / III	0.0%	1.9%	1.4%	0.0%	3.3%
V	0.0%	19.6%	19.4%	0.0%	39.1%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Scenarios - Cost Summary

Interest: 5.00%   **Inflation: 3.00%**   Printed: 1/18/2022

Scenario: 10 Year Funding, $1 M per Year

Year	PM	Budget		Rehabilitation		Preventative Maintenance	Surplus PM	Deferred		Stop Gap
2022	10%	$1,000,000	II	$216,192	Non-Project	$13,670	$1,446	$12,137,986	Funded	$84,884
			III	$258,300					Unmet	$0
			IV	$401,640	Project	$0				
			V	$0						
			Total	**$876,132**						
			Project	$0						
2023	10%	$1,050,000	II	$64,640	Non-Project	$91,559	$1,824	$13,394,597	Funded	$11,617
			III	$378,834					Unmet	$0
			IV	$487,910	Project	$0				
			V	$0						
			Total	**$931,384**						
			Project	$0						
2024	10%	$1,102,500	II	$84,872	Non-Project	$103,590	$945	$13,447,265	Funded	$5,715
			III	$124,020					Unmet	$0
			IV	$719,265	Project	$0				
			V	$59,517						
			Total	**$987,674**						
			Project	$0						
2025	10%	$1,157,625	II	$16,391	Non-Project	$106,301	$2,836	$13,999,823	Funded	$6,626
			III	$89,167					Unmet	$0
			IV	$286,382	Project	$0				
			V	$583,092						
			Total	**$975,032**						
			Project	$0						
2026	10%	$1,215,506	II	$99,534	Non-Project	$115,598	$5,050	$13,934,589	Funded	$902
			III	$0					Unmet	$0
			IV	$473,796	Project	$0				
			V	$483,029						
			Total	**$1,056,359**						
			Project	$0						
2027	10%	$1,276,282	II	$0	Non-Project	$41,354	$4,008	$13,591,887	Funded	$82,266
			III	$0					Unmet	$0
			IV	$317,597	Project	$0				
			V	$721,906						
			Total	**$1,039,503**						
			Project	$0						
2028	10%	$1,340,096	II	$54,449	Non-Project	$2,629	$116,950	$13,110,227	Funded	$14,431
			III	$0					Unmet	$0
			IV	$0	Project	$0				
			V	$1,106,735						
			Total	**$1,161,184**						
			Project	$0						
2029	10%	$1,407,100	II	$23,294	Non-Project	$95,876	$33,494	$13,047,115	Funded	$11,340
			III	$0					Unmet	$0
			IV	$0	Project	$0				
			V	$1,106,040						
			Total	**$1,129,334**						
			Project	$0						

Scenarios Criteria:

Criteria:

Year	PM	Budget		Rehabilitation		Preventative Maintenance	Surplus PM	Deferred		Stop Gap
2030	10%	$1,477,455	II	$73,593	Non-Project	$136,974	$10,772	$12,324,649	Funded	$0
			III	$0					Unmet	$0
			IV	$0	Project	$0				
			V	$1,126,370						
			Total	$1,199,963						
			Project	$0						
2031	10%	$1,551,328	II	$0	Non-Project	$141,811	$12,276	$11,518,539	Funded	$1,046
			III	$0					Unmet	$0
			IV	$0	Project	$0				
			V	$1,297,979						
			Total	$1,297,979						
			Project	$0						

Summary

Functional Class	Rehabilitation	Prev. Maint.	Funded Stop Gap	Unmet Stop Gap
Collector	$7,560,796	$254,012	$112,860	$0
Residential/Local	$3,093,748	$595,350	$105,966	$0
Grand Total:	$10,654,544	$849,362	$218,826	$0

Scenarios - Network Condition Summary

Interest: 5%   **Inflation: 3%**   Printed: 1/18/2022

Scenario: 10 Year Funding, $1 M per Year

Year	Budget	PM	Year	Budget	PM	Year	Budget	PM
2022	$1,000,000	10%	2026	$1,215,506	10%	2030	$1,477,455	10%
2023	$1,050,000	10%	2027	$1,276,282	10%	2031	$1,551,328	10%
2024	$1,102,500	10%	2028	$1,340,096	10%			
2025	$1,157,625	10%	2029	$1,407,100	10%			

Projected Network Average PCI by Year

Year	Never Treated	With Selected Treatment	Treated Centerline Miles	Treated Lane Miles	
2022	50	53	2.11	4.22	
2023	47	53	2.14	4.21	
2024	45	53	2.22	4.45	
2025	42	53	1.69	3.38	
2026	40	55	3.90	7.80	
2027	39	56	3.20	6.32	
2028	37	57	3.02	6.05	
2029	35	59	2.97	5.94	
2030	34	60	4.10	8.12	
2031	32	62	2.79	5.58	

Percent Network Area by Functional Class and Condition Category

Condition in base year 2022, prior to applying treatments.

Condition	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	3.3%	32.2%	0.0%	35.5%
II / III	0.0%	6.9%	10.8%	0.0%	17.8%
IV	0.0%	9.5%	7.8%	0.0%	17.3%
V	0.0%	15.4%	14.1%	0.0%	29.4%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Condition in year 2022 after schedulable treatments applied.

Condition	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	9.6%	35.9%	0.0%	45.5%
II / III	0.0%	2.3%	7.6%	0.0%	9.8%
IV	0.0%	7.8%	7.4%	0.0%	15.2%
V	0.0%	15.4%	14.1%	0.0%	29.4%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Condition in year 2031 after schedulable treatments applied.

Condition	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	26.4%	47.5%	0.0%	73.9%
V	0.0%	8.7%	17.5%	0.0%	26.1%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Target-Driven Scenarios - Cost Summary

Interest: 5%   **Inflation: 3%**   Printed: 1/18/2022

Scenario: Increase PCI to 70					
Objective: Minimum Network Average PCI					**Target: Overall 70**
Year		**Rehabilitation**	**Preventive Maintenance**		**Total Cost**	**Deferred**

Year		Rehabilitation	Preventive Maintenance		Total Cost	Deferred
2022	II	$216,192	Non-Project	$324,151	**$8,651,558**	**$4,376,240**
	III	$682,200				
	IV	$1,599,169	Project	$0		
	V	$5,829,846				
	Total	**$8,327,407**				
	Project	$0				
2023	II	$64,640	Non-Project	$76,832	**$1,112,050**	**$5,423,369**
	III	$146,672				
	IV	$213,344	Project	$0		
	V	$610,562				
	Total	**$1,035,218**				
	Project	$0				
2024	II	$84,872	Non-Project	$28,320	**$509,984**	**$6,154,394**
	III	$0				
	IV	$396,792	Project	$0		
	V	$0				
	Total	**$481,664**				
	Project	$0				
2025	II	$16,391	Non-Project	$0	**$1,017,662**	**$6,551,833**
	III	$0				
	IV	$66,875	Project	$0		
	V	$934,396				
	Total	**$1,017,662**				
	Project	$0				
2026	II	$99,534	Non-Project	$15,467	**$588,797**	**$6,852,500**
	III	$0				
	IV	$473,796	Project	$0		
	V	$0				
	Total	**$573,330**				
	Project	$0				
2027	II	$0	Non-Project	$1,635	**$1,350,020**	**$6,027,288**
	III	$0				
	IV	$317,597	Project	$0		
	V	$1,030,788				
	Total	**$1,348,385**				
	Project	$0				

Year	Rehabilitation		Preventive Maintenance		Total Cost	Deferred
2028	II	$0	Non-Project	$0	$0	$6,263,754
	III	$0	Project	$0		
	IV	$0				
	V	$0				
	Total	$0				
	Project	$0				
2029	II	$0	Non-Project	$438,833	$438,833	$6,567,631
	III	$0	Project	$0		
	IV	$0				
	V	$0				
	Total	$0				
	Project	$0				
2030	II	$0	Non-Project	$340,353	$340,353	$7,167,908
	III	$0	Project	$0		
	IV	$0				
	V	$0				
	Total	$0				
	Project	$0				
2031	II	$0	Non-Project	$336,576	$336,576	$7,225,467
	III	$0	Project	$0		
	IV	$0				
	V	$0				
	Total	$0				
	Project	$0				

Summary

Functional Class	Rehabilitation	Prev. Maint.		
Collector	$9,897,310	$671,921		
Residential/Local	$2,886,356	$890,246		
Total:	$12,783,666	$1,562,167	**Grand Total:**	**$14,345,833**

Target-Driven Scenarios
Network Condition Summary

Interest: 5.00%   **Inflation: 3.00%**   Printed: 1/18/2022

Scenario: Increase PCI to 70

Objective: Minimum Network Average PCI   **Target: Overall 70**

Projected Network Average PCI by year

Year	Never Treated	With Selected Treatment	Without Selected Treatment
2022	50	72	50
2023	47	71	47
2024	45	70	45
2025	42	70	42
2026	40	70	40
2027	39	72	39
2028	37	70	37
2029	35	70	35
2030	34	70	34
2031	32	70	32

Percent Network Area by Functional Classification and Condition Class

Condition in base year 2022, prior to applying treatments.

Condition Class	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	3.3%	32.2%	0.0%	35.5%
II / III	0.0%	6.9%	10.8%	0.0%	17.8%
IV	0.0%	9.5%	7.8%	0.0%	17.3%
V	0.0%	15.4%	14.1%	0.0%	29.4%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Condition in year 2022 after schedulable treatments applied.

Condition Class	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	27.4%	42.6%	0.0%	70.0%
II / III	0.0%	1.5%	5.7%	0.0%	7.1%
IV	0.0%	6.2%	2.6%	0.0%	8.8%
V	0.0%	0.0%	14.1%	0.0%	14.1%
Total	0.0%	35.1%	64.9%	0.0%	100.0%

Condition in year 2031 after schedulable treatments applied.

Condition Class	Arterial	Collector	Res/Loc	Other	Total
I	0.0%	32.0%	47.7%	0.0%	79.7%
II / III	0.0%	3.0%	0.5%	0.0%	3.6%
V	0.0%	0.0%	16.7%	0.0%	16.7%
Total	0.0%	35.1%	64.9%	0.0%	100.0%
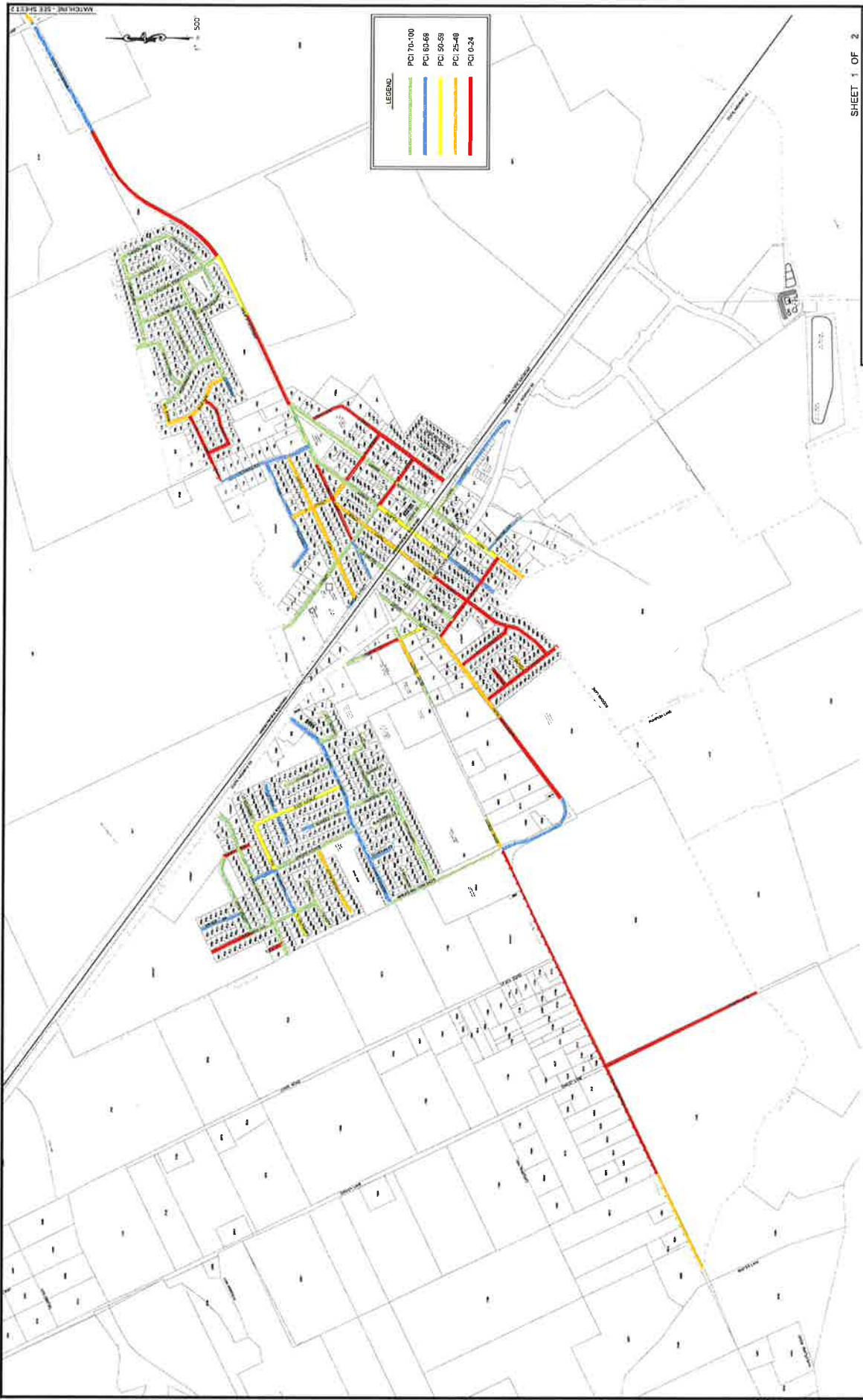
PAVEMENT CONDITION INDEX, PCI MAP

JANUARY 2022

LEGEND
PCI 70-100
PCI 60-69
PCI 50-59
PCI 25-49
PCI 0-24

MATCHLINE - SEE SHEET 2

500

ORIGINAL SCALE IS IN INCHES
FOR REDUCED PLANS, THE 0

LEGEND

PCI 70-100
PCI 60-69
PCI 50-59
PCI 25-49
PCI 0-24

CITY OF WHEATLAND

PAVEMENT CONDITION INDEX, PCI MAP

JANUARY 2022

MATCHLINE - SEE BELOW LEFT

MATCHLINE - ABOVE RIGHT

MATCHLINE - SEE SHEET 1

1" = 500'

ORIGINAL SCALE IS IN INCHES
FOR REDUCED PLANS, THE
0   1   2   3