2020 “State of the Streets”
Final Report

Prepared for:

Village of River Grove, Illinois &
Chicago Metropolitan Agency for Planning

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ACRONYMS

Acronym	Definition
AC	Asphalt concrete pavement
APC	Asphalt concrete overlay on Portland cement concrete pavement
ASTM	American Society for Testing and Materials
BR	Brick pavement
CIP	Capital Improvement Plan
CMAP	Chicago Metropolitan Agency for Planning
CSU	Colorado State University
FT	Foot
G&AI	Gorrondona and Associates, Inc.
GIS	Geographic information system
GR	Gravel pavement
IRI	International Roughness Index
K	Thousand
L&T	Longitudinal and transverse cracking
LCD	Last construction date
M	Million
M&R	Maintenance and rehabilitation
P	Primary rank pavement
PAVER	PAVER Pavement Management System
PCC	Portland cement concrete pavement
PCI	Pavement Condition Index
PMP	Pavement management program
PMS	Pavement management system
S	Secondary rank pavement section
SF	Square feet
SU	Sample unit
SY	Square yard
T	Tertiary rank pavement section

1 EXECUTIVE SUMMARY

1.1 History

In October of 2020, the Chicago Metropolitan Agency for Planning (CMAP) retained the services of Gorrondona and Associates, Inc. (G&AI) to implement a pavement management system for the Village of River Grove that will enable the Village to manage its roadway network in a more proactive, cost-effective, and sustainable way. To accomplish this objective, G&AI: 1) assessed the condition of the Village's roadways, 2) implemented and customized a pavement management system for the Village, and 3) developed near- and long-term pavement maintenance and rehabilitation (M&R) recommendations for the Village's roadways.

During the fall of 2019 and the spring of 2020, G&AI's state-of-the-art PathRunner pavement condition data collection system (shown in Figure 1) was deployed to capture continuous, high-resolution pavement cracking, rutting, and roughness data of the Village's roads. Collected data were entered into the PAVER Pavement Management System (PAVER), and baseline pavement condition scores were determined for each roadway.

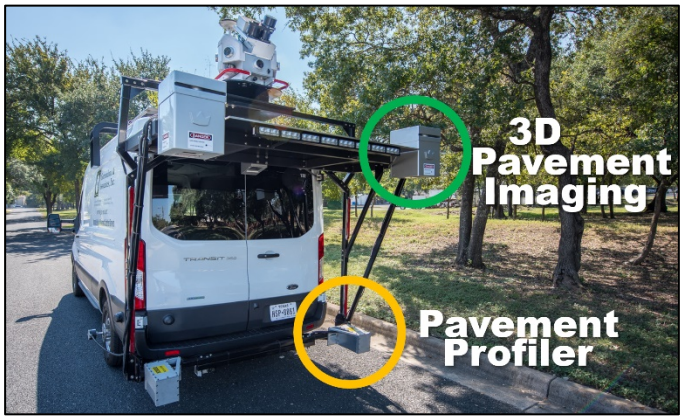


Figure 1. PathRunner pavement condition data collection system.

In July of 2020, preliminary results of the condition survey were presented to the Village. G&AI has since worked with the Village to collect additional pavement M&R records and M&R unit cost data with which to calibrate PAVER so that it is specific to the Village.

The collected pavement condition data along with both the historical M&R data and unit prices provided by the Village were used to develop network-level M&R recommendations presented herein for the Village's consideration.

1.2 PAVER Pavement Management System

PAVER stores two primary "measures" of pavement condition. The most obvious measure of pavement condition is the **International Roughness Index (IRI)**, which describes the rideability (i.e., smoothness) of the roadway as experienced by the driver.

The second measure of pavement condition is the **Pavement Condition Index (PCI)**, which provides an indication of both the structural integrity and surface operational condition of the roadway. PAVER uses PCI values to determine the most cost-effective level of M&R likely needed. PAVER prioritizes funding for life-extending, lower-cost preventive maintenance activities (e.g., crack sealing, slurry seals, and localized patching) above more costly funding of last resort major M&R activities, such as resurfacing and reconstruction. This prioritization in the PAVER algorithm seeks a proactive and cost-effective approach to pavement management with the avoidance of – unless necessary – more costly reactive practices.

In addition to routinely collected IRI and PCI data, PAVER stores pavement inventory information, historical M&R records, and M&R unit cost data. The system uses this information to predict future

pavement conditions and identify network-level deterioration trends and M&R needs over time. It will also allow the Village to evaluate if present M&R methods are performing as expected.

1.3 Purpose and scope

The purpose of this project is to implement a comprehensive pavement management system for the Village's roadways. The scope of this project includes all roadways managed by the Village, which total approximately 18 centerline miles. This pavement management system will serve as a primary tool to assist the Village in more efficiently allocating its pavement M&R funding.

To this end, G&AI:

1. Developed an inventory of the Village's roadways in PAVER. The PAVER inventory contains pavement surface type, functional classification, M&R unit costs, and historical M&R data. *Note: Inventory development is a one-time effort that can be used by the Village if PAVER is retained, only requiring updates to address changes to the Village's roadway network and changes in M&R unit costs.*
2. Performed a pavement condition survey of the Village's roadways. This survey was used to determine PCI and IRI values for analysis purposes and will serve as an initial baseline of roadway conditions.
3. Used the condition survey with the developed PAVER inventory to determine the impact of different funding levels on the Village's roadways and identify potential network-level pavement M&R needs.

1.4 Results

Pavement Condition Index (PCI) and **International Roughness Index (IRI)** values were determined for each roadway. PCI values provide an indication of both the structural integrity and surface operational condition of a pavement. PCI values range from 0 (a failed pavement) to 100 (a pavement in excellent condition). Table 1 shows the categories chosen to represent the Village's PCI assessment criteria, which includes typical pavement distresses and levels of M&R needed within each category.

Table 1. Village's pavement condition categories.

Category	Typical Distresses and Typical Level of M&R Needed	PCI Range
Good	Longitudinal and transverse cracking and weathering of surface **Preventive maintenance:** *Crack sealing and surface treatments*	86-100
Satisfactory	More extensive longitudinal and transverse cracking and weathering of surface **Preventive maintenance:** *Crack sealing and surface treatments*	71-85
Fair	Extensive longitudinal and transverse cracking, early stage alligator (fatigue) cracking, early stage rutting, and weathering of surface **Global preventive maintenance and localized repairs:** *Localized surface and/or full-depth patching, surface treatments, and thin overlays*	56-70
Poor	More extensive and severe longitudinal and transverse cracking, alligator (fatigue) cracking, rutting, and weathering of surface **Major rehabilitation:** *Localized full-depth patching, mill and overlays, and traditional overlays*	41-55
Very Poor	More extensive and more severe longitudinal and transverse cracking, alligator (fatigue) cracking, rutting, weathering of surface, potholes **Major rehabilitation:** *Full-depth patching, mill and overlays, traditional overlays, and reconstruction*	26-40
Serious	Extensive and severe failure of pavement surface **Major rehabilitation:** *Reconstruction*	11-25
Failed	Complete failure of pavement surface **Major rehabilitation:** *Reconstruction*	0-10

At the time of G&AI's inspection, the Village's pavements were found to have an average PCI of 60, indicating that the Village's roadways are in overall "fair" condition.

IRI values measure the roughness (vertical displacement over a fixed interval reported in inches per mile) of a roadway pavement:

- IRI values less than 200 inches/mile indicate "smooth" pavement.
- IRI values between 200 and 400 inches/mile indicate a "marginally rough" pavement.
- IRI values greater than 400 inches/mile indicate "rough" pavement.

The Village's roadways were found to have an average IRI value of 316 inches/mile, which indicates overall "marginally rough" pavement.

Following this executive summary, Map 1 shows PCI categories for each roadway. Roadways that were planned for resurfacing or reconstruction in 2020 (i.e., after the field inspection was performed) were assigned an assumed PCI value of 100. All other PCI values shown on Map 1 reflect the conditions of the

roadways at the time of the field inspection. Map 2 shows IRI categories for each roadway at the time of inspection. IRI values reflect a physical measurement of roughness. Consequently, IRI values were not adjusted for roadways that were planned for resurfacing or reconstruction in 2020.

The causes of pavement deterioration as quantified by the PCI may be divided into three general categories:

- Vehicle load related.
- Climate/durability related.
- Other (construction defects and material issues).

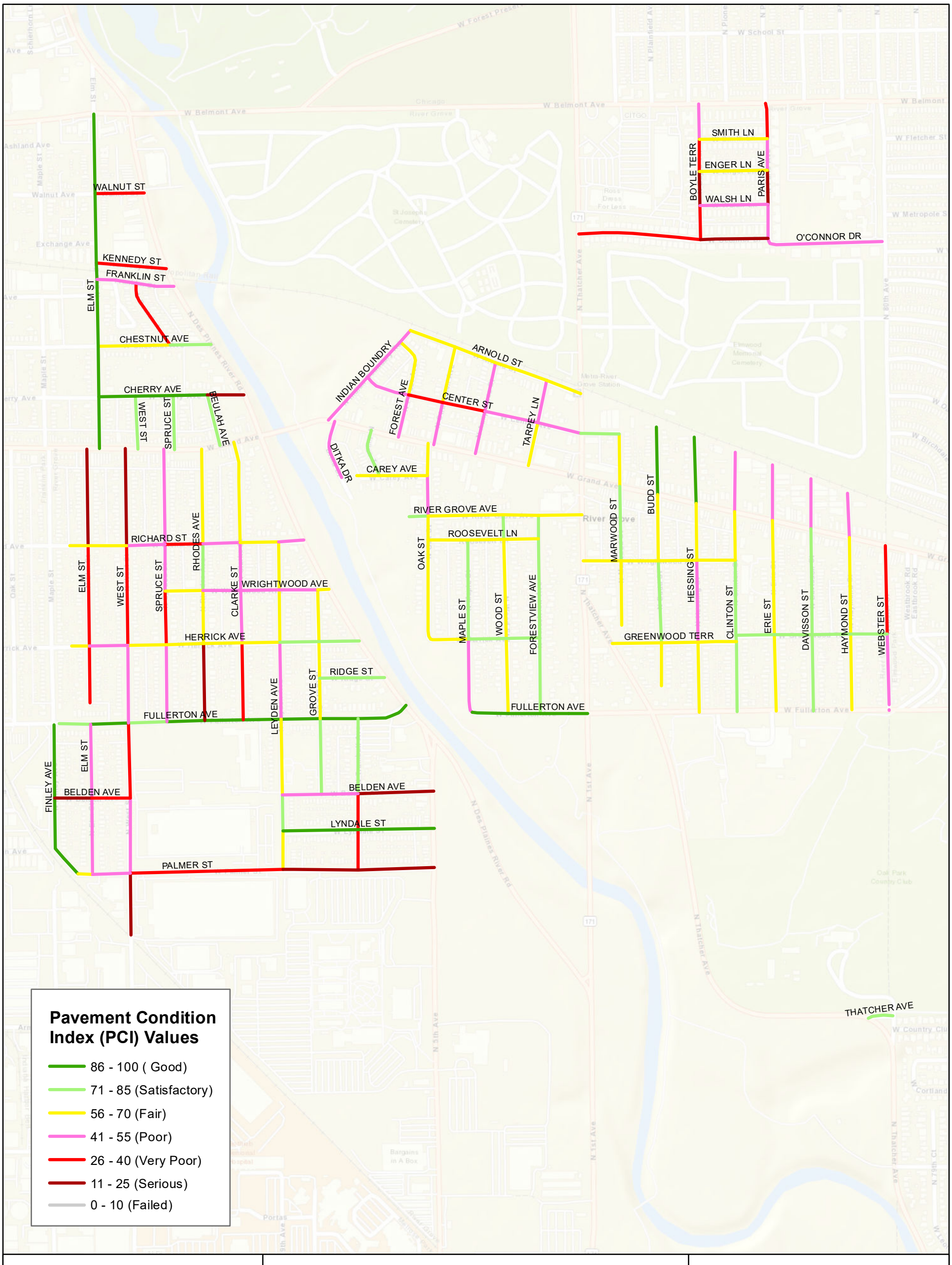
The deterioration observed on the Village's pavements at the time of inspection was caused by a mixture of vehicle load- and climate-related distresses. Vehicle load-related distresses, including alligator cracking and rutting, were pronounced on many of the Village's roadways and contributed most to lower PCI values. Significant climate-related distresses, including block cracking and weathering, were also observed on the Village's roadways.

1.5 Recommendations

For the Village to get the most return on their investment from PAVER, the system must be considered a living entity. The Village should:

1. Implement pavement preservation techniques to cost-effectively extend the life of its roadways.
2. Determine when resurfacing is no longer a cost-effective option and reconstruction is needed.
3. Annually update M&R activities performed on Village roadways in the PAVER database.
4. Annually update M&R unit costs (or whenever economic conditions cause changes in unit prices).
5. Commit future funding to the routine collection of pavement condition data (all roadways should be inspected on a two- to three-year cycle).
6. Use collected pavement condition data to assess the performance of the roadways and applied M&R activities.

With such attention, PAVER will become a repository of accurate, up-to-date data and the primary tool that the Village uses for more cost-effectively programming M&R funding.



0 750 1,500 Feet

Map 1:
Pavement Condition Index (PCI) Values

River Grove, Illinois

Pavement Management Program

Gorrondona & Associates, Inc.

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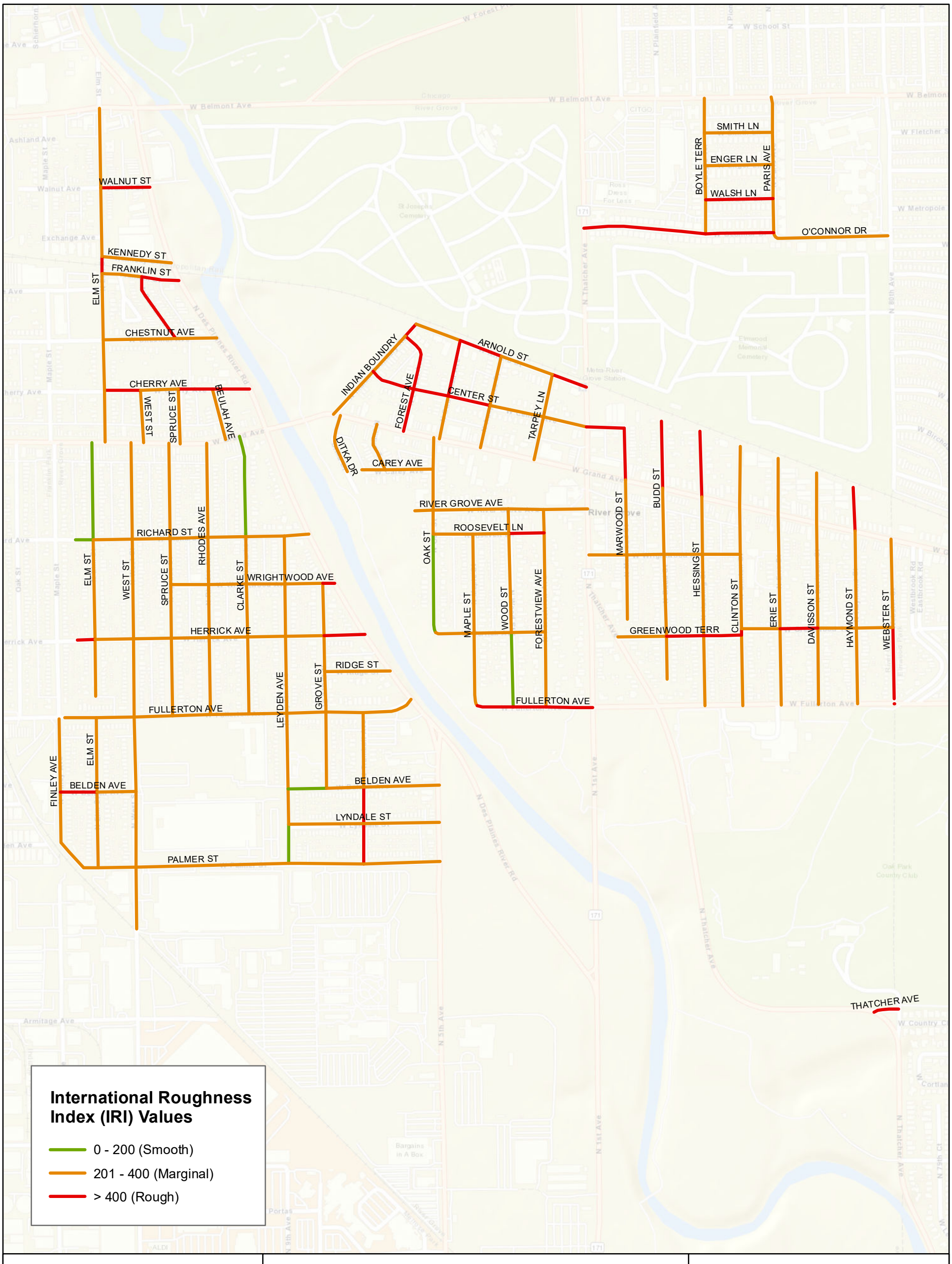

Map 2:
International Roughness Index (IRI) Values

River Grove, Illinois

Pavement Management Program

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2 INTRODUCTION

2.1 Foreword

This section of the report expands on the Executive Summary and provides the reader with information pertaining to the creation and implementation of this pavement management system for the Village.

At the core of a modern pavement management system is a geocentric database that contains pavement inventory and condition information. Combined with up-to-date M&R unit cost data, calibrated deterioration models, and owner-specific M&R practices, this information is used by analysis tools in the pavement management system to predict future pavement conditions, develop multi-year M&R plans, and forecast anticipated funding needs.

This section provides a conceptual overview of pavement management and follows with the benefits and costs of implementing a pavement management system. Implementation of the Village's pavement management system is detailed in Sections 3, 4 and 5. This section closes with an overview of effective preventive maintenance strategies that should be considered by the Village.

2.2 Background, scope, and objectives

The Chicago Metropolitan Agency for Planning (CMAP) retained the services of Gorrondona and Associates, Inc. (G&AI) to assess the existing condition of the roadways maintained by the Village. The primary objectives of this project are to implement a comprehensive and Village-wide pavement management system, perform a network-level pavement condition survey, and identify future pavement M&R needs.

The project will provide the Village with a better understanding of the current condition of its roadways and network-level recommendations for future M&R based on the results of the pavement condition survey. Moving forward, the pavement management system will continue to serve as a repository for pavement condition data, historical M&R records, and pavement condition deterioration trends.

PAVER was implemented for the Village, and a state-of-the-art PathRunner pavement condition data collection system was deployed to capture continuous, high-resolution pavement cracking, rutting, and roughness data of the Village's roadways.

G&AI has since developed the PAVER inventory database and worked with the Village to collect additional M&R records and M&R unit cost data with which to calibrate the PAVER database so that it is Village specific. These M&R records and M&R unit costs, along with the collected pavement condition data, have been used to identify present network-level M&R needs.

2.3 Project tasks

To successfully accomplish the objectives of this project, G&AI performed the following tasks, which are covered in greater detail in Sections 3, 4, and 5 of this report, respectively:

1. Pavement management system implementation
   G&AI developed an inventory of the Village's roadway pavements and implemented PAVER.
2. Pavement condition survey
   G&AI performed a network-level pavement condition survey on the roadway pavements using a state-of-the-art pavement imaging and profiling data collection system. The pavement condition survey was performed in the fall of 2019 and spring of 2020.
3. M&R analyses
   G&AI reviewed the collected condition data and determined the impact of several funding scenarios on the Village's roadways and identified potential pavement M&R needs using PAVER.

The 3D pavement imaging and profiling technology used to assess the condition of the Village's roadway pavements is the most comprehensive available. This technology has evolved rapidly over the past several years, and it is now used across the United States by more than half of the state DOTs. Unlike the inherently subjective windshield pavement condition surveys of years past, high resolution cracking, rutting, and roughness condition data were captured continuously for each of the Village's roadways surveyed.

The collected data were then analyzed using a hybrid methodology that incorporates both automated crack detection and classification along with manual quality control. This approach yields a complete set of pavement condition data that may be used for both network-level (high-level budgeting) multi-year M&R planning as well as project-level (estimating M&R quantities) analyses. The collected data were then entered into and analyzed using PAVER. Continuously developed by the US Army Corps of Engineers, PAVER is a sophisticated, non-proprietary system widely used by municipal agencies across the United States and around the world.

2.4 Conceptual overview of pavement management

The use of a pavement management system is intended to provide municipal agencies with a systematic process for cost-effectively managing their pavement network, which may include roadways, parking lots, and alleys. The American Public Works Association (APWA) defines pavement management in the following way:

> *Pavement management is a systematic method for routinely collecting, storing, and retrieving the kind of decision-making information needed to make maximum use of limited maintenance (and construction) dollars.*

Combined with local knowledge and practical judgment, the recommendations from a pavement management system may be used to help make better pavement M&R decisions.

At the core of a pavement management system is the method for assessing pavement condition. The most widely used method for assessing pavement condition is the Pavement Condition Index (PCI), which is industry standard practice and defined in ASTM D6433. The PCI method outlines a process for more objectively assessing the condition of a pavement based on visual observations and measurements that take place during a field inspection. These observations and measurements are then distilled into a PCI

value that ranges between 0 and 100. A PCI value of 0 indicates a failed pavement, and a PCI value of 100 indicates a pavement in good condition.

PCI values help determine the level of M&R needed to cost-effectively maintain or rehabilitate the pavement. These values may also be used to prioritize roadway improvements for the purpose of developing strategic capital improvements programs. When a pavement is in good condition, preventive maintenance can be applied to extend the life of the pavement. However, once a pavement falls below critical condition, preventive maintenance may no longer be cost effective, and more significant and perhaps more costly rehabilitation strategies should be considered.

The "Critical PCI" value for a pavement is the PCI value below which cost-effective preventive maintenance is no longer a viable option, and more significant rehabilitation and sometimes reconstruction may be necessary. As shown in Figure 2, the primary objective of pavement management is to preserve pavements in good condition above the Critical PCI with less costly preventive M&R rather than allow them to deteriorate below the Critical PCI, resulting in the need for more costly major M&R (rehabilitation or reconstruction).

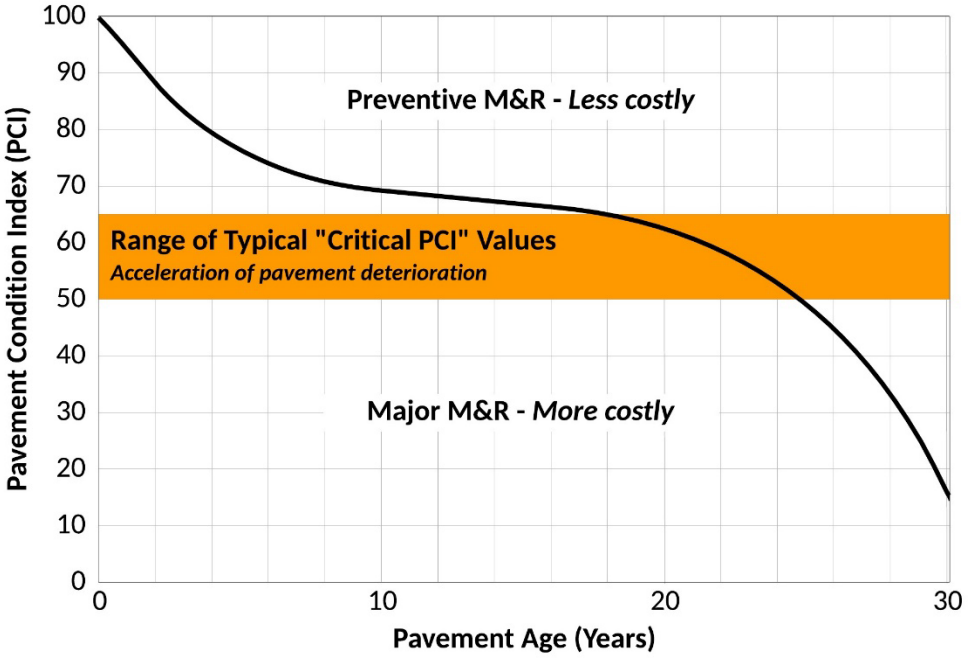


Figure 2. Example of the correct timing of preventive and major M&R relative to the Critical PCI.

The Critical PCI value is determined based on the repeated measurement of pavement condition over time as well as agency-specific M&R policies. Critical PCI values typically range between 50 and 65 (as shown in Figure 2) because the acceleration of pavement deterioration, and subsequent need for more costly M&R, typically occurs then. Setting a higher Critical PCI value simply results in pavements being recommended for major M&R earlier. Some agencies set higher Critical PCI values for their arterial roadways than for their local roadways to ensure that the roadways most heavily traveled (and often at higher speeds) are maintained to a higher standard.

PAVER's default Critical PCI value of 55 has been used for the Village's roadways. The Village may change this value as more condition data and historical M&R data are captured and the deterioration rates

of the Village's roadways are better understood. Typically, two to three PCI inspections are needed to converge on acceptable Critical PCI values. The Village may choose to set Critical PCI values for each functional classification of roadway based on desired policy goals.

When the appropriate preventive maintenance treatments (e.g., crack sealing, seal coats, and patching) are undertaken at the correct times during a pavement's service life, these relatively inexpensive preventive M&R treatments can extend the service life of the pavement, as shown in Figure 3.

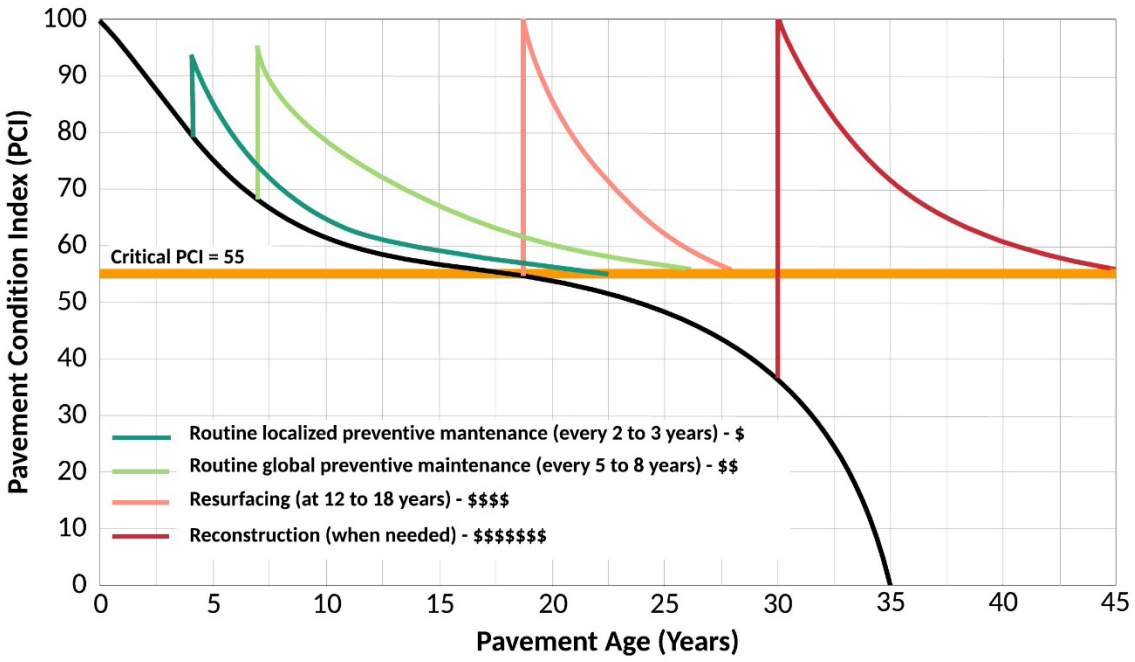


Figure 3. Example of the increasing prices and decreasing benefits of M&R.

It is important to note that the IRI, which provides a useful measure of pavement smoothness, does not correlate well to the level of M&R needed to correct smoothness issues. Consequently, IRI values are not considered when forecasting future M&R needs. Instead, IRI values are used in pavement management systems to identify pavements requiring a special inspection, or they may be used in conjunction with PCI values when prioritizing M&R projects.

As pavement management concepts have gained traction, computer-based pavement management systems have been developed to assist agencies in more optimally managing their pavements. Pavement management systems currently rely on a detailed pavement inventory, routine pavement condition assessments, pavement performance modeling, and sophisticated analysis tools that can forecast future pavement condition and estimate future M&R needs and costs.

2.5 Benefits and costs of implementing a pavement management system

Pavement management systems provide:

- A centralized location for storing pavement condition and inventory data, including construction, maintenance, and rehabilitation records.
- Decision-making support tools for:
  - ✓ Evaluating maintenance and rehabilitation alternatives.
  - ✓ Analyzing the consequences of alternative funding levels on pavement conditions.

  - ✓ Improved scheduling and coordination of pavement M&R projects and other infrastructure projects.
- Analysis tools for evaluating the effectiveness of historical methods of rehabilitation.
- Reporting tools for distilling complex data and justifying funding needs to elected officials.

The benefits of implementing and maintaining a pavement management system improve over time as more data are entered into the system. The costs associated with maintaining a pavement management system include:

- Pavement inventory data collection and routine updates (typically performed annually following the end of the paving season).
- Routine pavement condition data collection (arterials and collectors are typically surveyed every other year and local roadways are surveyed on a three-year cycle).
- Evaluating pavement performance and developing M&R plans (typically performed annually following the end of the paving season – or following a condition survey – to determine candidate roadways for the next paving season).
- Software acquisition, installation, system maintenance, and updates.
- Staff training, as needed.

To ensure the success of a pavement management system, agencies should develop a plan for staffing, maintaining, and funding the system appropriately.

2.6 Incorporating pavement preservation strategies

The implementation of a pavement management system has the added benefit of assisting agencies in determining which pavements may be candidates for preventive maintenance. The use of preventive maintenance early in the life of a pavement, before any significant deterioration, has been demonstrated to be a cost-effective way to extend a pavement's service life.

In the Federal Highway Administration (FHWA) publication, Pavement Preservation, A Road Map to the Future, preventive maintenance is defined as:

> *"…the planned strategy of cost-effective treatments to an existing roadway system and its appurtenances that preserves the system, retards future deterioration, and maintains or improves the functional condition of the system (without significantly increasing the structural capacity)."*

The FHWA adds that preventive maintenance:

> *"…is typically applied to pavements in good condition having significant remaining service life. As a major component of pavement preservation, preventive maintenance is a strategy of extending the service life by applying cost-effective treatments to the surface or near-surface of structurally sound pavements."*

The following preventive maintenance treatments have been demonstrated to be effective when applied at the right time during a pavement's service life:

- Crack sealing, crack filling, and joint sealing of flexible and rigid pavements
- Patching and edge repairs
- Chip seals, fog seals, and slurry seals
- Micro-surfacing
- Thin "functional" and "maintenance" overlay projects

Too frequently these activities are incorrectly applied as "stop-gap" or "cosmetic" treatments for pavements in poor condition rather than as true preservation activities. Preventive maintenance strategies should be applied to pavements that are in relatively good condition, and the activities should be planned and applied systematically following either the resurfacing or reconstruction of a pavement. The following FHWA website provides additional information for pavement preservation: https://www.fhwa.dot.gov/pavement/preservation/.

2.7 Summary

This section provided the reader with background information pertaining to the creation and implementation of the non-proprietary PAVER system for the Village. The section provided a conceptual overview of pavement management and discussed:

1. The benefits the Village will see from the implementation of the pavement management system.
2. The costs expected to be incurred with the maintenance of the system.
3. The additional functionality beyond the obvious support the system can provide by objectively assisting the Village in optimizing the allocation of its M&R funding.

Implementation of the Village's pavement management system is detailed in Sections 3, 4, and 5. This section closed with an overview of effective preventive maintenance strategies that should be considered by the Village moving forward.

3 PAVEMENT MANAGEMENT SYSTEM IMPLEMENTATION

3.1 Foreword

This section discusses the first task of this project: Implementing a pavement management system. One of the CMAP's primary desires was to have a non-proprietary pavement management system for participating agencies. This section provides an overview of PAVER, a brief description of the modules available to the Village in PAVER, and insight into the PAVER database development. *(Note: The information presented in the section may be supplemented by the PAVER User Manual, which is available as a navigable PDF file in the PAVER software.)*

3.2 Objective

The objective of this task was to implement a pavement management system for the Village's roadway pavements. G&AI implemented PAVER, which is developed and continually updated by the US Army Corps of Engineers. This task required developing an inventory of the Village's roadway pavements and collecting current pavement condition data and entering it in PAVER.

3.3 PAVER Pavement Management System overview

PAVER assists agencies in determining when, where, and what level of pavement M&R is required and approximately how much it will cost. The system provides a suite of pavement management tools, or "modules", that will help the Village with the following tasks:

- Developing and organizing their pavement inventory.
- Assessing the current condition of their pavements.
- Developing models to predict future pavement conditions.
- Reporting on past and future pavement performance.
- Developing scenarios for M&R based on either funding or pavement condition goals.
- Planning M&R projects.

PAVER modules include:

- Inventory
- M&R history
- Inspection
- Prediction modeling
- Condition analysis
- M&R planning
- Project planning
- Reporting

A brief description of these modules is presented in the following sub-sections.

Note: Upon request by the municipality, a one-year PAVER license shall be purchased by CMAP for the municipality from Colorado State University (CSU). The PAVER license does not expire. However, after the first year, the municipality will be responsible for purchasing software updates and technical support, if desired. Current pricing for PAVER may be found at: www.paver.colostate.edu.

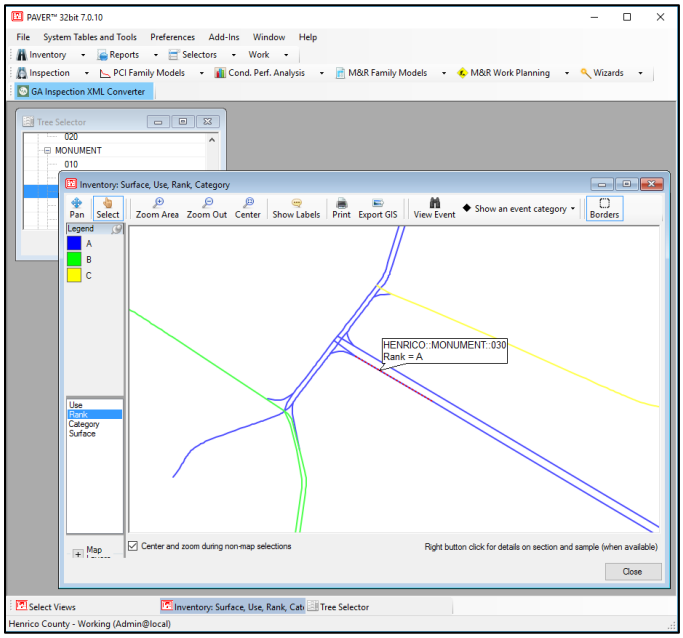


Figure 4. Example roadway functional classifications (ranks) stored in the Inventory module.

3.3.1 Inventory and maintenance and rehabilitation (M&R) history modules

The PAVER **Inventory** and **M&R History** modules, shown in Figure 4 and Figure 5, are based on a hierarchical structure composed of networks (groups of roadways managed with one source of funding), branches (specific roadways), and sections. Sections are the smallest area for which conditions are reported and M&R activities recommended. Sections typically conform to existing GIS segmentation and are commonly defined from intersection to intersection by default.

One network is defined for the Village and each roadway is a branch. Pavement sections are defined within each branch following the Village's existing GIS segmentation in the Illinois Roadway Information System (IRIS). This structure allows the Village to easily organize their inventory and historical M&R data and provides a simple and efficient way for rolling-up data to higher levels of the pavement hierarchy. The Village provided G&AI with historical M&R records, and this information was entered in PAVER.

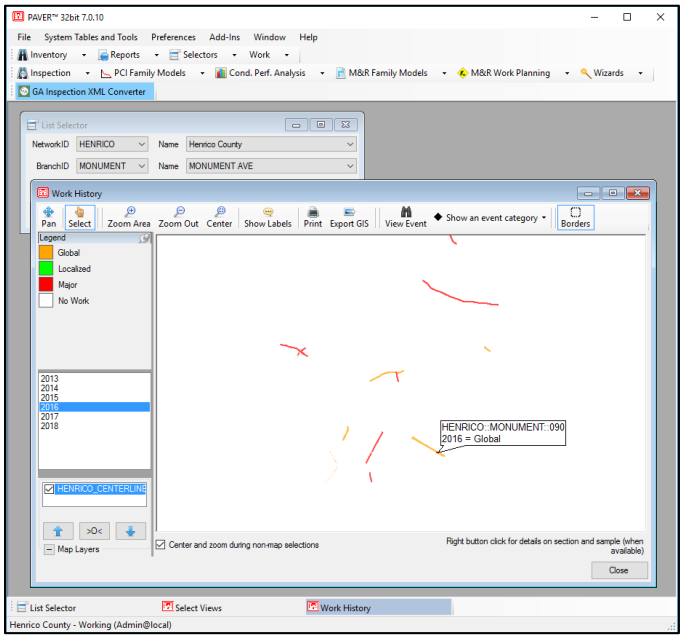


Figure 5. Example historical M&R records stored in the M&R History module.

3.3.2 Inspection module

PAVER uses the PCI as the primary measure of pavement condition. The **Inspection** module, shown in Figure 6, enables agencies to store raw pavement condition survey data and then calculate PCI values. IRI values are also stored in the **Inspection** module.

3.3.3 Prediction modeling module

The **Prediction Modeling** module in PAVER enables the user to group pavements of similar construction that are subjected to similar traffic, weather, and any other factors affecting pavement performance into "families." Historical pavement condition

data are used to build models that can be used to predict future pavement performance. The **Prediction Modeling** module is a hands-on module and prediction models should be updated by the Village following each condition survey. If historical pavement condition data are not available, PAVER provides default pavement prediction curves (shown in Figure 7) and allows the user to develop site specific prediction models.

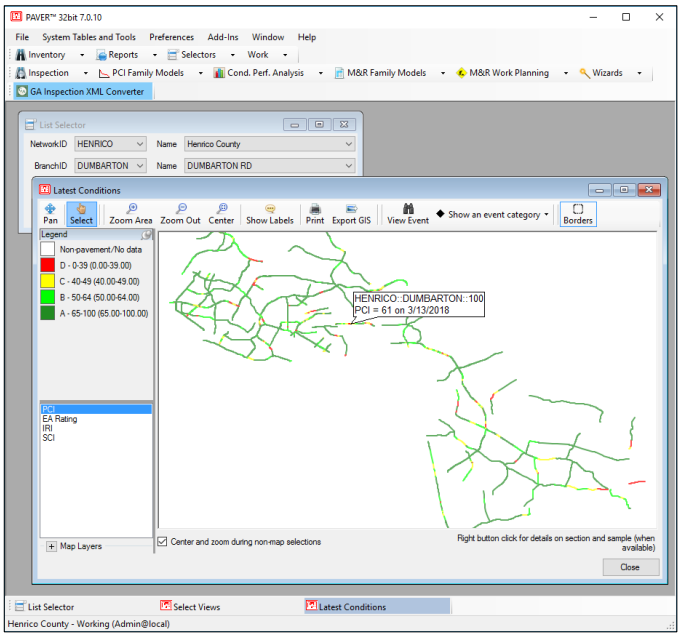


Figure 6. Example PCI values in the Inspection module.

3.3.4 Condition analysis module

The Condition Analysis module allows the Village to view the condition of the entire pavement network or any subset of the network over time. The module reports past conditions based on interpolated values between historical condition data, and it reports projected conditions based on the application of prediction models developed using the **Prediction Modeling** module.

3.3.5 M&R planning module

The **M&R Planning** module can determine the consequence of a predetermined funding level on pavement conditions and estimate the resulting backlog of major work. This information assists in determining funding requirements to meet specific Village pavement condition goals. These capabilities will enable the Village to develop more optimal M&R programs based on available resources and to justify M&R needs.

3.3.6 Reporting module

Each previously described module of PAVER can generate various reports that will assist the Village in analyzing, interpreting, and presenting pavement data. In addition to module-specific reports, PAVER also comes equipped with several "canned" reports, which include:

- GIS reports – *Internal/external reporting of inventory and condition data*
- Summary Charts – *Simple graphs and data tables of inventory and inspection data*
- Inspection Reports – *Summary of collected pavement condition data*
- Work History – *Summary of historical maintenance, repair, and rehabilitation data*
- Branch Listing – *Summary of overall pavement inventory data*

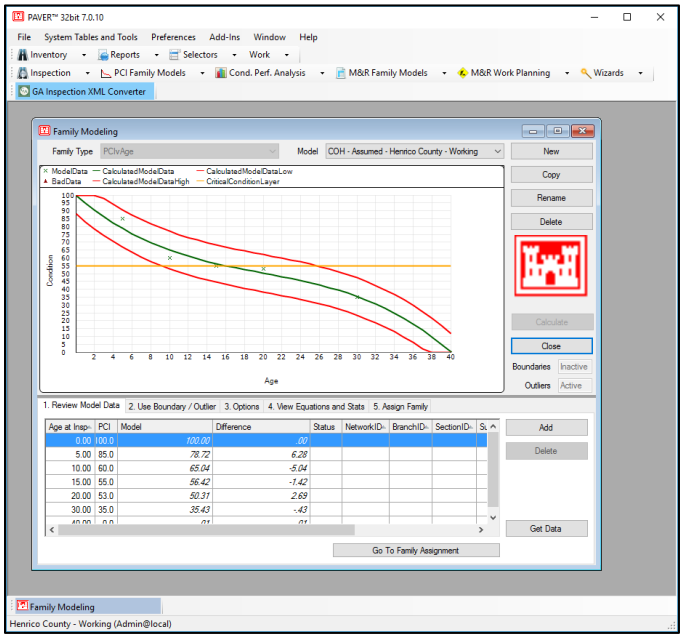


Figure 7. Example deterioration trend developed using the Prediction Modeling module.

- Branch Condition – *Summary of overall pavement condition data*
- Section Condition – *Summary of individual section data*

PAVER can generate on-the-fly "user-defined" reports, which can be tailored to meet the Village's specific reporting needs. PAVER's user-defined reporting capability enables the user to extract any data stored in the system and export it to a GIS shapefile, spreadsheet, or text file.

3.4 Summary

This section discussed the first task of this project: Implementing a pavement management system. This section provided an overview of the non-proprietary PAVER system, a brief description of the modules available to the Village in PAVER, and insight into the PAVER database development. The Village's PAVER database has been developed to include specific and relevant data pertaining to the Village's roadway pavement network. PAVER's suite of analysis and planning tools will enable the Village to more effectively manage its roadway pavement network.

4 PAVEMENT INVENTORY

4.1 Foreword

This section describes the Village's roadway pavement inventory as it exists in PAVER. The data sources used in developing the inventory are discussed in this section, and summary data are presented.

4.2 Objective

The objective of this task was to develop a comprehensive inventory of the Village's roadway pavements for inclusion in PAVER. The roadway pavement inventory provides the underlying data on which analysis and reporting is performed with PAVER. In addition, the inventory provides the framework in which all routinely collected pavement condition data and historical work data are stored.

Moving forward, the Village should update the pavement inventory in PAVER to reflect the addition, realignment, widening, and/or removal of roadways managed by the Village. Typically, these types of changes are infrequent and may be done annually or prior to performing any analysis or reporting tasks with PAVER.

4.3 PAVER inventory development

The Village's PAVER inventory was based on the IRIS GIS provided by CMAP. Relevant pavement data available in the IRIS GIS were supplemented with aerial imagery and field observations and entered in the Village's PAVER database. These data included: number of lanes, pavement surface type, approximate roadway width, and from/to intersections for each pavement section.

Roadways were also assigned "ranks" (i.e., priorities) of primary (P), secondary (S), and tertiary (T). Federal aid eligible roads were assigned the rank of primary, since these tend to be the more heavily trafficked roadways. Residential roads were assigned the rank of secondary, and unpaved roadways and roadways in industrial zones are assigned the rank of tertiary. Based on these definitions, the Village does not have any tertiary roadways.

A shapefile generated from the Village's GIS was linked to the PAVER database. This enables the Village to conveniently navigate the roadways within PAVER and generate a variety of map-based inventory and condition reports in PAVER. Historical M&R records provided by the Village were entered in the PAVER database as well as unit cost data.

4.4 Inventory summary

The Village's roadway network consists of approximately 18 centerline miles of predominantly asphalt surfaced, two-lane roadways. Table 2 shows the distribution of the Village's roadway network in mileage and area by pavement rank, and Table 3 shows the distribution by pavement surface type.

Table 2. Roadway summary data by pavement rank.

Rank	Centerline Miles	Lane Miles	Area (SY)
Primary, P	0.9	1.9	19,778
Secondary, S	17.1	26.6	263,918
Total	**18.0**	**28.5**	**283,697**

Table 3. Roadway summary data by pavement surface type.

Surface Type	Centerline Miles	Lane Miles	Area (SY)
Asphalt, AC	16.9	26.2	256,666
Concrete, PCC	1.1	2.3	27,031
Total	**18.0**	**28.5**	**283,697**

Appendix A maps A-1 and A-2 present pavement rank and surface type data graphically.

5 PAVEMENT CONDITION INSPECTION

5.1 Foreword

This section discusses the second task of this project: Performing a comprehensive pavement condition survey of the Village's roadways. The condition survey included the collection of high-resolution pavement imagery and profile measurements using a state-of-the-art PathRunner pavement condition survey system. The collected data were analyzed and PCI and IRI values were calculated for each of the Village's roadways surveyed. This section describes the pavement condition survey system, the data collection methodology, how the collected data were analyzed, and a discussion of field observations. It concludes with several examples of pavement conditions from the Village's roadways.

5.2 Objective

The objective of the pavement condition survey is to assess the existing structural integrity and surface operational condition of the Village's roadways. The survey provides a comprehensive snapshot of pavement conditions at the time of data collection.

Moving forward, the Village should perform pavement condition surveys on a routine basis to objectively monitor pavement performance, determine near-term M&R needs, evaluate the effectiveness of M&R activities, develop pavement deterioration trends, and forecast near- and long-term pavement M&R needs.

5.3 Pavement condition data acquisition

G&AI deployed a state-of-the-art PathRunner pavement data collection system to capture high-resolution pavement imagery and surface data necessary to assess the condition of the Village's roadways. The PathRunner system is shown in Figure 8.

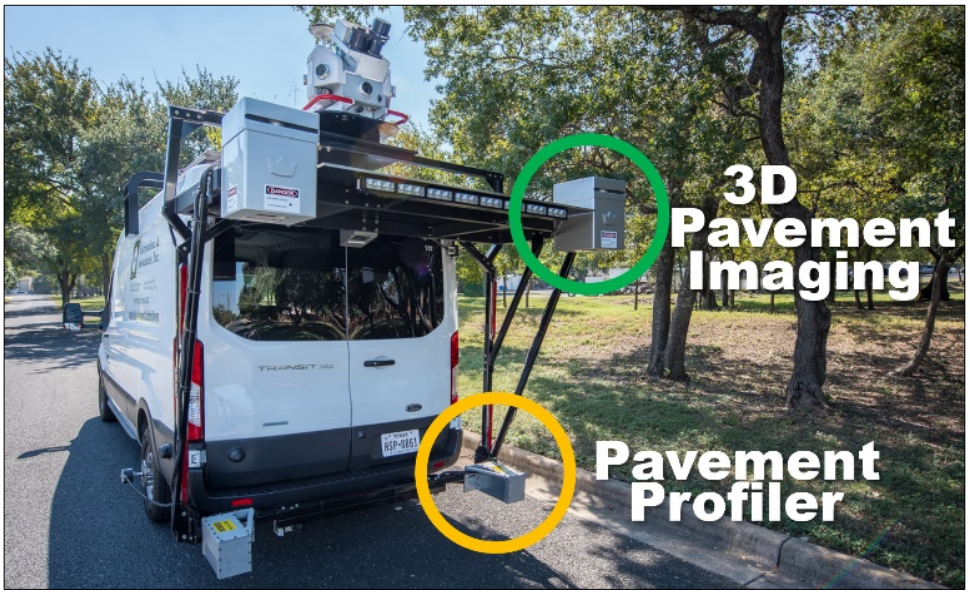


Figure 8. PathRunner pavement condition data collection system.

The PathRunner was driven on all roadways within the Village. By agreement with CMAP, only a single lane of two-lane roadways was collected and the outermost lanes in both directions of four-lane and greater roadways were collected. Based on G&AI's experience, contiguous lanes are usually of similar

character, and this inspection approach was deemed to be cost effective for the Village while still providing sufficiently detailed information to assess existing pavement conditions. The PathRunner system continuously collected the following data for each roadway:

- High-resolution 2D and 3D pavement images for evaluating pavement distresses and determining Pavement Condition Index (PCI) values.
- Transverse profiles to measure rutting.
- Longitudinal profiles to calculate International Roughness Index (IRI) values.
- High-resolution, forward-facing, right-of-way images for manual review of all data.

These data were processed using automated tools verified by manual review to assess pavement conditions, and the results were entered in the Village's PAVER database.

5.4 Pavement Condition Index (PCI) method

The pavement condition survey was performed following the PCI method. The PCI method is based on a set of definitions and procedures for measuring pavement distress types, severities, and quantities during a field inspection. This information is then distilled into a PCI value, which provides an indication of the structural integrity and surface operational condition (roughness) for a pavement section. The PCI method is widely used and provides a significantly more objective and repeatable method for assessing pavement condition than inherently subjective windshield surveys commonly used in the past.

The Village's roadway network consists primarily of asphalt pavements with only a few concrete and gravel roadways. During a PCI inspection, several distress types are identified and evaluated for asphalt pavements, as shown in Table 4. The severity and quantity of each observed distress is recorded, and these data are then input into the PCI algorithm to calculate a PCI value, as shown in Figure 9.

Table 4. Asphalt and concrete pavement distress types.

Asphalt Pavement Distresses	
Distress	**Cause**
Alligator Cracking	Load
Bleeding	Other
Block Cracking	Climate/Durability
Bumps and Sags	Other
Corrugation	Other
Depression	Other
Edge Cracking	Load
Joint Reflection Cracking	Climate/Durability
Lane/Shoulder Drop-Off	Other
Longitudinal and Transverse Cracking	Climate/Durability
Patching and Utility Cut Patching	Other
Polished Aggregate	Other
Pothole	Load
Railroad Crossing	Other
Rutting	Load
Shoving	Other
Slippage Cracking	Other
Swell	Other
Raveling	Climate/Durability
Weathering	Climate/Durability

Concrete Pavement Distresses	
Distress	**Cause**
Blowup/Buckling	Climate/Durability
Corner Break	Load
Divided Slab	Load
Durability ("D") Cracking	Climate/Durability
Faulting	Other
Joint Seal Damage	Climate/Durability
Lane/Shoulder Drop-Off	Other
Linear Cracking	Load
Patching, Large and Utility Cuts	Other
Patching, Small	Other
Polished Aggregate	Other
Popouts	Other
Pumping	Other
Punchout	Load
Railroad Crossing	Other
Scaling, Map Cracking, and Crazing	Other
Shrinkage Cracks	Climate/Durability
Spalling, Corner	Climate/Durability
Spalling, Joint	Climate/Durability

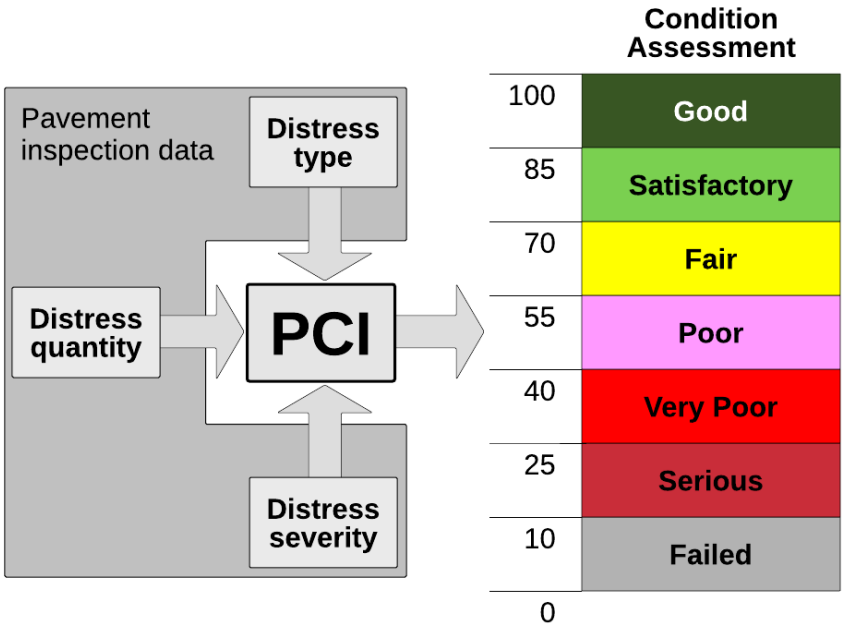


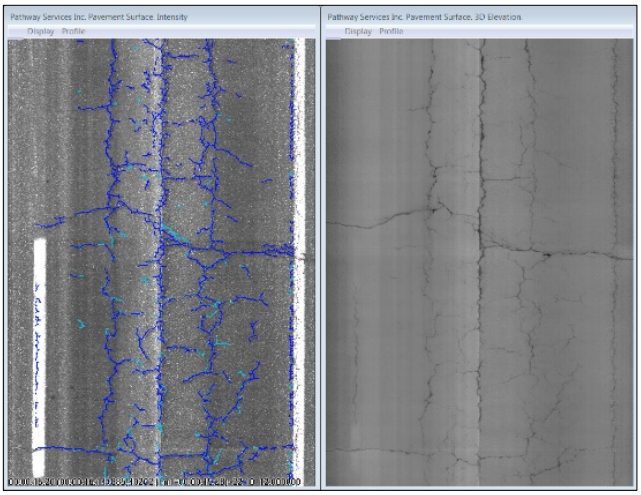
Figure 9. PCI inputs and the Village's assessment scale.

If properly designed and constructed, a new pavement begins its service life with a PCI of 100. Because of distress caused by vehicle loads, environmental factors, and aging, a pavement deteriorates over time. For each combination of distress type, severity level, and quantity observed during the inspection, points

are deducted from the initial value of 100, thereby decreasing the PCI. When multiple distresses are present, the "deduct values" are modified such that the impact of multiple distresses is not unnecessarily compounded. Due to the complexity of the PCI algorithm, PCI values are typically computed using a pavement management software package, such as PAVER. It is important to note that the PCI method does not directly measure the load carrying capacity or the rideability of a pavement. Structural testing combined with coring is needed to determine permissible pavement loadings.

5.5 Pavement Condition Index (PCI) data interpretation

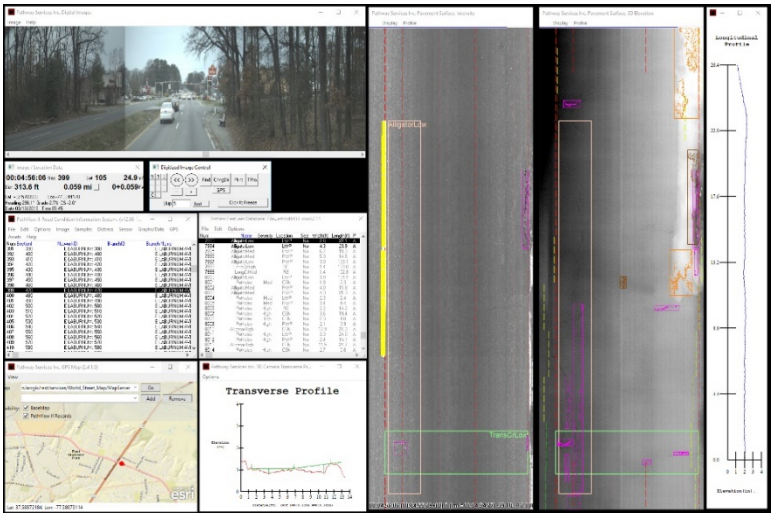
The PathRunner system captures 2D and 3D images of the roadway surface from which pavement surface distresses are evaluated. During the data collection effort, G&AI extracted pavement distress data from georeferenced digital images and rutting measurements from transverse profile measurement to determine PCI values. This process involves four distinct steps:



Steps 1 and 2: ***Initial Automated Crack Detection and Rutting Analyses***

1. **AutoCrack Software** – This software detects cracking in the pavement imagery.
2. **AutoClass Software** – This software classifies the type of cracking detected.
3. **Manual image rating** – G&AI's team of trained and experienced raters review the imagery and identify any distress types that the automated crack detection and classification software did not observe or incorrectly identified. Performing this manual image rating is considered the Quality Control (QC) review assuring detailed accuracy and completeness of the ratings.
4. **Quality Assurance (QA) rating** – An independent team of G&AI's raters and project engineers perform a systematic QA review of the rated data to ensure proper evaluation of the collected imagery prior to import into PAVER.

The QC and QA ratings are the most important steps in the project. G&AI uses the PathView software for evaluating distresses using both automated algorithms and manual supplemental rating. All QC/QA is performed by highly trained and experienced engineers and technicians using PathView. The same software system has been used for more than 25 state DOTs and several municipal agency pavement condition survey projects and is a well proven review tool.



Steps 3 and 4: ***Manual Rating and QC/QA of Pavements using PathView***

In addition to capturing 2D and 3D imagery from which pavement surface

distresses are evaluated, the PathRunner system also captures high-resolution longitudinal and transverse profiles of the roadway surface at 2mm intervals. The longitudinal profile data are analyzed to determine the IRI values, or the "roughness" of the roadway, and the transverse profiles are used to measure rutting.

5.6 Existing pavement conditions and field observations

The collected pavement survey data were used to calculate a PCI value for each pavement section in the Village. Table 5 shows the pavement condition assessment criteria used to analyze the pavement network.

Table 5. Village's pavement condition categories.

Category	Typical Distresses and Typical Level of M&R Needed	PCI Range
Good	Longitudinal and transverse cracking and weathering of surface **Preventive maintenance:** *Crack sealing and surface treatments*	86-100
Satisfactory	More extensive longitudinal and transverse cracking and weathering of surface **Preventive maintenance:** *Crack sealing and surface treatments*	71-85
Fair	Extensive longitudinal and transverse cracking, early stage alligator (fatigue) cracking, early stage rutting, and weathering of surface **Global preventive maintenance and localized repairs:** *Localized surface and/or full-depth patching, surface treatments, and thin overlays*	56-70
Poor	More extensive and severe longitudinal and transverse cracking, alligator (fatigue) cracking, rutting, and weathering of surface **Major rehabilitation:** *Localized full-depth patching, mill and overlays, and traditional overlays*	41-55
Very Poor	More extensive and more severe longitudinal and transverse cracking, alligator (fatigue) cracking, rutting, weathering of surface, potholes **Major rehabilitation:** *Full-depth patching, mill and overlays, traditional overlays, and reconstruction*	26-40
Serious	Extensive and severe failure of pavement surface **Major rehabilitation:** *Reconstruction*	11-25
Failed	Complete failure of pavement surface **Major rehabilitation:** *Reconstruction*	0-10

At the time of G&AI's inspection, the Village's pavements were found to be in overall "fair" condition and have an average PCI of 60. The condition distribution of the Village's pavements at the time of inspection is shown in Figure 10, and detailed condition maps can be found in Appendix A.

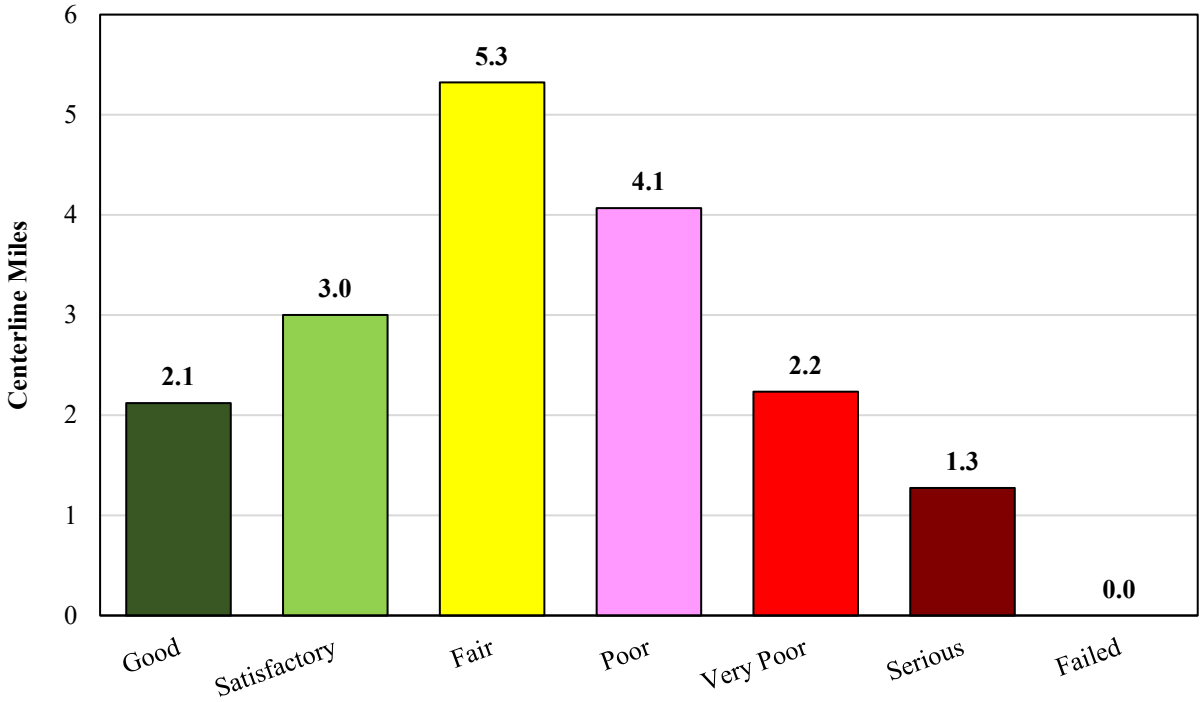


Figure 10. Village's roadway pavement condition distribution by PCI category.

Pavement condition data summarized by pavement ranks and surface types are presented in the following two tables, respectively.

Table 6. Roadway summary condition data by pavement rank.

Rank	Centerline Miles	Lane Miles	Area (SY)	PCI	IRI
Primary, P	0.9	1.9	19,778	73	273
Secondary, S	17.1	26.6	263,918	59	318
Total	**18.0**	**28.5**	**283,697**	**60**	**316**

Table 7. Roadway summary condition data by pavement surface type.

Surface Type	Centerline Miles	Lane Miles	Area (SY)	PCI	IRI
Asphalt, AC	16.9	26.2	256,666	57	319
Concrete, PCC	1.1	2.3	27,031	94	285
Total	**18.0**	**28.5**	**283,697**	**60**	**316**

The causes of pavement deterioration as quantified by the PCI may be divided into three general categories:

- Vehicle load related.
- Climate/durability related.
- Other (construction defects and material issues).

Pavement deterioration and ultimate failure is a complex process that often involves a combination of several deterioration mechanisms working together. The deterioration observed on the Village's pavements was caused primarily by a mixture of load- and climate-related distresses. Vehicle load-related distresses, including alligator cracking and rutting, were pronounced on many of the Village's roadways and accounted for most of the distress negatively impacting overall roadway conditions. In addition, climate-related distresses, including longitudinal and transverse cracking and block cracking, were found across the Village's pavement inventory.

In practice, visually observed pavement distresses collected during a network-level condition survey are used to determine the likely mechanism(s) contributing to the deterioration of a roadway. However, prior to developing a specific M&R strategy, the root cause of pavement deterioration should be determined. Determining the root cause of pavement deterioration may be accomplished through an appropriate combination of traffic load analyses, drainage investigations, structural testing, coring, and material testing.

For example, vehicle load-related distresses such as alligator cracking may be addressed through load analyses and material testing. Contributing root causes may range from the roadway consistently exposed to loads in excess of its design loading to the pavement section having simply reached the end of its design life. Climate/durability-related distresses, such as transverse cracking, may result from a combination of freeze/thaw cycling and oxidation (embrittlement) of the asphalt layer. The cause(s) of "other" distresses may be determined through a combination of coring, boring, and material testing.

In addition to PCI values, IRI values were determined for each of the Village's roadways. IRI values, reported in inches per mile, describe the amount of roughness in both wheel paths over a given length of pavement. The IRI is a standard measure of roughness used worldwide. The Village's IRI assessment scale is shown in Table 8.

Table 8: Village's IRI assessment criteria.

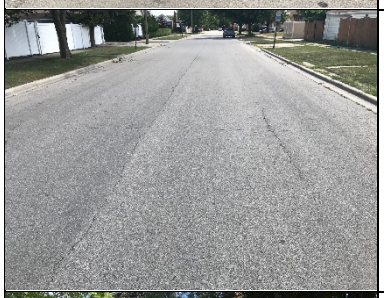
Category	IRI Value
Smooth	0-200
Marginal	201-400
Rough	>401

At the time of G&AI's inspection, the Village's pavements were found to be in overall "marginally rough" condition, with an average IRI of 316. Detailed condition maps can be found in Appendix A.

It is worth noting that IRI and PCI values do not necessarily correlate with one another. A roadway can ride well yet still be structurally deficient and in need of major M&R, and vice versa. For example, asphalt-surfaced roadways supported by structurally adequate base (e.g., crushed rock) and subgrade (e.g., existing soil) layers may exhibit extensive cracking in the asphalt surface layer due to fatigue failure of the asphalt. In situations such as these, removal of the existing asphalt layer and replacement with a thicker layer may be enough to rehabilitate the pavement. Conversely, a roadway that rides poorly may be structurally adequate and may only require minimal rehabilitation. Poor construction practices may unfortunately lead to roughness being "built into" an otherwise structurally adequate roadway at the time of construction. Roadways exhibiting this type of roughness may require grinding and/or an additional surface course to remedy the issue.

5.7 Example pavement conditions through the Village

Figure 11 illustrates a variety of pavement conditions observed throughout the Village during the pavement condition survey. The figure includes PCI and IRI values for each pavement section along with observed distress types and recommended M&R.

	Location + History	PCI *(IRI)*	Recommended M&R Activity (Typical)
	Trumbull Ave. *(Section 30)* *Last resurfacing date 2010*	75 *(242)*	Preventive maintenance *Seal cracks as well as paving lane joint and joints between pavement and curb and gutter + surface treatment.*
	Herrick Ave. *(Section 50)* *Last resurfacing date 2009*	63 *(275)*	Preventive maintenance *Seal cracks as well as paving lane joint and joints between pavement and curb and gutter + edge patching + surface treatment.*
	Spruce St. *(Section 40)* *Last resurfacing date 2003*	52 *(229)*	Major M&R *Localized structural patching + cold mill and overlay or reconstruction*
	Wrightwood Ave. *(Section 20)* *Last resurfacing date 2009*	46 *(288)*	Major M&R *Localized structural patching + cold mill and overlay*
	Clarke St. *(Section 10)* *Last resurfacing date 2008*	34 *(320)*	Major M&R *Localized structural patching + cold mill and overlay*

	Belden Ave. *(Section 50)* *Last resurfacing date 1992*	25 *(397)*	Major M&R *Reconstruction*
	Rhodes Ave. *(Section 10)* *Last resurfacing date 2009*	23 *(358)*	Major M&R *Reconstruction*

Figure 11. Pavement conditions observed during PCI inspection.

A distress observed on some of the Village's pavements was unsealed paving lane seams (cracks), as shown in several of the photos above. If left unsealed, paving lane seams can deteriorate rapidly and significantly reduce the life of the pavement. By sealing paving lane seams immediately following paving and routinely resealing them, this type of deterioration may be minimized or prevented.

5.8 Summary

This section presented an overview of the methodology used to perform the 2019/2020 pavement condition survey and the results of the survey. A state-of-the-art PathRunner pavement condition survey system was deployed to collect pavement imagery and profile data on the Village's roadways. The collected data were analyzed, and PCI values and IRI values were determined for each of the roadways surveyed. The Village's roadways were found to be in overall "fair" condition with an average PCI of 60. Furthermore, the Village's roadways were found to be in overall "marginally rough" condition, with an average IRI of 316 inches/mile.

6 MAINTENANCE AND REHABILITATION FUNDING ANALYSES

6.1 Foreword

This section discusses the third task of this project: M&R needs analyses. This section discusses the results of the analyses performed for the Village's consideration, assumptions which shaped the analyses, and results of the analyses. The recommendations of these analyses are provided in this section and in Appendixes A through D.

6.2 Objective

The M&R Planning module in PAVER provides *raw recommendations* of when and where pavement M&R activities are needed and approximately how much they will cost. The Village should use these raw recommendations to develop programmatic M&R plans for the Village's roadway network. These programmatic plans may be generated based on anticipated annual funding or with the goal of maintaining or achieving a desired pavement condition.

For the Village's roadways, two preliminary M&R analyses were performed:

- Three **five-year analyses** were performed to determine the impact of funding levels on overall roadway conditions. The analyses included:
  - Assessing the impact of the Village's historic funding level.
  - Assessing the impact of the Village's existing funding level.
  - Determining the annual funding level needed to eliminate the Village's major M&R backlog over a five-year period.
- A **one-year analysis** was performed to identify pavements that may benefit from preventive maintenance activities, such as crack sealing or localized patching. Only pavements with a PCI of 65 or better were considered in this analysis.

The purpose of these analyses is to determine the appropriate funding level needed to manage the Village's roadways and provide general recommendations that will assist the Village in developing and evolving its M&R program. Additional analyses may be performed to assess either the impact of anticipated funding levels or to determine the funding levels needed to achieve a desired overall, network-average condition.

6.3 Assumptions

The M&R analyses were based on the results of the fall of 2019 and spring of 2020 Pavement Condition Index (PCI) survey and the pavement inventory and historical work records provided by the Village and stored in the Village's PAVER database. The following assumptions were made in our analyses.

- Pavements considered candidates for preventive maintenance were determined based on their overall PCI values and the distresses observed on the pavement at the time of inspection. Pavements with PCI values of 65 or better were considered candidates for preventive maintenance.
- Recommended preventive maintenance policies for asphalt and concrete pavements are shown in Appendix D Tables D-1 and D-2, respectively. The policy tables show what type of repair activity should be applied to each distress type and severity combination. Table D-3 presents estimated unit costs for the maintenance activities recommended in tables D-1 and D-2.

- A pavement deterioration rate of roughly 3.5 points per year was used based on the performance of the Village's resurfaced roads, which equates to a pavement life between resurfacings of approximately 13 years. This deterioration rate will be refined as more historical work records are entered in PAVER and more PCI inspection data become available over time.
- A Critical PCI value (the PCI value below which a pavement is considered a candidate for major M&R) of 55 was assumed for all pavement sections. Pavements at or below the Critical PCI during the five-year analysis period triggered major M&R recommendations. *(Note: A PCI value of 55 has been initially chosen for all the Village's roadways as this numerical value straddles the "Fair" to "Poor" condition categories in the Village's PCI scale. Performing major M&R on pavements that are closer to a PCI of 55, rather than waiting for these pavements to deteriorate further is generally more cost effective.)*
- Unit costs used in these analyses were based on bid tabs provided by the Village and by costs reported by nearby municipalities.
    - ✓ Asphalt resurfacing ranged from approximately $1.50 to more than $7.50 a square foot depending roadway condition (i.e., lower PCI values may result in more patching and thicker resurfacing). Reconstruction was set at $8.50 a square foot.
    - ✓ Concrete slab replacement costs ranged from $5.00 to $15.00 a square foot depending on roadway condition (i.e., lower PCI values result in more slab replacement). Reconstruction was set at $20.00 a square foot.
- All analyses began in the fall of 2020 (November 1 start date), and an inflation rate of 3% was assumed.

6.4 Results

The results of the PAVER M&R analyses are shown in the following two figures. Figure 12 illustrates the estimated five-year change in pavement condition resulting from the analyzed funding scenarios, and Figure 13 depicts the estimated change in the Village's major M&R backlog for each funding scenario.

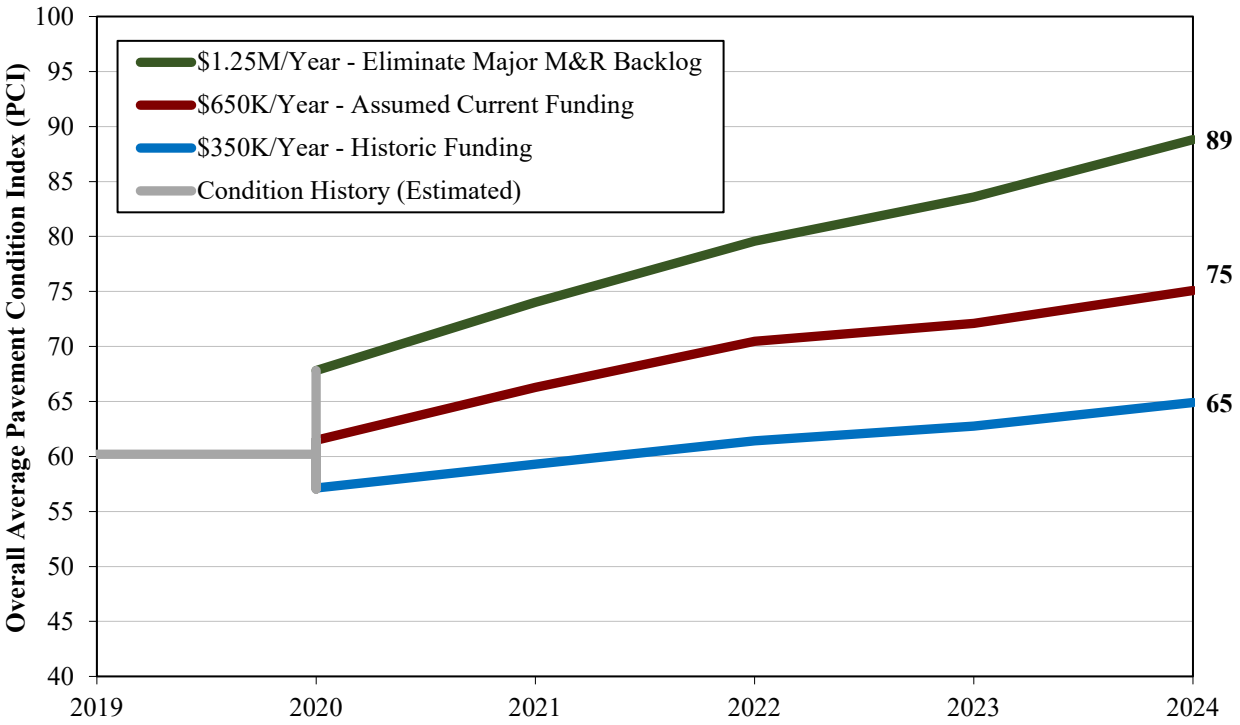


Figure 12: Impact of funding levels on overall pavement conditions by year.

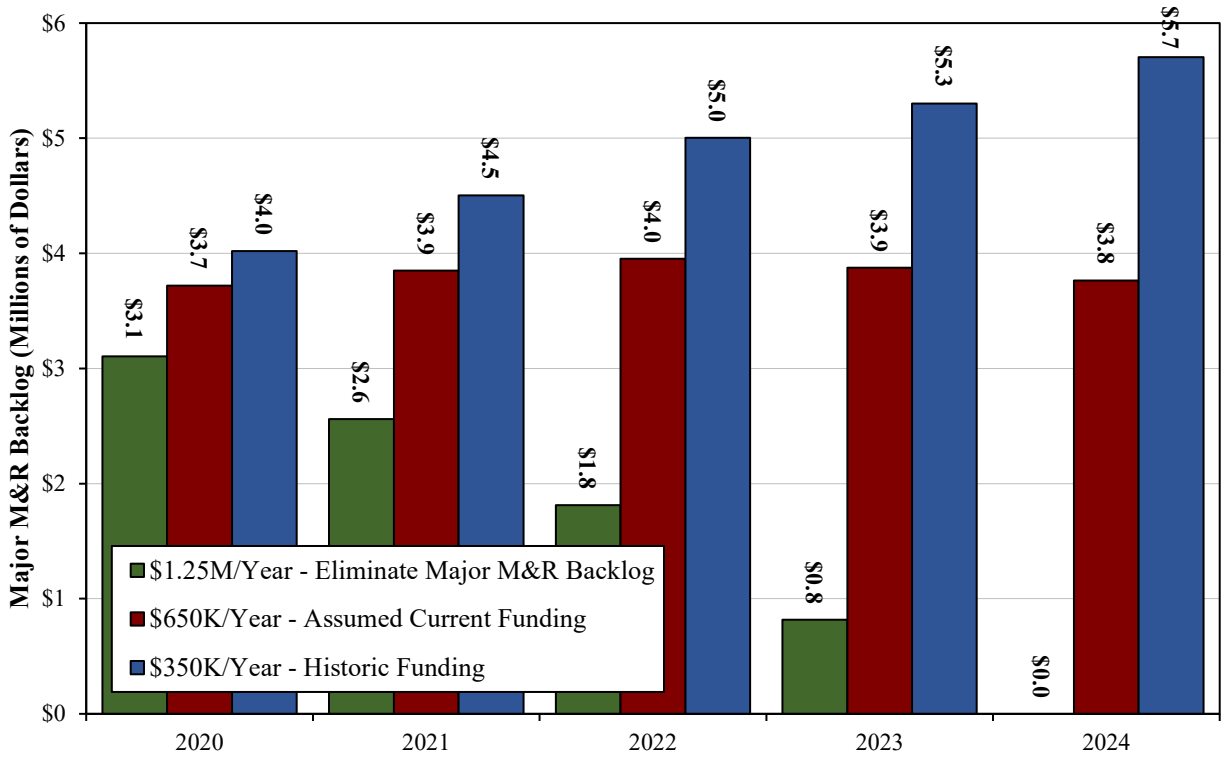


Figure 13: Impact of funding levels on major M&R backlog by year.

The consequences of the annual funding scenarios are shown in Table 9. This table illustrates the concept of "total cost." By treating both the total annual M&R expenditures and the remaining major M&R backlog at the end of the five-year period as costs to the Village, the benefit of increasing annual funding – which results in a smaller major M&R backlog – is clearly illustrated. Consequently, eliminating the major M&R backlog over a five-year period results in the lowest total cost to the Village.

Table 9. Estimated Five-Year Pavement M&R Costs

Funding Scenario	Total Five-Year M&R Costs (2020-2024)	Remaining M&R Backlog[1)] (2024)	Total Five-Year Cost[2)]	Projected PCI (2024)
$350K/YR (Historic Funding)	$1.8M	$5.7M	$7.6M	65
$650K/YR (Assumed Current Funding)	$3.3M	$3.8M	$7.0M	75
Backlog Elimination ($1.25M/YR)	$6.3M	$0	$6.3M	89

1) "M&R Backlog" equals the lump-sum cost to resurface/reconstruct all pavements at or below their critical PCI value.
2) "Total five-year cost" equals the sum of the five-year major M&R expenditures plus the remaining major M&R backlog at the end of the five-year analysis period.

Appendix A maps A-5 and A-6 present major M&R recommendations. Map A-5 shows all roadways recommended for major M&R over the upcoming five years based on the Village's existing funding level. Map A-6 shows all roadways recommended for major M&R over the upcoming five years given an unlimited budget. The maps show which roadways are recommended each year by PAVER. These recommendations do not consider geographic proximity. Consequently, these recommendations should be grouped into practical projects during the Village's planning process.

Map A-7 shows all roads that are candidates for preventive maintenance, such as crack sealing and localized patching. While crack sealing can be an effective treatment for preserving roadways in good condition, its utility diminishes when applied to roadways that are already in poor condition or are exhibiting signs of structural failure.

Appendix B presents tabular data showing the estimated cost to repair each of the roads recommended for major M&R over the next five years based on the Village's existing funding level. Appendix C presents similar data assuming unlimited funding. *The costs presented in Appendixes B and C should be considered rough estimates only and should not be considered engineering estimates.* These costs are based on a simple relationship between predicted PCI value and typical level of major M&R. Unit costs used in developing these relationships were based on bid tabs provided by the Village and by costs reported by neighboring municipalities.

Appendix E presents tabular data showing one-year estimated costs to apply preventive maintenance to each of the candidate roadways (i.e., roadways with PCI values of 65 or better). The total one-year preventive maintenance cost is estimated to be approximately $77,500, as shown in Table 10. *The estimated costs presented in Appendix E should be considered rough estimates based on the assumed unit costs only and should not be considered engineering estimates.*

Table 10. Preventive Maintenance Summary

Maintenance Type	Quantity	Units	Est. Cost
Crack Sealing - AC	38,385	FT	$38,385
Patching - AC Shallow	65	SF	$357
Patching - AC Deep	2,243	SF	$24,668
Crack Sealing - PCC	1,352	FT	$2,029
Patching - PCC Partial Depth	1,409	SF	$9,864
Joint Seal (Localized)	1,458	FT	$2,188
		Total:	**$77,489**

7 SUMMARY AND RECOMMENDATIONS

7.1 Summary

A pavement condition survey was performed in the fall of 2019 and spring of 2020 on the Village's roadways. The results of the survey provide a snapshot of roadway conditions at the time of the survey. PAVER was implemented for the Village's roadways and was populated with collected pavement condition data and available M&R history data provided by the Village.

For the Village to get the most return on investment out of PAVER, the system must be considered a living entity and be updated regularly with M&R activities as they are performed, M&R unit cost data, and routinely collected pavement condition data. With such attention, PAVER becomes a repository of accurate, up-to-date data and can aid the Village in more cost-effectively programming M&R funding and objectively analyzing the true cost-effectiveness of presently employed M&R activities.

Five-year M&R funding analyses were performed on the Village's roadways using PAVER to: 1) evaluate the adequacy of the Village's existing funding level, 2) estimate the funding level needed to maintain the Village's existing roadway conditions, and 3) estimate the funding level needed to eliminate the Village's backlog of major M&R. It was determined that the Village's existing funding level for major M&R adequate to maintain the current condition of the Village's roadway pavements.

Based on this initial set of PCI data collection and analysis on the Village's roadways, G&AI respectfully offers the following broad recommendations.

7.2 Recommendations

7.2.1 Implement pavement preservation techniques

As discussed in Section 2.6, preventive maintenance activities, such as crack sealing, localized patching, and surface treatments, can cost-effectively extend the life of a pavement. The Village should incorporate these strategies into its M&R planning.

The Village does not appear to have an active crack sealing program for its roadways. Moisture penetrates unsealed cracks and compromises the base structure of the pavement. Freeze/thaw cycling exacerbates the damage. Sealing cracks on roadways that are in relatively good condition is a simple, cost-effective method for pavement preservation. Crack sealing is a preventive maintenance activity and should not be applied on roadways that require major M&R.

Furthermore, the Village should focus on applying routine preventive maintenance to newly resurfaced or reconstructed roadways. It was observed that some paving lane seams throughout the Village had not been sealed. Like crack sealing, sealing the paving lane seams is a simple method for pavement preservation, and it may be included in construction specifications.

7.2.2 Determine when pavements should be reconstructed rather than resurfaced

As the Village's asphalt-surfaced pavements age and are resurfaced multiple times, the performance of successive resurfacing projects will diminish. These "diminishing returns" occur because the sublayers of the pavement (the pavement structure below the asphalt surface) continue to deteriorate due to moisture infiltration, freeze-thaw damage, and damage due to vehicular loading. The M&R history and performance of resurfaced roadways should be closely tracked to determine the optimal number of resurfacing projects that may be performed prior to reconstructing the pavement.

7.2.3 Perform regular pavement condition inspections – every three years

To capitalize on the pavement condition survey and better track the condition of its pavements, the Village should continue to perform PCI surveys on a regular, three-year cycle. Doing so will enable the Village to:

1. Better track the deterioration of its pavements over time,
2. Identify pavement deterioration trends and use these trends to better predict future pavement conditions and then strategically apply M&R funding, and
3. Assess and track the effectiveness of its pavement preservation and major M&R activities.

The deterioration trends developed for this project were based on only one set of inspection data. Additional inspection data will help validate these trends and will improve forecasts, which may impact forecasted pavement conditions and recommended future M&R funding needs.

7.2.4 Routinely update PAVER

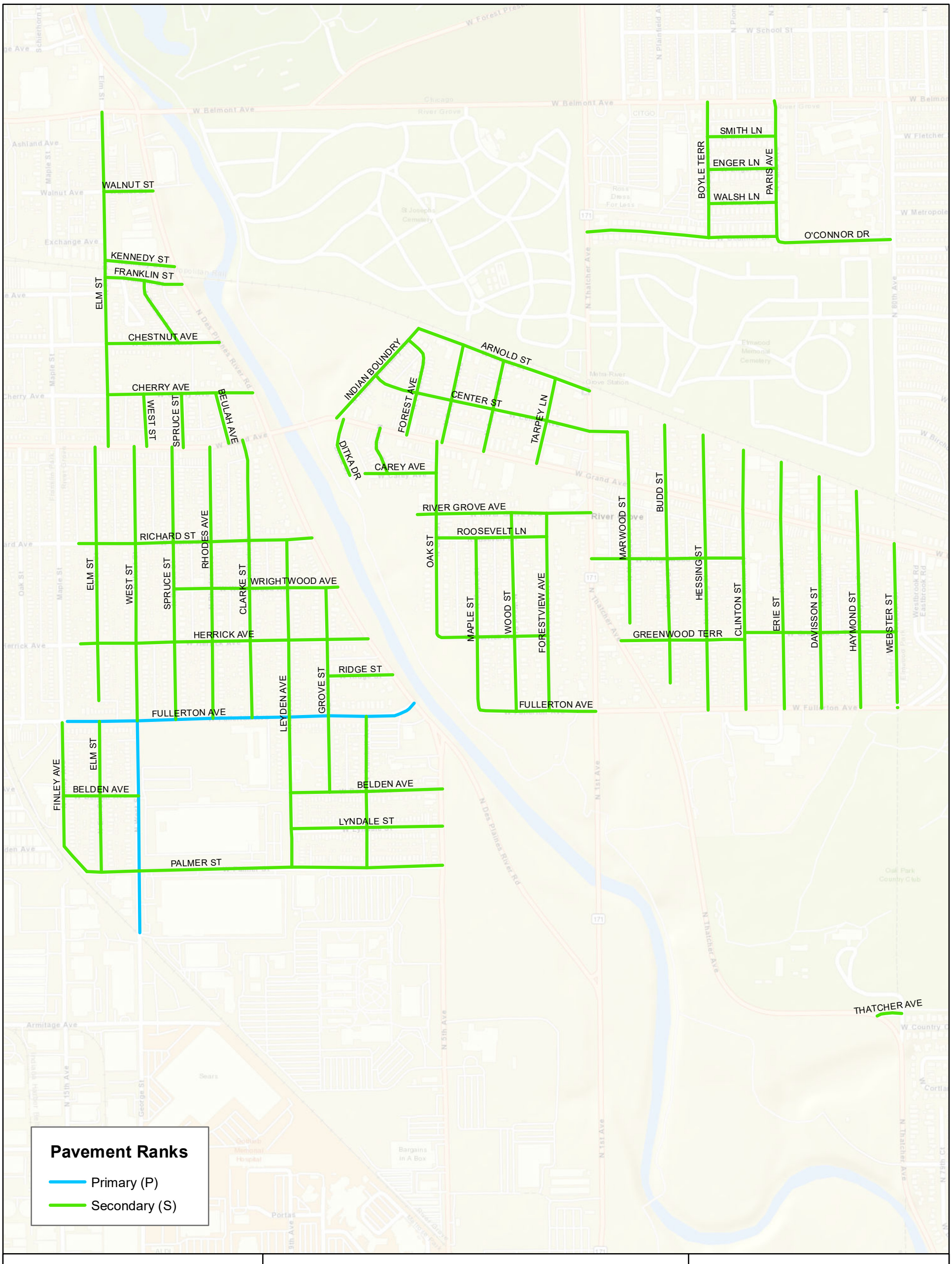
PAVER should be updated annually following the paving season to capture major M&R activities, routine maintenance activities, and pavement inventory changes (new roadways, jurisdictional changes, realignments). PAVER relies on updated inventory and work history data in order to generate meaningful recommendations.

7.2.5 Maintain current funding for pavement M&R

Based on the results of the pavement condition survey and forecasts of future pavement condition, the Village's current level of funding is likely adequate to maintain and gradually improve the overall current condition of the Village's roadways. Managing a pavement network at an overall average PCI between 70 and 80 is more cost effective since funding is spent on less costly preventive maintenance and preservation activities rather than more expensive major M&R.

APPENDIX A – PAVEMENT INVENTORY, CONDITION, AND RECOMMENDED M&R MAPS

Map A-1: Pavement Ranks
Map A-2: Pavement Surface Types
Map A-3: Pavement Condition Index (PCI) values
Map A-4: International Roughness Index (IRI) values
Map A-5: Five-year major M&R recommendations – *Recommendations assuming current funding*
Map A-6: Five-year major M&R recommendations – *Recommendations assuming unlimited funding*
Map A-7: Pavement preservation candidates – *Current recommendations*



N

0 750 1,500 Feet

Map A-1:
Pavement Ranks

River Grove, Illinois

Pavement Management Program

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WALNUT ST
KENNEDY ST
FRANKLIN ST
ELM ST
CHESTNUT AVE
CHERRY AVE
WEST ST
SPRUCE ST
BEULAH AVE
RICHARD ST
RHODES AVE
ELM ST
WEST ST
SPRUCE ST
CLARKE ST
WRIGHTWOOD AVE
HERRICK AVE
RIDGE ST
LEYDEN AVE
GROVE ST
FULLERTON AVE
ELM ST
FINLEY AVE
BELDEN AVE
BELDEN AVE
LYNDALE ST
PALMER ST
INDIAN BOUNDRY
ARNOLD ST
FOREST AVE
CENTER ST
TARPEY LN
DITKA DR
CAREY AVE
RIVER GROVE AVE
ROOSEVELT LN
OAK ST
MAPLE ST
WOOD ST
FORESTVIEW AVE
FULLERTON AVE
SMITH LN
BOYLE TERR
ENGER LN
PARIS AVE
WALSH LN
O'CONNOR DR
MARWOOD ST
BUDD ST
HESSING ST
CLINTON ST
ERIE ST
DAVISSON ST
HAYMOND ST
WEBSTER ST
GREENWOOD TERR
THATCHER AVE

Pavement Surface Type

- Asphalt
- Concrete

0 750 1,500 Feet

Map A-2:
Pavement Surface Types

River Grove, Illinois

Pavement Management Program

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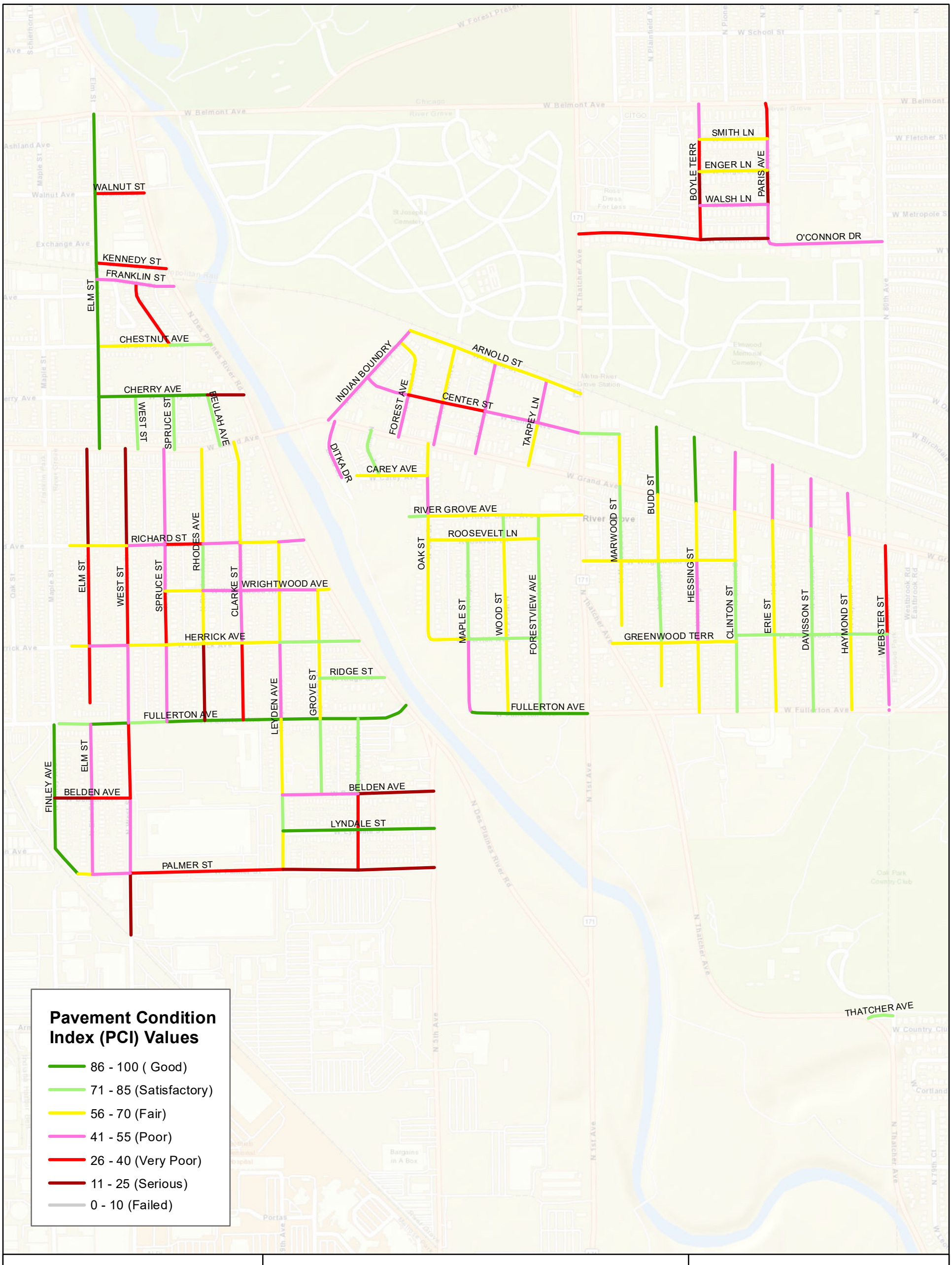

0 750 1,500 Feet

Map A-3:
Pavement Condition Index (PCI) Values

River Grove, Illinois

Pavement Management Program

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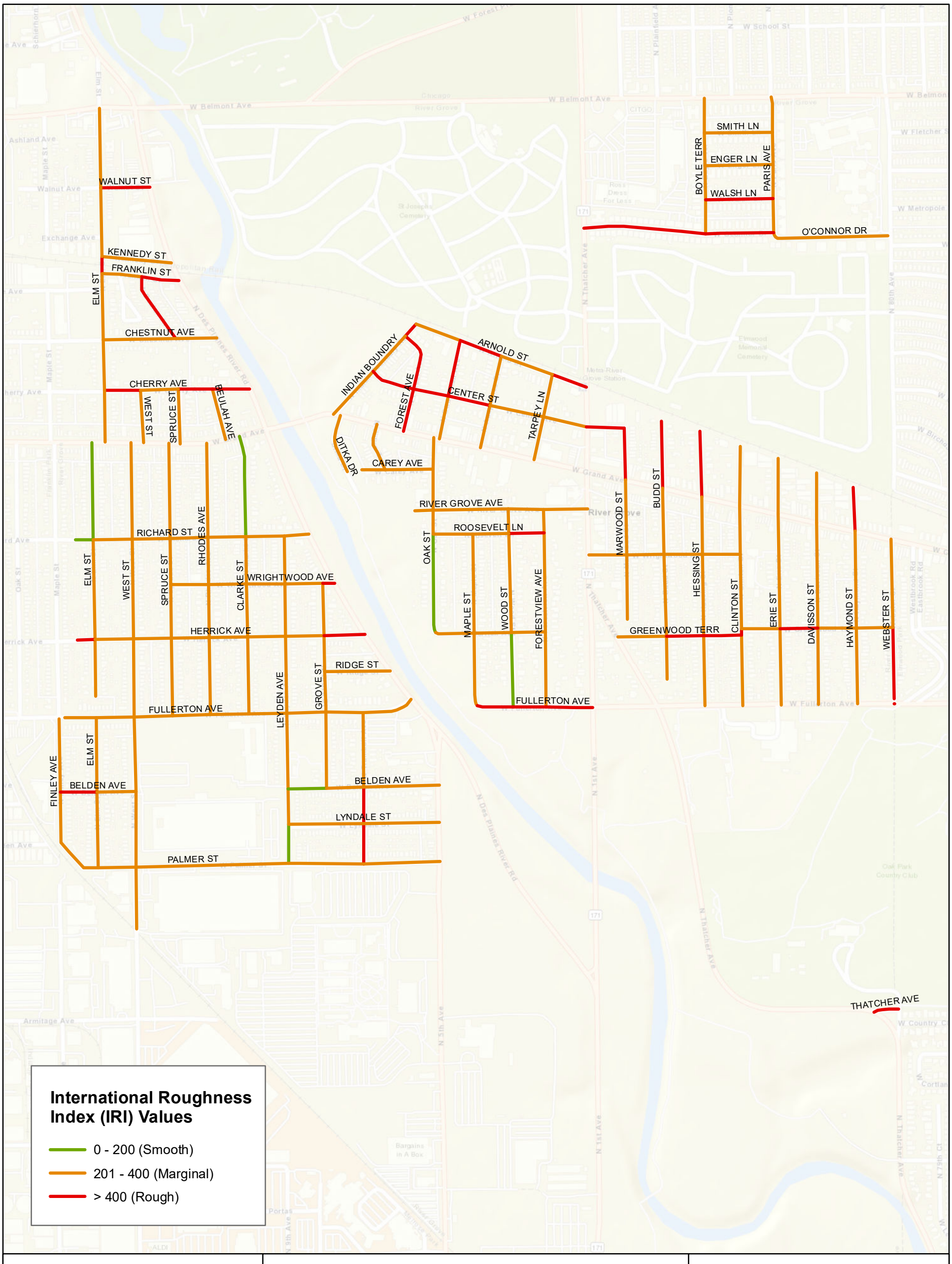

0 750 1,500 Feet

Map A-4:
International Roughness Index (IRI) Values

River Grove, Illinois

Pavement Management Program

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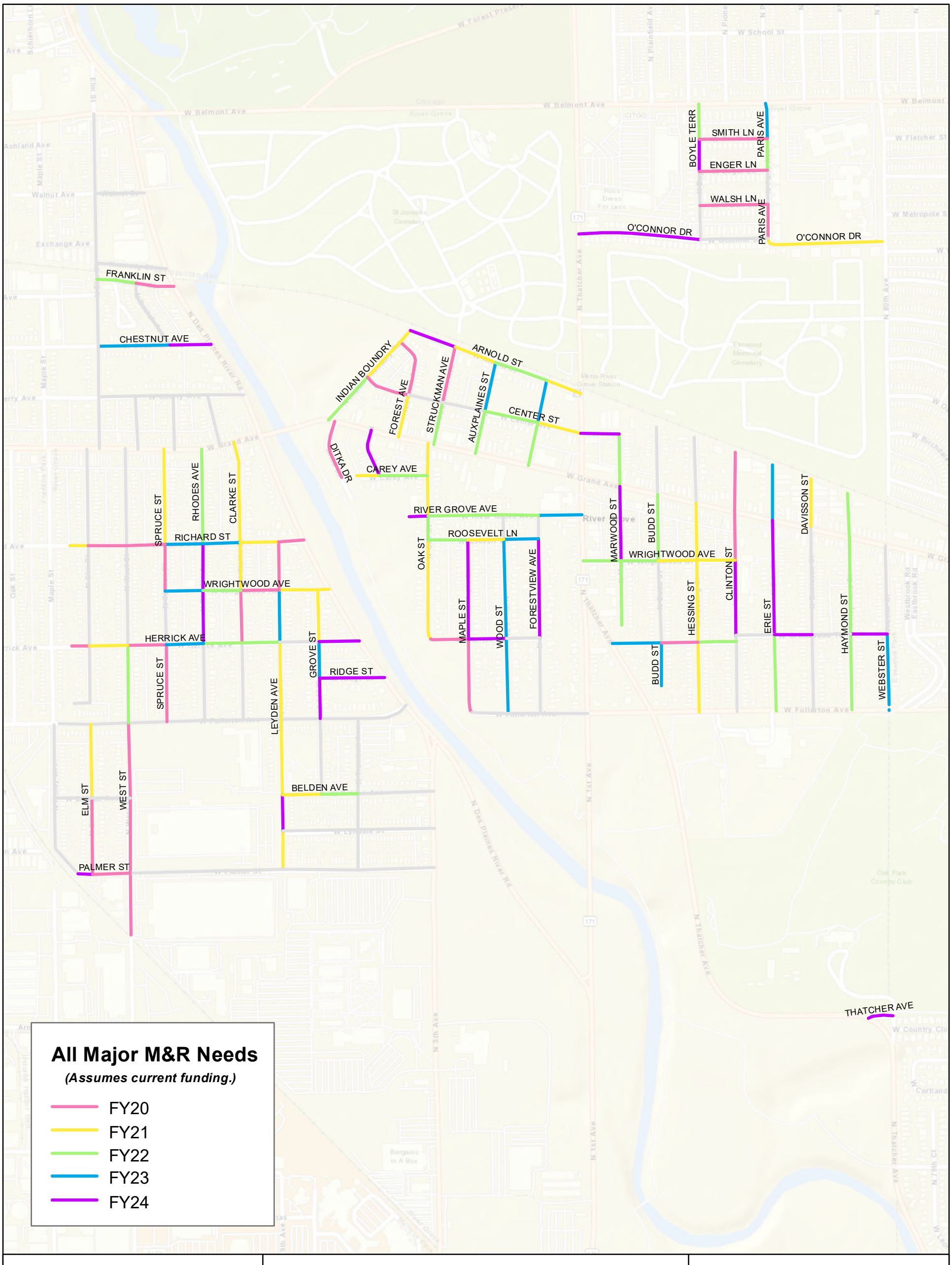

Map A-5:
All Major M&R Needs
(Assumes current funding.)

River Grove, Illinois

Pavement Management Program

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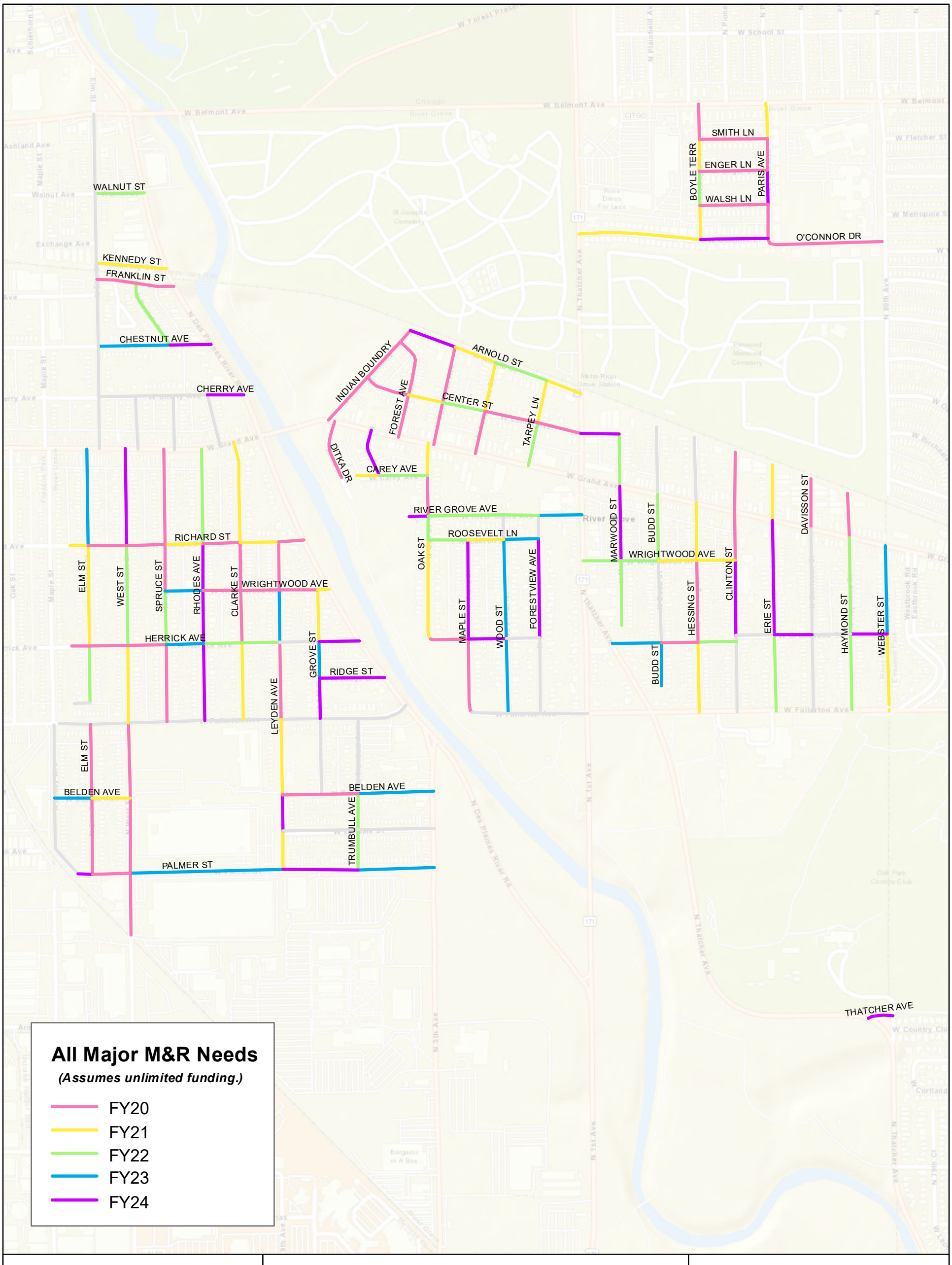

0 750 1,500 Feet

Map A-6:
All Major M&R Needs
(Assumes unlimited funding.)

River Grove, Illinois

Pavement Management Program

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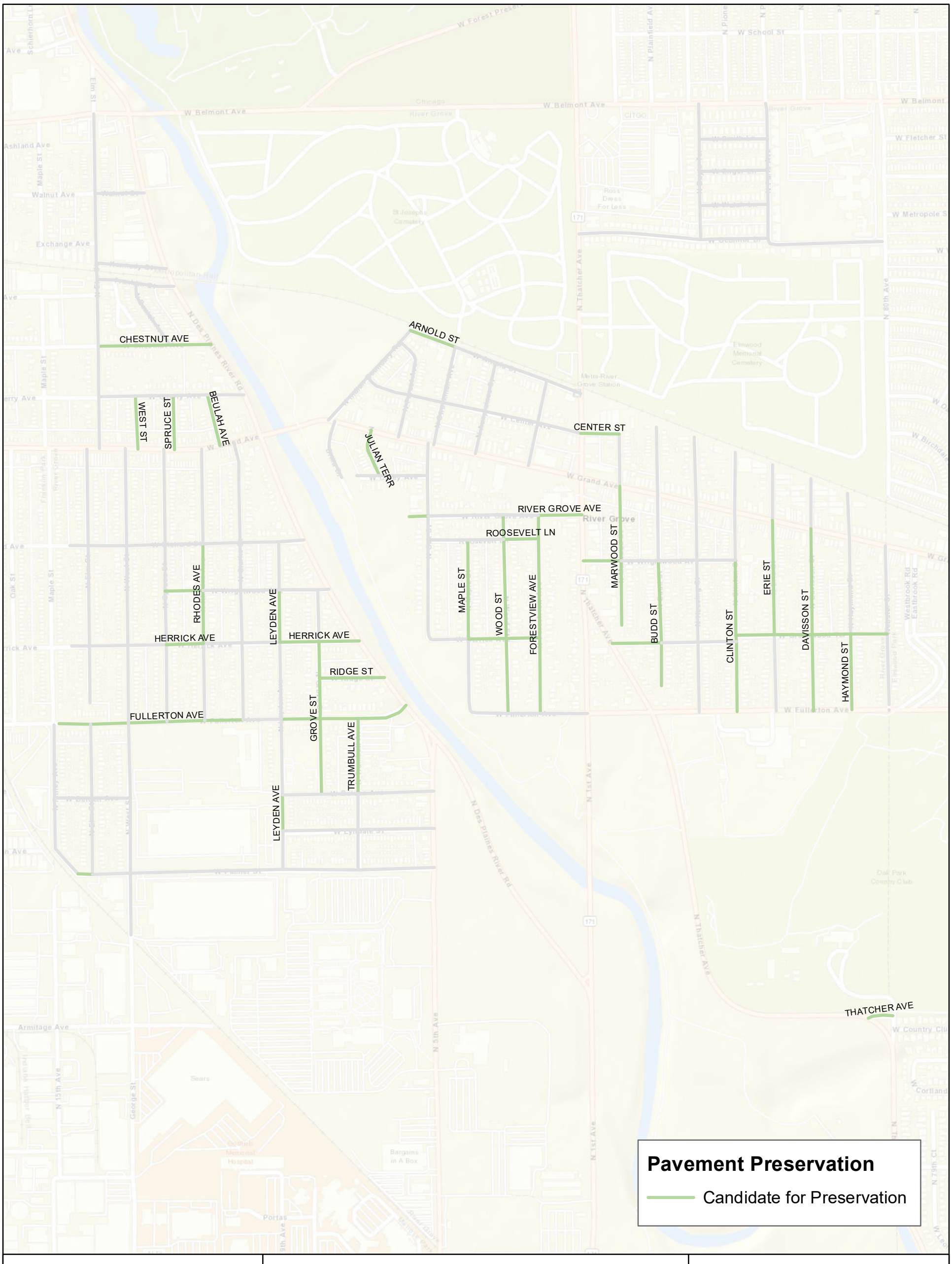

N

0 750 1,500 Feet

Map A-7:
Pavement Preservation Candidates

River Grove, Illinois

Pavement Management Program

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APPENDIX B – TABULATED FIVE-YEAR MAJOR M&R RECOMMENDATIONS AND ESTIMATED COSTS – *ASSUMING CURRENT FUNDING*

Pavement ID	Road Name	From	To	Area	PCI	Year	Cost
RRGV::CLNTN ST::30	CLINTON STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	11,011	54	2020	$13,090
RRGV::CLNTN ST::40	CLINTON STREET	GRAND AVENUE	END	13,457	52	2020	$18,635
RRGV::CLRK ST::20	CLARKE STREET	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,976	52	2020	$16,585
RRGV::CNTR ST::10	CENTER STREET	INDIAN BOUNDRY	FOREST AVENUE	10,377	52	2020	$14,370
RRGV::DTK DR::10	DITKA DRIVE	GRAND AVENUE	END	13,592	52	2020	$17,945
RRGV::ELM ST::10	ELM STREET	PALMER STREET	BELDEN AVENUE	17,310	52	2020	$23,971
RRGV::ENGR LA::10	ENGER LANE	BOYLE TERRACE	PARIS AVENUE	15,455	53	2020	$19,395
RRGV::FRKL ST::20	FRANKLIN STREET	BEULAH AVENUE	DES PLAINES RIVER ROAD	8,634	52	2020	$11,399
RRGV::FRST AVE::20	FOREST AVENUE	CENTER STREET	ARNOLD STREET	13,642	54	2020	$16,218
RRGV::GRNWD TERR::20	GREENWOOD TERRACE	BUDD STREET	HESSING STREET	8,445	53	2020	$10,598
RRGV::HRRCK AVE::10	HERRICK AVENUE	START	ELM STREET	3,960	54	2020	$4,708
RRGV::HRRCK AVE::30	HERRICK AVENUE	WEST STREET	SPRUCE STREET	8,697	53	2020	$10,914
RRGV::HRRCK AVE::90	HERRICK AVENUE	OAK STREET	MAPLE STREET	8,796	54	2020	$10,457
RRGV::LYDN AVE::60	LEYDEN AVENUE	WRIGHTWOOD AVENUE	RICHARD STREET	10,952	53	2020	$13,744
RRGV::MPL ST::10	MAPLE STREET	FULLERTON AVENUE	HERRICK AVENUE	16,654	52	2020	$23,063
RRGV::PLMR ST::20	PALMER STREET	ELM STREET	WEST STREET	8,600	52	2020	$11,909
RRGV::PRS AV::10	PARIS AVENUE	O'CONNOR DRIVE	WALSH LANE	7,662	52	2020	$10,115
RRGV::RCHRD ST::20	RICHARD STREET	ELM STREET	WEST STREET	8,837	53	2020	$11,089
RRGV::RCHRD ST::30	RICHARD STREET	WEST STREET	SPRUCE STREET	8,627	52	2020	$11,947
RRGV::RCHRD ST::70	RICHARD STREET	LEYDEN AVENUE	DES PLAINES RIVER ROAD	5,684	52	2020	$7,871
RRGV::SMTH LA::10	SMITH LANE	BOYLE TERRACE	PARIS AVENUE	15,465	53	2020	$19,408
RRGV::SPRC ST::10	SPRUCE STREET	FULLERTON AVENUE	HERRICK AVENUE	17,610	52	2020	$24,386
RRGV::SPRC ST::30	SPRUCE STREET	WRIGHTWOOD AVENUE	RICHARD STREET	10,539	52	2020	$14,595
RRGV::STRKMN AVE::20	STRUCKMAN AVENUE	CENTER STREET	ARNOLD STREET	12,934	54	2020	$15,377
RRGV::WLSH LA::10	WALSH LANE	BOYLE TERRACE	PARIS AVENUE	15,445	52	2020	$21,387
RRGV::WRHTWD AVE::30	WRIGHTWOOD AVENUE	CLARKE STREET	LEYDEN AVENUE	8,687	52	2020	$11,469
RRGV::WST ST::10	WEST STREET	START	PALMER STREET	16,186	20	2020	$121,737
RRGV::WST ST::20	WEST STREET	PALMER STREET	BELDEN AVENUE	17,114	44	2020	$40,177
RRGV::WST ST::30	WEST STREET	BELDEN AVENUE	FULLERTON AVENUE	17,006	26	2020	$102,205
RRGV::BLDN AVE::30	BELDEN AVENUE	LEYDEN AVENUE	GROVE STREET	8,848	44	2021	$21,380
RRGV::CLRK ST::30	CLARKE STREET	WRIGHTWOOD AVENUE	RICHARD STREET	10,813	47	2021	$22,322
RRGV::CLRK ST::40	CLARKE STREET	RICHARD STREET	GRAND AVENUE	22,984	53	2021	$30,206
RRGV::CNNR DR::30	O'CONNOR DRIVE	PARIS AVENUE	80TH AVENUE	26,739	44	2021	$64,614
RRGV::CNTR ST::50	CENTER STREET	PARK AVENUE	1ST AVE	10,057	49	2021	$17,701
RRGV::CRY AVE::10	CAREY AVENUE	JULIAN TERRACE	END	5,190	53	2021	$6,821
RRGV::DVSSN ST::30	DAVISSON STREET	GRAND AVENUE	END	11,359	45	2021	$25,553
RRGV::ELM ST::20	ELM STREET	BELDEN AVENUE	FULLERTON AVENUE	16,841	48	2021	$31,409
RRGV::FRST AVE::10	FOREST AVENUE	GRAND AVENUE	CENTER STREET	9,911	48	2021	$18,485
RRGV::GRV ST::40	GROVE STREET	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,795	52	2021	$16,204
RRGV::HRRCK AVE::20	HERRICK AVENUE	ELM STREET	WEST STREET	8,756	49	2021	$15,412
RRGV::HSSNG ST::10	HESSING STREET	FULLERTON AVENUE	GREENWOOD TERRACE	15,912	52	2021	$21,859
RRGV::HSSNG ST::20	HESSING STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	18,549	44	2021	$46,283
RRGV::HSSNG ST::30	HESSING STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	13,013	52	2021	$17,877
RRGV::INDN BNDR::20	INDIAN BOUNDRY	CENTER STREET	FOREST AVENUE	10,920	45	2021	$25,510
RRGV::INDN BNDR::30	INDIAN BOUNDRY	FOREST AVENUE	ARNOLD STREET	3,495	47	2021	$6,874
RRGV::LYDN AVE::10	LEYDEN AVENUE	PALMER STREET	LYNDALE STREET	8,804	52	2021	$12,095
RRGV::LYDN AVE::30	LEYDEN AVENUE	BELDEN AVENUE	FULLERTON AVENUE	17,122	55	2021	$20,437
RRGV::LYDN AVE::40	LEYDEN AVENUE	FULLERTON AVENUE	HERRICK AVENUE	17,550	46	2021	$37,910
RRGV::OK ST::10	OAK STREET	HERRICK AVENUE	ROOSEVELT LANE	22,502	54	2021	$28,233
RRGV::OK ST::30	OAK STREET	RIVER GROVE AVENUE	CAREY AVENUE	9,300	49	2021	$16,369
RRGV::OK ST::40	OAK STREET	CAREY AVENUE	GRAND AVENUE	7,231	53	2021	$9,503
RRGV::RCHRD ST::10	RICHARD STREET	START	ELM STREET	4,053	54	2021	$5,085
RRGV::RCHRD ST::60	RICHARD STREET	CLARKE STREET	LEYDEN AVENUE	8,734	55	2021	$10,424
RRGV::RNLD ST::20	ARNOLD STREET	STRUCKMAN AVENUE	AUXPLAINES STREET	9,893	54	2021	$12,412
RRGV::RNLD ST::40	ARNOLD STREET	PARK AVENUE	1ST AVE	8,296	54	2021	$10,409
RRGV::RSVLT LN::20	ROOSEVELT LANE	MAPLE STREET	WOOD STREET	8,190	52	2021	$11,252
RRGV::SPRC ST::40	SPRUCE STREET	RICHARD STREET	GRAND AVENUE	21,676	48	2021	$40,427
RRGV::WRHTWD AVE::40	WRIGHTWOOD AVENUE	LEYDEN AVENUE	GROVE STREET	8,711	47	2021	$17,982
RRGV::WRHTWD AVE::50	WRIGHTWOOD AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	2,650	54	2021	$3,325
RRGV::WRHTWD AVE::80	WRIGHTWOOD AVENUE	BUDD STREET	HESSING STREET	8,730	53	2021	$11,474

Pavement ID	Road Name	From	To	Area	PCI	Year	Cost
RRGV::WRHTWD AVE::90	WRIGHTWOOD AVENUE	HESSING STREET	CLINTON STREET	8,658	53	2021	$11,378
RRGV::AXPLN ST::10	AUXPLAINES STREET	GRAND AVENUE	CENTER STREET	9,903	40	2022	$31,137
RRGV::BDD ST::30	BUDD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	15,050	54	2022	$19,293
RRGV::BLDN AVE::40	BELDEN AVENUE	GROVE STREET	TRUMBULL AVENUE	8,382	43	2022	$22,944
RRGV::BYL TERR::40	BOYLE TERRACE	SMITH LANE	BELMONT AVENUE	7,947	43	2022	$21,752
RRGV::CNTR ST::40	CENTER STREET	AUXPLAINES STREET	PARK AVENUE	12,393	44	2022	$31,850
RRGV::CRY AVE::20	CAREY AVENUE	OAK STREET	JULIAN TERRACE	10,985	53	2022	$14,695
RRGV::ER ST::10	ERIE STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,358	53	2022	$23,220
RRGV::FRKL ST::10	FRANKLIN STREET	ELM STREET	BEULAH AVENUE	8,950	43	2022	$24,498
RRGV::GRNWD TERR::30	GREENWOOD TERRACE	HESSING STREET	CLINTON STREET	8,634	53	2022	$11,550
RRGV::HRRCK AVE::50	HERRICK AVENUE	RHODES AVENUE	CLARKE STREET	8,673	53	2022	$11,602
RRGV::HRRCK AVE::60	HERRICK AVENUE	CLARKE STREET	LEYDEN AVENUE	8,636	52	2022	$12,034
RRGV::HYMND ST::10	HAYMOND STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,174	55	2022	$21,018
RRGV::HYMND ST::20	HAYMOND STREET	GREENWOOD TERRACE	GRAND AVENUE	22,021	54	2022	$28,230
RRGV::HYMND ST::30	HAYMOND STREET	GRAND AVENUE	END	10,004	43	2022	$27,383
RRGV::INDN BNDR::10	INDIAN BOUNDRY	GRAND AVENUE	CENTER STREET	13,249	43	2022	$34,852
RRGV::MRWD ST::10	MARWOOD STREET	WRIGHTWOOD AVENUE	END	14,623	55	2022	$17,896
RRGV::MRWD ST::30	MARWOOD STREET	GRAND AVENUE	CENTER STREET	11,810	52	2022	$16,457
RRGV::OK ST::20	OAK STREET	ROOSEVELT LANE	RIVER GROVE AVENUE	5,428	53	2022	$7,261
RRGV::PRS AV::30	PARIS AVENUE	ENGER LANE	SMITH LANE	7,271	40	2022	$22,864
RRGV::RHDS AVE::40	RHODES AVENUE	RICHARD STREET	GRAND AVENUE	21,451	54	2022	$27,499
RRGV::RNLD ST::30	ARNOLD STREET	AUXPLAINES STREET	PARK AVENUE	12,336	54	2022	$15,814
RRGV::RSVLT LN::10	ROOSEVELT LANE	OAK STREET	MAPLE STREET	9,011	52	2022	$12,556
RRGV::RVR GV AVE::20	RIVER GROVE AVENUE	OAK STREET	WOOD STREET	17,080	52	2022	$23,800
RRGV::RVR GV AVE::30	RIVER GROVE AVENUE	WOOD STREET	FORESTVIEW AVENUE	8,012	53	2022	$10,717
RRGV::STRKMN AVE::10	STRUCKMAN AVENUE	GRAND AVENUE	CENTER STREET	9,906	43	2022	$26,058
RRGV::TRPY LN::10	TARPEY LANE	GRAND AVENUE	CENTER STREET	10,016	53	2022	$13,398
RRGV::WRHTWD AVE::20	WRIGHTWOOD AVENUE	RHODES AVENUE	CLARKE STREET	8,608	44	2022	$22,124
RRGV::WRHTWD AVE::60	WRIGHTWOOD AVENUE	1ST AVE	MARWOOD STREET	8,589	55	2022	$10,512
RRGV::WRHTWD AVE::70	WRIGHTWOOD AVENUE	MARWOOD STREET	BUDD STREET	8,549	54	2022	$10,960
RRGV::WST ST::40	WEST STREET	FULLERTON AVENUE	HERRICK AVENUE	17,722	37	2022	$68,660
RRGV::AXPLN ST::20	AUXPLAINES STREET	CENTER STREET	ARNOLD STREET	11,352	29	2023	$65,247
RRGV::BDD ST::10	BUDD STREET	GREENWOOD TERRACE	END	9,764	53	2023	$14,006
RRGV::CHSTNT AVE::10	CHESTNUT AVENUE	ELM STREET	BEULAH AVENUE	16,389	54	2023	$21,762
RRGV::ER ST::30	ERIE STREET	GRAND AVENUE	END	12,644	29	2023	$72,674
RRGV::GRNWD TERR::10	GREENWOOD TERRACE	THATCHER AVENUE	BUDD STREET	11,084	54	2023	$14,099
RRGV::GRV ST::30	GROVE STREET	RIDGE STREET	HERRICK AVENUE	8,295	53	2023	$11,464
RRGV::HRRCK AVE::40	HERRICK AVENUE	SPRUCE STREET	RHODES AVENUE	8,591	53	2023	$11,872
RRGV::LYDN AVE::50	LEYDEN AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,886	53	2023	$17,050
RRGV::PRS AV::40	PARIS AVENUE	SMITH LANE	BELMONT AVENUE	8,071	23	2023	$60,633
RRGV::RCHRD ST::40	RICHARD STREET	SPRUCE STREET	RHODES AVENUE	8,609	21	2023	$69,191
RRGV::RCHRD ST::50	RICHARD STREET	RHODES AVENUE	CLARKE STREET	8,550	33	2023	$40,736
RRGV::RSVLT LN::30	ROOSEVELT LANE	WOOD STREET	FORESTVIEW AVENUE	7,932	53	2023	$10,962
RRGV::RVR GV AVE::40	RIVER GROVE AVENUE	FORESTVIEW AVENUE	1ST AVE	10,006	54	2023	$13,286
RRGV::TRPY LN::20	TARPEY LANE	CENTER STREET	ARNOLD STREET	9,809	33	2023	$46,732
RRGV::WBSTR ST::10	WEBSTER STREET	FULLERTON AVENUE	GREENWOOD TERRACE	12,491	29	2023	$71,798
RRGV::WD ST::10	WOOD STREET	FULLERTON AVENUE	HERRICK AVENUE	16,981	53	2023	$23,467
RRGV::WD ST::20	WOOD STREET	HERRICK AVENUE	ROOSEVELT LANE	22,525	54	2023	$28,653
RRGV::WRHTWD AVE::10	WRIGHTWOOD AVENUE	SPRUCE STREET	RHODES AVENUE	8,600	54	2023	$11,419
RRGV::BYL TERR::30	BOYLE TERRACE	ENGER LANE	SMITH LANE	7,383	13	2024	$68,227
RRGV::CHSTNT AVE::20	CHESTNUT AVENUE	BEULAH AVENUE	DES PLAINES RIVER ROAD	9,299	53	2024	$13,393
RRGV::CLNTN ST::20	CLINTON STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	17,003	54	2024	$23,599
RRGV::CNNR DR::10	O'CONNOR DRIVE	THATCHER AVENUE	BOYLE TERRACE	27,760	20	2024	$232,301
RRGV::CNTR ST::60	CENTER STREET	1ST AVE	MARWOOD STREET	8,631	55	2024	$11,031
RRGV::ER ST::20	ERIE STREET	GREENWOOD TERRACE	GRAND AVENUE	26,025	52	2024	$38,826
RRGV::FRSTVW AVE::20	FORESTVIEW AVENUE	HERRICK AVENUE	ROOSEVELT LANE	22,501	54	2024	$30,013
RRGV::GRNWD TERR::50	GREENWOOD TERRACE	ERIE STREET	DAVISSON STREET	8,559	54	2024	$11,880
RRGV::GRNWD TERR::70	GREENWOOD TERRACE	HAYMOND STREET	WEBSTER STREET	8,308	55	2024	$10,618
RRGV::GRV ST::20	GROVE STREET	FULLERTON AVENUE	RIDGE STREET	9,148	52	2024	$13,648
RRGV::HRRCK AVE::100	HERRICK AVENUE	MAPLE STREET	WOOD STREET	8,508	54	2024	$11,349

Pavement ID	Road Name	From	To	Area	PCI	Year	Cost
RRGV::HRRCK AVE::80	HERRICK AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	9,274	55	2024	$11,854
RRGV::JLN TER::10	JULIAN TERRACE	CAREY AVENUE	GRAND AVENUE	10,934	53	2024	$15,749
RRGV::LYDN AVE::20	LEYDEN AVENUE	LYNDALE STREET	BELDEN AVENUE	8,165	53	2024	$11,760
RRGV::MPL ST::20	MAPLE STREET	HERRICK AVENUE	ROOSEVELT LANE	22,551	53	2024	$32,480
RRGV::MRWD ST::20	MARWOOD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	16,986	54	2024	$23,575
RRGV::PLMR ST::10	PALMER STREET	ELM STREET	FINLEY AVENUE	3,275	52	2024	$4,887
RRGV::RDG ST::10	RIDGE STREET	GROVE STREET	DES PLAINES RIVER ROAD	14,801	55	2024	$18,916
RRGV::RHDS AVE::20	RHODES AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	12,066	52	2024	$18,001
RRGV::RHDS AVE::30	RHODES AVENUE	WRIGHTWOOD AVENUE	RICHARD STREET	10,677	54	2024	$14,241
RRGV::RNLD ST::10	ARNOLD STREET	INDIAN BOUNDRY	STRUCKMAN AVENUE	10,783	52	2024	$16,087
RRGV::RVR GV AVE::10	RIVER GROVE AVENUE	OAK STREET	END	4,279	54	2024	$5,707
RRGV::THTCHR AVE::10	THATCHER AVENUE	THATCHER AVENUE	END	5,719	54	2024	$7,628

APPENDIX C – TABULATED FIVE-YEAR MAJOR M&R RECOMMENDATIONS AND ESTIMATED COSTS – *ASSUMING UNLIMITED FUNDING*

Pavement ID	Road Name	From	To	Area	PCI	Year	Cost
RRGV::AXPLN ST::10	AUXPLAINES STREET	GRAND AVENUE	CENTER STREET	9,903	42	2020	$26,024
RRGV::BLDN AVE::30	BELDEN AVENUE	LEYDEN AVENUE	GROVE STREET	8,848	45	2020	$19,816
RRGV::BLDN AVE::40	BELDEN AVENUE	GROVE STREET	TRUMBULL AVENUE	8,382	44	2020	$20,596
RRGV::BYL TERR::40	BOYLE TERRACE	SMITH LANE	BELMONT AVENUE	7,947	44	2020	$19,526
RRGV::CLNTN ST::30	CLINTON STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	11,011	54	2020	$13,090
RRGV::CLNTN ST::40	CLINTON STREET	GRAND AVENUE	END	13,457	52	2020	$18,635
RRGV::CLRK ST::20	CLARKE STREET	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,976	52	2020	$16,585
RRGV::CLRK ST::30	CLARKE STREET	WRIGHTWOOD AVENUE	RICHARD STREET	10,813	48	2020	$19,159
RRGV::CNNR DR::30	O'CONNOR DRIVE	PARIS AVENUE	80TH AVENUE	26,739	45	2020	$59,885
RRGV::CNTR ST::10	CENTER STREET	INDIAN BOUNDRY	FOREST AVENUE	10,377	52	2020	$14,370
RRGV::CNTR ST::40	CENTER STREET	AUXPLAINES STREET	PARK AVENUE	12,393	45	2020	$27,755
RRGV::CNTR ST::50	CENTER STREET	PARK AVENUE	1ST AVE	10,057	51	2020	$14,568
RRGV::DTK DR::10	DITKA DRIVE	GRAND AVENUE	END	13,592	52	2020	$17,945
RRGV::DVSSN ST::30	DAVISSON STREET	GRAND AVENUE	END	11,359	47	2020	$22,850
RRGV::ELM ST::10	ELM STREET	PALMER STREET	BELDEN AVENUE	17,310	52	2020	$23,971
RRGV::ELM ST::20	ELM STREET	BELDEN AVENUE	FULLERTON AVENUE	16,841	50	2020	$25,646
RRGV::ENGR LA::10	ENGER LANE	BOYLE TERRACE	PARIS AVENUE	15,455	53	2020	$19,395
RRGV::FRKL ST::10	FRANKLIN STREET	ELM STREET	BEULAH AVENUE	8,950	44	2020	$21,991
RRGV::FRKL ST::20	FRANKLIN STREET	BEULAH AVENUE	DES PLAINES RIVER ROAD	8,634	52	2020	$11,399
RRGV::FRST AVE::10	FOREST AVENUE	GRAND AVENUE	CENTER STREET	9,911	50	2020	$15,093
RRGV::FRST AVE::20	FOREST AVENUE	CENTER STREET	ARNOLD STREET	13,642	54	2020	$16,218
RRGV::GRNWD TERR::20	GREENWOOD TERRACE	BUDD STREET	HESSING STREET	8,445	53	2020	$10,598
RRGV::HRRCK AVE::10	HERRICK AVENUE	START	ELM STREET	3,960	54	2020	$4,708
RRGV::HRRCK AVE::20	HERRICK AVENUE	ELM STREET	WEST STREET	8,756	51	2020	$12,684
RRGV::HRRCK AVE::30	HERRICK AVENUE	WEST STREET	SPRUCE STREET	8,697	53	2020	$10,914
RRGV::HRRCK AVE::90	HERRICK AVENUE	OAK STREET	MAPLE STREET	8,796	54	2020	$10,457
RRGV::HSSNG ST::20	HESSING STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	18,549	44	2020	$43,545
RRGV::HYMND ST::30	HAYMOND STREET	GRAND AVENUE	END	10,004	44	2020	$24,581
RRGV::INDN BNDR::10	INDIAN BOUNDRY	GRAND AVENUE	CENTER STREET	13,249	44	2020	$31,103
RRGV::INDN BNDR::20	INDIAN BOUNDRY	CENTER STREET	FOREST AVENUE	10,920	46	2020	$23,228
RRGV::INDN BNDR::30	INDIAN BOUNDRY	FOREST AVENUE	ARNOLD STREET	3,495	49	2020	$5,762
RRGV::LYDN AVE::40	LEYDEN AVENUE	FULLERTON AVENUE	HERRICK AVENUE	17,550	47	2020	$33,227
RRGV::LYDN AVE::60	LEYDEN AVENUE	WRIGHTWOOD AVENUE	RICHARD STREET	10,952	53	2020	$13,744
RRGV::MPL ST::10	MAPLE STREET	FULLERTON AVENUE	HERRICK AVENUE	16,654	52	2020	$23,063
RRGV::OK ST::30	OAK STREET	RIVER GROVE AVENUE	CAREY AVENUE	9,300	51	2020	$13,472
RRGV::PLMR ST::20	PALMER STREET	ELM STREET	WEST STREET	8,600	52	2020	$11,909
RRGV::PRS AV::10	PARIS AVENUE	O'CONNOR DRIVE	WALSH LANE	7,662	52	2020	$10,115
RRGV::PRS AV::30	PARIS AVENUE	ENGER LANE	SMITH LANE	7,271	42	2020	$19,109
RRGV::RCHRD ST::20	RICHARD STREET	ELM STREET	WEST STREET	8,837	53	2020	$11,089
RRGV::RCHRD ST::30	RICHARD STREET	WEST STREET	SPRUCE STREET	8,627	52	2020	$11,947
RRGV::RCHRD ST::50	RICHARD STREET	RHODES AVENUE	CLARKE STREET	8,550	41	2020	$24,419
RRGV::RCHRD ST::70	RICHARD STREET	LEYDEN AVENUE	DES PLAINES RIVER ROAD	5,684	52	2020	$7,871
RRGV::SMTH LA::10	SMITH LANE	BOYLE TERRACE	PARIS AVENUE	15,465	53	2020	$19,408
RRGV::SPRC ST::10	SPRUCE STREET	FULLERTON AVENUE	HERRICK AVENUE	17,610	52	2020	$24,386
RRGV::SPRC ST::30	SPRUCE STREET	WRIGHTWOOD AVENUE	RICHARD STREET	10,539	52	2020	$14,595
RRGV::SPRC ST::40	SPRUCE STREET	RICHARD STREET	GRAND AVENUE	21,676	50	2020	$33,009
RRGV::STRKMN AVE::10	STRUCKMAN AVENUE	GRAND AVENUE	CENTER STREET	9,906	44	2020	$23,255
RRGV::STRKMN AVE::20	STRUCKMAN AVENUE	CENTER STREET	ARNOLD STREET	12,934	54	2020	$15,377
RRGV::WLSH LA::10	WALSH LANE	BOYLE TERRACE	PARIS AVENUE	15,445	52	2020	$21,387
RRGV::WRHTWD AVE::20	WRIGHTWOOD AVENUE	RHODES AVENUE	CLARKE STREET	8,608	45	2020	$19,279
RRGV::WRHTWD AVE::30	WRIGHTWOOD AVENUE	CLARKE STREET	LEYDEN AVENUE	8,687	52	2020	$11,469
RRGV::WRHTWD AVE::40	WRIGHTWOOD AVENUE	LEYDEN AVENUE	GROVE STREET	8,711	48	2020	$15,434
RRGV::WST ST::10	WEST STREET	START	PALMER STREET	16,186	20	2020	$121,737
RRGV::WST ST::20	WEST STREET	PALMER STREET	BELDEN AVENUE	17,114	44	2020	$40,177
RRGV::WST ST::30	WEST STREET	BELDEN AVENUE	FULLERTON AVENUE	17,006	26	2020	$102,205
RRGV::AXPLN ST::20	AUXPLAINES STREET	CENTER STREET	ARNOLD STREET	11,352	37	2021	$41,950
RRGV::BLDN AVE::20	BELDEN AVENUE	ELM STREET	WEST STREET	8,783	20	2021	$67,950
RRGV::BYL TERR::10	BOYLE TERRACE	O'CONNOR DRIVE	WALSH LANE	7,703	22	2021	$55,957
RRGV::BYL TERR::30	BOYLE TERRACE	ENGER LANE	SMITH LANE	7,383	27	2021	$42,794
RRGV::CLRK ST::10	CLARKE STREET	FULLERTON AVENUE	HERRICK AVENUE	17,479	24	2021	$117,111

Pavement ID	Road Name	From	To	Area	PCI	Year	Cost
RRGV::CLRK ST::40	CLARKE STREET	RICHARD STREET	GRAND AVENUE	22,984	53	2021	$30,206
RRGV::CNNR DR::10	O'CONNOR DRIVE	THATCHER AVENUE	BOYLE TERRACE	27,760	35	2021	$114,369
RRGV::CNTR ST::20	CENTER STREET	FOREST AVENUE	STRUCKMAN AVENUE	8,058	29	2021	$42,974
RRGV::CRY AVE::10	CAREY AVENUE	JULIAN TERRACE	END	5,190	53	2021	$6,821
RRGV::ELM ST::40	ELM STREET	HERRICK AVENUE	RICHARD STREET	22,738	24	2021	$152,349
RRGV::ER ST::30	ERIE STREET	GRAND AVENUE	END	12,644	37	2021	$46,725
RRGV::GRV ST::40	GROVE STREET	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,795	52	2021	$16,204
RRGV::HSSNG ST::10	HESSING STREET	FULLERTON AVENUE	GREENWOOD TERRACE	15,912	52	2021	$21,859
RRGV::HSSNG ST::30	HESSING STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	13,013	52	2021	$17,877
RRGV::KNNDY ST::10	KENNEDY STREET	ELM STREET	DES PLAINES RIVER ROAD	15,907	22	2021	$115,549
RRGV::LYDN AVE::10	LEYDEN AVENUE	PALMER STREET	LYNDALE STREET	8,804	52	2021	$12,095
RRGV::LYDN AVE::30	LEYDEN AVENUE	BELDEN AVENUE	FULLERTON AVENUE	17,122	55	2021	$20,437
RRGV::OK ST::10	OAK STREET	HERRICK AVENUE	ROOSEVELT LANE	22,502	54	2021	$28,233
RRGV::OK ST::40	OAK STREET	CAREY AVENUE	GRAND AVENUE	7,231	53	2021	$9,503
RRGV::PRS AV::40	PARIS AVENUE	SMITH LANE	BELMONT AVENUE	8,071	33	2021	$36,511
RRGV::RCHRD ST::10	RICHARD STREET	START	ELM STREET	4,053	54	2021	$5,085
RRGV::RCHRD ST::40	RICHARD STREET	SPRUCE STREET	RHODES AVENUE	8,609	31	2021	$42,314
RRGV::RCHRD ST::60	RICHARD STREET	CLARKE STREET	LEYDEN AVENUE	8,734	55	2021	$10,424
RRGV::RNLD ST::20	ARNOLD STREET	STRUCKMAN AVENUE	AUXPLAINES STREET	9,893	54	2021	$12,412
RRGV::RNLD ST::40	ARNOLD STREET	PARK AVENUE	1ST AVE	8,296	54	2021	$10,409
RRGV::RSVLT LN::20	ROOSEVELT LANE	MAPLE STREET	WOOD STREET	8,190	52	2021	$11,252
RRGV::TRPY LN::20	TARPEY LANE	CENTER STREET	ARNOLD STREET	9,809	39	2021	$31,823
RRGV::WBSTR ST::10	WEBSTER STREET	FULLERTON AVENUE	GREENWOOD TERRACE	12,491	37	2021	$46,162
RRGV::WRHTWD AVE::50	WRIGHTWOOD AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	2,650	54	2021	$3,325
RRGV::WRHTWD AVE::80	WRIGHTWOOD AVENUE	BUDD STREET	HESSING STREET	8,730	53	2021	$11,474
RRGV::WRHTWD AVE::90	WRIGHTWOOD AVENUE	HESSING STREET	CLINTON STREET	8,658	53	2021	$11,378
RRGV::WST ST::40	WEST STREET	FULLERTON AVENUE	HERRICK AVENUE	17,722	39	2021	$57,496
RRGV::BDD ST::30	BUDD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	15,050	54	2022	$19,293
RRGV::BLH AVE::20	BEULAH AVENUE	CHESTNUT AVENUE	FRANKLIN STREET	16,478	14	2022	$140,737
RRGV::BYL TERR::20	BOYLE TERRACE	WALSH LANE	ENGER LANE	7,762	9	2022	$69,988
RRGV::CNTR ST::30	CENTER STREET	STRUCKMAN AVENUE	AUXPLAINES STREET	9,711	13	2022	$84,598
RRGV::CRY AVE::20	CAREY AVENUE	OAK STREET	JULIAN TERRACE	10,985	53	2022	$14,695
RRGV::ELM ST::30	ELM STREET	PACIFIC AVENUE	HERRICK AVENUE	12,922	14	2022	$110,373
RRGV::ER ST::10	ERIE STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,358	53	2022	$23,220
RRGV::GRNWD TERR::30	GREENWOOD TERRACE	HESSING STREET	CLINTON STREET	8,634	53	2022	$11,550
RRGV::HRRCK AVE::50	HERRICK AVENUE	RHODES AVENUE	CLARKE STREET	8,673	53	2022	$11,602
RRGV::HRRCK AVE::60	HERRICK AVENUE	CLARKE STREET	LEYDEN AVENUE	8,636	52	2022	$12,034
RRGV::HYMND ST::10	HAYMOND STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,174	55	2022	$21,018
RRGV::HYMND ST::20	HAYMOND STREET	GREENWOOD TERRACE	GRAND AVENUE	22,021	54	2022	$28,230
RRGV::MRWD ST::10	MARWOOD STREET	WRIGHTWOOD AVENUE	END	14,623	55	2022	$17,896
RRGV::MRWD ST::30	MARWOOD STREET	GRAND AVENUE	CENTER STREET	11,810	52	2022	$16,457
RRGV::OK ST::20	OAK STREET	ROOSEVELT LANE	RIVER GROVE AVENUE	5,428	53	2022	$7,261
RRGV::RHDS AVE::40	RHODES AVENUE	RICHARD STREET	GRAND AVENUE	21,451	54	2022	$27,499
RRGV::RNLD ST::30	ARNOLD STREET	AUXPLAINES STREET	PARK AVENUE	12,336	54	2022	$15,814
RRGV::RSVLT LN::10	ROOSEVELT LANE	OAK STREET	MAPLE STREET	9,011	52	2022	$12,556
RRGV::RVR GV AVE::20	RIVER GROVE AVENUE	OAK STREET	WOOD STREET	17,080	52	2022	$23,800
RRGV::RVR GV AVE::30	RIVER GROVE AVENUE	WOOD STREET	FORESTVIEW AVENUE	8,012	53	2022	$10,717
RRGV::SPRC ST::20	SPRUCE STREET	HERRICK AVENUE	WRIGHTWOOD AVENUE	12,156	14	2022	$104,896
RRGV::TRMBLL AVE::10	TRUMBULL AVENUE	PALMER STREET	LYNDALE STREET	9,120	14	2022	$78,700
RRGV::TRMBLL AVE::20	TRUMBULL AVENUE	LYNDALE STREET	BELDEN AVENUE	8,239	13	2022	$71,781
RRGV::TRPY LN::10	TARPEY LANE	GRAND AVENUE	CENTER STREET	10,016	53	2022	$13,398
RRGV::WLNT ST::10	WALNUT STREET	ELM STREET	DES PLAINES RIVER ROAD	11,202	14	2022	$96,663
RRGV::WRHTWD AVE::60	WRIGHTWOOD AVENUE	1ST AVE	MARWOOD STREET	8,589	55	2022	$10,512
RRGV::WRHTWD AVE::70	WRIGHTWOOD AVENUE	MARWOOD STREET	BUDD STREET	8,549	54	2022	$10,960
RRGV::WST ST::50	WEST STREET	HERRICK AVENUE	RICHARD STREET	22,648	12	2022	$199,111
RRGV::BDD ST::10	BUDD STREET	GREENWOOD TERRACE	END	9,764	53	2023	$14,006
RRGV::BLDN AVE::10	BELDEN AVENUE	FINLEY AVENUE	ELM STREET	8,374	7	2023	$77,778
RRGV::BLDN AVE::50	BELDEN AVENUE	TRUMBULL AVENUE	5TH AVENUE	17,251	7	2023	$160,229
RRGV::CHSTNT AVE::10	CHESTNUT AVENUE	ELM STREET	BEULAH AVENUE	16,389	54	2023	$21,762
RRGV::ELM ST::50	ELM STREET	RICHARD STREET	GRAND AVENUE	21,982	7	2023	$204,168

Pavement ID	Road Name	From	To	Area	PCI	Year	Cost
RRGV::GRNWD TERR::10	GREENWOOD TERRACE	THATCHER AVENUE	BUDD STREET	11,084	54	2023	$14,099
RRGV::GRV ST::30	GROVE STREET	RIDGE STREET	HERRICK AVENUE	8,295	53	2023	$11,464
RRGV::HRRCK AVE::40	HERRICK AVENUE	SPRUCE STREET	RHODES AVENUE	8,591	53	2023	$11,872
RRGV::LYDN AVE::50	LEYDEN AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,886	53	2023	$17,050
RRGV::PLMR ST::30	PALMER STREET	WEST STREET	LEYDEN AVENUE	34,770	8	2023	$322,937
RRGV::PLMR ST::50	PALMER STREET	TRUMBULL AVENUE	5TH AVENUE	17,272	6	2023	$160,418
RRGV::RSVLT LN::30	ROOSEVELT LANE	WOOD STREET	FORESTVIEW AVENUE	7,932	53	2023	$10,962
RRGV::RVR GV AVE::40	RIVER GROVE AVENUE	FORESTVIEW AVENUE	1ST AVE	10,006	54	2023	$13,286
RRGV::WBSTR ST::20	WEBSTER STREET	GREENWOOD TERRACE	GRAND AVENUE	15,442	8	2023	$143,425
RRGV::WD ST::10	WOOD STREET	FULLERTON AVENUE	HERRICK AVENUE	16,981	53	2023	$23,467
RRGV::WD ST::20	WOOD STREET	HERRICK AVENUE	ROOSEVELT LANE	22,525	54	2023	$28,653
RRGV::WRHTWD AVE::10	WRIGHTWOOD AVENUE	SPRUCE STREET	RHODES AVENUE	8,600	54	2023	$11,419
RRGV::CHRRY AVE::40	CHERRY AVENUE	BEULAH AVENUE	DES PLAINES RIVER ROAD	8,418	0	2024	$80,533
RRGV::CHSTNT AVE::20	CHESTNUT AVENUE	BEULAH AVENUE	DES PLAINES RIVER ROAD	9,299	53	2024	$13,393
RRGV::CLNTN ST::20	CLINTON STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	17,003	54	2024	$23,599
RRGV::CNNR DR::20	O'CONNOR DRIVE	BOYLE TERRACE	PARIS AVENUE	15,434	0	2024	$147,651
RRGV::CNTR ST::60	CENTER STREET	1ST AVE	MARWOOD STREET	8,631	55	2024	$11,031
RRGV::ER ST::20	ERIE STREET	GREENWOOD TERRACE	GRAND AVENUE	26,025	52	2024	$38,826
RRGV::FRSTVW AVE::20	FORESTVIEW AVENUE	HERRICK AVENUE	ROOSEVELT LANE	22,501	54	2024	$30,013
RRGV::GRNWD TERR::50	GREENWOOD TERRACE	ERIE STREET	DAVISSON STREET	8,559	54	2024	$11,880
RRGV::GRNWD TERR::70	GREENWOOD TERRACE	HAYMOND STREET	WEBSTER STREET	8,308	55	2024	$10,618
RRGV::GRV ST::20	GROVE STREET	FULLERTON AVENUE	RIDGE STREET	9,148	52	2024	$13,648
RRGV::HRRCK AVE::100	HERRICK AVENUE	MAPLE STREET	WOOD STREET	8,508	54	2024	$11,349
RRGV::HRRCK AVE::80	HERRICK AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	9,274	55	2024	$11,854
RRGV::JLN TER::10	JULIAN TERRACE	CAREY AVENUE	GRAND AVENUE	10,934	53	2024	$15,749
RRGV::LYDN AVE::20	LEYDEN AVENUE	LYNDALE STREET	BELDEN AVENUE	8,165	53	2024	$11,760
RRGV::MPL ST::20	MAPLE STREET	HERRICK AVENUE	ROOSEVELT LANE	22,551	53	2024	$32,480
RRGV::MRWD ST::20	MARWOOD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	16,986	54	2024	$23,575
RRGV::PLMR ST::10	PALMER STREET	ELM STREET	FINLEY AVENUE	3,275	52	2024	$4,887
RRGV::PLMR ST::40	PALMER STREET	LEYDEN AVENUE	TRUMBULL AVENUE	17,055	0	2024	$163,154
RRGV::PRS AV::20	PARIS AVENUE	WALSH LANE	ENGER LANE	7,762	0	2024	$74,251
RRGV::RDG ST::10	RIDGE STREET	GROVE STREET	DES PLAINES RIVER ROAD	14,801	55	2024	$18,916
RRGV::RHDS AVE::10	RHODES AVENUE	FULLERTON AVENUE	HERRICK AVENUE	17,499	1	2024	$167,408
RRGV::RHDS AVE::20	RHODES AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	12,066	52	2024	$18,001
RRGV::RHDS AVE::30	RHODES AVENUE	WRIGHTWOOD AVENUE	RICHARD STREET	10,677	54	2024	$14,241
RRGV::RNLD ST::10	ARNOLD STREET	INDIAN BOUNDRY	STRUCKMAN AVENUE	10,783	52	2024	$16,087
RRGV::RVR GV AVE::10	RIVER GROVE AVENUE	OAK STREET	END	4,279	54	2024	$5,707
RRGV::THTCHR AVE::10	THATCHER AVENUE	THATCHER AVENUE	END	5,719	54	2024	$7,628
RRGV::WST ST::60	WEST STREET	RICHARD STREET	GRAND AVENUE	21,988	0	2024	$210,351

APPENDIX D – PAVEMENT MAINTENANCE POLICIES AND UNIT COSTS

Table D-1. Recommended Asphalt Pavement Maintenance Policy.

Pavement Distress	Severity	Recommended Maintenance Type	Units
Alligator Cracking	Low	Crack Sealing	FT
Alligator Cracking	Medium	Patching - AC Deep	SF
Alligator Cracking	High	Patching - AC Deep	SF
Block Cracking	Low	Crack Sealing - AC	FT
Block Cracking	Medium	Crack Sealing - AC	FT
Block Cracking	High	Patching - AC Shallow	SF
Bumps and Sags	Medium	Patching - AC Shallow	SF
Bumps and Sags	High	Patching - AC Deep	SF
Corrugation	Medium	Patching - AC Shallow	SF
Corrugation	High	Patching - AC Deep	SF
Depressions	Medium	Patching - AC Deep	SF
Depressions	High	Patching - AC Deep	SF
Edge Cracking	Low	Crack Sealing - AC	FT
Edge Cracking	Medium	Crack Sealing - AC	FT
Edge Cracking	High	Patching - AC Shallow	SF
Joint Reflection Cracking	Low	Crack Sealing - AC	FT
Joint Reflection Cracking	Medium	Crack Sealing - AC	FT
Joint Reflection Cracking	High	Patching - AC Shallow	SF
Lane/Shoulder Dropoff	Medium	Shoulder leveling	FT
Lane/Shoulder Dropoff	High	Shoulder leveling	FT
Long. and Trans. Cracking	Low	Crack Sealing - AC	FT
Long. and Trans. Cracking	Medium	Crack Sealing - AC	FT
Long. and Trans. Cracking	High	Patching - AC Shallow	SF
Patching and Utility Cuts	High	Patching - AC Deep	SF
Potholes	Low	Patching - AC Deep	SF
Potholes	Medium	Patching - AC Deep	SF
Potholes	High	Patching - AC Deep	SF
Rutting	Medium	Patching - AC Shallow	SF
Rutting	High	Patching - AC Deep	SF
Shoving	Medium	Grinding (Localized)	FT
Shoving	High	Grinding (Localized)	FT
Slippage Cracking	Low	Crack Sealing - AC	FT
Slippage Cracking	Medium	Patching - AC Shallow	SF
Slippage Cracking	High	Patching - AC Shallow	SF

Table D-2. Recommended Concrete Pavement Maintenance Policy.

Pavement Distress	Severity	Recommended Maintenance Type	Units
Blow ups	Medium	Patching - PCC Full Depth	SF
Blow ups	High	Patching - PCC Full Depth	SF
Corner Breaks	Low	Crack Sealing - PCC	FT
Corner Breaks	Medium	Patching - PCC Full Depth	FT
Corner Breaks	High	Patching - PCC Full Depth	SF
Divided (Shattered) Slabs	Low	Crack Sealing - PCC	FT
Divided (Shattered) Slabs	Medium	Slab Replacement - PCC	SF
Divided (Shattered) Slabs	High	Slab Replacement - PCC	SF
Durability (D) Cracking	Medium	Patching - PCC Full Depth	SF
Durability (D) Cracking	High	Slab Replacement - PCC	SF
Faulting	Medium	Grinding (Localized)	FT
Faulting	High	Grinding (Localized)	FT
Joint Seal Damage	Medium	Joint Seal (Localized)	FT
Joint Seal Damage	High	Joint Seal (Localized)	FT
Lane/Shoulder Dropoff	Medium	Shoulder leveling	FT
Lane/Shoulder Dropoff	High	Shoulder leveling	FT
Linear Cracking	Low	Crack Sealing - PCC	FT
Linear Cracking	Medium	Crack Sealing - PCC	FT
Linear Cracking	High	Patching - PCC Partial Depth	SF
Patches, Large	High	Patching - PCC Full Depth	SF
Patches, Small	High	Patching - PCC Partial Depth	SF
Punchouts	Medium	Patching - PCC Full Depth	SF
Punchouts	High	Slab Replacement - PCC	SF
Scaling	High	Slab Replacement - PCC	SF
Corner Spalls	Medium	Patching - PCC Partial Depth	SF
Corner Spalls	High	Patching - PCC Partial Depth	SF
Joint Spalls	Medium	Patching - PCC Partial Depth	SF
Joint Spalls	High	Patching - PCC Partial Depth	SF

Table D-3. Estimate Unit Cost for Maintenance Activities.

Maintenance Type	Est. Unit Cost	Units
Crack Sealing - AC	$1.00	FT
Joint Seal - Silicon	$2.75	FT
Crack Sealing - PCC	$1.50	FT
Grinding (Localized)	$4.00	FT
Joint Seal (Localized)	$1.50	FT
Patching - AC Deep	$11.00	SF
Patching - AC Leveling	$1.20	SF
Patching - AC Shallow	$5.50	SF
Patching - PCC Full Depth	$30.00	SF
Patching - PCC Partial Depth	$7.00	SF
Shoulder leveling	$1.20	FT
Slab Replacement - PCC	$20.00	SF

APPENDIX E – TABULATED PREVENTIVE MAINTENANCE RECOMMENDATIONS

Pavement ID	Road Name	From	To	Area	Distress Type	Density	Maint. Activity	Cost
RRGV::BDD ST::10	BUDD STREET	GREENWOOD TERRACE	END	9,764	BLOCK CR	31.1%	Crack Sealing - AC	$926
RRGV::BDD ST::10	BUDD STREET	GREENWOOD TERRACE	END	9,764	L & T CR	1.3%	Crack Sealing - AC	$125
RRGV::BDD ST::10	BUDD STREET	GREENWOOD TERRACE	END	9,764	L & T CR	0.6%	Crack Sealing - AC	$54
RRGV::BDD ST::10	BUDD STREET	GREENWOOD TERRACE	END	9,764	RUTTING	0.1%	Patching - AC Shallow	$29
RRGV::BDD ST::20	BUDD STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	18,632	L & T CR	2.3%	Crack Sealing - AC	$432
RRGV::BDD ST::20	BUDD STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	18,632	L & T CR	1.5%	Crack Sealing - AC	$270
RRGV::BDD ST::20	BUDD STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	18,632	ALLIGATOR CR	0.0%	Crack Sealing - AC	$5
RRGV::BDD ST::20	BUDD STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	18,632	ALLIGATOR CR	0.4%	Patching - AC Deep	$1,119
RRGV::BDD ST::20	BUDD STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	18,632	RUTTING	0.0%	Patching - AC Shallow	$15
RRGV::BLH AVE::10	BEULAH AVENUE	GRAND AVENUE	CHERRY AVENUE	11,855	L & T CR	2.2%	Crack Sealing - AC	$266
RRGV::BLH AVE::10	BEULAH AVENUE	GRAND AVENUE	CHERRY AVENUE	11,855	L & T CR	2.3%	Crack Sealing - AC	$268
RRGV::BLH AVE::10	BEULAH AVENUE	GRAND AVENUE	CHERRY AVENUE	11,855	ALLIGATOR CR	0.2%	Patching - AC Deep	$536
RRGV::CHSTNT AVE::10	CHESTNUT AVENUE	ELM STREET	BEULAH AVENUE	16,389	L & T CR	0.7%	Crack Sealing - AC	$113
RRGV::CHSTNT AVE::10	CHESTNUT AVENUE	ELM STREET	BEULAH AVENUE	16,389	L & T CR	6.6%	Crack Sealing - AC	$1,081
RRGV::CHSTNT AVE::10	CHESTNUT AVENUE	ELM STREET	BEULAH AVENUE	16,389	RUTTING	0.0%	Patching - AC Shallow	$24
RRGV::CHSTNT AVE::20	CHESTNUT AVENUE	BEULAH AVENUE	DES PLAINES RIVER ROAD	9,299	L & T CR	6.9%	Crack Sealing - AC	$638
RRGV::CLNTN ST::10	CLINTON STREET	FULLERTON AVENUE	GREENWOOD TERRACE	15,962	L & T CR	1.5%	Crack Sealing - AC	$238
RRGV::CLNTN ST::10	CLINTON STREET	FULLERTON AVENUE	GREENWOOD TERRACE	15,962	EDGE CR	0.1%	Crack Sealing - AC	$23
RRGV::CLNTN ST::10	CLINTON STREET	FULLERTON AVENUE	GREENWOOD TERRACE	15,962	L & T CR	0.4%	Crack Sealing - AC	$55
RRGV::CLNTN ST::15	CLINTON STREET	GREENWOOD TERRACE	GREENWOOD TERRACE	1,445	L & T CR	1.4%	Crack Sealing - AC	$20
RRGV::CLNTN ST::15	CLINTON STREET	GREENWOOD TERRACE	GREENWOOD TERRACE	1,445	ALLIGATOR CR	0.3%	Patching - AC Deep	$168
RRGV::CLNTN ST::20	CLINTON STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	17,003	L & T CR	5.0%	Crack Sealing - AC	$849
RRGV::CLNTN ST::20	CLINTON STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	17,003	L & T CR	0.5%	Crack Sealing - AC	$77
RRGV::CLNTN ST::20	CLINTON STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	17,003	ALLIGATOR CR	0.1%	Patching - AC Deep	$392
RRGV::CNTR ST::60	CENTER STREET	1ST AVE	MARWOOD STREET	8,631	L & T CR	4.8%	Crack Sealing - AC	$412
RRGV::CNTR ST::60	CENTER STREET	1ST AVE	MARWOOD STREET	8,631	PATCH/UT CUT	0.9%	Patching - AC Deep	$1,325
RRGV::DVSSN ST::10	DAVISSON STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,329	ALLIGATOR CR	0.2%	Crack Sealing - AC	$19
RRGV::DVSSN ST::10	DAVISSON STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,329	L & T CR	3.7%	Crack Sealing - AC	$634
RRGV::DVSSN ST::10	DAVISSON STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,329	L & T CR	3.5%	Crack Sealing - AC	$605
RRGV::DVSSN ST::20	DAVISSON STREET	GREENWOOD TERRACE	GRAND AVENUE	23,994	L & T CR	2.3%	Crack Sealing - AC	$540
RRGV::DVSSN ST::20	DAVISSON STREET	GREENWOOD TERRACE	GRAND AVENUE	23,994	L & T CR	1.8%	Crack Sealing - AC	$434
RRGV::DVSSN ST::20	DAVISSON STREET	GREENWOOD TERRACE	GRAND AVENUE	23,994	ALLIGATOR CR	1.0%	Crack Sealing - AC	$90
RRGV::DVSSN ST::20	DAVISSON STREET	GREENWOOD TERRACE	GRAND AVENUE	23,994	ALLIGATOR CR	0.1%	Patching - AC Deep	$349
RRGV::DVSSN ST::20	DAVISSON STREET	GREENWOOD TERRACE	GRAND AVENUE	23,994	RUTTING	0.1%	Patching - AC Shallow	$69
RRGV::ER ST::20	ERIE STREET	GREENWOOD TERRACE	GRAND AVENUE	26,025	L & T CR	2.3%	Crack Sealing - AC	$610
RRGV::ER ST::20	ERIE STREET	GREENWOOD TERRACE	GRAND AVENUE	26,025	ALLIGATOR CR	2.9%	Crack Sealing - AC	$264
RRGV::ER ST::20	ERIE STREET	GREENWOOD TERRACE	GRAND AVENUE	26,025	L & T CR	2.6%	Crack Sealing - AC	$684
RRGV::ER ST::20	ERIE STREET	GREENWOOD TERRACE	GRAND AVENUE	26,025	ALLIGATOR CR	0.3%	Patching - AC Deep	$1,328
RRGV::ER ST::20	ERIE STREET	GREENWOOD TERRACE	GRAND AVENUE	26,025	RUTTING	0.0%	Patching - AC Shallow	$13
RRGV::FLLRTN AVE::10	FULLERTON AVENUE	FINLEY AVENUE	ELM STREET	11,100	LINEAR CR	8.3%	Crack Sealing - PCC	$111
RRGV::FLLRTN AVE::10	FULLERTON AVENUE	FINLEY AVENUE	ELM STREET	11,100	LINEAR CR	16.7%	Crack Sealing - PCC	$222
RRGV::FLLRTN AVE::10	FULLERTON AVENUE	FINLEY AVENUE	ELM STREET	11,100	JT SEAL DMG	100.0%	Joint Seal (Localized)	$2,188

Pavement ID	Road Name	From	To	Area	Distress Type	Density	Maint. Activity	Cost
RRGV::FLLRTN AVE::10	FULLERTON AVENUE	FINLEY AVENUE	ELM STREET	11,100	JOINT SPALL	8.3%	Patching - PCC Partial Depth	$111
RRGV::FLLRTN AVE::20	FULLERTON AVENUE	ELM STREET	WEST STREET	13,289	LINEAR CR	8.3%	Crack Sealing - PCC	$133
RRGV::FLLRTN AVE::30	FULLERTON AVENUE	WEST STREET	SPRUCE STREET	16,760	LINEAR CR	8.3%	Crack Sealing - PCC	$167
RRGV::FLLRTN AVE::30	FULLERTON AVENUE	WEST STREET	SPRUCE STREET	16,760	LINEAR CR	16.7%	Crack Sealing - PCC	$334
RRGV::FLLRTN AVE::30	FULLERTON AVENUE	WEST STREET	SPRUCE STREET	16,760	LINEAR CR	8.3%	Patching - PCC Partial Depth	$9,753
RRGV::FLLRTN AVE::40	FULLERTON AVENUE	SPRUCE STREET	RHODES AVENUE	16,497	LINEAR CR	5.0%	Crack Sealing - PCC	$99
RRGV::FLLRTN AVE::50	FULLERTON AVENUE	RHODES AVENUE	CLARKE STREET	16,861	LINEAR CR	5.0%	Crack Sealing - PCC	$101
RRGV::FLLRTN AVE::70	FULLERTON AVENUE	LEYDEN AVENUE	GROVE STREET	12,012	LINEAR CR	14.3%	Crack Sealing - PCC	$206
RRGV::FLLRTN AVE::80	FULLERTON AVENUE	GROVE STREET	TRUMBULL AVENUE	13,161	LINEAR CR	15.0%	Crack Sealing - PCC	$236
RRGV::FLLRTN AVE::90	FULLERTON AVENUE	TRUMBULL AVENUE	DES PLAINES RIVER ROAD	18,143	LINEAR CR	19.2%	Crack Sealing - PCC	$418
RRGV::FRSTVW AVE::10	FORESTVIEW AVENUE	FULLERTON AVENUE	HERRICK AVENUE	17,094	L & T CR	5.2%	Crack Sealing - AC	$893
RRGV::FRSTVW AVE::10	FORESTVIEW AVENUE	FULLERTON AVENUE	HERRICK AVENUE	17,094	L & T CR	0.4%	Crack Sealing - AC	$59
RRGV::FRSTVW AVE::20	FORESTVIEW AVENUE	HERRICK AVENUE	ROOSEVELT LANE	22,501	L & T CR	1.6%	Crack Sealing - AC	$350
RRGV::FRSTVW AVE::20	FORESTVIEW AVENUE	HERRICK AVENUE	ROOSEVELT LANE	22,501	L & T CR	4.5%	Crack Sealing - AC	$1,020
RRGV::FRSTVW AVE::20	FORESTVIEW AVENUE	HERRICK AVENUE	ROOSEVELT LANE	22,501	RUTTING	0.0%	Patching - AC Shallow	$17
RRGV::FRSTVW AVE::30	FORESTVIEW AVENUE	ROOSEVELT LANE	RIVER GROVE AVENUE	5,315	L & T CR	4.1%	Crack Sealing - AC	$218
RRGV::FRSTVW AVE::30	FORESTVIEW AVENUE	ROOSEVELT LANE	RIVER GROVE AVENUE	5,315	L & T CR	1.7%	Crack Sealing - AC	$90
RRGV::GRNWD TERR::10	GREENWOOD TERRACE	THATCHER AVENUE	BUDD STREET	11,084	L & T CR	3.6%	Crack Sealing - AC	$395
RRGV::GRNWD TERR::10	GREENWOOD TERRACE	THATCHER AVENUE	BUDD STREET	11,084	L & T CR	2.4%	Crack Sealing - AC	$268
RRGV::GRNWD TERR::10	GREENWOOD TERRACE	THATCHER AVENUE	BUDD STREET	11,084	BLOCK CR	6.2%	Crack Sealing - AC	$210
RRGV::GRNWD TERR::10	GREENWOOD TERRACE	THATCHER AVENUE	BUDD STREET	11,084	ALLIGATOR CR	0.8%	Patching - AC Deep	$1,502
RRGV::GRNWD TERR::40	GREENWOOD TERRACE	CLINTON STREET	ERIE STREET	8,725	L & T CR	3.1%	Crack Sealing - AC	$269
RRGV::GRNWD TERR::40	GREENWOOD TERRACE	CLINTON STREET	ERIE STREET	8,725	L & T CR	0.4%	Crack Sealing - AC	$35
RRGV::GRNWD TERR::50	GREENWOOD TERRACE	ERIE STREET	DAVISSON STREET	8,559	L & T CR	2.5%	Crack Sealing - AC	$213
RRGV::GRNWD TERR::50	GREENWOOD TERRACE	ERIE STREET	DAVISSON STREET	8,559	L & T CR	4.6%	Crack Sealing - AC	$391
RRGV::GRNWD TERR::50	GREENWOOD TERRACE	ERIE STREET	DAVISSON STREET	8,559	RUTTING	0.0%	Patching - AC Shallow	$15
RRGV::GRNWD TERR::60	GREENWOOD TERRACE	DAVISSON STREET	HAYMOND STREET	8,791	L & T CR	3.7%	Crack Sealing - AC	$321
RRGV::GRNWD TERR::60	GREENWOOD TERRACE	DAVISSON STREET	HAYMOND STREET	8,791	L & T CR	1.4%	Crack Sealing - AC	$125
RRGV::GRNWD TERR::60	GREENWOOD TERRACE	DAVISSON STREET	HAYMOND STREET	8,791	RUTTING	0.1%	Patching - AC Shallow	$27
RRGV::GRNWD TERR::70	GREENWOOD TERRACE	HAYMOND STREET	WEBSTER STREET	8,308	L & T CR	1.7%	Crack Sealing - AC	$141
RRGV::GRNWD TERR::70	GREENWOOD TERRACE	HAYMOND STREET	WEBSTER STREET	8,308	L & T CR	0.4%	Crack Sealing - AC	$29
RRGV::GRNWD TERR::70	GREENWOOD TERRACE	HAYMOND STREET	WEBSTER STREET	8,308	ALLIGATOR CR	0.8%	Patching - AC Deep	$1,180
RRGV::GRV ST::10	GROVE STREET	BELDEN AVENUE	FULLERTON AVENUE	17,339	ALLIGATOR CR	0.7%	Crack Sealing - AC	$52
RRGV::GRV ST::10	GROVE STREET	BELDEN AVENUE	FULLERTON AVENUE	17,339	L & T CR	3.5%	Crack Sealing - AC	$608
RRGV::GRV ST::10	GROVE STREET	BELDEN AVENUE	FULLERTON AVENUE	17,339	L & T CR	1.8%	Crack Sealing - AC	$316
RRGV::GRV ST::20	GROVE STREET	FULLERTON AVENUE	RIDGE STREET	9,148	ALLIGATOR CR	0.1%	Crack Sealing - AC	$8
RRGV::GRV ST::20	GROVE STREET	FULLERTON AVENUE	RIDGE STREET	9,148	L & T CR	0.6%	Crack Sealing - AC	$54
RRGV::GRV ST::20	GROVE STREET	FULLERTON AVENUE	RIDGE STREET	9,148	L & T CR	6.0%	Crack Sealing - AC	$548
RRGV::GRV ST::20	GROVE STREET	FULLERTON AVENUE	RIDGE STREET	9,148	RUTTING	0.0%	Patching - AC Shallow	$20
RRGV::GRV ST::30	GROVE STREET	RIDGE STREET	HERRICK AVENUE	8,295	L & T CR	0.2%	Crack Sealing - AC	$18
RRGV::GRV ST::30	GROVE STREET	RIDGE STREET	HERRICK AVENUE	8,295	ALLIGATOR CR	0.3%	Crack Sealing - AC	$14
RRGV::GRV ST::30	GROVE STREET	RIDGE STREET	HERRICK AVENUE	8,295	BLOCK CR	4.2%	Crack Sealing - AC	$106

Pavement ID	Road Name	From	To	Area	Distress Type	Density	Maint. Activity	Cost
RRGV::GRV ST::30	GROVE STREET	RIDGE STREET	HERRICK AVENUE	8,295	L & T CR	4.5%	Crack Sealing - AC	$371
RRGV::GRV ST::30	GROVE STREET	RIDGE STREET	HERRICK AVENUE	8,295	ALLIGATOR CR	0.5%	Patching - AC Deep	$757
RRGV::HRRCK AVE::40	HERRICK AVENUE	SPRUCE STREET	RHODES AVENUE	8,591	L & T CR	6.4%	Crack Sealing - AC	$552
RRGV::HRRCK AVE::40	HERRICK AVENUE	SPRUCE STREET	RHODES AVENUE	8,591	L & T CR	2.5%	Crack Sealing - AC	$211
RRGV::HRRCK AVE::40	HERRICK AVENUE	SPRUCE STREET	RHODES AVENUE	8,591	ALLIGATOR CR	0.6%	Patching - AC Deep	$955
RRGV::HRRCK AVE::70	HERRICK AVENUE	LEYDEN AVENUE	GROVE STREET	8,796	L & T CR	1.8%	Crack Sealing - AC	$159
RRGV::HRRCK AVE::70	HERRICK AVENUE	LEYDEN AVENUE	GROVE STREET	8,796	L & T CR	4.0%	Crack Sealing - AC	$355
RRGV::HRRCK AVE::70	HERRICK AVENUE	LEYDEN AVENUE	GROVE STREET	8,796	ALLIGATOR CR	0.1%	Crack Sealing - AC	$6
RRGV::HRRCK AVE::70	HERRICK AVENUE	LEYDEN AVENUE	GROVE STREET	8,796	ALLIGATOR CR	0.1%	Patching - AC Deep	$287
RRGV::HRRCK AVE::80	HERRICK AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	9,274	L & T CR	2.9%	Crack Sealing - AC	$268
RRGV::HRRCK AVE::80	HERRICK AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	9,274	ALLIGATOR CR	0.1%	Crack Sealing - AC	$8
RRGV::HRRCK AVE::80	HERRICK AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	9,274	L & T CR	1.7%	Crack Sealing - AC	$159
RRGV::HRRCK AVE::80	HERRICK AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	9,274	ALLIGATOR CR	0.4%	Patching - AC Deep	$702
RRGV::HRRCK AVE::100	HERRICK AVENUE	MAPLE STREET	WOOD STREET	8,508	ALLIGATOR CR	0.5%	Crack Sealing - AC	$21
RRGV::HRRCK AVE::100	HERRICK AVENUE	MAPLE STREET	WOOD STREET	8,508	L & T CR	8.0%	Crack Sealing - AC	$678
RRGV::HRRCK AVE::100	HERRICK AVENUE	MAPLE STREET	WOOD STREET	8,508	L & T CR	1.5%	Crack Sealing - AC	$124
RRGV::HRRCK AVE::100	HERRICK AVENUE	MAPLE STREET	WOOD STREET	8,508	ALLIGATOR CR	0.4%	Patching - AC Deep	$645
RRGV::HRRCK AVE::110	HERRICK AVENUE	WOOD STREET	FORESTVIEW AVENUE	7,636	ALLIGATOR CR	1.1%	Crack Sealing - AC	$38
RRGV::HRRCK AVE::110	HERRICK AVENUE	WOOD STREET	FORESTVIEW AVENUE	7,636	L & T CR	3.1%	Crack Sealing - AC	$236
RRGV::HRRCK AVE::110	HERRICK AVENUE	WOOD STREET	FORESTVIEW AVENUE	7,636	ALLIGATOR CR	0.4%	Patching - AC Deep	$571
RRGV::HYMND ST::10	HAYMOND STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,174	L & T CR	1.2%	Crack Sealing - AC	$204
RRGV::HYMND ST::10	HAYMOND STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,174	L & T CR	5.7%	Crack Sealing - AC	$982
RRGV::HYMND ST::10	HAYMOND STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,174	BLOCK CR	8.8%	Crack Sealing - AC	$460
RRGV::HYMND ST::10	HAYMOND STREET	FULLERTON AVENUE	GREENWOOD TERRACE	17,174	ALLIGATOR CR	0.3%	Patching - AC Deep	$825
RRGV::JLN TER::10	JULIAN TERRACE	CAREY AVENUE	GRAND AVENUE	10,934	L & T CR	0.6%	Crack Sealing - AC	$62
RRGV::JLN TER::10	JULIAN TERRACE	CAREY AVENUE	GRAND AVENUE	10,934	BLOCK CR	46.3%	Crack Sealing - AC	$1,541
RRGV::LYDN AVE::20	LEYDEN AVENUE	LYNDALE STREET	BELDEN AVENUE	8,165	L & T CR	5.9%	Crack Sealing - AC	$480
RRGV::LYDN AVE::20	LEYDEN AVENUE	LYNDALE STREET	BELDEN AVENUE	8,165	ALLIGATOR CR	0.9%	Crack Sealing - AC	$35
RRGV::LYDN AVE::20	LEYDEN AVENUE	LYNDALE STREET	BELDEN AVENUE	8,165	L & T CR	1.7%	Crack Sealing - AC	$141
RRGV::LYDN AVE::20	LEYDEN AVENUE	LYNDALE STREET	BELDEN AVENUE	8,165	ALLIGATOR CR	0.5%	Patching - AC Deep	$809
RRGV::LYDN AVE::50	LEYDEN AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,886	ALLIGATOR CR	0.6%	Crack Sealing - AC	$33
RRGV::LYDN AVE::50	LEYDEN AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,886	L & T CR	7.3%	Crack Sealing - AC	$867
RRGV::LYDN AVE::50	LEYDEN AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,886	L & T CR	0.7%	Crack Sealing - AC	$82
RRGV::LYDN AVE::50	LEYDEN AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	11,886	ALLIGATOR CR	0.3%	Patching - AC Deep	$757
RRGV::MPL ST::20	MAPLE STREET	HERRICK AVENUE	ROOSEVELT LANE	22,551	L & T CR	4.8%	Crack Sealing - AC	$1,070
RRGV::MPL ST::20	MAPLE STREET	HERRICK AVENUE	ROOSEVELT LANE	22,551	L & T CR	0.3%	Crack Sealing - AC	$57
RRGV::MPL ST::20	MAPLE STREET	HERRICK AVENUE	ROOSEVELT LANE	22,551	ALLIGATOR CR	1.6%	Crack Sealing - AC	$138
RRGV::MPL ST::20	MAPLE STREET	HERRICK AVENUE	ROOSEVELT LANE	22,551	ALLIGATOR CR	0.1%	Patching - AC Deep	$336
RRGV::MRWD ST::10	MARWOOD STREET	WRIGHTWOOD AVENUE	END	14,623	L & T CR	2.2%	Crack Sealing - AC	$316
RRGV::MRWD ST::10	MARWOOD STREET	WRIGHTWOOD AVENUE	END	14,623	L & T CR	4.9%	Crack Sealing - AC	$720
RRGV::MRWD ST::10	MARWOOD STREET	WRIGHTWOOD AVENUE	END	14,623	ALLIGATOR CR	0.8%	Patching - AC Deep	$1,773
RRGV::MRWD ST::20	MARWOOD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	16,986	L & T CR	0.8%	Crack Sealing - AC	$137

Pavement ID	Road Name	From	To	Area	Distress Type	Density	Maint. Activity	Cost
RRGV::MRWD ST::20	MARWOOD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	16,986	L & T CR	4.4%	Crack Sealing - AC	$753
RRGV::MRWD ST::20	MARWOOD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	16,986	ALLIGATOR CR	0.4%	Patching - AC Deep	$1,156
RRGV::MRWD ST::20	MARWOOD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	16,986	RUTTING	0.1%	Patching - AC Shallow	$55
RRGV::PLMR ST::10	PALMER STREET	ELM STREET	FINLEY AVENUE	3,275	L & T CR	2.1%	Crack Sealing - AC	$67
RRGV::PLMR ST::10	PALMER STREET	ELM STREET	FINLEY AVENUE	3,275	L & T CR	1.0%	Crack Sealing - AC	$33
RRGV::PLMR ST::10	PALMER STREET	ELM STREET	FINLEY AVENUE	3,275	ALLIGATOR CR	0.9%	Patching - AC Deep	$624
RRGV::RDG ST::10	RIDGE STREET	GROVE STREET	DES PLAINES RIVER ROAD	14,801	L & T CR	0.7%	Crack Sealing - AC	$104
RRGV::RDG ST::10	RIDGE STREET	GROVE STREET	DES PLAINES RIVER ROAD	14,801	L & T CR	4.1%	Crack Sealing - AC	$600
RRGV::RDG ST::10	RIDGE STREET	GROVE STREET	DES PLAINES RIVER ROAD	14,801	ALLIGATOR CR	0.1%	Patching - AC Deep	$461
RRGV::RDG ST::10	RIDGE STREET	GROVE STREET	DES PLAINES RIVER ROAD	14,801	RUTTING	0.0%	Patching - AC Shallow	$34
RRGV::RHDS AVE::20	RHODES AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	12,066	L & T CR	4.8%	Crack Sealing - AC	$580
RRGV::RHDS AVE::20	RHODES AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	12,066	ALLIGATOR CR	1.9%	Crack Sealing - AC	$91
RRGV::RHDS AVE::30	RHODES AVENUE	WRIGHTWOOD AVENUE	RICHARD STREET	10,677	ALLIGATOR CR	4.0%	Crack Sealing - AC	$158
RRGV::RHDS AVE::30	RHODES AVENUE	WRIGHTWOOD AVENUE	RICHARD STREET	10,677	L & T CR	2.1%	Crack Sealing - AC	$226
RRGV::RNLD ST::10	ARNOLD STREET	INDIAN BOUNDRY	STRUCKMAN AVENUE	10,783	L & T CR	1.9%	Crack Sealing - AC	$201
RRGV::RNLD ST::10	ARNOLD STREET	INDIAN BOUNDRY	STRUCKMAN AVENUE	10,783	ALLIGATOR CR	0.3%	Crack Sealing - AC	$17
RRGV::RNLD ST::10	ARNOLD STREET	INDIAN BOUNDRY	STRUCKMAN AVENUE	10,783	L & T CR	3.3%	Crack Sealing - AC	$353
RRGV::RNLD ST::10	ARNOLD STREET	INDIAN BOUNDRY	STRUCKMAN AVENUE	10,783	EDGE CR	0.3%	Crack Sealing - AC	$28
RRGV::RNLD ST::10	ARNOLD STREET	INDIAN BOUNDRY	STRUCKMAN AVENUE	10,783	ALLIGATOR CR	1.0%	Patching - AC Deep	$1,704
RRGV::RSVLT LN::30	ROOSEVELT LANE	WOOD STREET	FORESTVIEW AVENUE	7,932	L & T CR	3.4%	Crack Sealing - AC	$267
RRGV::RSVLT LN::30	ROOSEVELT LANE	WOOD STREET	FORESTVIEW AVENUE	7,932	L & T CR	0.2%	Crack Sealing - AC	$18
RRGV::RSVLT LN::30	ROOSEVELT LANE	WOOD STREET	FORESTVIEW AVENUE	7,932	BLOCK CR	7.9%	Crack Sealing - AC	$190
RRGV::RSVLT LN::30	ROOSEVELT LANE	WOOD STREET	FORESTVIEW AVENUE	7,932	ALLIGATOR CR	0.8%	Patching - AC Deep	$1,114
RRGV::RVR GV AVE::10	RIVER GROVE AVENUE	OAK STREET	END	4,279	L & T CR	0.7%	Crack Sealing - AC	$30
RRGV::RVR GV AVE::10	RIVER GROVE AVENUE	OAK STREET	END	4,279	L & T CR	5.8%	Crack Sealing - AC	$247
RRGV::RVR GV AVE::40	RIVER GROVE AVENUE	FORESTVIEW AVENUE	1ST AVE	10,006	EDGE CR	2.8%	Crack Sealing - AC	$278
RRGV::RVR GV AVE::40	RIVER GROVE AVENUE	FORESTVIEW AVENUE	1ST AVE	10,006	L & T CR	0.2%	Crack Sealing - AC	$18
RRGV::RVR GV AVE::40	RIVER GROVE AVENUE	FORESTVIEW AVENUE	1ST AVE	10,006	L & T CR	3.8%	Crack Sealing - AC	$378
RRGV::RVR GV AVE::40	RIVER GROVE AVENUE	FORESTVIEW AVENUE	1ST AVE	10,006	ALLIGATOR CR	0.9%	Patching - AC Deep	$1,481
RRGV::SPRC ST::50	SPRUCE STREET	GRAND AVENUE	CHERRY AVENUE	12,358	L & T CR	1.2%	Crack Sealing - AC	$146
RRGV::SPRC ST::50	SPRUCE STREET	GRAND AVENUE	CHERRY AVENUE	12,358	L & T CR	0.7%	Crack Sealing - AC	$84
RRGV::SPRC ST::50	SPRUCE STREET	GRAND AVENUE	CHERRY AVENUE	12,358	ALLIGATOR CR	0.2%	Crack Sealing - AC	$17
RRGV::THTCHR AVE::10	THATCHER AVENUE	THATCHER AVENUE	END	5,719	L & T CR	4.7%	Crack Sealing - AC	$271
RRGV::THTCHR AVE::10	THATCHER AVENUE	THATCHER AVENUE	END	5,719	L & T CR	0.7%	Crack Sealing - AC	$40
RRGV::THTCHR AVE::10	THATCHER AVENUE	THATCHER AVENUE	END	5,719	ALLIGATOR CR	0.1%	Patching - AC Deep	$252
RRGV::TRMBLL AVE::30	TRUMBULL AVENUE	BELDEN AVENUE	FULLERTON AVENUE	16,996	L & T CR	4.3%	Crack Sealing - AC	$725
RRGV::TRMBLL AVE::30	TRUMBULL AVENUE	BELDEN AVENUE	FULLERTON AVENUE	16,996	L & T CR	1.2%	Crack Sealing - AC	$200
RRGV::TRMBLL AVE::30	TRUMBULL AVENUE	BELDEN AVENUE	FULLERTON AVENUE	16,996	ALLIGATOR CR	0.2%	Patching - AC Deep	$585
RRGV::WD ST::10	WOOD STREET	FULLERTON AVENUE	HERRICK AVENUE	16,981	L & T CR	0.2%	Crack Sealing - AC	$41
RRGV::WD ST::10	WOOD STREET	FULLERTON AVENUE	HERRICK AVENUE	16,981	L & T CR	7.9%	Crack Sealing - AC	$1,339
RRGV::WD ST::10	WOOD STREET	FULLERTON AVENUE	HERRICK AVENUE	16,981	ALLIGATOR CR	0.1%	Patching - AC Deep	$514
RRGV::WD ST::10	WOOD STREET	FULLERTON AVENUE	HERRICK AVENUE	16,981	RUTTING	0.0%	Patching - AC Shallow	$17

Pavement ID	Road Name	From	To	Area	Distress Type	Density	Maint. Activity	Cost
RRGV::WD ST::20	WOOD STREET	HERRICK AVENUE	ROOSEVELT LANE	22,525	L & T CR	0.4%	Crack Sealing - AC	$78
RRGV::WD ST::20	WOOD STREET	HERRICK AVENUE	ROOSEVELT LANE	22,525	L & T CR	7.6%	Crack Sealing - AC	$1,705
RRGV::WD ST::20	WOOD STREET	HERRICK AVENUE	ROOSEVELT LANE	22,525	RUTTING	0.0%	Patching - AC Shallow	$21
RRGV::WD ST::30	WOOD STREET	ROOSEVELT LANE	RIVER GROVE AVENUE	5,632	L & T CR	3.4%	Crack Sealing - AC	$193
RRGV::WRHTWD AVE::10	WRIGHTWOOD AVENUE	SPRUCE STREET	RHODES AVENUE	8,600	L & T CR	7.1%	Crack Sealing - AC	$606
RRGV::WRHTWD AVE::10	WRIGHTWOOD AVENUE	SPRUCE STREET	RHODES AVENUE	8,600	BLOCK CR	9.5%	Crack Sealing - AC	$250
RRGV::WRHTWD AVE::10	WRIGHTWOOD AVENUE	SPRUCE STREET	RHODES AVENUE	8,600	L & T CR	0.2%	Crack Sealing - AC	$18
RRGV::WRHTWD AVE::10	WRIGHTWOOD AVENUE	SPRUCE STREET	RHODES AVENUE	8,600	ALLIGATOR CR	0.2%	Patching - AC Deep	$461
RRGV::WRHTWD AVE::60	WRIGHTWOOD AVENUE	1ST AVE	MARWOOD STREET	8,589	L & T CR	0.7%	Crack Sealing - AC	$59
RRGV::WRHTWD AVE::60	WRIGHTWOOD AVENUE	1ST AVE	MARWOOD STREET	8,589	EDGE CR	0.4%	Crack Sealing - AC	$30
RRGV::WRHTWD AVE::60	WRIGHTWOOD AVENUE	1ST AVE	MARWOOD STREET	8,589	L & T CR	8.2%	Crack Sealing - AC	$700
RRGV::WST ST::70	WEST STREET	GRAND AVENUE	CHERRY AVENUE	11,947	ALLIGATOR CR	0.3%	Crack Sealing - AC	$20
RRGV::WST ST::70	WEST STREET	GRAND AVENUE	CHERRY AVENUE	11,947	L & T CR	0.3%	Crack Sealing - AC	$41
RRGV::WST ST::70	WEST STREET	GRAND AVENUE	CHERRY AVENUE	11,947	L & T CR	1.6%	Crack Sealing - AC	$189

APPENDIX F – PAVEMENT INVENTORY AND CONDITION TABULAR DATA

Pavement ID	Road Name	From	To	Surface	Rank	Length (FT)	Width (FT)	Area (SF)	PCI	IRI
RRGV::AXPLN ST::10	AUXPLAINES STREET	GRAND AVENUE	CENTER STREET	Asphalt	S	381	26	9,903	43	340
RRGV::AXPLN ST::20	AUXPLAINES STREET	CENTER STREET	ARNOLD STREET	Asphalt	S	437	26	11,352	41	363
RRGV::BDD ST::10	BUDD STREET	GREENWOOD TERRACE	END	Asphalt	S	376	26	9,764	66	346
RRGV::BDD ST::20	BUDD STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	Asphalt	S	717	26	18,632	77	375
RRGV::BDD ST::30	BUDD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	Asphalt	S	579	26	15,050	64	236
RRGV::BDD ST::40	BUDD STREET	GRAND AVENUE	END	Asphalt	S	588	26	15,280	100	404
RRGV::BLDN AVE::10	BELDEN AVENUE	FINLEY AVENUE	ELM STREET	Asphalt	S	322	26	8,374	25	421
RRGV::BLDN AVE::20	BELDEN AVENUE	ELM STREET	WEST STREET	Asphalt	S	338	26	8,783	30	397
RRGV::BLDN AVE::30	BELDEN AVENUE	LEYDEN AVENUE	GROVE STREET	Asphalt	S	340	26	8,848	46	190
RRGV::BLDN AVE::40	BELDEN AVENUE	GROVE STREET	TRUMBULL AVENUE	Asphalt	S	322	26	8,382	44	241
RRGV::BLDN AVE::50	BELDEN AVENUE	TRUMBULL AVENUE	5TH AVENUE	Asphalt	S	664	26	17,251	25	397
RRGV::BLH AVE::10	BEULAH AVENUE	GRAND AVENUE	CHERRY AVENUE	Asphalt	S	456	26	11,855	79	236
RRGV::BLH AVE::20	BEULAH AVENUE	CHESTNUT AVENUE	FRANKLIN STREET	Asphalt	S	634	26	16,478	29	404
RRGV::BYL TERR::10	BOYLE TERRACE	O'CONNOR DRIVE	WALSH LANE	Asphalt	S	296	26	7,703	32	382
RRGV::BYL TERR::20	BOYLE TERRACE	WALSH LANE	ENGER LANE	Asphalt	S	299	26	7,762	22	287
RRGV::BYL TERR::30	BOYLE TERRACE	ENGER LANE	SMITH LANE	Asphalt	S	284	26	7,383	36	389
RRGV::BYL TERR::40	BOYLE TERRACE	SMITH LANE	BELMONT AVENUE	Asphalt	S	306	26	7,947	44	376
RRGV::CHRRY AVE::10	CHERRY AVENUE	ELM STREET	WEST STREET	Asphalt	S	316	26	8,223	100	475
RRGV::CHRRY AVE::20	CHERRY AVENUE	WEST STREET	SPRUCE STREET	Asphalt	S	331	26	8,607	100	365
RRGV::CHRRY AVE::30	CHERRY AVENUE	SPRUCE STREET	BEULAH AVENUE	Asphalt	S	297	26	7,716	100	563
RRGV::CHRRY AVE::40	CHERRY AVENUE	BEULAH AVENUE	DES PLAINES RIVER ROAD	Asphalt	S	324	26	8,418	22	478
RRGV::CHSTNT AVE::10	CHESTNUT AVENUE	ELM STREET	BEULAH AVENUE	Asphalt	S	630	26	16,389	68	228
RRGV::CHSTNT AVE::20	CHESTNUT AVENUE	BEULAH AVENUE	DES PLAINES RIVER ROAD	Asphalt	S	358	26	9,299	71	259
RRGV::CLNTN ST::10	CLINTON STREET	FULLERTON AVENUE	GREENWOOD TERRACE	Asphalt	S	614	26	15,962	84	295
RRGV::CLNTN ST::15	CLINTON STREET	GREENWOOD TERRACE	GREENWOOD TERRACE	Asphalt	S	56	26	1,445	83	609
RRGV::CLNTN ST::20	CLINTON STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	Asphalt	S	654	26	17,003	72	249
RRGV::CLNTN ST::30	CLINTON STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	Asphalt	S	423	26	11,011	57	293
RRGV::CLNTN ST::40	CLINTON STREET	GRAND AVENUE	END	Asphalt	S	518	26	13,457	54	236
RRGV::CLRK ST::10	CLARKE STREET	FULLERTON AVENUE	HERRICK AVENUE	Asphalt	S	672	26	17,479	34	320
RRGV::CLRK ST::20	CLARKE STREET	HERRICK AVENUE	WRIGHTWOOD AVENUE	Asphalt	S	461	26	11,976	54	262
RRGV::CLRK ST::30	CLARKE STREET	WRIGHTWOOD AVENUE	RICHARD STREET	Asphalt	S	416	26	10,813	50	211
RRGV::CLRK ST::40	CLARKE STREET	RICHARD STREET	GRAND AVENUE	Asphalt	S	884	26	22,984	59	176
RRGV::CNNR DR::10	O'CONNOR DRIVE	THATCHER AVENUE	BOYLE TERRACE	Asphalt	S	1,068	26	27,760	40	412
RRGV::CNNR DR::20	O'CONNOR DRIVE	BOYLE TERRACE	PARIS AVENUE	Asphalt	S	594	26	15,434	17	499
RRGV::CNNR DR::30	O'CONNOR DRIVE	PARIS AVENUE	80TH AVENUE	Asphalt	S	1,028	26	26,739	46	281
RRGV::CNTR ST::10	CENTER STREET	INDIAN BOUNDRY	FOREST AVENUE	Asphalt	S	399	26	10,377	54	441
RRGV::CNTR ST::20	CENTER STREET	FOREST AVENUE	STRUCKMAN AVENUE	Asphalt	S	310	26	8,058	37	433
RRGV::CNTR ST::30	CENTER STREET	STRUCKMAN AVENUE	AUXPLAINES STREET	Asphalt	S	373	26	9,711	27	446
RRGV::CNTR ST::40	CENTER STREET	AUXPLAINES STREET	PARK AVENUE	Asphalt	S	477	26	12,393	46	320
RRGV::CNTR ST::50	CENTER STREET	PARK AVENUE	1ST AVE	Asphalt	S	387	26	10,057	53	393
RRGV::CNTR ST::60	CENTER STREET	1ST AVE	MARWOOD STREET	Asphalt	S	332	26	8,631	74	647
RRGV::CRY AVE::10	CAREY AVENUE	JULIAN TERRACE	END	Asphalt	S	200	26	5,190	59	360
RRGV::CRY AVE::20	CAREY AVENUE	OAK STREET	JULIAN TERRACE	Asphalt	S	423	26	10,985	63	318

Pavement ID	Road Name	From	To	Surface	Rank	Length (FT)	Width (FT)	Area (SF)	PCI	IRI
RRGV::DTK DR::10	DITKA DRIVE	GRAND AVENUE	END	Asphalt	S	523	26	13,592	55	205
RRGV::DVSSN ST::10	DAVISSON STREET	FULLERTON AVENUE	GREENWOOD TERRACE	Asphalt	S	666	26	17,329	76	266
RRGV::DVSSN ST::20	DAVISSON STREET	GREENWOOD TERRACE	GRAND AVENUE	Asphalt	S	923	26	23,994	75	280
RRGV::DVSSN ST::30	DAVISSON STREET	GRAND AVENUE	END	Asphalt	S	437	26	11,359	48	329
RRGV::ELM ST::10	ELM STREET	PALMER STREET	BELDEN AVENUE	Asphalt	S	666	26	17,310	54	247
RRGV::ELM ST::100	ELM STREET	KENNEDY STREET	BELMONT AVENUE	Concrete	S	604	40	24,140	100	245
RRGV::ELM ST::110	ELM STREET	WALNUT STREET	BELMONT AVENUE	Concrete	S	697	40	27,896	100	265
RRGV::ELM ST::20	ELM STREET	BELDEN AVENUE	FULLERTON AVENUE	Asphalt	S	648	26	16,841	52	204
RRGV::ELM ST::30	ELM STREET	PACIFIC AVENUE	HERRICK AVENUE	Asphalt	S	497	26	12,922	29	394
RRGV::ELM ST::40	ELM STREET	HERRICK AVENUE	RICHARD STREET	Asphalt	S	875	26	22,738	34	223
RRGV::ELM ST::50	ELM STREET	RICHARD STREET	GRAND AVENUE	Asphalt	S	845	26	21,982	25	183
RRGV::ELM ST::60	ELM STREET	GRAND AVENUE	CHERRY AVENUE	Concrete	S	452	40	18,097	100	261
RRGV::ELM ST::70	ELM STREET	CHERRY AVENUE	CHESTNUT AVENUE	Concrete	S	442	40	17,662	100	259
RRGV::ELM ST::80	ELM STREET	CHESTNUT AVENUE	FRANKLIN STREET	Concrete	S	585	40	23,381	100	304
RRGV::ELM ST::90	ELM STREET	FRANKLIN STREET	KENNEDY STREET	Concrete	S	147	30	4,401	100	1,271
RRGV::ENGR LA::10	ENGER LANE	BOYLE TERRACE	PARIS AVENUE	Asphalt	S	594	26	15,455	56	320
RRGV::ER ST::10	ERIE STREET	FULLERTON AVENUE	GREENWOOD TERRACE	Asphalt	S	668	26	17,358	63	276
RRGV::ER ST::20	ERIE STREET	GREENWOOD TERRACE	GRAND AVENUE	Asphalt	S	1,001	26	26,025	70	300
RRGV::ER ST::30	ERIE STREET	GRAND AVENUE	END	Asphalt	S	486	26	12,644	41	306
RRGV::FLLRTN AVE::10	FULLERTON AVENUE	FINLEY AVENUE	ELM STREET	Concrete	P	277	40	11,100	84	-
RRGV::FLLRTN AVE::100	FULLERTON AVENUE	MAPLE STREET	WOOD STREET	Asphalt	S	315	20	6,295	100	604
RRGV::FLLRTN AVE::110	FULLERTON AVENUE	WOOD STREET	FORESTVIEW AVENUE	Asphalt	S	285	26	7,412	100	623
RRGV::FLLRTN AVE::120	FULLERTON AVENUE	FORESTVIEW AVENUE	FULLERTON AVENUE	Asphalt	S	249	26	6,465	100	494
RRGV::FLLRTN AVE::130	FULLERTON AVENUE	FULLERTON AVENUE	1ST AVE	Asphalt	S	161	26	4,173	100	693
RRGV::FLLRTN AVE::20	FULLERTON AVENUE	ELM STREET	WEST STREET	Concrete	P	332	40	13,289	91	-
RRGV::FLLRTN AVE::30	FULLERTON AVENUE	WEST STREET	SPRUCE STREET	Concrete	P	335	50	16,760	74	-
RRGV::FLLRTN AVE::40	FULLERTON AVENUE	SPRUCE STREET	RHODES AVENUE	Concrete	P	330	50	16,497	89	262
RRGV::FLLRTN AVE::50	FULLERTON AVENUE	RHODES AVENUE	CLARKE STREET	Concrete	P	337	50	16,861	95	209
RRGV::FLLRTN AVE::60	FULLERTON AVENUE	CLARKE STREET	LEYDEN AVENUE	Concrete	P	329	30	9,878	98	276
RRGV::FLLRTN AVE::70	FULLERTON AVENUE	LEYDEN AVENUE	GROVE STREET	Concrete	P	343	35	12,012	90	250
RRGV::FLLRTN AVE::80	FULLERTON AVENUE	GROVE STREET	TRUMBULL AVENUE	Concrete	P	329	40	13,161	90	275
RRGV::FLLRTN AVE::90	FULLERTON AVENUE	TRUMBULL AVENUE	DES PLAINES RIVER ROAD	Concrete	P	454	40	18,143	86	279
RRGV::FNLY AVE::10	FINLEY AVENUE	PALMER STREET	BELDEN AVENUE	Asphalt	S	738	26	19,185	100	284
RRGV::FNLY AVE::20	FINLEY AVENUE	BELDEN AVENUE	FULLERTON AVENUE	Asphalt	S	641	26	16,674	100	329
RRGV::FRKL ST::10	FRANKLIN STREET	ELM STREET	BEULAH AVENUE	Asphalt	S	344	26	8,950	44	307
RRGV::FRKL ST::20	FRANKLIN STREET	BEULAH AVENUE	DES PLAINES RIVER ROAD	Asphalt	S	332	26	8,634	55	410
RRGV::FRST AVE::10	FOREST AVENUE	GRAND AVENUE	CENTER STREET	Asphalt	S	381	26	9,911	52	476
RRGV::FRST AVE::20	FOREST AVENUE	CENTER STREET	ARNOLD STREET	Asphalt	S	525	26	13,642	57	446
RRGV::FRSTVW AVE::10	FORESTVIEW AVENUE	FULLERTON AVENUE	HERRICK AVENUE	Asphalt	S	657	26	17,094	76	244
RRGV::FRSTVW AVE::20	FORESTVIEW AVENUE	HERRICK AVENUE	ROOSEVELT LANE	Asphalt	S	865	26	22,501	73	200
RRGV::FRSTVW AVE::30	FORESTVIEW AVENUE	ROOSEVELT LANE	RIVER GROVE AVENUE	Asphalt	S	204	26	5,315	76	236
RRGV::GRNWD TERR::10	GREENWOOD TERRACE	THATCHER AVENUE	BUDD STREET	Asphalt	S	426	26	11,084	69	397
RRGV::GRNWD TERR::20	GREENWOOD TERRACE	BUDD STREET	HESSING STREET	Asphalt	S	325	26	8,445	56	451

Pavement ID	Road Name	From	To	Surface	Rank	Length (FT)	Width (FT)	Area (SF)	PCI	IRI
RRGV::GRNWD TERR::30	GREENWOOD TERRACE	HESSING STREET	CLINTON STREET	Asphalt	S	332	26	8,634	63	407
RRGV::GRNWD TERR::40	GREENWOOD TERRACE	CLINTON STREET	ERIE STREET	Asphalt	S	336	26	8,725	78	367
RRGV::GRNWD TERR::50	GREENWOOD TERRACE	ERIE STREET	DAVISSON STREET	Asphalt	S	329	26	8,559	72	487
RRGV::GRNWD TERR::60	GREENWOOD TERRACE	DAVISSON STREET	HAYMOND STREET	Asphalt	S	338	26	8,791	75	297
RRGV::GRNWD TERR::70	GREENWOOD TERRACE	HAYMOND STREET	WEBSTER STREET	Asphalt	S	320	26	8,308	74	207
RRGV::GRV ST::10	GROVE STREET	BELDEN AVENUE	FULLERTON AVENUE	Asphalt	S	667	26	17,339	77	306
RRGV::GRV ST::20	GROVE STREET	FULLERTON AVENUE	RIDGE STREET	Asphalt	S	352	26	9,148	70	316
RRGV::GRV ST::30	GROVE STREET	RIDGE STREET	HERRICK AVENUE	Asphalt	S	319	26	8,295	67	278
RRGV::GRV ST::40	GROVE STREET	HERRICK AVENUE	WRIGHTWOOD AVENUE	Asphalt	S	454	26	11,795	58	229
RRGV::HRRCK AVE::10	HERRICK AVENUE	START	ELM STREET	Asphalt	S	152	26	3,960	57	420
RRGV::HRRCK AVE::100	HERRICK AVENUE	MAPLE STREET	WOOD STREET	Asphalt	S	327	26	8,508	73	270
RRGV::HRRCK AVE::110	HERRICK AVENUE	WOOD STREET	FORESTVIEW AVENUE	Asphalt	S	294	26	7,636	79	313
RRGV::HRRCK AVE::20	HERRICK AVENUE	ELM STREET	WEST STREET	Asphalt	S	337	26	8,756	53	256
RRGV::HRRCK AVE::30	HERRICK AVENUE	WEST STREET	SPRUCE STREET	Asphalt	S	335	26	8,697	56	280
RRGV::HRRCK AVE::40	HERRICK AVENUE	SPRUCE STREET	RHODES AVENUE	Asphalt	S	330	26	8,591	67	307
RRGV::HRRCK AVE::50	HERRICK AVENUE	RHODES AVENUE	CLARKE STREET	Asphalt	S	334	26	8,673	63	275
RRGV::HRRCK AVE::60	HERRICK AVENUE	CLARKE STREET	LEYDEN AVENUE	Asphalt	S	332	26	8,636	62	224
RRGV::HRRCK AVE::70	HERRICK AVENUE	LEYDEN AVENUE	GROVE STREET	Asphalt	S	338	26	8,796	75	335
RRGV::HRRCK AVE::80	HERRICK AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	Asphalt	S	357	26	9,274	74	485
RRGV::HRRCK AVE::90	HERRICK AVENUE	OAK STREET	MAPLE STREET	Asphalt	S	338	26	8,796	57	300
RRGV::HSSNG ST::10	HESSING STREET	FULLERTON AVENUE	GREENWOOD TERRACE	Asphalt	S	612	26	15,912	58	261
RRGV::HSSNG ST::20	HESSING STREET	GREENWOOD TERRACE	WRIGHTWOOD AVENUE	Asphalt	S	713	26	18,549	45	330
RRGV::HSSNG ST::30	HESSING STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	Asphalt	S	501	26	13,013	58	388
RRGV::HSSNG ST::40	HESSING STREET	GRAND AVENUE	END	Asphalt	S	576	26	14,976	100	505
RRGV::HYMND ST::10	HAYMOND STREET	FULLERTON AVENUE	GREENWOOD TERRACE	Asphalt	S	661	26	17,174	65	204
RRGV::HYMND ST::20	HAYMOND STREET	GREENWOOD TERRACE	GRAND AVENUE	Asphalt	S	847	26	22,021	64	321
RRGV::HYMND ST::30	HAYMOND STREET	GRAND AVENUE	END	Asphalt	S	385	26	10,004	44	468
RRGV::INDN BNDR::10	INDIAN BOUNDRY	GRAND AVENUE	CENTER STREET	Asphalt	S	510	26	13,249	45	374
RRGV::INDN BNDR::20	INDIAN BOUNDRY	CENTER STREET	FOREST AVENUE	Asphalt	S	420	26	10,920	47	312
RRGV::INDN BNDR::30	INDIAN BOUNDRY	FOREST AVENUE	ARNOLD STREET	Asphalt	S	134	26	3,495	51	567
RRGV::JLN TER::10	JULIAN TERRACE	CAREY AVENUE	GRAND AVENUE	Asphalt	S	421	26	10,934	71	290
RRGV::KNNDY ST::10	KENNEDY STREET	ELM STREET	DES PLAINES RIVER ROAD	Asphalt	S	612	26	15,907	32	316
RRGV::LYDN AVE::10	LEYDEN AVENUE	PALMER STREET	LYNDALE STREET	Asphalt	S	339	26	8,804	58	173
RRGV::LYDN AVE::20	LEYDEN AVENUE	LYNDALE STREET	BELDEN AVENUE	Asphalt	S	314	26	8,165	71	202
RRGV::LYDN AVE::30	LEYDEN AVENUE	BELDEN AVENUE	FULLERTON AVENUE	Asphalt	S	659	26	17,122	61	228
RRGV::LYDN AVE::40	LEYDEN AVENUE	FULLERTON AVENUE	HERRICK AVENUE	Asphalt	S	675	26	17,550	49	337
RRGV::LYDN AVE::50	LEYDEN AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	Asphalt	S	457	26	11,886	66	317
RRGV::LYDN AVE::60	LEYDEN AVENUE	WRIGHTWOOD AVENUE	RICHARD STREET	Asphalt	S	421	26	10,952	56	254
RRGV::LYNDL ST::10	LYNDALE STREET	LEYDEN AVENUE	TRUMBULL AVENUE	Asphalt	S	658	26	17,111	100	215
RRGV::LYNDL ST::20	LYNDALE STREET	TRUMBULL AVENUE	5TH AVENUE	Asphalt	S	664	26	17,256	100	263
RRGV::MPL ST::10	MAPLE STREET	FULLERTON AVENUE	HERRICK AVENUE	Asphalt	S	641	26	16,654	54	258
RRGV::MPL ST::20	MAPLE STREET	HERRICK AVENUE	ROOSEVELT LANE	Asphalt	S	867	26	22,551	71	248
RRGV::MRWD ST::10	MARWOOD STREET	WRIGHTWOOD AVENUE	END	Asphalt	S	562	26	14,623	65	319

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RRGV::MRWD ST::20	MARWOOD STREET	WRIGHTWOOD AVENUE	GRAND AVENUE	Asphalt	S	653	26	16,986	72	270
RRGV::MRWD ST::30	MARWOOD STREET	GRAND AVENUE	CENTER STREET	Asphalt	S	454	26	11,810	62	506
RRGV::OK ST::10	OAK STREET	HERRICK AVENUE	ROOSEVELT LANE	Asphalt	S	865	26	22,502	60	168
RRGV::OK ST::20	OAK STREET	ROOSEVELT LANE	RIVER GROVE AVENUE	Asphalt	S	209	26	5,428	63	231
RRGV::OK ST::30	OAK STREET	RIVER GROVE AVENUE	CAREY AVENUE	Asphalt	S	358	26	9,300	53	224
RRGV::OK ST::40	OAK STREET	CAREY AVENUE	GRAND AVENUE	Asphalt	S	278	26	7,231	59	263
RRGV::PLMR ST::10	PALMER STREET	ELM STREET	FINLEY AVENUE	Asphalt	S	126	26	3,275	70	256
RRGV::PLMR ST::20	PALMER STREET	ELM STREET	WEST STREET	Asphalt	S	331	26	8,600	54	265
RRGV::PLMR ST::30	PALMER STREET	WEST STREET	LEYDEN AVENUE	Asphalt	S	1,337	26	34,770	26	399
RRGV::PLMR ST::40	PALMER STREET	LEYDEN AVENUE	TRUMBULL AVENUE	Asphalt	S	656	26	17,055	22	350
RRGV::PLMR ST::50	PALMER STREET	TRUMBULL AVENUE	5TH AVENUE	Asphalt	S	664	26	17,272	24	258
RRGV::PRS AV::10	PARIS AVENUE	O'CONNOR DRIVE	WALSH LANE	Asphalt	S	295	26	7,662	55	398
RRGV::PRS AV::20	PARIS AVENUE	WALSH LANE	ENGER LANE	Asphalt	S	299	26	7,762	21	339
RRGV::PRS AV::30	PARIS AVENUE	ENGER LANE	SMITH LANE	Asphalt	S	280	26	7,271	43	344
RRGV::PRS AV::40	PARIS AVENUE	SMITH LANE	BELMONT AVENUE	Asphalt	S	310	26	8,071	39	345
RRGV::RCHRD ST::10	RICHARD STREET	START	ELM STREET	Asphalt	S	156	26	4,053	60	165
RRGV::RCHRD ST::20	RICHARD STREET	ELM STREET	WEST STREET	Asphalt	S	340	26	8,837	56	285
RRGV::RCHRD ST::30	RICHARD STREET	WEST STREET	SPRUCE STREET	Asphalt	S	332	26	8,627	54	256
RRGV::RCHRD ST::40	RICHARD STREET	SPRUCE STREET	RHODES AVENUE	Asphalt	S	331	26	8,609	38	299
RRGV::RCHRD ST::50	RICHARD STREET	RHODES AVENUE	CLARKE STREET	Asphalt	S	329	26	8,550	42	295
RRGV::RCHRD ST::60	RICHARD STREET	CLARKE STREET	LEYDEN AVENUE	Asphalt	S	336	26	8,734	61	277
RRGV::RCHRD ST::70	RICHARD STREET	LEYDEN AVENUE	DES PLAINES RIVER ROAD	Asphalt	S	219	26	5,684	54	206
RRGV::RDG ST::10	RIDGE STREET	GROVE STREET	DES PLAINES RIVER ROAD	Asphalt	S	569	26	14,801	74	254
RRGV::RHDS AVE::10	RHODES AVENUE	FULLERTON AVENUE	HERRICK AVENUE	Asphalt	S	673	26	17,499	23	358
RRGV::RHDS AVE::20	RHODES AVENUE	HERRICK AVENUE	WRIGHTWOOD AVENUE	Asphalt	S	464	26	12,066	70	341
RRGV::RHDS AVE::30	RHODES AVENUE	WRIGHTWOOD AVENUE	RICHARD STREET	Asphalt	S	411	26	10,677	73	248
RRGV::RHDS AVE::40	RHODES AVENUE	RICHARD STREET	GRAND AVENUE	Asphalt	S	825	26	21,451	64	218
RRGV::RNLD ST::10	ARNOLD STREET	INDIAN BOUNDRY	STRUCKMAN AVENUE	Asphalt	S	415	26	10,783	70	334
RRGV::RNLD ST::20	ARNOLD STREET	STRUCKMAN AVENUE	AUXPLAINES STREET	Asphalt	S	380	26	9,893	60	439
RRGV::RNLD ST::30	ARNOLD STREET	AUXPLAINES STREET	PARK AVENUE	Asphalt	S	474	26	12,336	64	329
RRGV::RNLD ST::40	ARNOLD STREET	PARK AVENUE	1ST AVE	Asphalt	S	319	26	8,296	60	408
RRGV::RSVLT LN::10	ROOSEVELT LANE	OAK STREET	MAPLE STREET	Asphalt	S	347	26	9,011	62	392
RRGV::RSVLT LN::20	ROOSEVELT LANE	MAPLE STREET	WOOD STREET	Asphalt	S	315	26	8,190	58	318
RRGV::RSVLT LN::30	ROOSEVELT LANE	WOOD STREET	FORESTVIEW AVENUE	Asphalt	S	305	26	7,932	67	425
RRGV::RVR GV AVE::10	RIVER GROVE AVENUE	OAK STREET	END	Asphalt	S	165	26	4,279	73	244
RRGV::RVR GV AVE::20	RIVER GROVE AVENUE	OAK STREET	WOOD STREET	Asphalt	S	657	26	17,080	62	226
RRGV::RVR GV AVE::30	RIVER GROVE AVENUE	WOOD STREET	FORESTVIEW AVENUE	Asphalt	S	308	26	8,012	63	322
RRGV::RVR GV AVE::40	RIVER GROVE AVENUE	FORESTVIEW AVENUE	1ST AVE	Asphalt	S	385	26	10,006	68	285
RRGV::SMTH LA::10	SMITH LANE	BOYLE TERRACE	PARIS AVENUE	Asphalt	S	595	26	15,465	56	367
RRGV::SPRC ST::10	SPRUCE STREET	FULLERTON AVENUE	HERRICK AVENUE	Asphalt	S	677	26	17,610	54	305
RRGV::SPRC ST::20	SPRUCE STREET	HERRICK AVENUE	WRIGHTWOOD AVENUE	Asphalt	S	468	26	12,156	28	347
RRGV::SPRC ST::30	SPRUCE STREET	WRIGHTWOOD AVENUE	RICHARD STREET	Asphalt	S	405	26	10,539	54	212
RRGV::SPRC ST::40	SPRUCE STREET	RICHARD STREET	GRAND AVENUE	Asphalt	S	834	26	21,676	52	233

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RRGV::SPRC ST::50	SPRUCE STREET	GRAND AVENUE	CHERRY AVENUE	Asphalt	S	475	26	12,358	85	238
RRGV::STRKMN AVE::10	STRUCKMAN AVENUE	GRAND AVENUE	CENTER STREET	Asphalt	S	381	26	9,906	45	321
RRGV::STRKMN AVE::20	STRUCKMAN AVENUE	CENTER STREET	ARNOLD STREET	Asphalt	S	497	26	12,934	57	545
RRGV::THTCHR AVE::10	THATCHER AVENUE	THATCHER AVENUE	END	Asphalt	S	220	26	5,719	73	417
RRGV::TRMBLL AVE::10	TRUMBULL AVENUE	PALMER STREET	LYNDALE STREET	Asphalt	S	351	26	9,120	28	536
RRGV::TRMBLL AVE::20	TRUMBULL AVENUE	LYNDALE STREET	BELDEN AVENUE	Asphalt	S	317	26	8,239	27	405
RRGV::TRMBLL AVE::30	TRUMBULL AVENUE	BELDEN AVENUE	FULLERTON AVENUE	Asphalt	S	654	26	16,996	75	242
RRGV::TRPY LN::10	TARPEY LANE	GRAND AVENUE	CENTER STREET	Asphalt	S	385	26	10,016	63	352
RRGV::TRPY LN::20	TARPEY LANE	CENTER STREET	ARNOLD STREET	Asphalt	S	377	26	9,809	42	262
RRGV::WBSTR ST::10	WEBSTER STREET	FULLERTON AVENUE	GREENWOOD TERRACE	Asphalt	S	625	20	12,491	41	405
RRGV::WBSTR ST::20	WEBSTER STREET	GREENWOOD TERRACE	GRAND AVENUE	Asphalt	S	772	20	15,442	26	352
RRGV::WD ST::10	WOOD STREET	FULLERTON AVENUE	HERRICK AVENUE	Asphalt	S	653	26	16,981	67	188
RRGV::WD ST::20	WOOD STREET	HERRICK AVENUE	ROOSEVELT LANE	Asphalt	S	866	26	22,525	69	241
RRGV::WD ST::30	WOOD STREET	ROOSEVELT LANE	RIVER GROVE AVENUE	Asphalt	S	217	26	5,632	79	385
RRGV::WLNT ST::10	WALNUT STREET	ELM STREET	DES PLAINES RIVER ROAD	Asphalt	S	431	26	11,202	28	506
RRGV::WLSH LA::10	WALSH LANE	BOYLE TERRACE	PARIS AVENUE	Asphalt	S	594	26	15,445	54	401
RRGV::WRHTWD AVE::10	WRIGHTWOOD AVENUE	SPRUCE STREET	RHODES AVENUE	Asphalt	S	331	26	8,600	68	329
RRGV::WRHTWD AVE::20	WRIGHTWOOD AVENUE	RHODES AVENUE	CLARKE STREET	Asphalt	S	331	26	8,608	46	288
RRGV::WRHTWD AVE::30	WRIGHTWOOD AVENUE	CLARKE STREET	LEYDEN AVENUE	Asphalt	S	334	26	8,687	55	291
RRGV::WRHTWD AVE::40	WRIGHTWOOD AVENUE	LEYDEN AVENUE	GROVE STREET	Asphalt	S	335	26	8,711	50	291
RRGV::WRHTWD AVE::50	WRIGHTWOOD AVENUE	GROVE STREET	DES PLAINES RIVER ROAD	Asphalt	S	102	26	2,650	60	1,454
RRGV::WRHTWD AVE::60	WRIGHTWOOD AVENUE	1ST AVE	MARWOOD STREET	Asphalt	S	330	26	8,589	65	216
RRGV::WRHTWD AVE::70	WRIGHTWOOD AVENUE	MARWOOD STREET	BUDD STREET	Asphalt	S	329	26	8,549	64	304
RRGV::WRHTWD AVE::80	WRIGHTWOOD AVENUE	BUDD STREET	HESSING STREET	Asphalt	S	336	26	8,730	59	363
RRGV::WRHTWD AVE::90	WRIGHTWOOD AVENUE	HESSING STREET	CLINTON STREET	Asphalt	S	333	26	8,658	59	385
RRGV::WST ST::10	WEST STREET	START	PALMER STREET	Asphalt	P	540	30	16,186	24	375
RRGV::WST ST::20	WEST STREET	PALMER STREET	BELDEN AVENUE	Asphalt	P	658	26	17,114	45	233
RRGV::WST ST::30	WEST STREET	BELDEN AVENUE	FULLERTON AVENUE	Asphalt	P	654	26	17,006	31	297
RRGV::WST ST::40	WEST STREET	FULLERTON AVENUE	HERRICK AVENUE	Asphalt	S	682	26	17,722	42	385
RRGV::WST ST::50	WEST STREET	HERRICK AVENUE	RICHARD STREET	Asphalt	S	871	26	22,648	26	280
RRGV::WST ST::60	WEST STREET	RICHARD STREET	GRAND AVENUE	Asphalt	S	846	26	21,988	21	352
RRGV::WST ST::70	WEST STREET	GRAND AVENUE	CHERRY AVENUE	Asphalt	S	459	26	11,947	78	225