
TECHNICAL MEMORANDUM

PROJECT: City of Woodcreek General Services

SUBJECT: Pavement Management Program

DATE: February 26, 2021



B.R. Bell

February 26, 2021

INTRODUCTION

K Friese + Associates, Inc. (KFA) was tasked with performing a city-wide pavement evaluation for the City of Woodcreek. KFA performed site visits to determine the current condition of all roads owned and maintained by the City. This information was used to recommend pavement solutions and develop guidelines to consistently assess pavement condition in the future.

The majority of the streets within the City were built with the original development in the 1970's and 1980's. From visual observation, it is apparent that the original street construction consisted of a two-course surface treatment (chip seal) overlaid on either base material or native caliche subgrade. The City has subsequently repaired certain roads with chip seal. This construction makes some pavement repair strategies like crack sealing and seal coating infeasible. It was also communicated that chip seal is not a desirable strategy for the City due to the amount of loose aggregate that collects on the roadside.

Methodology

This evaluation utilizes the methodology described in the Manual for Condition Rating of Flexible Pavements (MTO SP-024) developed by the Ontario Ministry of Transportation. This methodology includes a visual inspection of the streets with a scoring system based on ride comfort as well as types and severity of pavement distress. First, a geodatabase of the existing roads in Woodcreek was developed in ArcMap – a Geographic Information Systems (GIS) based software program. The roadways were divided into sections based on intersections with other roads to evaluate the pavement condition more accurately. Each section of roadway was inspected to determine its Pavement Condition Index (PCI). The PCI is a numerical rating based on subjective observations for the condition of the pavement, where 0 is the worst and 100 is the best. It measures the type, severity, and extent of pavement distresses as well as the smoothness of the road.

The PCI inspection was conducted through a visual inspection of the pavement. The RCR, shown in **Table 1**, is a subjective scale used to assess how the public would rate the pavement quality.

8 - 10	Excellent	Very smooth
6 - 8	Good	Smooth with a few bumps or depressions
4 - 6	Fair	Comfortable with intermittent bumps or depressions
2 - 4	Poor	Uncomfortable with frequent bumps or depressions
0 - 2	Very Poor	Uncomfortable with constant bumps or depressions

Table 1. RCR Scale

The roadway sections were visually inspected to identify pavement distresses. The type, severity, and frequency of each distress was recorded. An example of the form that was used to inspect the roads is shown in **Exhibit 1**. MTO SP-024 provides a detailed description of the types of distresses.

Exhibit 1: PCI Evaluation Form

Flexible Pavement Condition Evaluation Form														
Survey Date: _____			Evaluated by: _____											
Road (Street) Name: _____			Location: from _____ to _____											
Section #: _____			Class of Road (circle one): freeway arterial collector local											
			Severity (S _i)					Density(D _i)						
			Very Slight	Slight	Moderate	Severe	Very Severe	Few	Intermittent	Frequent	Extensive	Throughout		
Ride Comfort Rating (at posted speed)														
10	9	8	7	6	5	4	3	2	1	<10	10-20	20-40	40-80	>80
Pavement			W _i	0.25	0.5	1	1.5	2	0.25	0.5	1	1.5	2	
Surface Defects	Raveling & loss of surface aggregate		1.5											
	Flushing		0.5											
Surface Deformations	Rippling and Shoving		1											
	Wheel Track Rutting		3											
	Distortion		3											
Cracking	Longitudinal Wheel Track	Single and Multiple	1											
		Alligator	3											
	Centerline	Single and Multiple	0.5											
		Alligator	2											
	Pavement Edge	Single and Multiple	0.5											
		Alligator	1.5											
	Transverse	Half, full and multiple	1											
		Alligator	3											
	Longitudinal - meander or mid-lane		1											

To calculate the PCI, each distress was given a weighting factor (W_i) that correlates to how much it affects pavement quality, shown in **Exhibit 1**. The weight of the distress was used along with the severity and density to determine the Distress Manifestation Index (DMI) using the following formula:

$$DMI = \sum_i^n W_i \times (S_i + D_i)$$

where:

- N = Number of distresses
- W_i = Weight of the distress, i
- S_i = Severity of the distress, i
- D_i = Density of the distress, i

The PCI was then calculated using the RCR and DMI with the following formula:

$$PCI = 100 - (DMI + (10 - RCR))$$

After the PCI was calculated for each roadway section, it was used to determine the maintenance requirements. **Table 2** defines the different PCI rating categories and their corresponding maintenance classification. The maintenance classification and time before rehabilitation should occur was determined using the decision matrix shown in **Table 3** for each road section.

Table 2. PCI Rating Scale

PCI Rating	Range	Definition	Maintenance Classification
Good	100 - 85	Pavement has minor or no distresses and requires only routine maintenance.	Preventative
Satisfactory	84 - 70	Pavement has scattered low-severity to medium distresses that need only routine maintenance.	Preventative
At risk	69 - 50	Pavement has low, medium, and high severity distresses that may cause a reduction in ride quality.	Rehabilitation
Poor	49 - 25	Pavement has predominantly medium and high severity distresses that cause noticeable reduction in ride quality and pavement life span.	Rehabilitation
Serious	24 - 0	Pavement has mainly high severity distresses that cause significant reduction in ride quality and pavement life span. Immediate repairs are needed.	Reconstruction

Table 3. PCI Decision Matrix

Time of Improvement	Arterial	Collector	Local
Adequate	> 85	>80	>80
6-10 years	76-85	71-80	66-80
1-5 years	56-75	51-70	46-65
Rehabilitate Now	50-55	45-50	40-45
Reconstruct Now	< 50	< 45	< 40

The proposed solutions for each section were provided using the suggested treatments for each type of pavement distress outlined in MTO SP-024. In general, crack sealing is usually recommended for slight to moderate cracking, a seal coat recommended for slight to moderate raveling and slight alligator cracking, and patch repairs recommended for several raveling and moderate rippling, shoving, rutting, distortion, and alligator cracking. For sections with an extension amount of severe or very severe distresses, milling and overlay was suggested. For the City of Woodcreek, however, the non-conventional construction of the streets will not make crack repairs or seal coating feasible. Therefore, the preventative strategies are not applicable for this study. A 2” HMAC overlay will be proposed for the streets with the highest priority. Also, patch repairs of potholes will be included. The definitions for the distress types are located in **Appendix A**. The tables in **Appendix B** provide more details on the suggested solutions for each type and severity of pavement distress.

Pavement Results

The PCI of the roads range from 75 to 99. Approximately 80% of the sections were classified as “good” and 20% were considered “satisfactory”. The remaining were private roads that were not considered. A proposed solution was provided for each section with a PCI below 85. The complete roadway evaluations are included in the **Attachment B: PCI Evaluation Results** and a summary of the results is shown in **Appendix C**.

Project Identification

Each roadway section was given a ranking to determine its maintenance priority. Priority points were given to each section based on its PCI Condition Category, **Table 4**, and the amount of traffic, **Table 5**. The sections with the most priority points were given the highest maintenance priority. A complete list of the priority for each section is shown in **Appendix D**.

Table 4. PCI Condition Priority Points

PCI Condition Category	Priority Points
Good	1
Satisfactory	2
At Risk	3
Poor	4
Serious	5

Table 5. Traffic Priority Points

Amount of Traffic	Priority Points	
	PCI \geq 70	PCI < 70
Light Traffic	1	1
Medium Traffic	1	2
High Traffic	1	3

After the road sections were ranked, the top projects were identified that has the highest priority. Each project contains one or more roadway section that is categorized as “at risk” based on the PCI. Cost estimates were prepared for each top project including engineering and construction costs. The construction unit costs were obtained from recent TxDOT data, shown in **Table 6**. The following assumptions were made to estimate the cost of the road repairs.

Table 6. Unit Costs

Proposed Solution	Units	Unit Cost
Pothole Spot Repair	SY	\$50
Overlay	SY	\$25

A priority list for the first projects was developed, shown in **Table 7**. A color coded map showing the range of PCI scores is included in **Attachment A: PCI Scores**. The exact order of street improvements will be determined by available funds and it may take more than 1 year to facilitate the improvements.

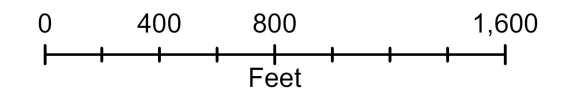
Table 7. Priority Project List

Project Priority	Road Name	Project Limits	Proposed Solutions	Estimated Cost
1	Woodcreek Dr	E. of Cypress Point to Champions Cir	Overlay	\$ 29,611
2	Brookside Dr	Begin to Brookmeadow Dr	Patch Repairs & Overlay	\$ 25,431
3	Deerfield Dr	Begin to Woodcreek Dr	Overlay	\$ 51,911
4	Garrison Trl	Canyon Creek Dr to End	Overlay	\$ 16,900
5	Doolittle Dr	Wildwood Cir to Doolittle Dr	Overlay	\$ 10,133
6	Tremont Trce	Begin to Champions Cir	Patch Repairs & Overlay	\$ 31,875
7	Wilson Cir	Being to Spalding Cir	Patch Repairs & Overlay	\$ 20,600
8	Overbrook Ct	Begin to Brookhollow Dr	Patch Repairs & Overlay	\$ 45,300
9	Champions Cir	Overlook Ct to Woodcreek Dr	Patch Repairs & Overlay	\$ 106,667
10	Mcgregor Cir	Begin to Spalding Cir	Patch Repairs & Overlay	\$ 35,383
11	Wildwood Cir	Doolittle Dr to Doolittle Dr	Overlay	\$ 37,763
12	Woodcreek Dr	Stonehouse Cir to Par View Dr	Patch Repairs & Overlay	\$ 29,333
13	Doolittle Dr	Private Rd to Jack Miller Dr	Patch Repairs & Overlay	\$ 73,556
14	Overlook Cir	Palmer Ln to DRVW	Overlay	\$ 59,356
			Subtotal	\$ 573,819
			Contingency (25%)	\$ 143,455
			Total Cost	\$ 717,274

Attachment A City of Woodcreek

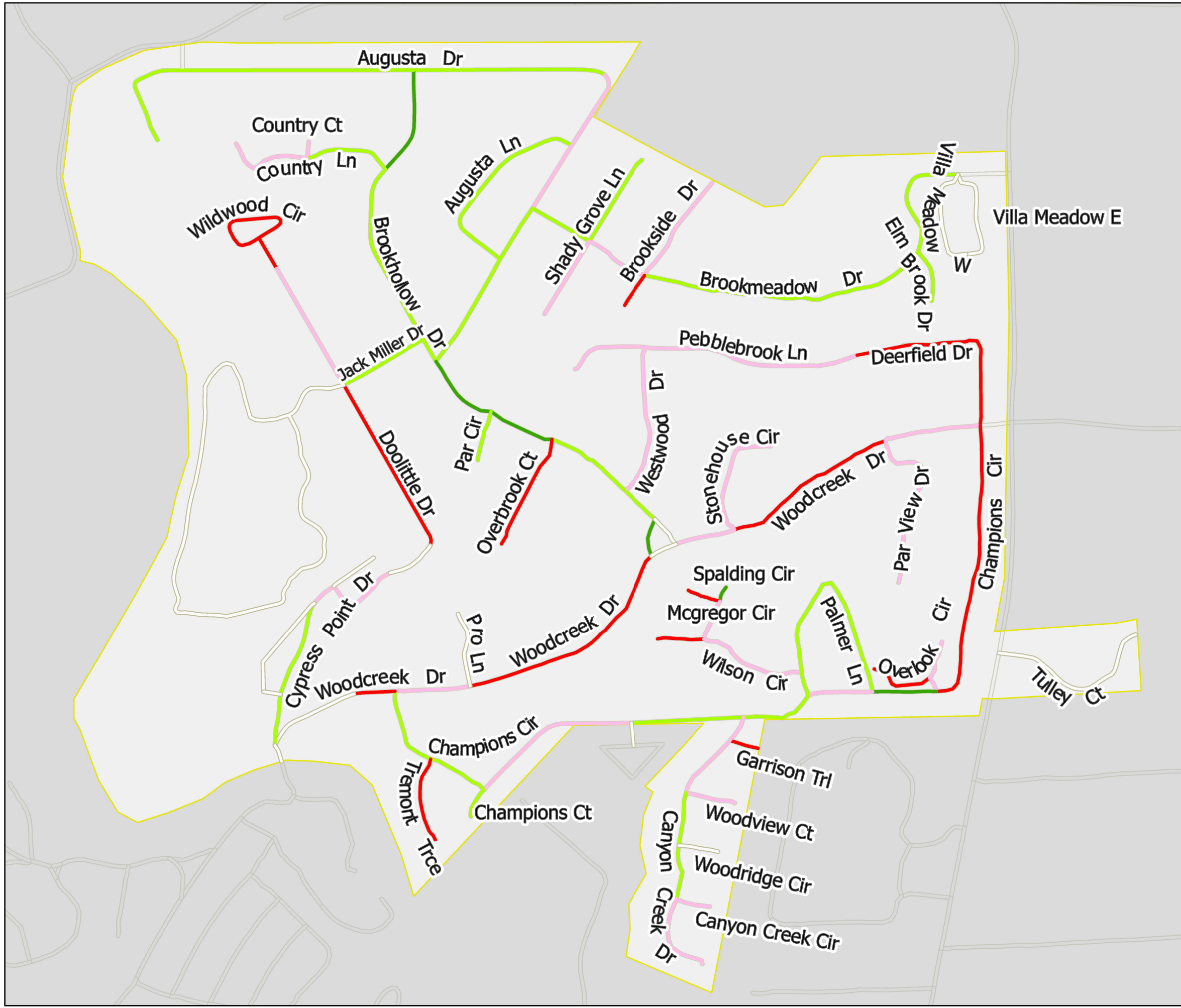
PCI Scores

- PCI
- < 85
 - 85 - 89
 - 90 - 94
 - 95 - 100
 - Private



Scale: 1:8,000

Date: 2/10/2021



Appendix A: Glossary of Terms

Centerline Crack: a crack that runs along or near the centerline of the pavement

Longitudinal Meander and Mid-Lane Crack: a crack that wanders from edge to edge of the pavement or a crack that parallels the centerline of the pavement at or near the middle of the lane

Longitudinal Wheel Track Crack: a crack that follows a course approximately parallel to the centerline of the pavement and are situated at or near the center of the wheel tracks

Pavement Edge Crack: a crack that is parallel to and within one (1) foot of the pavement edge

Transverse Crack: a crack that is perpendicular to the centerline of the pavement

Wheel Track Rutting: longitudinal depressions left in the wheel tracks after repeated load application

Alligator Cracks: cracks that form a network of polygon blocks resembling the skin of an alligator



Figure 1: Alligator Cracks

Distortion: any deviation (other than rippling/shoving or rutting) of the pavement surface from its original shape, usually as a result of swelling, instability of the subgrade, or patch failures



Figure 2: Distortion

Flushing: the presence of free asphalt binder on the pavement surface, resulting from upward migration of the binder

Raveling: the progressive disintegration of asphalt as a result of the dislodgement of aggregate particles from the surface of the pavement



Figure 3: Raveling

Rippling/Shoving: singular and multiple waves or humps located transversely or longitudinally on the pavement surface

Appendix B: Suggested Treatments

Table D1. Raveling

Evaluation		Suggested Solution
Severity	Density	
Very Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	None
	Throughout	None
Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	Crack Sealing with Seal Coat
	Throughout	Crack Sealing with Seal Coat
Moderate	Few	Crack Sealing with Seal Coat
	Intermittent	Crack Sealing with Seal Coat
	Frequent	Crack Sealing with Seal Coat
	Extensive	Crack Sealing with Seal Coat
	Throughout	Crack Sealing with Seal Coat
Severe	Few	Crack Sealing with Seal Coat
	Intermittent	Crack Sealing with Seal Coat
	Frequent	Patch Repairs
	Extensive	Patch Repairs
	Throughout	Mill and Overlay
Very Severe	Few	Crack Sealing with Seal Coat
	Intermittent	Crack Sealing with Seal Coat
	Frequent	Patch Repairs
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay

Table D2. Rippling & Shoving

Evaluation		Suggested Solution
Severity	Density	
Very Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	None
	Throughout	None
Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	Crack Sealing with Seal Coat
	Throughout	Crack Sealing with Seal Coat
Moderate	Few	Crack Sealing with Seal Coat
	Intermittent	Crack Sealing with Seal Coat
	Frequent	Crack Sealing with Seal Coat
	Extensive	Crack Sealing with Seal Coat
	Throughout	Crack Sealing with Seal Coat
Severe	Few	Crack Sealing with Seal Coat
	Intermittent	Crack Sealing with Seal Coat
	Frequent	Patch Repairs
	Extensive	Patch Repairs
	Throughout	Mill and Overlay
Very Severe	Few	Crack Sealing with Seal Coat
	Intermittent	Crack Sealing with Seal Coat
	Frequent	Patch Repairs
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay

Table D3. Rutting

Evaluation		Suggested Solution
Severity	Density	
Very Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	None
	Throughout	None
Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	None
	Throughout	None
Moderate	Few	None
	Intermittent	Patch Repairs
	Frequent	Patch Repairs
	Extensive	Patch Repairs
	Throughout	Mill and Overlay
Severe	Few	Patch Repairs
	Intermittent	Patch Repairs
	Frequent	Mill and Overlay
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay
Very Severe	Few	Patch Repairs
	Intermittent	Patch Repairs
	Frequent	Mill and Overlay
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay

Table D4. Distortion

Evaluation		Suggested Solution
Severity	Density	
Very Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	None
	Throughout	None
Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	None
	Throughout	None
Moderate	Few	None
	Intermittent	Patch Repairs
	Frequent	Mill and Overlay
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay
Severe	Few	Patch Repairs
	Intermittent	Patch Repairs
	Frequent	Mill and Overlay
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay
Very Severe	Few	Patch Repairs
	Intermittent	Patch Repairs
	Frequent	Reconstruction
	Extensive	Reconstruction
	Throughout	Reconstruction

Table D5. Cracking

Evaluation		Suggested Solution
Severity	Density	
Very Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	None
	Throughout	None
Slight	Few	None
	Intermittent	Crack Sealing
	Frequent	Crack Sealing
	Extensive	Crack Sealing
	Throughout	Crack Sealing
Moderate	Few	Crack Sealing
	Intermittent	Crack Sealing
	Frequent	Crack Sealing
	Extensive	Crack Sealing
	Throughout	Crack Sealing
Severe	Few	None
	Intermittent	None
	Frequent	None
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay
Very Severe	Few	None
	Intermittent	None
	Frequent	Mill and Overlay
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay

Table D6. Alligator Cracking

Evaluation		Suggested Solution
Severity	Density	
Very Slight	Few	None
	Intermittent	None
	Frequent	None
	Extensive	None
	Throughout	None
Slight	Few	None
	Intermittent	Crack Sealing
	Frequent	Crack Sealing
	Extensive	Crack Sealing with Seal Coat
	Throughout	Crack Sealing with Seal Coat
Moderate	Few	Patch Repairs
	Intermittent	Patch Repairs
	Frequent	Patch Repairs
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay
Severe	Few	Patch Repairs
	Intermittent	Patch Repairs
	Frequent	Patch Repairs
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay
Very Severe	Few	Patch Repairs
	Intermittent	Patch Repairs
	Frequent	Mill and Overlay
	Extensive	Mill and Overlay
	Throughout	Mill and Overlay

Appendix C: PCI Inspection Results

Street	Section	Description	Section Length (Ft)	Road Class	PCI	PCI Condition Category	Maintenance Category	Proposed Solution
Garrison Trl	1873	Canyon Creek Dr to End	190	Local	81	Satisfactory	Rehabilitation	Mill and Overlay
Augusta Dr	2295	Brookmeadow DR to Augusta Dr	1257	Local	93	Good	Preventative	
Country Ct	2303	Country Ln to End	118	Local	87	Good	Preventative	
Brookhollow Dr	2307	Country Ln to Augusta Dr	738	Local	98	Good	Preventative	
Country Ln	2308	Country Ct to Brookhollow Dr	591	Local	91	Good	Preventative	
Country Ln	2309	Begin to Country Ct	437	Local	85	Good	Rehabilitation	Crack Sealing
Cypress Point Dr	2606	Cypress Point Dr to Cypress Point Dr	214	Local	88	Good	Preventative	
Cypress Point Dr	2607	Cypress Point Dr to Gate	540	Local	85	Good	Rehabilitation	Patch Repairs
Brookhollow Dr	2631	Westwood Dr to Brookhollow Dr	481	Local	94	Good	Preventative	
Champions Cir	2639	Fallbrook to Champions Ct	3490	Local	89	Good	Preventative	
Champions Cir	2640	Tremont Trce to Champions Ct	395	Local	91	Good	Preventative	
Canyon Creek Dr	2643	Woodridge Cir to Garrison Trl	453	Local	88	Good	Preventative	
Augusta Dr	2666	Begin to Brookhollow Dr	2369	Local	90	Good	Preventative	
Spalding Cir	2811	Begin to Mcgregor Cir	82	Local	96	Good	Preventative	
Mcgregor Cir	2812	Begin to Spalding Cir	255	Local	84	Satisfactory	Rehabilitation	Patch Repairs
Augusta Dr	2838	Augusta Ln to Brookmeadow Dr	418	Local	91	Good	Preventative	
Augusta Ln	2839	Augusta Dr to Augusta Dr	1410	Local	90	Good	Preventative	
Doolittle Dr	2840	Wildwood Cir to Doolittle Dr	228	Local	81	Satisfactory	Rehabilitation	Crack Sealing with Seal Coat

Brookside Dr	2843	Brookmeadow Dr to end	620	Local	87	Good	Preventative	
Brookmeadow Dr	2844	Shady Grove Ln to Brookside Dr	448	Collector	88	Good	Preventative	
Brookmeadow Dr	2848	Brookside Dr to Elm Brook Dr	1982	Collector	94	Good	Preventative	
Elmbrook Dr	2849	Brookmeadow Dr to End	389	Local	90	Good	Preventative	
Brookside Dr	2851	Begin to Brookmeadow Dr	290	Local	78	Satisfactory	Rehabilitation	Patch Repairs
Augusta Dr	2973	Brookmeadow Dr to Augusta Ln	615	Local	89	Good	Preventative	
Augusta Dr	3010	Brookmeadow DR to Augusta Dr	511	Local	86	Good	Preventative	
Shady Grove Ln	3026	Brookmeadow Dr to End	667	Local	91	Good	Preventative	
Brookmeadow Dr	3027	Augusta Dr to Shady Grove Ln	448	Local	90	Good	Preventative	
Wildwood Cir	3033	Doolittle Dr to Doolittle Dr	880	Local	84	Satisfactory	Rehabilitation	Crack Sealing with Seal Coat
Brookmeadow Dr	3037	Elm Brook Dr to Villa Meadow W	820	Local	92	Good	Preventative	
Shady Grove Ln	3044	Begin to Brookmeadow Dr	618	Local	88	Good	Preventative	
Brookhollow Dr	3046	Country Ln to Jack Miller Dr	1300	Local	94	Good	Preventative	
Augusta Dr	3070	Brookhollow Dr to Augusta Ln	820	Local	90	Good	Preventative	
Brookhollow Dr	3071	Jack Miller Dr to Brookhollow Dr	169	Local	93	Good	Preventative	
Spalding Cir	3074	Wilson Cir to Mcgregor Cir	294	Local	88	Good	Preventative	
Wilson Cir	3075	Being to Spalding Cir	331	Local	83	Satisfactory	Rehabilitation	Patch Repairs
Pebblebrook Ln	3116	Westwood Dr to End	1575	Local	85	Good	Rehabilitation	Crack Sealing with Seal Coat
Pebblebrook Ln	3118	Begin to Westwood Dr	557	Local	86	Good	Preventative	
Jack Miller Dr	3121	Doolittle Dr to Brookhollow Dr	616	Local	92	Good	Preventative	
Doolittle Dr	3122	Doolittle Dr to Jack Miller Dr	943	Local	88	Good	Preventative	

Brookhollow Dr	3135	Brookhollow Dr to Par Cir	258	Local	95	Good	Preventative	
Deerfield Dr	3140	Begin to Woodcreek Dr	1168	Local	80	Satisfactory	Rehabilitation	Crack Sealing with Seal Coat
Brookhollow Dr	3150	Par Cir to Overbrook Ct	460	Local	95	Good	Preventative	
Woodcreek Dr	3152	Par View Dr to Champions Cir	655	Local	86	Good	Preventative	
Par Cir	3156	Begin to Brookhollow Dr	360	Local	92	Good	Preventative	
Westwood Dr	3180	Brookhollow Dr to Pebblebrook	1065	Local	85	Good	Rehabilitation	Crack Sealing with Seal Coat
Brookhollow Dr	3181	Overbrook Ct to Westwood Dr	778	Local	94	Good	Preventative	
Woodcreek Dr	3191	Stonehouse Cir to Par View Dr	1278	Local	84	Satisfactory	Rehabilitation	Patch Repairs
Stonehouse Cir	3192	Woodcreek Dr to End	840	Local	87	Good	Preventative	
Overbrook Ct	3198	Begin to Brookhollow Dr	827	Local	83	Satisfactory	Rehabilitation	Patch Repairs
Woodcreek Dr	3199	Brookhollow Dr to Stonehouse Cir	611	Local	87	Good	Preventative	
Brookhollow Dr	3206	Woodcreek Dr to Brookhollow Dr	276	Local	99	Good	Preventative	
Doolittle Dr	3215	Private Rd to Jack Miller Dr	1655	Local	84	Satisfactory	Rehabilitation	Patch Repairs
Par View Dr	3220	Begin to Woodcreek Dr	1448	Local	88	Good	Preventative	
Wilson Cir	3310	Spalding Cir to Palmer Ln	753	Local	89	Good	Preventative	
Overlook Cir	3314	DRVW to End	271	Local	86	Good	Preventative	
Woodcreek Dr	3323	Pro Ln to Brookhollow Dr	1595	Local	88	Good	Preventative	
Overlook Cir	3325	Palmer Ln to DRVW	449	Local	84	Satisfactory	Rehabilitation	Mill and Overlay
Woodcreek Dr	3328	Champions Cir to Pro Ln	539	Local	85	Good	Rehabilitation	Crack Sealing
Champions Cir	3329	Overlook Ct to Woodcreek Dr	1920	Local	83	Satisfactory	Rehabilitation	Patch Repairs
DRVW	3330	Overlook Ct to End	160	Local	85	Good	Rehabilitation	
Palmer Ln	3332	Wilson Cir to Overlook Ct	1582	Local	92	Good	Preventative	

Cypress Point Dr	3334	Cypress Point Dr to Cypress Point Dr	644	Local	92	Good	Preventative	
Champions Cir	3336	Palmer Ln to Palmer Ln	438	Local	86	Good	Preventative	
Palmer Ln	3337	Wilson Cir to Champions Cir	164	Local	91	Good	Preventative	
Champions Cir	3345	Canyon Creek Dr to Palmer Ln	526	Local	91	Good	Preventative	
Champions Cir	3349	Champions Cir to Canyon Creek Dr	786	Local	92	Good	Preventative	
Canyon Creek Dr	3354	Garrison Trl to Champions Cir	172	Collector	89	Good	Preventative	
Woodcreek Dr	3356	Cypress Point Dr to Champions Cir	533	Collector	75	Satisfactory	Rehabilitation	Mill and Overlay
Cypress Point Dr	3357	Cypress Point Dr to Woodcreek Dr	252	Collector	90	Good	Preventative	
Champions Cir	3358	Woodcreek Dr to Tremont Trce	580	Local	92	Good	Preventative	
Woodview Ct	3368	Canyon Creek Dr to End	340	Local	87	Good	Preventative	
Champions Ct	3374	Begin to Champions Cir	248	Local	92	Good	Preventative	
Tremont Trce	3386	Begin to Champions Cir	601	Local	82	Satisfactory	Rehabilitation	Patch Repairs
Canyon Creek Dr	3391	Canyon Creek Cir to Woodridge Cir	401	Local	90	Good	Preventative	
Canyon Creek Dr	3422	Begin to Canyon Creek Cir	401	Local	91	Good	Preventative	
Canyon Creek Cir	3424	Canyon Creek Dr to End	250	Local	86	Good	Preventative	
Canyon Creek Dr	3464	Canyon Creek Cir to End	618	Local	89	Good	Preventative	
Woodcreek Dr	34416	Cypress Point Dr to End	377	Local	93	Good	Preventative	

Appendix D: Priority Rankings

Street	Section	Description	PCI	PCI Condition Category	PCI Condition Priority Points	Traffic Priority Points	Total Priority Points	Priority Ranking
Woodcreek Dr	3356	Cypress Point to Champions Cir	75	Satisfactory	2	1	3	1
Brookside Dr	2851	Begin to Brookmeadow Dr	78	Satisfactory	2	1	3	1
Deerfield Dr	3140	Begin to Woodcreek Dr	80	Satisfactory	2	1	3	1
Garrison Trl	1873	Canyon Creek Dr to End	81	Satisfactory	2	1	3	1
Doolittle Dr	2840	Wildwood Cir to Doolittle Dr	81	Satisfactory	2	1	3	1
Tremont Trce	3386	Begin to Champions Cir	82	Satisfactory	2	1	3	1
Wilson Cir	3075	Being to Spalding Cir	83	Satisfactory	2	1	3	1
Overbrook Ct	3198	Begin to Brookhollow Dr	83	Satisfactory	2	1	3	1
Champions Cir	3329	Overlook Ct to Woodcreek Dr	83	Satisfactory	2	1	3	1
Mcgregor Cir	2812	Begin to Spalding Cir	84	Satisfactory	2	1	3	1
Wildwood Cir	3033	Doolittle Dr to Doolittle Dr	84	Satisfactory	2	1	3	1
Woodcreek Dr	3191	Stonehouse Cir to Par View Dr	84	Satisfactory	2	1	3	1
Doolittle Dr	3215	Private Rd to Jack Miller Dr	84	Satisfactory	2	1	3	1
Overlook Cir	3325	Palmer Ln to DRVW	84	Satisfactory	2	1	3	1
Country Ln	2309	Begin to Country Ct	85	Good	1	1	2	2
Cypress Point Dr	2607	Cypress Point Dr to Gate	85	Good	1	1	2	2
Pebblebrook Ln	3116	Westwood Dr to End	85	Good	1	1	2	2
Westwood Dr	3180	Brookhollow Dr to Pebblebrook	85	Good	1	1	2	2

Woodcreek Dr	3328	Champions Cir to Pro Ln	85	Good	1	1	2	2
DRVW	3330	Overlook Ct to End	85	Good	1	1	2	2
Augusta Dr	3010	Brookmeadow DR to Augusta Dr	86	Good	1	1	2	2
Pebblebrook Ln	3118	Begin to Westwood Dr	86	Good	1	1	2	2
Woodcreek Dr	3152	Par View Dr to Champions Cir	86	Good	1	1	2	2
Overlook Cir	3314	DRVW to End	86	Good	1	1	2	2
Champions Cir	3336	Palmer Ln to Palmer Ln	86	Good	1	1	2	2
Canyon Creek Cir	3424	Canyon Creek Dr to End	86	Good	1	1	2	2
Country Ct	2303	Country Ln to End	87	Good	1	1	2	2
Brookside Dr	2843	Brookmeadow Dr to end	87	Good	1	1	2	2
Stonehouse Cir	3192	Woodcreek Dr to End	87	Good	1	1	2	2
Woodcreek Dr	3199	Brookhollow Dr to Stonehouse Cir	87	Good	1	1	2	2
Woodview Ct	3368	Canyon Creek Dr to End	87	Good	1	1	2	2
Cypress Point Dr	2606	Cypress Point Dr to Cypress Point Dr	88	Good	1	1	2	2
Canyon Creek Dr	2643	Woodview Cir to Garrison Trl	88	Good	1	1	2	2
Brookmeadow Dr	2844	Shady Grove Ln to Brookside Dr	88	Good	1	1	2	2
Shady Grove Ln	3044	Begin to Brookmeadow Dr	88	Good	1	1	2	2
Spalding Cir	3074	Wilson Cir to Mcgregor Cir	88	Good	1	1	2	2
Doolittle Dr	3122	Doolittle Dr to Jack Miller Dr	88	Good	1	1	2	2
Par View Dr	3220	Begin to Woodcreek Dr	88	Good	1	1	2	2
Woodcreek Dr	3323	Pro Ln to Brookhollow Dr	88	Good	1	1	2	2
Champions Cir	2639	Fallbrook to Champions Ct	89	Good	1	1	2	2
Augusta Dr	2973	Brookmeadow Dr to Augusta Ln	89	Good	1	1	2	2

Wilson Cir	3310	Spalding Cir to Palmer Ln	89	Good	1	1	2	2
Canyon Creek Dr	3354	Garrison Trl to Champions Cir	89	Good	1	1	2	2
Canyon Creek Dr	3464	Canyon Creek Cir to End	89	Good	1	1	2	2
Augusta Dr	2666	Begin to Brookhollow Dr	90	Good	1	1	2	2
Augusta Ln	2839	Augusta Dr to Augusta Dr	90	Good	1	1	2	2
Elmbrook Dr	2849	Brookmeadow Dr to End	90	Good	1	1	2	2
Brookmeadow Dr	3027	Augusta Dr to Shady Grove Ln	90	Good	1	1	2	2
Augusta Dr	3070	Brookhollow Dr to Augusta Ln	90	Good	1	1	2	2
Cypress Point Dr	3357	Cypress Point Dr to Woodcreek Dr	90	Good	1	1	2	2
Canyon Creek Dr	3391	Canyon Creek Cir to Woodridge Cir	90	Good	1	1	2	2
Country Ln	2308	Country Ct to Brookhollow Dr	91	Good	1	1	2	2
Champions Cir	2640	Tremont Trce to Champions Ct	91	Good	1	1	2	2
Augusta Dr	2838	Augusta Ln to Brookmeadow Dr	91	Good	1	1	2	2
Shady Grove Ln	3026	Brookmeadow Dr to End	91	Good	1	1	2	2
Palmer Ln	3337	Wilson Cir to Champions Cir	91	Good	1	1	2	2
Champions Cir	3345	Canyon Creek Dr to Palmer Ln	91	Good	1	1	2	2
Canyon Creek Dr	3422	Begin to Canyon Creek Cir	91	Good	1	1	2	2
Brookmeadow Dr	3037	Elm Brook Dr to Villa Meadow W	92	Good	1	1	2	2
Jack Miller Dr	3121	Doolittle Dr to Brookhollow Dr	92	Good	1	1	2	2
Par Cir	3156	Begin to Brookhollow Dr	92	Good	1	1	2	2
Palmer Ln	3332	Wilson Cir to Overlook Ct	92	Good	1	1	2	2
Cypress Point Dr	3334	Cypress Point Dr to Cypress Point Dr	92	Good	1	1	2	2

Champions Cir	3349	Champions Cir to Canyon Creek Dr	92	Good	1	1	2	2
Champions Cir	3358	Cypress Point Dr to Champions Cir	92	Good	1	1	2	2
Champions Ct	3374	Begin to Champions Cir	92	Good	1	1	2	2
Augusta Dr	2295	Brookmeadow DR to Augusta Dr	93	Good	1	1	2	2
Brookhollow Dr	3071	Jack Miller Dr to Brookhollow Dr	93	Good	1	1	2	2
Woodcreek Dr	34416	Cypress Point Dr to End	93	Good	1	1	2	2
Brookhollow Dr	2631	Westwood Dr to Brookhollow Dr	94	Good	1	1	2	2
Brookmeadow Dr	2848	Brookside Dr to Elm Brook Dr	94	Good	1	1	2	2
Brookhollow Dr	3046	Country Ln to Jack Miller Dr	94	Good	1	1	2	2
Brookhollow Dr	3181	Overbrook Ct to Westwood Dr	94	Good	1	1	2	2
Brookhollow Dr	3135	Brookhollow Dr to Par Cir	95	Good	1	1	2	2
Brookhollow Dr	3150	Par Cir to Overbrook Ct	95	Good	1	1	2	2
Spalding Cir	2811	Begin to Mcgregor Cir	96	Good	1	1	2	2
Brookhollow Dr	2307	Country Ln to Augusta Dr	98	Good	1	1	2	2
Brookhollow Dr	3206	Woodcreek Dr to Brookhollow Dr	99	Good	1	1	2	2

Attachment B:
PCI Evaluation Results

Street	Section	Description	Length (Ft)	Area (SY)	Raveling & loss of surface aggregate		Flushing		Rippling and Shoving		Wheel Track Rutting		Distortion		Longitudinal Wheel Track (Single & Multiple)		Longitudinal Wheel Track (Alligator)		Centerline (Single & Multiple)		Centerline (Alligator)		Pavement Edge (Single & Multiple)		Pavement Edge (Alligator)		Traverse (Half, full & multiple)		Traverse (Alligator)		Longitudinal - meander or mid-lane		RCR	DMI	PCI		
					Si	Di	Si	Di	Si	Di	Si	Di	Si	Di	Si	Di	Si	Di	Si	Di	Si	Di	Si	Di	Si	Di	Si	Di	Si	Di	Si	Di					
Garrison Trl	1873	Canyon Creek Dr to End	190	676	2	2							1	2																			6	15	81		
Augusta Dr	2295	Brookmeadow DR to Augusta Dr	1257		0.25	1											0.5	0.5															8	5	93		
Country Ct	2303	Country Ln to End	118		2	1							0.5	0.25							0.5	0.25											5	8	87		
Brookhollow Dr	2307	Country Ln to Augusta Dr	738																							0.25	0.25							9	1	98	
Country Ln	2308	Country Ct to Brookhollow Dr	591													0.5	0.5				0.5	0.5					1	1						8	7	91	
Country Ln	2309	Begin to Country Ct	437	998	0.5	0.3										0.5	0.5				0.5	0.5			0.5	0.5			0.5	1				7	12	85	
Cypress Point Dr	2606	Cypress Point Dr to Cypress Point Dr	214		0.5	1.5									0.5	0.5					0.5	1.5					0.5	0.5						7	9	88	
Cypress Point Dr	2607	Cypress Point Dr to Gate	540	2211	0.5	2				1	0		1.5	0.25					0.5	0.5							0.5	0.5						7	12	85	
Brookhollow Dr	2631	Westwood Dr to Brookhollow Dr	481		0.5	0.5	0.5	2					0.25	0.25													0.5	0.5						9	5	94	
Champions Cir	2639	Fallbrook to Champions Ct	1181		0.25	2	0.5	1.5																	0.5	0.25	0.5	0.25	0.5	0.25					8	9	89

Augusta Dr	3010	Brookmeadow Dr to Augusta Dr	511		0.5	2	0.5	1.5	1	0	0.5	0				0.5	0.25													7	11	86
Shady Grove Ln	3026	Brookmeadow Dr to End	667		1	1.5	0.5	2					0.5	0.25															8	7	91	
Brookmeadow Dr	3027	Augusta Dr to Shady Grove Ln	448		0.5	2	0.5	2							0.5	0.25	1	0.25											8	8	90	
Wildwood Cir	3033	Doolittle Dr to Doolittle Dr	880	1173	2	0.5							0.5	1	0.5	1		0.5	0.5									6	12	84		
Brookmeadow Dr	3037	Elm Brook Dr to Villa Meadow W	820		0.5	2	0.5	1.5					0.5	0.25														9	7	92		
Shady Grove Ln	3044	Begin to Brookmeadow Dr	618		1	2	0.5	1.5					0.5	0.25											1	0.25		7	9	88		
Brookhollow Dr	3046	Country Ln to Jack Miller Dr	1300				0.25	1.5							0.25	1										0.25	0.25		9	5	94	
Augusta Dr	3070	Brookhollow Dr to Augusta Ln	820		0.5	2	0.5	2											0.5	0.5						0.5	0.25		8	8	90	
Brookhollow Dr	3071	Jack Miller Dr to Brookhollow Dr	169		0.25	0.5	0.5	1.5					0.25	0.25												0.5	0.5		8	5	93	
Spalding Cir	3074	Wilson Cir to McGregor Cir	294		0.25	2									1.5	0.5													7	9	88	
Wilson Cir	3075	Begin to Spalding Cir	331	824	2	1							1.5	0.25		0.5	0.5				1	1.5						7	14	83		
Pebblebrook Ln	3116	Westwood Dr to End	1575	2800	1	1	0.5	1.5					0.5	0.25					0.5	0.5						0.5	0.5		6	11	85	
Pebblebrook Ln	3118	Begin to Westwood Dr	557		2	0.5	0.5	2					0.5	0.5	0.5	0.25	0.5	0.5											8	12	86	
Jack Miller Dr	3121	Doolittle Dr to Brookhollow Dr	616		0.25	0.5									0.5	0.25			0.5	0.25		0.5	0.5			0.5	0.25		8	6	92	

Doolittle Dr	3122	Doolittle Dr to Jack Miller Dr	943		0.25	1.5							1	0.25			0.5	0.5													7	9	88		
Brookhollow Dr	3135	Brookhollow Dr to Par Cir	258		0.25	0.5	0.5	1.5																	0.5	0.5					8	3	95		
Deerfield Dr	3140	Begin to Woodcreek Dr	1168	2076	2	0.5	0.5	1.5	1	0	1	0			0.5	1.5	0.5	0.5										0.5	0.5		6	16	80		
Brookhollow Dr	3150	Par Cir to Overbrook Ct	460		0.25	0.5	0.5	2																	0.5	0.5					8	3	95		
Woodcreek Dr	3152	Par View Dr to Champions Cir	655		0.5	1.5	0.5	1.5							0.5	0.5									0.5	0.5	0.5	0.5			7	11	86		
Par Cir	3156	Begin to Brookhollow Dr	360		0.5	2	0.5	2																							7	5	92		
Westwood Dr	3180	Brookhollow Dr to Pebblebrook	1065	1893	0.5	2	0.5	2			1	0					0.5	0.5													7	12	85		
Brookhollow Dr	3181	Overbrook Ct to Westwood Dr	778		0.5	2											0.5	0.25						0.25	1						9	5	94		
Woodcreek Dr	3191	Stonehouse Cir to Par View Dr	1278	3408	0.5	1.5	0.5	2			0.5	0	1	0.5	0.5	0.5								0.5	0.5			1	0.25		9	15	84		
Stonehouse Cir	3192	Woodcreek Dr to End	840		1	0.5	0.5	1.5					1	0.25	0.5	0.5								1	0.5						8	11	87		
Overbrook Ct	3198	Begin to Brookhollow Dr	827	1548	2	0.5	0.5	1.5					0.5	0.25										1	0.5	0.5	1	1	0.5			6	13	83	
Woodcreek Dr	3199	Brookhollow Dr to Stonehouse Cir	611		0.25	1.5	0.5	2																			1	0.5			1	0.25	7	10	87
Brookhollow Dr	3206	Woodcreek Dr to Brookhollow Dr	276												0.25	1																10	1	99	

Doolittle Dr	3215	Private Rd to Jack Miller Dr	1655	2942	1	1	0.5	2								1	0.5													7	13	84										
Par View Dr	3220	Begin to Woodcreek Dr	1448		0.5	2	0.5	1.5								0.5	0.25													7	9	88										
Wilson Cir	3310	Spalding Cir to Palmer Ln	753		1.5	0.5										0.5	0.25	0.5	1	1.5	0.5								1	1			9	10	89							
Overlook Cir	3314	DRVW to End	271		0.5	0.3													1	2	0.5	2									7	11	86									
Woodcreek Dr	3323	Pro Ln to Brookhollow Dr	1595		0.5	2	0.5	2								0.5	0.5													0.5	0.5					8	10	88				
Overlook Cir	3325	Palmer Ln to DRVW	449	1197	1	0.3												1	2	0.5	0.5												1.5	1.5	8	14	84					
Woodcreek Dr	3328	Champions Cir to Pro Ln	539	1198	0.5	1	0.5	1								1	0.25	0.5	0.25	0.5	0.5										0.5	0.5					8	13	85			
Champions Cir	3329	Overlook Ct to Woodcreek Dr	1920	4267	0.5	2	0.25	1.5								1	0	2	0.25	0.5	0.5															9	16	83				
DRVW	3330	Overlook Ct to End	160		0.5	0.3													1	2	0.5	2														6	11	85				
Palmer Ln	3332	Wilson Cir to Overlook Ct	1582		0.5	2	0.25	2																						1	0.5						8	6	92			
Cypress Point Dr	3334	Cypress Point Dr to Cypress Point Dr	644		0.25	2												0.5	0.5														0.5	0.25					7	5	92	
Champions Cir	3336	Palmer Ln to Palmer Ln	438														2	0.25			0.5	0.5												0.5	0.25					8	12	86
Palmer Ln	3337	Wilson Cir to Champions Cir	164		0.5	2												1	0.25																			9	8	91		
Champions Cir	3345	Canyon Creek Dr to Palmer Ln	526				0.25	1.5	1	0											0.25	0.25																		7	6	91

Champions Cir	3349	Fallbrook Cir to Canyon Creek Dr	786		0.25	2								0.5	0.5																7	5	92
Canyon Creek Dr	3354	Garrison Trl to Champions Cir	172		1	2	0.25	1.5					0.5	0.25																7	8	89	
Woodcreek Dr	3356	Woodcreek Dr to Champions Cir	533	1184	0.25	2							1.5	0.25			1	1												7	22	75	
Cypress Point Dr	3357	Cypress Point Dr to Woodcreek Dr	252		0.5	2										0.5	1													8	8	90	
Champions Cir	3358	Cypress Point Dr to Champions Cir	580		0.25	2																								9	7	92	
Woodview Ct	3368	Canyon Creek Dr to End	340		0.5	2	0.25	1.5								0.5	0.5	1	0.25											5	8	87	
Champions Ct	3374	Begin to Champions Cir	248		1	1																								6	4	92	
Tremont Trce	3386	Begin to Champions Cir	601	1275	2	1							1	0.5			0.5	0.5												6	14	82	
Canyon Creek Dr	3391	Canyon Creek Cir to Woodridge Cir	401		0.5	2	0.25	1.5								0.5	0.25													7	7	90	
Canyon Creek Dr	3422	Begin to Canyon Creek Cir	401		0.5	2	0.25	1.5								0.5	0.25													8	7	91	
Canyon Creek Cir	3424	Canyon Creek Dr to End	250		0.5	1	0.25	1.5					1	0.5			0.5	0.5												7	11	86	
Canyon Creek Dr	3464	Canyon Creek Cir to End	618		1.5	1	0.25	2					0.5	0																6	7	89	

