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# 2017 Sidewalk Asset Management Plan

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**Town of Whitestown, Indiana**



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# Introduction

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## PURPOSE OF THE PLAN

The purpose of this project was to establish an existing inventory of sidewalk and trails within the town of Whitestown, and to establish a plan for maintaining these facilities.

The inventory was completed in June 2017, and included 40.9 miles of sidewalks and 12.5 miles of trails, for a combined length of 53.4 miles.

## CONTENTS OF THE PLAN

This plan contains of a series of inventory and analysis maps, charts, tables and images which detail the existing sidewalks and trails within the corporate limits of Whitestown. In addition to this report, the GIS data will also be made available to the town of Whitestown so that it may continually be updated as ongoing asset management and sidewalk improvements are made.

## OTHER PLANNING EFFORTS

The Sidewalk Asset Management Plan is part of a series of planning efforts undertaken by the town of Whitestown to improve its physical assets, transportation network, and pedestrian facilities. Other plans include:

- Bicycle and Pedestrian Plan
- Pavement Asset Management Plan
- Sign Asset Management Plan
- Thoroughfare Plan
- Legacy Core Plan
- Economic Development Plan
- Capital Improvements Plan



Typical residential sidewalks in Whitestown

# Rating System

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## METHODOLOGY

This plan utilizes the nationally recognized Pavement Surface Evaluation and Rating (PASER) system for rating its asphalt trails. This is the same standard that the town utilizes for inventorying the condition of local roads and streets.

There is also a PASER rating system for concrete pavement. However, the PASER for concrete pavement focuses on the condition of joints and repairs in heavy duty concrete, and is not relevant or applicable to concrete sidewalks.

In order to rate concrete sidewalks and trails, the town chose to use a modified PASER rating system. The modified PASER uses the same 1 to 10 rating scale, but with descriptions of condition and defects relevant to pedestrian walks. A summary of this modified rating system can be found on page 13.

In addition to the PASER system, sidewalks, trails, and curb ramps were also evaluated according to the Americans with Disabilities Act (ADA) Standards for Accessible Design. Curb ramps are a key component of sidewalk analysis as they serve a critical role in ensuring that pedestrian facilities are accessible to people with disabilities.

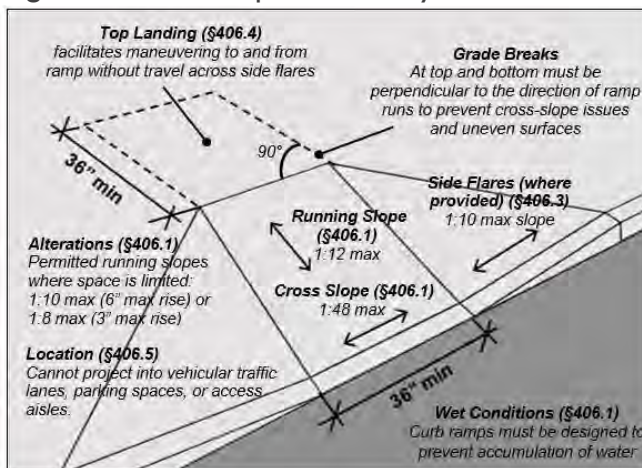
The ADA Accessibility Guidelines specify the following in respect to sidewalks and curb ramps:

- Sidewalks require a minimum continuous width of 36”
- Sidewalk cross slope must be 2% or less
- Sidewalk running slope must remain below 5% or it will be considered a ramp and must then adhere to ADA ramp standards
- Curb ramps are required “wherever an accessible route crosses a curb”
- Curb ramps must be at least 36” wide exclusive of flared sides
- Detectable warnings (raised truncated domes) are required on all curb ramps
- Ramp running slope must be 8.33% or less
- Transitions on and off of curb ramps must be flush and free of abrupt level changes



These accessibility guidelines can be simplified into three categories of compliance: slopes, detectable warnings, and flush transitions. Every curb ramp was evaluated using these standards and recorded as being either ADA compliant or ADA non-compliant.

Figure 1. Curb Ramp Accessibility Guidelines



Additionally, non-compliant ramps were further characterized as being navigable or non-navigable. While both are technically non-compliant, this differentiation is meant to establish a priority for replacement. For the purposes of this report, navigable ramps are defined as generally compliant except for a non-conforming running slope or absent detectable warning device. In contrast, non-navigable ramps have significant slopes or lack of a flush transition, making them more difficult to utilize.

Any curb ramp determined to be non-compliant was recorded with a notation of the compliance issue and a photograph so that the problem ramps can be prioritized and corrected. Compliance issues that impede accessibility are most critical and should receive top priority.

Beyond pavement condition and ADA compliance, inventory data was also collected on all sidewalks and paved trails. This inventory included sidewalk age, width and setback distance from the road. Furthermore, any gaps, defects or barriers in the sidewalks were also marked on the map, photographed, and given a written description. Figure 2 on the following page shows the survey questions used to collect the sidewalk inventory data for this plan.

Figure 2. Sidewalk Inventory Survey

**Inventory Data:**

Sidewalk Material	Sidewalk Age	Sidewalk ADA Compliance	Sidewalk Width	Setback Distance	PASER Score
Concrete	2010 - Present	Appears Compliant	3'	3'	10 - Excellent
HMA	2000 - 2009	Non-Compliant Running Slope: _____% Cross Slope: _____%	4'	4'	9 – Excellent
Pavers	1990 - 1999	Notes: _____	5'	5'	8 – Very Good
Brick	1980 - 1989		6'	6'	7 – Good
Other: _____	1970 - 1979		7'	7'	6 – Good
	1960 – 1969		8'	8'	5 – Fair
	Unknown		9'	9'	4 – Fair
			10'	10'	3 – Poor
			11'	11'	2 – Very Poor
		12'	12'	1 – Failed	

**Problem spots:**

Defects	Barriers	Curb Ramps	Crosswalk Markings	Crosswalk Traffic Control
<input type="checkbox"/> Gap in sidewalk <input type="checkbox"/> Surface spalling, scaling, or raveling <input type="checkbox"/> Severe cracking <input type="checkbox"/> Step separation/trip hazard (>1") <input type="checkbox"/> Heaving <input type="checkbox"/> Sagging <input type="checkbox"/> Other: _____	<input type="checkbox"/> Utility Pole <input type="checkbox"/> Fire Hydrant <input type="checkbox"/> Vegetation Overgrowth <input type="checkbox"/> Permanent Sign <input type="checkbox"/> Other: _____  Clear Width: _____"	Curb Ramp present? <input type="checkbox"/> Y <input type="checkbox"/> N Appears to be ADA compliant? <input type="checkbox"/> Y <input type="checkbox"/> N <i>If no:</i> Detectable warnings? <input type="checkbox"/> Y <input type="checkbox"/> N Compliant slopes? <input type="checkbox"/> Y <input type="checkbox"/> N _____% cross _____% running _____" Flush transitions? <input type="checkbox"/> Y <input type="checkbox"/> N Other problems? <input type="checkbox"/> Y <input type="checkbox"/> N _____	<input type="checkbox"/> No pavement markings <input type="checkbox"/> Pavement markings are faded <input type="checkbox"/> Markings are clearly visible	<input type="checkbox"/> No traffic control devices <input type="checkbox"/> Pedestrian crossing sign <input type="checkbox"/> Pedestrian signal with countdown <input type="checkbox"/> Pedestrian signal w/o countdown <input type="checkbox"/> Other: _____

## ASPHALT PASER RATINGS

For asphalt sidewalks and trails, the PASER System uses a scale from 1 to 10. A rating of 1 is very poor and signifies the need for reconstruction. A rating of 10 is excellent and represents a sidewalk or trail that has just been paved. Sidewalks and trails are rated by identifying the worst distress. If the worst distress is limited to a single location, then the location is marked on the inventory map as a spot defect which requires attention. The rating process follows the steps listed below:

Step 1: Is the pavement new?

- If recently constructed may receive a rating of 10 (one time)
- If new, but over a year old, may receive a rating of 9
- If pavement has been sealed, the highest rating can be 8

Step 2: Are there any structural distresses?

- Any rutting of 1/2" or greater?
- Any longitudinal cracking in the wheel paths (make sure not utility)?
- Any alligator cracking?
- If the answer to any of these is yes, then the rating will be a 4 or less.

See Figure 3, Asphalt PASER Field Guide.

Step 3: Are there only age-related distresses?

- Transverse cracking
- Longitudinal cracking
- Block cracking
- Raveling, flushing, polishing, bleeding
- Potholes and patches
- Age-related distresses will receive a rating between 5 and 8.

See Figure 3, Asphalt PASER Field Guide.



Example of an asphalt trail in Whitestown

Figure 3. Asphalt PASER Field Guide

Surface Rating	ASPHALT PASER RATING SYSTEM	
	Condition and Visible Distress	General Treatment Measures
<b>10</b> Excellent	<b>New Construction</b> Visible Distress: None.	No maintenance required.
<b>9</b> Excellent	<b>Recent Construction, Like New</b> Visible Distress: None.	No maintenance required.
<b>8</b> Very Good	<b>Recent Sealcoat or New Cold Mix</b> Visible Distress: No longitudinal cracks except reflection of paving joints. Occasional transverse cracks, widely space (40' or greater). All cracks sealed or tight (open less than ¼"). Recent sealcoat or overlay.	Little or no maintenance required.
<b>7</b> Good	<b>First Signs of Aging</b> Visible Distress: Very slight to no raveling, surface shows some traffic wear. Longitudinal cracks (open ¼") due to reflection or paving joints. Transverse cracks (open ¼") spaced 10' or more apart, little or slight crack raveling. No patching or very few patches in excellent condition.	Maintain with routine crack filling.
<b>6</b> Good	<b>Shows Signs of Aging, but Sound Structural Condition</b> Visible Distress: Slight raveling (loss of fines) and traffic wear. Longitudinal cracks (open ¼" to ½"), some spaced less than 10'. First sign of block cracking. Slight to moderate flushing or polishing. Occasional patching in good condition.	Could extend life with sealcoat.
<b>5</b> Fair	<b>Surface Aging, but Sound Structural Condition</b> Visible Distress: Moderate to severe raveling (loss of fine and coarse aggregate). Longitudinal cracks (open ½") show first signs of slight raveling and secondary cracks. First signs of longitudinal cracks near pavement edge. Block cracking up to 50% of surface. Extensive to severe flushing or polishing. Some patching or edge wedging in good condition.	Needs Sealcoat or Thin Non-Structural Overlay (less than 2").
<b>4</b> Fair	<b>Significant Aging and First Signs of Need for Strengthening</b> Visible Distress: Severe surface raveling. Multiple longitudinal and transverse cracking with slight raveling. Longitudinal cracking in wheel path. Block cracking (over 50% of surface). Patching in fair condition. Slight rutting or distortions (1/2" deep or less).	Would Benefit from a Structural Overlay (2" or more).
<b>3</b> Poor	<b>Moderate Deterioration</b> Visible Distress: Closely spaced longitudinal and transverse cracks often showing raveling and crack erosion. Severe block cracking. Some alligator cracking (less than 25% of the surface). Patches in fair to poor condition. Moderate rutting or distortion (1" or 2" deep). Occasional potholes.	Needs Patching and Repair prior to a Major Overlay. Milling and Removal of Deterioration Extends to the Life of the Overlay.
<b>2</b> Very Poor	<b>Severe Deterioration</b> Visible Distress: Alligator cracking (over 25% of surface). Severe distortions (over 2" deep). Extensive patching in poor condition. Potholes.	Needs Reconstruction with Extensive Base Repair. Pulverization of Old Pavement is Effective.
<b>1</b> Failed	<b>Failed</b> Visible Distress: Severe distress with extensive loss of surface integrity.	Needs total Reconstruction.

Source: Wisconsin Transportation Information Center





Source: Langfilm Productions

### ASPHALT RATING 10

EXCELLENT – New pavement. No maintenance required.



Source: HWC Engineering

### ASPHALT RATING 9

EXCELLENT – Like-new pavement. No maintenance required.



Source: TouringPlans.com

### ASPHALT RATING 8

VERY GOOD – No longitudinal cracks except reflection of paving joints. Occasional transverse cracks. All cracks sealed or tight. Recent sealcoat or overlay. Little or no maintenance required.



Source: HWC Engineering

### ASPHALT RATING 7

GOOD – Very slight to no raveling, surface shows some wear. Some ¼” cracks with little or no crack raveling. Maintain with routine crack filling.





Source: Sellin.com

#### ASPHALT RATING 6

GOOD – Slight raveling and traffic wear. Longitudinal cracks open  $\frac{1}{4}$ " to  $\frac{1}{2}$ ". Occasional patching in good condition. Seal coat and other routine maintenance may be needed.



Source: PaveManPro.com

#### ASPHALT RATING 5

FAIR – Moderate to severe raveling. Longitudinal cracks show first signs of raveling and secondary cracks. First signs of longitudinal cracks near pavement edge. Block cracking up to 50% of surface. Needs sealcoat or thin non-structural overlay.



Source: American Paving Specialists

#### ASPHALT RATING 4

FAIR – Severe surface raveling. Multiple longitudinal and transverse cracks with slight raveling. Longitudinal cracking in wheel path. Slight rutting or distortions (1/2" deep or less). Needs structural overlay.



Source: EngineersWorld.co/

#### ASPHALT RATING 3

POOR – Closely spaced longitudinal and transverse cracks. Severe block cracking and some alligator cracking. Patches in fair to poor condition. Moderate rutting or distortion (1" or 2" deep). Will require patching and repair prior to a major overlay.





Source: HWC Engineering

## ASPHALT RATING 2

VERY POOR – Alligator cracking over 25% or more of surface. Severe distortions (over 2” deep) and potholes. Extensive patching in poor condition. Needs reconstruction with extensive base repair.



Source: LGAM Knowledge Base

## ASPHALT RATING 1

FAILED – Severe distress with extensive loss of surface integrity. Requires total reconstruction.

## CONCRETE MODIFIED PASER RATINGS

For concrete sidewalks and trails, the PASER system is much the same as it is for rating asphalt pavement. Again, a rating of 1 is very poor and requires reconstruction and a rating of 10 is excellent and represents a sidewalk that has just been paved. The rating system was designed to follow the typical age-related condition changes that occur through the life cycle of the pavement. However, major defects sometimes occur which can accelerate the rate of deterioration and cause a rapid drop in PASER rating levels. Once a major defect occurs, the surrounding pavement can deteriorate rapidly; therefore, identifying and correcting these problem areas in a timely fashion is of critical importance.

Rating segments were generally broken out by block with a separate rating provided for each side of the street. Problem spots were identified and marked on a map along with a photograph and description of the issue. These problem spots range from defects such as surface spalling or trip hazards to barriers such as vegetation overgrowth or fire hydrants. Refer back to Figure 2 for a listing of common defects and barriers.

The modified concrete PASER system is described in Figure 4 and illustrated on the following pages.



Example of a surface defect problem spot

Figure 4. Concrete Modified PASER Field Guide

Surface Rating	CONCRETE MODIFIED PASER RATING SYSTEM	
	Condition and Visible Distress	General Treatment Measures
<b>10</b> Excellent	<b>New Construction</b> Visible Distress: None.	No maintenance required.
<b>9</b> Excellent	<b>Recent Construction, Like New</b> Visible Distress: Minor weathering of surface.	No maintenance required.
<b>8</b> Very Good	<b>Like New</b> Visible Distress: Little or no depressed or raised areas (0 to ½"). No more than 10% of sidewalk panels with cracks or moderate spalling of concrete surface. No debris/vegetation within sidewalk. Still functional.	Little or no maintenance required.
<b>7</b> Good	<b>First Signs of Aging</b> Visible Distress: Similar to Rating 6, but slightly better.	Maintain with Replacement of Individual Panels with Significant Defects or Grinding Offset Surfaces, Seal open joints or other maintenance.
<b>6</b> Good	<b>Shows Signs of Aging</b> Visible Distress: Limited raised/depressed areas(0" to 1") No more than 25% of sidewalk panels cracked or with moderate spalling of concrete surface. Less than 10% covered by debris/vegetation. Functionality might be a hindrance to some pedestrians.	Maintain with Replacement of Individual Panels with Significant Defects or Grinding Offset Surfaces
<b>5</b> Fair	<b>Surface Aging</b> Visible Distress: Similar to Rating 4, but slightly better.	Requires Replacement of Multiple Panels or Extensive Grinding of Offset Surfaces.
<b>4</b> Fair	<b>Significant Aging</b> Visible Distress: Frequent raised/depressed areas(1" to 2") 25-50% of sidewalk panels cracked or with moderate to severe spalling of concrete surface. Up to 25% covered by debris/vegetation. Not easily navigated by runners, stroller users and wheelchair users.	Requires Replacement of Multiple Panels or Extensive Grinding of Offset Surfaces.
<b>3</b> Poor	<b>Moderate Deterioration</b> Visible Distress: Similar to Rating 2, but slightly better.	Requires Replacement of Extensive Sections of Sidewalk.
<b>2</b> Very Poor	<b>Severe Deterioration</b> Frequent raised/depressed areas (over 2") Up to 50% severely cracked squares of concrete or with severe spalling of concrete surface. 25-50% covered by debris/vegetation. Not functional for most users.	Not Functional. Large areas need full replacement.
<b>1</b> Failed	<b>Failed</b> Frequent raised/depressed areas (over 2") Over 50% severely cracked squares of concrete or with severe spalling of concrete surface. Over 50% covered by debris/vegetation. Sidewalk is impassible.	Needs total Replacement.

Source: HWC Engineering





Source: HWC Engineering

### CONCRETE RATING 10

EXCELLENT – New pavement. No maintenance required.



Source: HWC Engineering

### CONCRETE RATING 9

EXCELLENT – Like-new pavement. Some traffic and surface wear. No maintenance required.



Source: HWC Engineering

### CONCRETE RATING 8

VERY GOOD – More surface wear or slight defects, such as minor pop-outs, slight surface scaling, partial loss of joint sealant, or isolated meander crack. Little or no maintenance required.



Source: HWC Engineering

### CONCRETE RATING 7

GOOD – First signs of transverse cracking, patching, or repair. More extensive pop-outs or scaling. Some manhole displacement, isolated heave or settlement. Pavement may appear unsightly, but is still functional. May require some routine maintenance.





Source: HWC Engineering

### CONCRETE RATING 6

GOOD – First signs of corner cracking or shallow reinforcement. More frequent transverse cracks. Open joints and cracks (1/4"). Moderate scaling. Functionality might be a hindrance to some pedestrians. Joint and crack sealing and other routine maintenance may be needed.



Source: HWC Engineering

### CONCRETE RATING 5

FAIR – First signs of joint or crack spalling or faulting. Multiple cracks at corners and/or broken pieces. Functionality might be a hindrance to pedestrians. Surface texturing repairs, partial depth patching, joint repairs, or panel replacement may be needed.



Source: HWC Engineering

#### CONCRETE RATING 4

FAIR – Significant signs of joint or crack spalling or faulting. Multiple cracks at corners and broken pieces. Not easily navigated by pedestrians. Extensive surface texturing repairs, full depth joint or crack repairs, or panel replacement may be needed.



Source: Mapio.net

#### CONCRETE RATING 3

POOR – Severe joint or crack spalling or faulting. Most joints and cracks are open. Significant hindrance to pedestrians. Extensive full depth patching or multiple panel replacement may be needed.





Source: VAHI Civic Association

## CONCRETE RATING 2

VERY POOR – Severe deterioration and extensive joint failure. Not functional for most users. Pavement recycling and reconstruction necessary.



Source: Buchheit Construction

## CONCRETE RATING 1

FAILED – Severe joint or crack spalling or faulting, significant heave or settlement and slab failure. Impossible to pedestrians. Complete reconstruction necessary.



# Agency Performance Goals

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## ASSET MANAGEMENT

Asset 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. Through sidewalk asset management, the right fix can be applied in the right place at the right time. Preventative maintenance should be a top priority. Rehabilitation and reconstruction are done only when absolutely necessary. A philosophy of preventative maintenance and maximization of low cost fixes should be adopted before sidewalks or trails require rehabilitation or reconstruction.

The purpose of preventative maintenance is to continue to extend the service life of the sidewalks and trails by using measures to keep the PASER ratings at a 6 or higher. The goal for the town would be to use this document and information as a tool to further improve upon the planning and budget amounts for yearly sidewalk maintenance and construction.

The goal for the future is to improve all sidewalks with PASER ratings under 6, address all spot defects and barriers, and repair all non-navigable and missing curb ramps. Over the coming years, sidewalks rated below 6 will be considered for maintenance, repairs, or replacement. Sidewalks rated 6 or higher will be considered for preventative maintenance measures. Navigable curb ramps will be considered for compliance updates once all accessibility issues have been corrected.

Providing the right fix at the right time will maximize results of a limited budget.

# Inventory Summary

## SIDEWALKS AND TRAILS

### Pavement Condition

The concrete and asphalt sidewalks and trails in Whitestown are very good throughout much of the corporate limits. Most of the walkways in the residential neighborhoods are relatively new and require little or no maintenance at this time. Overall, less than 1% of the existing trails and sidewalks require significant repairs or replacement, and less than 3% require general maintenance and repairs.

The area with the largest number of problems is in the Legacy Core district of Whitestown. Many of these downtown streets are missing sidewalks completely or are in need of repairs or replacement of the existing sidewalks. The condition of the existing pavement is detailed in the following data.

Of the 53.4 miles of sidewalks and trails (both concrete and asphalt) in Whitestown:

- 52.1 miles (97%) are in very good to excellent condition (PASER ratings 8-10).
- 1.2 miles (2%) are in good condition (PASER ratings 6-7).
- 0.16 miles (<1%) are in fair or poor condition (PASER ratings 1-5).

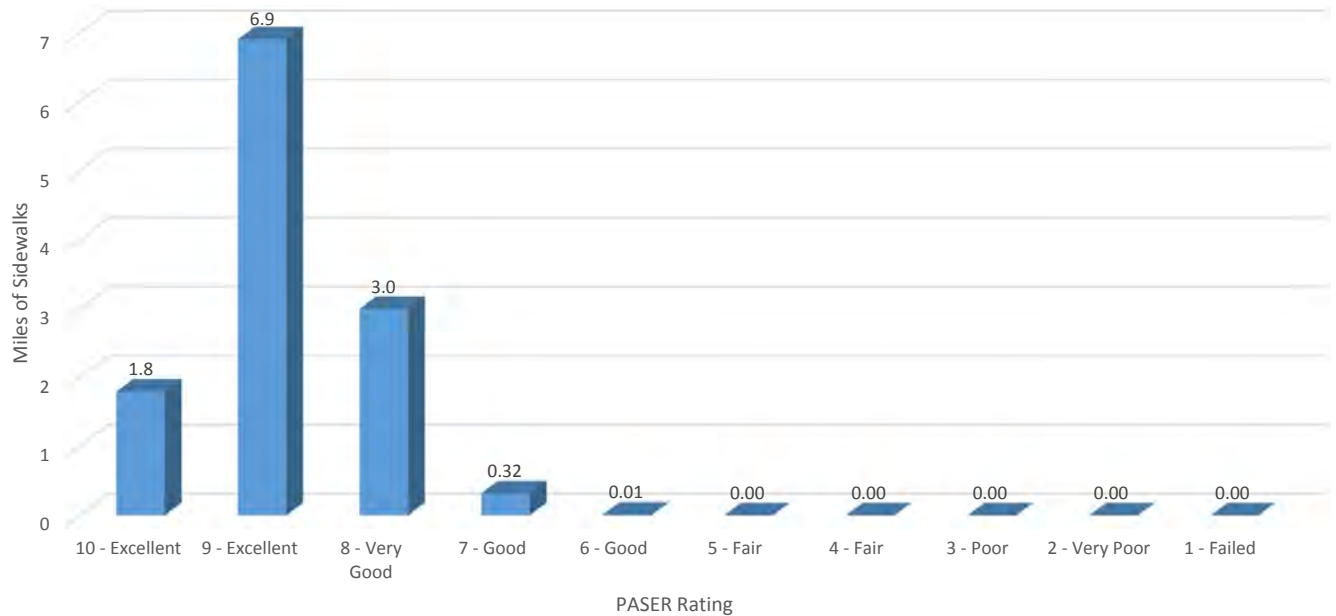
Figure 5 shows the breakdown of sidewalks and trails by PASER rating. The PASER Surface Rating map, found at the end of this section as Exhibit 1, also illustrates this pavement condition data.

Figure 5. Sidewalks and Trails by PASER Rating



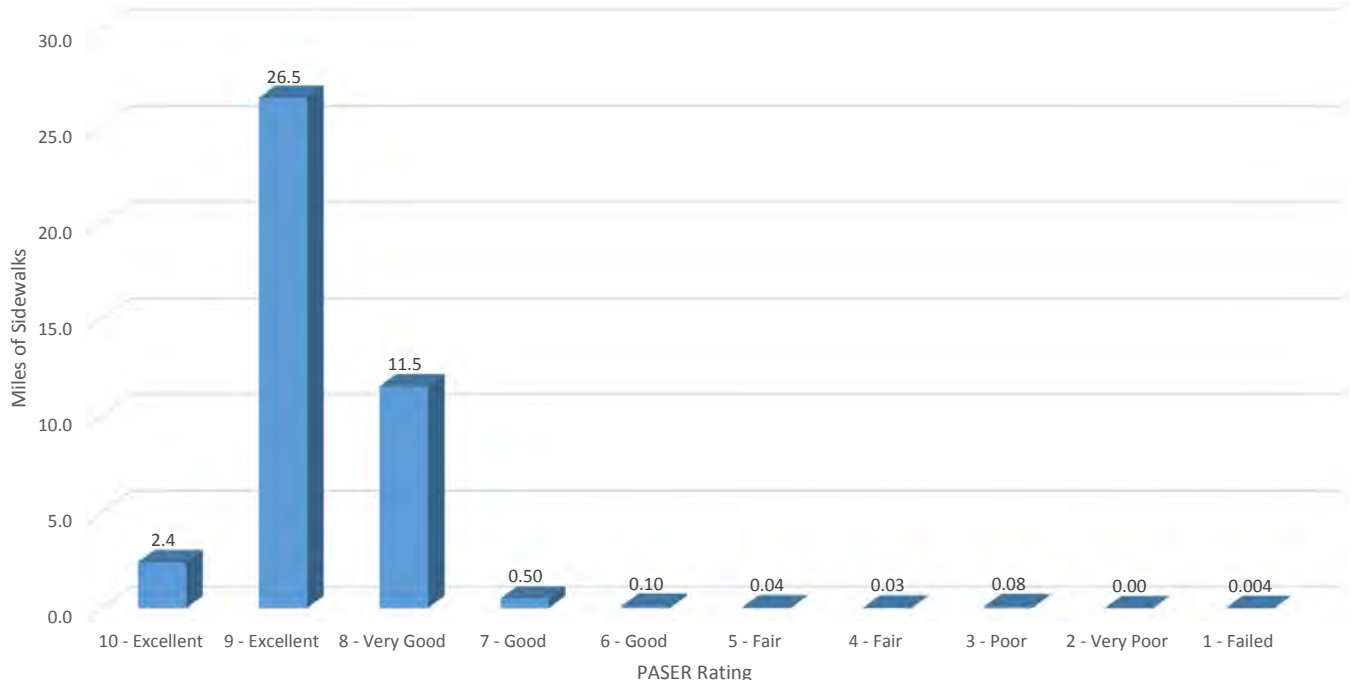
Figure 6 on the opposite page illustrates the 2017 PASER Asphalt Analysis for all of the town's asphalt trails. As can be seen from the chart, of the 12.1 miles of asphalt trails in the town, 72% are rated to be in excellent condition and 25% are rated as very good. Therefore, only 3% of the asphalt trails currently need routine maintenance or spot issue repairs.

Figure 6. 2017 PASER Asphalt Analysis



Overall, the concrete sidewalks and trails currently require little maintenance. Figure 7 below shows the length of concrete pathways according to each PASER rating. Of the 41.3 miles of concrete pathways, 28.9 miles (70%) are in excellent condition, and 11.5 miles (28%) are rated as very good. 1.5% of the concrete pathways fall into the good range (ratings 6-7) and will require routine maintenance and spot issue repairs. This means only 0.5% of concrete sidewalks and trails in the town require significant repairs or replacement.

Figure 7. 2017 PASER Concrete Analysis



## Pavement Types

The two pathway pavement types found in Whitestown are concrete and asphalt. Typically, concrete is used for sidewalks (pathways <8' wide), and asphalt is used for trails (pathways ≥8' wide). Of the 53.4 miles of pathways in Whitestown:

- 40.9 miles are concrete sidewalks
- 0.4 miles are concrete trails
- 12.1 miles are asphalt trails

Only 0.16 miles (<1%) of concrete pathways are in fair or poor condition (PASER ratings 1-5). The asphalt trails are all in good, very good, or excellent condition (PASER ratings 6-10). Of these trails, 0.4 miles (3%) rate in the good range (6-7) and will require routine maintenance and spot issue repairs. The remaining 11.7 miles (97%) are in very good to excellent condition and require few or no treatments at this time.

Exhibit 2: Sidewalk and Trail System at the end of this section shows the breakdown of the two types of pathways and pavement types within the town's corporate limits.



Example of a vegetation accessibility barrier

## Spot Issues, Hazards, and Barriers

Occasionally, sidewalks and trails which are in good condition overall will have spot issues which need addressed. Common spot issues can include trip hazards or pavement defects. Accessibility barriers are often the result of objects, such as utility poles or vegetation overgrowth, within the pedestrian right-of-way. These spot issues, hazards, and barriers should be addresses as a top priority.

Within the Whitestown corporate limits, 60 pavement spot issues were identified. The most common problem was trip hazards, typically caused by cracks or heaving/sagging sidewalk panels. 34 trip hazards were noted. Pavement surface defects, such as cracking, spalling, scaling, and raveling, were the second most common spot issue, with 31 identified. Pavement surface defects often result in trip hazards as well, therefore, some spots have both trip hazards and surface defects. Vegetation overgrowth, typically in the form of weeds growing in sidewalk joints, was noted 8 times. This overgrowth does not present a hazard or barrier to the pedestrian, but is unsightly and can be easily treated through routine weed maintenance.

In addition to spot issues, 20 barriers were also noted within the town. Any object which obstructs a pathway and results in less than 36" of clear width is considered an accessibility barrier. Of these 20 barriers, 19 were due to vegetation overgrowth, such as trees or shrubs which have grown into the pedestrian right-of-way and block part or all of the sidewalk. Many of these barriers can be remedied through pruning of the overgrown vegetation. In some instances, removal of the tree or shrub may be required. The one other barrier identified was a drainage issue at a curb ramp where water pooled and prevented use of the ramp.

The locations of these problem areas are shown in Exhibit 3: Existing Pavement Issues, Hazards, and Barriers.

## Sidewalk Gaps

Areas that are missing sidewalks were not quantified, as this study was an inventory of existing pedestrian facilities. However, areas without sidewalks can be easily identified in the following maps where no sidewalk lines are present.

Gaps in sidewalks are oftentimes the result of incomplete construction in residential developments. Sidewalks are constructed as houses are built; therefore, lots that do not yet have houses are also missing sidewalks. These sidewalk gaps will be filled as construction continues and more houses are built.

The largest deficiency in sidewalks was found in the Legacy Core district where there are few sidewalks other than on Main Street and a short section of Pierce Street. The town should consider adding sidewalks throughout this area to improve pedestrian safety and accessibility.

## CURB RAMPS

Curb ramps also rate well overall, with more than half requiring no maintenance or repairs. The following inventory summary breaks down curb ramps into four compliance categories:

1. ADA Compliant
2. ADA Non-Compliant, but Navigable
3. ADA Non-Compliant, and Non-Navigable
4. Missing Curb Ramps

Ramps that are ADA Compliant meet all of the accessibility standards and require no repairs. Ramps rated as Non-Compliant, but Navigable do not meet all of the ADA requirements, but remain navigable by some disabled users. Ramps that are Non-Compliant, and Non-Navigable do not meet some or all of the ADA standards and are a hindrance or impassable to many people with disabilities. Missing Curb Ramps are not present where mandated according to ADA guidelines and make pedestrian facilities inaccessible to many disabled users.

Of the 788 curb ramps inventoried:

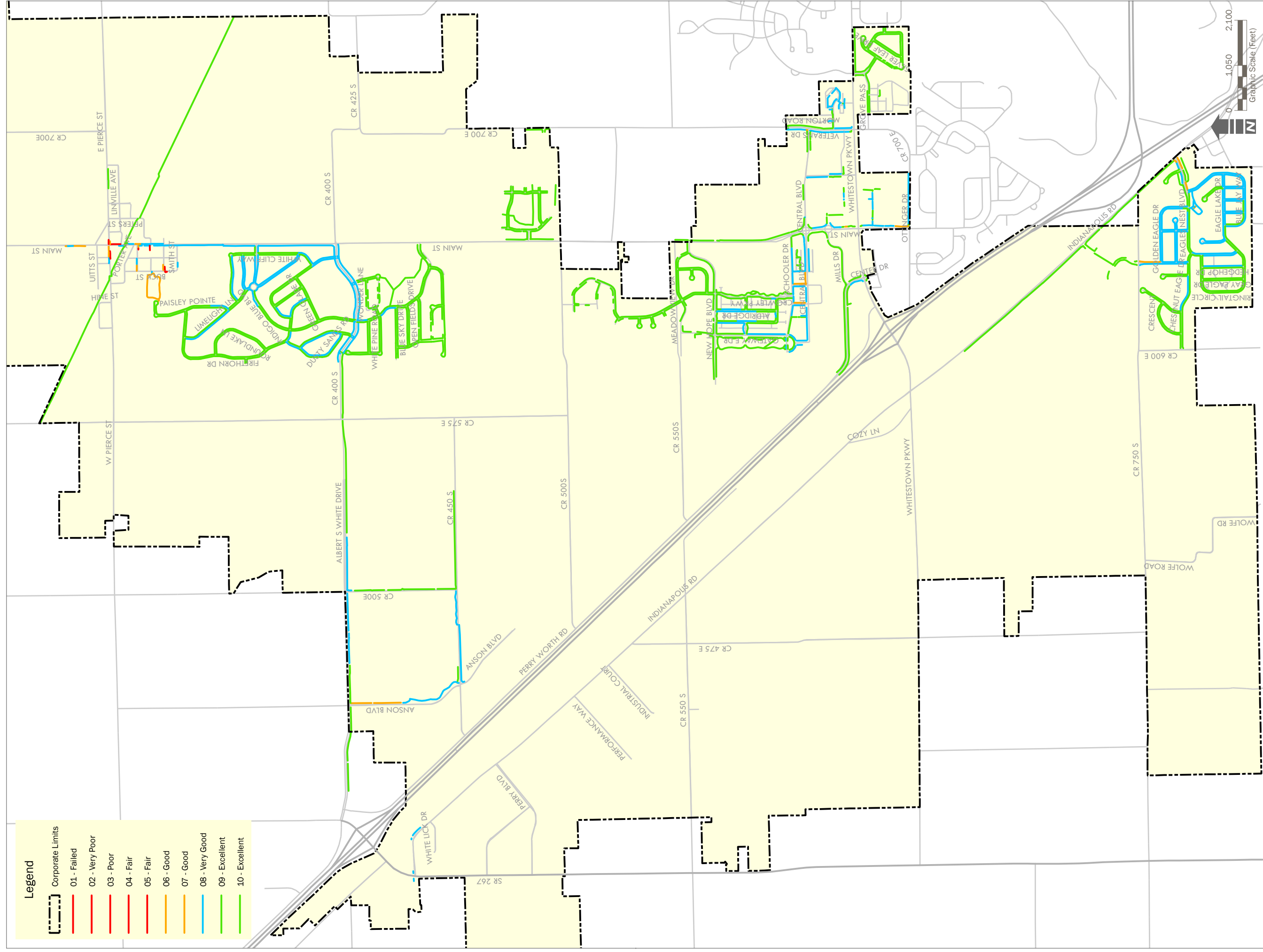
- 462 ramps (59%) were found to be ADA Compliant.
- 183 ramps (23%) are ADA Non-Compliant, but Navigable.
- 103 ramps (13%) are ADA Non-Compliant, and Non-Navigable.
- 40 ramps (5%) are not present at required sidewalk transitions and should be added.

These final two categories - Non-Navigable and Missing Ramps - are therefore the top priority for repairs and replacement. Ramps that remain navigable despite their ADA compliance issues will be corrected only after all accessibility issues have been addressed.

Exhibit 4: ADA Compliant Ramps at the end of this section provides a map of curb ramps categorized according to their compliance ratings.

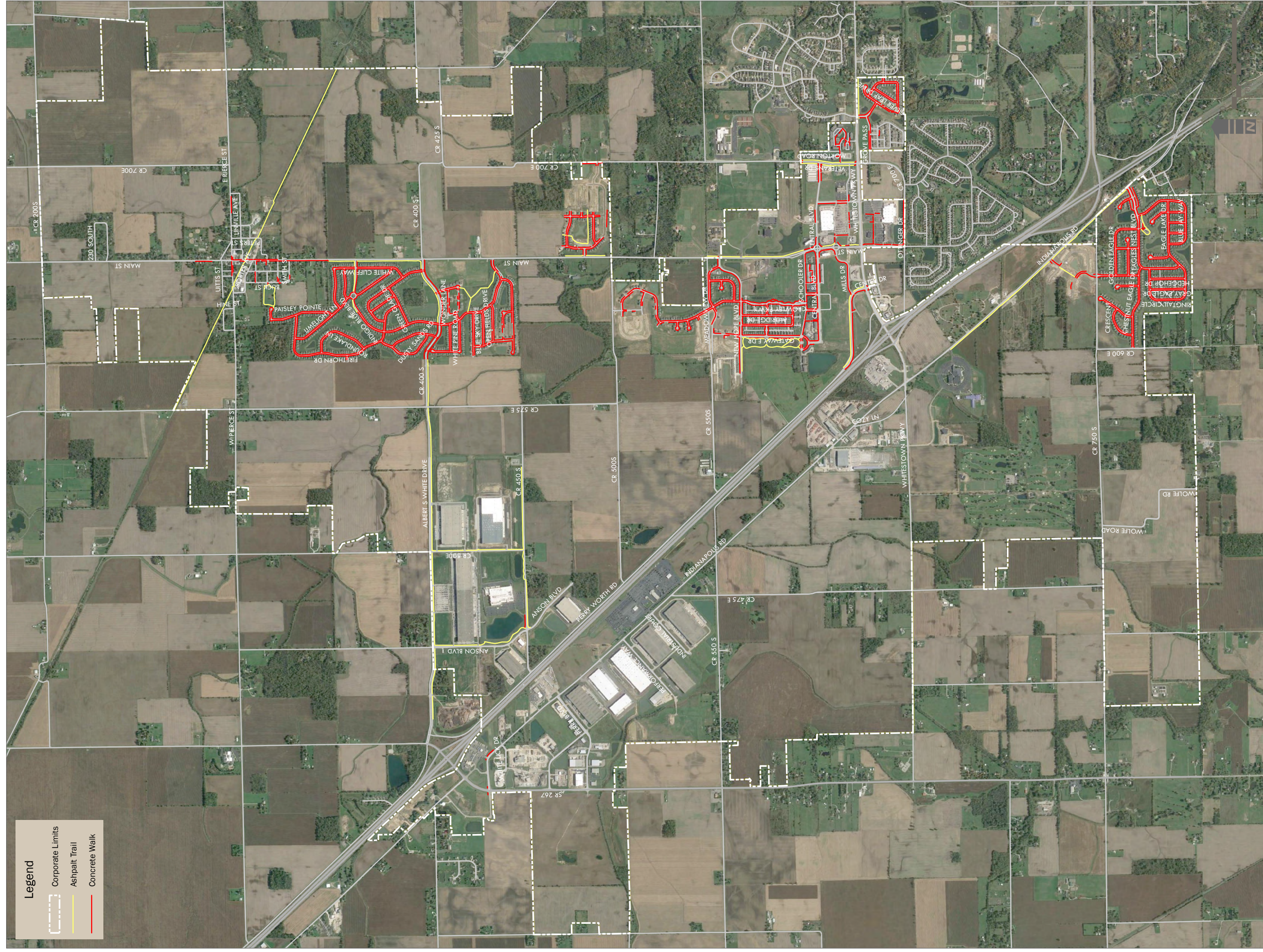


# Exhibit 1: PASER Surface Rating





# Exhibit 2: Sidewalk and Trail System

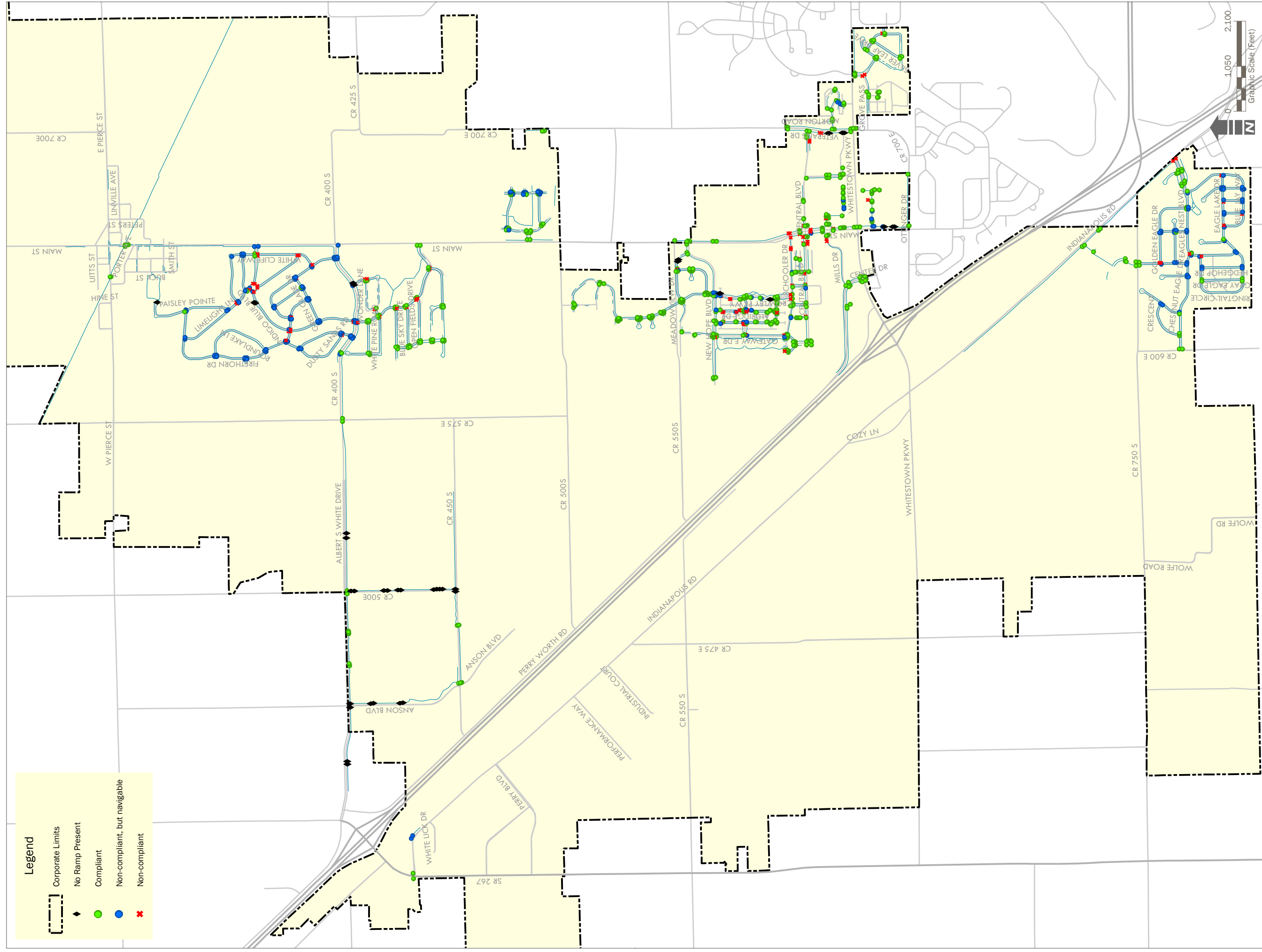








# Exhibit 4: ADA Compliant Ramps



# Maintenance Prioritization

The table below establishes the overall priority rankings for the needed repairs and maintenance of the existing sidewalks and curb ramps. These priority rankings were used to develop the Five-Year Action Plan on the opposite page.

The Five-Year Action Plan provides a timeline for completion of these projects based on priority needs. Sidewalks with PASER Ratings 6-7 and Non-Compliant but Navigable curb ramps are not included in the Five-Year Action Plan because they are not a five-year priority. This plan is designed to direct maintenance funds where they are most needed to ensure upkeep and longevity of pedestrian facilities.

RANKING	PROJECT DESCRIPTION	QUANTITY
1	Sidewalks: PASER Ratings 1-3	0.09 miles
2	Curb Ramps: Non-Compliant and Non-Navigable	103
3	Sidewalks: PASER Ratings 4-5	0.07 miles
4	Curb Ramps: Missing	40
5	Vegetation Pruning and Weed Removal	27
6	Pathway Spot Defects and Barriers (excluding vegetation)	61
7	Sidewalks: PASER Ratings 6-7	1.2 miles
8	Curb Ramps: Non-Compliant but Navigable	183

# Five-Year Action Plan

YEAR	DESCRIPTION	QUANTITY
<b>2017-2018</b>	Sidewalks: Ratings 1-3	0.09 miles
	Non-Compliant and Non-Navigable Ramps	20
	Pathway Spot Defects and Drainage Barrier	13
	Vegetation Pruning and Weed Removal	27
<b>2019</b>	Sidewalks: Ratings 4-5	0.07 miles
	Non-Compliant and Non-Navigable Ramps	25
	Pathway Spot Defects	12
	Annual Vegetation Maintenance	TBD
<b>2020</b>	Non-Compliant and Non-Navigable Ramps	30
	Pathway Spot Defects	12
	Annual Vegetation Maintenance	TBD
<b>2021</b>	Non-Compliant and Non-Navigable Ramps	28
	Missing Curb Ramps	5
	Pathway Spot Defects	12
	Annual Vegetation Maintenance	TBD
<b>2022</b>	Missing Curb Ramps	35
	Pathway Spot Defects	12
	Annual Vegetation Maintenance	TBD