

Spanish Fork City

Pavement Management Plan
and
Progress Report 2009–2010



Streets Presentation Overview

- Maintenance Types
- Street Maintenance Plan
- 2009–2010 Progress Report
- 2011 Proposed Maintenance

The key to maximizing pavement life...

“The **Right** Treatment,
on the **Right** Surface,
at the **Right** Time!”

*Larry Galehouse, Director
National Center for Pavement Preservation
Michigan State University*



Our Pavement Toolbox

Proper Treatment at Proper Time

1. Crack Seal
2. Mineral Seal (HA5)
3. Slurry Seal
4. Chip Seal
5. Asphalt Overlay



Crack Seal

The crack sealing material is designed to seal up fractures and cracks that develop in asphalt due to the freeze and thaw cycle in our climate. It's purpose is to keep water out of the base & sub base. Water is the greatest threat to our roads.



Mineral Seal (HA5)

High Density Mineral Bond (HA5)

Price: \$\$\$\$\$\$

Pavement Extension: ★★★★★

Public Acceptance: ★★★★★

Application: 1–7 years



- The purpose of this treatment is to restore the binder, a glue that holds the asphalt together.
- It's also used to water proof and keep the UV rays off. Direct sunlight will reduce the life span of asphalt.

Slurry Seal

Slurry (Types I, II, and III)

Price: \$\$\$\$

Pavement Extension: ★★★★★

Public Acceptance: ★★★★★

Application: 10–20 years with no previous maintenance

- Provides a new layer to be worn out without further damaging the existing road.
- Can be used to fix slight depressions and prevent water from pooling.



Chip Seal

Chip Seal

Price: \$\$\$\$

Pavement Extension: ★★★★★

Public Acceptance: ★☆☆☆☆

Application: 10–20 years



- An asphalt emulsion is applied and then a layer of chip rock goes over the top. This is a great wearing course and holds the road together very well.

Chip Seal continued



Chip Seal continued

- Chip sealing is a very cost effective way to get more years of life out of your road. Spanish Fork has used this for several years and we have many roads that are chipped.
- Chip sealing is not popular with the public and they often voice their opinions and dissatisfaction about it. Our goal is to try and discontinue the use of Chip Sealing in residential areas and limit it to the outskirts of town and in industrial areas.



Asphalt Overlay

Asphalt Overlay

Price: \$\$\$\$\$\$

Pavement Extension: ★★★★★

Public Acceptance: ★★★★★

Application: End of Road's Life



- Asphalt overlay is done when the road has reached the end of its life cycle and there are no more cost effective ways to treat the pavement.

Pavement Management

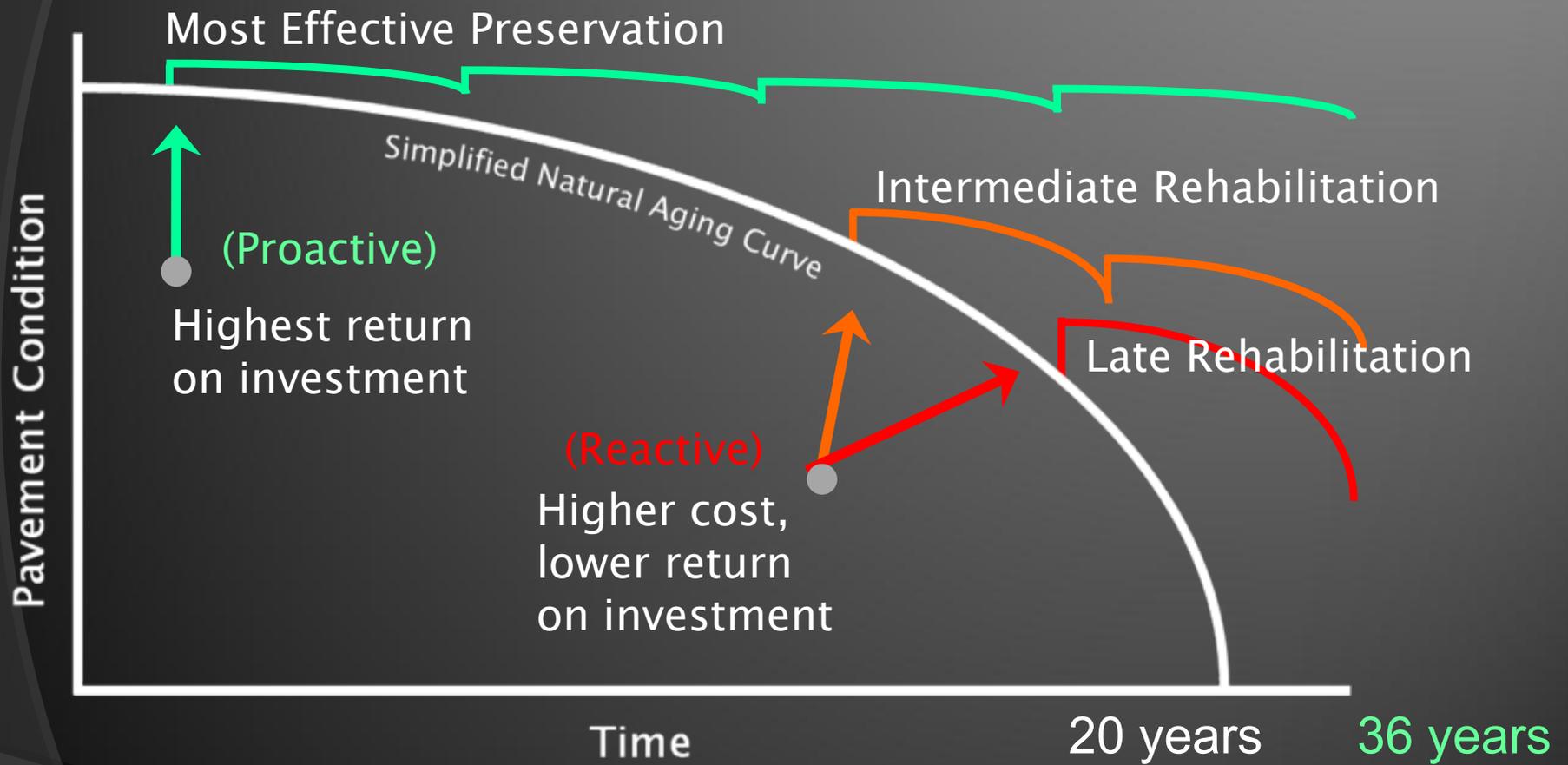
Proactive vs. Reactive

- Proactive Plan: maintains roads before damage is done to preserve the quality of the road.
- Reactive Plan: Roads are fixed or maintained after damage has occurred.

Maintenance Plan Selection

1. Possible Treatment Strategies
2. Cost vs. Benefit
3. Treatment Type
4. Annual Maintenance Program over a multi-year time frame

Pavement Life Curve



Maintenance Goals

36 years of asphalt life

Year	Treatment
1	Asphalt Overlay
2	HA5
9	HA5
16	HA5 or Slurry
23	Slurry or Chip Seal
30	Slurry or Chip Seal
36	Asphalt Overlay

*Roads must be crack sealed before all maintenance or treatment.

Questions on Maintenance?



<http://atom.smasher.org/construction/>



Streets Progress Report

2009 – 2010

Progress Report

2009-2010

- Mineral Seal / HA5
- Slurry Seal
- Chip Seal
- Asphalt Overlays



HA5

2009-2010



Legend

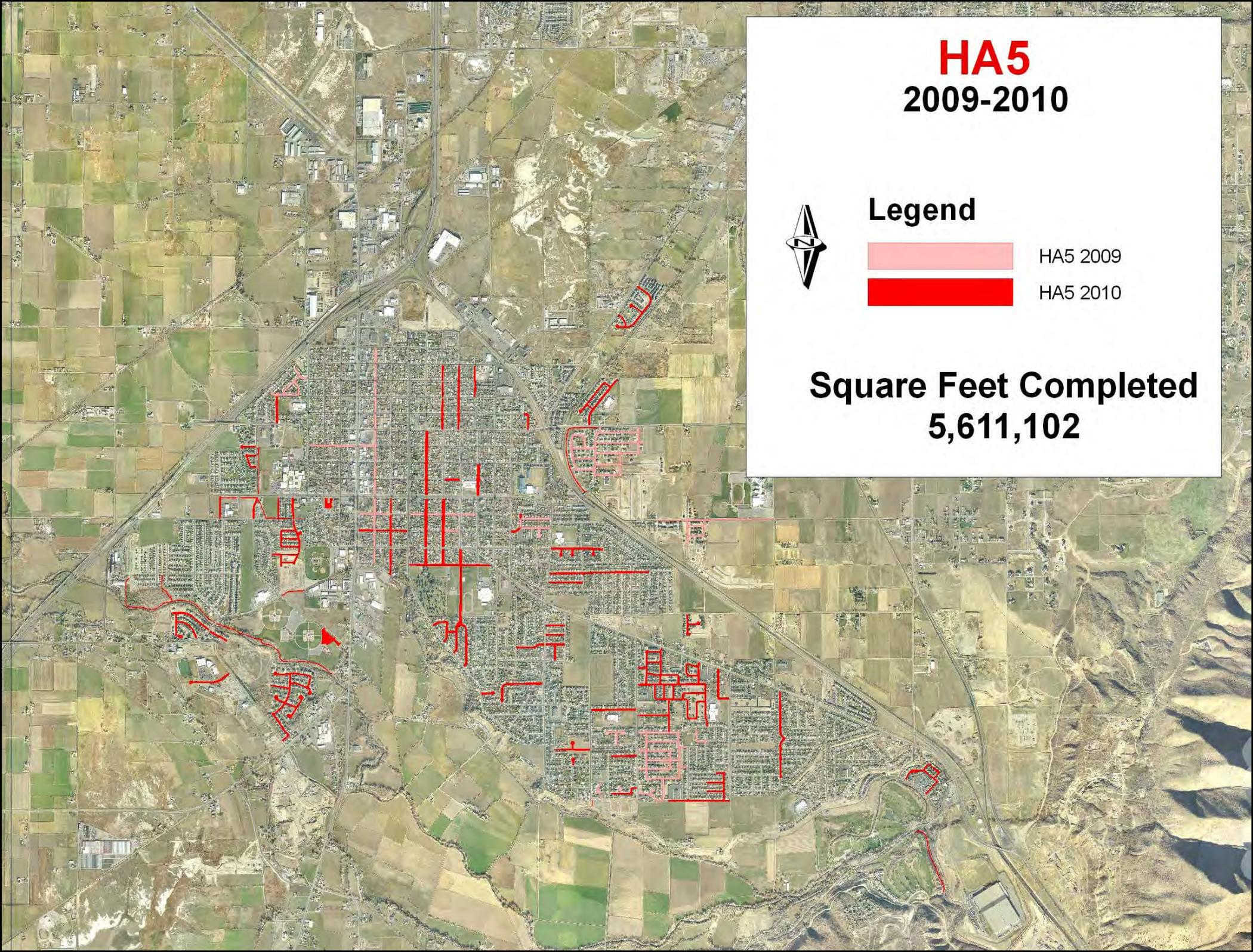


HA5 2009



HA5 2010

Square Feet Completed
5,611,102



Slurry Seal

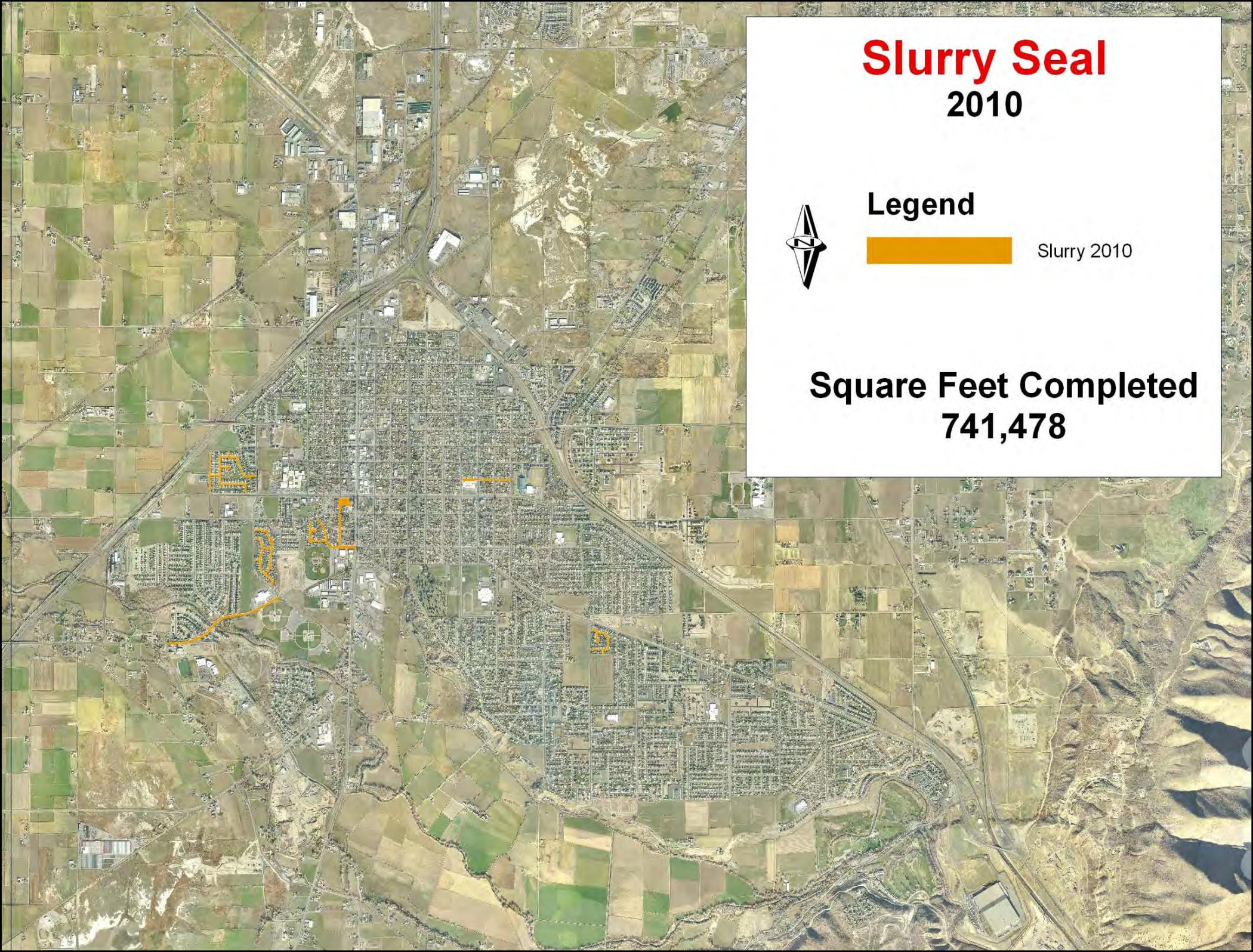
2010



Legend

 Slurry 2010

Square Feet Completed
741,478



Chip Seal

2009-2010

Legend

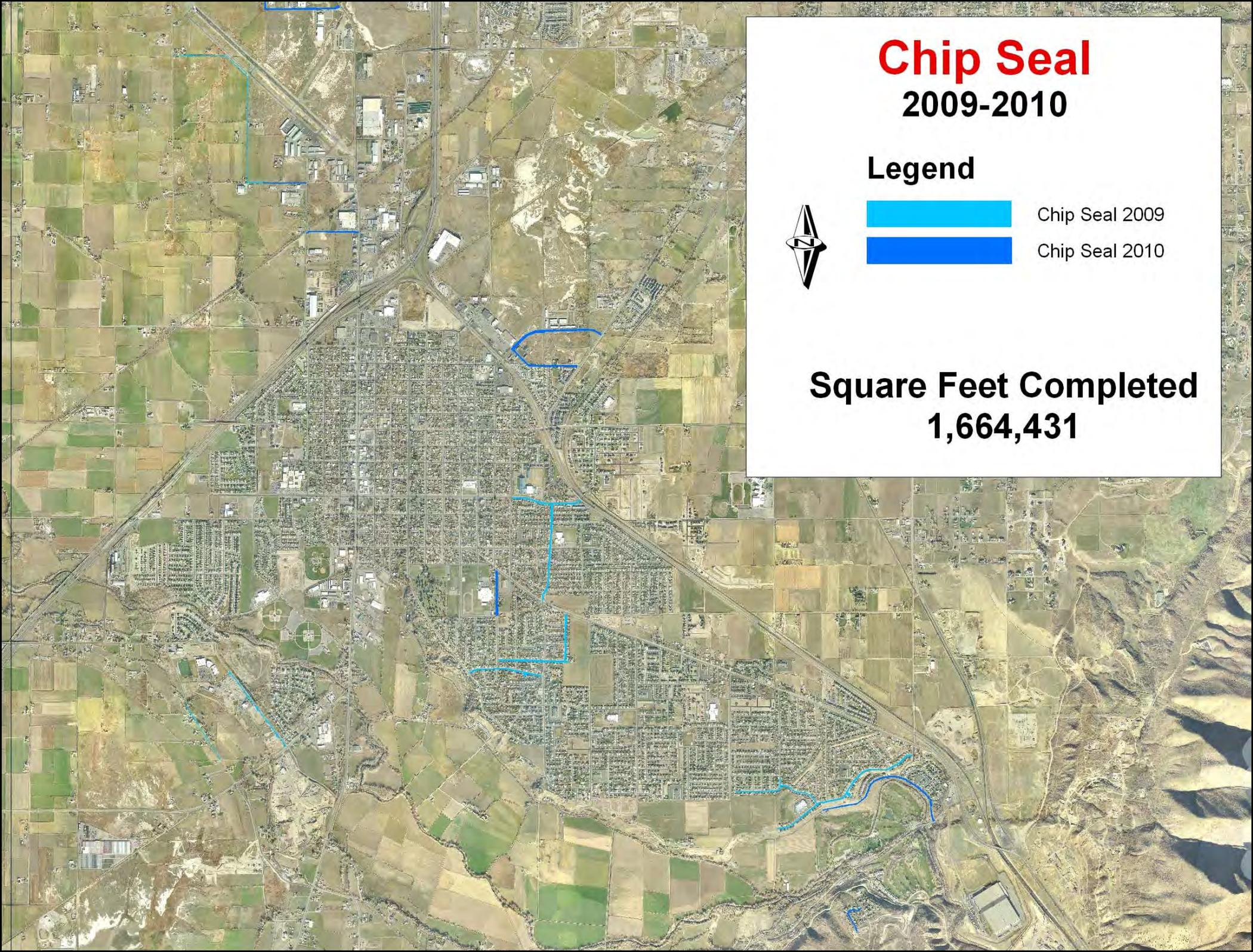


Chip Seal 2009



Chip Seal 2010

Square Feet Completed
1,664,431



Asphalt Overlay 2010

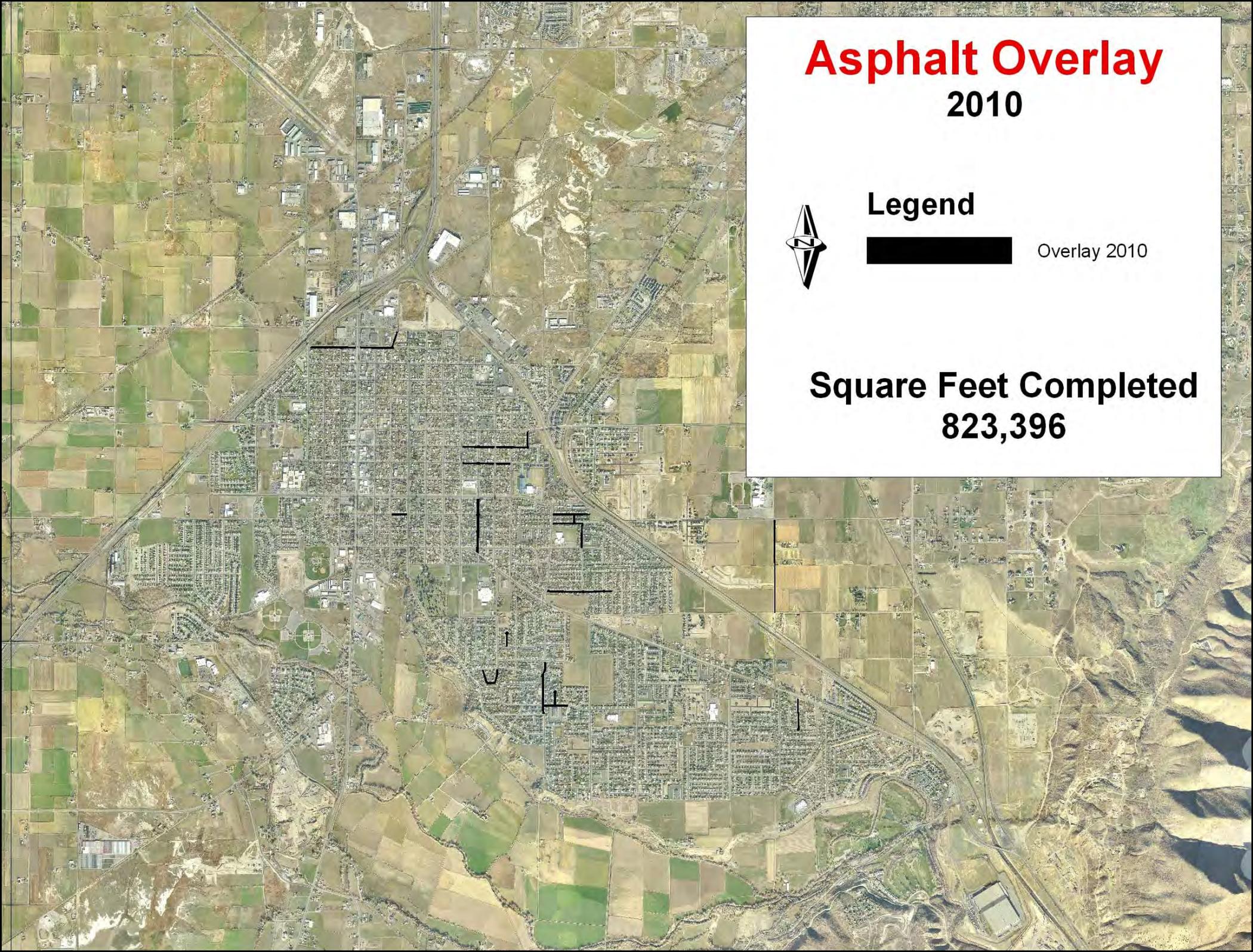


Legend



Overlay 2010

Square Feet Completed
823,396



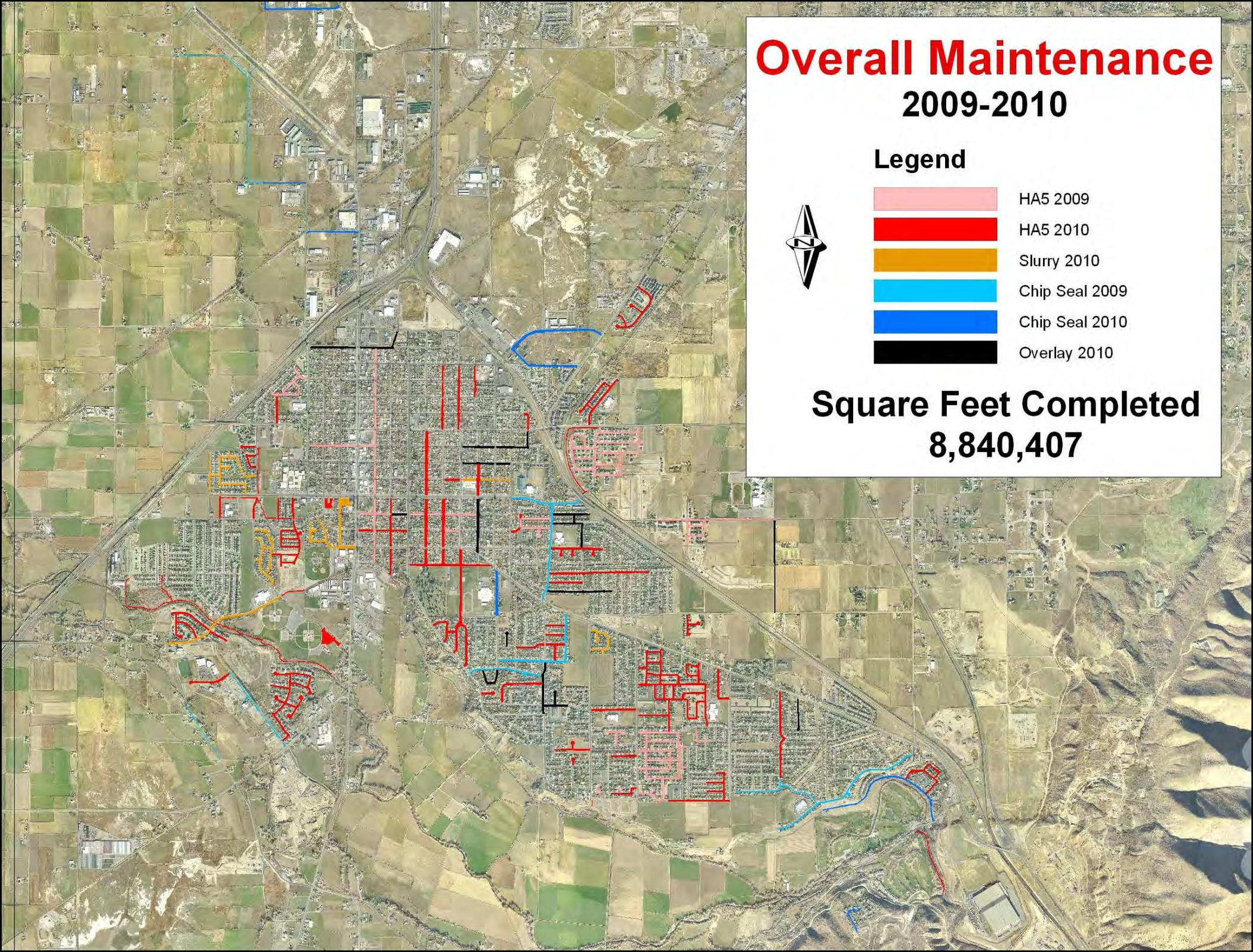
Overall Maintenance 2009-2010

Legend



-  HA5 2009
-  HA5 2010
-  Slurry 2010
-  Chip Seal 2009
-  Chip Seal 2010
-  Overlay 2010

Square Feet Completed
8,840,407



Completed Maintenance

<u>Type</u>	<u>Sq Ft</u>	<u>% of City</u>
HA5	5,611,102	21%
Slurry	741,478	3%
Chip Seal	1,683,046	6%
Overlay	823,396	3%
Total	8,840,407	33%

Planned Maintenance –2011



Anticipated 2011 Maintenance

<u>Type</u>	<u>Sq Ft</u>	<u>% of City</u>
HA5	1,383,457	5%
Slurry	1,939,837	7%
Chip Seal	149,331	1%
Overlay	1,030,342	4%
Total	4,502,967	17%

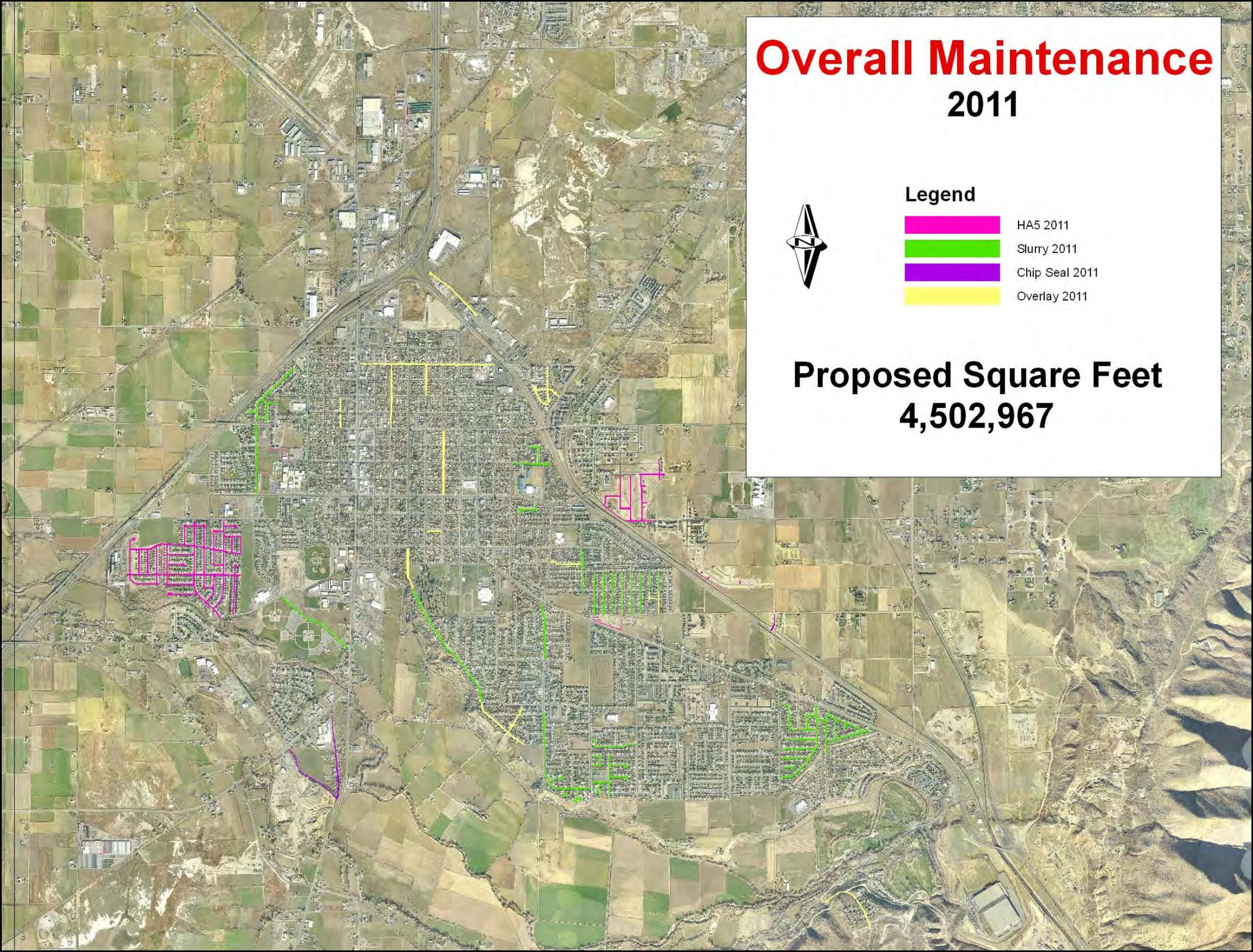
Overall Maintenance 2011



Legend

-  HA5 2011
-  Slurry 2011
-  Chip Seal 2011
-  Overlay 2011

**Proposed Square Feet
4,502,967**



Overall Maintenance

2009-2011

Legend

- HA5 2009
- HA5 2010
- HA5 2011
- Slurry 2010
- Slurry 2011
- Chip Seal 2009
- Chip Seal 2010
- Chip Seal 2011
- Overlay 2010
- Overlay 2011



Square Feet Through 2011
13,343,374

50%

230 Football Fields

