

# City of Plano Street Maintenance

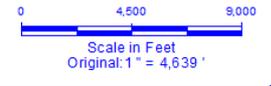


# CITY OF PLANO

## Major Thoroughfares

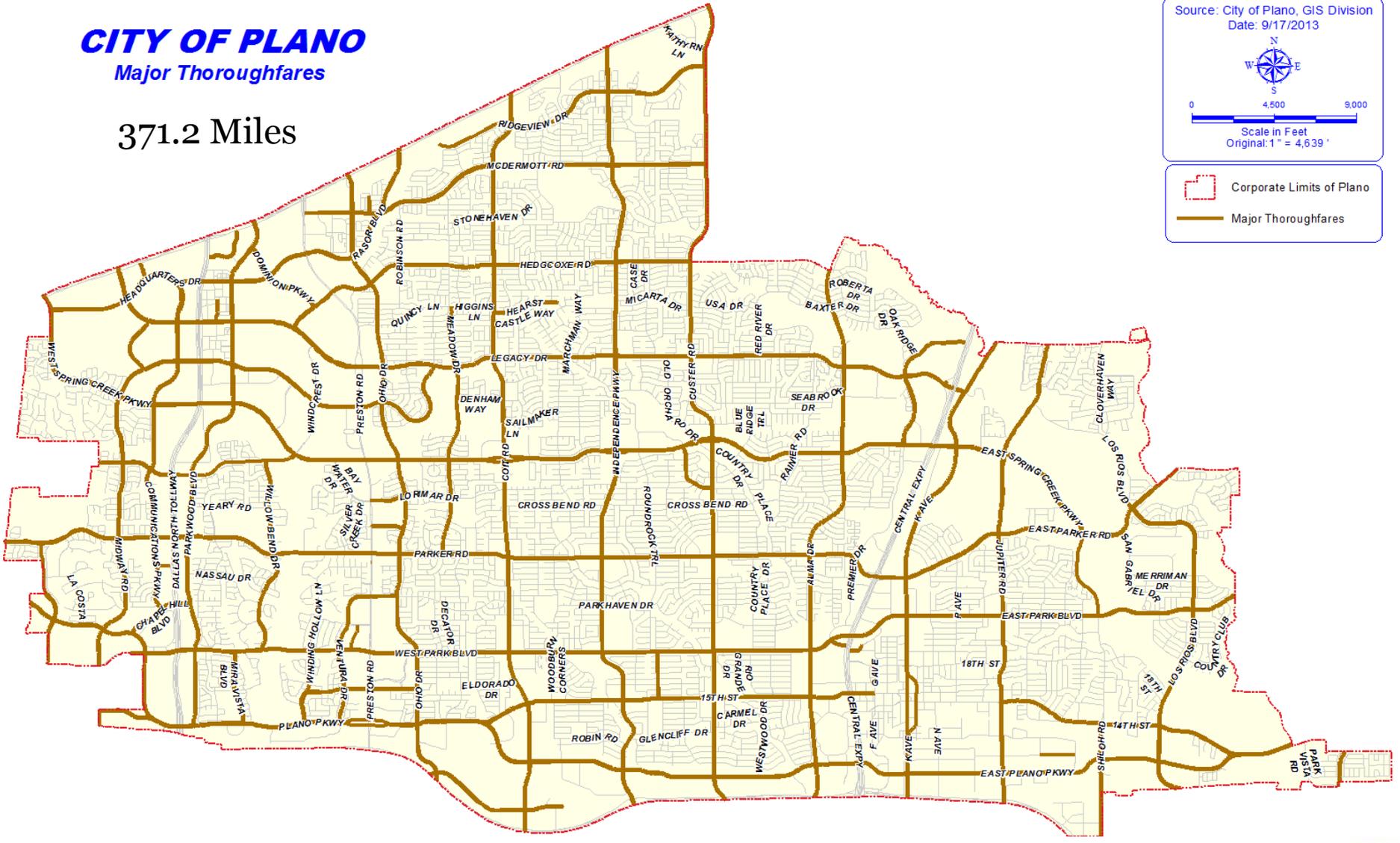
371.2 Miles

Source: City of Plano, GIS Division  
Date: 9/17/2013



 Corporate Limits of Plano

 Major Thoroughfares

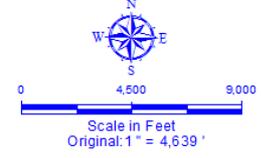


# CITY OF PLANO

## Collector Streets

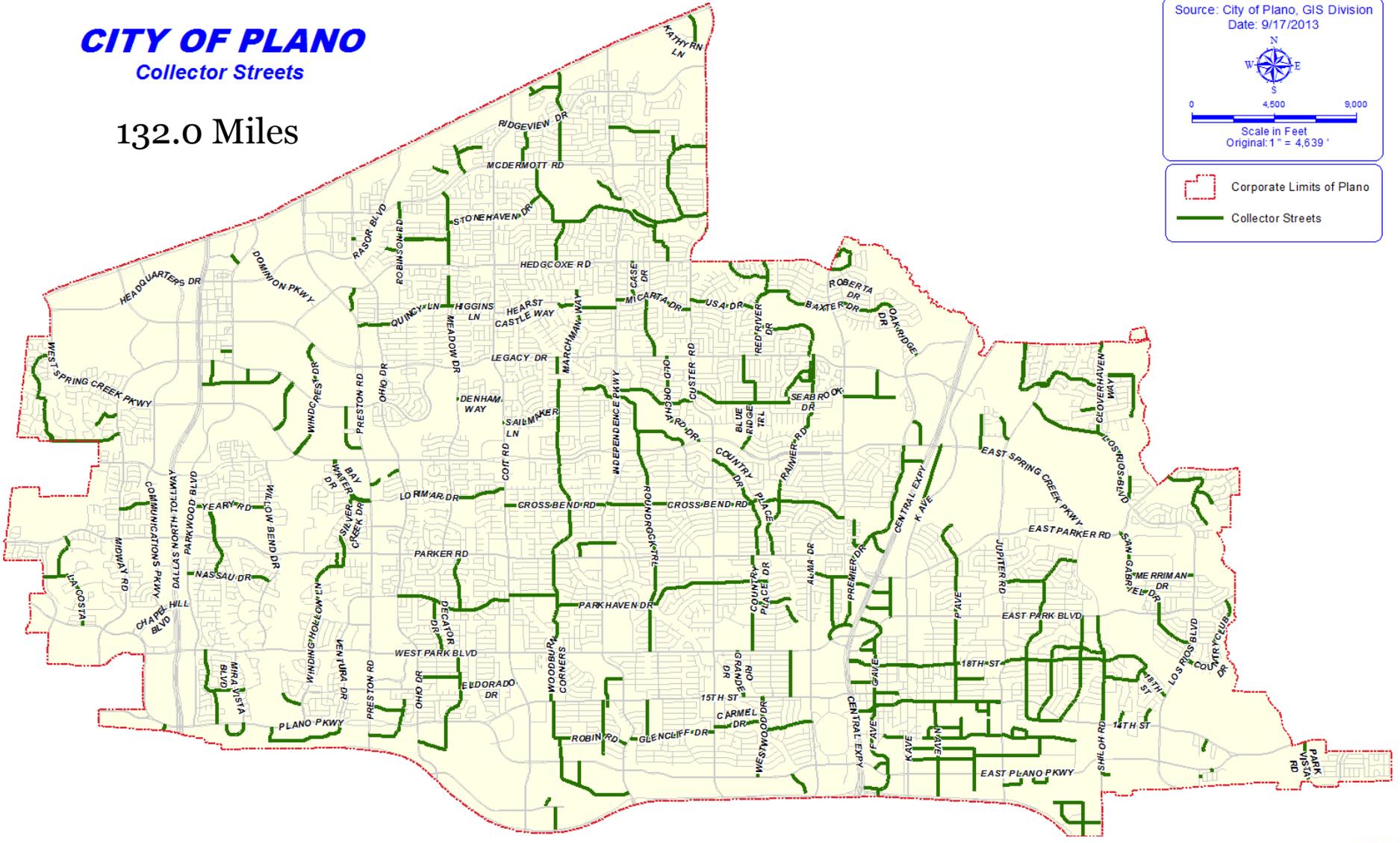
132.0 Miles

Source: City of Plano, GIS Division  
Date: 9/17/2013



Scale in Feet  
Original: 1" = 4,639'

Corporate Limits of Plano  
Collector Streets



# Street and Alley Lengths

<u>Road Type</u>	<u>Miles</u>
DNT Service Roads	12.1
6 - 12 Foot Lanes Divided	37.8
6 - 11 Foot Lanes Divided	256.2
4 - 12 Foot Lanes Divided	65.1
4 - 11 Foot Lanes Undivided w/ center turn lane	0.6
4 - 11 Foot Lanes Undivided	15.1
37 Foot Collector	116.2
Residential Roads	628.3
<b>Street Total</b>	<b>1,119.4</b>
Alleys	538.9
<b>Street &amp; Alley Total</b>	<b>1,658.3</b>



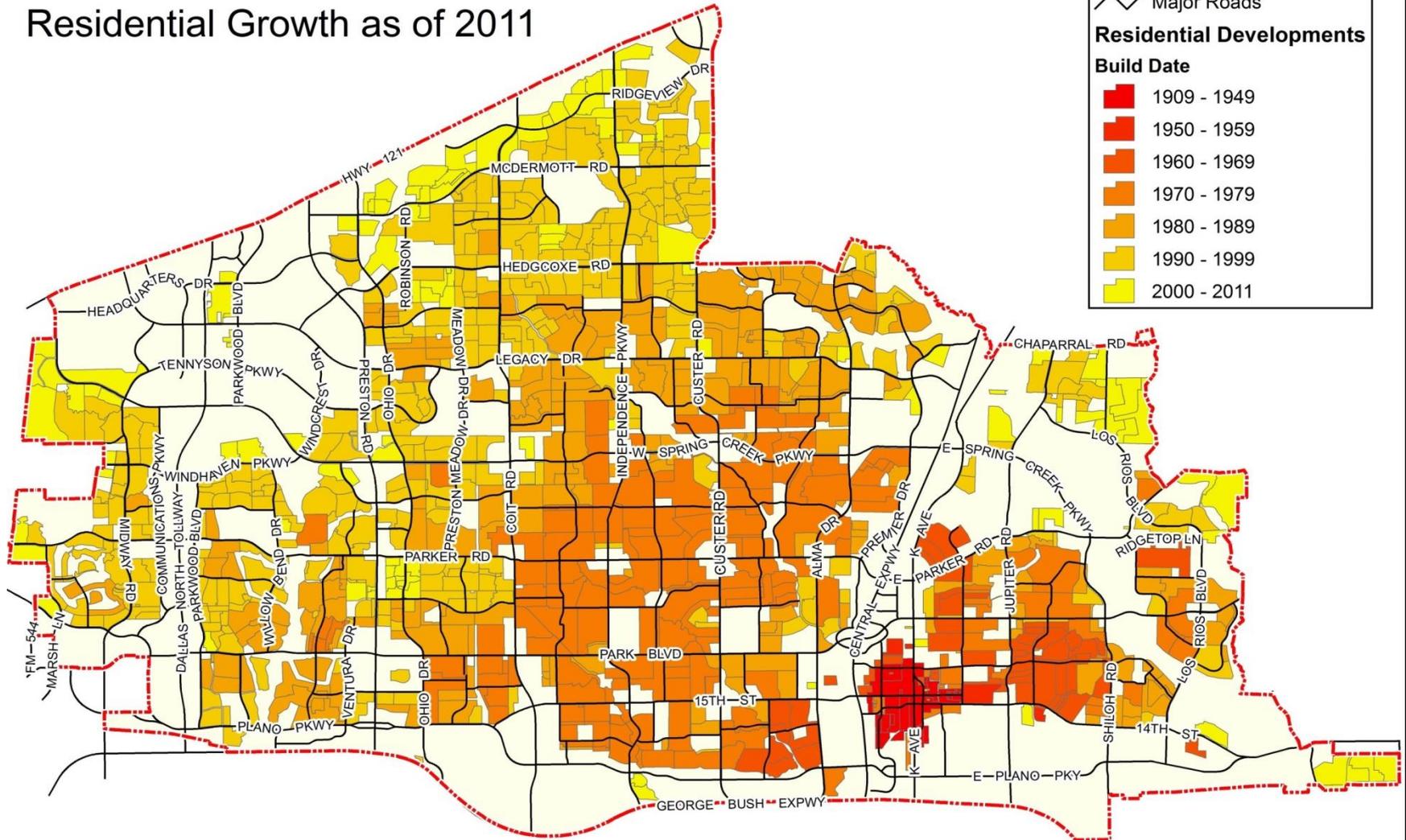
# What Causes Problems?

- Plano is getting older
- More traffic
- Poor Soils – expansive clays
- Weather
- Utilities
- Trees
- Rapid Growth – Lower level of Inspection
- Poor Concrete



# CITY OF PLANO

## Residential Growth as of 2011

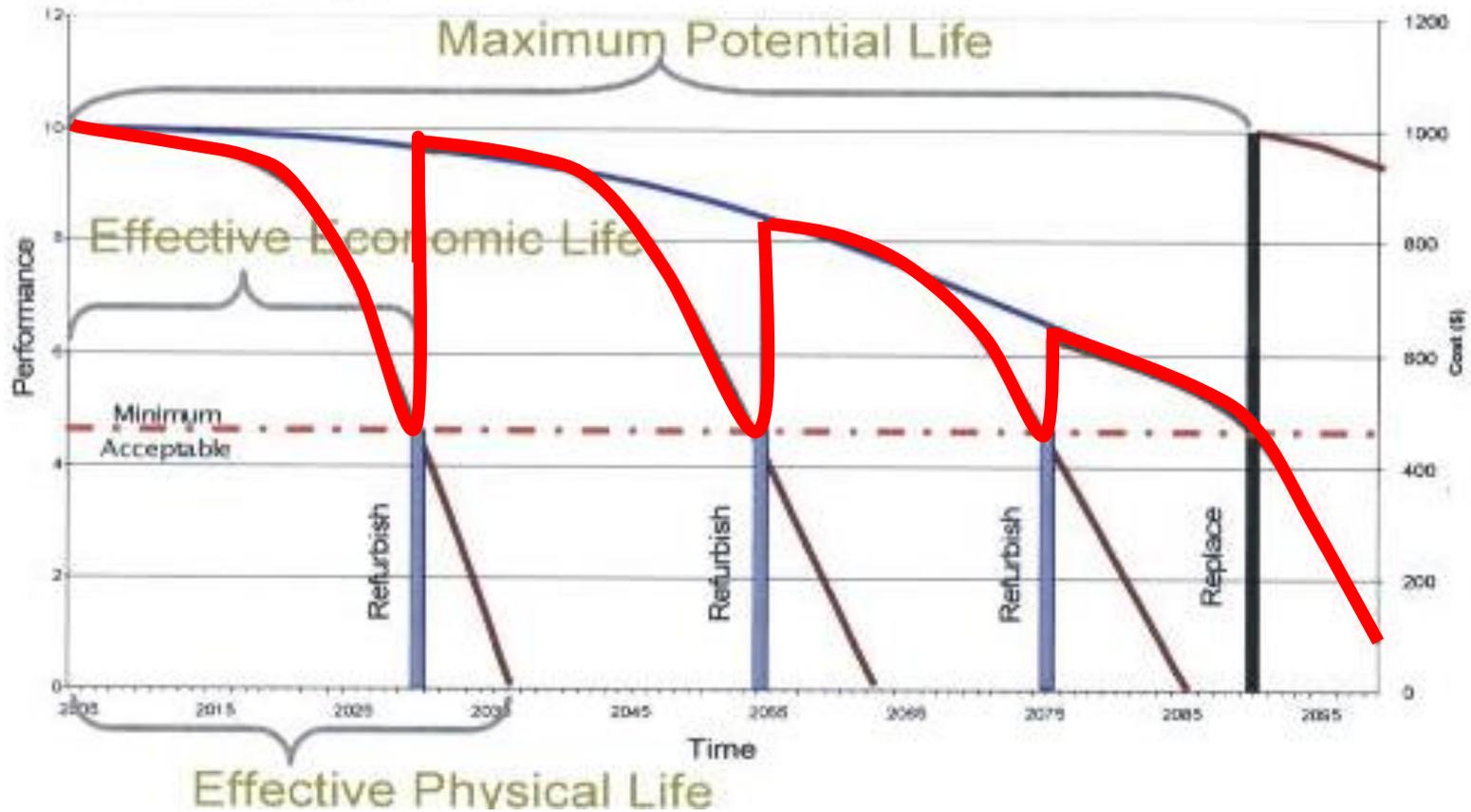


# Plano Population Growth

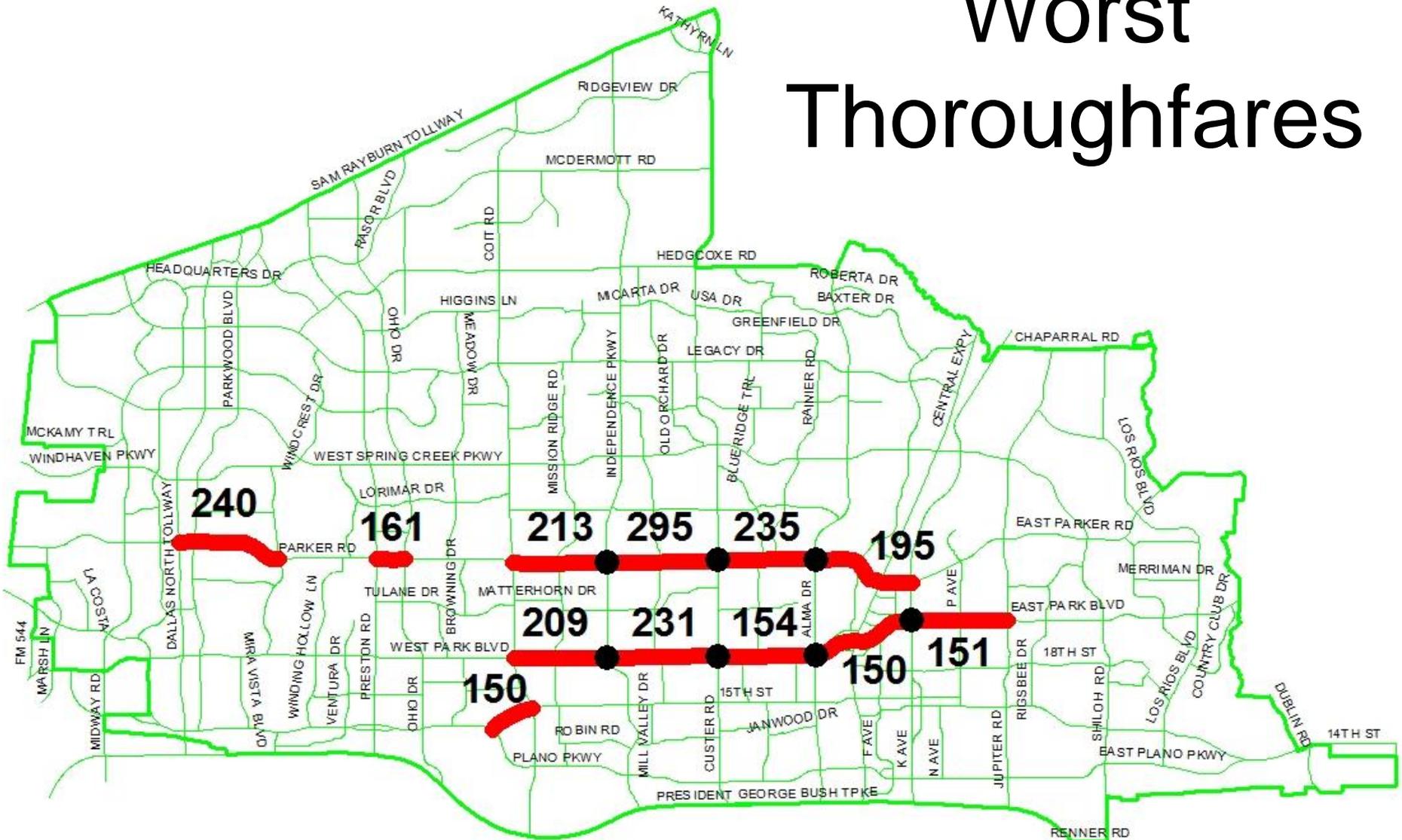
1900	1,304
1910	1,250
1920	1,715
1930	1,554
1940	1,582
1950	2,126
1960	3,695
1970	17,872
1980	72,331
1990	128,713
2000	222,030
2010	259,841



# Life of an Asset



# Worst Thoroughfares



# Worst Thoroughfares

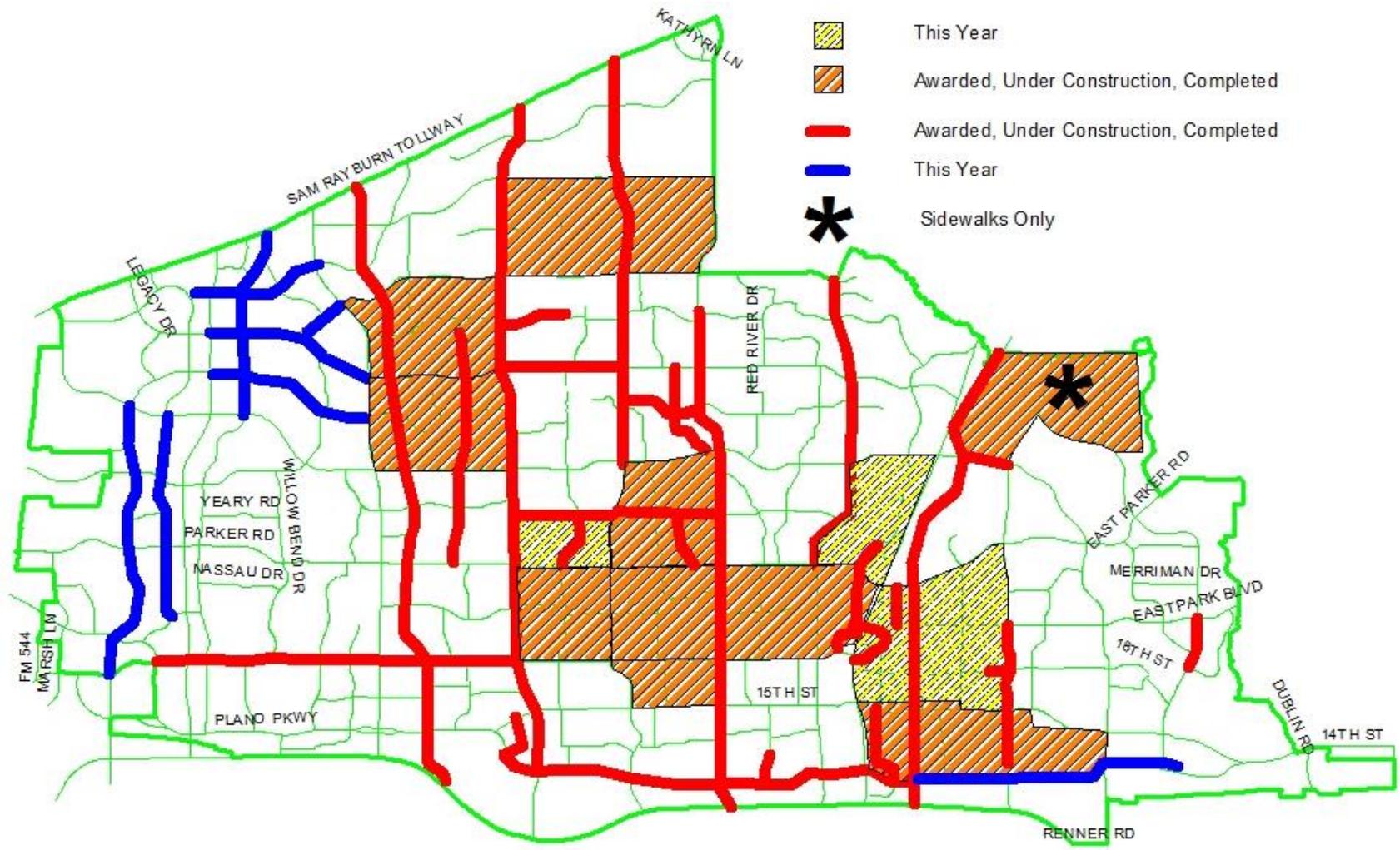
	<u>6 Lane Thoroughfare</u>	<u>From</u>	<u>To</u>	<u>Defects per Mile</u>
1	Parker	Independence	Custer	295
2	Parker	Dallas Parkway	Willow Bend	240
3	Parker	Custer	Alma	235
4	Park	Independence	Custer	231
5	Parker	Coit	Independence	213
6	Park	Coit	Independence	209
7	Parker	Alma	Avenue K	195
8	Parker	Preston	Ohio	161
9	Park	Custer	Alma	154
10	Park	Avenue K	Jupiter	151
11	Park	Alma	Avenue K	150
12	15th Street	Coit	Plano Parkway	150



# Thoroughfare Replacement



# Last 5 Years & This Year



# What funding do we use to rehab/replace streets

1. Replace Street – Bond Funds
2. Rehabilitate Street
  - a. Capital Reserve with Contractors
  - b. Operating Budget with Public Works Staff (Some CRF Funding)



# Capital Reserve

	<u>2008-09</u>	<u>2009-10</u>	<u>2010-11</u>	<u>2011-12</u>	<u>2012-13</u>	<u>Past 5 Yr Total</u>	<u>2013-14</u>
Res. St & Alley Replacement	2,366,277	1,467,415	4,000,760	2,822,123	3,478,150	14,134,725	3,000,000
Sidewalk Repairs	3,000	215,260	58,724	122,304	189,880	589,168	1,000,000
Pavement Maintenance	369,343	750,646	729,589	353,185	2,217,250	4,420,013	3,000,000
Arterial Concrete Repairs	2,129,912	1,628,350	1,991,479	1,895,291	1,146,385	8,791,417	3,500,000
Arterial Joint Sealing Prog	1,838,212	1,009,028	1,979,702	1,413,184	1,606,024	7,846,150	2,000,000
Pavement Joint & Crack Seal	-	-	-	-	56,250	56,250	200,000
Concrete Supply - Streets	-	-	-	3,970	148,560	152,530	150,000
<b>Annual Total</b>	<b>6,706,744</b>	<b>5,070,699</b>	<b>8,760,254</b>	<b>6,610,057</b>	<b>8,842,499</b>	<b>35,990,253</b>	<b>12,850,000</b>



# Recent Production

		City Crews		Contractors
		<u>2011-12</u>	<u>2012-13</u>	<u>2012-13</u>
Streets	Sq Yds	6,573	4,436	105,243
Utility Cuts	Sq Yds	8,614	8,470	-
Alleys	Sq Yds	4,850	8,631	6,812
Sidewalks	Sq Yds	7,193	4,589	26,260
Curb	LF	*	4,102	46,678
Total	Sq Yds	27,230	26,126	138,315
	LF	*	4,102	46,678

\* Not Measured



# Rehabilitation Methods

- Temporary - Repair Asphalt
- Permanent Repair
  - a. Polyurethane foam
  - b. Concrete
  - c. Crack/Joint Sealing
  - d. Asphalt Overlay



# Contracting Methods

- Thoroughfare Rehab
- Neighborhood Rehab
- Undersealing Contracts
- Requirements Contracts



# Present Situation

1. Goal is to complete workorders with 30-45 days
2. Actual progress is 60-90 days
3. City staff doing more work than in the past, but further behind.



# The Future

- New work order / asset management software – pavement assessment
- Assess pavement condition of the city, 1/3 of the city each year
- Increase contracting work for larger projects
- Increase staff to address smaller/ more isolated items



# Goals

- Reduce time to get utility cuts repaired to 15 days
- Reduce time to get curbs repaired to 30 days
- Reduce time to complete all repairs



# How do we get there?

- Add a new crew for utility cut repairs
- Add a new crew for curb repairs
- Add two senior construction inspectors to prepare plans and inspect contractor work



# Cost

<u>Program</u>	<u>Fund</u>	<u>Annual Cost</u>
Utility Cuts	Water & Sewer	\$255,955
Curbs	Drainage	\$255,955
Contractor Work	General Fund	\$201,472
<b>Total</b>		<b>\$713,463</b>



# Questions





## Memorandum

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**DATE:** November 4, 2013  
**FROM:** Gerald P. Cosgrove, P.E., Director of Public Works  
**TO:** Frank Turner, Deputy City Manager  
**SUBJECT:** **Additional Street Funding Proposal**

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At our meeting, you want a proposal to decrease the delay in getting utility cuts, curbs and potholes repaired in a quicker fashion. Our proposal to address these issues is as follows:

1. Utility Cuts

Our goal to complete utility cuts repairs within 15 days. To achieve this we propose to add a crew which will consist of a crew leader, 3 labor maintenance workers and a vehicle with tools.

2. Curbs

We consider curbs to be part of the drainage system. Our goal to complete curb repairs within 30 days. To achieve this we propose to add a crew which will consist of a crew leader, 3 labor maintenance workers and a vehicle with tools.

3. Potholes – Contractor Work

We continue to fill potholes with asphalt with our own crews. We have used other materials in the past which look more like concrete but cost a lot more. We can investigate this more if the City desires to go in this direction.

To get from temporary asphalt or other materials to permanent repairs, we propose to use outside contractors to achieve this work. In our opinion it is more effective for our crews to do the above repairs which are small quantities and spread out over town and let outside contractors do permanent pothole and pavement repair which we can concentrate in smaller areas. We have already started this process by issuing the Sidewalk Requirements Contract; it is currently out to bid. We are preparing to issue an additional Pavement Maintenance Contract with added flexibility to move the Contractor around a broader area. We are preparing to issue an Alley Requirements Contract to supplement the efforts from the Streets Division. These Projects will be funded in the Capital Reserve Fund. We will continue to do our arterial contracts until we can catch up. At this point it may be possible to rely on requirements contracts only.

This additional workload will add more work than our existing staff can handle. Therefore we will need 2 Construction Inspectors with vehicles. These inspectors are needed to both prepare the contracts and to inspect the construction. We propose to fund these positions in the General Fund.

In order to more concrete work with our own crews, we need reliable concrete trucks. We have one truck which is spending too much time out of service for repairs. This reduces the amount of concrete we can deliver to our crews. This affects production for all of our crews in Streets and Drainage as well as Utility Cuts. This truck was rolled over soon after its original purchase and it hasn't been right since. This truck either needs to be fixed or replaced.

Our goal will be to concentrate our own crews on utility cuts and curbs first and then we can work on other repairs. We intend for contractors to do the majority of the work on major thoroughfares and on repairs in concentrated areas. We believe that our requirements contracts will enable us to reduce the backlog of pavement repairs.

The estimate increase cost for the Public Works Department is as follows:

<u>Program</u>	<u>Fund</u>	<u>Annual Cost</u>
Utility Cuts	Water & Sewer	\$255,955
Curbs	Drainage	\$255,955
Contractor Work	General Fund	\$201,472
<b>Total</b>		<b>\$713,463</b>

The increased cost for outside contractors will be covered by the Capital Reserve Fund. If necessary, we will use outside consultants to prepare and inspect Capital Reserve projects. We will only use outside inspector to work on thoroughfares. We feel that our staff is better prepared to provide the quality customer service that is needed in our residential areas.

It is impossible to guarantee that this will entirely remove the dissatisfaction of our residents, but it is a large step in the right direction. The deterioration rate of our infrastructure is beyond our control; it has definitely increased in the last three years and will continue to worsen. Additionally, supply of concrete has become an issue for unknown reasons, we see our current Contractors having difficulty getting the concrete they need to work efficiently.