City Council Work Session Handouts

June 16, 2014

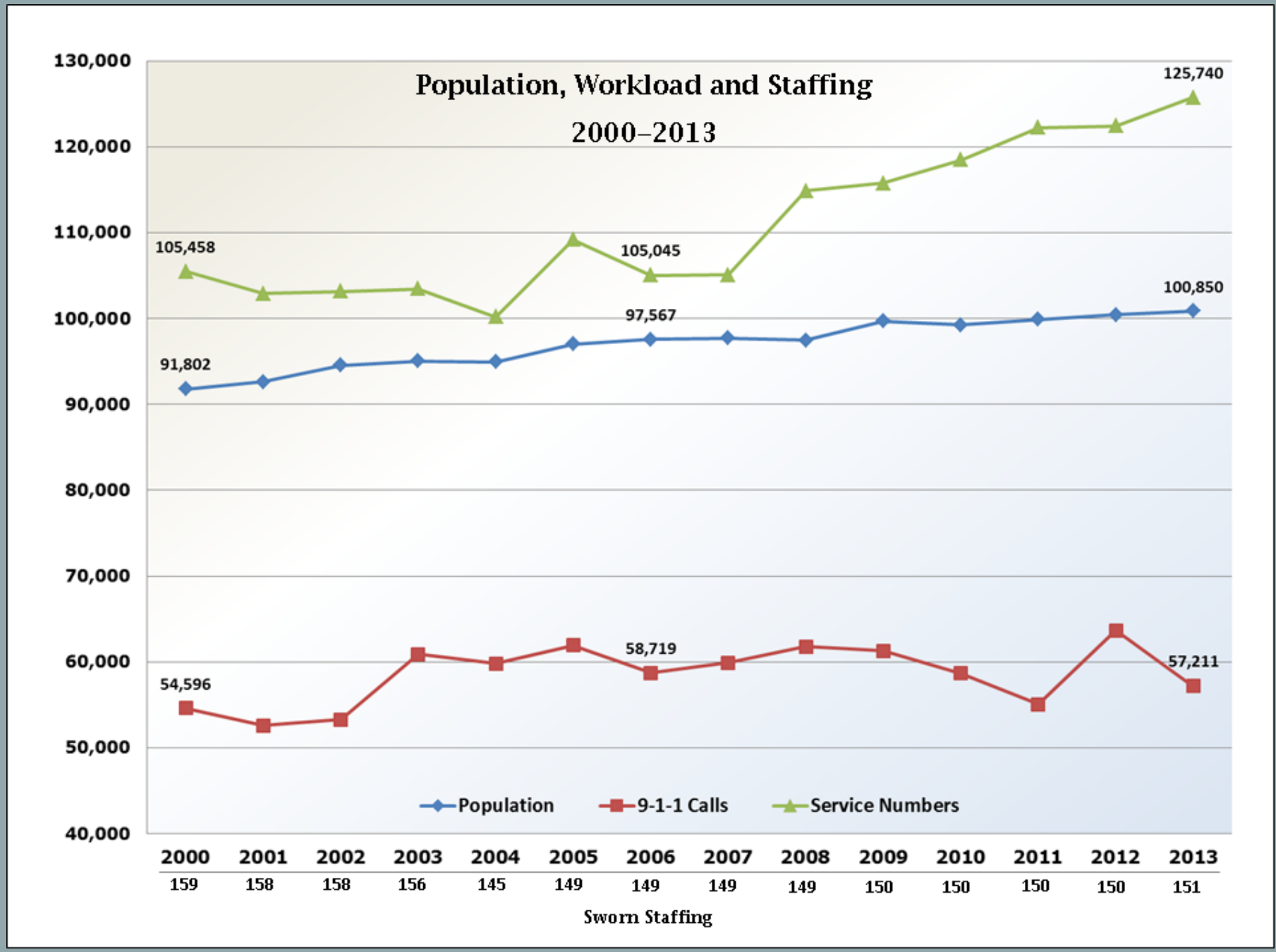
I. Review and Discuss Police Staffing

II. Review and Discuss Maintenance Strategies: Streets, Screening Walls, Bridge Railings, Traffic Signs, and Signals and Markings

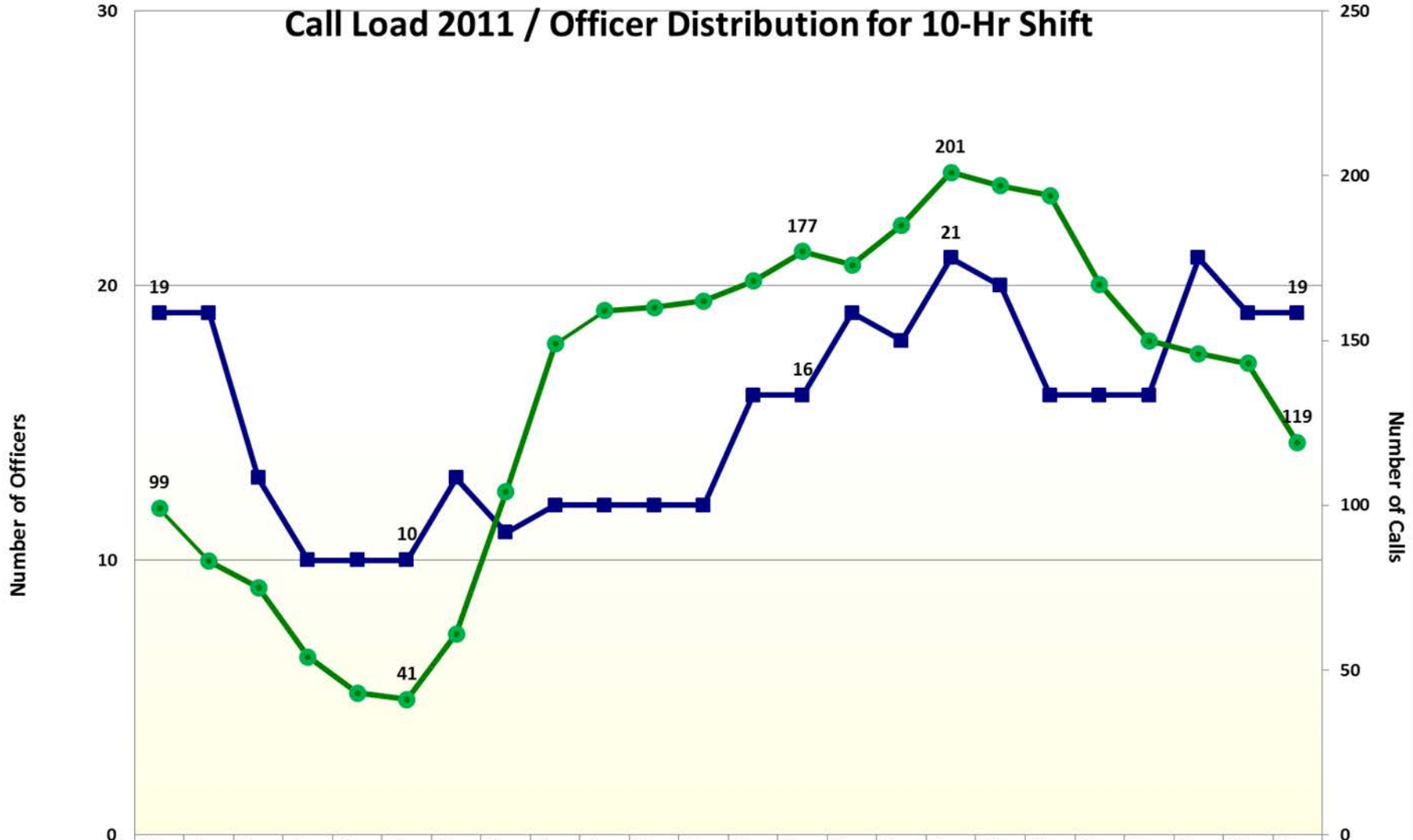
III. Review and Discuss the Drainage Utility Program Update

Staffing Outlook

Richardson Police Department
June 16th, 2014

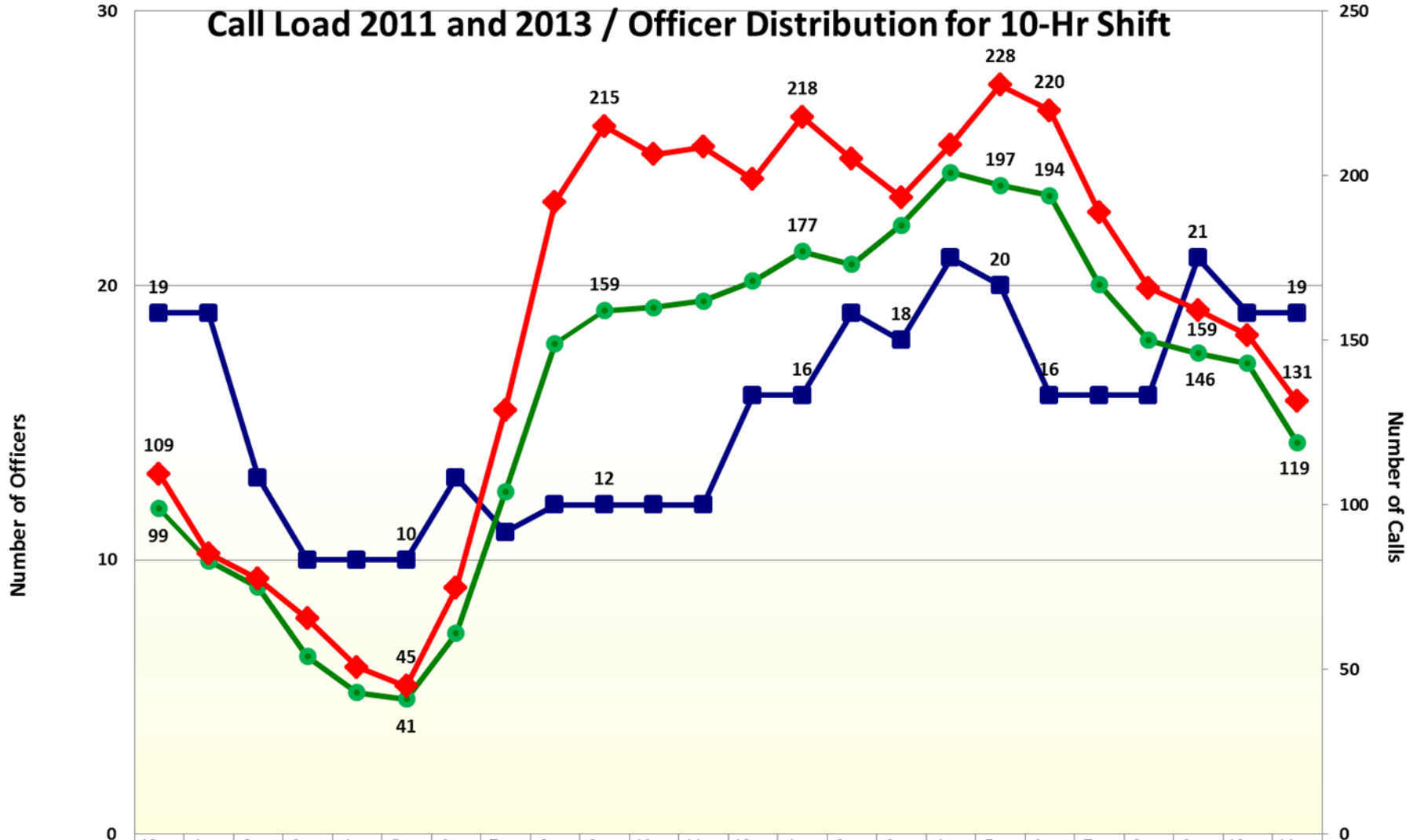

Population, Workload and Staffing
2000–2013
130,000
120,000
110,000
100,000
90,000
80,000
70,000
60,000
50,000
40,000
105,458
105,045
125,740
100,850
97,567
91,802
58,719
57,211
54,596
Population
9-1-1 Calls
Service Numbers
2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013
159 158 158 156 145 149 149 149 149 150 150 150 150 151
Sworn Staffing

Call Load 2011 / Officer Distribution for 10-Hr Shift

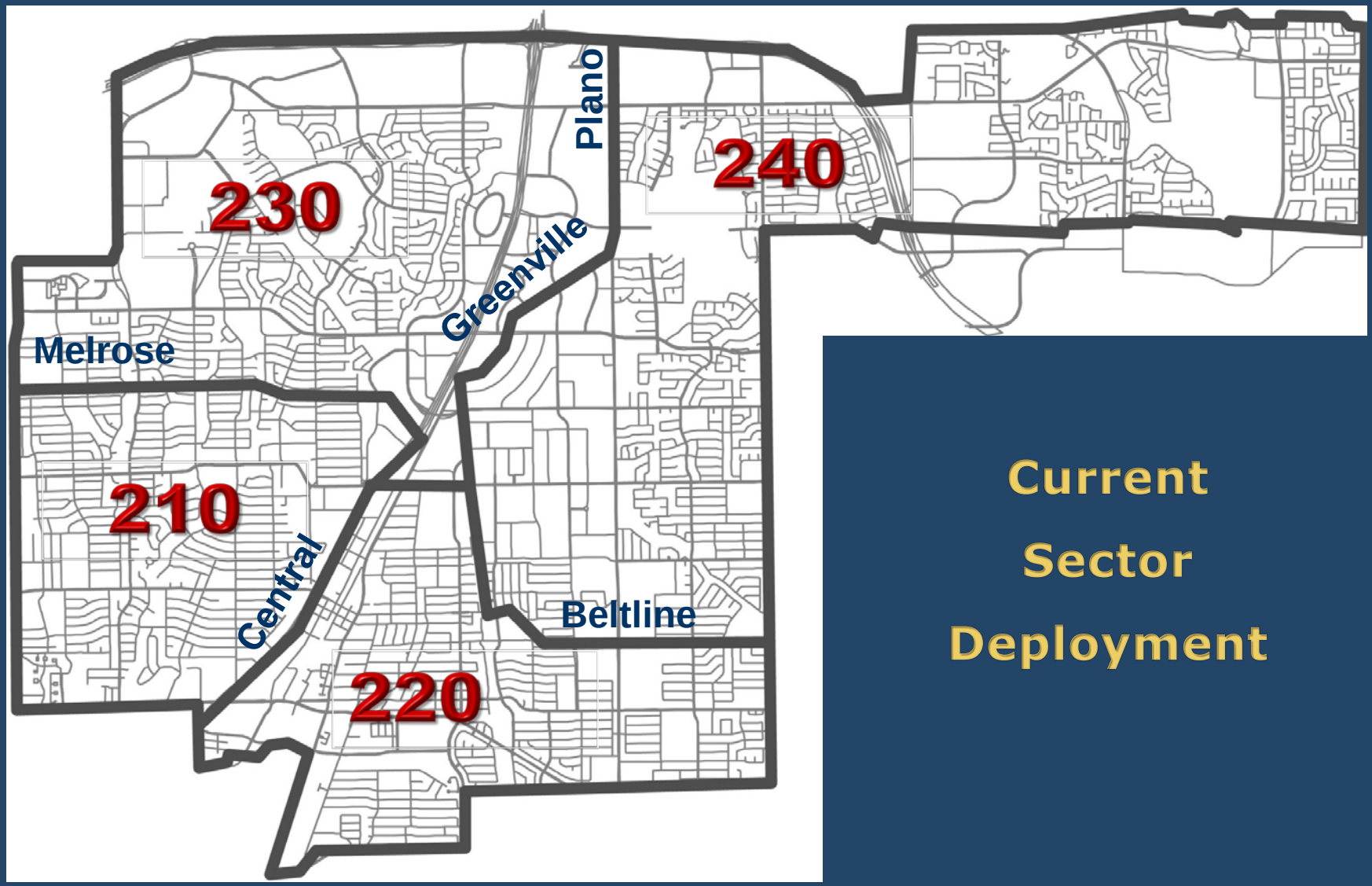


	12am	1am	2am	3am	4am	5am	6am	7am	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm
Officers	19	19	13	10	10	10	13	11	12	12	12	12	16	16	19	18	21	20	16	16	16	21	19	19
Calls 2011	99	83	75	54	43	41	61	104	149	159	160	162	168	177	173	185	201	197	194	167	150	146	143	119

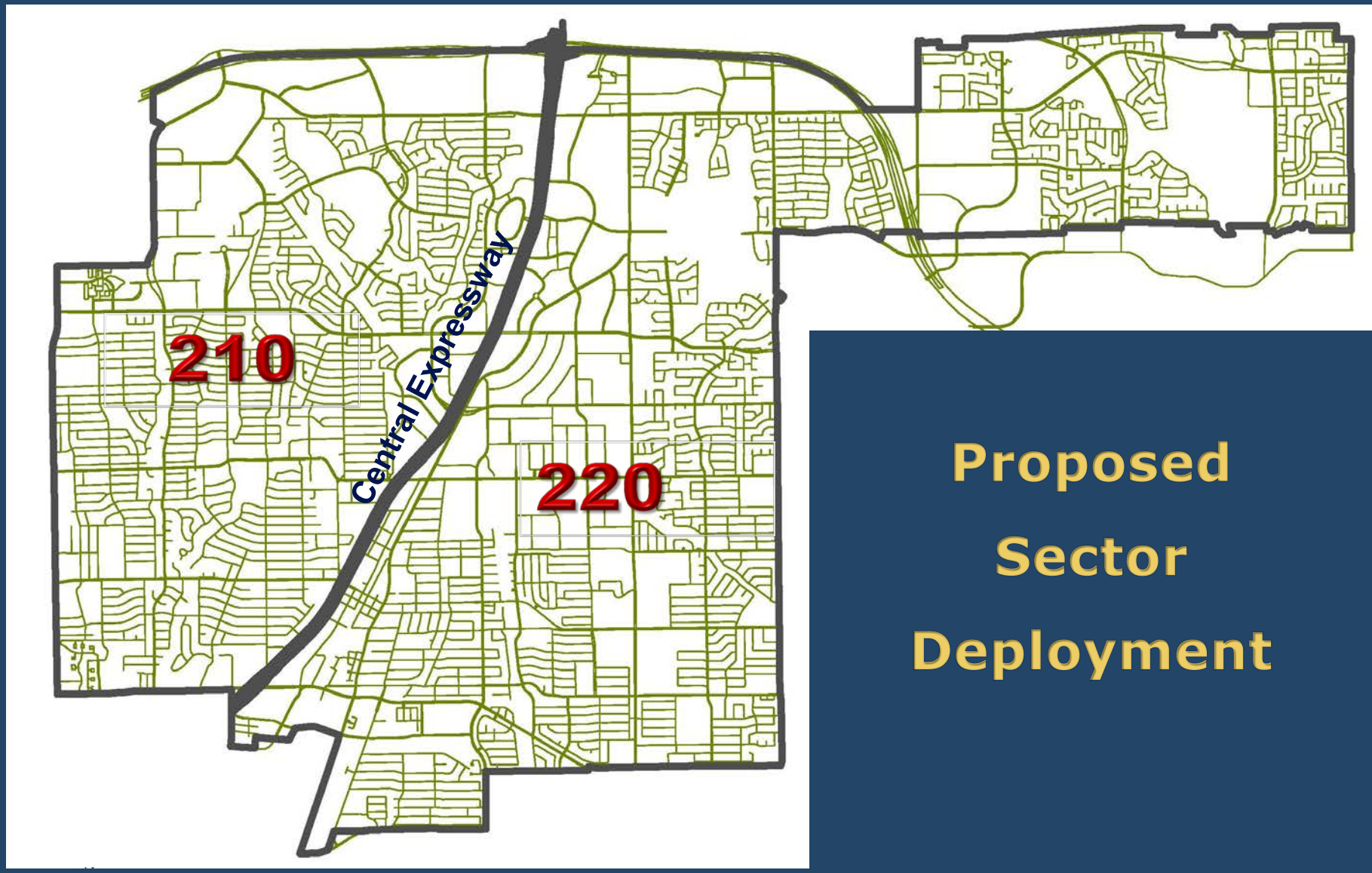
Call Load 2011 and 2013 / Officer Distribution for 10-Hr Shift



	12am	1am	2am	3am	4am	5am	6am	7am	8am	9am	10am	11am	12pm	1pm	2pm	3pm	4pm	5pm	6pm	7pm	8pm	9pm	10pm	11pm
Officers	19	19	13	10	10	10	13	11	12	12	12	12	16	16	19	18	21	20	16	16	16	21	19	19
Calls 2011	99	83	75	54	43	41	61	104	149	159	160	162	168	177	173	185	201	197	194	167	150	146	143	119
Calls 2013	109	85	78	66	51	45	75	129	192	215	207	209	199	218	205	193	209	228	220	189	166	159	152	131



Current Sector Deployment



Proposed Sector Deployment

FY 2014–2015 Budget Request

- 1 Sergeant
- 4 Police Officers
- 2 Public Safety Officers

Public Safety Officers (PSO)

What are they?

Uniformed civilians that answer non-emergency calls not requiring police response from a sworn officer.

What is their purpose?

To provide a more cost effective response to approximately 1200 to 1500 non-emergency calls per PSO annually.

Benefits:

- Allows police response to emergency calls to be managed in a more efficient manner.
- Increases officers' discretionary time for self-initiated police activity.


RICHARDSON
POLICE
TEXAS
OFFICER

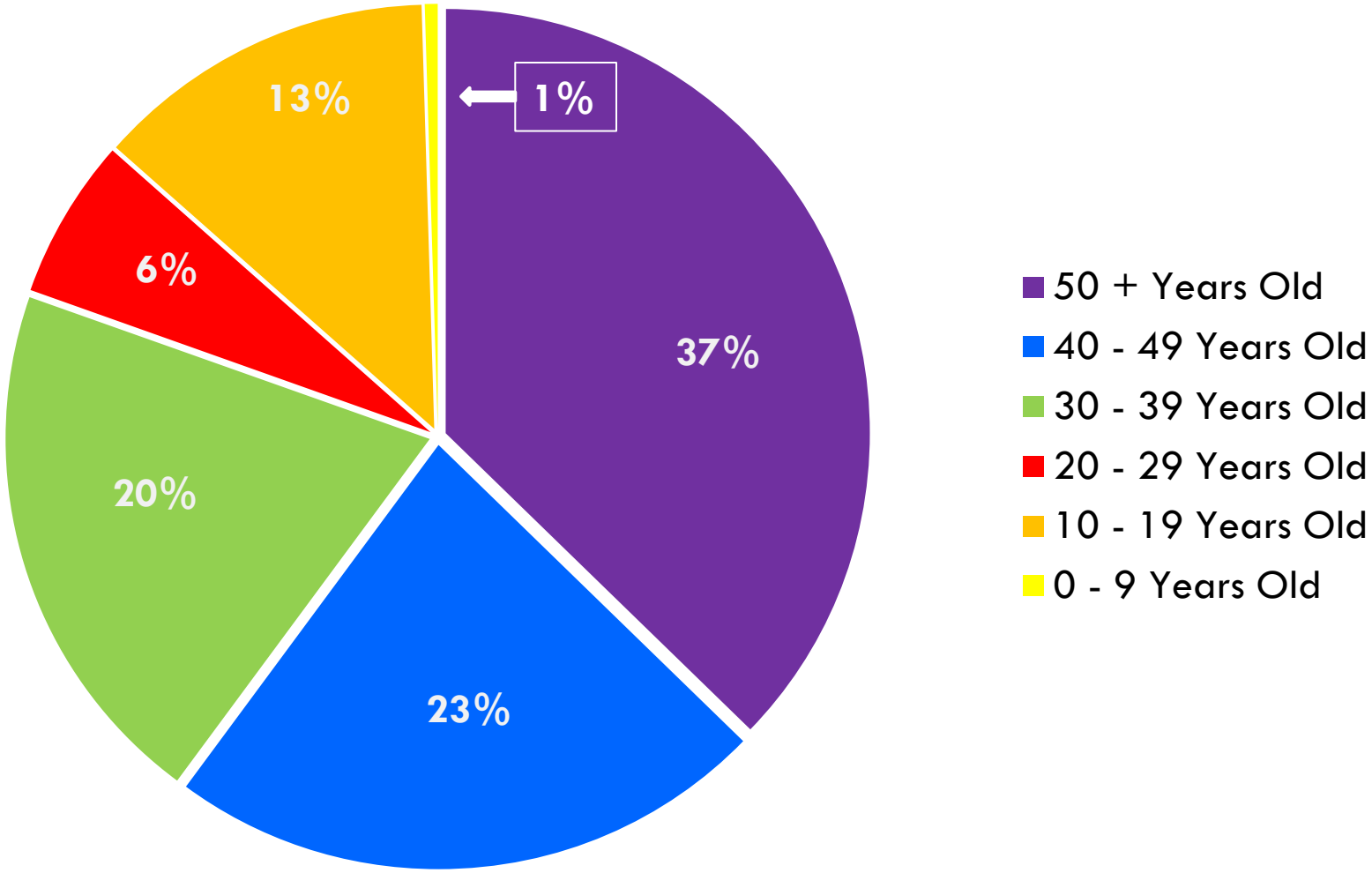
STREETS MANAGEMENT STRATEGY

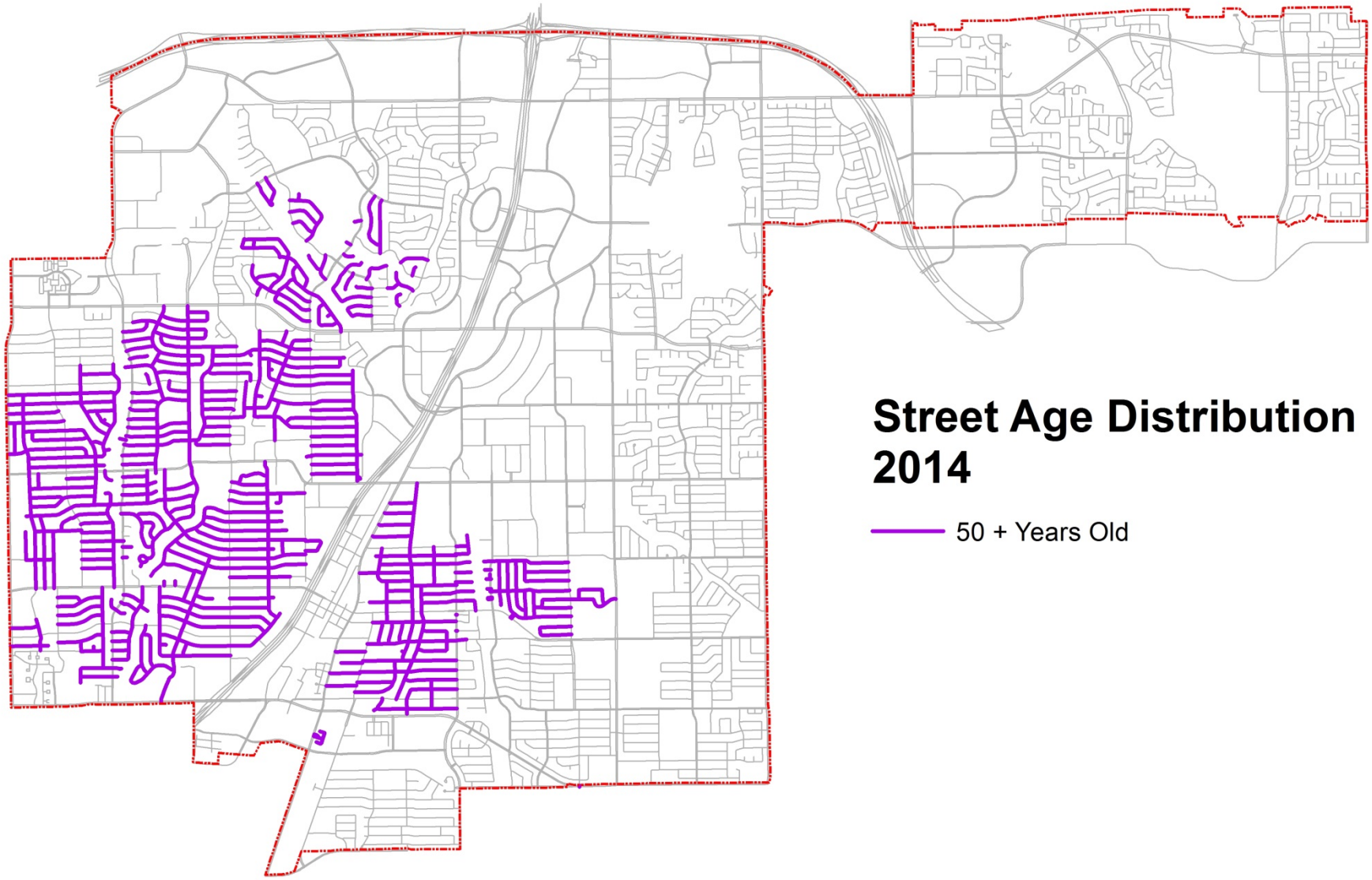
City Council Briefing: June 16, 2014

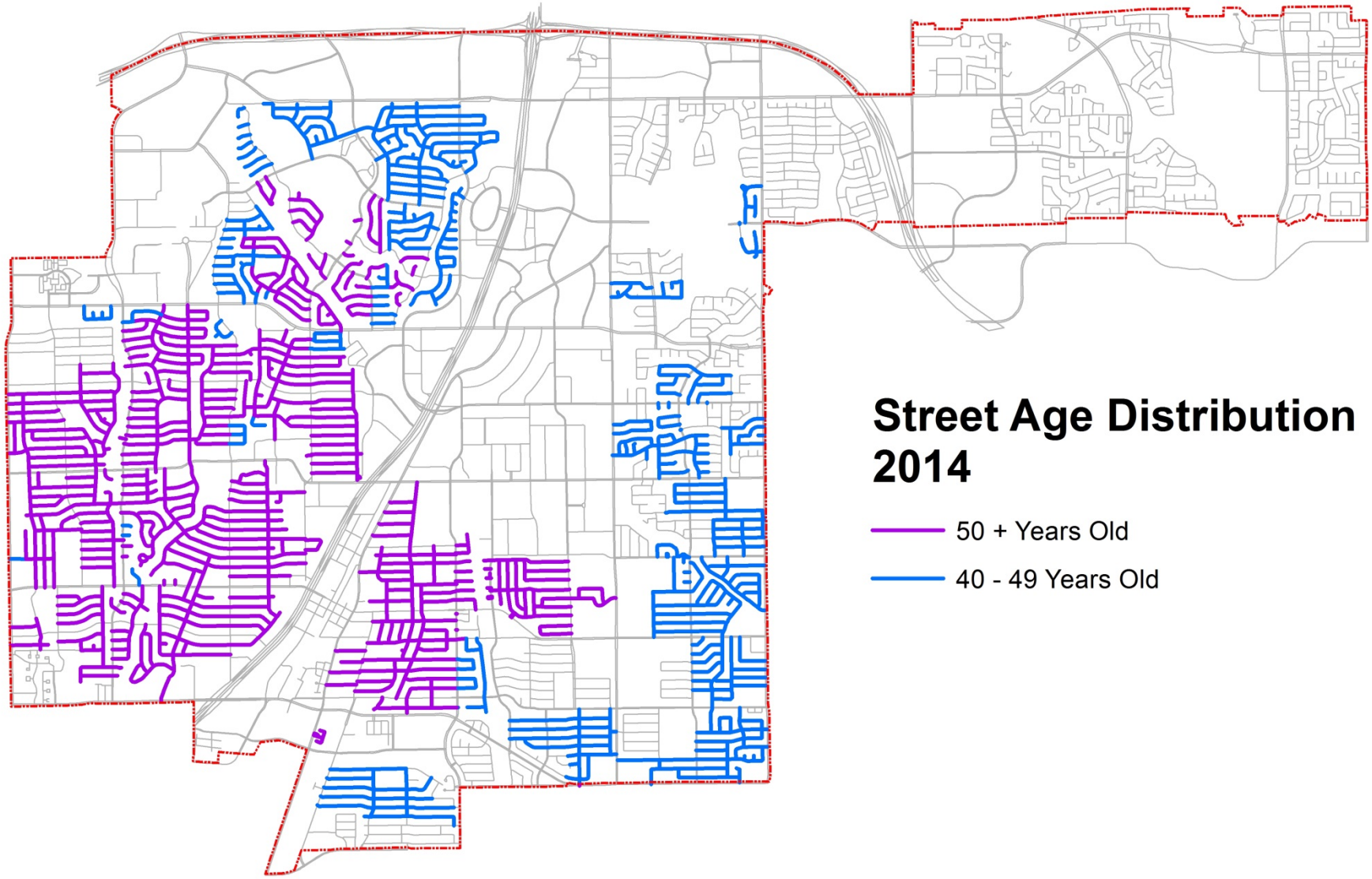
Introduction

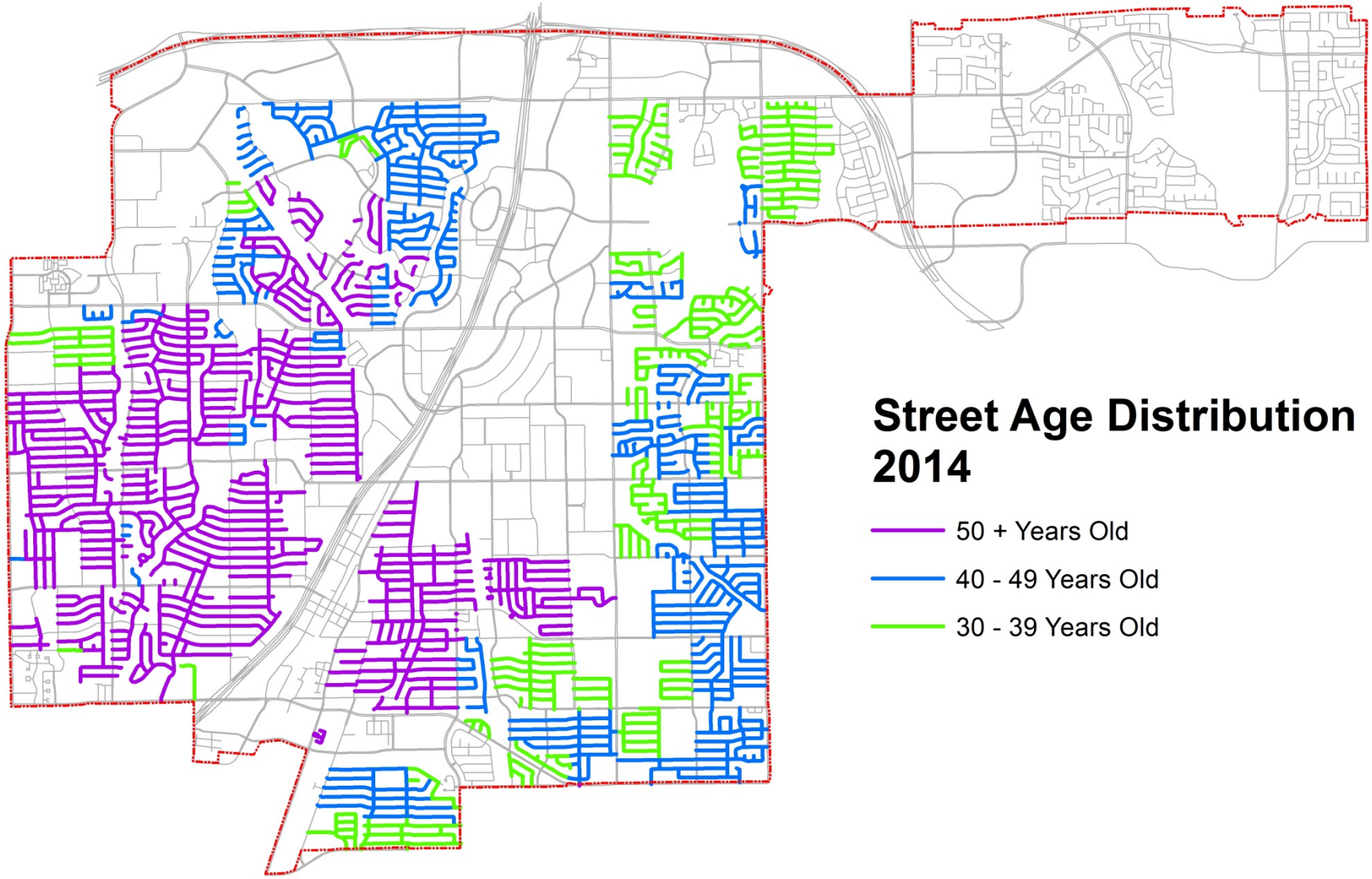
- The purpose of tonight's briefing is to:
  1. Provide contextual background and a conditions assessment of our streets
  2. Review the FY 13/14 Streets Management Strategy
  3. Evaluate options for the FY 14/15 Streets Management Strategy

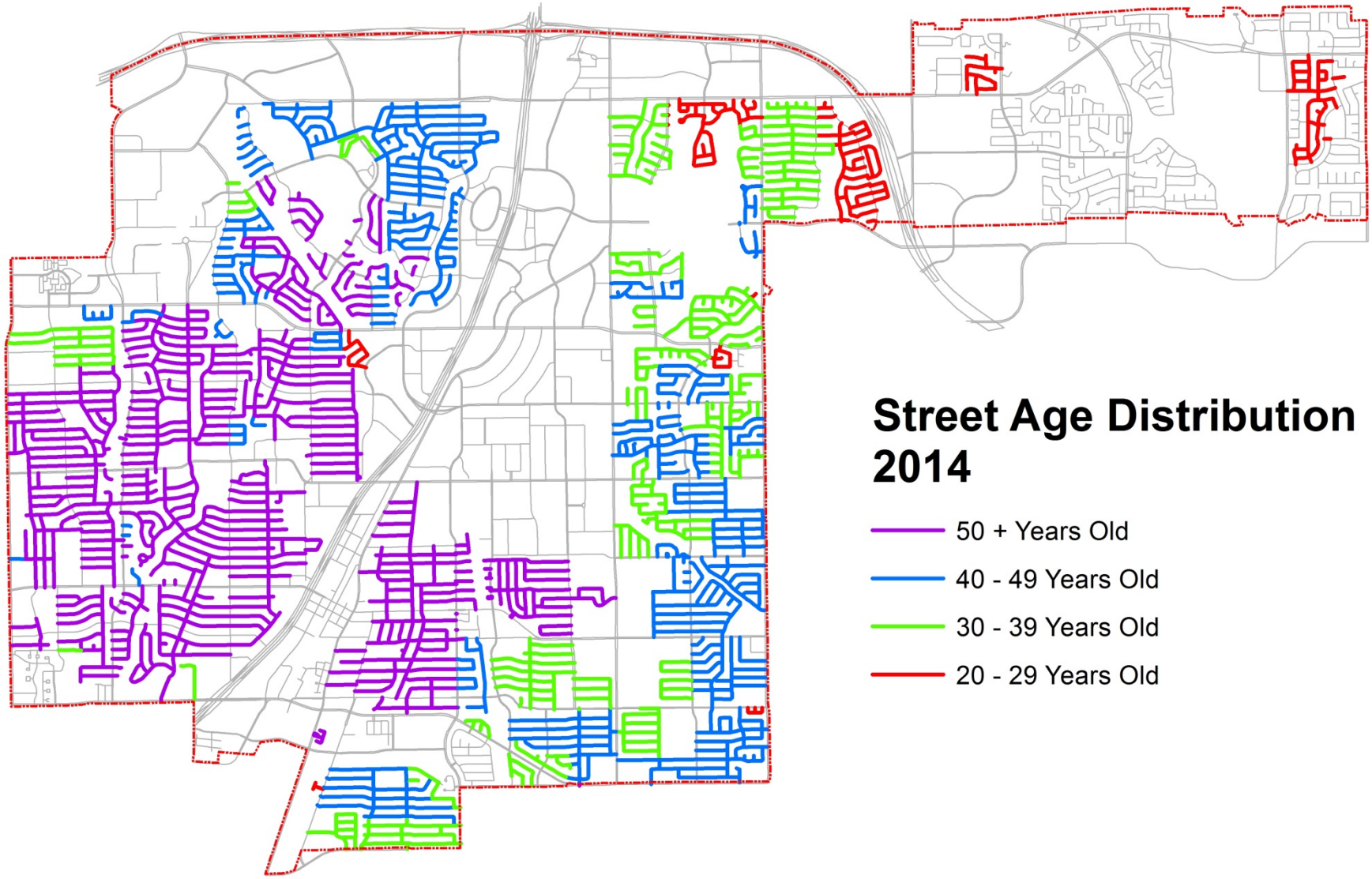
Street Age Distribution 2014

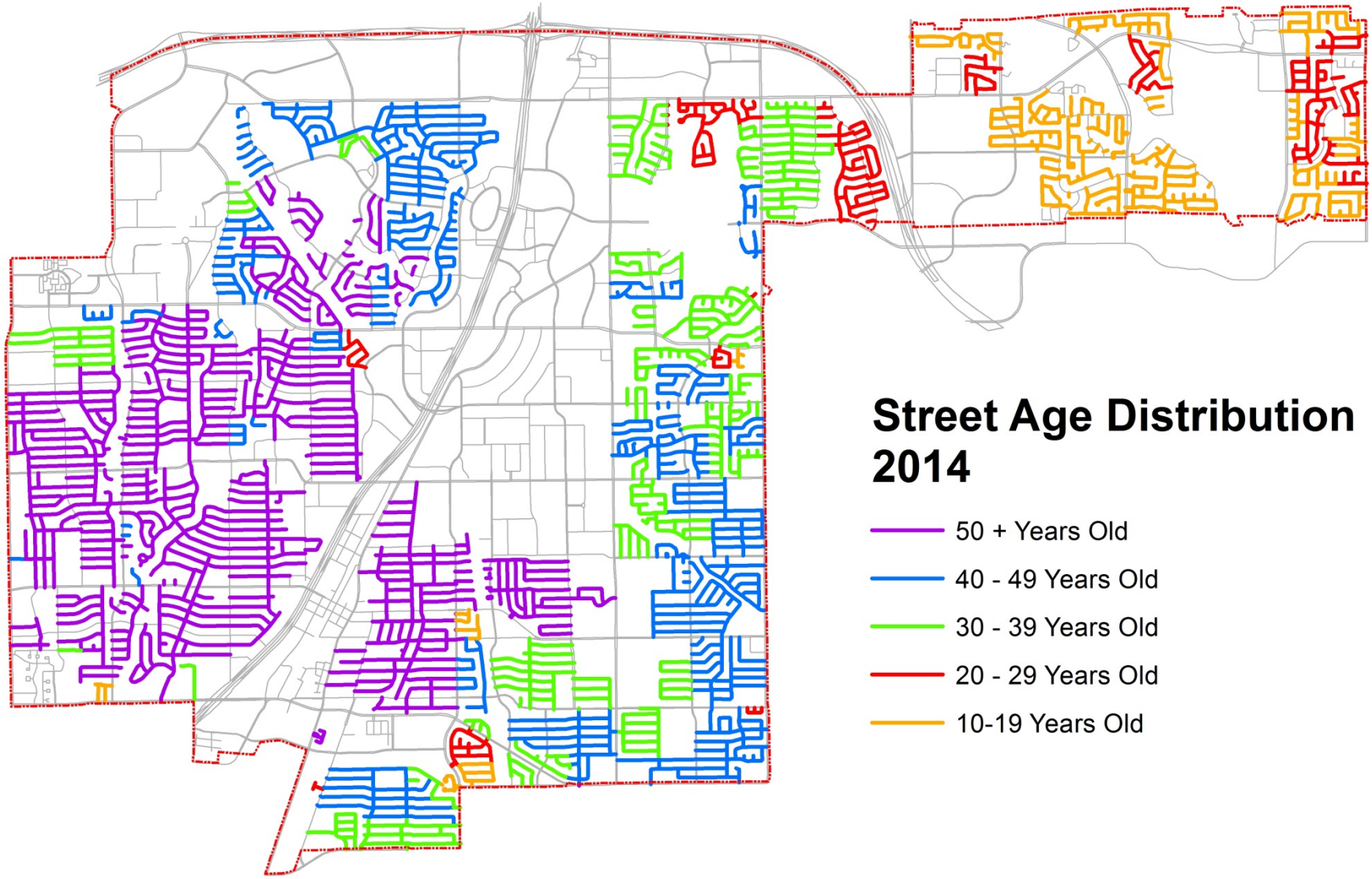



Street Age Distribution
2014
50 + Years Old


Street Age Distribution
2014
50 + Years Old
40 - 49 Years Old

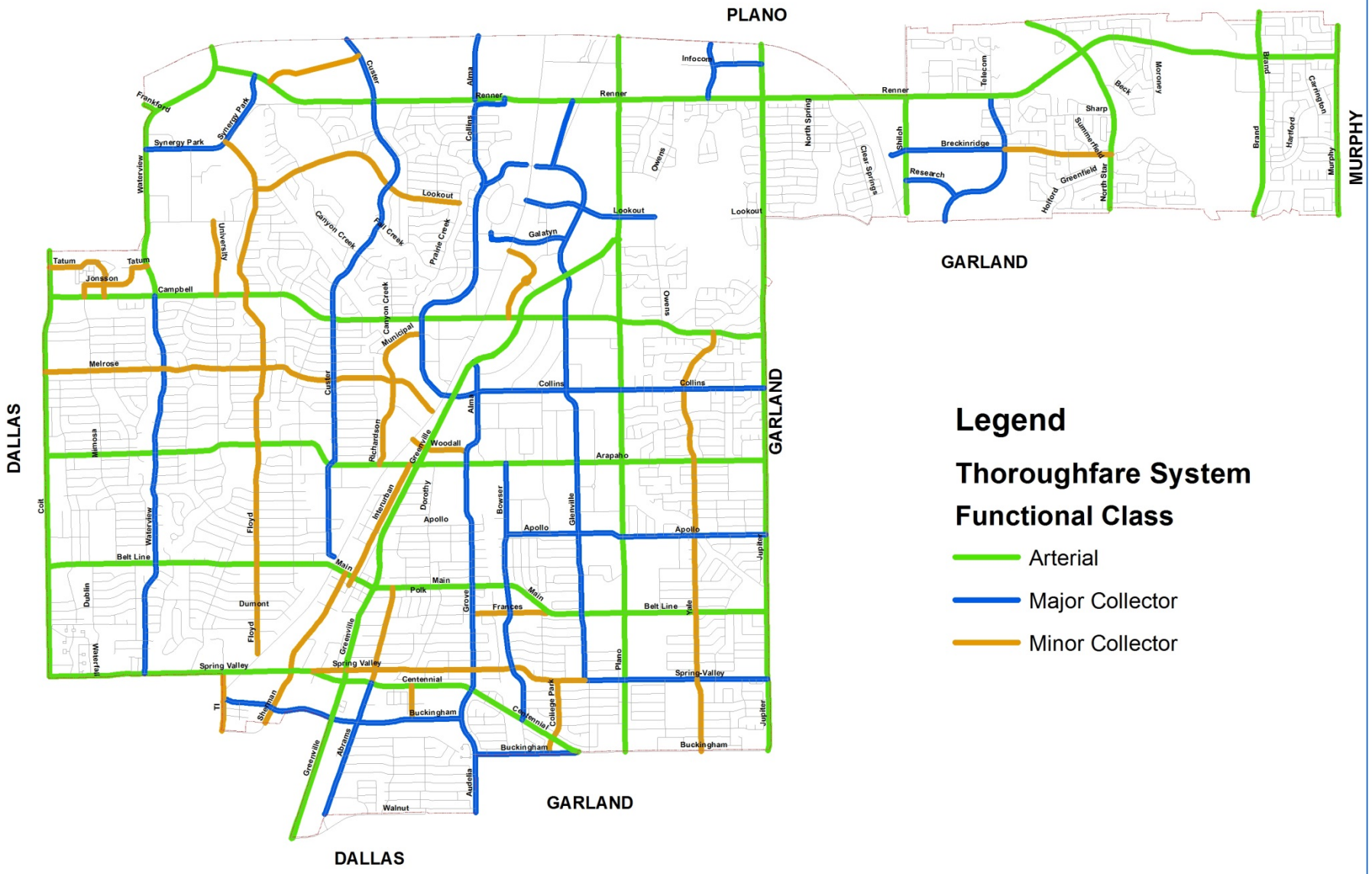

Street Age Distribution
2014
50 + Years Old
40 - 49 Years Old
30 - 39 Years Old


Street Age Distribution
2014
50 + Years Old
40 - 49 Years Old
30 - 39 Years Old
20 - 29 Years Old


Street Age Distribution
2014
50 + Years Old
40 - 49 Years Old
30 - 39 Years Old
20 - 29 Years Old
10-19 Years Old

Streets Classification

- Arterials - 57 Miles
- Major Collectors - 36 Miles
- Minor Collectors - 25 Miles
- Neighborhood Collectors - 31 Miles
- Residential – 228 Miles
- Alleys - 223 miles
- **Total – 600 miles**


PLANO
GARLAND
MURPHY
DALLAS
GARLAND
DALLAS
Legend
Thoroughfare System
Functional Class
Arterial
Major Collector
Minor Collector

Street Types

- Concrete
  - 311 miles

La Salle Drive

Street Types

- Concrete
  - 311 miles
- Asphalt Overlay
  - 60 miles

Bowser Road

Street Types

- Concrete
  - 311 miles
- Asphalt Overlay
  - 60 miles
- Full Depth Asphalt
  - 10 miles

Edgehill Drive

Factors that Impact Street Condition

- Weather
  - Excessive temperatures
    - Heat Heaves
    - Freezing-thawing cycle
  - Rain / Drought
- Traffic loads; Excessive vehicle weight
- Underground utilities
  - Breaks
  - Movement
- Invasive tree roots
- Quality of soil beneath the streets

Types of Distress

- Potholes

Types of Distress

- Potholes
- Heaving / Settling

Types of Distress

- Potholes
- Heaving / Settling
- Rutting

Types of Distress

- Potholes
- Heaving / Settling
- Rutting
- Cracking

Streets Conditions

- **Good –** A minimal number of failures overall. Cost of improvements is very reasonable. A good candidate for preventative maintenance to extend life.
- **Fair –** A variety of failures, yet still cost effective to repair. In conjunction with improvements, preventative maintenance can extend life.
- **Poor –** A significant number of failures that necessitate reconstruction or replacement. Not cost effective to repair. Will be maintained until permanent strategy is developed.

Street Maintenance Cycle

Grade restoration

Grade Restoration

Grade Restoration

Grade Restoration

Grade Restoration

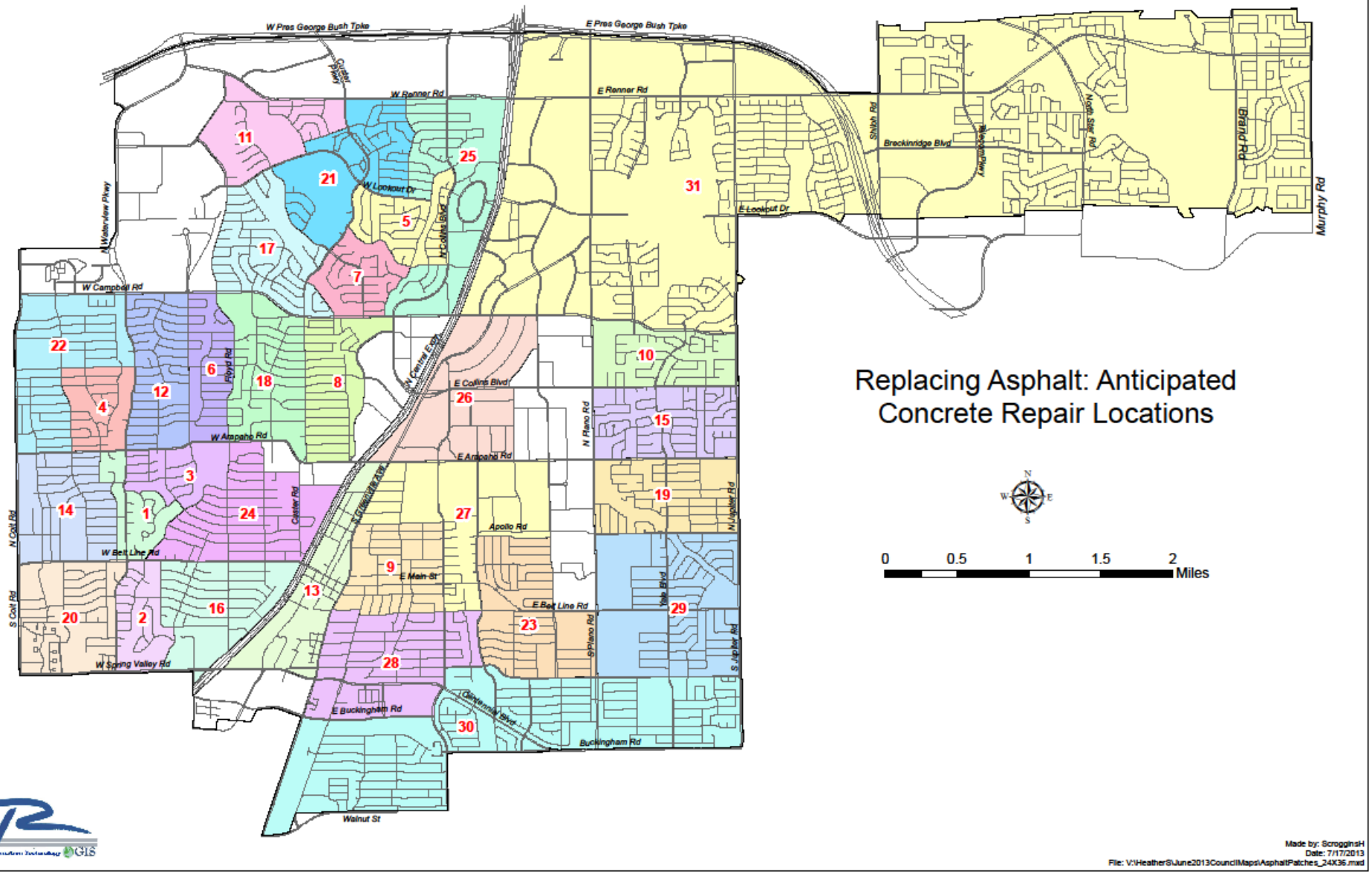
Grade Restoration

Joint / Crack Sealing

Un-Routed Seal

Routed Seal

Asphalt Repairs



Replacing Asphalt: Anticipated Concrete Repair Locations

0 0.5 1 1.5 2 Miles

Made by: ScrogginsH
Date: 7/17/2013
File: V:\HeatherS\June2013CouncilMaps\AsphaltPatches_24X36.mxd

Approach to Asphalt Repairs

- Locations repaired with asphalt that are not within a zone scheduled for repair within 24 months or located on a good or fair quality street section will be ground down forming a square at least 3' X 3' to provide an edge for the asphalt to meet against

Approach to Asphalt Repairs

- Locations repaired with asphalt that are within a zone scheduled for repair within 24 months or that are located on a poor quality street section will simply be filled and squared

Localized Concrete Repair Program

Residential Streets and Alleys

Localized Concrete Repair

- Generally involves the repair of neighborhood streets and alleys
  - Focus is on replacing asphalt repairs with concrete
    - The street's condition determines the maintenance approach
      - Asphalt repairs are replaced with concrete on streets in "good" or "fair" condition
      - Asphalt repairs are maintained on streets in "poor" condition until a more extensive repair or reconstruction can be funded

Approach to Concrete Repair

- Saw cuts should be longitudinal (parallel to the road) and transverse (perpendicular to the road) when practical
- Existing joints should be honored when possible
  - Remove to existing joint when within 3' or otherwise practical
- Street centerline and lane configuration should be respected when possible
  - Remove to street center line if center line is within 3' of failure limit and lane closures are not significantly effected

Approach to Concrete Repair

- Provide stable curb section
  - If removal limit would otherwise be within 1.5 feet of the back of curb, the curb should be removed and replaced

- Minimize staggering of pavement removal width
  - Where longitudinal saw cut must be staggered or offset, offset at a transverse joint.
    - Offset dimensions should not be less than one foot.
    - Longitudinal spacing of less than 40 feet should be avoided particularly for narrow offsets (less than 5 feet).

Examples of Localized Concrete Repair

Pavement Repair Contract

Arterials, Collectors, and Neighborhood Zones

Pavement Repair Contract

- Scheduled pavement repair for medium and large projects
- Focus has been arterial and primary collector streets since 2011
- Projects generally have durations of two weeks or longer
- Projects may require extensive traffic control or specialized equipment
- Focus is to replace asphalt repairs with concrete
- Focus is on improving fair condition streets to good condition

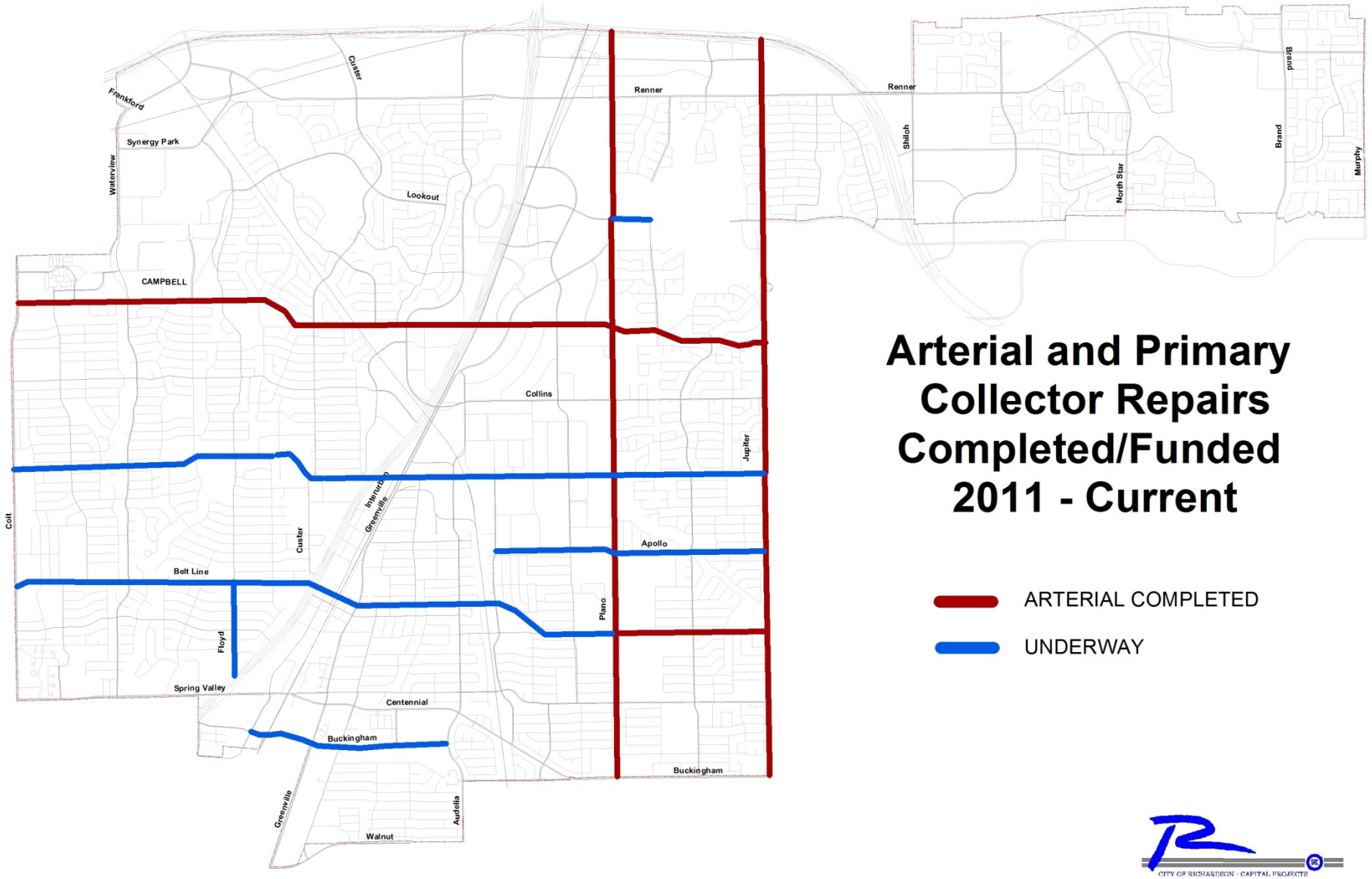
Pavement Repair Contract – Arterials

Campbell Ro

Arapaho Ro

Belt Line Road

Pavement Repair Contract - Neighborhoods

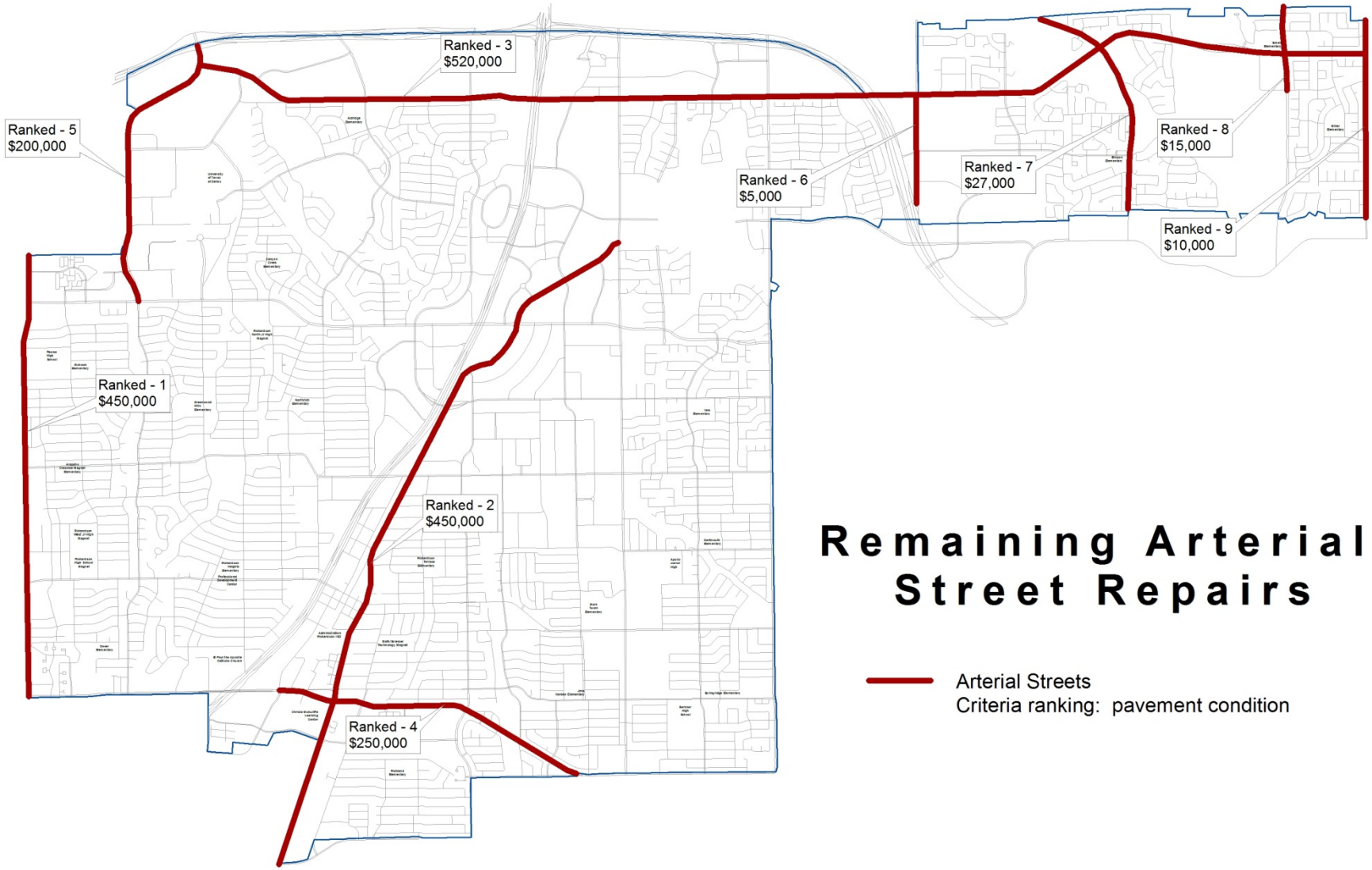


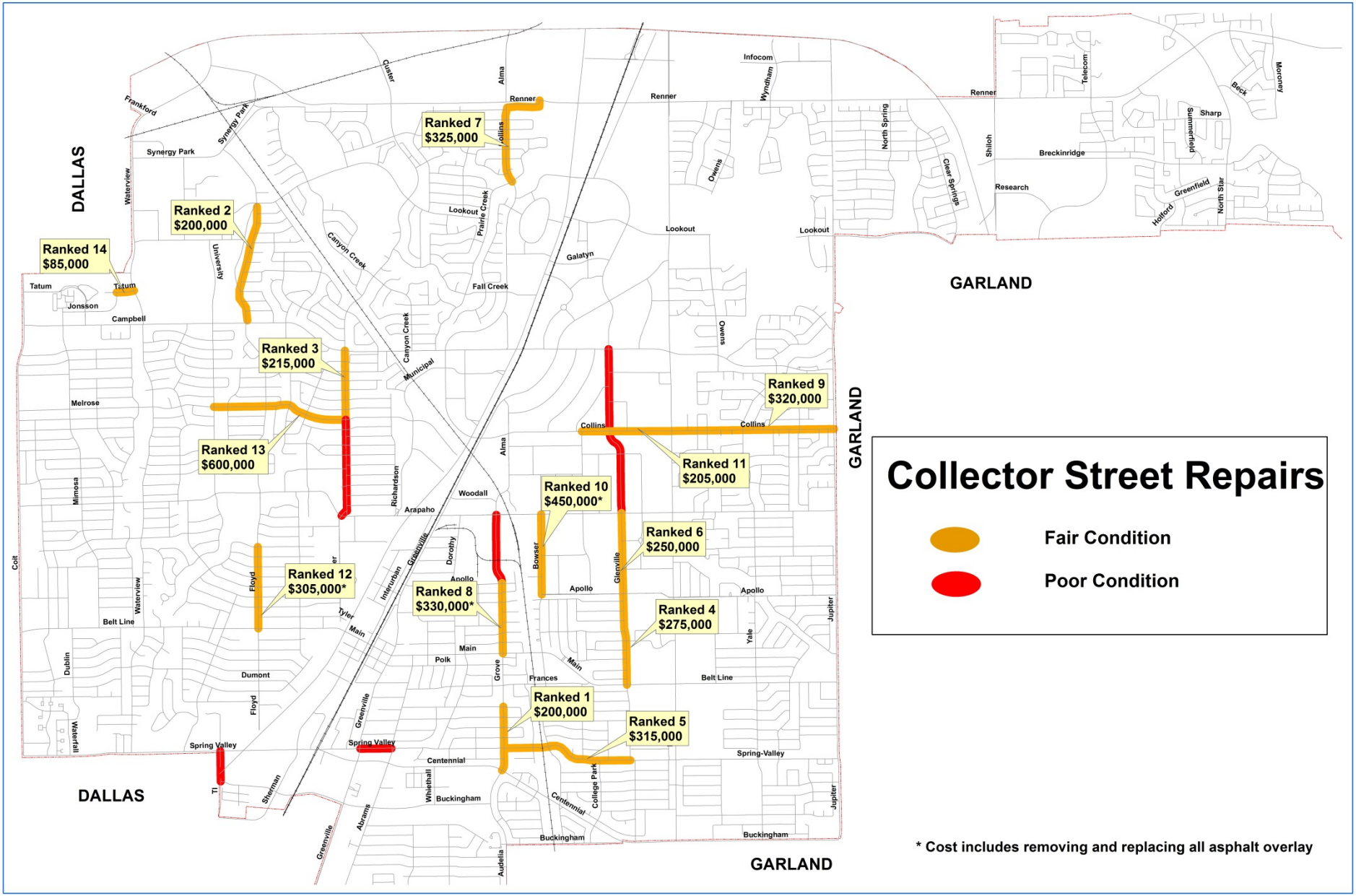
Arterial and Primary Collector Repairs Completed/Funded 2011 - Current

ARTERIAL COMPLETED

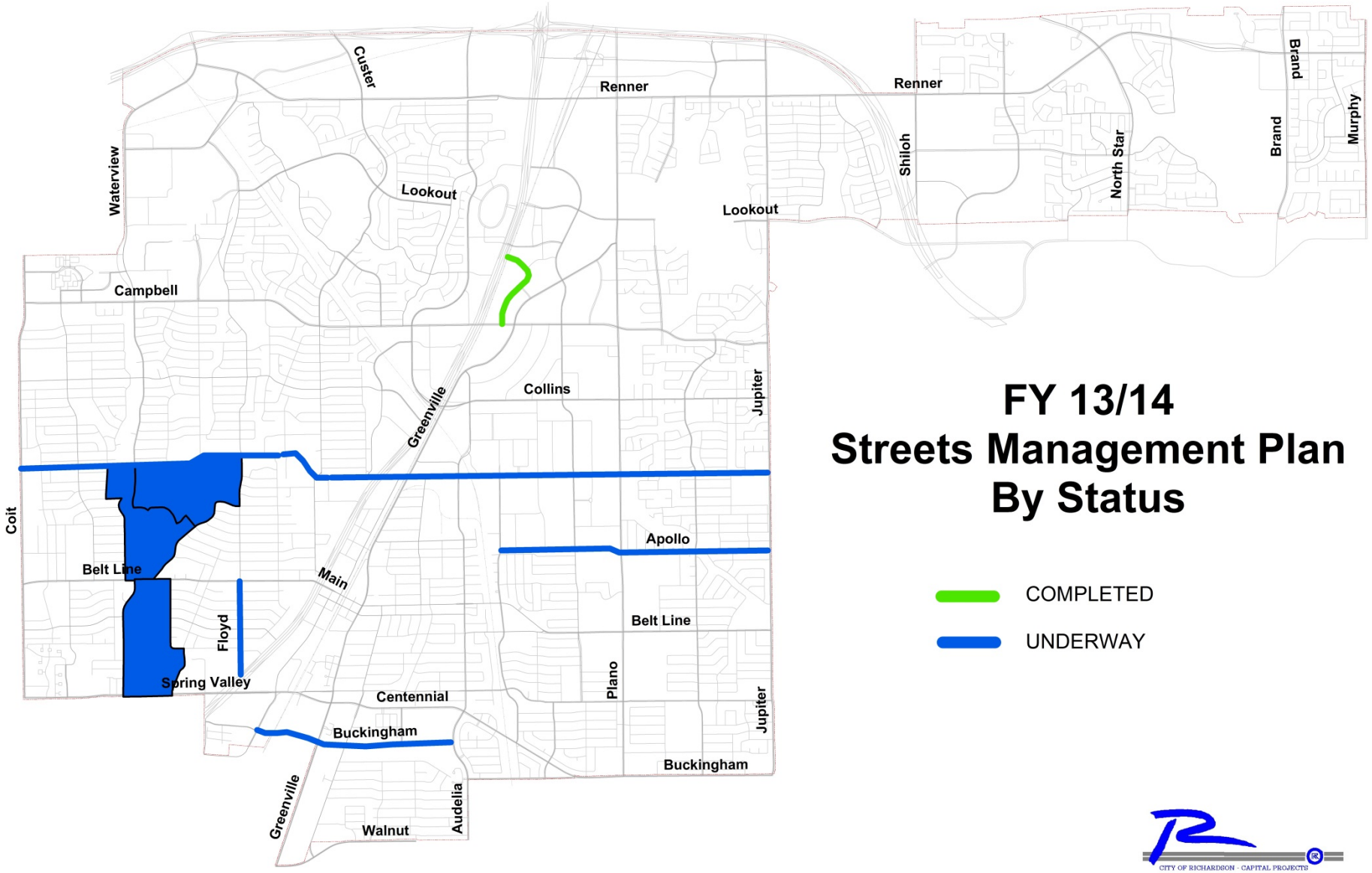
UNDERWAY

CITY OF RICHARDSON - CAPITAL PROJECTS


Ranked - 3
$520,000
Ranked - 5
$200,000
Ranked - 6
$5,000
Ranked - 7
$27,000
Ranked - 8
$15,000
Ranked - 9
$10,000
Ranked - 1
$450,000
Ranked - 2
$450,000
Ranked - 4
$250,000
Remaining Arterial Street Repairs
Arterial Streets
Criteria ranking: pavement condition


Ranked 14
$85,000
Ranked 2
$200,000
Ranked 7
$325,000
Ranked 3
$215,000
Ranked 13
$600,000
Ranked 9
$320,000
Ranked 11
$205,000
Ranked 10
$450,000*
Ranked 6
$250,000
Ranked 12
$305,000*
Ranked 8
$330,000*
Ranked 4
$275,000
Ranked 1
$200,000
Ranked 5
$315,000
DALLAS
GARLAND
GARLAND
DALLAS
GARLAND
Collector Street Repairs
Fair Condition
Poor Condition
* Cost includes removing and replacing all asphalt overlay

FY 13/14 Streets Management Strategy


Custer
Renner
Renner
Brand
Brand
Murphy
Waterview
Lookout
Lookout
Shiloh
North Star
Campbell
Collins
Jupiter
Greenville
Coit
Apollo
Belt Line
Main
Floyd
Belt Line
Spring Valley
Centennial
Plano
Jupiter
Buckingham
Buckingham
Greenville
Audelia
Walnut
FY 13/14
Streets Management Plan
By Status
COMPLETED
UNDERWAY
CITY OF RICHARDSON - CAPITAL PROJECTS

Construction Considerations

- Construction costs have increased substantially in the past 12 months due to a very robust economy
  - $39 per square yard in 2013; $45 a square yard in 2014
- The initial scope of arterial and collector projects had to be expanded for the following reasons:
  - Unforeseen conditions beneath the surface
  - Certain conditions being exasperated by the continued drought
  - Hazardous conditions not associated with failures
  - Addressing areas that were likely to fail within the next 12 months
  - More than 200 Water line breaks since last June

Examples of Construction

Examples of Construction

FY 14/15 Streets Management Strategy

Guiding Principles

- Plan addresses arterials, collectors and residential streets
  - Arterials should be completed over multiple years
    - Increases likelihood matching funds can be used
  - Focus on good and fair condition streets

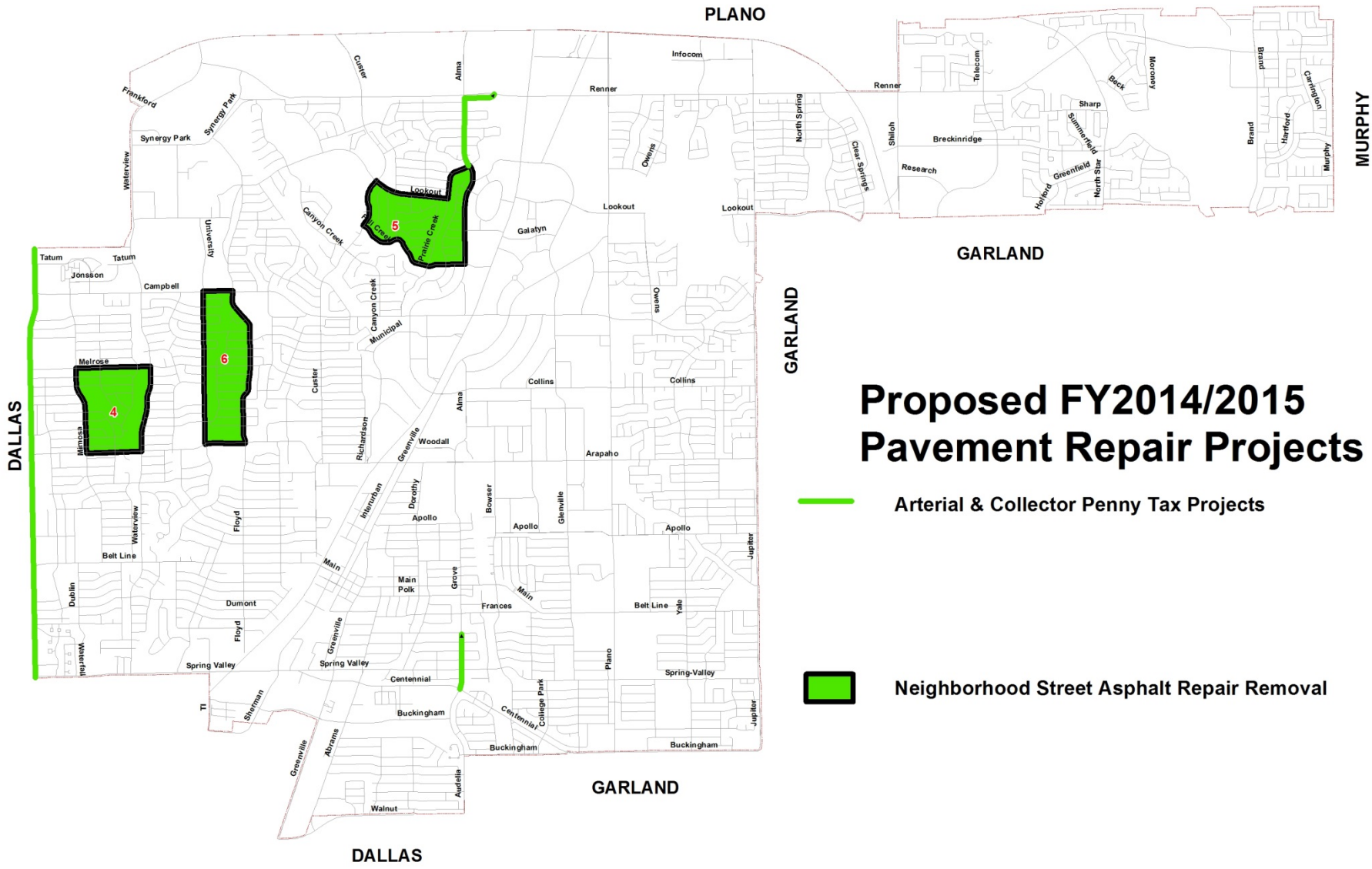
- Focus on the driving surface – between the curbs

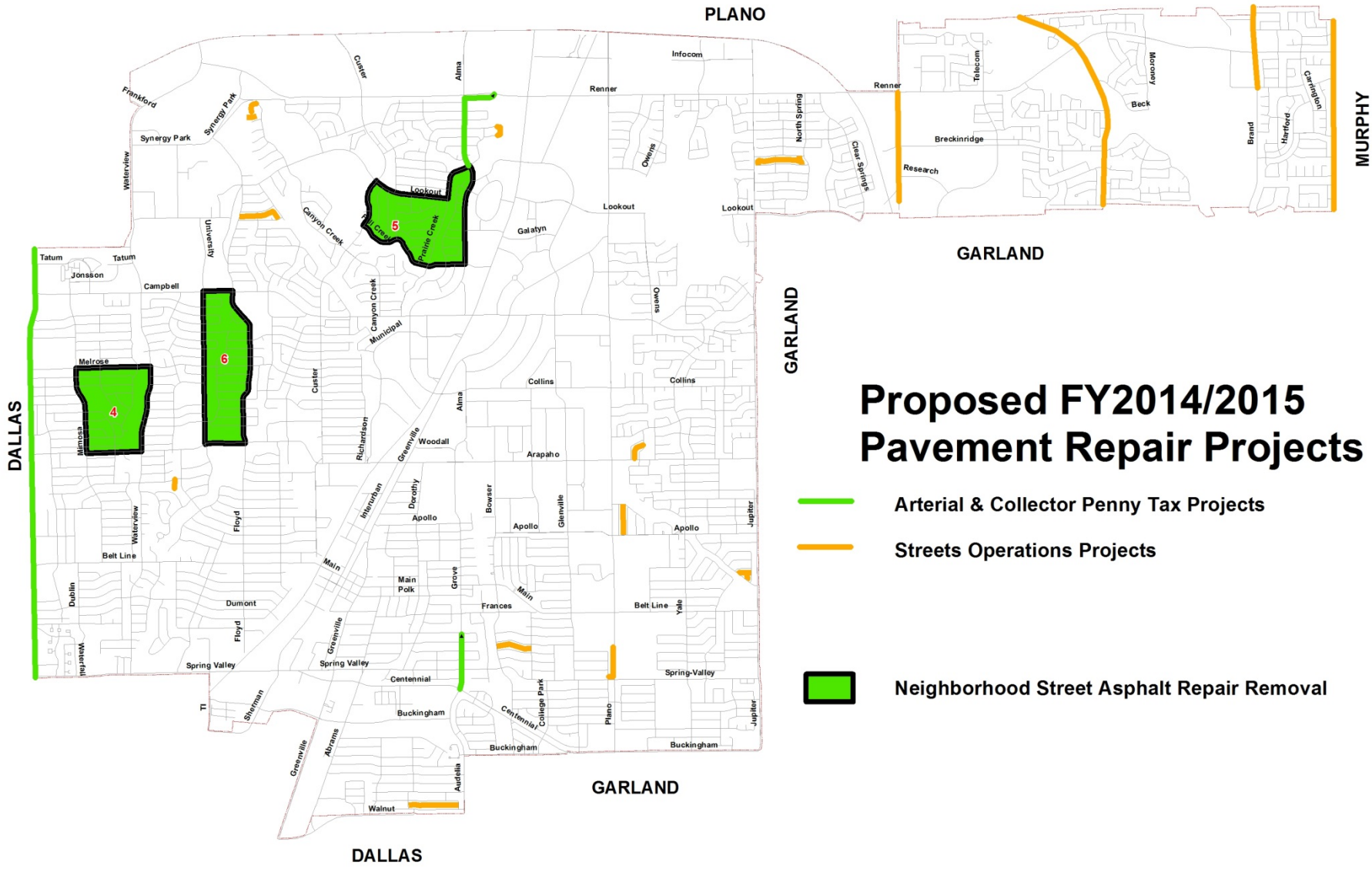
- Plan should be fluid, adaptable
  - If external funding opportunities arise, plan should be updated to leverage city funds to maximize repair areas

Streets Management Strategy

	FY 12/13 Actual	FY 13/14 Actual	FY 14/15 Proposed
Preventative Maintenance-Grade Leveling / Sealing*	$500,000	$250,000	$210,000
Arterial Street Repair Program*	$500,000	$350,000	$450,000
Collector Street Repair Program*	$0	$450,000	$525,000
Neighborhood Street Repair Program*	$0	$750,000	$1,000,000
Streets Operations	$235,000	$185,000	$280,000
Total	**$1,235,000**	**$1,985,000**	**$2,465,000**

*Penny Tax


PLANO
GARLAND
MURPHY
DALLAS
GARLAND
GARLAND
DALLAS
Proposed FY2014/2015
Pavement Repair Projects
Arterial & Collector Penny Tax Projects
Neighborhood Street Asphalt Repair Removal
4
5
6
Infocom
Renner
Lookout
Galatyn
Collins
Arapaho
Apollo
Belt Line
Spring Valley
Centennial
Buckingham
Walnut
Frankford
Synergy Park
Waterview
Tatum
Jonsson
Campbell
Melrose
Mimosa
University
Custer
Alma
Canyon Creek
Municipal
Owens
North Spring
Clear Springs
Shiloh
Breckinridge
Research
Sharp
Summerfield
Greenfield
North Star
Holford
Telecom
Beck
Moroney
Brand
Hartford
Carrington
Murphy
Richardson
Greenville
Woodall
Interurban
Dorothy
Bowser
Glenville
Jupiter
Floyd
Dublin
Dumont
Main
Main Polk
Grove
Frances
Yale
Plano
Spring-Valley
Waterhill
Sherman
Abrams
Audelia
College Park
Prairie Creek


PLANO
GARLAND
MURPHY
DALLAS
GARLAND
DALLAS
Proposed FY2014/2015
Pavement Repair Projects
Arterial & Collector Penny Tax Projects
Streets Operations Projects
Neighborhood Street Asphalt Repair Removal
4
5
6
Infocom
Renner
Lookout
Galatyn
Owens
North Spring
Clear Springs
Telecom
Mercury
Beck
Breckinridge
Research
Brand
Hartford
Carrington
Frankford
Synergy Park
Waterview
Custer
Alma
University
Canyon Creek
Prairie Creek
Tatum
Jonsson
Campbell
Melrose
Mimosa
Municipal
Collins
Arapaho
Woodall
Richardson
Greenville
Dorothy
Interurban
Bowser
Glenville
Apollo
Jupiter
Floyd
Belt Line
Main
Dublin
Dumont
Main Polk
Grove
Frances
Yale
Spring Valley
Centennial
Buckingham
College Park
Plano
Spring-Valley
Sherman
Abrams
Audelia
Walnut
Waterfall

Next Steps

- Continue to seek additional matching funds from Dallas/Collin County to leverage City funds
- Refine contract specifications to achieve best unit cost available for various project types
- Continue to evaluate Streets operations to maximize funding for repairs
- Update CIP Database to include streets that deteriorate so that they are included in future bond program considerations

SCREENING WALL MANAGEMENT STRATEGY

Introduction

- Screening Walls Management Strategy
  - Construction of new walls as required by the City's current development standards
  - Construction of end cap enhancements on existing walls at neighborhood entry points
  - Reconstruction and repair of damaged brick and stone walls
  - Washing and painting concrete and stucco walls

Screening Wall Inventory

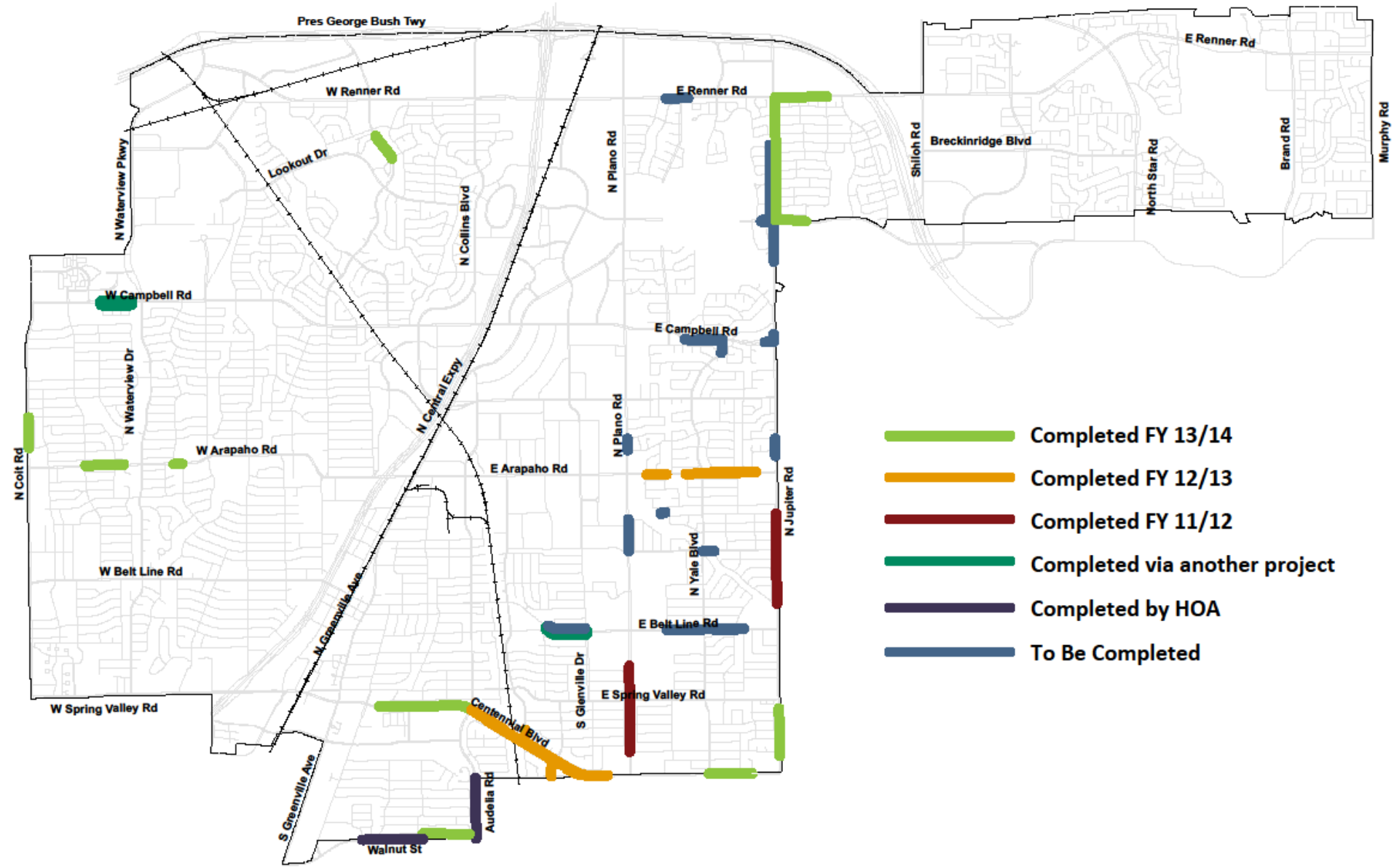
- Over 340 screening walls inventoried
  - Approximately 41 miles
- Catalogued location, dimensions, material, finish, etc.
  - Visually assessed physical condition of panels, columns and foundations
  - Visually assessed appearance of surface and finish
  - Assessment included the severity and extent of each deficiency

Wall Inventory

- Wall types
  - The most common wall materials are concrete and brick
    - Concrete - cast in place, concrete block, or precast panels
  - Additional types include stone, stucco, and vinyl panels

- Maintenance
  - City Maintained
    - 129 walls totaling 16.6 miles
  - Privately Maintained
    - 214 walls totaling 24.4 miles
      - Commercial and Multi-Family
      - Homeowner Associations
      - Private individuals

Paintable City Maintained Walls

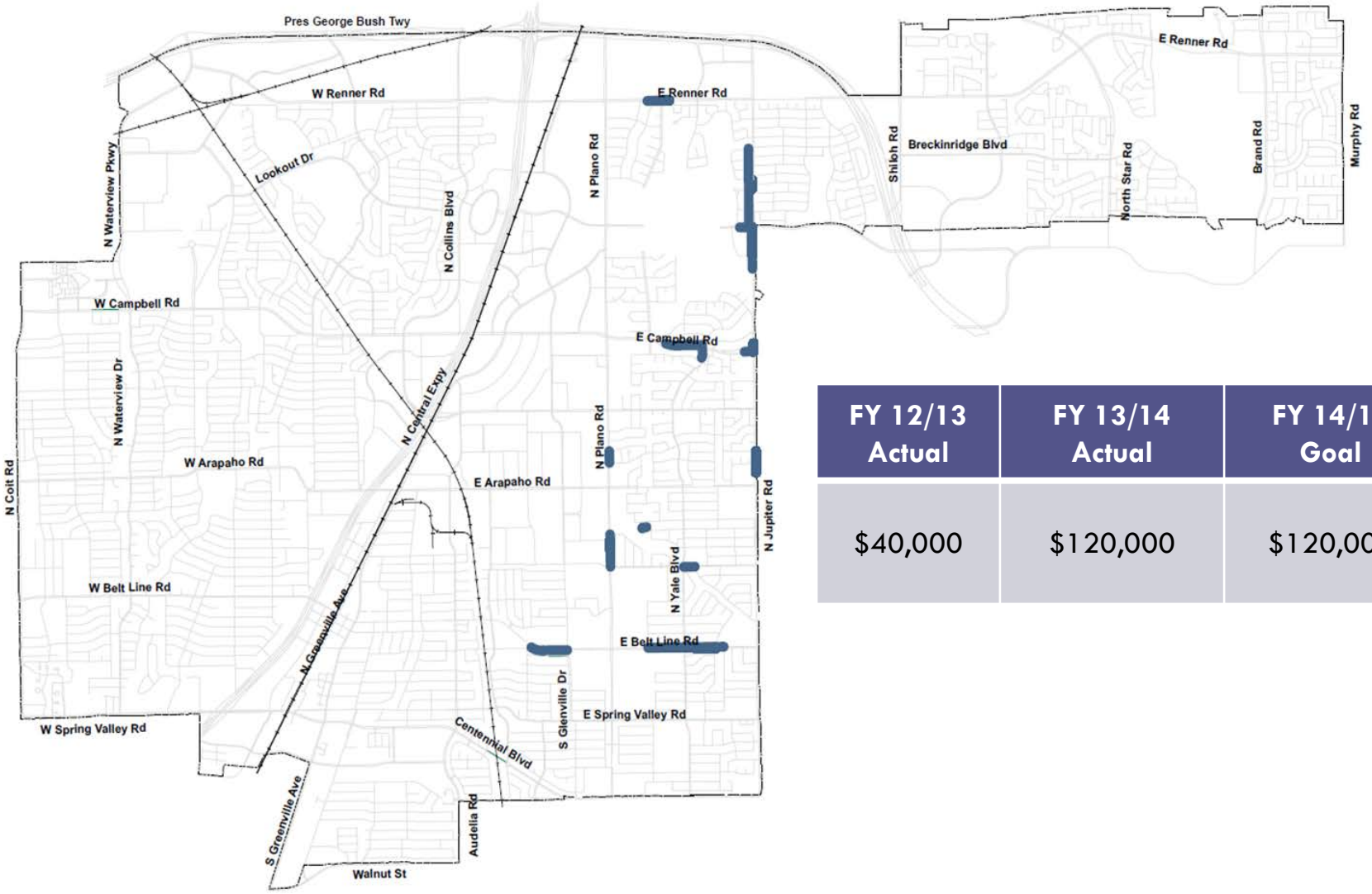


FY 13/14 Completed Projects

FY 13/14 Completed Projects

FY 13/14 Completed Projects

FY 14/15 Screening Wall Management Strategy



FY 12/13 Actual	FY 13/14 Actual	FY 14/15 Goal
$40,000	$120,000	$120,000

FY 14/15 Screening Wall Management Strategy

TO BE COMPLETED 14/15	
Renner Road (south side)	Foxboro bridge east to Wessex Drive
Jupiter Road (east side)	Equestrian Center north to North St. Andrews Drive
Lookout Drive (north and south side)	Sherrill Park Drive east to Jupiter Road
Campbell Road & Jupiter Road	Northwest corner
Campbell Road (north and south side)	Central Christian Church east to Yale Boulevard
Yale Boulevard (west side)	Barclay Drive north to Campbell Road
Plano Road (east side)	Blake Drive north to Atmos Sub Station
Plano Road (east side)	Apollo Road north to Creekside Drive
Jupiter Road (west side)	Brush Creek Drive north to Oak Brook Drive
Belt Line Road (north side)	St. Johns Drive east to South Spring Creek Drive
Belt Line Road (south side)	Dawn Circle east to South Spring Creek Drive
Belt Line Road (north side)	SDA Richardson Church to Glenville Drive
Apollo Road (south side)	Bowser Road east to Glenville Drive
Apollo Road (south side)	Southeast corner of Apollo Road and Yale Boulevard
Brookmeadow Drive (north side)	Brookmeadow Drive at Woodhill Circle

FY 14/15 Screening Wall Management Strategy

Renner Rd (south side) - Foxboro bridge east to Wessex Dr

Northwest corner of Jupiter Rd and Campbell Rd

Belt Line Rd (south side) between
Dawn Cr and S. Spring Creek Dr

Jupiter Rd (east side) – Equestrian Center north
to N Saint Andrews Dr

FY 14/15 Screening Wall Management Strategy

Plano Rd (east side) between Apollo Rd and Creekside Dr

Campbell Rd between Richardson East Church of Christ and Yale Blvd

Brookmeadow Dr at Woodhill Circle

Lookout Dr between Jupiter Rd and Sherrill Park Golf Course

BRIDGE RAILING MANAGEMENT STRATEGY

Introduction

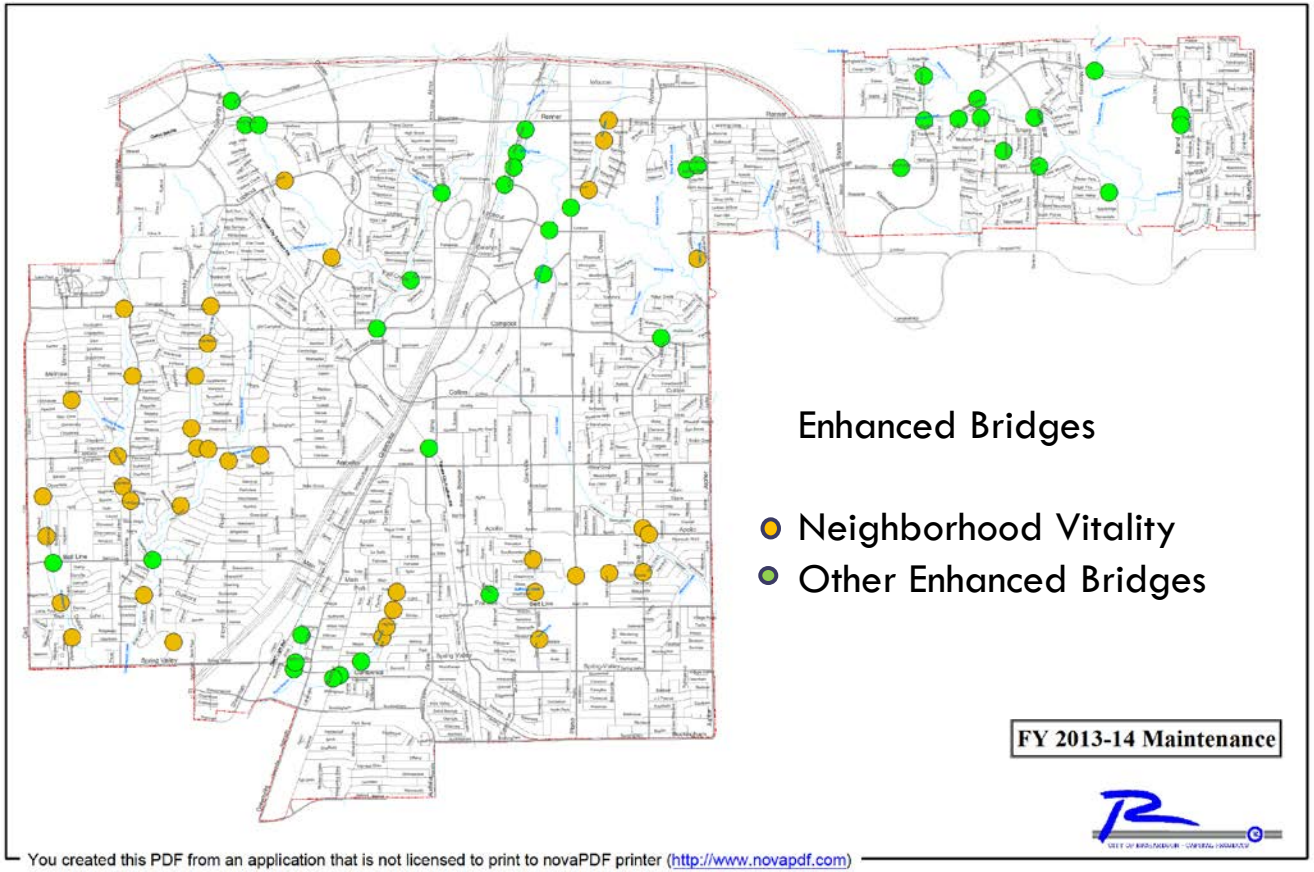
- The purpose of tonight's briefing is to:
  1. Provide background of roadway bridge rail inventory and condition assessment.
  2. Review the bridge rail maintenance strategy.
  3. Present adjustments to the implementation plan

Background

- Bridge Rail Maintenance Consideration
  - Richardson maintains 144 roadway bridges.
  - Aesthetic bridge rails and guard walls were incorporated into new bridges beginning in the 1980's as part of capital projects.
  - Development projects followed, constructing aesthetic bridge rails and masonry guard wall as neighborhood amenities.
  - Neighborhood vitality programs have completed aesthetic enhancements to 29 bridge site with another10 in progress.

Background

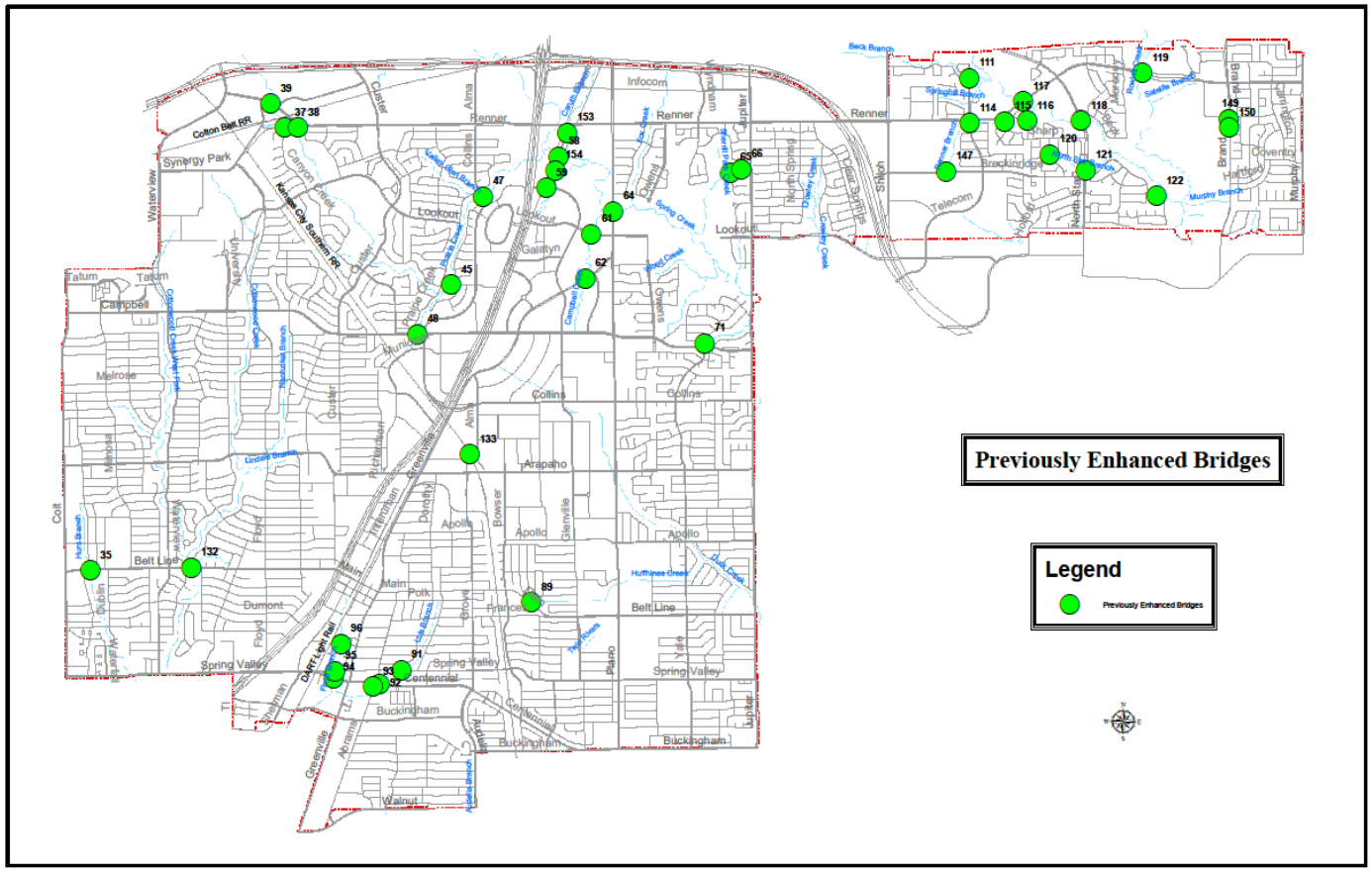
- Enhanced Bridges



Bridge Rail - 2012 Condition Assessment

Introduction

- Bridge Rail – 2012 Condition Assessment



Introduction

- Bridge Rail – 2012 Condition Assessment
  - Condition assessment in 2012 of the 39 bridges enhanced as part of programs other than neighborhood vitality. Most pre-dated the neighborhood vitality program.
  - 14 of 39 were in good condition
  - 13 of 39 needed maintenance in the near future.
  - 12 of 39 needed repair or maintenance currently.

Bridge Rail Maintenance - Three Year Strategy

Bridge Rail Maintenance
3 Year Strategy - FY2012-2013

	FY 12/13 Actual	FY 13/14 Goal	FY 14/15 Goal	FY 15/16 Goal
Bridge Rail Maintenance	$115,000			

- Centennial at Lois Branch
- Abrams at Lois Branch
- Collins at Prairie Creek (stone repair only)

Bridge Rail Maintenance
3 Year Strategy - FY2012-2013

- Centennial at Lois Branch

Bridge Rail Maintenance
Three Year Strategy - FY2013-14

	FY 12/13 Actual	FY 13/14 Goal	FY 14/15 Goal	FY 15/16 Goal
Bridge Rail Maintenance	$115,000	$150,000		

- Lookout at Campbell Creek
- Point North at Prairie Creek
- Campbell at South Trib.
- Belt Line East of Waterview
- Centennial at Floyd Branch
- Renner at Rowlett Creek
- Telecom at Renner Branch
- North Star at North Star Branch
- Renner at Beck Branch

FY 13/14 Goal

Bridge Rail Maintenance

- FY2013-14 Bridges

Bridge Rail Maintenance
Three Year Strategy FY2014-15

	FY 12/13 Actual	FY 13/14 Goal	FY 14/15 Goal	FY 15/16 Goal
Bridge Rail Maintenance	$115,000	$150,000	$150,000	

- Belt Line at Hunt Branch
- Renner at Prairie Creek
- Greenville at Campbell Creek
- Fall Creek Dr. at Prairie Creek
- Belt Line at Huffhines Trib.
- North Star at Beck Branch
- Spring Valley at Lois Channel

Bridge Rail Maintenance
Three Year Strategy FY2015-16

	FY 12/13 Actual	FY 13/14 Goal	FY 14/15 Goal	FY 15/16 Goal
Bridge Rail Maintenance	$115,000	$150,000	$150,000	$150,000

- Alma at Kansas City Southern Rail Road
- Breckinridge near Breckinridge Ct.
- Meadow Wood at Renner Branch
- Plano Road at Spring Creek
- W. Renner at Tam O'Shanter Culvert
- Sharps Lane at Renner Branch

Bridge Rail Maintenance - FY2013-2014

Bridge Rail Maintenance FY2013-14

- Implementation and Adjustments
  - The Bridge Rail Maintenance contract was bid in January
  - Market conditions have resulted in higher construction costs particularly noticed in masonry and specialty projects.
  - The unit price provided by the low bidder came in approximately 20% higher than budgeted.
  - The contract set unit prices for work to be performed but provides flexibility regarding the locations to be repaired.

Bridge Rail Maintenance FY2013-14

- Implementation and Adjustments
  - Scope increased to add three bridges
    - Prairie Creek Drive and Fall Creek Drive

      Enhancements deferred from the Neighborhood Vitality program.
    - N. Collins Blvd at Prairie Creek

      Rail painting not included with 2013 masonry repair.
  - Additional funding provided from mid-year adjustment
  - Work began in May and is anticipated to be completed in September

Bridge Rail Maintenance FY2013-14

- Lookout at Campbell Creek

Bridge Rail Maintenance FY2013-14

	FY 12/13 Actual	FY 13/14 Org. Budget	FY 13/14 Estimate
Bridge Rail Maintenance	$115,000	$150,000	$225,000

- Lookout at Campbell Creek
- Point North at Prairie Creek
- Campbell at South Trib.
- Belt Line East of Waterview
- Centennial at Floyd Branch
- Renner at Rowlett Creek
- North Star at North Star Branch
- Renner at Beck Branch
- Telecom at Renner Branch
- Collins at Prairie Creek (paint)
- Fall Creek Drive at Prairie Creek
- Prairie Creek Drive at Prairie Creek

Bridge Rail Maintenance - 2014-2015

Bridge Rail Maintenance FY2014-15

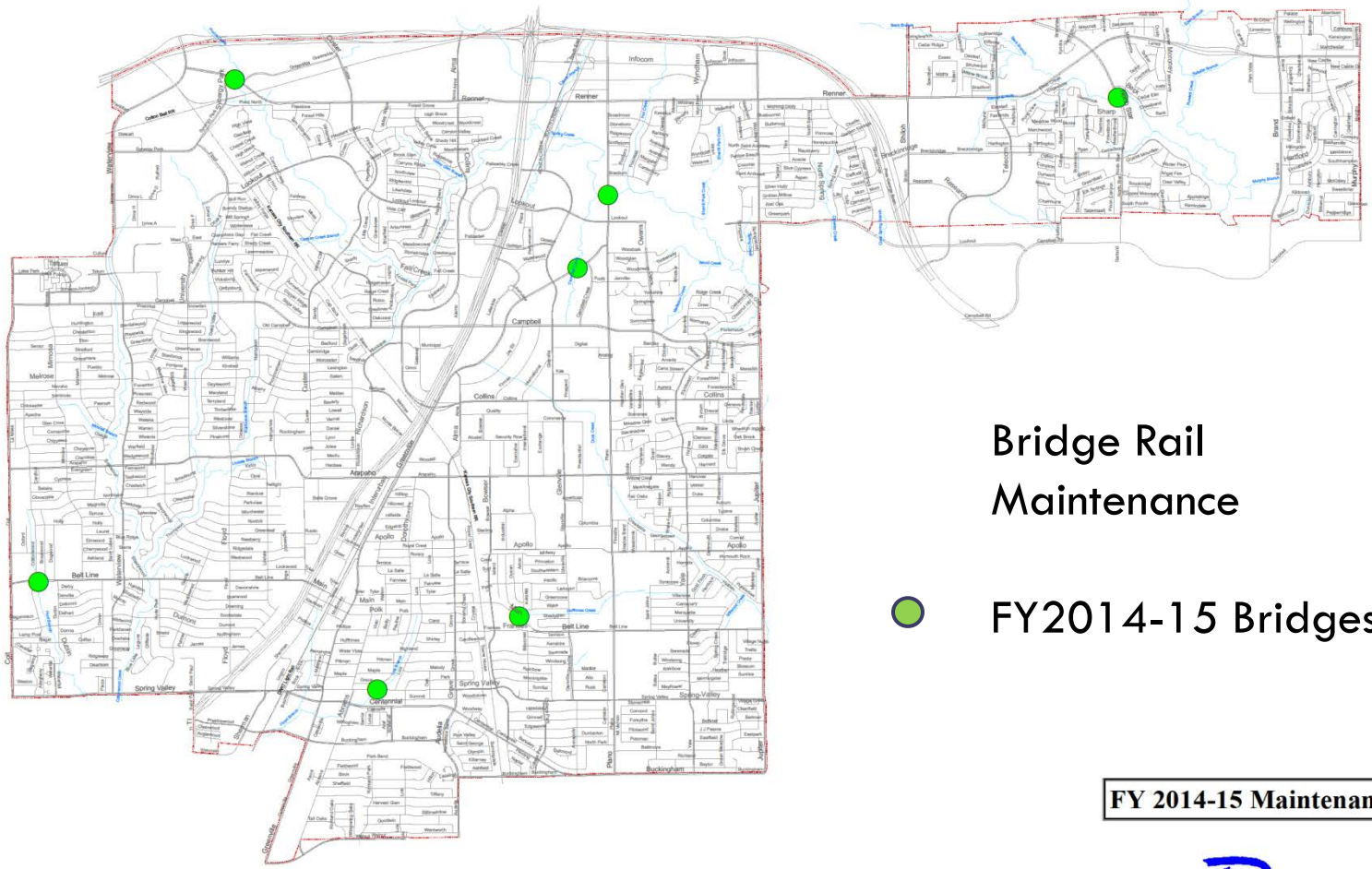
- Implementation and Adjustments
  - Seven bridges planned for FY14-15.
  - The revised cost estimate, based on current bid prices, for maintenance of seven bridge rail locations is $230,000.

Bridge Rail Maintenance FY2014-15

	FY 12/13 Actual	FY 13/14 Estimate	FY 14/15 Proposed
Bridge Rail Maintenance	$115,000	$225,000	$230,000

- Belt Line at Hunt Branch
- Renner at Prairie Creek
- Greenville at Campbell Creek
- Belt Line at Huffhines Trib.
- North Star at Beck Branch
- Plano Road at Spring Creek
- Spring Valley at Lois Channel

Bridge Rail Maintenance FY2014-15



Next Steps

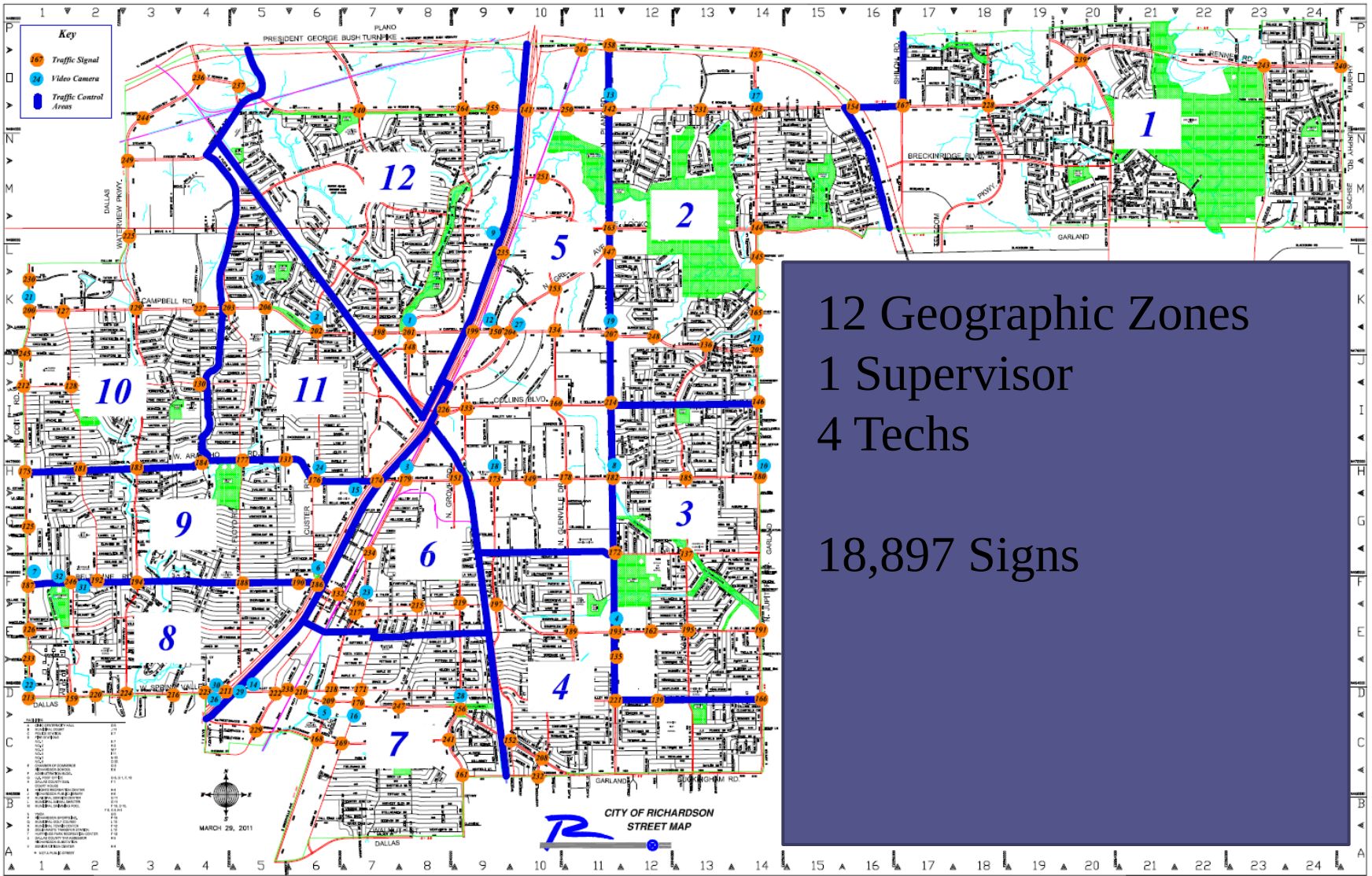
- Continue work on current year bridges.
- Annually update cost estimates for inventoried bridges.
- Include all enhanced bridges in future inventories.

SIGN, PAVEMENT MARKING & POLE MANAGEMENT STRATEGY

Sign Maintenance

- Signage installation and maintenance
  - 18,897 Total Signs
  - 14,454 Traffic Control Signs
  - 3,936 Small Street Name Signs
  - 507 Large Overhead Street Name Signs
- Replacement every ~12+ years with newer High Intensity Sign Sheeting now required by Feds for regulatory signs.

Sign Maintenance Zones



Traffic Control Signs

TRAFFIC CONTROL SIGNS as of 7/3/2013

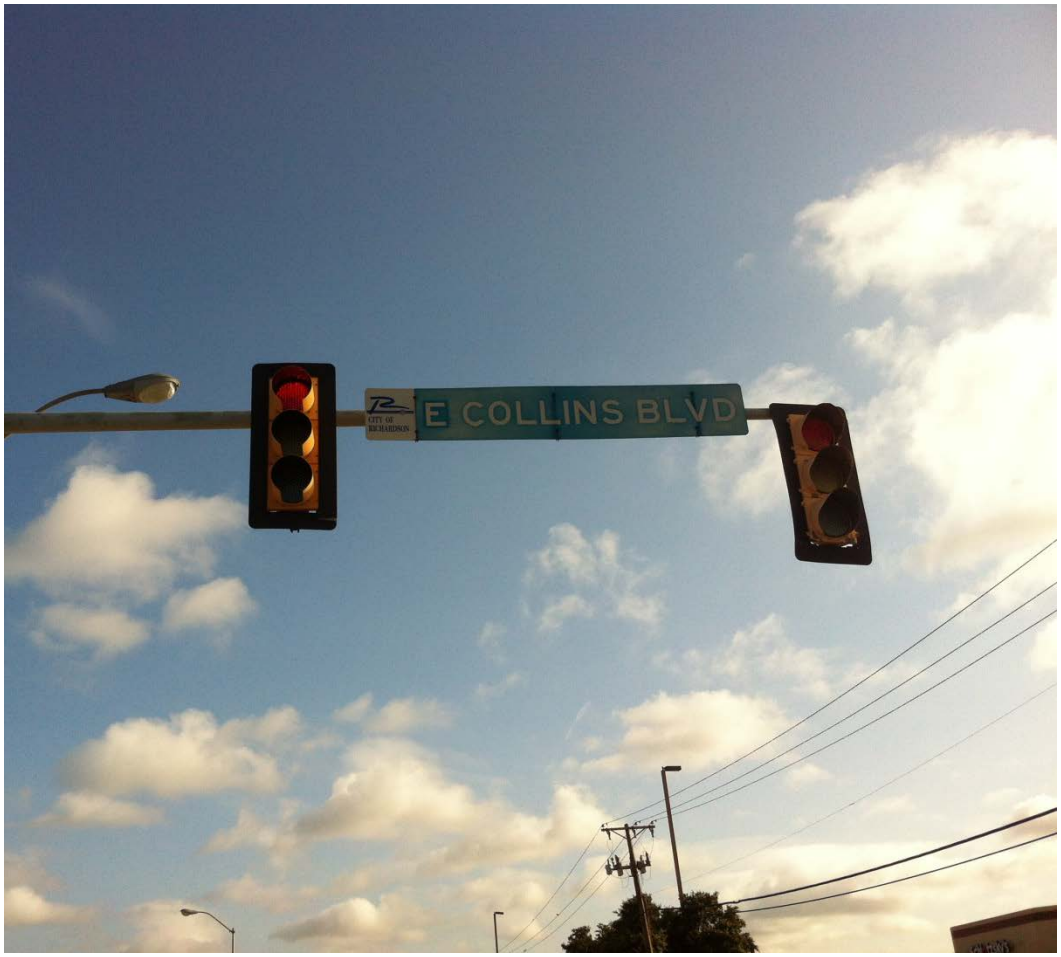
		Zone											
Age	Total	1	2	3	4	5	6	7	8	9	10	11	12
< 1	2,203	251	352	314	90	154	232	129	125	167	108	153	128
2	1,674	232	94	244	48	104	71	113	115	222	141	94	196
3	1,433	109	45	95	125	108	93	156	138	84	258	66	156
4	1,514	150	98	105	209	131	63	85	75	104	174	168	152
5	1,024	117	61	49	54	37	44	84	72	213	87	80	126
6	1,578	272	76	77	210	192	76	80	89	83	96	135	192
7	929	100	34	62	87	66	21	102	67	90	132	87	81
8	1,986	205	129	144	209	81	160	168	135	259	150	141	205
9	1,304	113	127	113	84	279	76	125	76	84	83	60	84
10+	809	114	67	44	25	77	77	53	56	61	65	69	101
Total	14,454	1,663	1,083	1,247	1,141	1,229	913	1,095	948	1,367	1,294	1,053	1,421

- Richardson escalated its replacement of older Traffic Control signs starting in 2008 due to Federal requirements for reflectivity. 2012 deadline was met.
- Only 6% of the TC Signs are more than 10 years old

Street Name Signs

- **Overhead Street Name Signs on Signal Mast Arms**
  - All older Overhead SNS in city will be replaced in 2014
  - Lesson Learned – Specialty signs cost more than previously estimated and take longer for vender to produce.
  - It is better to submit several small orders for signs throughout the year than one larger order to minimize lead time for delivery and minimize the labor and related issues of storing large quantity orders.
- **Small Street Name Signs**
  - 3062 of 3936 are 13+ Years and need replacement
  - Current schedule is replacing ~400 to 500 SNS per year over the next 6 years. Will be replacing them by zone.

Overhead Street Name Signs



- The large Overhead Signs on traffic signal mast arms are more exposed to the sun and many are in very faded condition.
- New criteria for these signs include larger Upper/Lower fonts and include the block number just like the small signs.

Small Street Name Signs

- These signs were installed back to back at same time 15 years ago and the side facing to the west is very faded. The side facing the east in the shade during morning hours and is only slightly faded.

Sign Management 3 Year Strategy

	FY 12/13 Actual	FY 13/14 Actual	FY 14/15 Goal	FY 15/16 Goal
Traffic Control and Street Name Sign (SNS) Replacement	$72,500	$100,000	$100,000	$100,000

- On track to replace all old Overhead (large) SNS on Traffic Signal mast arms in 2014.
- Small post-mounted SNS replacement will be completed in next 6 years by ~2020
- In the future, all Traffic Control and SNS signs will be replaced every 12-15 years to ensure reflectivity standards are met

Pavement Marking Maintenance

- **Pavement Marking Inventory**
  - 180 School Zone Crosswalks
  - 125 Signalized Intersections - stop bars, crosswalks, lane assignment arrows, puppy tracks
  - 400 miles of lane line buttons
    - ~60,000 reflective & ~190,000 non-reflective buttons
  - 15 Railroad Crossings
  - 11.5 miles of Bike Lanes (3.7 miles to be added this year with help from SRTS funding)
  - 38 City Facility Parking Lots include parking spaces and fire lanes

Pavement Markings – School Areas

- School Zones and other higher pedestrian crossing locations are assessed every year and replaced as needed each summer while school is out of session

Markings Management 3 Year Strategy

	FY 12/13 Actual	FY 13/14 Actual	FY 14/15 Goal	FY 15/16 Goal
Pavement Markings	$165,000	$250,000	$300,000	$350,000

- FY 13-14: Replace buttons along arterial and collector streets that are in the pavement rehab program, update one bike lane (Custer Pkwy), add 1 mile of new bike lane.
- FY14-15: Replace buttons following the pavement rehab program, update one bike lane (Waterview Pkwy)
- FY15-16: Replace buttons following the pavement rehab program, update one bike lane (Grove)

Signal Pole Painting

- Most of the existing signal poles in Richardson are galvanized steel and don't get painted
- Of the 125 signalized intersections only 33 intersections city-wide have painted poles
- Staff initially identified 44 poles at 16 intersections in need of painting.
- Used interlocal agreement with the City of Ft. Worth for a pole painting contractor and pricing was very good so we were able to add some additional locations and paint some mast arms as well.

Before and After Photos

Before

After

Next Steps

- Finish replacing all older Overhead Street Name Signs by end of 2014.
- Replace all small street name signs by year 2020 as part of a 6 year effort by zone
- Maintain a 12 year routine replacement program for all signs in the future
- Prioritize Pavement Marking maintenance based on safety and roadway volume criteria until funding levels are sustainable for a routine schedule


CITY OF
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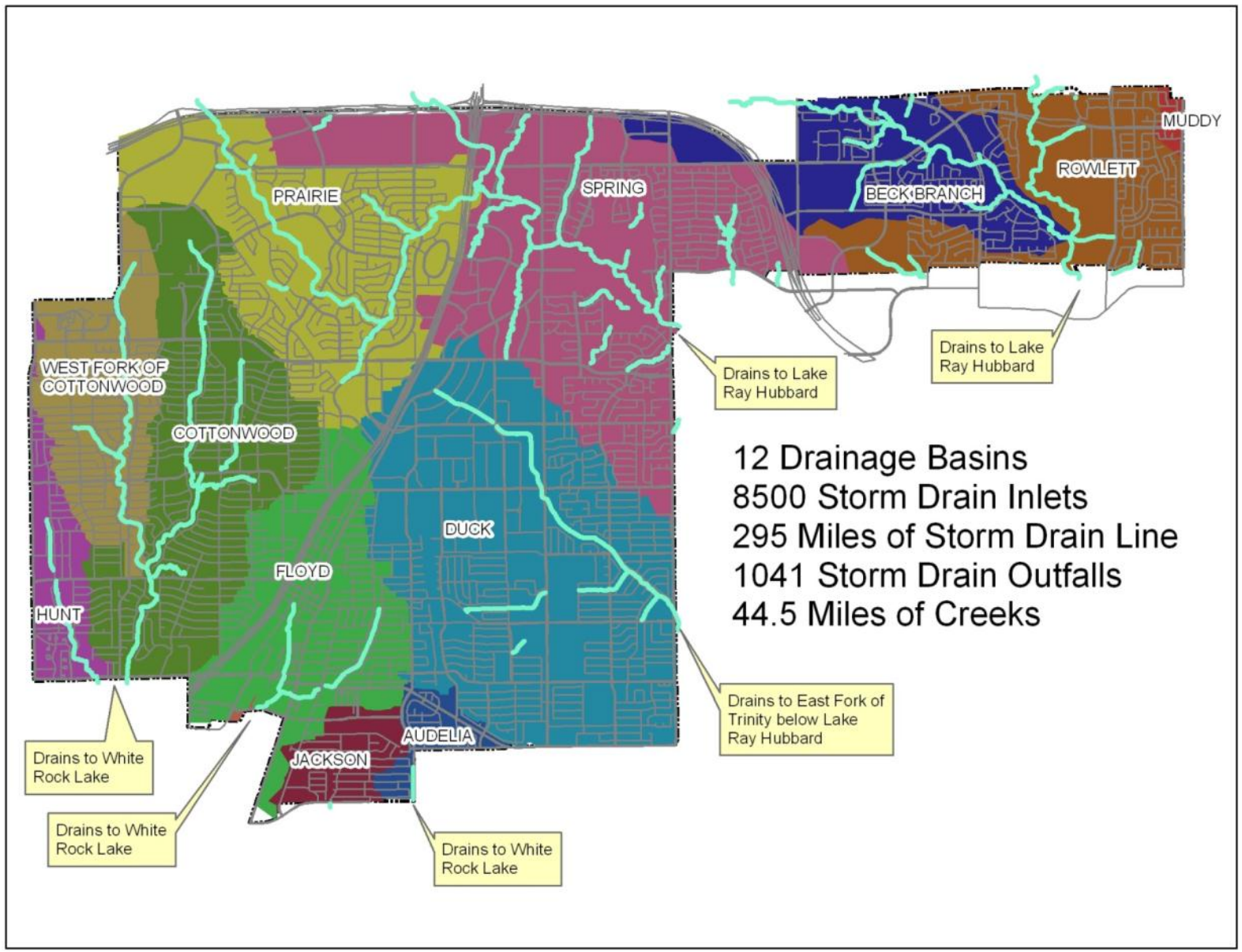
Drainage Utility:
Program Update

City of Richardson, Texas
City Council Work Session
June 16, 2014

Presentation Overview

- Background
- Work Plan Summaries
  - Years 1 & 2 - FY 2011-12 partial year, FY 2012-13
  - Current Year - FY 2013-2014
  - Proposed - FY 2014-2015
- Next Steps

Richardson's Drainage Infrastructure



Drainage Utility Background

- Drainage Utility Established - November 28, 2011
  - single residential monthly rate of $3.75 per household .
  - commercial monthly rate of $0.105 per 100 square feet of impervious area which is equivalent to the charge for the average residential property.
  - Initiated billing February 2012.

12-City Review

City	Drainage Utility?	Avg. Res.
Allen	Yes	$3.00
Arlington	Yes	$4.25
Carrollton	-	-
Dallas	Yes	$7.77
Ft. Worth	Yes	$5.40
Frisco	Yes	$2.00
Garland	Yes	$2.88
Grand Prairie	Yes	$4.35
Irving	Yes	$4.00
McKinney	Yes	$2.75
Mesquite	Yes	$3.50
Plano	Yes	$3.30
		Survey Avg: $3.93
Richardson	*Yes*	*$3.75*

Drainage Utility Background

- Start Up Year FY 2011- 2012
  - Funded a portion of drainage services traditionally hosted in the general fund.
  - Start of contract services and capital projects.
- First full year FY2012-2013
  - Full year revenue of approximately $2,700,000.
  - Continued to fund a portion of traditional drainage services.
  - Expanded Contract services for drainage maintenance.
  - Funded bridge replacement projects coordinated with NV Bridges.

City Services

Departments and Services

Conveyance, Water Quality, Floodplain Management

- Public Services
  - Maintenance of inlets, pipes, bridges, channels
  - Storm preparation and response
  - Spill response
- Development Services, Capital Projects, Building Inspections
  - Plan review
  - Inspection /Compliance
  - Flood plain management
- Fire Department
  - Hazardous spill response
- Parks Department
  - Street sweeping
  - Public education
  - Park pond maintenance
- Health Department
  - Public education and outreach
  - Inspection and compliance
  - Spill response
- Capital Projects, Water Customer Services
  - Customer service
  - Program administration

Contract Services

Contract services may include:

- Open Channel Maintenance
- Pipe and inlet Inspection and Cleaning
- Engineering and Planning Studies
- Hydraulic Studies for Flood Risk Assessments (FIRM)
- Street Sweeping
- Litter abatement Pilot Program

Projects (pay-go)

Projects may include:

- Flood prevention projects
- Erosion protection projects
- Bridge and culvert construction and repair
- Spillways/dam structures
- Detention basin structures
- Storm water treatment structures
- Aeration & aquatic vegetation management
- Silt management & safe removal and disposal

Storm Water/Drainage Utility: FY2011-12 and FY2012-13

Contract Services

West Fork Debris Removal and Vegetation Management
Completed Spring 2013

Contract Services

1300 Collins Channel Debris Removal
Completed Spring 2013

Contract Services

Texas Channel Debris Removal
Completed Spring 2013

Contract Services

Upper Duck Creek Debris Removal
Completed Spring 2013

Projects

PayGo Capital

- Dumont Culvert at Hunt Branch
  - Flood protection – roadway overtopped more than 2 feet by the one percent annual chance storm event.
  - Undersized culvert was replaced with arch culvert.
  - This is also a 2010 bond program Neighborhood Vitality bridge aesthetic location. The enhancements were funded from 2010 GO Bonds program.
  - New culvert construction completed February 2014.

Storm Water/Drainage Utility: FY2013-14

City Services FY2013-14

Continuation of previous drainage services

- Multi-departmental
- Conveyance, water quality, flood plain management

Storm Water Management Plan update for TCEQ permit

- State of Texas component of EPA Clean Water Act regulations
- Initial Richardson Compliance Period: Aug 2007- August 2012
  - 5 Year Phased Program (Aug. 13, 2007)
  - Storm Water Management Plan with 7 minimum control measures.
- Re-permitting/Renewal Dec 2013
  - TCEQ issued new permit regulation for phase 2 cities
  - Required updated of Richardson Storm Water Management Plan
  - Stronger/added requirements across multiple departments
  - 5 year implementation
  - Partial Funding from Drainage Utility

City Services FY2013-14

Flood Insurance Rate Map update for Dallas County

- New F.I.R.M. to take effect July 7, 2014
- New maps based on new detailed study of most streams in Richardson
  - Better technical data and topographic information
  - Incorporated Brick Row improvement s at Floyd Branch
- Flood plain high risk area reduced by 18%
- Public outreach will include: Richardson Today, Website and targeted letter to properties changing risk zones.

Contract Services FY2013-14

Creek bank erosion and lake condition inventories

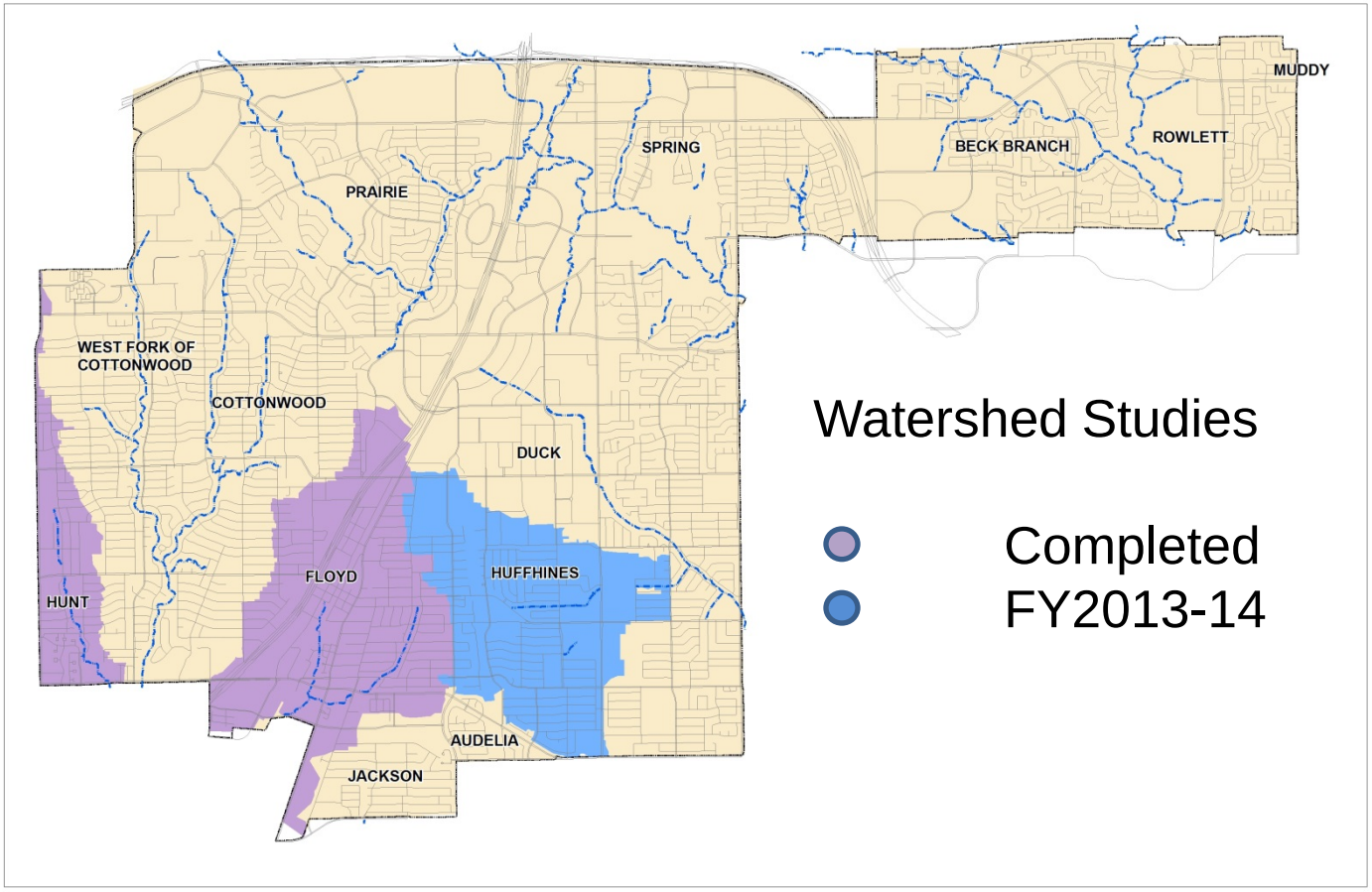
- Studies underway and scheduled to be completed this fall
- Update of City wide assessment of creek banks erosion.
- 32 miles of streams.
- Assess condition of Urban Lakes.
- City owned and multi-owner residential lakes.
- Identify and prioritize needs for future drainage utility or 2015 bond program consideration.

Flood Insurance Rate Map update

- Hydraulic Study for Duck Creek
- FEMA did not include updated study in Dallas Co. update

Contract Services FY2013-14

Huffhines Watershed Study and Capital Improvement Plan



Contract Services FY2013-14

Huffhines Watershed Study and Capital Improvement Plan

- Study will identify and prioritize system deficiencies for future project consideration.
- Third drainage basin to be assessed (Floyd Branch and Hunt Branch completed)
- Approximately 1325 acre portion of Duck Creek
- Over 23 miles of underground storm drain pipe
- Scheduled to be completed this fall.

Contract Services FY2013-14

Open channel maintenance

- Remove debris from City drainageways and culverts
- Vegetation management
- Brick Row October 2013 and spring 2014
- Arapaho Road Culverts east of West Shore scheduled for summer 2014

Contract Services FY2013-14

Pipe and Inlet Inspection and cleaning

- Inspect condition of inlets and pipes
- Remove debris to maintain capacity
- Make repairs as needed
- Renner Pond Outlet pipe maintenance

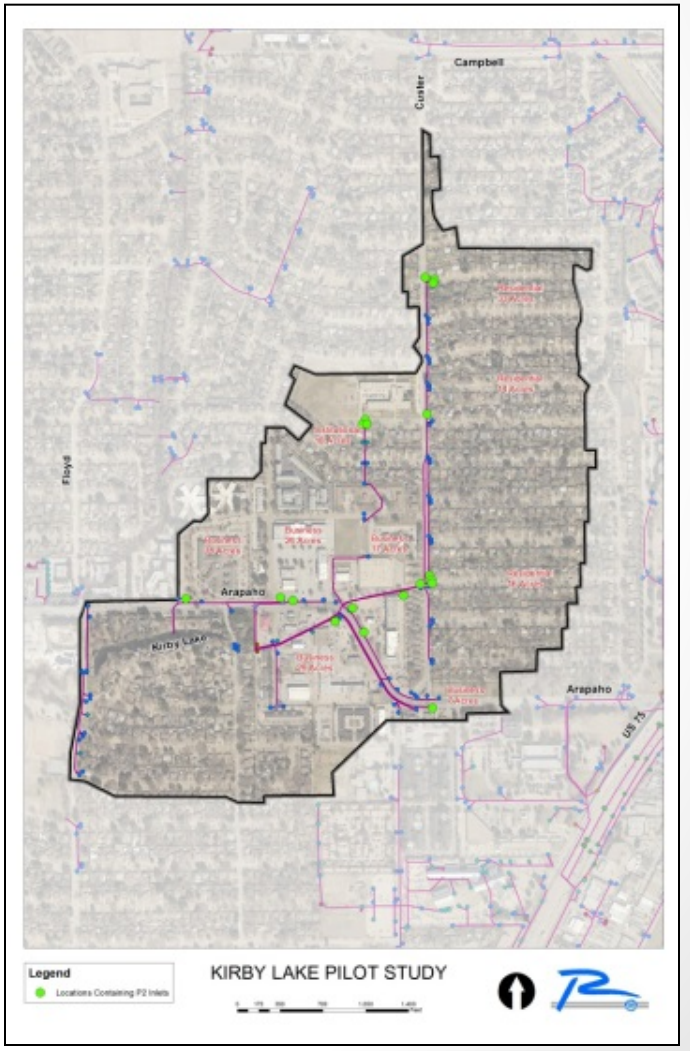
Street Sweeping

- Contract sweeping of primary roadways
- Litter and sediment removal

Contract Services FY2013-14

Litter Abatement Pilot Program - Kirby Lake

- Capture litter and debris near the source
- Evaluate the effectiveness of inlet inserts
- Approximately 200 acre study area
- Study underway first rain event in May 2014
- Over 900 pounds of sediment, grass, leaves and litter captured.



Contract Services FY2013-14

Litter Abatement Pilot Program -Kirby Lake

Projects FY2013-14

Three Cottonwood Creek Culverts

- Brentwood Drive, Melrose Drive and Wisteria Drive
- Flood protection- roadways overtopped by approx. 2 feet for one percent annual chance flood
- Bridge rail enhancements will be included with funding from neighborhood vitality program
- Construction scheduled to begin this fall

Storm Water/Drainage Utility: Proposed FY2014-2015

City Services $1,025,000

Continuation of previous drainage services

- Multi-departmental
- Conveyance, Water Quality, Flood plain management

Addition of project engineer as planned

- hosted in general fund
- manage design and construction projects
- manage engineering studies and contract services

Storm Water Management Plan implementation, TCEQ permit

- October 2014 marks the start of the second reporting year for the new permit term.
- Review and assessment of existing procedures across several departments
- Increased documentation and reporting

Contract Services FY2014-15 $440,000

Open Channel Maintenance

- Floyd Branch at Buckingham
- Floyd Branch at Spring Valley – fall and spring

Pipe and Inlet Inspection and cleaning

- Arapaho at Bowser
- Arapaho at US75
- Consider annual contract options

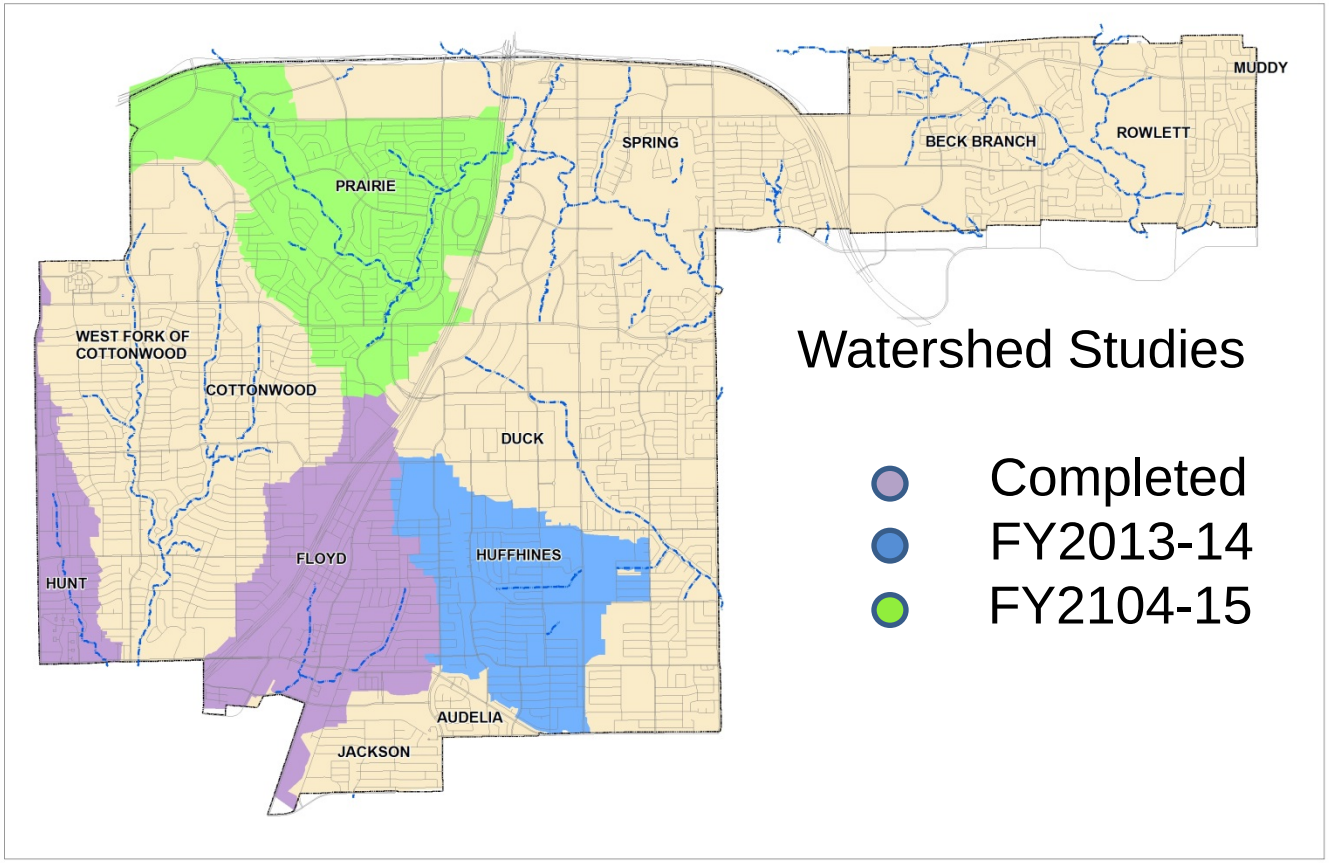
Street Sweeping

Watershed Study and Capital Improvement Plan

- Prairie Creek – 2500 Acres (4th basin to be studied)

Contract Services FY2014-15 $440,000

Prairie Creek Watershed Study and Capital Improvement Plan



Projects FY2014-15 $1,235,000

Flood Prevention

- Cottonwood Creek/WF Detention Basins Design $ 250,000
- Lamp Post Dr. Flood Prevention $ 165,000
- 200 Shady Hill Dr. Alley Groundwater Drainage $ 150,000
- Shenandoah to Laurel Drainage * $ 200,000
- Ocean Drive Drainage * $ 310,000
- Brentwood Drainage Floyd to Wisteria * $ 160,000

* Flood Prevention in conjunction with water or street projects

Storm Water/Drainage Utility: Proposed FY2014-2015

• City Services	$ 1,025,000
• Contract Services	$ 440,000
• Projects	$ 1,235,000
Total	$ 2,700,000

Next Steps

- Continue work on current year work plan.
- Future year work plans will build on studies and assessments
  - Watershed studies
  - Erosion and lake assessment
  - TCEQ Stormwater management plan development
- Drainage Utility will target projects generally less than $0.5 M with some larger projects constructed in phases.
- Studies will also identify larger capital projects to be considered for future G.O. bond program.
- Work plans will be reviewed and updated annually.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