

City Council Work Session Handouts

June 15, 2015

- I. Review and Discuss the North Texas Municipal Water District Water Supply Plan and Projects
- II. Review and Discuss Update on Collin County Parks and Open Space Grant Requests
- III. Review and Discuss the Atmos Energy Rate Review Action
- IV. Review and Discuss the Street, Alley, and Sidewalk Needs for Consideration in a Future Bond Program
- V. Review and Discuss the Traffic and Transportation Needs for Consideration in a Future Bond Program
- VI. Review and Discuss Maintenance Strategies: Screening Walls, Bridge Railings, and Traffic Signs, Signals and Markings



NTMWD's Water, Wastewater & Solid Waste Update

**City of Richardson
June 15, 2015**

**“Regional Service Through Unity ...
Meeting our Region’s Needs Today and Tomorrow”**





Topics

- NTMWD History
- Water Supply & Conservation Efforts
 - Main Stem Pump Station
 - Lower Bois d'Arc Creek Reservoir Project
 - WaterMyYard
- NTMWD Wastewater Initiatives
 - EPA Audit
 - Partnering Meetings
- Future Rates Projections
 - Water
 - Wastewater
- Solid Waste System Update – Lookout Transfer Station





History of NTMWD



From our founding 10 Member Cities:

“We decided we were all in this together. We couldn’t do it separately.”

- 1951 - Created by Texas Legislature to Provide Water Service
- 1956 - Began Providing Treated Water
- 1970s - Expanded to Wastewater Service
- 1973 - Richardson Added as a Member City
- 1980s - Expanded to Solid Waste Service





Excerpts from Gift of Water, Legacy of Service

Population Growth

“...an outburst of suburban growth that would rank the area, over much of the next quarter-century, among the fastest-growing in the nation.”

City	1950	1960	1970	1980	1990	2000	2010	2015
Frisco	736	1,184	1,845	3,420	6,138	33,714	116,989	145,510
Garland	10,291	38,501	81,437	138,857	180,635	215,768	226,876	232,960
McKinney	10,560	13,763	15,193	16,249	21,283	54,369	131,117	154,840
Mesquite	1,684	27,526	55,131	67,053	101,484	124,523	139,824	142,230
Plano	2,115	3,695	17,872	72,331	127,885	222,030	259,841	271,140
Richardson	1,289	16,810	48,405	72,496	74,840	91,802	99,223	102,430

NTMWD Historical / Projected Population

Year	1956	1961	1974	1994	2015	2040	2070
Population Served	32,000	60,000	200,000	800,000	1,600,000	2,500,000	3,700,000





Growth

Water supply infrastructure is the driving force of community & business vitality.



Water Supply & Conservation





NTMWD Reservoir Elevations

(Updated June 12, 2015)

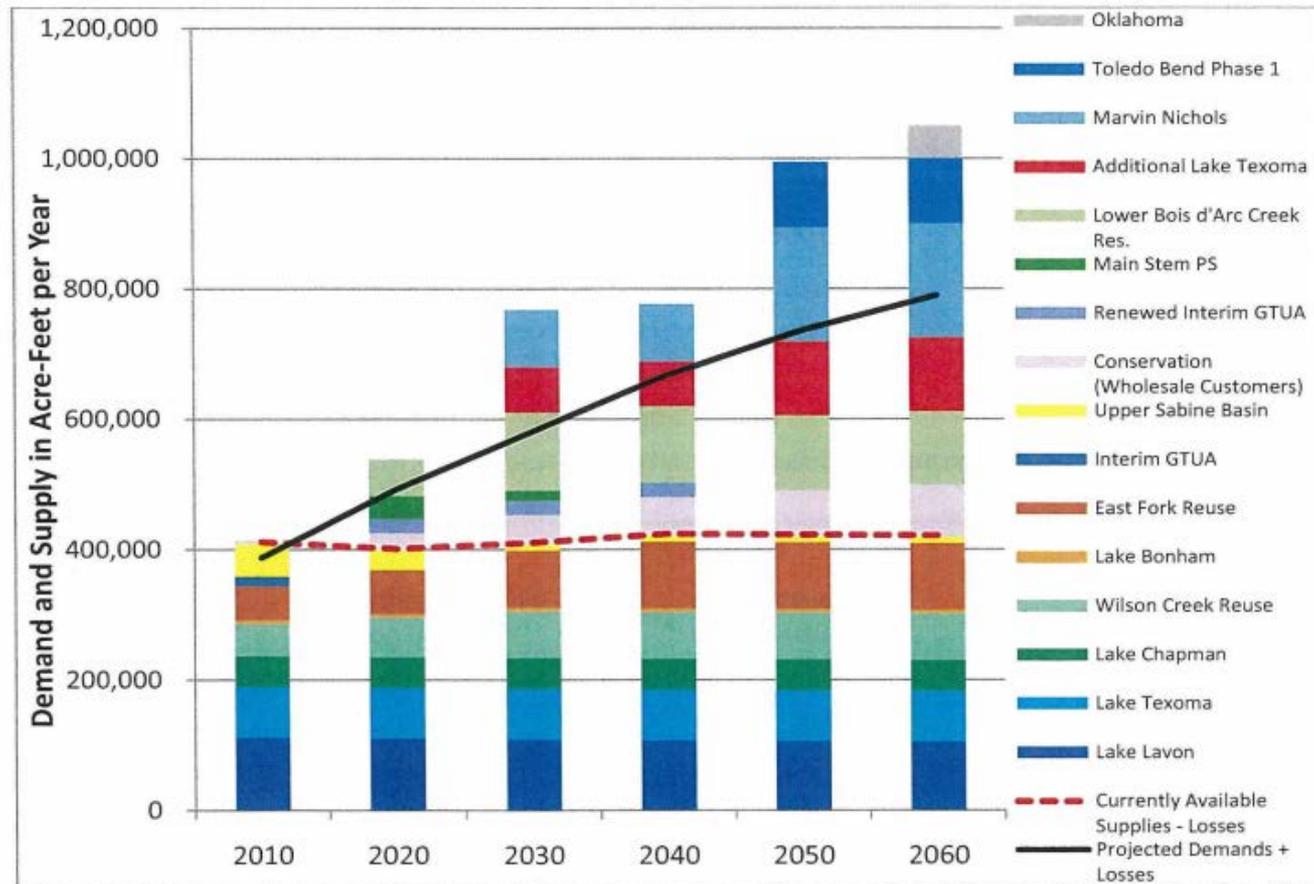
Reservoir	Conservation Pool Elevation	Current Elevation	Up/Down	% Full	% of NTMWD's Remaining Water Right
Lavon 30%	492.0'	503.08'	+11.08	100	100
Chapman 15%	440.0'	440.45'	+0.45	100	84
Tawakoni 5%	437.5'	438.10'	+0.60	100	51
Texoma 28%	617.0'	639.58'	+22.58	100	86





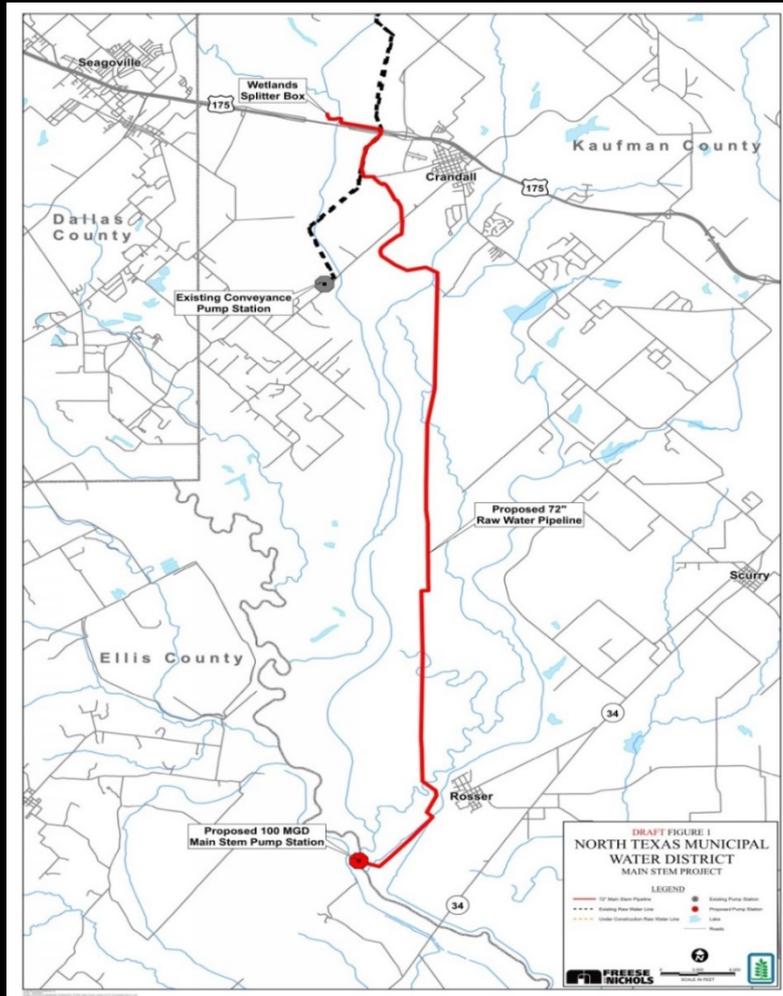
2012 State Water Plan for NTMWD

Figure 4E.8
Recommended Water Management Strategies for North Texas Municipal Water District





Main Stem Pump Station & Pipeline



- 90 MGD Pump Station
- 17 Miles 72" Pipeline
- Add One Pump @ Conveyance PS
- \$99 million cost
- Completion in 2017





Lower Bois d'Arc Creek Reservoir

**“First major reservoir to be constructed in Texas
in the last 30 years”**

Location: Fannin County, TX

Area: 16,526 acres

Supply: 113 MGD

Average/ Max Depth: 22/70 ft

Lake Elevation: 534 ft msl

Owner & operator: NTMWD

Cost: \$992M

- **Permitting Completed: 2015/16**
 - **Water Rights**
 - **USACE 404**
- **Start construction: 2015/16**
- **Estimated Cost: \$992 M**
- **Delivering treated water: 2020**





WaterMyYard - Update

Total Subscriptions

- 7 Weather Stations
 - May 2013: 45
 - Oct 2014: 1,138
(25 Fold Increase)
- 12 Weather Stations
 - May 2015: 1,995
(75% Increase)



12 NTMWD Weather Stations (5 Added May 2015):			
Member Cities	April 2015	May 2015	% Increase April - May
Allen	20	52	160%
Farmersville	23	25	9%
Forney	49	52	6%
Garland	4	15	275%
McKinney	475	516	9%
Mesquite	173	182	5%
Plano	578	746	29%
Princeton	7	15	114%
Richardson	31	103	232%
Rockwall	72	83	15%
Royse City	5	11	120%
Wylie	146	195	34%
Total	1,583	1,995	26%
Frisco WaterWise		11,918	

2015 Water IQ Commercial



2015 Water IQ Commercial



Wastewater Initiatives





Wastewater System

- Wastewater Partnering Meetings
- Upper East Fork Interceptor System Workgroup
 - Participating cities: Allen, Frisco, McKinney, Plano, Princeton, Prosper, Richardson
- Operations Assessment (Benchmarking) Underway
- Implementing Telog Communication Framework
- EPA Regulatory Compliance Issues
 - Addressing deferred maintenance
 - Reviewing I & I
 - Adding additional personnel
 - Budget impact will be addressed later in presentation



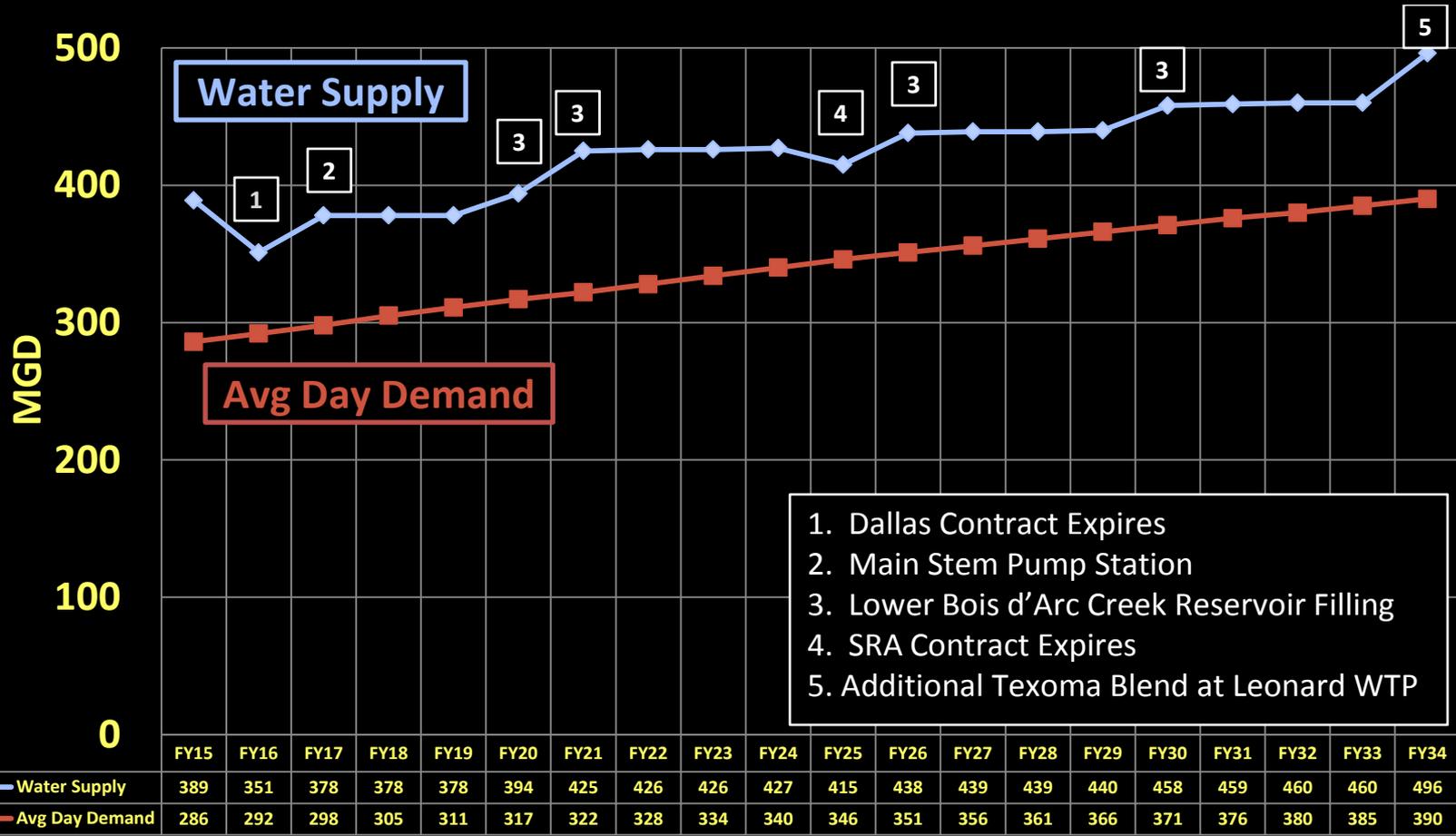


Regional Water System Rate Projections



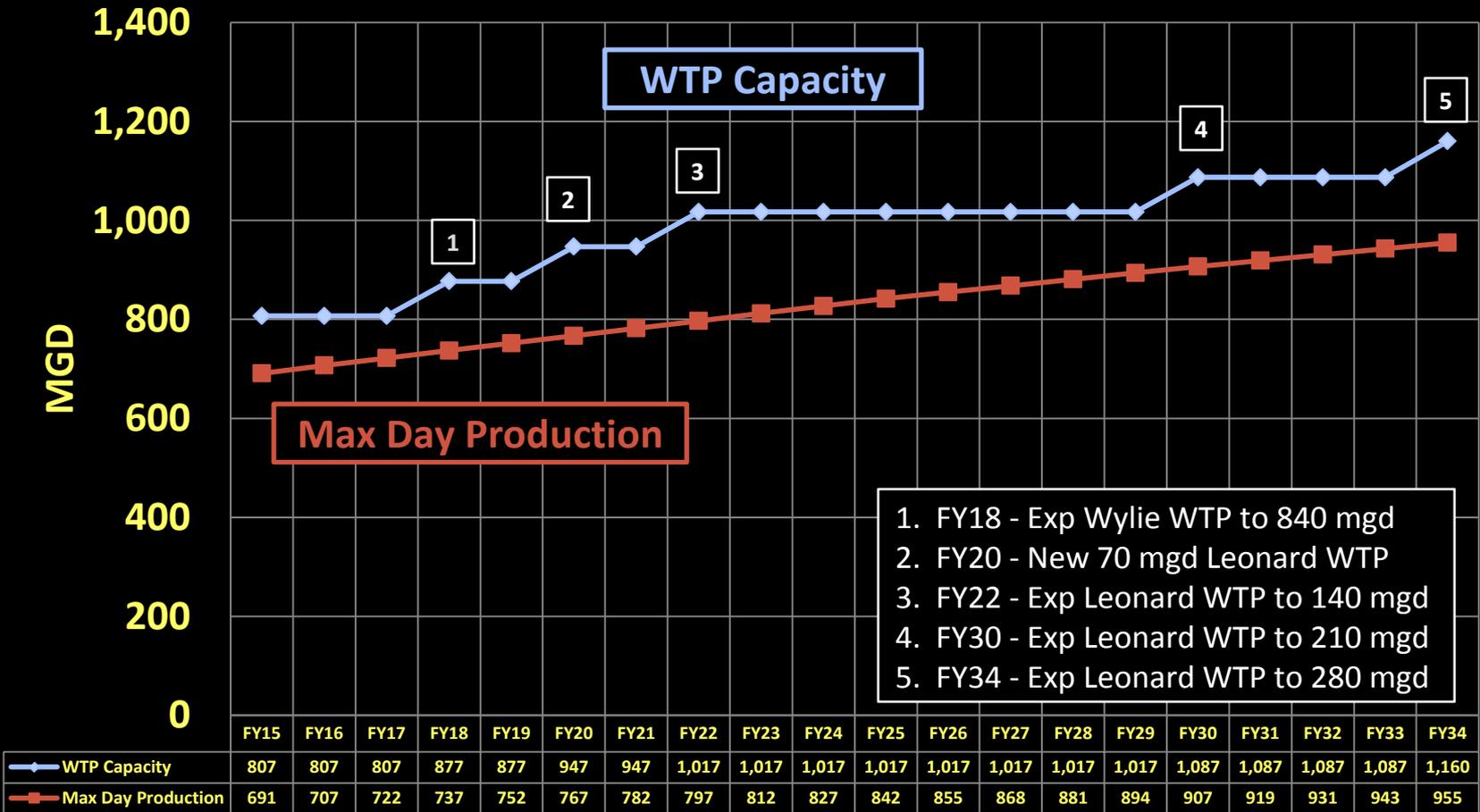


Connected Water Supply & Demand

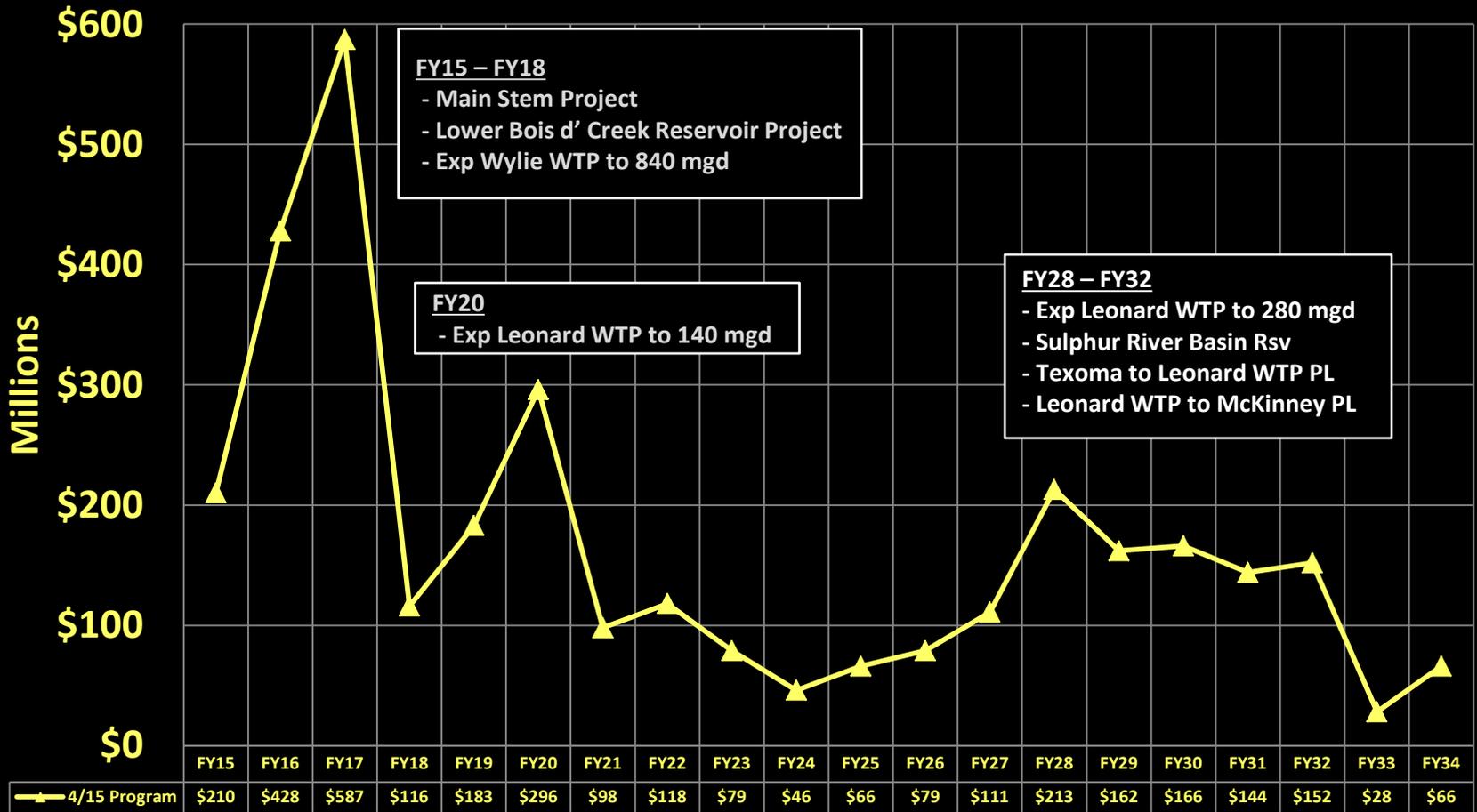




Water Treatment Plant Capacity



Capital Program



Note: Reflects 2015 Cost.





Member Rate

Preliminary – Rates are Adopted by the Board Annually in September

\$4.50

\$4.00

\$3.50

\$3.00

\$2.50

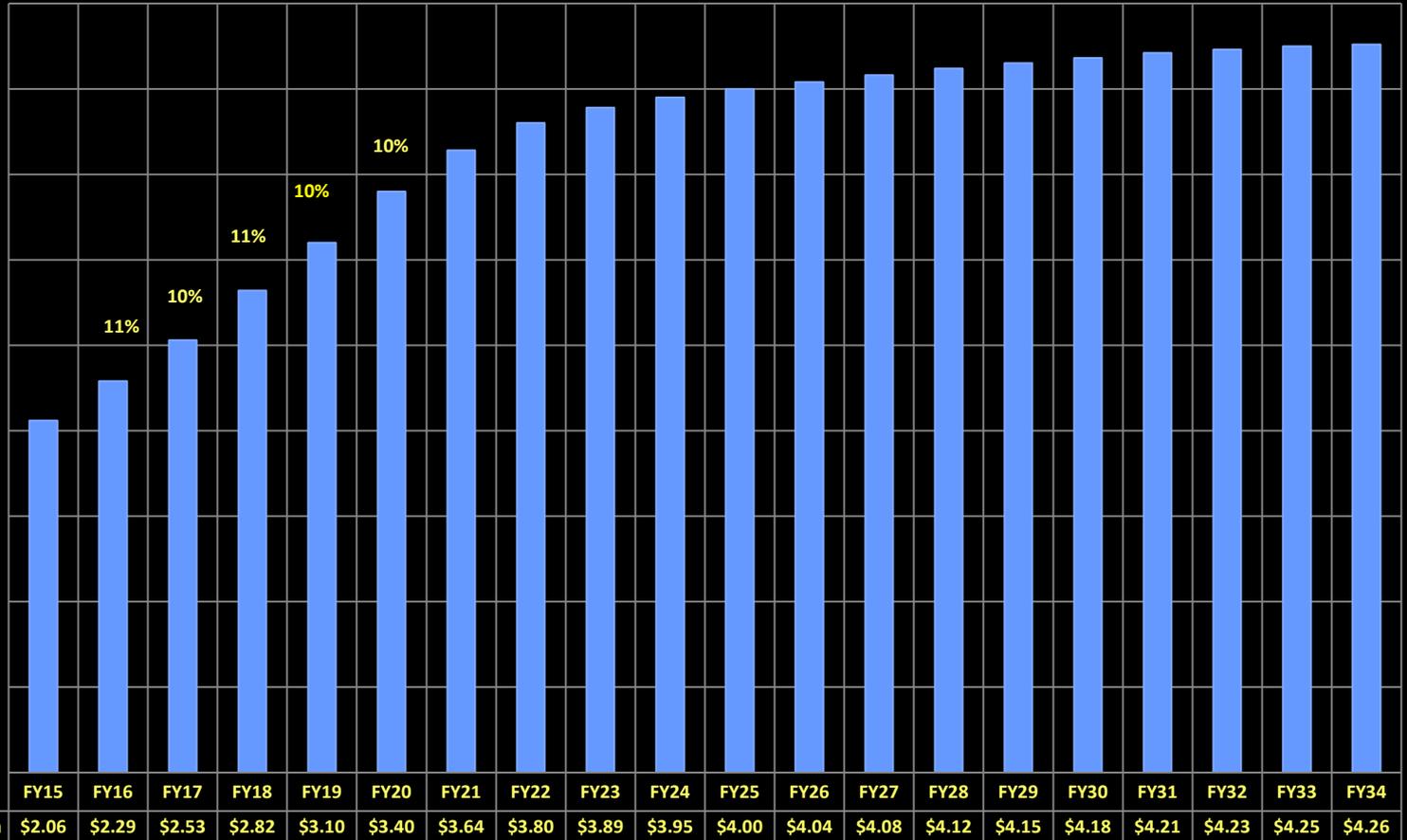
\$2.00

\$1.50

\$1.00

\$0.50

\$0.00





**Upper East Fork Interceptor System
&
Regional Wastewater System
Projections**

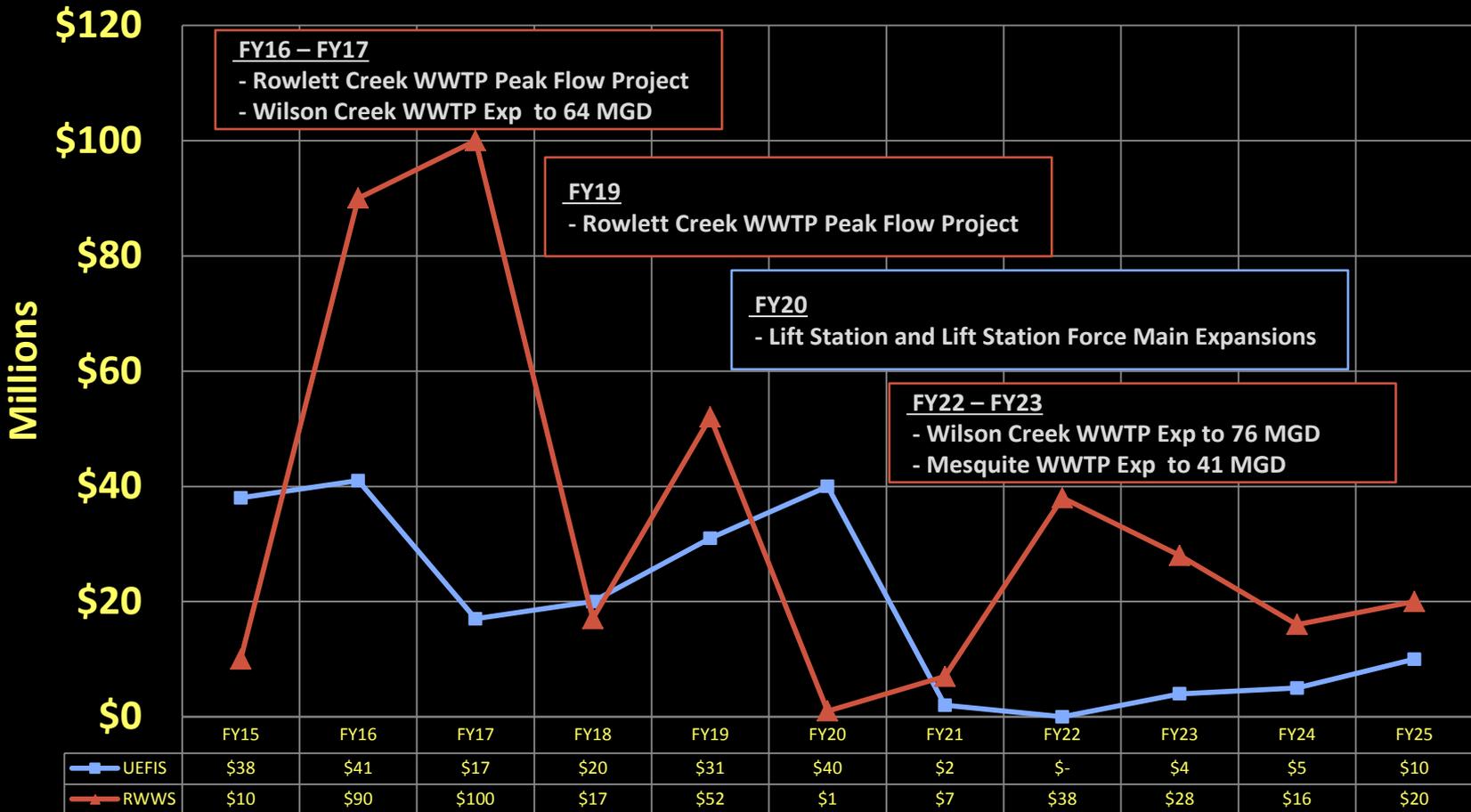




Wastewater Flows



Capital Program



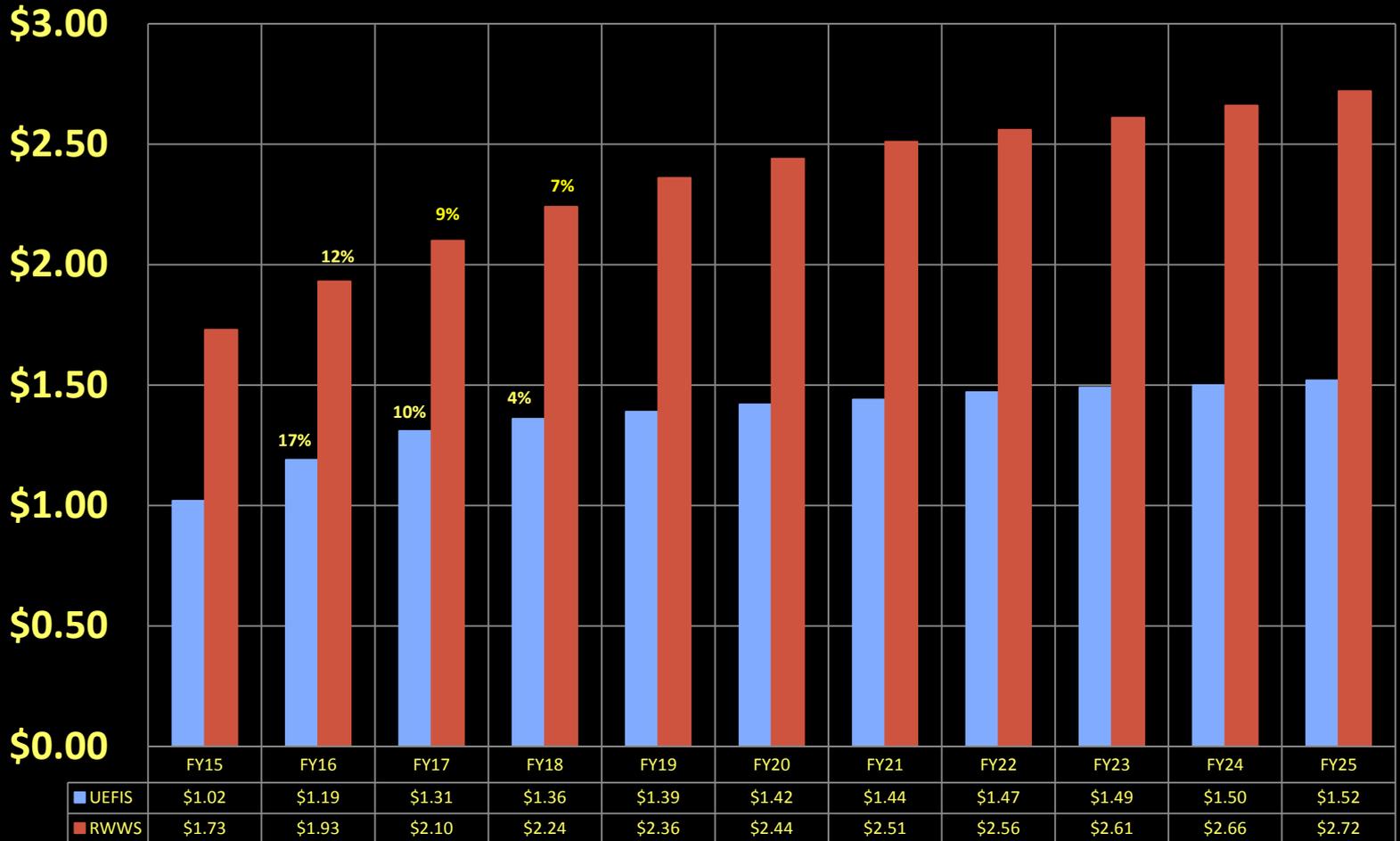
Note: Reflects 2015 Cost.





Member Unit Costs

Preliminary – Budgets are Adopted by the Board Annually in September





Solid Waste System Update





Solid Waste System Update – Lookout

- 60% Design Review Complete
- October – Receive Bids for Construction
 - \$12.7 million estimated cost
- November – Award Project
- Late December/Early January – Notice to Proceed
- Summer 2017 – New Facility Operational
- Late 2017 – Convey Existing TS Property to Richardson



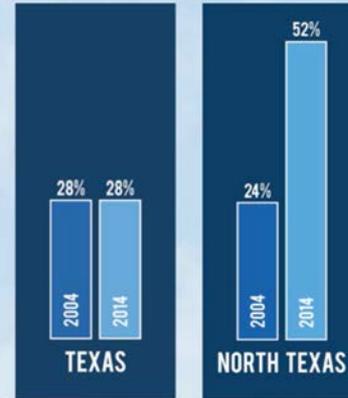


AWARENESS OF WATER SOURCE

SAVE SOME
WATER FOR ME!



www.water4otter.org



(Baselice & Associates, 2014)

**52% of North Texas
Consumers Know
Their Water Source**



**Sign-up for weekly watering
recommendations at:
www.WaterMyYard.org**

Water_{My}Yard 



<https://www.facebook.com/pages/North-Texas-Municipal-Water-District/220424934701711>



<https://twitter.com/ntmwd>

Collin County Parks and Open Space Project Funding Assistance Program

City of Richardson
Candidate Projects

City Council Work Session
June 15, 2015

Topics

- Grant Background
 - Grant Requirements
 - Funding History
 - Candidate Projects
 - Next Steps

Grant Program Background

- The Collin Co. Project Funding Assistance Program (grant program) has been in place since 1999.
- In November 2007, Collin County citizens approved a \$17 million bond proposition for Parks and Open Space. The proposition funds projects through 2016.

Grant Program Background

- The Project Funding Assistance Program allows qualified organizations in Collin County to apply for Parks and Open Space bond funds for the implementation of projects consistent with the Collin County Parks and Open Space Strategic Plan.
- The Call for Projects for the 6th series of county funding was announced on April 10, 2015.

Grant Program Background

- The City of Richardson has a successful history of partnering with the Collin County Project Funding Assistance Program to facilitate the development of parks and trails in the Collin County portion of Richardson.

Grant Requirements

- “Dollar for Dollar” local match requirement
- Matching funds may be direct cash, value of the land to be improved, donated labor, material or in-kind services
- If awarded, an Interlocal Funding Agreement with Collin County is required which will outline provisions required for the awarded project
- A resolution must be approved by the governing body of the entity presenting the application

Funding History

- 2001: University Trail Construction at UT – Dallas Phase I Complete - \$251,000
- 2003 – 2006: Spring Creek Trails (Renner Rd & Hwy 75) Planning and Construction Complete - \$661,338
- 2011: University Trail Phase II Planning 70% Complete - \$91,200

Funding History

- With the help of \$661,338 from the Collin County Project Funding Assistance Program, the City of Richardson was able to leverage those funds to build \$3.3 million in trails for the Spring Creek trail system!

2015-2016 Candidate Projects

- Priority 1 - Spring Creek Nature Area Trail – Outside Loop Connection
- Priority 2 - University Trail Construction Phase II Loop Connection

Priority 1

Spring Creek Nature Area Trail

Outside Loop Connection



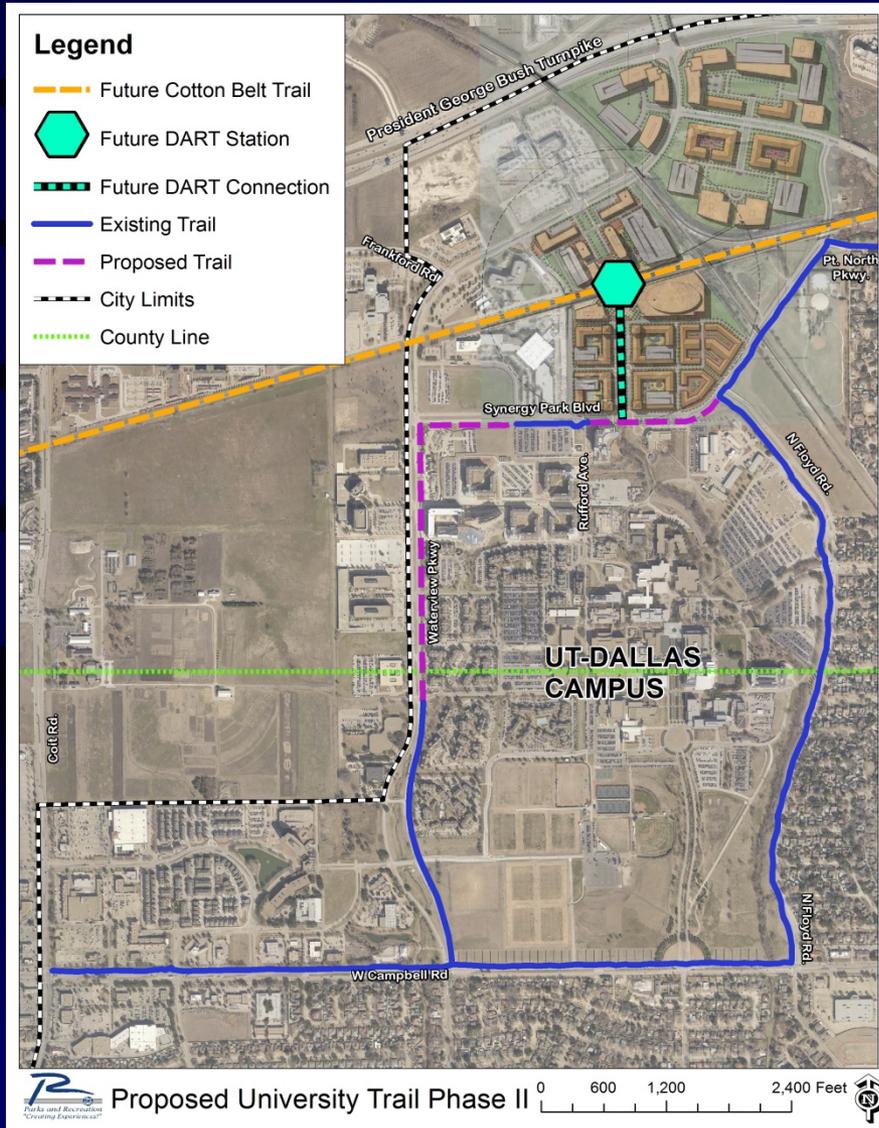
- Planning and construction of 4,300 linear ft. of 10' wide trail in newly purchased land for the Spring Creek Nature Area
- Will connect Central Trail at Routh Creek Blvd. on the west side of the park and Renner Rd., meandering south on Plano Rd. to the trail in original SCNA property
- Concrete trail will allow access to the urban forest, while minimizing impacts of foot traffic

Priority 1

Spring Creek Nature Area

- Grant request - \$214,250
- Match Required - \$214,250
- Estimated Project Cost - \$428,500

Priority 2: University Trail Phase II Connection



- Will extend the 10' trail north from Drive A (in Collin County) along the east side of Waterview Pkwy to the intersection of Waterview and Synergy Dr.
- Trail will continue east on the south side of Synergy Dr. to Floyd Rd., connecting with existing University Trail Phase I

Priority 2

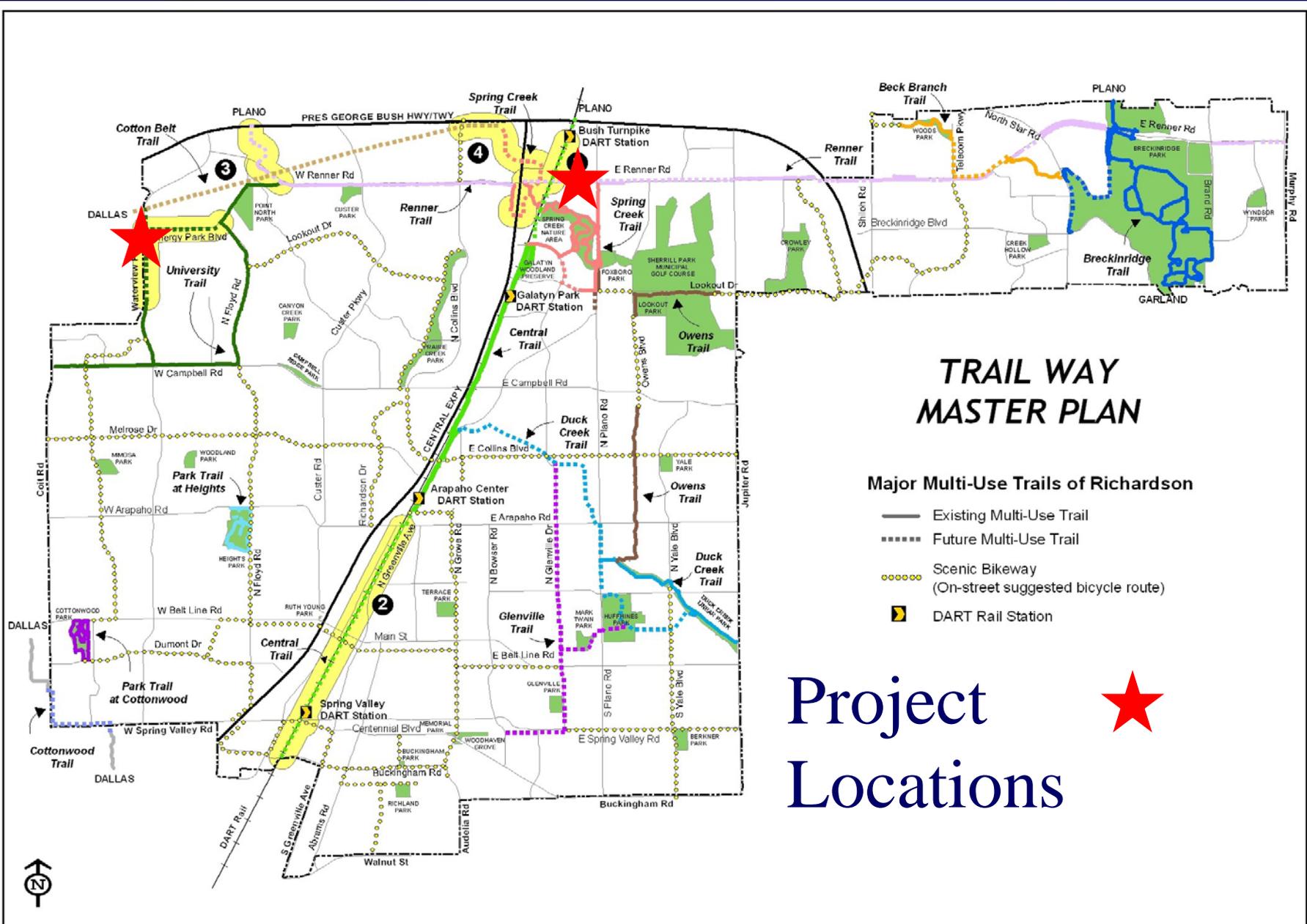
University Trail Phase II Connection

- Completes the loop for a population most likely to use trails for transportation and mobility
- Will connect major retailers on Campbell Rd. to Northside development at UTD
- Provides connection to future Cotton Belt DART Rail Station
- Fully executed Interlocal Agreement with UTD is in place for trail construction

Priority 2

University Trail Phase II Connection

- Grant request - \$126,061
- Match Required - \$126,061
- NCTCOG Transportation
Alternatives Program (TAP) - \$588,378
- Estimated Project Cost - \$840,500



TRAIL WAY MASTER PLAN

Major Multi-Use Trails of Richardson

- Existing Multi-Use Trail
- - - - Future Multi-Use Trail
- Scenic Bikeway
(On-street suggested bicycle route)
- ▣ DART Rail Station

Project
Locations



Candidate Projects Summary

Project	Grant Request to Collin Co.	COR Match	NCTCOG TAP	Estimated Project Cost
Spring Creek N.A. Outside Loop Trail	\$214,250	\$214,250		\$428,500
University Trail Phase II Connection	\$126,061	\$126,061	\$588,378	\$840,500
Totals	\$340,311	\$340,311	\$588,378	\$1,269,000

Next Steps

- City Council comments - Tonight
- City Council Resolution authorizing the grant application – June 22
- Final application review by staff – June 24
- Deliver application packet to Collin County – June 26

Grant application deadline – Monday, July 6, 2015

EXECUTIVE SUMMARY
Atmos Gas RRM Action
June 15, 2015

Background

- The City is an active participant in the Atmos Cities Steering Committee (ACSC), a coalition of 164 Cities Statewide, which work together to address gas rate issues, and share the costs of same.
- In 2007, and later renewed by Council in 2013, the ACSC and Atmos Mid-Tex agreed to implement an annual rate review mechanism for Atmos Mid-Tex, known as the Rate Review Mechanism (“RRM”), as a temporary replacement for the statutory mechanism known as GRIP (the “Gas Reliability Infrastructure Program”).
- In June of 2014, Council denied the 2014 rate increase request, pursuant to recommendations of the Steering Committee.
- Atmos appealed the 2014 denial of its rate request to the Railroad Commission. On April 28, 2015, the Commission’s Examiner issued his “Proposal for Decision” (PFD) in the appeal. The PFD was not favorable to City interests, reducing the requested amount (\$43.8 Million) by only \$860,000 system-wide.
- After action at the Railroad Commission, the ACSC continued to work towards settlement of the outstanding 2014 issues. During the appeals process of the 2014 filing, Atmos filed a request to increase its’ 2015 rates.
- On February 27, 2015, Atmos filed an RRM application requesting \$45.7 Million in additional revenue. The ACSC initiated a full review of the filing.

2015 Rate Request

- The City worked with ACSC to analyze the schedules and evidence offered by Atmos Mid-Tex to support its request to increase rates.
- The 2015 Atmos Mid-Tex RRM filing sought a \$28.8 million rate increase system-wide.
- Consultants working on behalf of ACSC Cities have investigated the Company’s requested rate increase. While the evidence does not support the \$28.8 million increase requested by the Company, ACSC’s consultants agree that the Company can justify an increase in revenues of a lesser amount—namely, an increase of \$21.9 million.

Settlement

- The ACSC negotiated with Atmos to effect a settlement which resolved both the 2014 appeal, and 2015 requested rates. The settlement includes:
 - A \$6 million reduction in the rates requested for the 2015 filing.
 - Implement the minor reduction in the 2014 request pending at the Commission.
 - Atmos will file a formal withdrawal of its 2014 RRM appeal. The ACSC does not believe a final disposition by the Commission will improve the Cities' position, and that withdrawal and settlement will save ratepayers significant expenses in future filings.
- The attached resolution and settlement tariffs will approve rates that increase the company's revenues by \$65.7 million system-wide for the Mid-Tex division, effective for bills rendered after June 1, 2015. The monthly residential customer charge will be \$18.60, and the consumption charge will increase from \$0.08819 per Ccf to \$0.09931. The monthly impact for a typical 60 Ccf customer would be an increase of \$1.14 (about 1.59%). A typical commercial customer would see an increase of about \$2.69 of .96%.

Action

- Staff recommends adoption of the attached resolution approving the negotiated settlement agreement resolving the 2014 and 2015 RRM filings and implementing the negotiated rate change.

**BOND PROGRAM CONSIDERATIONS:
STREETS, ALLEYS, SIDEWALKS
&
FY 15/16 STREETS
MAINTENANCE STRATEGY**

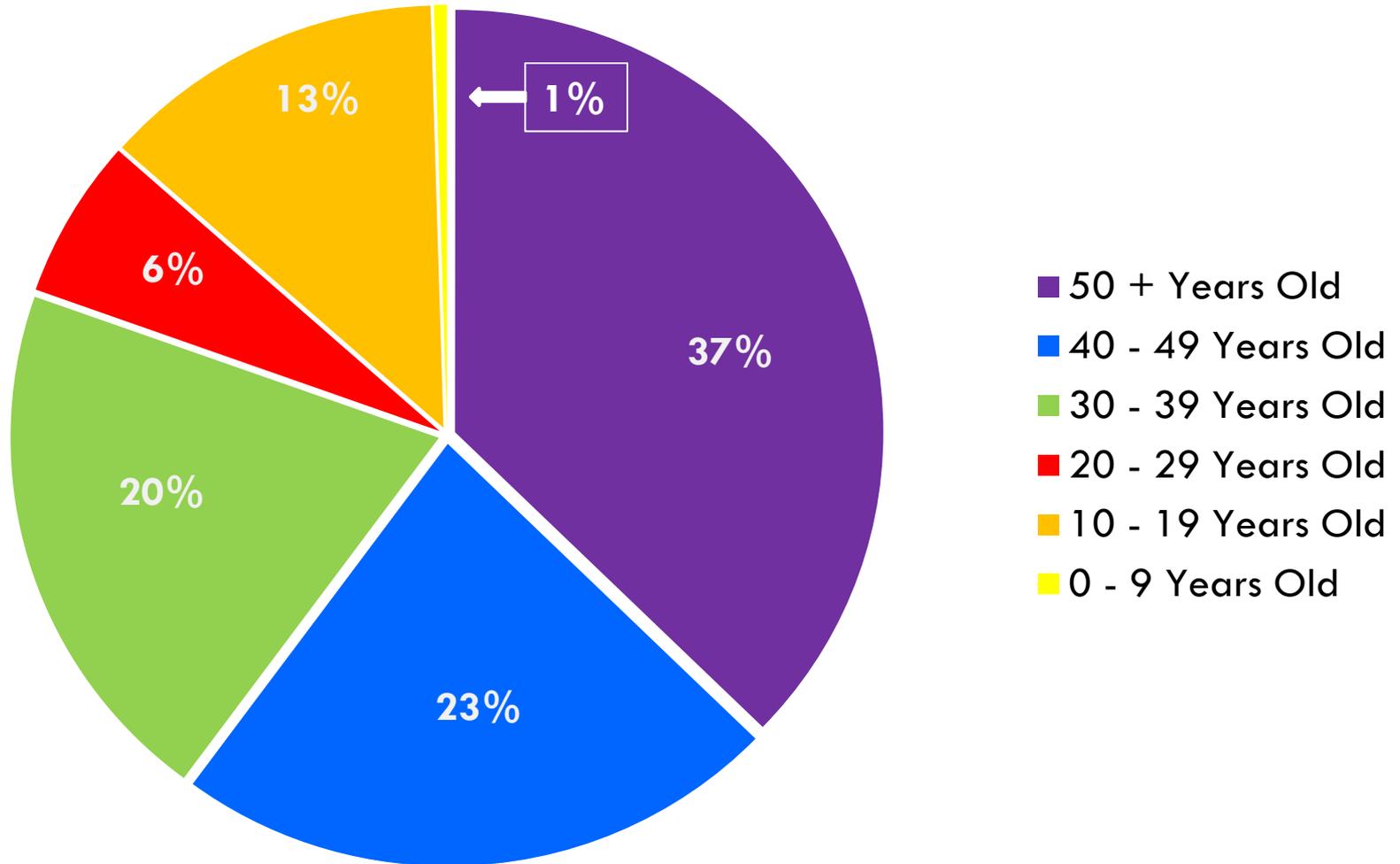
City Council Briefing: June 15, 2015

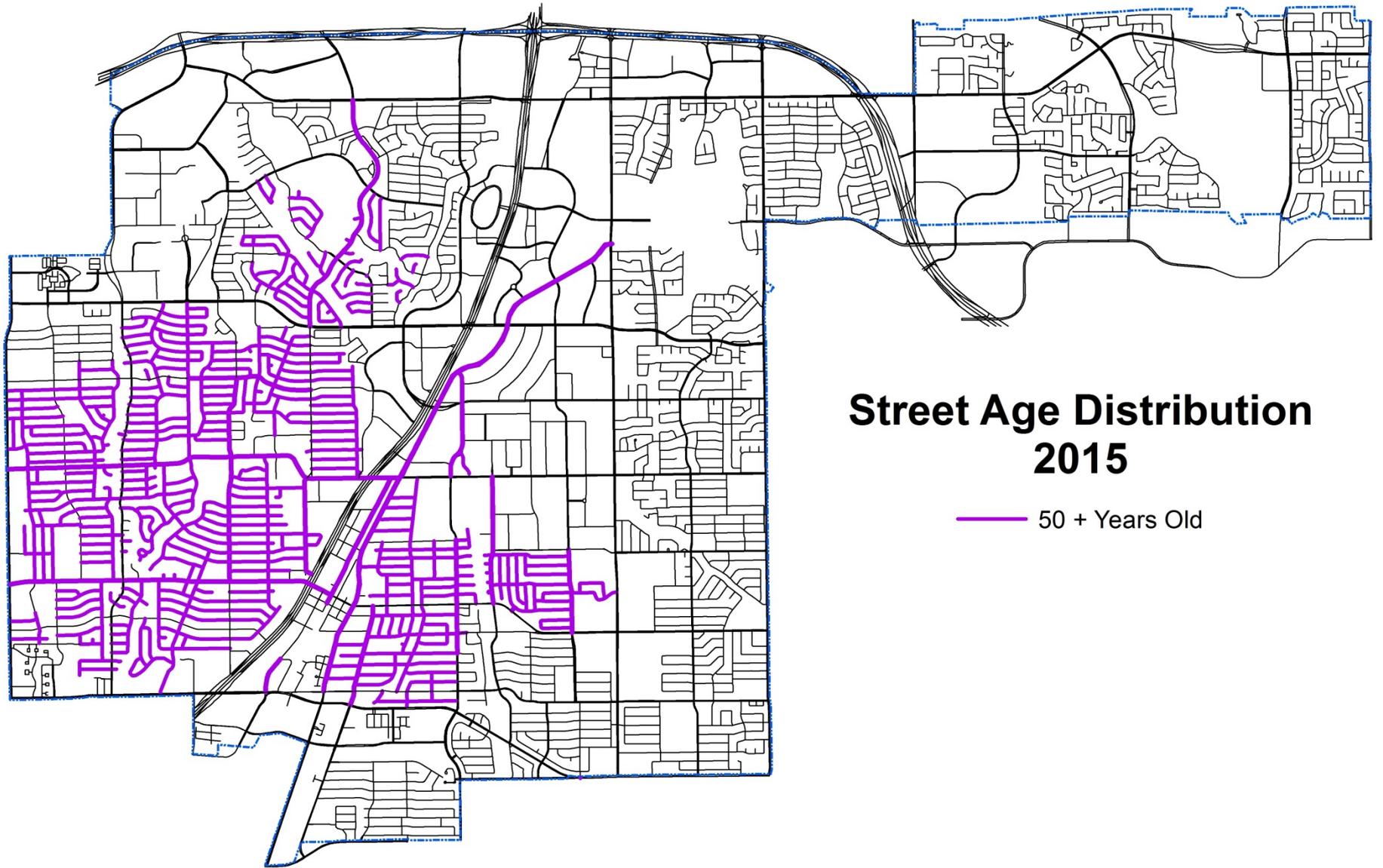
Introduction

- The purpose of tonight's briefing is to:
 1. Review possible bond program projects
 - Streets - New
 - Streets, Alleys, Sidewalks - Rehabilitation
 2. Review the proposed FY 15/16 Streets Maintenance Strategy

Street Age Distribution 2015

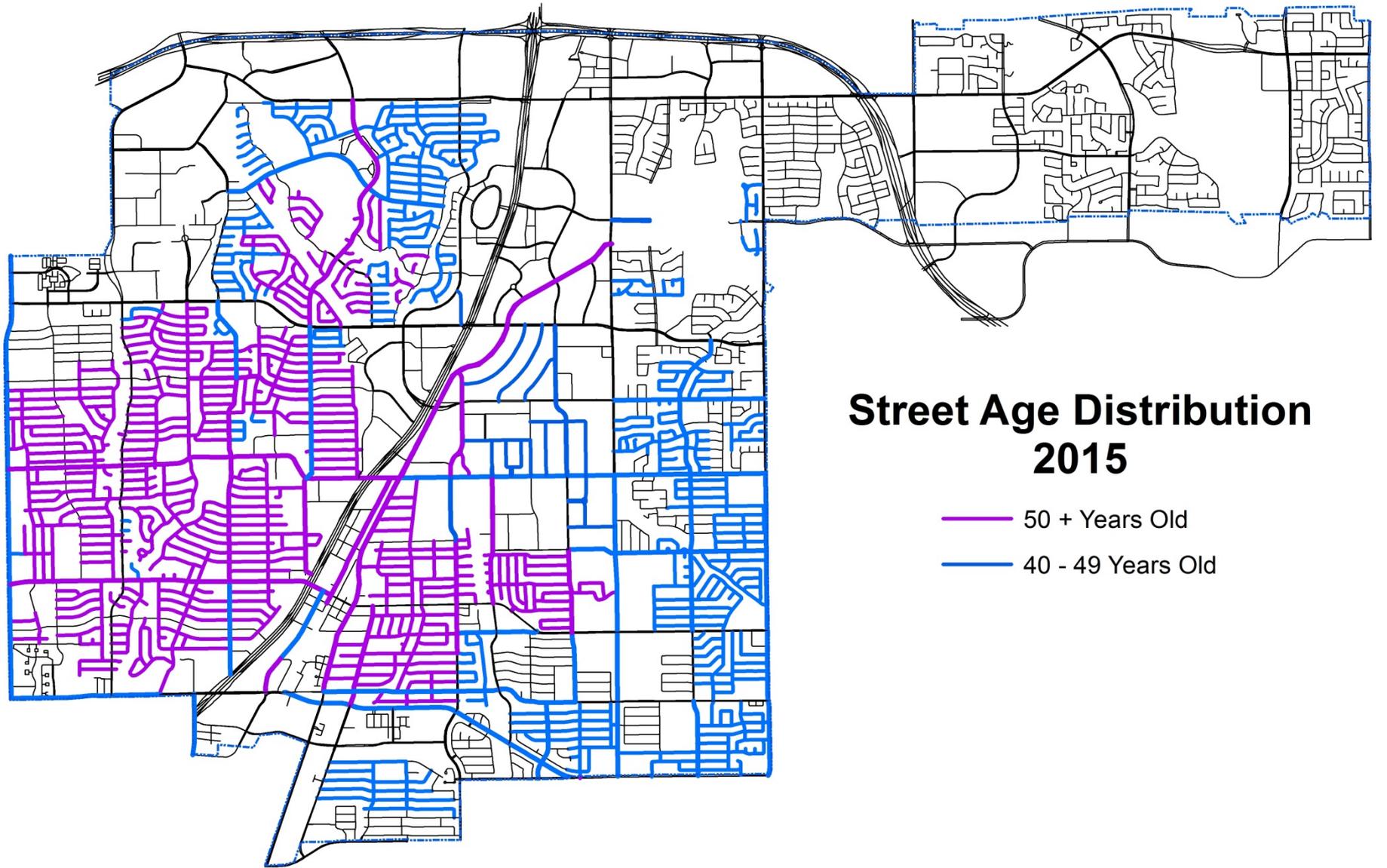
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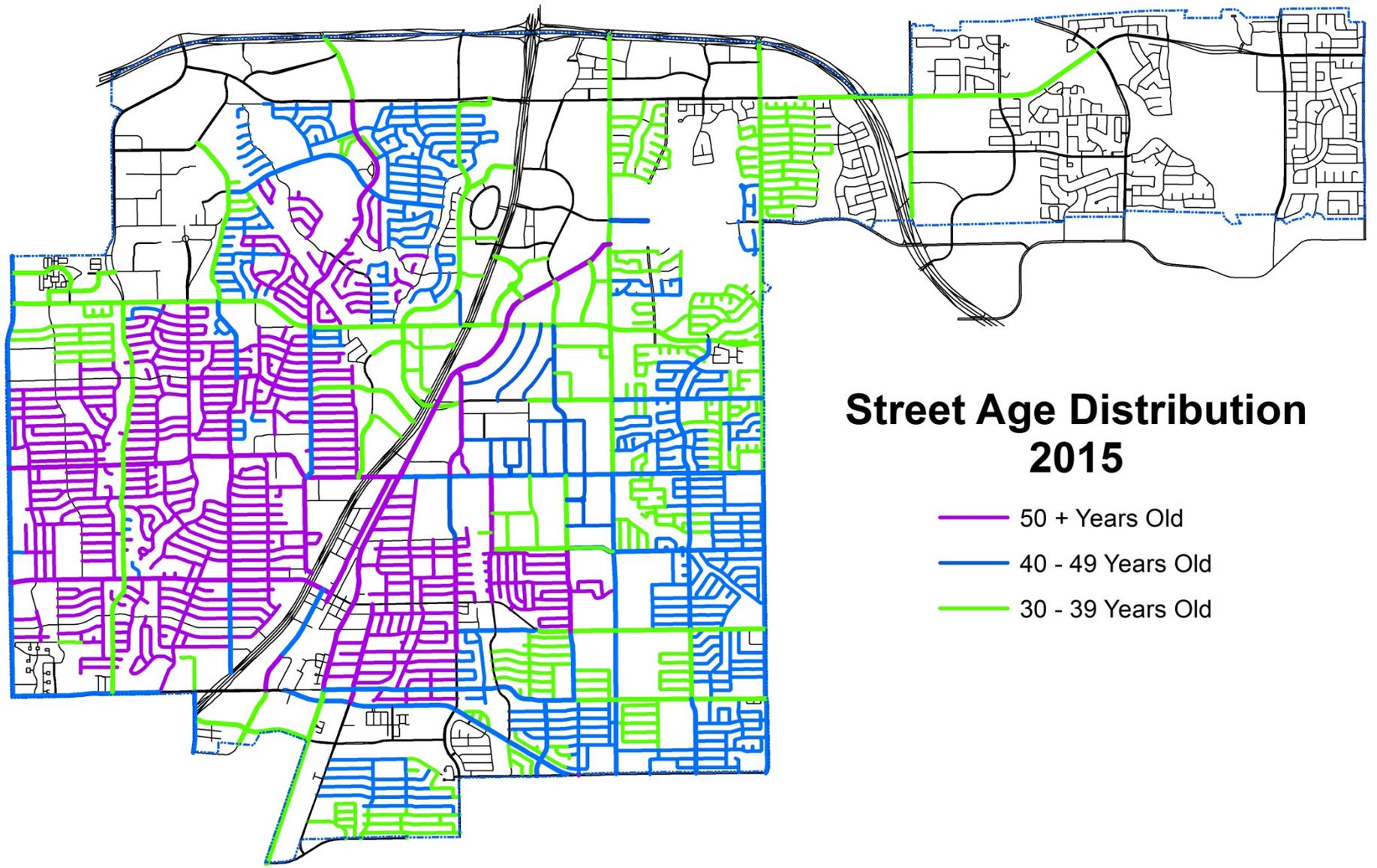
Street Age Distribution 2015

— 50 + Years Old



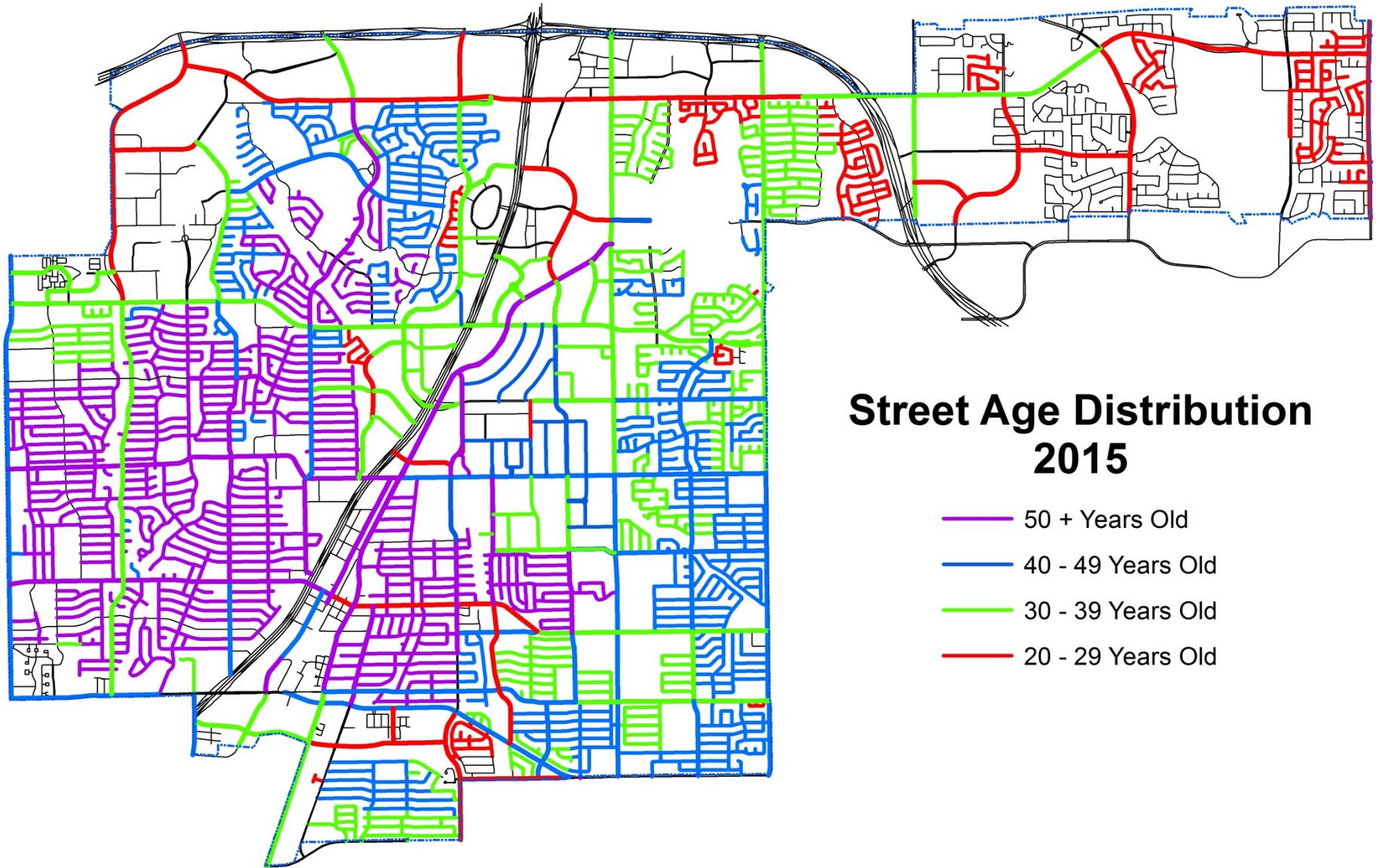
Street Age Distribution 2015

- 50 + Years Old
- 40 - 49 Years Old



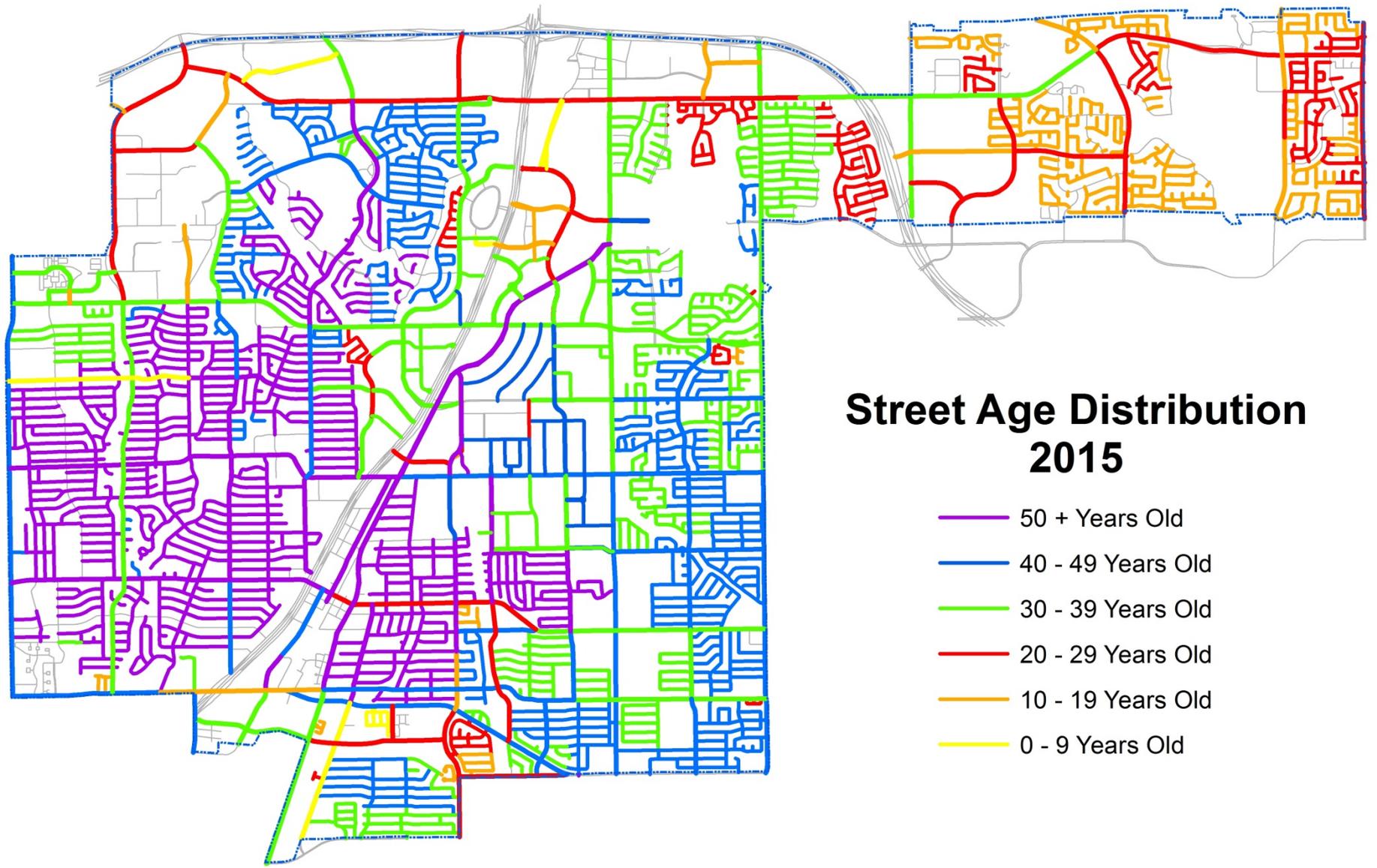
Street Age Distribution 2015

- 50 + Years Old
- 40 - 49 Years Old
- 30 - 39 Years Old



Street Age Distribution 2015

- 50 + Years Old
- 40 - 49 Years Old
- 30 - 39 Years Old
- 20 - 29 Years Old



Street Age Distribution 2015

- 50 + Years Old
- 40 - 49 Years Old
- 30 - 39 Years Old
- 20 - 29 Years Old
- 10 - 19 Years Old
- 0 - 9 Years Old

Streets Classification

9

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

DALLAS

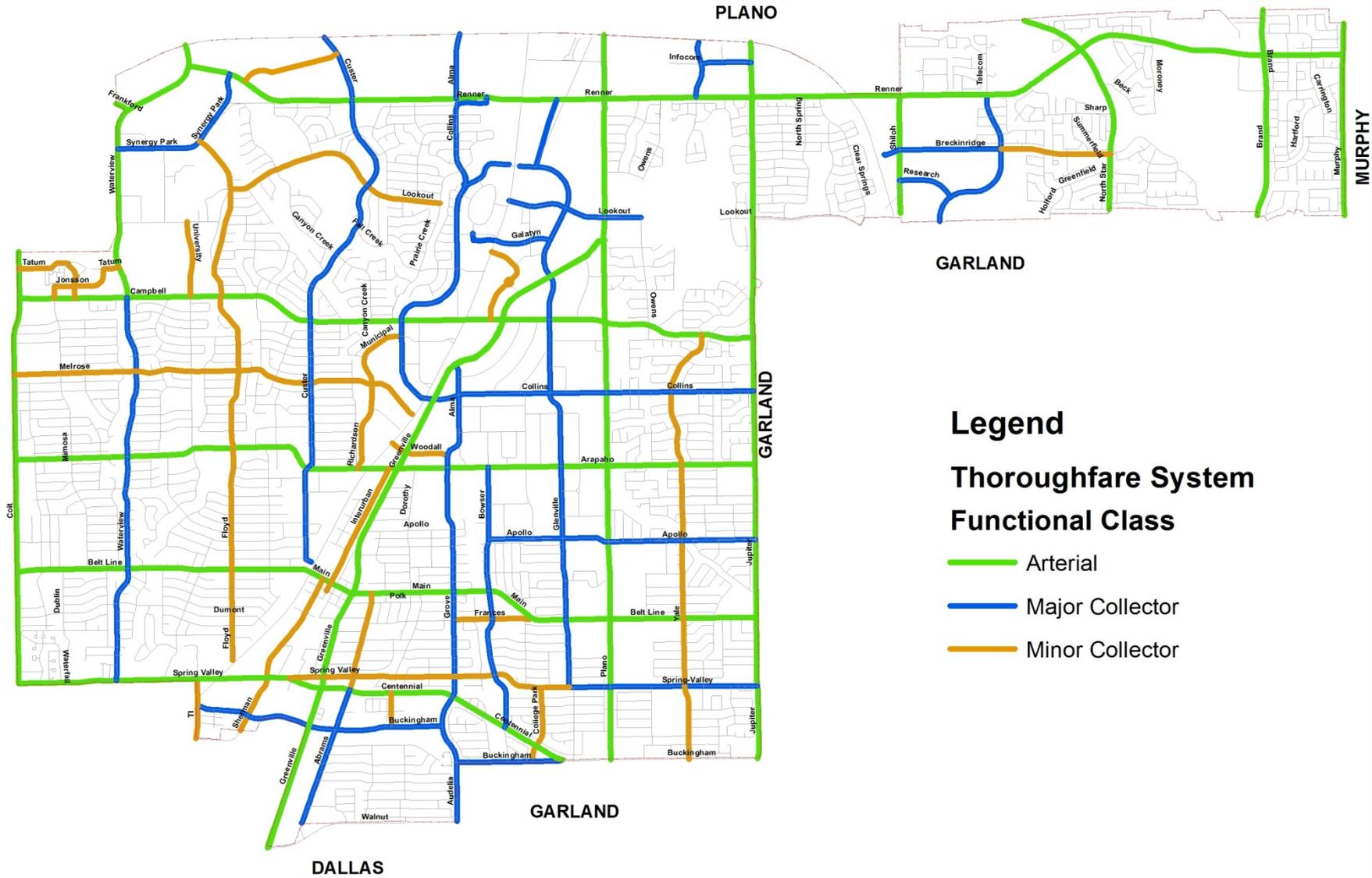
PLANO

GARLAND

Legend

Thoroughfare System Functional Class

- Arterial
- Major Collector
- Minor Collector



MURPHY

DALLAS

GARLAND

Street Types

11

- Concrete
 - ▣ 311 miles



La Salle Drive

Street Types

12

- Concrete
 - ▣ 311 miles

- Asphalt Overlay
 - ▣ 60 miles



Bowser Road

Street Types

13

- Concrete
 - ▣ 311 miles

- Asphalt Overlay
 - ▣ 60 miles

- Full Depth Asphalt
 - ▣ 10 miles



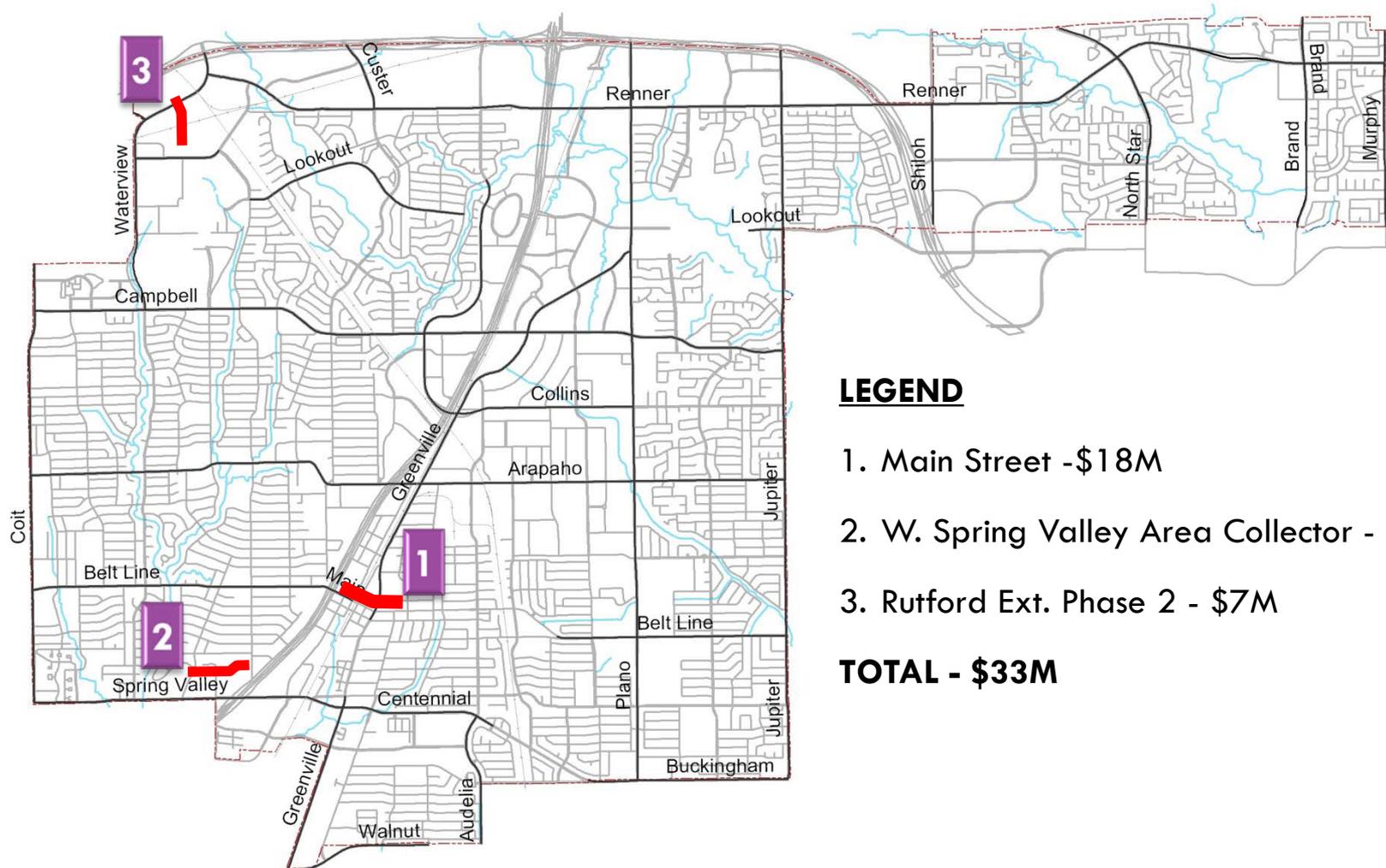
Edgehill Drive

STREETS – NEW
POTENTIAL BOND PROGRAM PROJECTS



Streets - New

15



LEGEND

- 1. Main Street - \$18M
- 2. W. Spring Valley Area Collector - \$8M
- 3. Rutford Ext. Phase 2 - \$7M

TOTAL - \$33M

Streets - New

16

- Projects resulted from master planning efforts
 1. Main Street / Central Expressway
 2. W. Spring Valley Corridor
 3. University of Texas at Dallas
- Projects can be completed in advance of or in conjunction with development
- Projects are good candidates for developer / grant funding opportunities

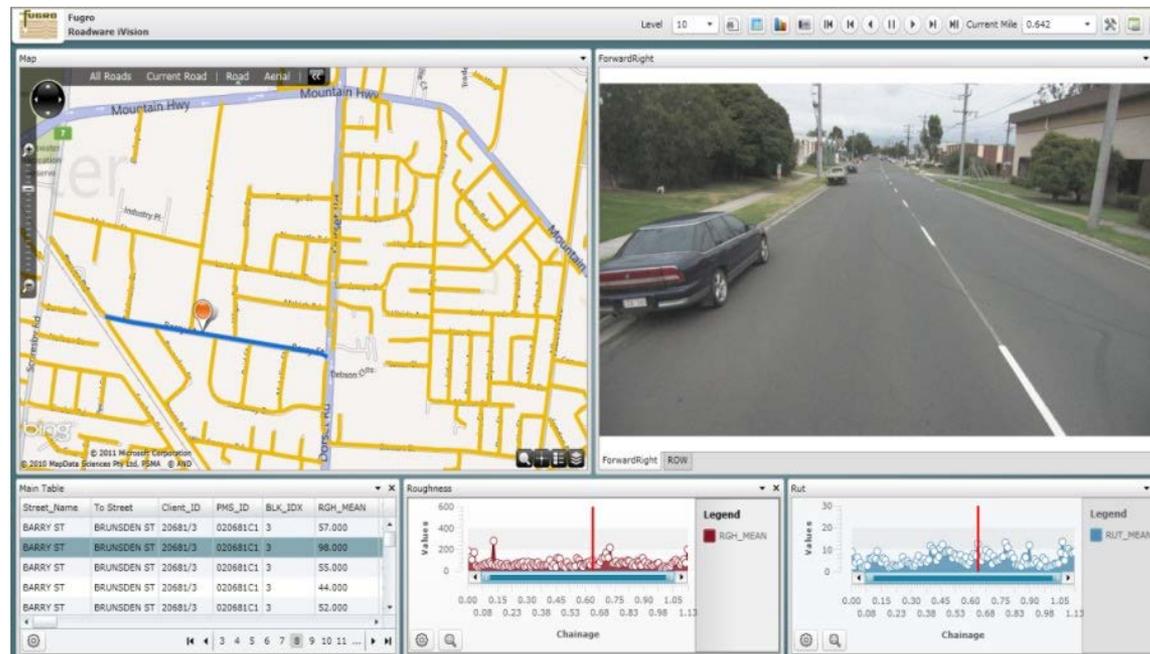
STREETS – REHABILITATION

POTENTIAL BOND PROGRAM PROJECTS

Introduction to Street Assessment

18

- Citywide pavement condition assessment by Fugro Roadware
 - ▣ Arterials, Collectors, Locals and Alleys
- Data collected Fall of 2014 using laser and photometric equipment to assess surface distress and roughness



Street Condition Considerations

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- Pavement Condition Assessment
- Traffic volume
- Project size and scope
- Condition of water and sewer infrastructure
- Drainage considerations
- County funding assistance
- Development/Redevelopment timing considerations
- Pavement markings/bike lane

Alley Condition Considerations

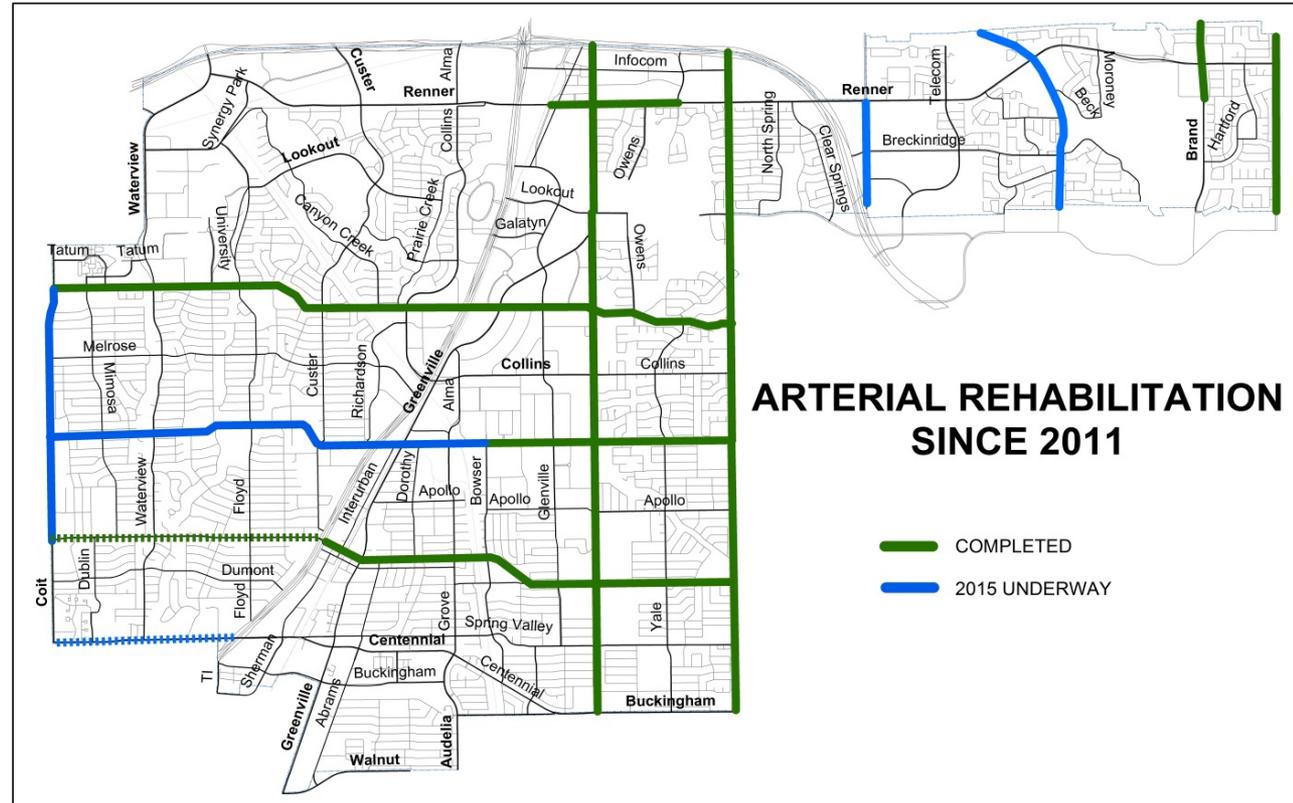
20

- Pavement Condition Assessment
- Project size and scope
- Condition of water and sewer infrastructure
- Drainage considerations
- Development/Redevelopment timing considerations
- Alley width
- Primary garage access
- Solid Waste and utility operational concerns

Arterials

21

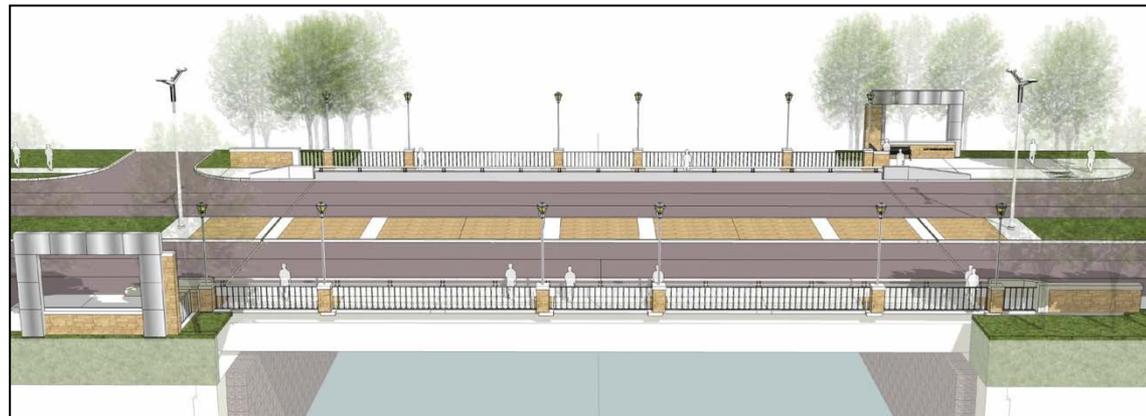
- Priority of recent maintenance strategies
- Limited number remaining
- Anticipate beginning second rotation within 2-3 years



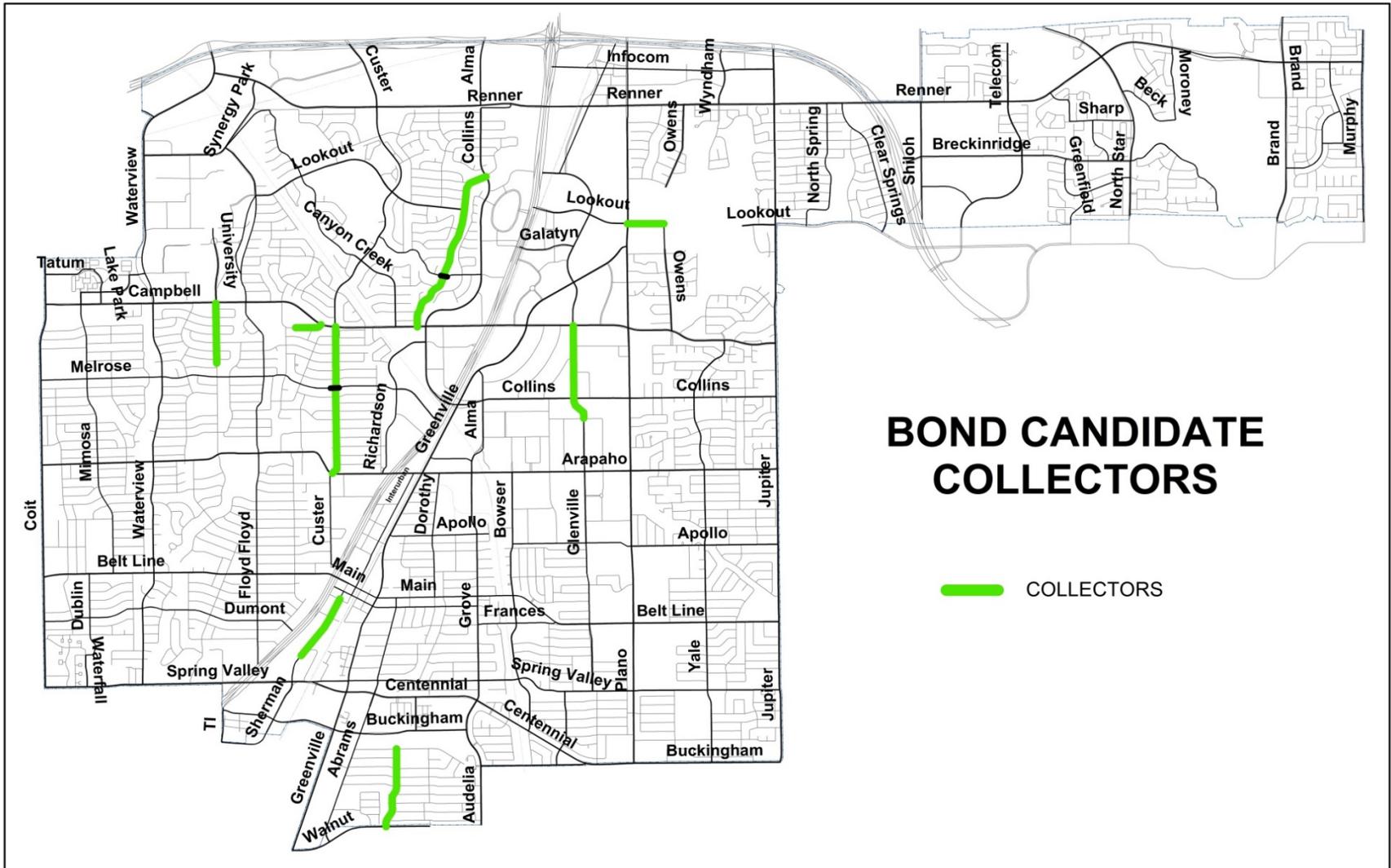
W. Spring Valley Rd. Rehab Update

22

- \$10,560,074 project
 - ▣ Richardson - \$1,895,000
- Plan Development – 95% complete
- Site/Utilities - Underway
- Construction - Early 2016 start
- Construction – Summer 2017 end



Collector Streets (\$17,075,000)

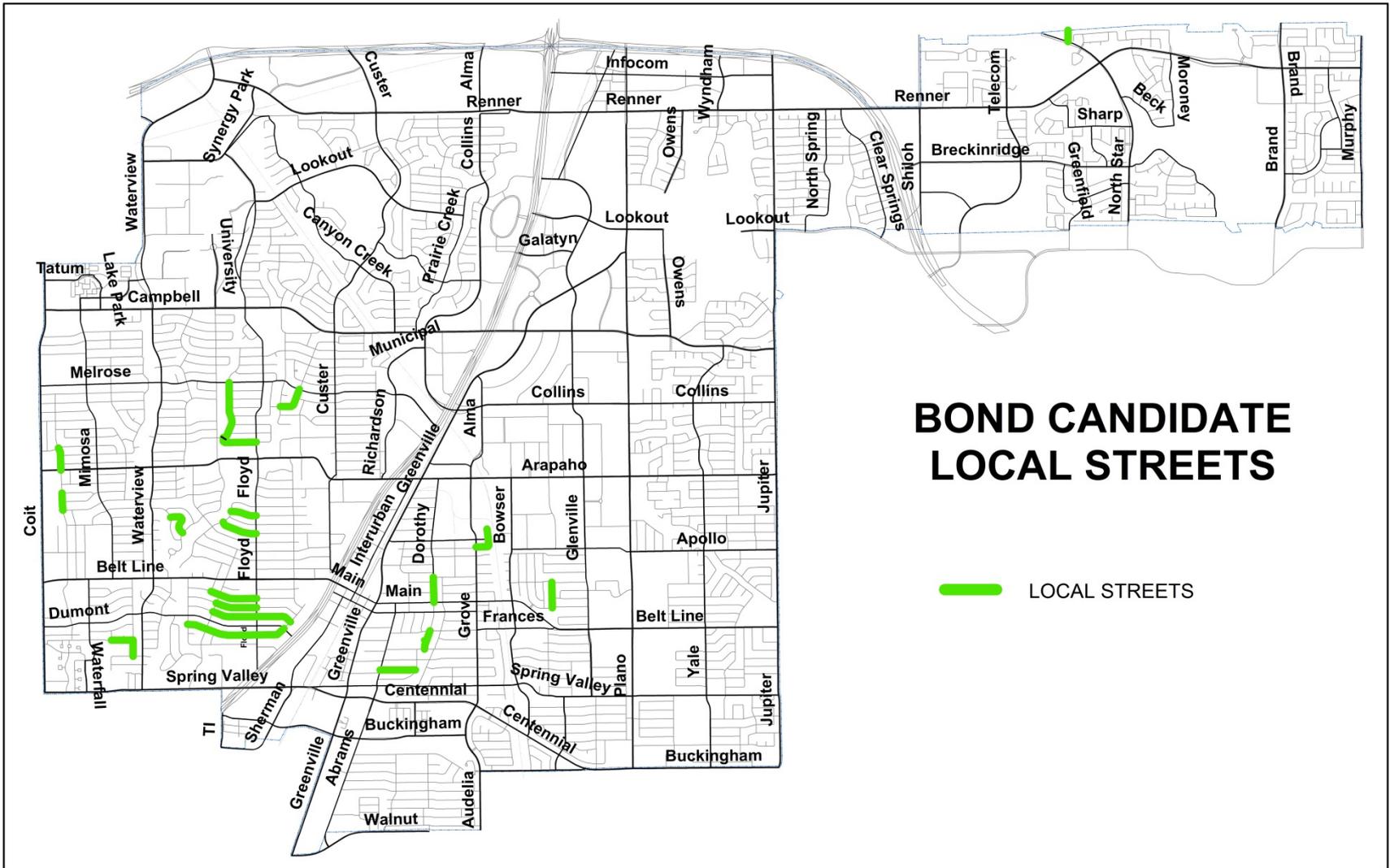


Collector Streets (\$17,075,000)

24

Project	GO Allocation
E. Lookout Drive – Plano East to Terminus	\$2,400,000
Old Campbell Road – Nantucket to Campbell	\$575,000
W. Prairie Creek – Campbell to Collins	\$4,275,000
Glenville Drive – Campbell to Commerce	\$2,500,000
Custer Road – Campbell to Arapaho	\$3,875,000
Richland Park Boulevard – Park Bend to Walnut	\$800,000
Sherman Drive – Kaufman to Spring Valley	\$950,000
West Shore Drive – Campbell to the alley south of Sherbrook	\$1,700,000

Local Streets (\$11,350,000)



BOND CANDIDATE LOCAL STREETS

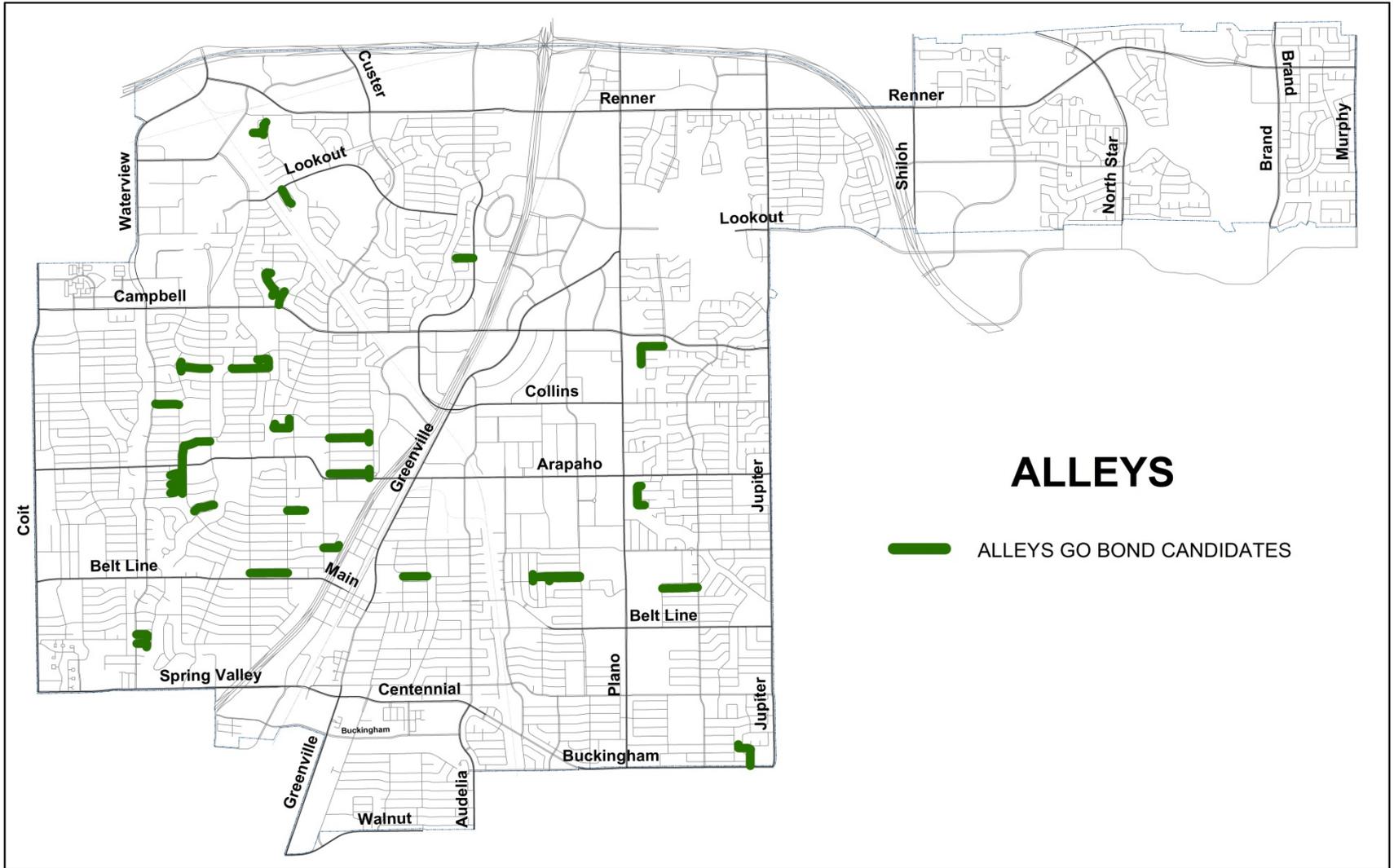
LOCAL STREETS

Local Streets (\$11,350,000)

Project	GO Allocation
700 Greenleaf	\$450,000
700 Winchester	\$300,000
700 Scottsdale	\$550,000
600 Scottsdale	\$625,000
700 Downing	\$500,000
900 Lakeview	\$575,000
Bradshaw – Northstar to City Limit	\$425,000
Sherwood – Gentle to Floyd	\$600,000
Nottingham – Hyde Park to Dumont	\$1,300,000

Project	GO Allocation
S. Dorothy – Frances Way to Highland	\$575,000
Wisteria – Melrose to Pinehurst	\$1,600,000
Pinehurst – Wisteria to Floyd	\$650,000
N. Dorothy – LaSalle to Main	\$425,000
Dover – Colfax to Ridgeway	\$425,000
Colfax – Decca to Dover	\$675,000
Provincetown – Melrose to Nantucket	\$625,000
Maple – Abrams to Grace	\$600,000
N. Briarcrest – Pacific to Wake	\$450,000

Alleys (\$5,150,000)



Alleys (\$5,150,000)

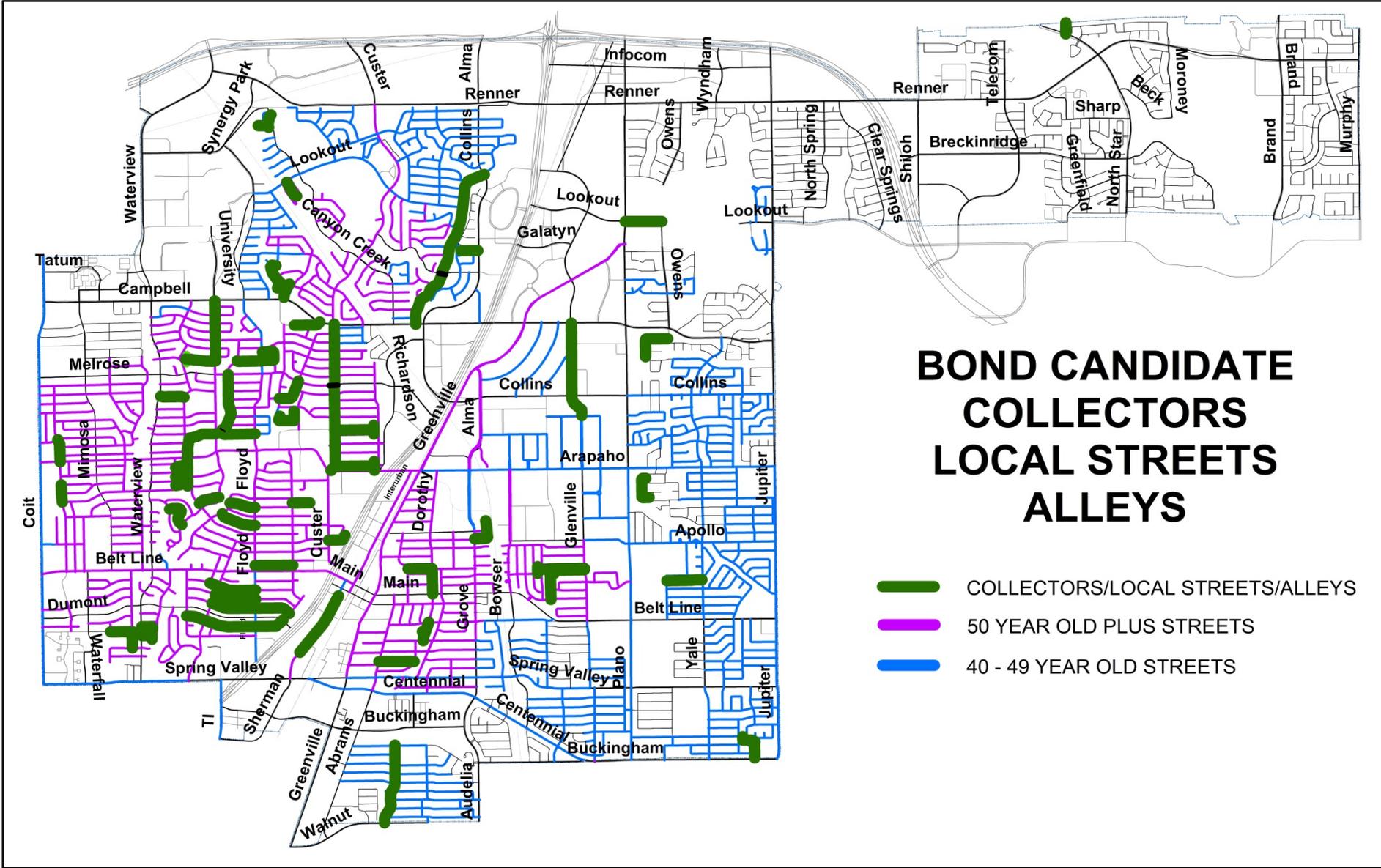
Project	GO Allocation
1100 Pacific	\$550,000
1100 High Vista, 3300 Canyon Creek	\$140,000
600 Nantucket	\$175,000
400 Rustic	\$85,000
1100 Overlake, 1100 Greenway	\$200,000
500 West Shore	\$150,000
1600-1710 Syracuse	\$200,000
800 Fontana, Lomita and Meadow View	\$215,000
600-700 Kindred, 600 Williams	\$320,000
1300 Buckingham Pl	\$200,000
2000 Fairmeadow	\$200,000
2000 Nantucket	\$100,000
900 - 1000 Crestview	\$325,000

Project	GO Allocation
828 - 834 Teakwood	\$75,000
800 Chadwick	\$75,000
826 - 834 Northlake	\$75,000
400 Fairview	\$150,000
800 Arapaho	\$275,000
900 Redwood	\$140,000
2500 Big Horn	\$125,000
600 Belt Line	\$225,000
24-34 Creekwood	\$175,000
1500 Barclay/1800 Valcourt	\$250,000
500 Winchester	\$125,000
800 Willowcrest	\$200,000
400 W. Arapaho / 400 Lynn	\$400,000

Summary

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Streets – New	\$33,000,000
Collectors – Rehab	\$17,075,000
Local – Rehab	\$11,350,000
Alleys - Rehab	\$ 5,150,000
Total	\$66,575,000



BOND CANDIDATE COLLECTORS LOCAL STREETS ALLEYS

- COLLECTORS/LOCAL STREETS/ALLEYS
- 50 YEAR OLD PLUS STREETS
- 40 - 49 YEAR OLD STREETS

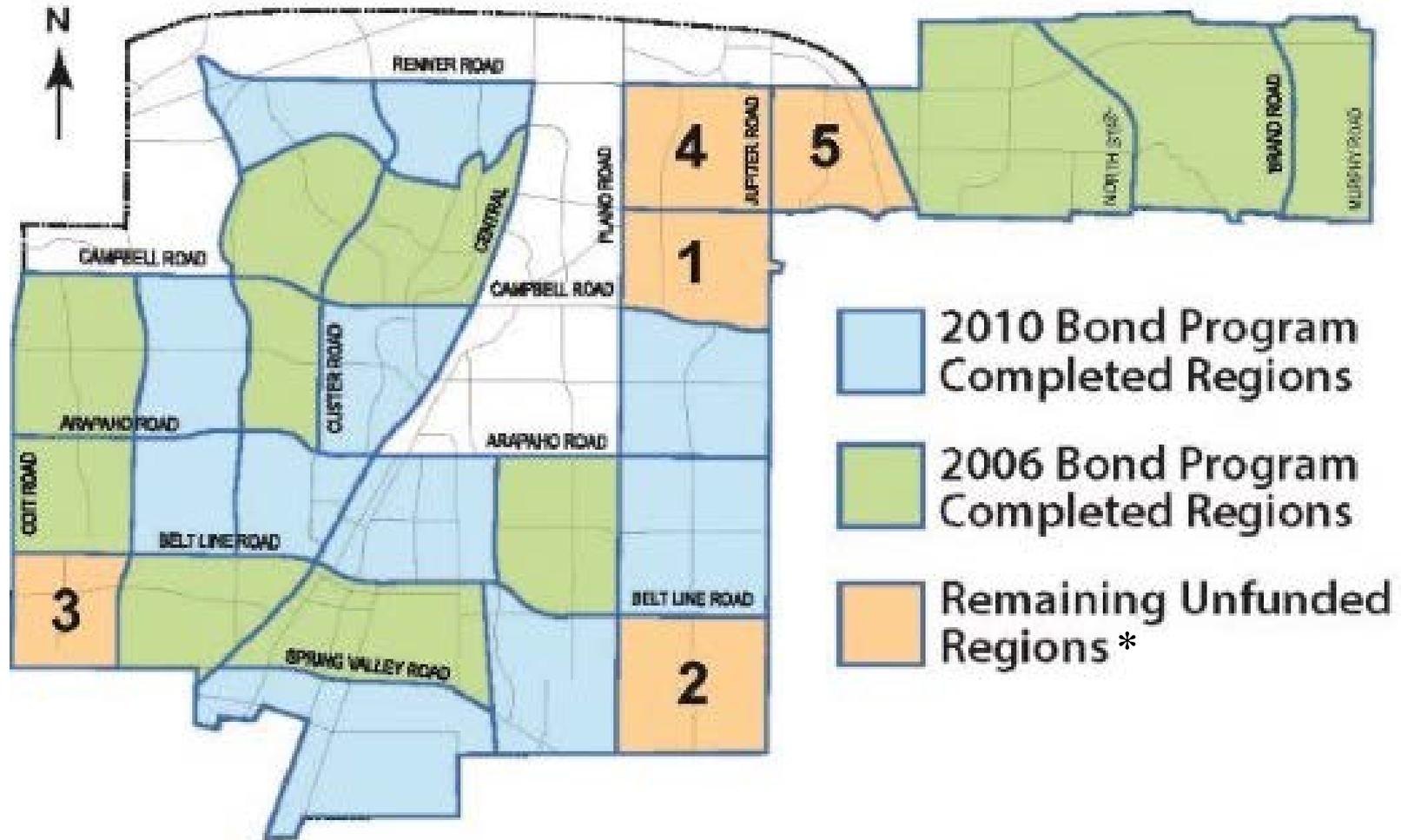
NEIGHBORHOOD VITALITY

POTENTIAL BOND PROGRAM PROJECTS



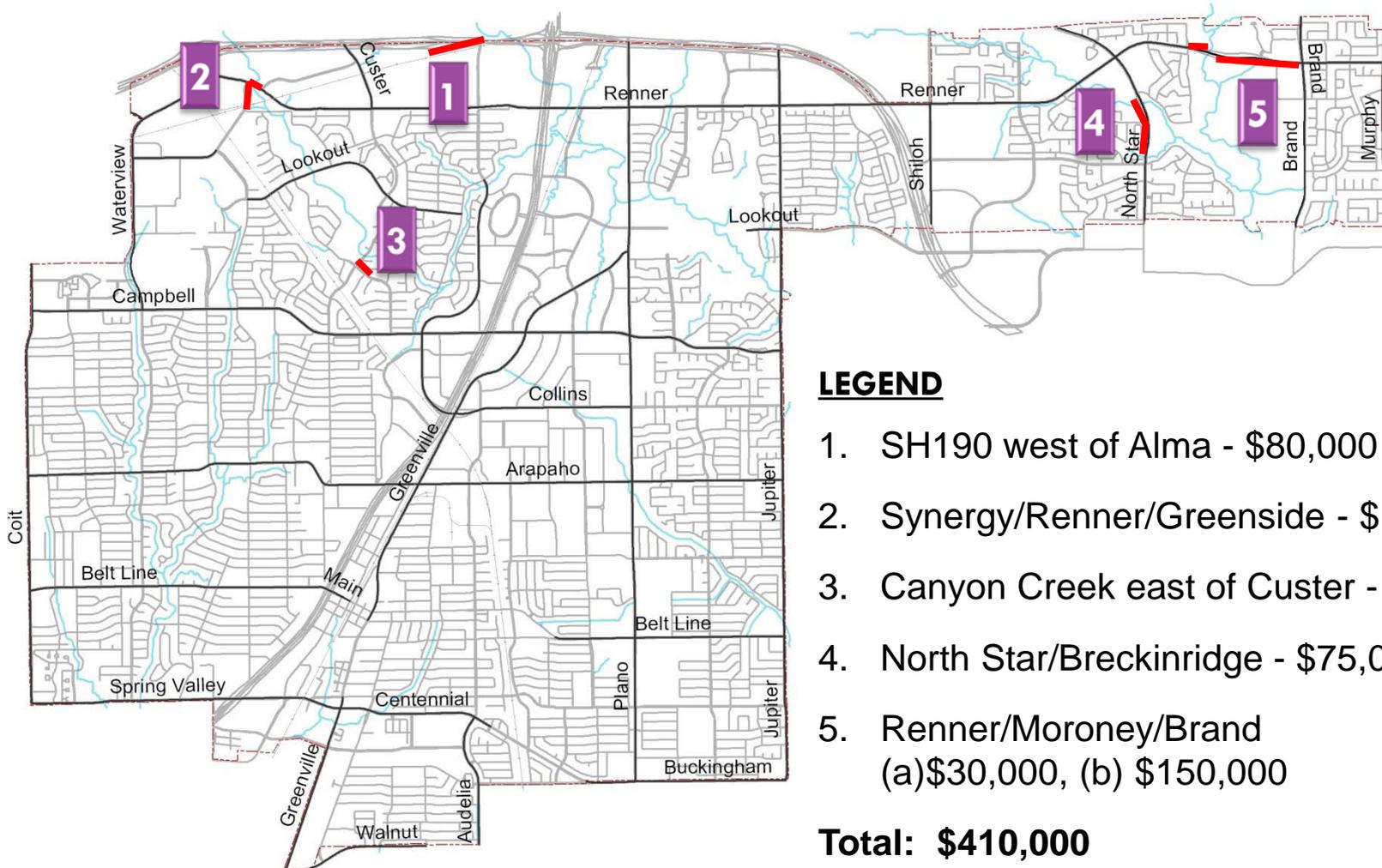
Sidewalks – Repair Program

34

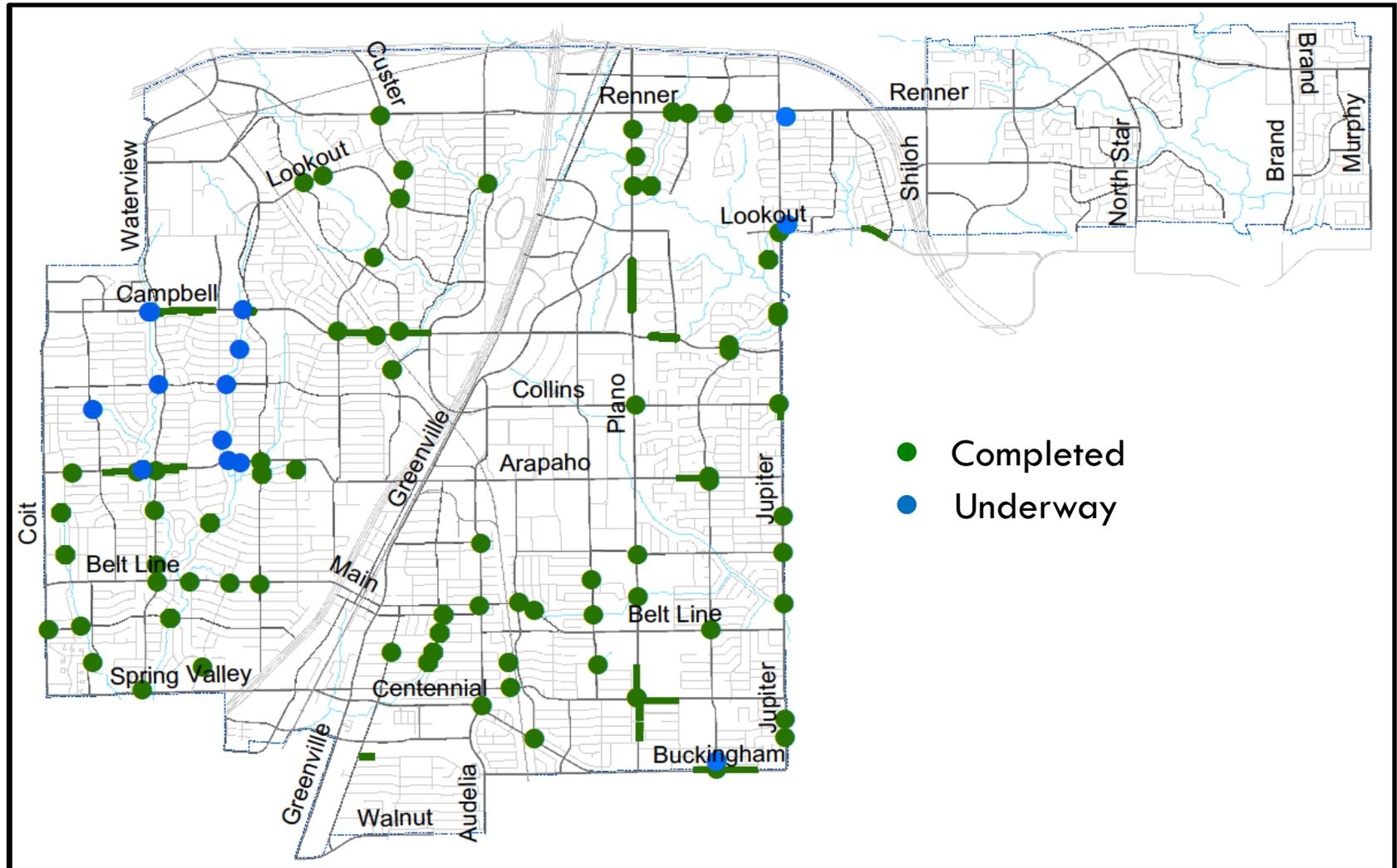


Sidewalks – Gap Program

35



Entry Features, Walls, Bridges



Neighborhood Participants

Association (Year Funded)	Association (Year Funded)	Association (Year Funded)
Arapaho (1997 & 2010)	Glenville Park (1997)	Richardson Crossing (2006)
Berkner Park (2006 & 2010)	Greenwood Hills (1997, 2006, 2010)	Richardson Heights (1997)
Canyon Creek (1997 & 2010)	Heights Park (2006)	Richland Park/Oaks (2006)
Canyon Creek Condos (2010)	Highland Terrace (1997)	Sherrill Park North Foxboro (1997)
College Park (2010)	JJ Pearce (2006)	Spring Park (1997)
Cottonwood Creek (2006)	Mark Twain (1997)	Town North Park (2010)
Cottonwood Heights (1997)	Marlborough Square (1997)	University Estates North (1997)
Crowley Park (1997 & 2010)	North College Park (2006 & 2010)	Yale Park (1997 & 2010)
Duck Creek (2006 & 2010)	Northrich (2006)	Richardson Heights (1997)
Estates of Prairie Creek (2010)	Owens Park (2006)	Waterview Preservation (2006)
Fairways of Sherrill Park (1997)	The Pinery (2010)	Woodhaven Townhomes (2010)
	The Reservation (2010)	

Entry Features, Walls, Bridges

38

- \$11,570,000 has been dedicated to completing Neighborhood Vitality Projects in conjunction with the 1997, 2006 and 2007 Bond Programs.
- Every neighborhood that submitted an application has been awarded at least one project.
- Considering the significant infrastructure needs previously discussed, a recommendation is not being offered for entry features, walls or bridges at this time.

Summary

39

New Streets	\$33,000,000
Collectors	\$17,075,000
Local	\$11,350,000
Alleys	\$ 5,150,000
Sidewalks	\$2,410,000
Entry Features, Walls, Bridges	\$0
Total	\$68,985,000

Street Maintenance Cycle

40

- Many street and alley needs will be addressed in conjunction with this bond program.
- The condition of the streets and alleys not addressed will dictate the appropriate provisional maintenance strategy.

Street Maintenance Cycle

41

- Many street and alley needs will be addressed in conjunction with this bond program.
- The condition of the streets and alleys not addressed will dictate the appropriate provisional maintenance strategy.
- Street Conditions:
 - ▣ **Good**
 - ▣ Fair
 - ▣ Poor



Street Maintenance Cycle

42

- Many street and alley needs will be addressed in conjunction with this bond program.
- The condition of the streets and alleys not addressed will dictate the appropriate provisional maintenance strategy.
- Street Conditions:
 - ▣ Good
 - ▣ **Fair**
 - ▣ Poor



Street Maintenance Cycle

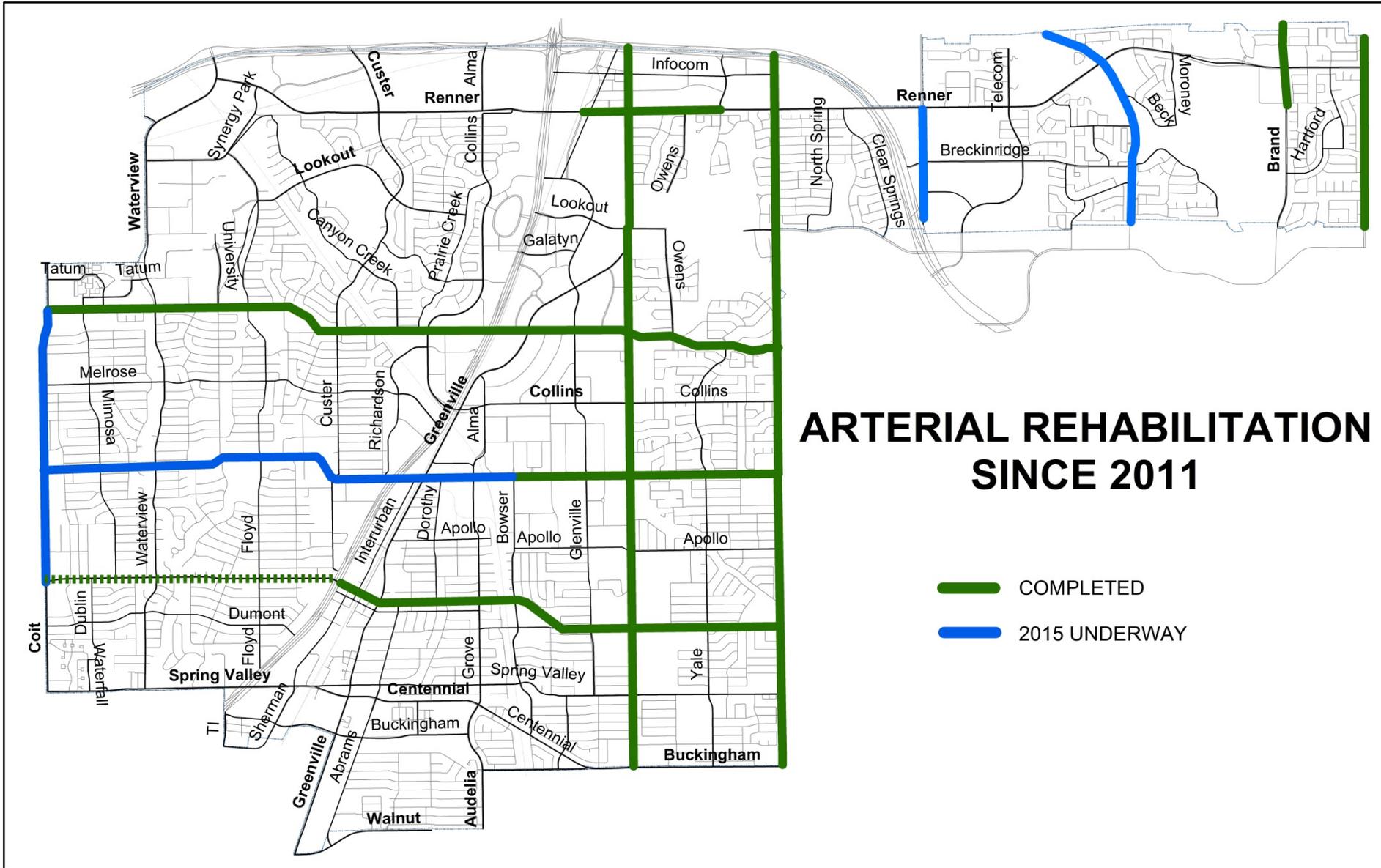
43

- Many street and alley needs will be addressed in conjunction with this bond program.
- The condition of the streets and alleys not addressed will dictate the appropriate provisional maintenance strategy.
- Street Conditions:
 - ▣ Good
 - ▣ Fair
 - ▣ **Poor**



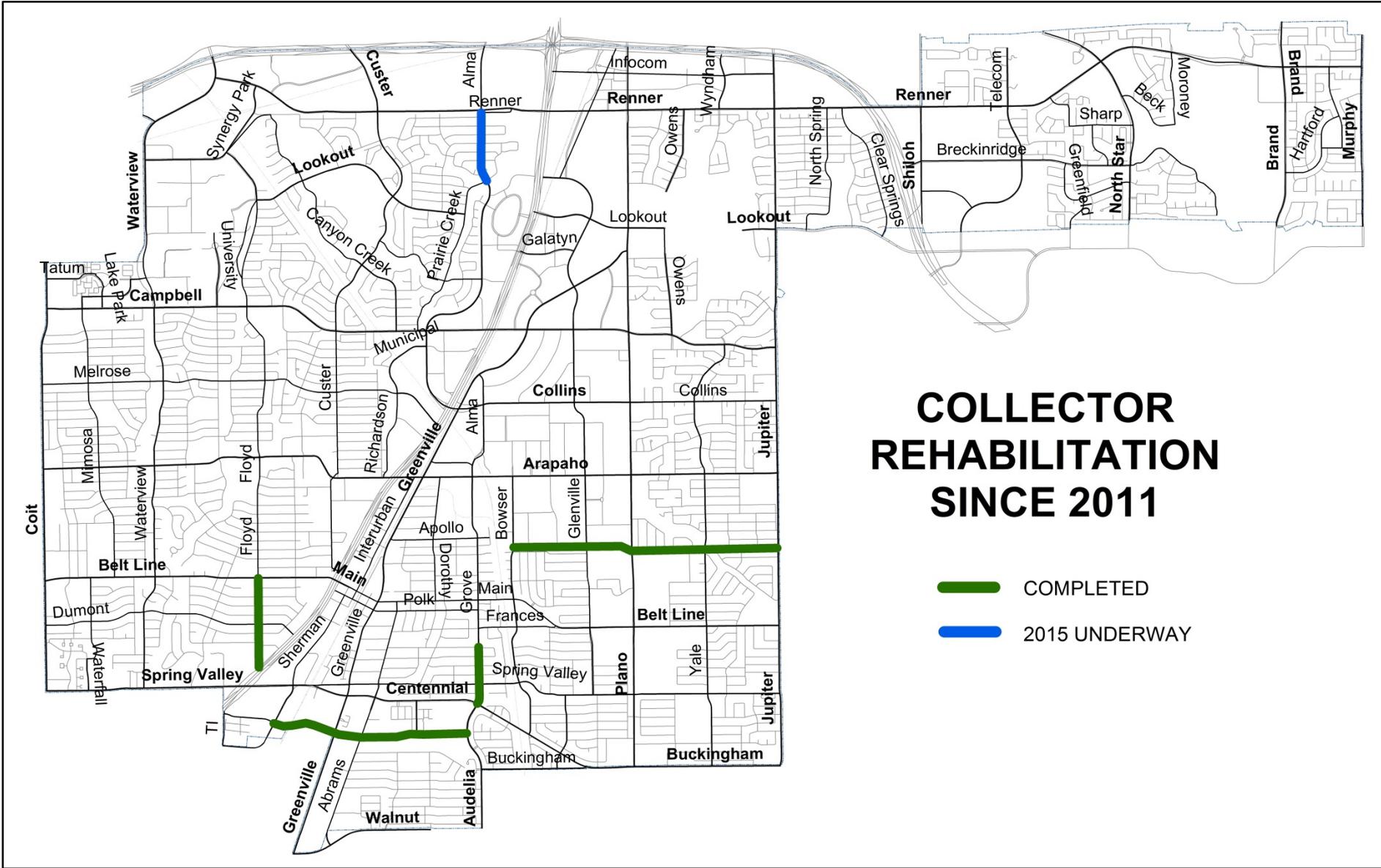
STREETS – REHABILITATION

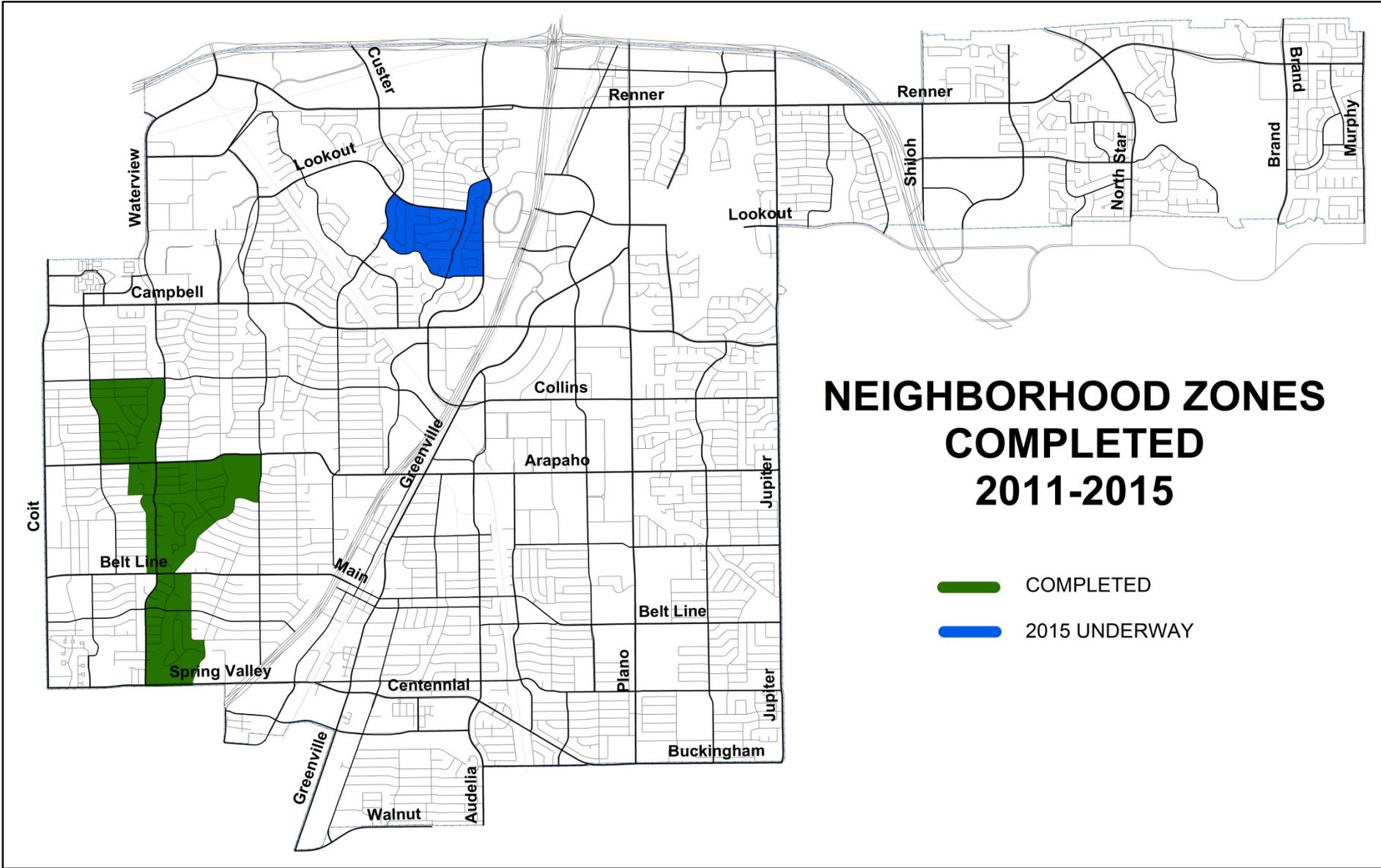
FY 15/16 MAINTENANCE STRATEGY



ARTERIAL REHABILITATION SINCE 2011

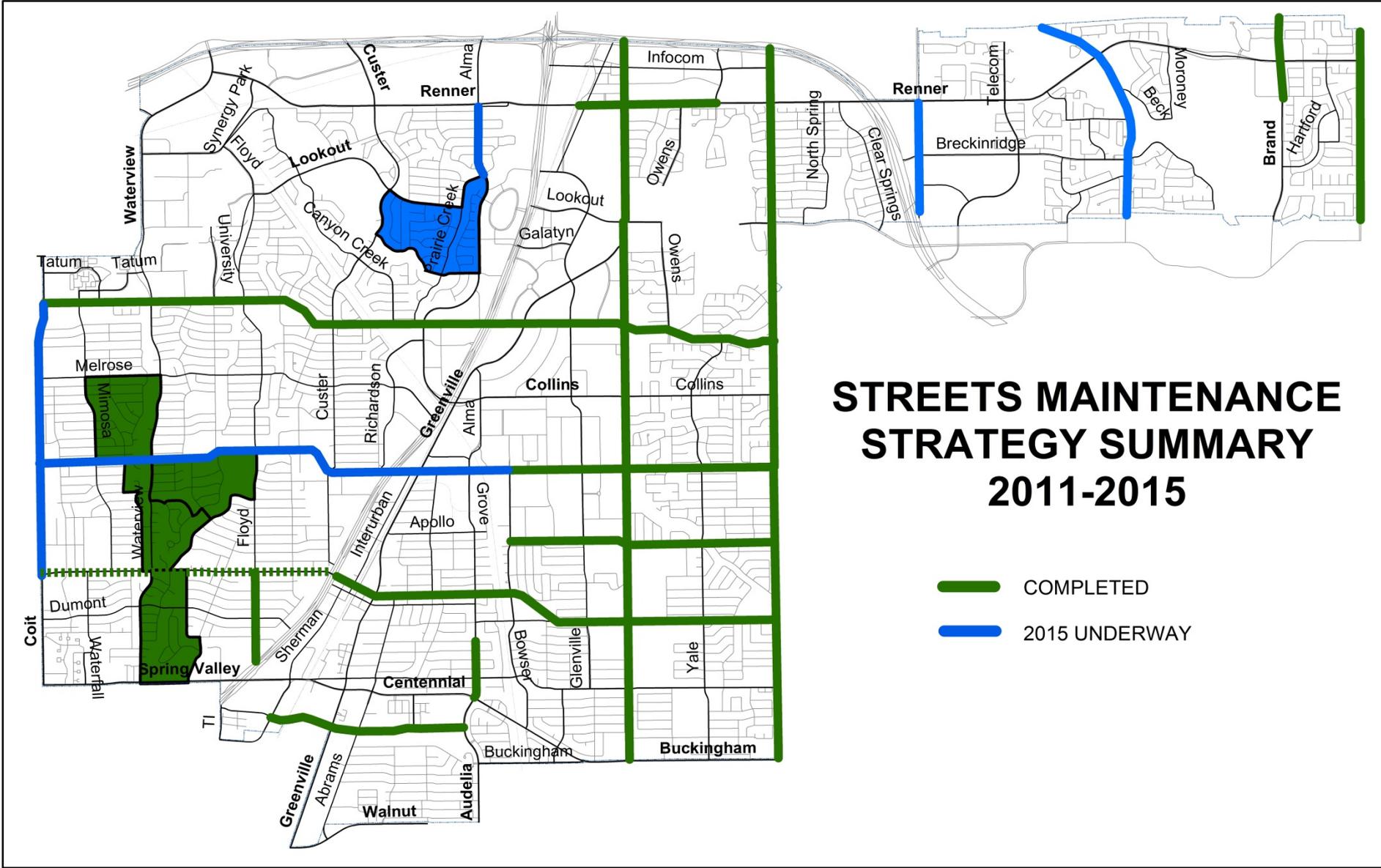
- █ COMPLETED
- █ 2015 UNDERWAY





NEIGHBORHOOD ZONES COMPLETED 2011-2015

-  COMPLETED
-  2015 UNDERWAY



Guiding Principles

50

- ❑ 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 Actual	FY15/16 Proposed
Preventative Maintenance- Grade Leveling / Sealing*	\$500,000	\$250,000	\$210,000	\$150,000
Arterial Street Repair Program*	\$500,000	\$350,000	\$450,000	\$1,250,000
Collector Street Repair Program*	\$0	\$450,000	\$525,000	\$0
Neighborhood Street Repair Program*	\$0	\$750,000	\$1,000,000	\$800,000
Streets Operations	\$235,000	\$185,000	\$280,000	\$416,000
Total	\$1,235,000	\$1,985,000	\$2,465,000	\$2,616,000

*Penny Tax

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 repair



Traffic & Transportation Proposition

City Council Briefing
June 15, 2015



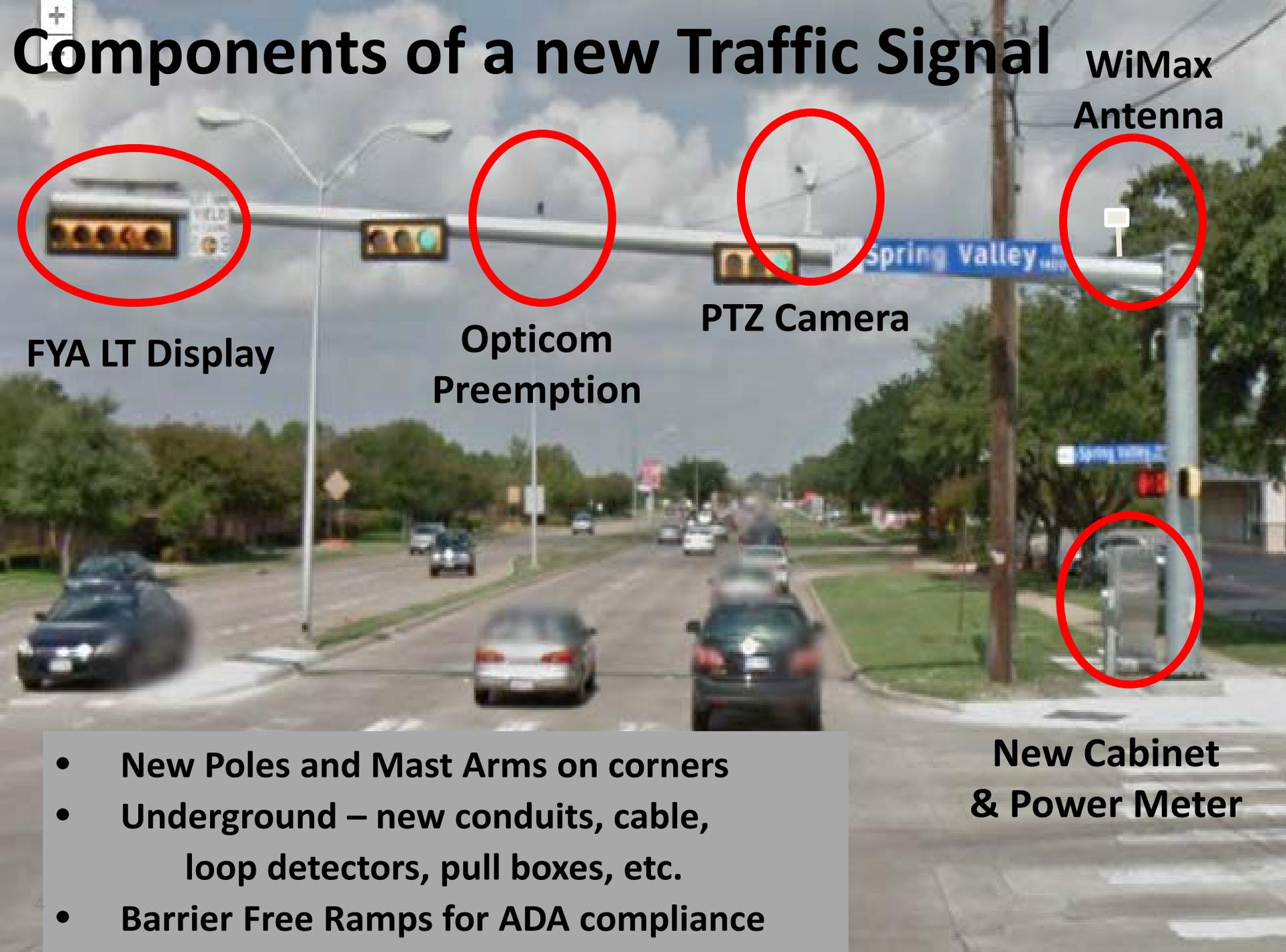
1 2015 G.O. Bond Program Consideration

Presentation Outline

- Background
- Highest Priority Projects
 - Traffic Control Devices (\$4.1M)
 - Operational and Efficiency Improvements
 - Intersections (\$2.2M)
 - Streets (\$1.225M)
- Next Steps

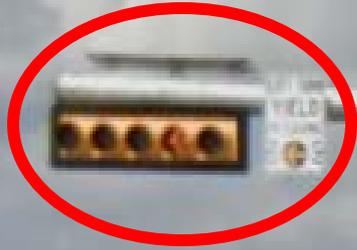
Background

- The City maintains 600 miles of roadways along with 127 signalized intersections, 84 school zones for 28 schools, over 700 street lights, 49 traffic cameras, and numerous other traffic and transportation devices.
- Staff maintains a list of Street and Intersection operational and efficiency Improvement projects as part of the City's Capital Projects Database and has recommended a few of these projects for consideration of the 2015 Bond Program.
- Bond Funding has been the primary funding source for Traffic Signal Reconstruction and upgrades for Traffic Control Devices because their cost exceeds levels available in the annual operations and maintenance budget and other sources of revenue are not typically available.



Components of a new Traffic Signal

WiMax
Antenna



FYA LT Display



Opticom
Preemption

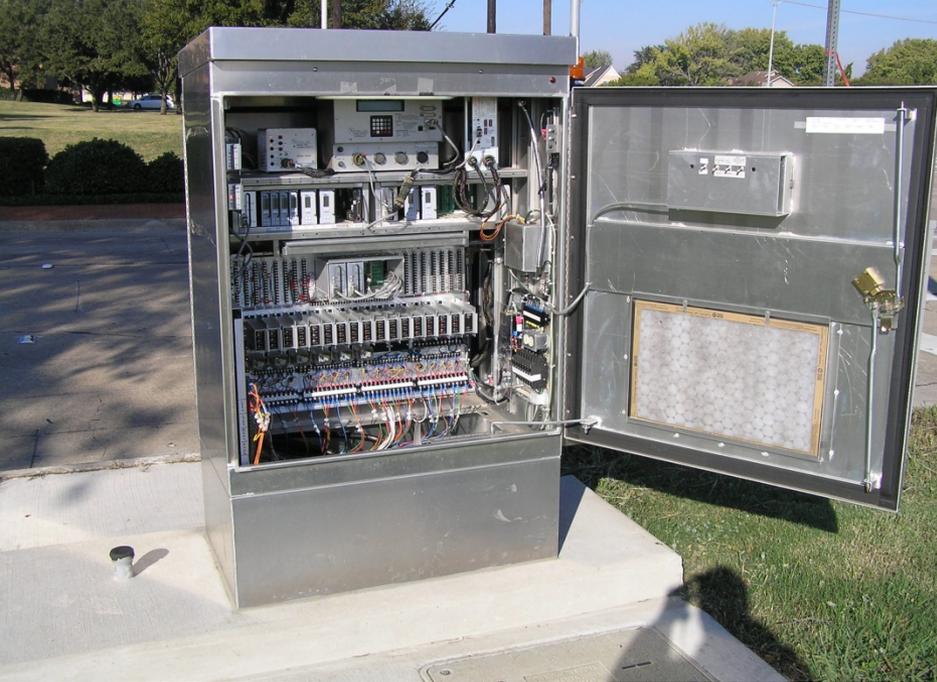


PTZ Camera



New Cabinet
& Power Meter

- New Poles and Mast Arms on corners
- Underground – new conduits, cable, loop detectors, pull boxes, etc.
- Barrier Free Ramps for ADA compliance



New Cabinet and Battery Backup Unit (68 of 127 Intersections)



Traffic Management Center

- 127 Traffic signals connected to the Traffic Operations Center providing signal progression and full remote control capability.
- 49 City traffic surveillance cameras and 2 mobile wireless video trailers.
- 84 School Zone Flashers for 28 public schools.
- Emergency Vehicle Preemption for Ambulance & Fire Vehicles
- Video networked with TxDOT Traffic Operations Center, Richardson Police dispatch, Richardson Police, Fire and Emergency Management.



Background – Recent Upgrades

- The 2010 Bond Program - installed a new WiMax wireless Communications Systems to communicate with all 127 Traffic Signals.
- The 2010 Bond Program – All old model Traffic Signal Controllers are being replaced with new Intelight Controllers at locations with New Cabinets.
- Traffic Signal Cabinets have been upgraded at 68 intersections but are required at all 127 intersections to achieve full functionality of new controllers and ATMS in the Traffic Management Center.
- Traffic Signal Rebuilds and Cabinet Upgrades proposed in the 2015 bond program will achieve the operational goal at all 127 locations.

Background - new Advanced Traffic Management System (ATMS)

- The existing 25 year old Central Traffic Management System in the TMC is being replaced as part of the Traffic Department's General Operating Budget with possible funding from the Traffic Safety Fund (Red Light Safety Camera revenue). The new system is needed to utilize the new features and functionality of the new, more advanced Intelight traffic controllers as well as to link regionally.
- Richardson is working with Dallas, Ft. Worth and Irving to procure the Central System that will allow coordination and monitoring of the region's traffic signals and other ITS devices.
- Regional Standardization, Redundant Backup TMCs, Economy of Scale for better pricing, development, testing and implementation.

Traffic and Transportation Proposition

Traffic Control Devices

- Traffic Signal Rebuilds (\$3M)
15 locations
- Traffic Signal Cabinet & Battery Backup Units (\$910k)
38 locations
- Crosswalk Rapid Flashing Beacons (\$190k)
10 locations

Total : \$4.1 M

Traffic and Transportation Proposition

Traffic Signal Rebuilds

- Multi-phased reconstruction program started with the 2006 Bond Program.
- Many signals are over 30 years old.
- Rebuilding 4-5 traffic signals per year is necessary to achieve a sustainable replacement program.
- Several more phases of full rebuilds are planned.
- 15 traffic signal rebuilds are proposed in the 2015 Bond Program (\$3M)

Traffic and Transportation Proposition



Traffic Signal Rebuilds

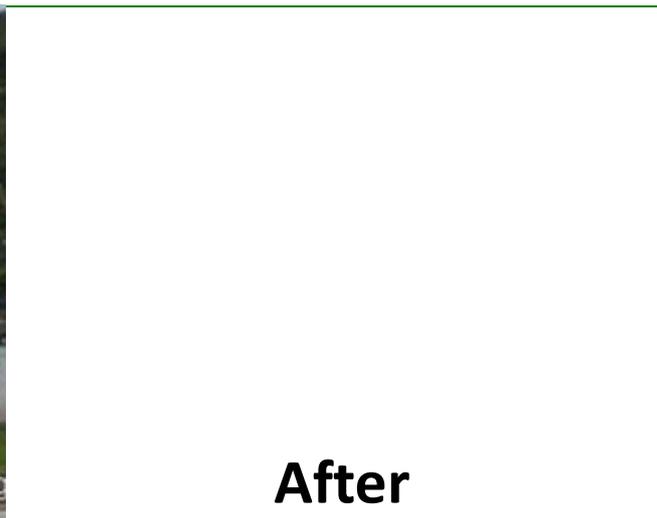
At least 30 intersections require full signal reconstruction to replace old style poles in narrow medians with new longer arm poles on corners and to replace underground conduit and cable at intersections. Some poles are 30+ yrs old



Traffic Signal Rebuild - Plano Road at Spring Valley



Before



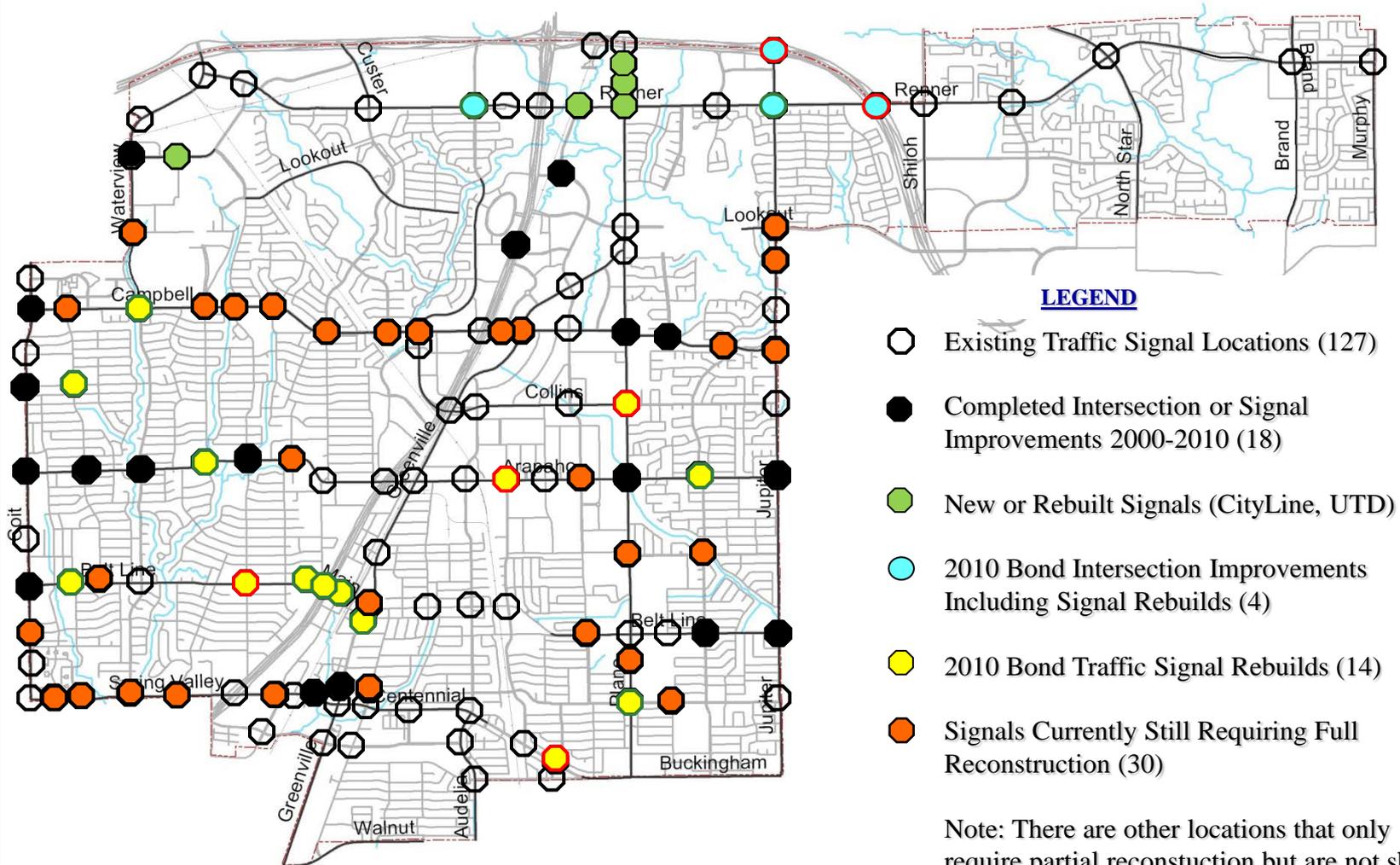
After



Signal and Ramp Upgrade "After"

Traffic Signal Rebuild - History

Traffic Signal Intersections (127)



LEGEND

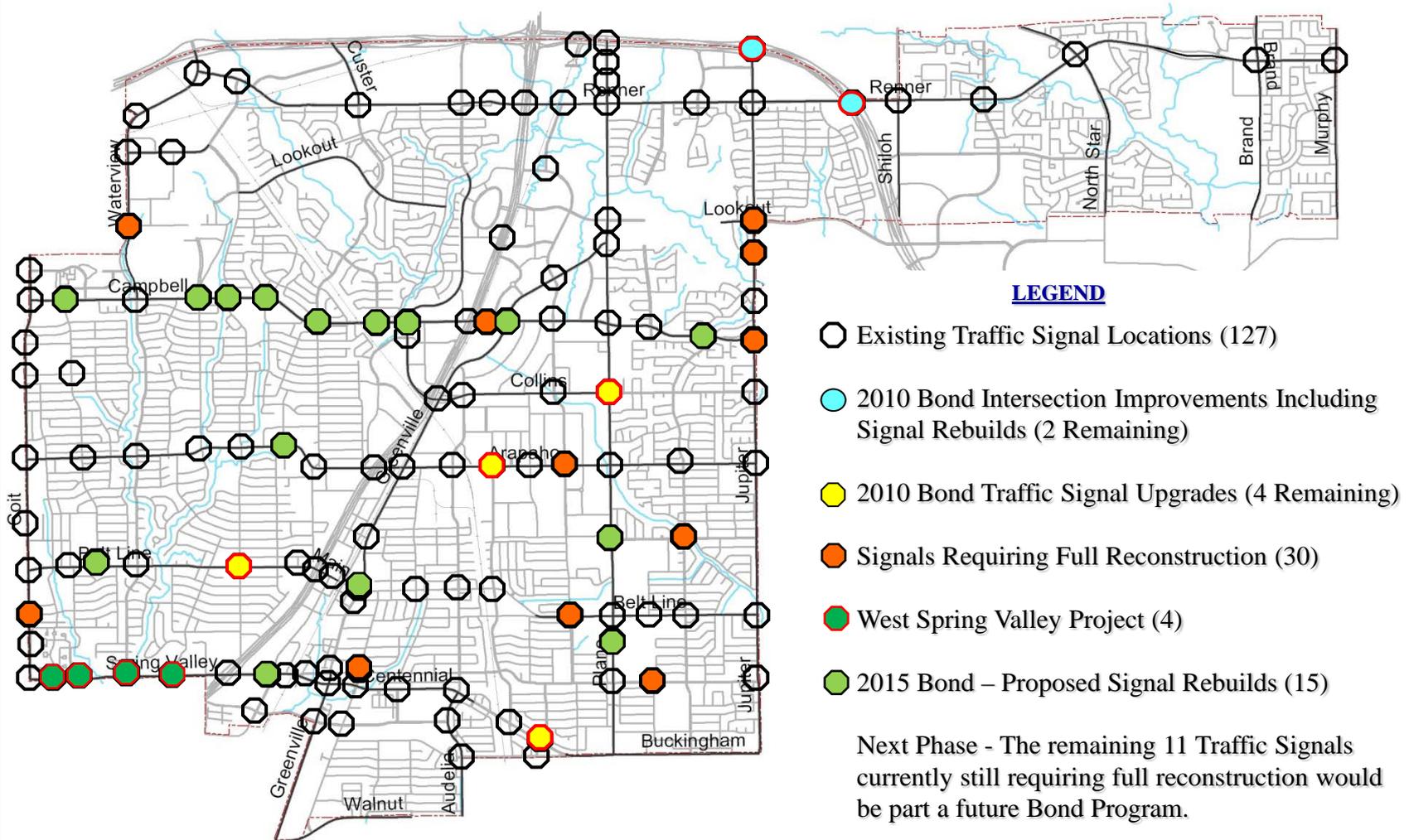
- Existing Traffic Signal Locations (127)
- Completed Intersection or Signal Improvements 2000-2010 (18)
- New or Rebuilt Signals (CityLine, UTD)
- 2010 Bond Intersection Improvements Including Signal Rebuilds (4)
- 2010 Bond Traffic Signal Rebuilds (14)
- Signals Currently Still Requiring Full Reconstruction (30)

Note: There are other locations that only require partial reconstruction but are not shown on this map.



Traffic Signal Work Plan - Rebuilds

Estimated Cost for 15 Locations : \$3M

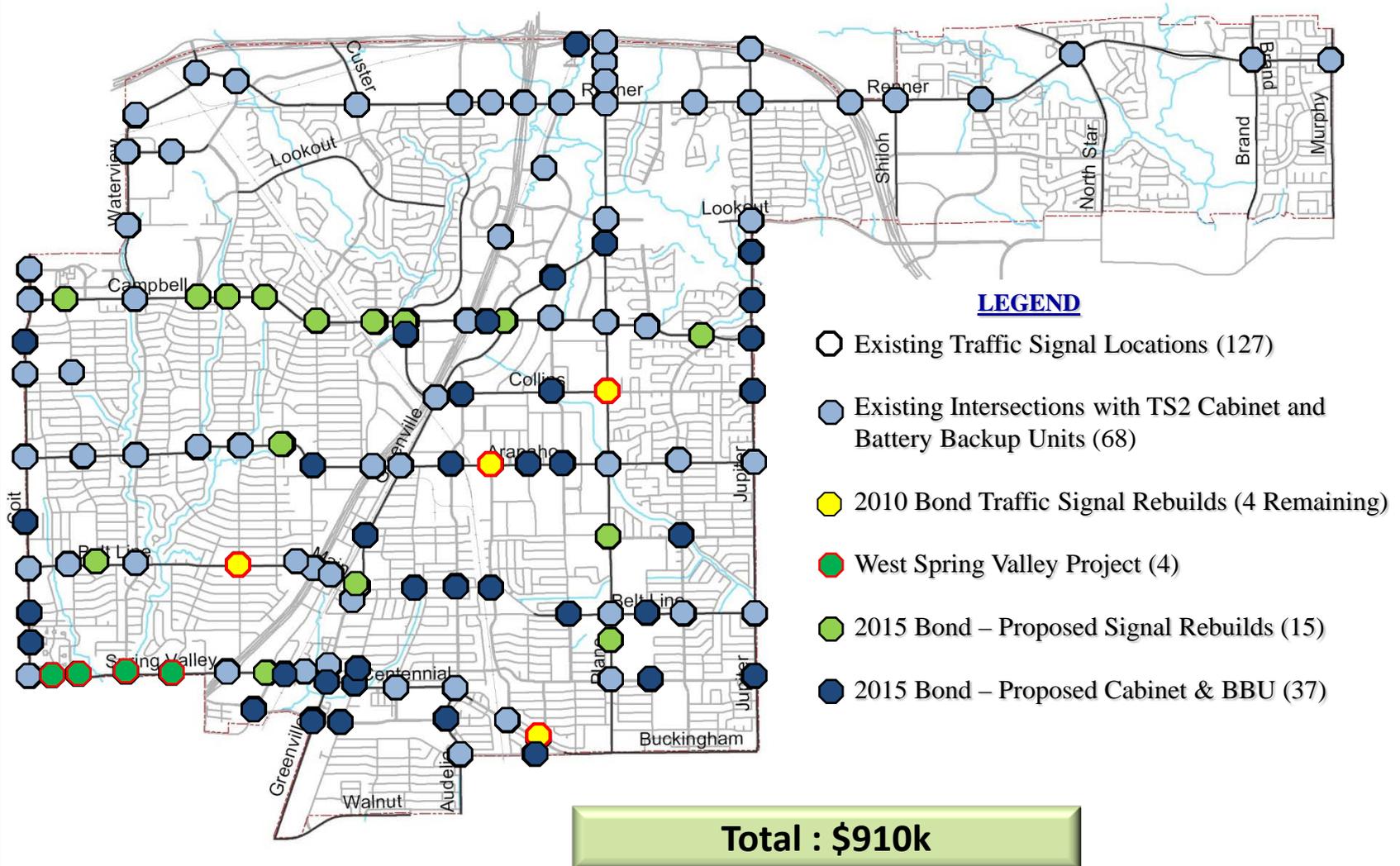


Traffic and Transportation Proposition

Controller Cabinet and BBU's

- Multi-phased replacement program started with the 2010 Bond Program.
- The New Cabinets are required at all 127 intersections in order to achieve the benefits of the new Intelight Controllers and the new Centralized ATMS.
- The New Cabinets are also necessary to implement 4-way Opticom Pre-emption and Flashing Yellow Arrow displays which are now standard practice.
- 37 Cabinets with BBU's are proposed as part of the 2015 Bond Program (\$910k)

Traffic Signal Work Plan – TS2 Cabinets



Traffic and Transportation Proposition

Pedestrian Crosswalk Rectangular Rapid Flashing Beacons

- Installation of RRFBs at 10 midblock crosswalks on higher volume streets with Trail crossings (\$190k)
 - Plano at Larkspur (Duck Creek Trail)
 - Arapaho at Owens Trail
 - Greenville at Central Trail south of Arapaho (2 locations)
 - Greenville at Central Trail at Alma
 - Polk at Central Trail
 - Floyd at UTD Trail (3 locations)





Rectangular Rapid Flashing Beacons (RRFB)

Traffic and Transportation Proposition

Operational and Efficiency Improvements

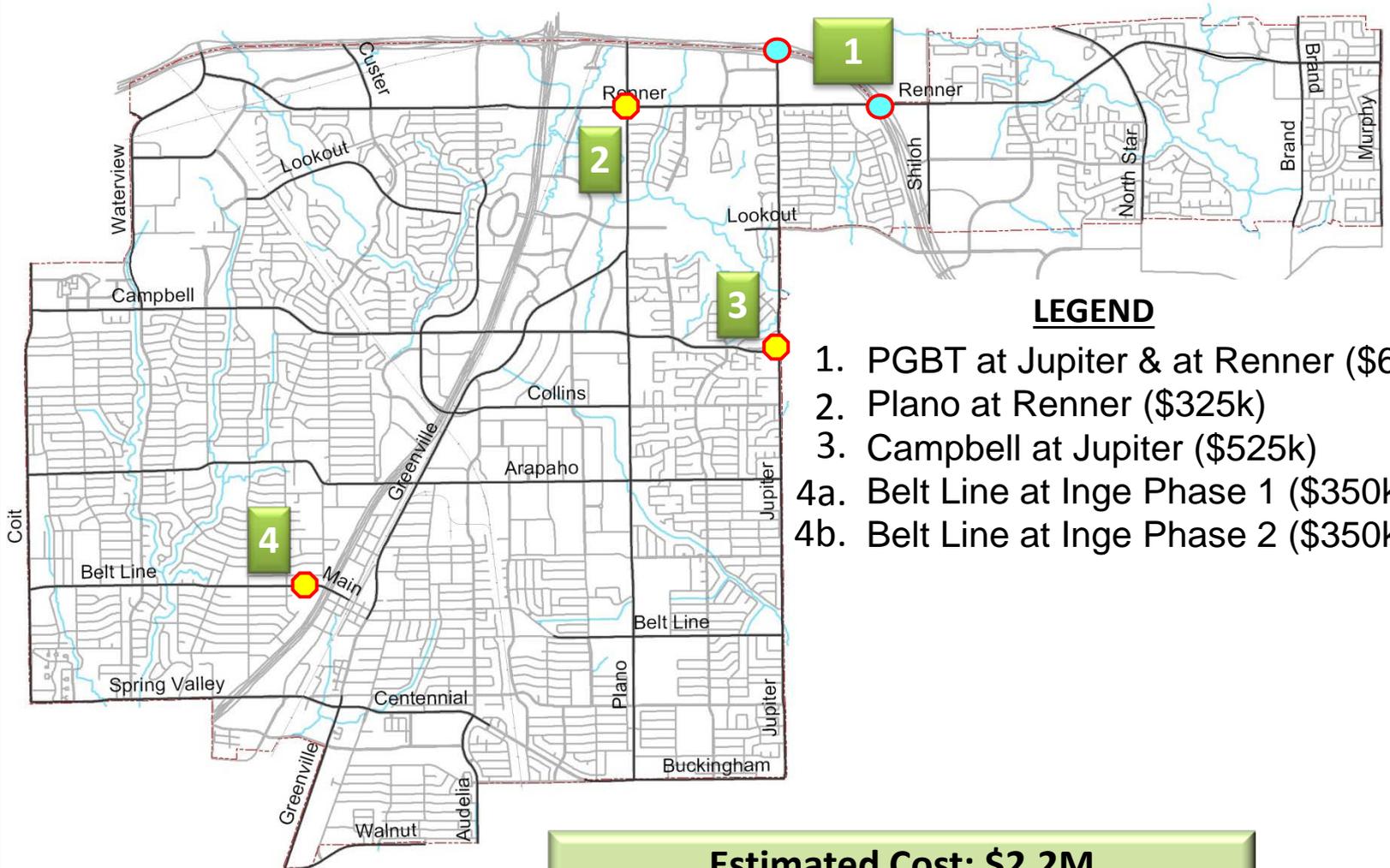
Intersections (\$2.2M)

4 Locations

Streets (\$1.225M)

3 Locations

Operational / Efficiency – Intersections



Estimated Cost: \$2.2M



Jupiter at PGBT

1a

Yellow Curb Lines Represent Plano's Planned Project in the Future

Pres George Bush Hwy

Jupiter Rd

Jupiter at PGBT – (\$440k)

\$280k in 2010 Bond/RTR funds remaining

1. Extend EB RT Lane and EB LT Lane
2. Modify islands to provide 2 EB LT, 2 EB Through Lanes and 1 RT Lane
3. Add NB RT Lane



North

Renner at PGBT

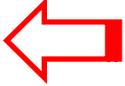
1b

Renner at PGBT – (\$400k)

1. Add WB to NB RT Auxiliary Lane
2. Add NB RT Lane
3. Modify islands on East side to provide 2 NB LT and 3 NB Through Lanes
4. Modify islands on West side to provide 2 SB LT and 2 SB Through Lanes



North



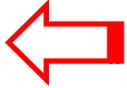
Plano at Renner



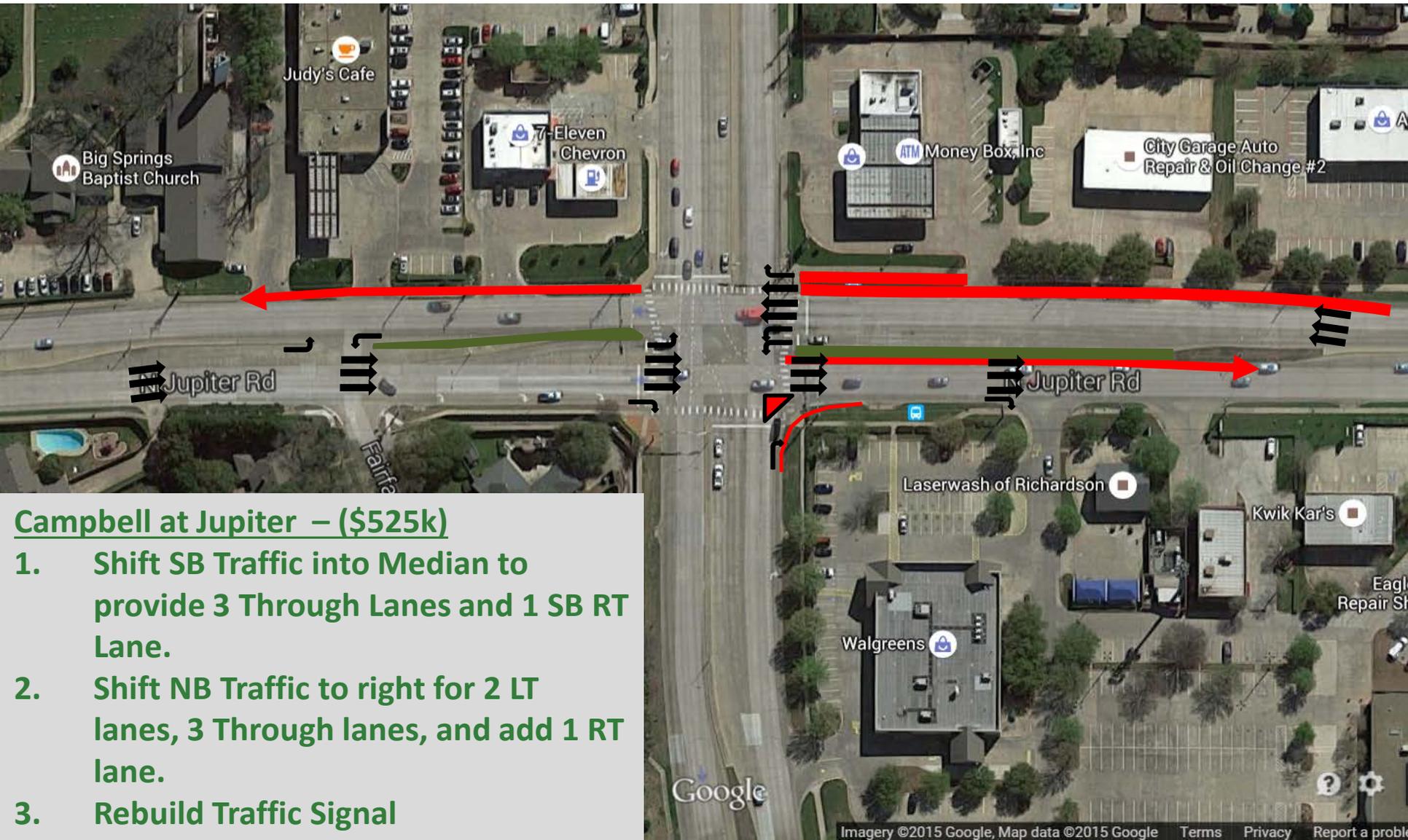
Plano at Renner – (\$325k)

1. Extend Existing NB RT Lane back to Broadmoor Dr., increase radius and add turning island.
2. Extend SB Auxiliary Lane 500 feet.

North



Campbell at Jupiter

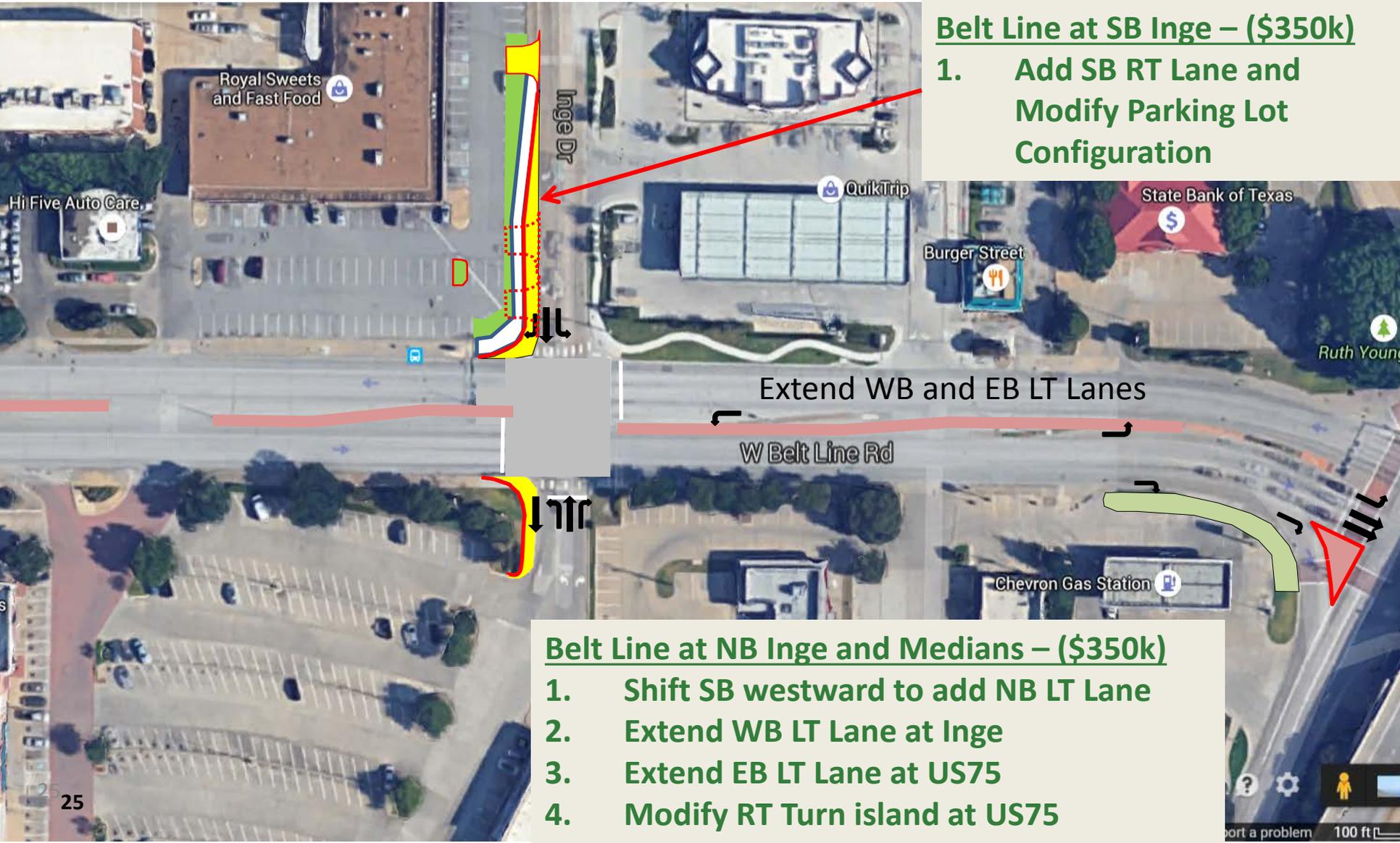


Campbell at Jupiter – (\$525k)

1. Shift SB Traffic into Median to provide 3 Through Lanes and 1 SB RT Lane.
2. Shift NB Traffic to right for 2 LT lanes, 3 Through lanes, and add 1 RT lane.
3. Rebuild Traffic Signal



Belt Line at Inge



Belt Line at SB Inge – (\$350k)

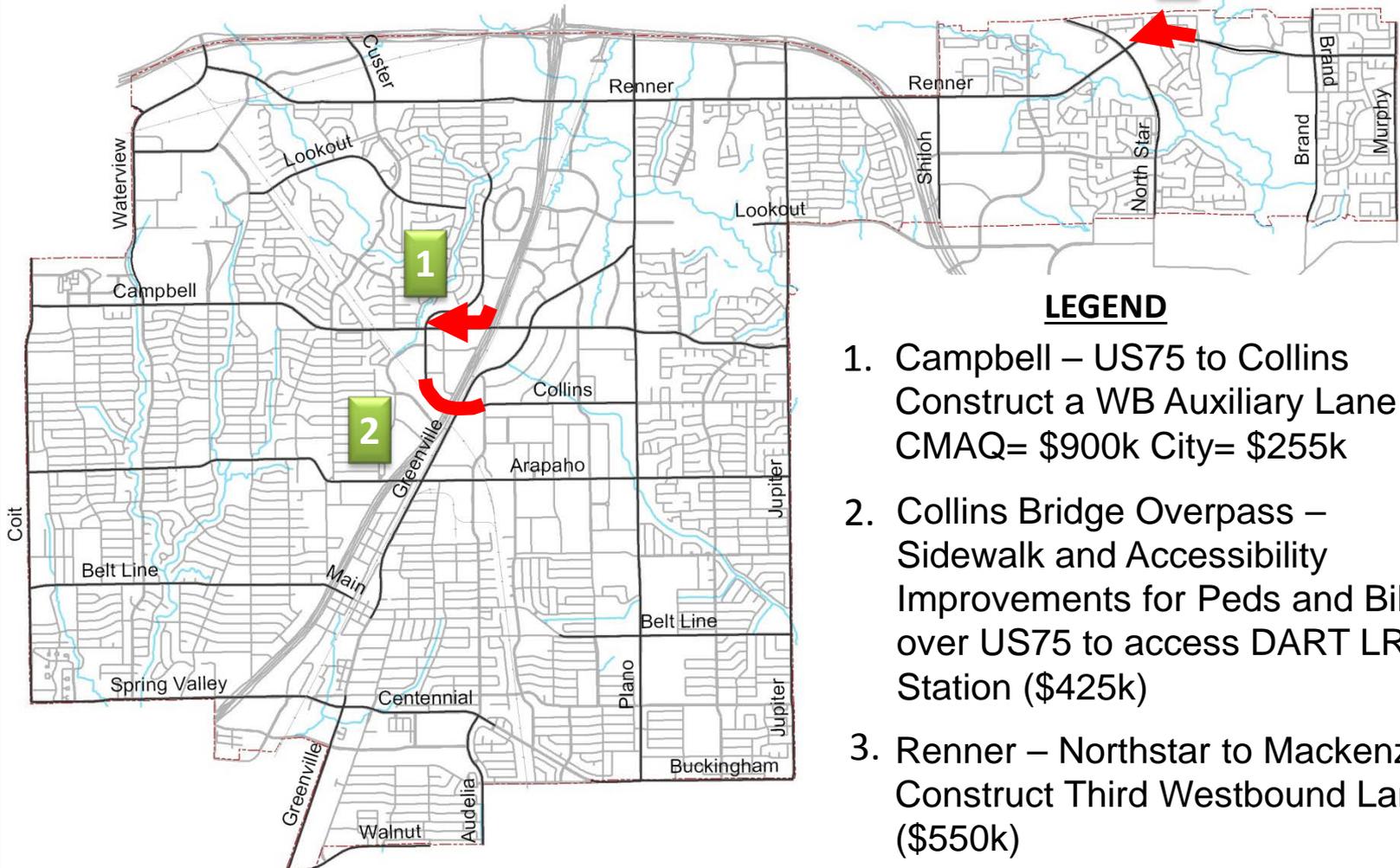
1. Add SB RT Lane and Modify Parking Lot Configuration

Belt Line at NB Inge and Medians – (\$350k)

1. Shift SB westward to add NB LT Lane
2. Extend WB LT Lane at Inge
3. Extend EB LT Lane at US75
4. Modify RT Turn island at US75

Operational / Efficiency – Streets

Estimated Cost: \$1.225 M



LEGEND

1. Campbell – US75 to Collins
Construct a WB Auxiliary Lane
CMAQ= \$900k City= \$255k
2. Collins Bridge Overpass –
Sidewalk and Accessibility
Improvements for Peds and Bikes
over US75 to access DART LRT
Station (\$425k)
3. Renner – Northstar to Mackenzie
Construct Third Westbound Lane
(\$550k)

Campbell – US75 to Collins



Add WB RT Island, Upgrade Signal & BFRs

Extend SB RT Lane; Add SB LT Lane & Add RT Island

Add WB Auxiliary Lane From US75 to Collins

Estimated Cost: \$1.155M
Federal CMAQ Funding: \$900k
City Share: \$255k

Collins Bridge Overpass



Charter School and the path students currently walk to DART

Nico Blvd

KCS Rail Bridge

Alma Rd

Hwy 75

DART Arapaho Station

Toyota of Richardson

Richardson

Collins Bridge Overpass (cont)



Wingate by Wyndham Richardson/Dallas
FedEx Office Print & Ship Center

Central Trail (existing)

Argo Data Resource Corporation

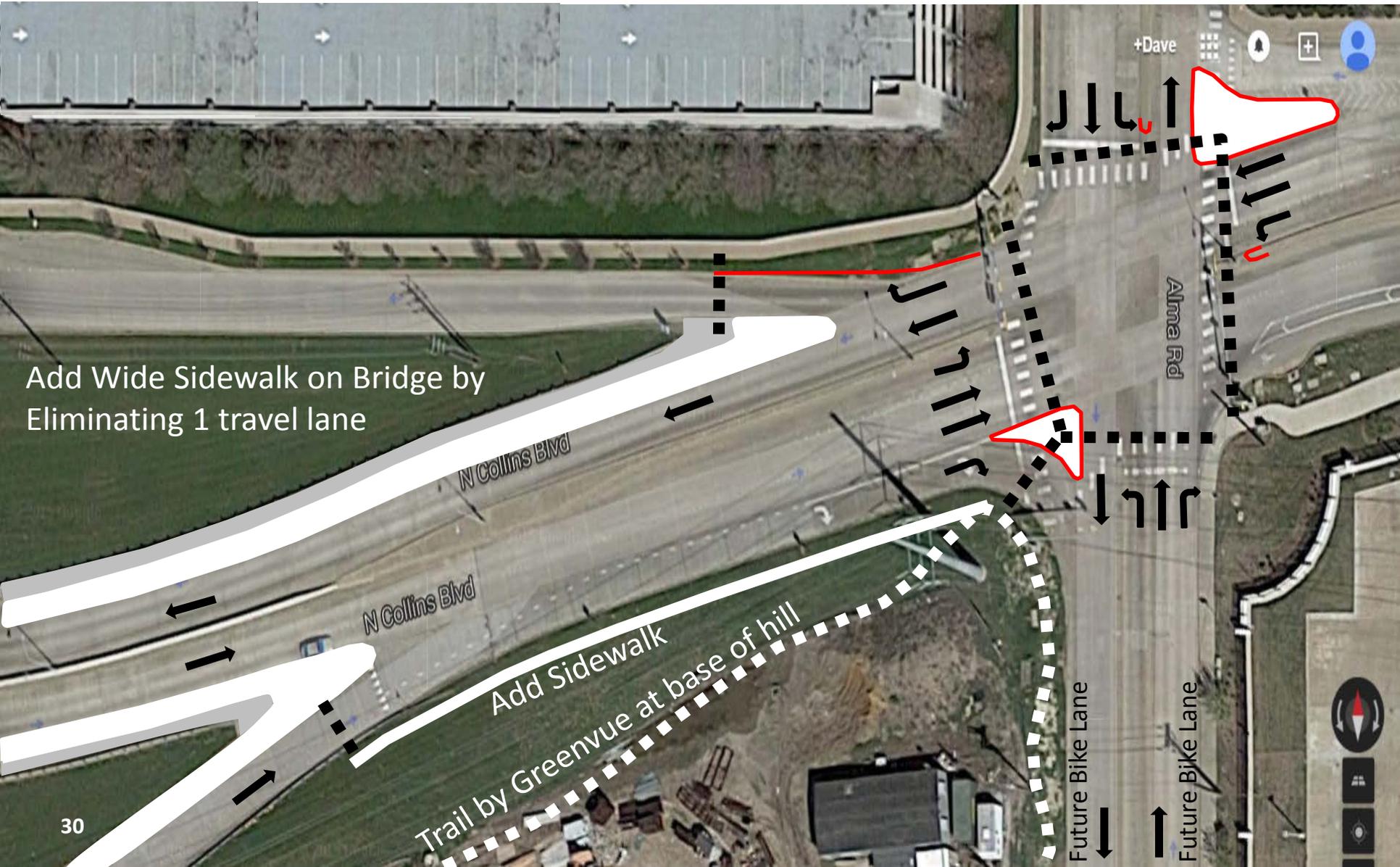
Duck Creek Trail Connection Project

GreenVue Project Trail

Widen Sidewalk on Bridge by Eliminating 1 travel lane
Improve Alma Intersection

Estimated Cost: \$425k

Collins Bridge Overpass (cont)



Add Wide Sidewalk on Bridge by Eliminating 1 travel lane

N Collins Blvd

N Collins Blvd

Add Sidewalk

Trail by Greenvue at base of hill

Alma Rd

Future Bike Lane

Future Bike Lane

Renner – North Star to Mackenzie



Add a 3rd Westbound Lane in the Median

Estimated Cost: \$550k

Traffic and Transportation Proposition

Next Steps:

- January 2015-June 2015
 - Complete Inventories, Studies and Master Plans
 - Initial review of project inventories with the City Council
- June 2015-July 2015
 - City Council Bond Referendum Development
 - Drainage Utility Annual Budget Review
- August 2015-November 2015
 - City Council Adoption of Bond Resolution
 - (August 3, 2015 target date, August 24, 2015- last possible date)
- Bond Referendum (November 3, 2015)



FY 15/16 MAINTENANCE STRATEGIES OVERVIEW

SCREENING WALLS | BRIDGE RAILINGS | TRAFFIC SIGNS & MARKINGS

City Council Briefing: June 15, 2015

2

Screening Walls

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

4

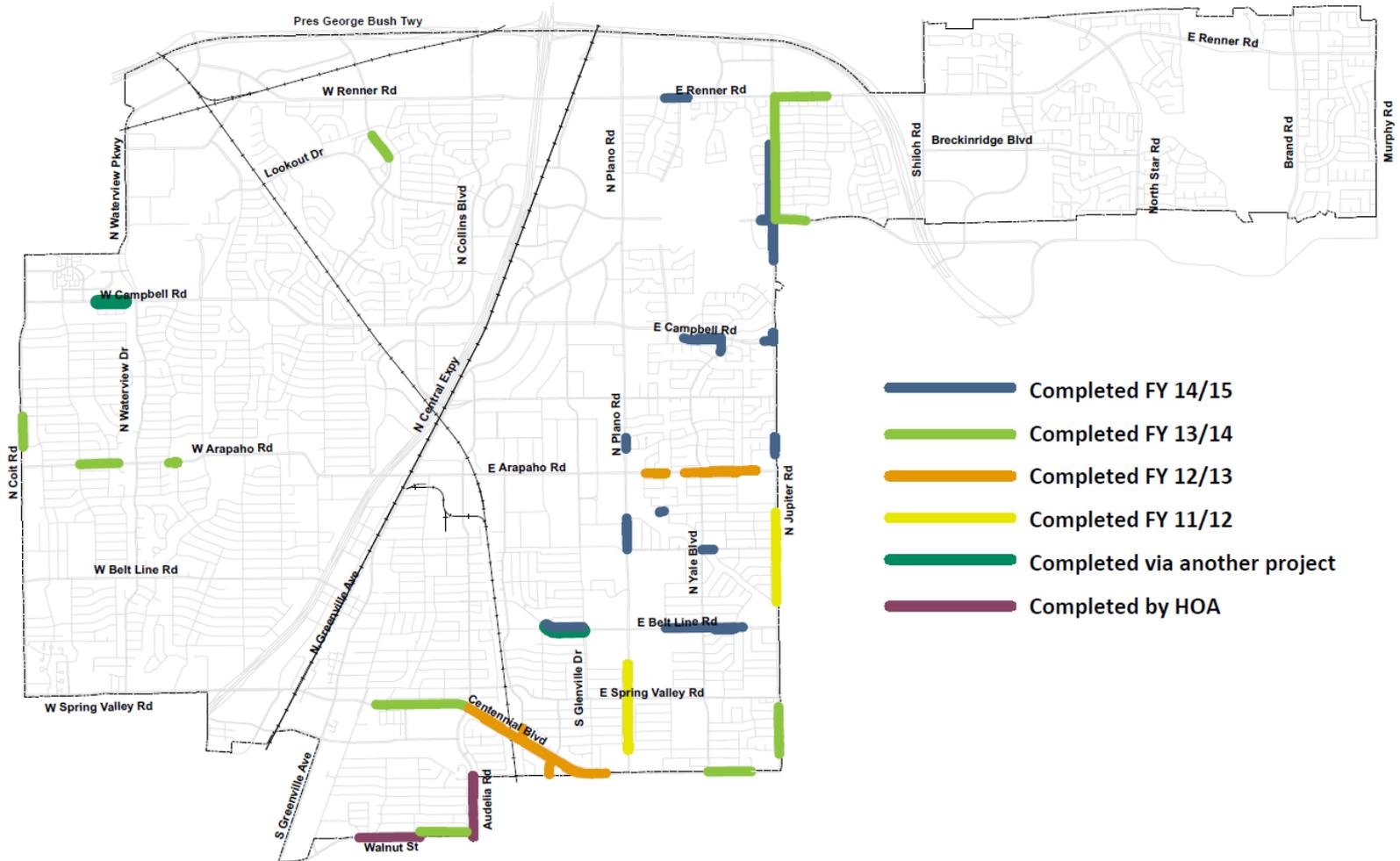
- Over 340 screening walls
 - ▣ Approximately 41 miles
 - ▣ The most common wall materials are concrete and brick
 - ▣ Additional types include stone, stucco, and vinyl panels

Screening Wall Inventory

5

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

Paintable City Maintained Walls



	FY 2011-12	FY 2012-13	FY 2013-14	FY 2014-15
Funding	\$40,000	\$40,000	\$120,000	\$120,000
Square-Feet	26,379	60,908	106,004	86,435

FY 14/15 Completed Projects

7



FY 14/15 Completed Projects

8



Future Screening Wall Management Strategy

9

- **FY 15/16** funding request is **\$50,000**
- City owned walls, entry features and bridges will be painted and washed on a rotation determined by:
 - ▣ Date since last painting / washing
 - ▣ Amount of traffic on adjacent roads
 - ▣ Environmental impacts
 - ▣ Overall aesthetic integrity
- Schedule is currently being finalized for October 2015 implementation
 - ▣ Will be reviewed on regular basis and updated as appropriates

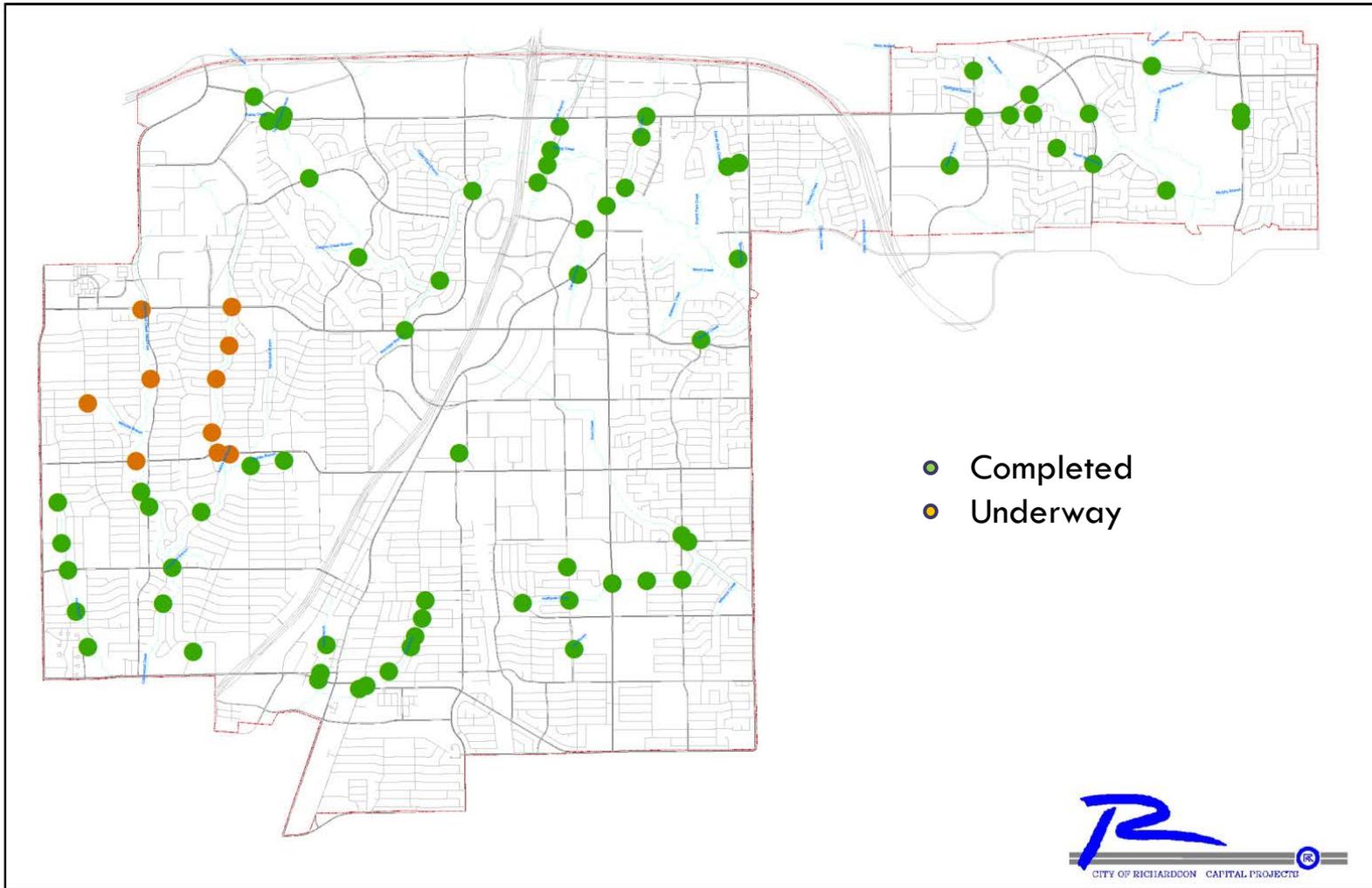
10

Bridge Railings

Background

- Bridge Rail Maintenance Consideration
 - Richardson maintains 144 roadway bridges.
 - 70 locations have rails and guardwalls that have been enhance aesthetically, 10 additional locations are in progress
 - Aesthetic enhancements began on bridges in the 1980's as part of new capital projects.
 - Subdivision developments then constructed new bridges with aesthetics as neighborhood amenities.
 - Neighborhood Vitality projects upgraded existing bridge rails

Enhanced Bridges

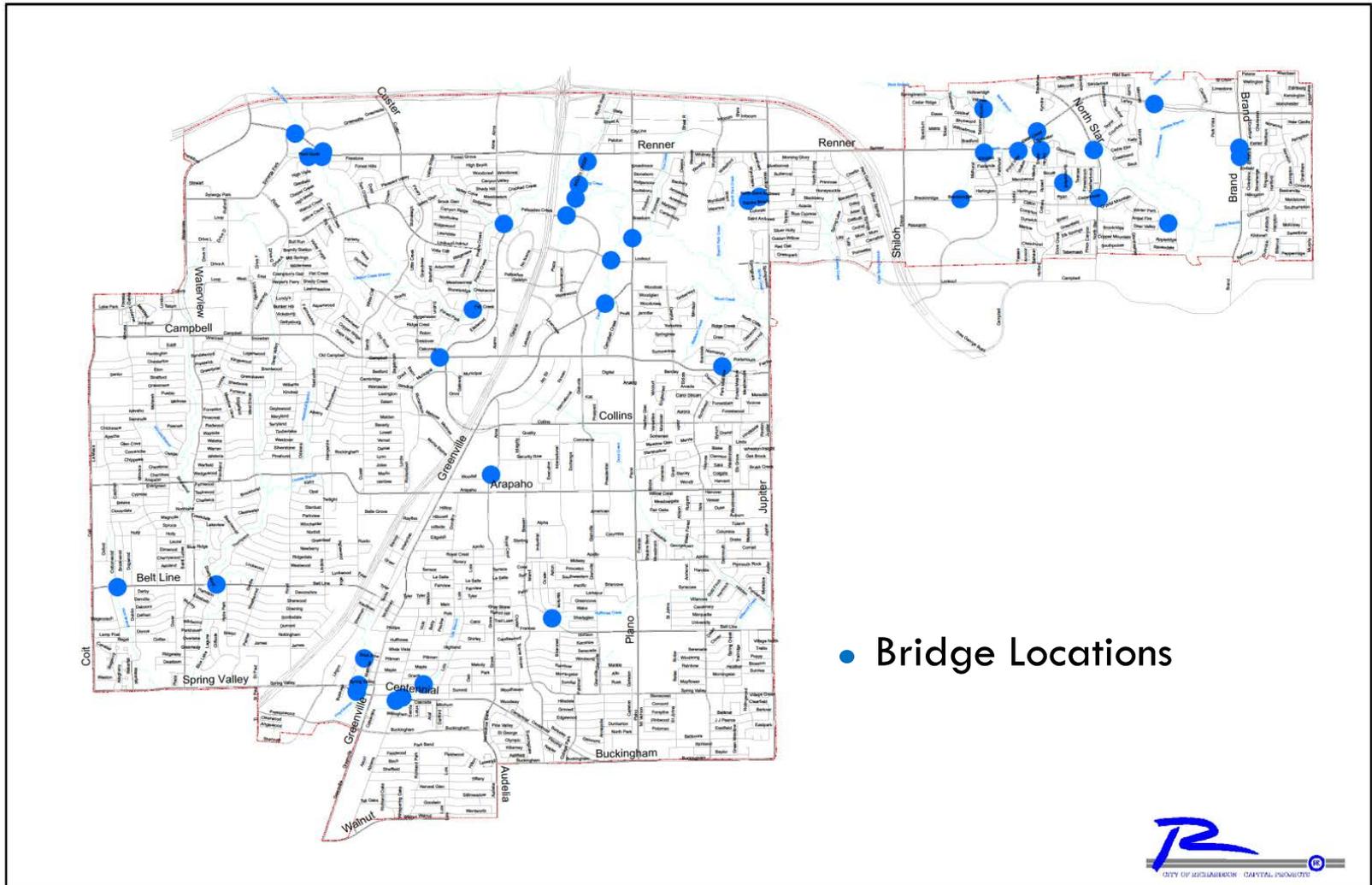


Background

13

- Bridge Rail – 2012 Condition Assessment
 - Condition assessment in 2012 of 39 the aesthetically enhanced bridges.
 - The assessment did not include the newer bridge rails enhanced as part of neighborhood vitality projects.
 - 14 of 39 were in good condition
 - 25 of 39 needed maintenance presently or in the near future.

Bridge Rail – 2012 Condition Assessment



Bridge Rail Maintenance Completed Projects

15

- ▣ Abrams at Lois Branch
- ▣ Centennial at Lois Branch
- ▣ Belt Line at Huffhines Branch
- ▣ Lookout at Campbell Creek
- ▣ Point North at Prairie Creek
- ▣ Campbell at South Trib.
- ▣ Centennial at Floyd Branch
- ▣ Collins at Prairie Creek

Bridge Rail Maintenance Completed Projects

16

▣ Centennial at Lois Branch



Bridge Rail Maintenance Completed Projects

17

▣ Campbell at Prairie Creek South Trib



Bridge Rail Maintenance Completed Projects

18

▣ Collins at Prairie Creek



Bridge Rail Maintenance Completed Projects

19

▣ Point North Parkway at Prairie Creek



Bridge Rail Maintenance Completed Projects

20

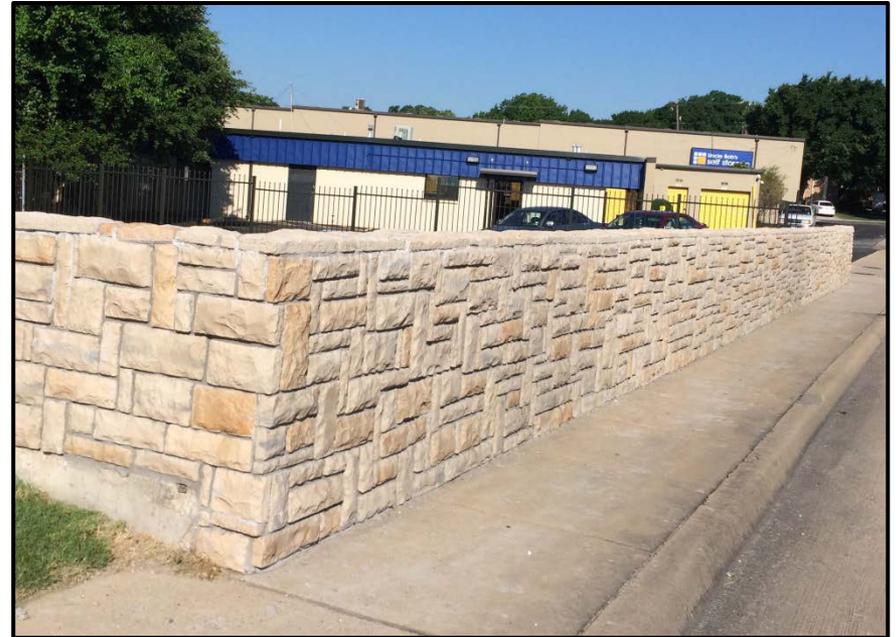
▣ Lookout at Campbell Creek



Bridge Rail Maintenance Completed Projects

21

▣ Centennial at Floyd Branch



Bridge Rail Maintenance FY14/15 Projects Underway

22

- W. Renner at Prairie Creek
- W. Belt Line at Hunt Branch
- W. Belt Line at Cottonwood Creek
- Greenville at Campbell Creek
- Plano Rd. at Spring Creek
- Fall Creek Dr. at Prairie Creek
- North Star at Beck Branch
- North Star At North Star Branch
- Prairie Creek Dr. at Prairie Creek
- E. Renner at Beck Branch
- E. Renner at Rowlett Creek
- Telecom at Renner Branch

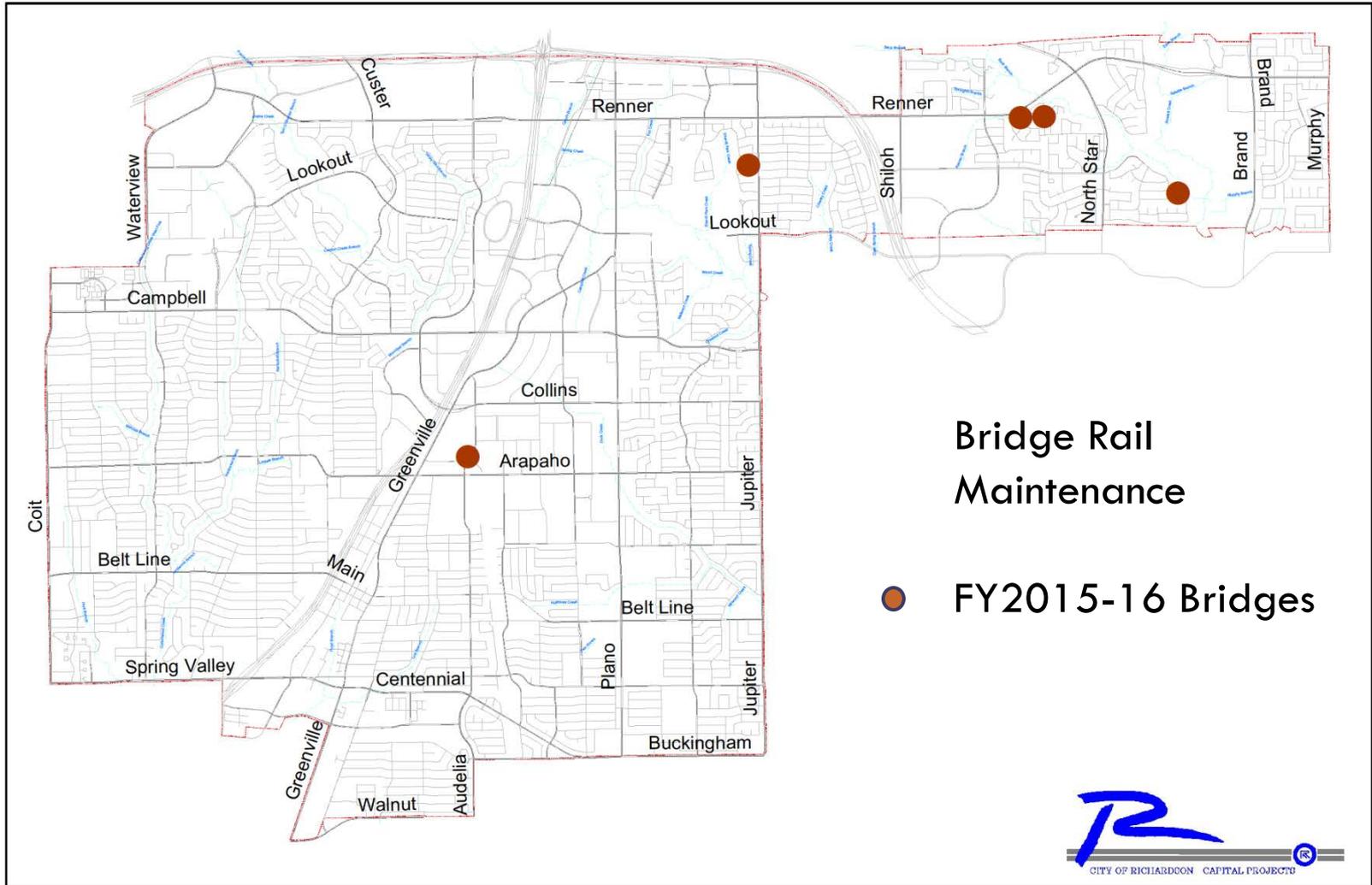
Bridge Rail Maintenance FY 2015-16

23

	FY 12/13 Actual	FY 13/14 Actual	FY 14/15 Actual	FY 15/16 Proposed
Bridge Rail Maintenance	\$115,000	\$225,000	\$320,000	\$300,000

- ▣ Alma at Kansas City Southern Rail Road
- ▣ Breckinridge near Breckinridge Ct.
- ▣ Meadow Wood at Renner Branch
- ▣ N. St Andrews at Sherrill Park Trib
- ▣ Sharps Lane at Renner Branch

Bridge Rail Maintenance FY 2015-16



Next Steps

25

- Continue work on current year bridges.
- Complete maintenance of the 25 locations identified in the 2012 Assessment in FY2015-16.
- Annually update cost estimates for inventoried bridges.
- Consider maintenance needs for all enhanced bridges in future work plans.

26

Traffic Signs & Markings

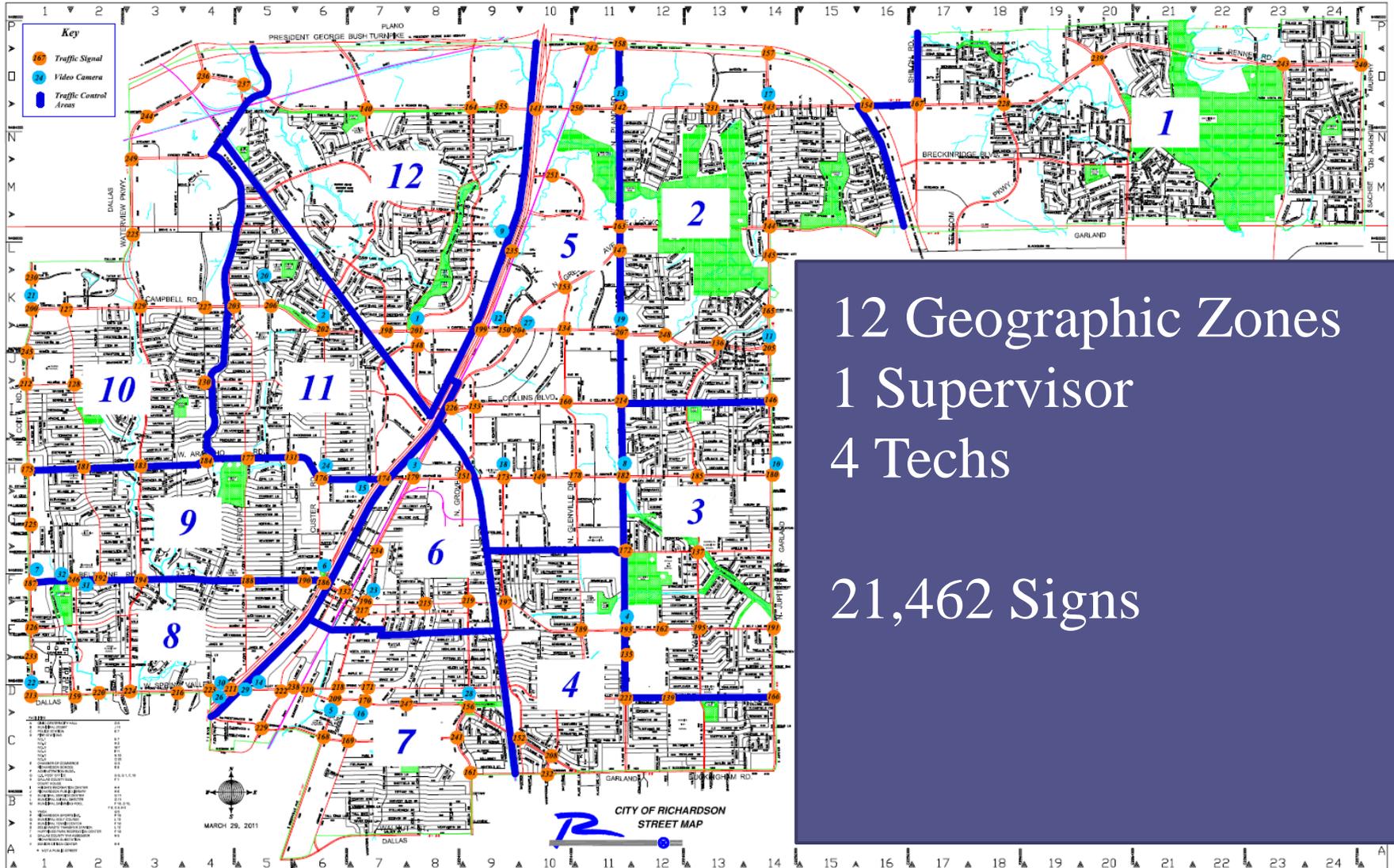
Sign Maintenance

27

- Signage installation and maintenance
 - 21,462 Total Signs
 - 16,395 Traffic Control Signs
 - 4,560 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.
- Richardson escalated its replacement of older Traffic Control signs starting in 2008 due to Federal requirements for reflectivity. 2012 deadline was met.

Sign Maintenance Zones

28



Traffic Control Signs

Age	Year	Total	Sign Areas												
	Installed		<>	1	2	3	4	5	6	7	8	9	10	11	12
< 01	2015	113	2	7	12	4	7	36	3	10	5	3	3	4	17
< 02	2014	622		63	104	79	35	76	26	85	29	7	35	16	67
< 03	2013	1573		151	137	133	30	168	146	148	120	162	145	110	123
< 04	2012	904		100	33	130	55	56	54	81	66	50	101	113	65
< 05	2011	2166		179	315	344	68	141	239	168	137	200	78	120	177
< 06	2010	1799		253	118	196	118	112	91	117	169	194	219	58	154
< 07	2009	1541		94	82	102	121	162	96	119	82	88	203	170	222
< 08	2008	979		150	55	75	155	23	45	63	47	91	107	55	113
< 09	2007	1546		223	72	65	179	192	55	70	89	204	87	141	169
< 10	2006	921		137	45	27	53	84	32	129	84	70	117	43	100
< 11	2005	1433		130	55	91	206	45	110	121	83	197	125	143	127
< 12	2004	1545		169	167	129	98	187	92	138	115	114	74	115	147
12 or more		1218		152	97	115	65	201	123	70	58	69	114	62	92
unknown		35		4	1	9		10	6	1	1				3
Totals		16395	2	1812	1293	1499	1190	1493	1118	1320	1085	1449	1408	1150	1576

- Only 7.4% of the TC Signs are more than 12 years old

Street Name Signs

30

- **Overhead Street Name Signs on Signal Mast Arms**
 - ▣ All Overhead SNS in city have been replaced in past 3 years with high reflectivity sheeting and block numbers.

- **Small Street Name Signs**
 - ▣ 2,936 of 4,560 (64%) are 13+ Years and need replacement
 - ▣ Current schedule is to replace ~400 to 500 SNS per year over the next 5 years. Will be replacing them by area doing 2 Zones per year.

Overhead Street Name Signs

31



- The large Overhead Signs on traffic signal mast arms are more exposed to the sun and many were very faded.
- New criteria for these signs include larger Upper/Lower fonts and include the block number just like the small signs.
- All Overheads have been replaced in past 3 years

Overhead Street Name Signs

Age	Year Installed	Total	Sign Areas											
			1	2	3	4	5	6	7	8	9	10	11	12
< 01	2015	46		3	3	4	8	5	15			8		
< 02	2014	404	25	39	33	19	52	24	50	35	29	53	18	27
< 03	2013	57		14	7	6	5	15		6	4			
	Totals	507	25	56	43	29	65	44	65	41	33	61	18	27

Overhead Street Name Signs

33



- Before and After Photos

Small Street Name Signs

34



- These signs were installed back to back at same time 17 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.

Small Street Name Signs

35

Age	Year	Total	Sign Areas											
	Installed		1	2	3	4	5	6	7	8	9	10	11	12
< 01	2015	388								1			189	198
< 02	2014	22	9	3	1		2			1	2	4		
< 03	2013	41	2		8		7	12		2	9	1		
< 04	2012	5		3	1						1			
< 05	2011	4		1		1			2					
< 06	2010	23	2	1	3	3	1		7	1	4	1		
< 07	2009	49	5	6	15	2	9	1	10			1		
< 08	2008	72	6	7	6	14	3	2	9	8	9	8		
< 09	2007	33	16	1	1	1		1	3	3	2	5		
< 10	2006	97	48	8	10	1	2	12	10	1	1	4		
< 11	2005	48	4	2	2	2		10	15	4	4	5		
< 12	2004	27	5	2	1	1		2	6	3	2	5		
12 or more		1468	237	238	179	159	63	90	115	101	125	159	1	1
unknown		3	1		1				1					
Totals		2280	335	272	228	184	87	130	178	125	159	193	190	199

- Numbers reflect assemblies which includes signs for 2 streets
- 64.4% of the TC Signs are more than 12 years old

Sign Management 3 Year Strategy

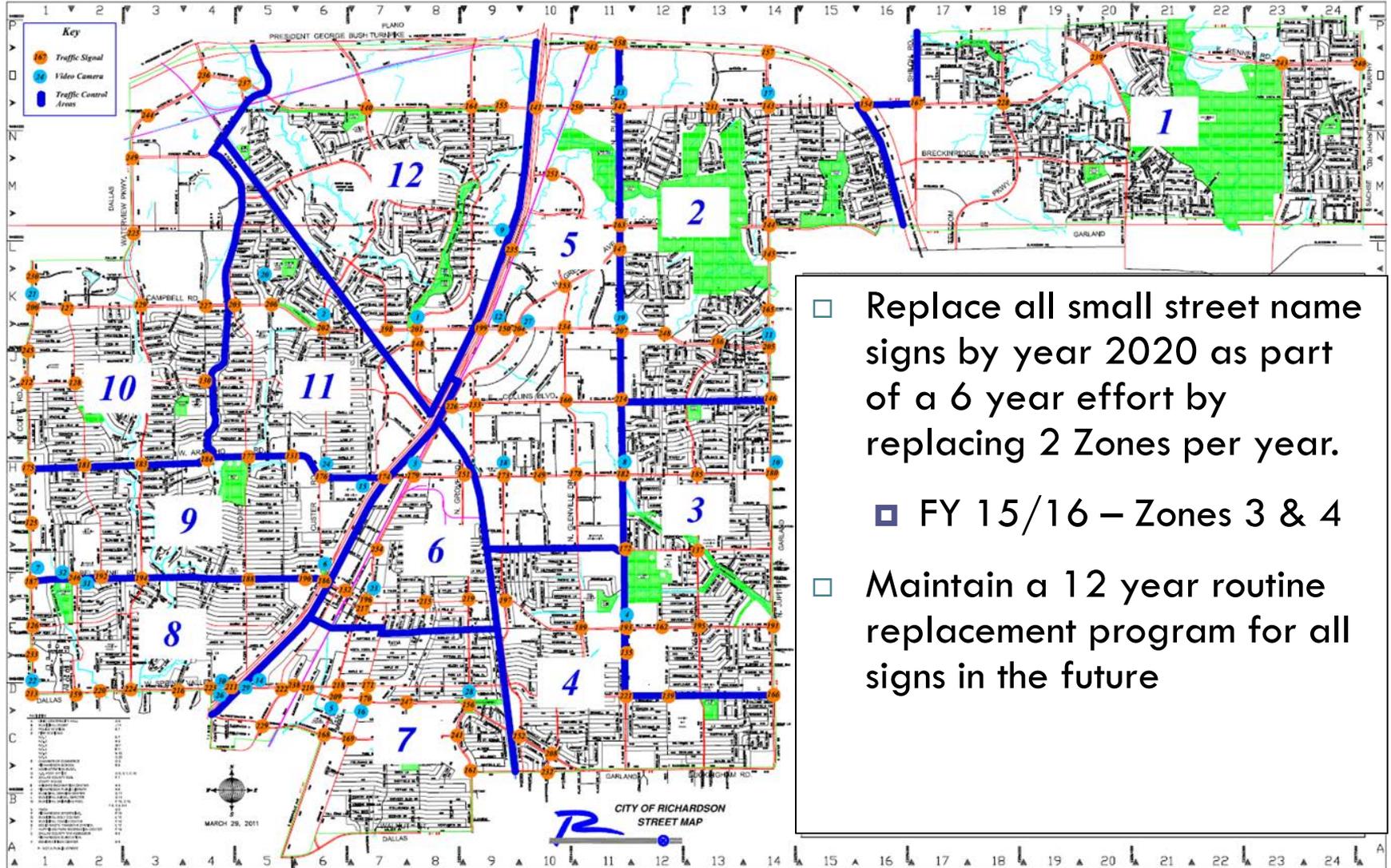
36

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

- Replaced all Overhead (large) SNS on Traffic Signal mast arms in past 3 years.
- Small post-mounted SNS replacement will be completed in next 5 years by ~2020 by doing 2 zones per year (~400 to 500 locations per year).
- In the future, all Traffic Control and SNS signs will be replaced every 12-15 years to ensure reflectivity standards are met.

Next Steps - Signs

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- Replace all small street name signs by year 2020 as part of a 6 year effort by replacing 2 Zones per year.
 - FY 15/16 – Zones 3 & 4
- Maintain a 12 year routine replacement program for all signs in the future

Pavement Marking Maintenance

38

- **Pavement Marking Inventory**
 - 180 School Zone Crosswalks
 - 127 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
 - 15.5 miles of Bike Lanes (1 additional miles to be added this year along Waterview near UTD)
 - 38 City Facility Parking Lots include parking spaces and fire lanes

Pavement Markings – School Areas

39



- 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

40

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

- FY 13-14: Replaced buttons along arterial and collector streets that are in the pavement rehab program, update one bike lane (Custer Pkwy), added 1 mile of new bike lane (Collins).
- FY14-15: Replace buttons following the pavement rehab program, update one bike lane (Waterview Pkwy), add 1 mile of bike lane to extend Waterview's bike lane to Synergy
- FY15-16: Replace buttons following the pavement rehab program, update one bike lane (Grove), add 1 mile of Bike lane
- Future year budget increases will be needed to achieve a sustainable and routine maintenance program (\$450k to \$500k per year)

Next Steps - Markings

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- Prioritize Pavement Marking maintenance based on safety and roadway volume criteria until funding levels are sustainable for a routine schedule (~\$450k to \$500k per year).

FY 15/16 MAINTENANCE STRATEGIES OVERVIEW

SCREENING WALLS | BRIDGE RAILINGS | TRAFFICS SIGNS & MARKINGS