City Council Work Session Handouts

June 17, 2013

I. Review and Discuss Streets Maintenance Strategy

II. Review and Discuss the US 75 Corridor Study

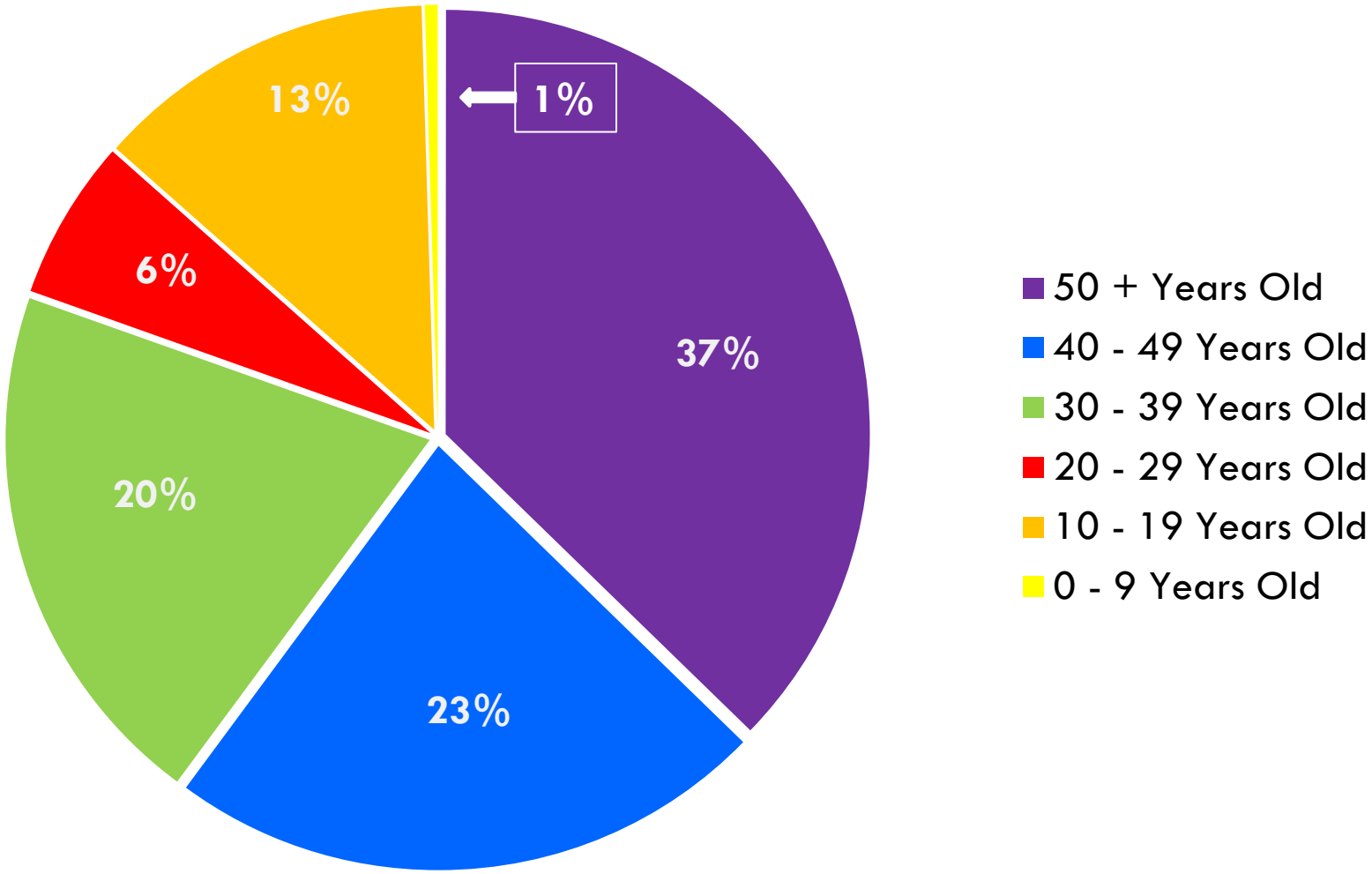
STREETS MANAGEMENT STRATEGY

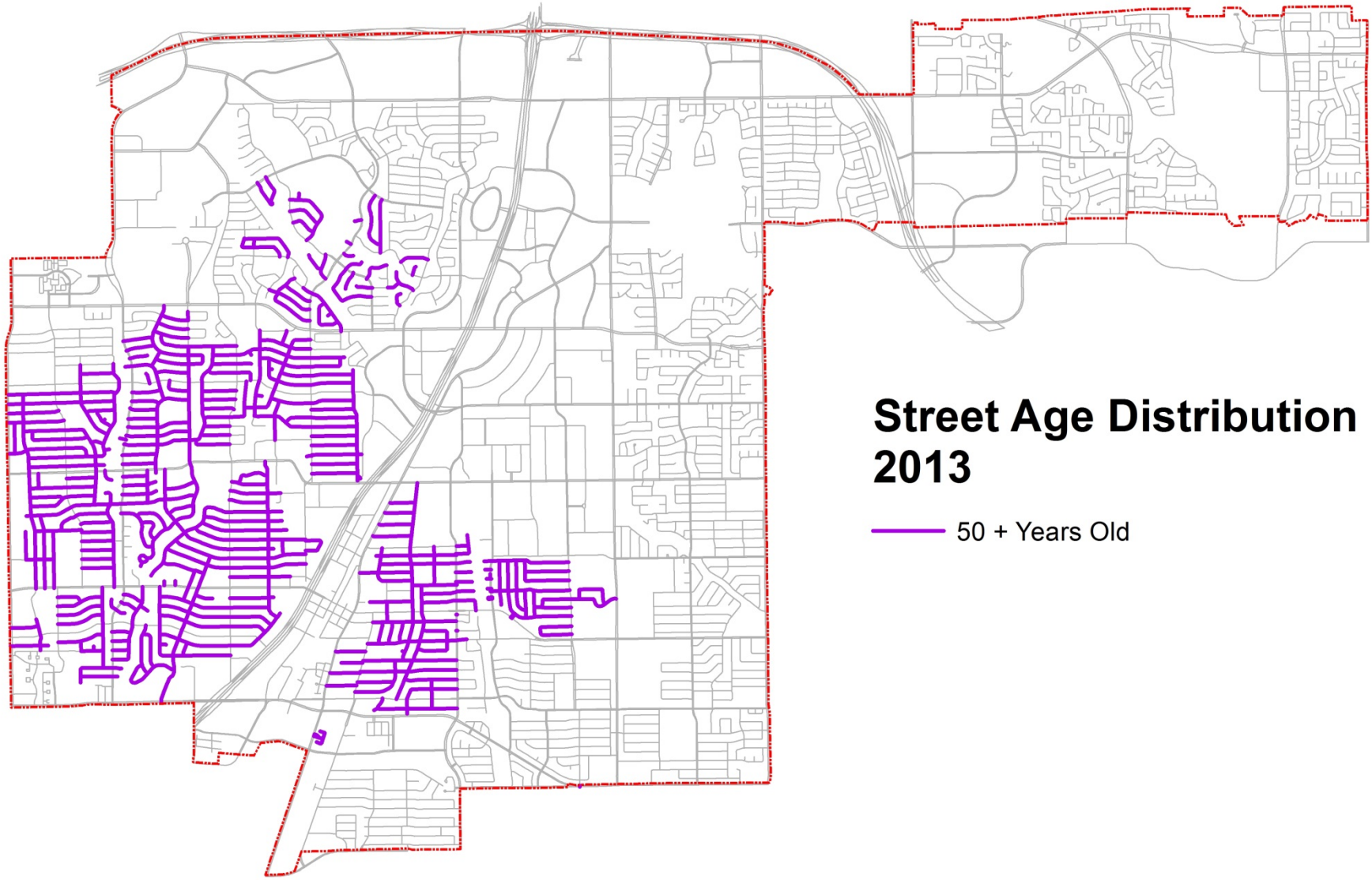
City Council Briefing: June 17, 2013

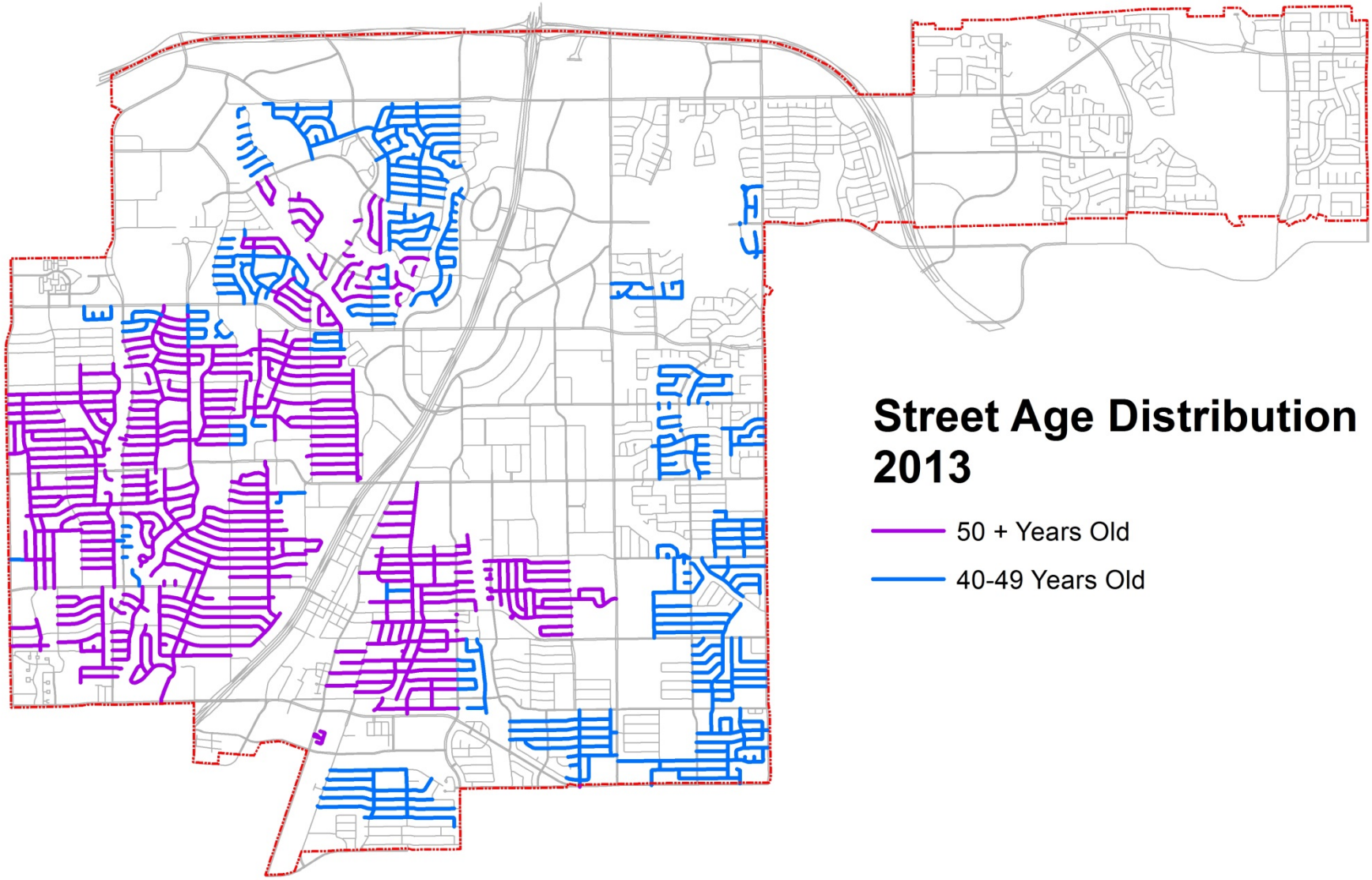
Introduction

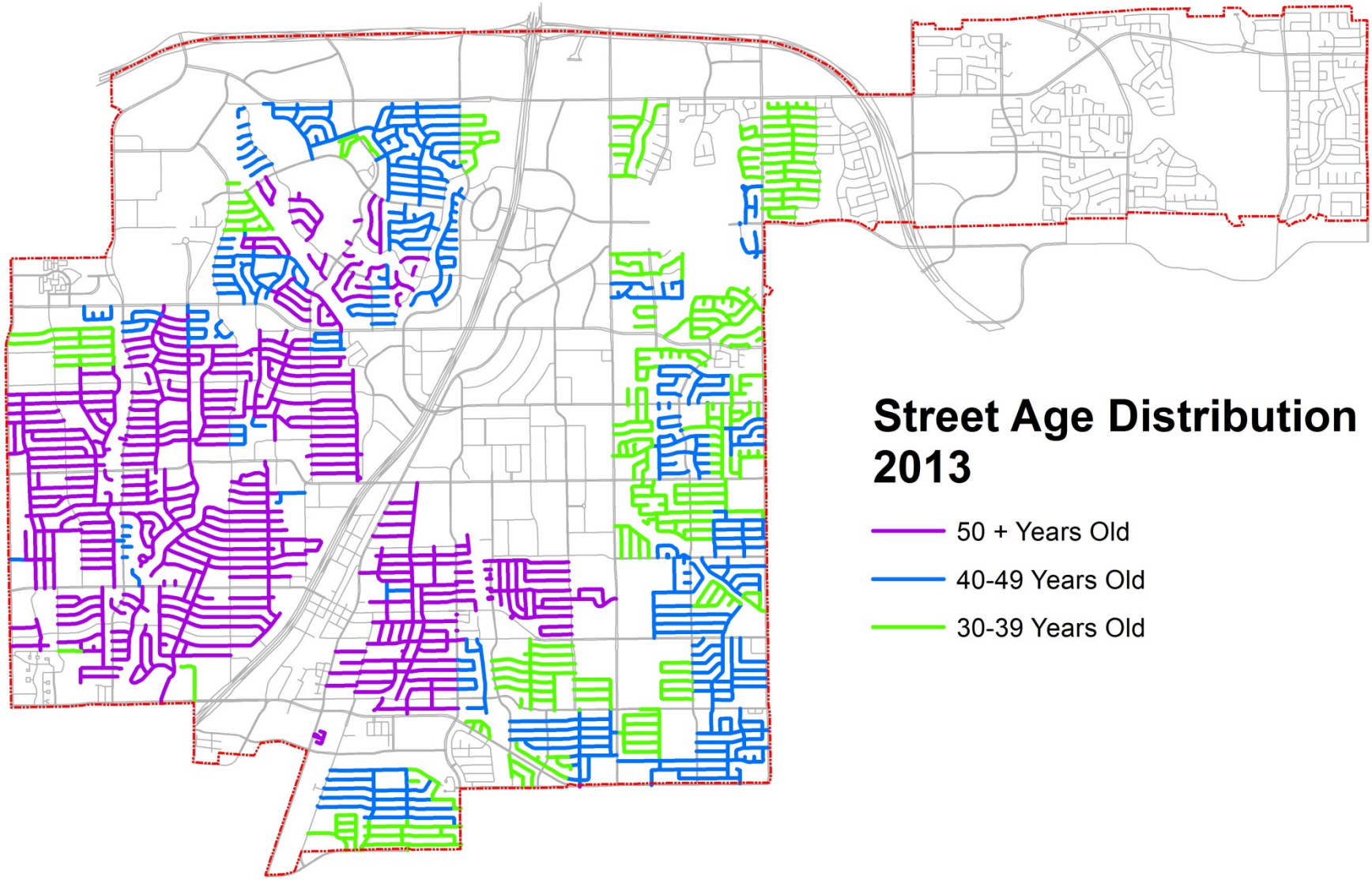
- The purpose of tonight's briefing is to:
  1. Provide a streets condition assessment
  2. Review our current Streets Management Strategy
  3. Evaluate options and budget implications for enhancing said Strategy

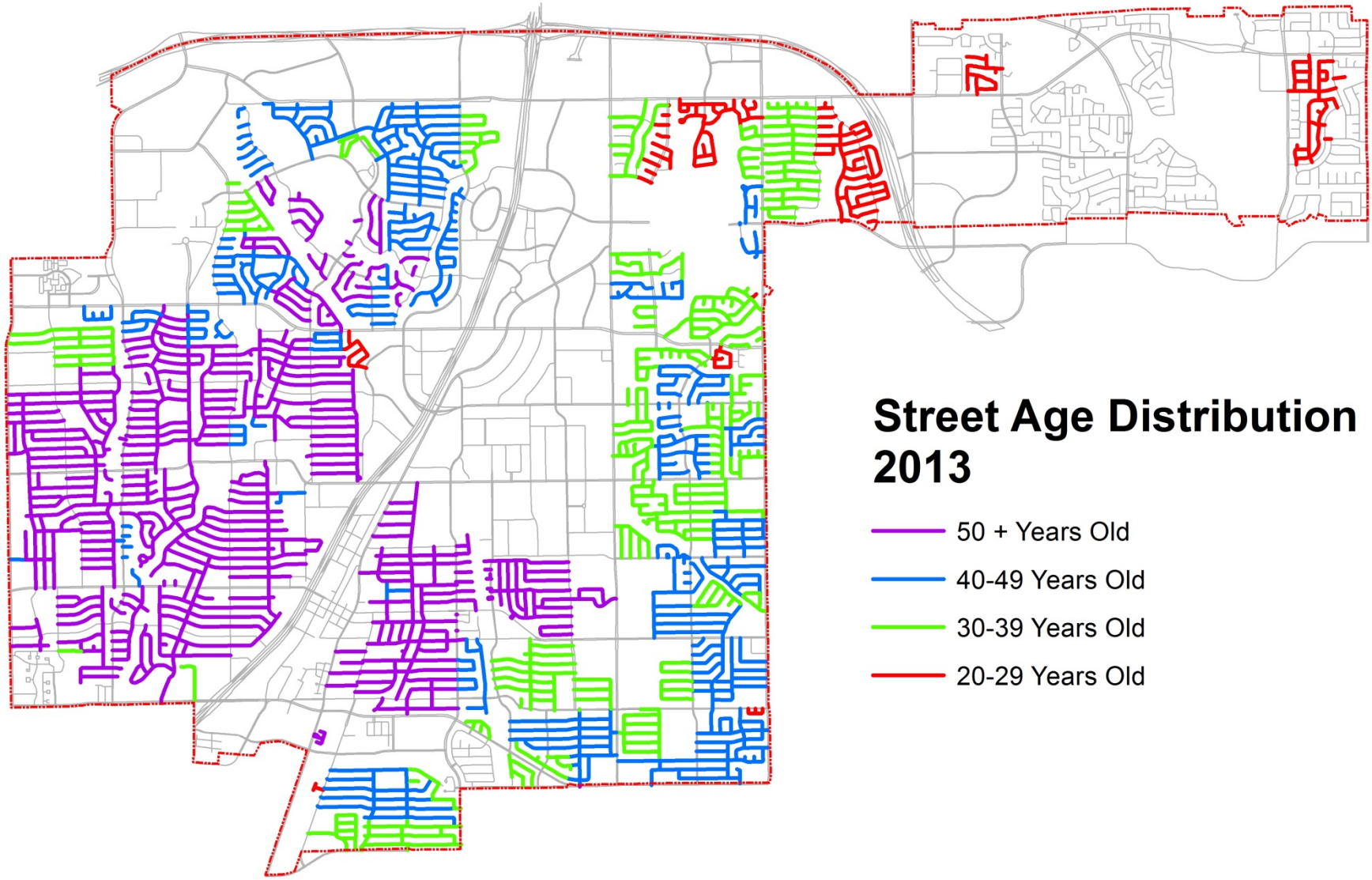
Street Age Distribution 2013

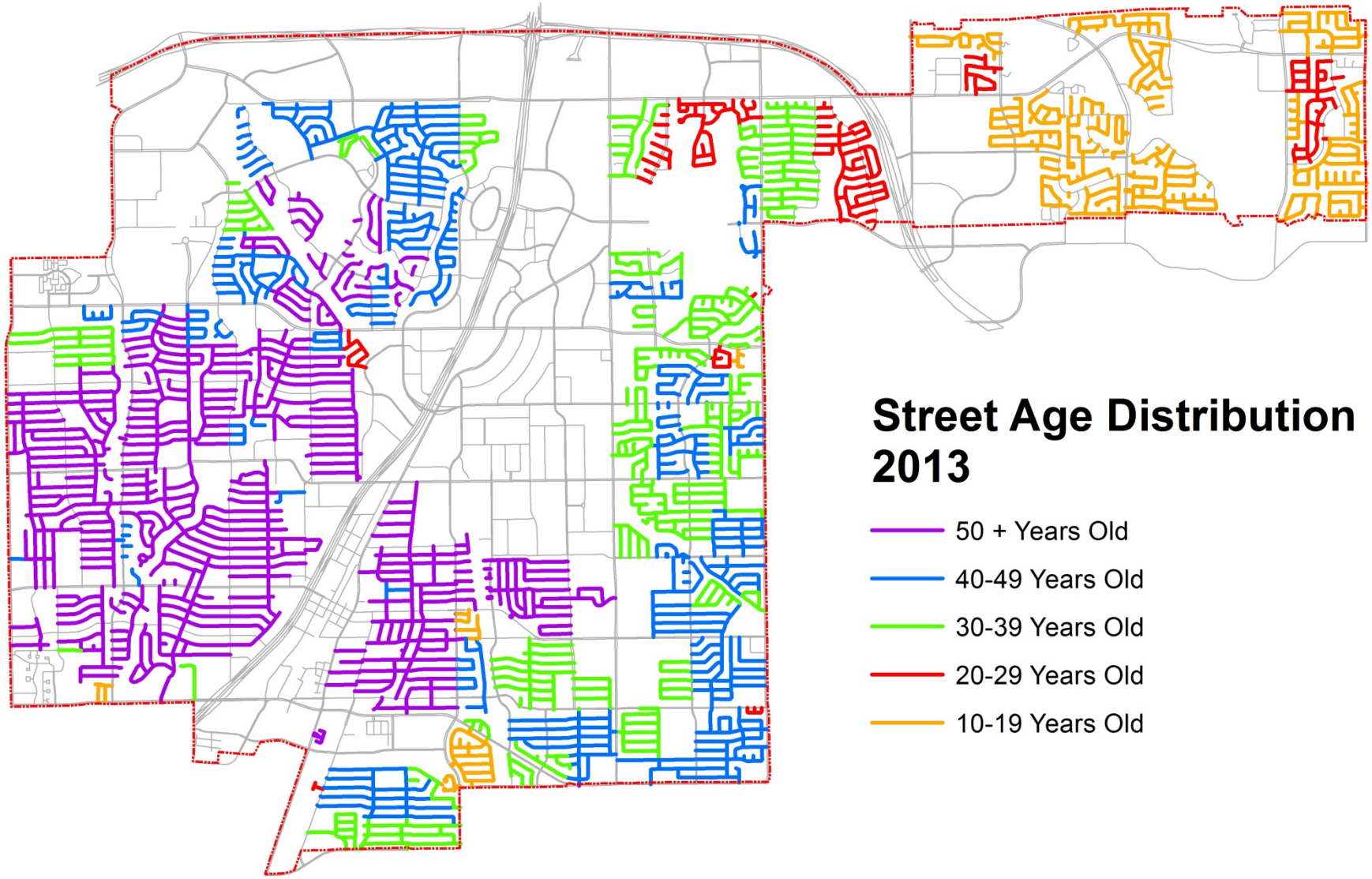



Street Age Distribution
2013
50 + Years Old


Street Age Distribution
2013
50 + Years Old
40-49 Years Old

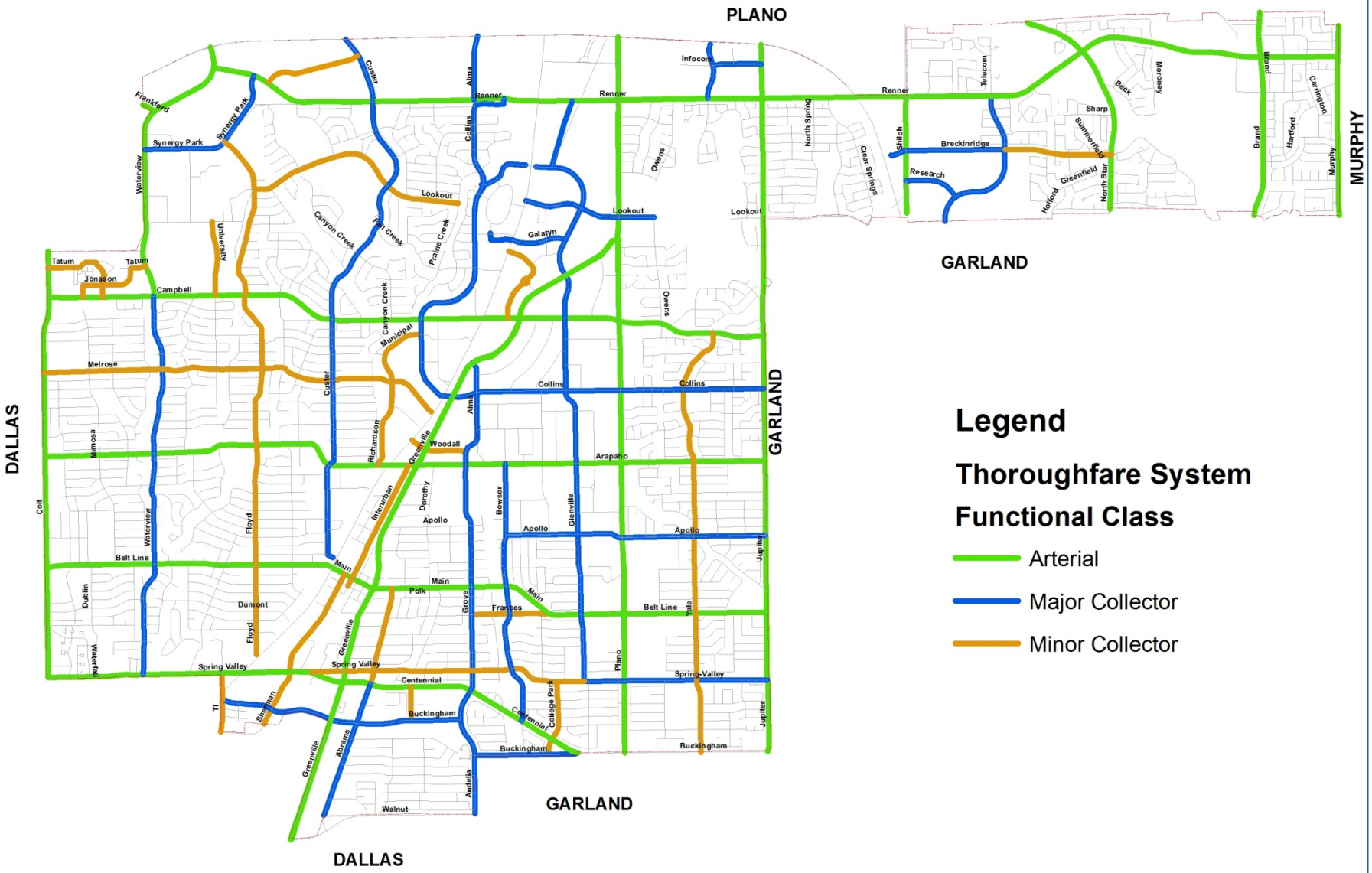

Street Age Distribution
2013
50 + Years Old
40-49 Years Old
30-39 Years Old


Street Age Distribution
2013
50 + Years Old
40-49 Years Old
30-39 Years Old
20-29 Years Old


Street Age Distribution
2013
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 - 35 Miles
- Minor Collectors - 24 Miles
- Neighborhood Collectors - 27 Miles
- Residential – 228 Miles
- Alleys - 223 miles
- **Total – 594 miles**


PLANO
GARLAND
MURPHY
DALLAS
GARLAND
DALLAS
Legend
Thoroughfare System
Functional Class
Arterial
Major Collector
Minor Collector
Frankford
Synergy Park
Synergy Park
Waterview
Custer
Alma
Renner
Renner
Infocom
Renner
Telecom
Back
Mooney
Sharp
Summerfield
Greenfield
Holford
North Star
Brand
Brand
Harford
Carrington
Murphy
North Spring
Clear Springs
Shiloh
Breckinridge
Research
Collins
Owens
Lookout
Lookout
Lookout
Galatyn
Canyon Creek
Prairie Creek
Tatum
Tatum
Jonsson
Campbell
University
Canyon Creek
Municipal
Melrose
Custer
Collins
Collins
Alma
Mimosa
Richardson
Greenville
Woodall
Arapaho
Colt
Waterview
Floyd
Interurban
Dorothy
Apollo
Bowser
Apollo
Glenville
Apollo
Jupiter
Belt Line
Main
Main
Polk
Main
Grove
Frances
Belt Line
Yale
Dublin
Dumont
Floyd
Waterfall
Greenville
Spring Valley
Spring Valley
Plano
Spring Valley
Centennial
Sherman
Buckingham
Centennial
College Park
Jupiter
Buckingham
Buckingham
Abrams
Greenville
Audelia
Walnut

Street Types

- Concrete
  - 301 miles

La Salle Drive

Street Types

- Concrete
  - 301 miles
- Asphalt Overlay
  - 60 miles

Bowser Road

Street Types

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

Edgehill Drive

Factors that Impact Street Condition

- Weather
  - Excessive temperatures – Heat Heaves
  - Rain / Drought
  - Freezing-thawing cycle in particular
- Underground utilities
  - Breaks
  - Movement
- Traffic loading; Excessive vehicle weight
- 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

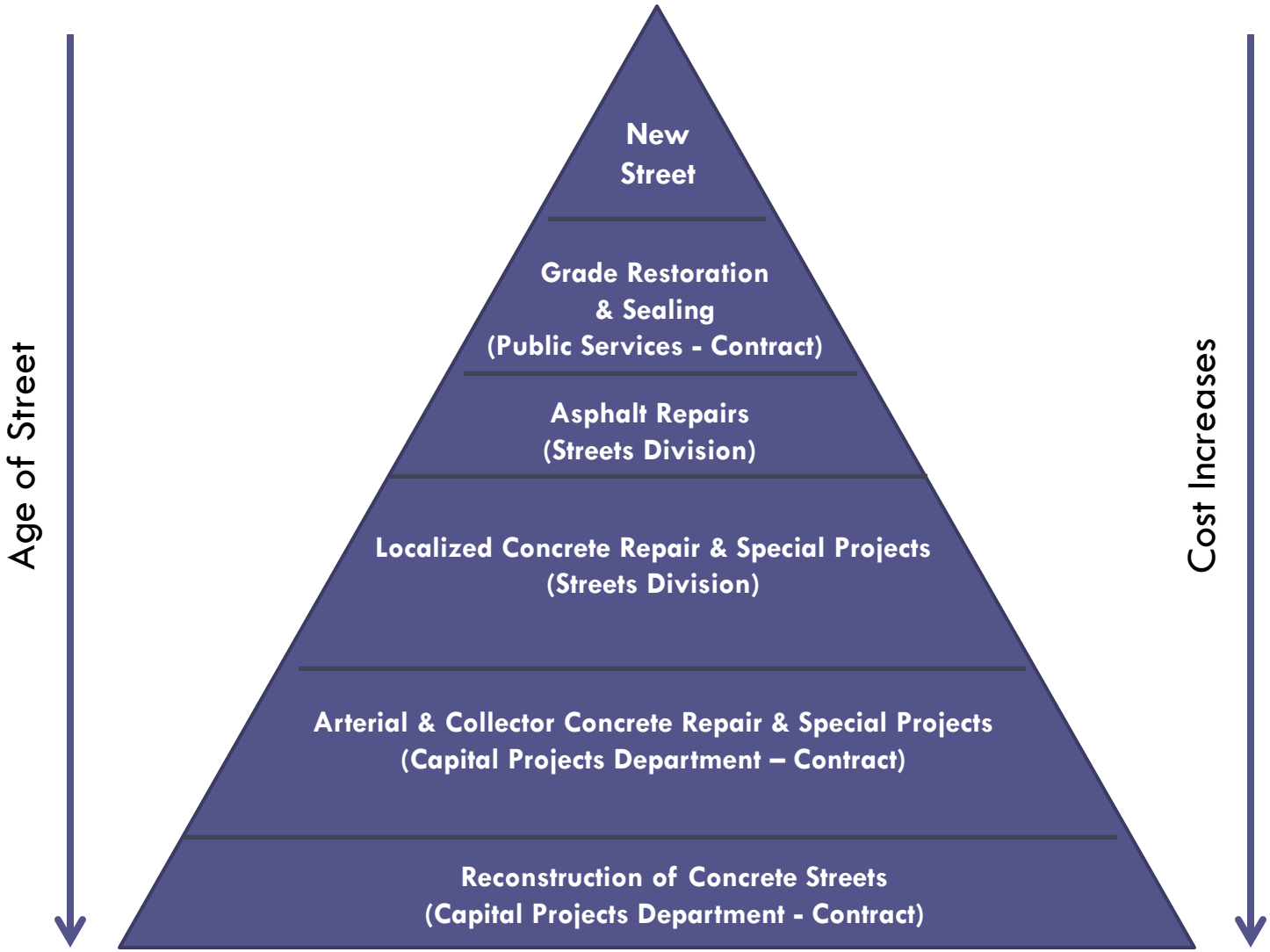
Types of Distress

- 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

- Function of grade restoration
  - Eliminates standing/pooling water on streets
- How does it work?
  - High density polyurethane foam is injected under the concrete
  - The foam hardens and expands restoring the street's positive grade and achieving proper water drainage
- Benefits
  - Minimally invasive – "open cutting" not required
  - Traffic can be restored immediately after injection process

Grade Restoration

Grade Restoration

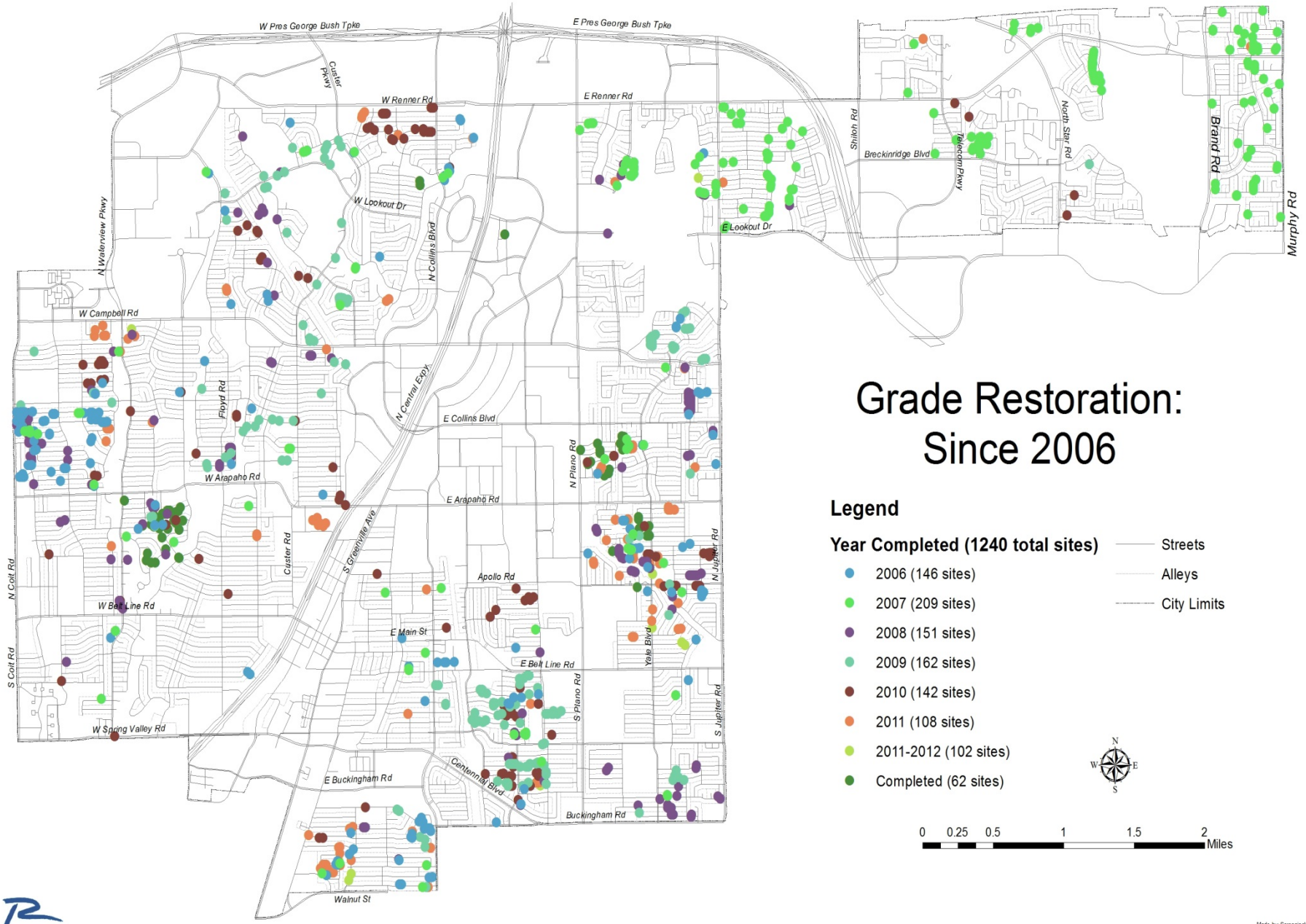
Grade Restoration

Grade Restoration

Grade Restoration

Grade Restoration

- Work performed by contractor; supervised by Public Services
- Funding source has historically has been the “Penny Tax”
  - $200,000-$250,000 annually
- Approximately 125 locations are repaired annually
  - Average cost per repair location is $1,600
  - There are numerous restoration points that are raised and leveled at each of these locations
- Repairs are lasting; very few locations need to be worked twice


W Pres George Bush Tpke
E Pres George Bush Tpke
Custer Pkwy
W Renner Rd
E Renner Rd
Shiloh Rd
Breckinridge Blvd
Telecom Pkwy
North Star Rd
Brand Rd
Murphy Rd
W Lookout Dr
E Lookout Dr
N Waterview Pkwy
N Collins Blvd
W Campbell Rd
Floyd Rd
N Central Expy
E Collins Blvd
N Plano Rd
W Arapaho Rd
E Arapaho Rd
S Greenville Ave
Custer Rd
N Jupiter Rd
N Coit Rd
Apollo Rd
W Belt Line Rd
E Main St
Yale Blvd
E Belt Line Rd
S Coit Rd
S Plano Rd
S Jupiter Rd
W Spring Valley Rd
E Buckingham Rd
Centennial Blvd
Buckingham Rd
Walnut St
Grade Restoration:
Since 2006
Legend
Year Completed (1240 total sites)
2006 (146 sites)
2007 (209 sites)
2008 (151 sites)
2009 (162 sites)
2010 (142 sites)
2011 (108 sites)
2011-2012 (102 sites)
Completed (62 sites)
Streets
Alleys
City Limits
N
W
E
S
0
0.25
0.5
1
1.5
2
Miles
Information Technology GIS
Made by: ScrogginsH
Date: 5/30/2013
File: V:\HeatherS\June2013CouncilMaps\GradeRestoration_24X36.mxd

Joint / Crack Sealing

Joint / Crack Sealing

- Function of joint / crack sealing
  - Prevents water from entering into and degrading the subgrade of the street
    - Water degrading the street's subgrade is the primary cause of potholes and pavement failures
- How does it work?
  - The crack is routed
  - All loose material is removed from the crack
  - Sealant is applied

Un-Routed Seal

Routed Seal

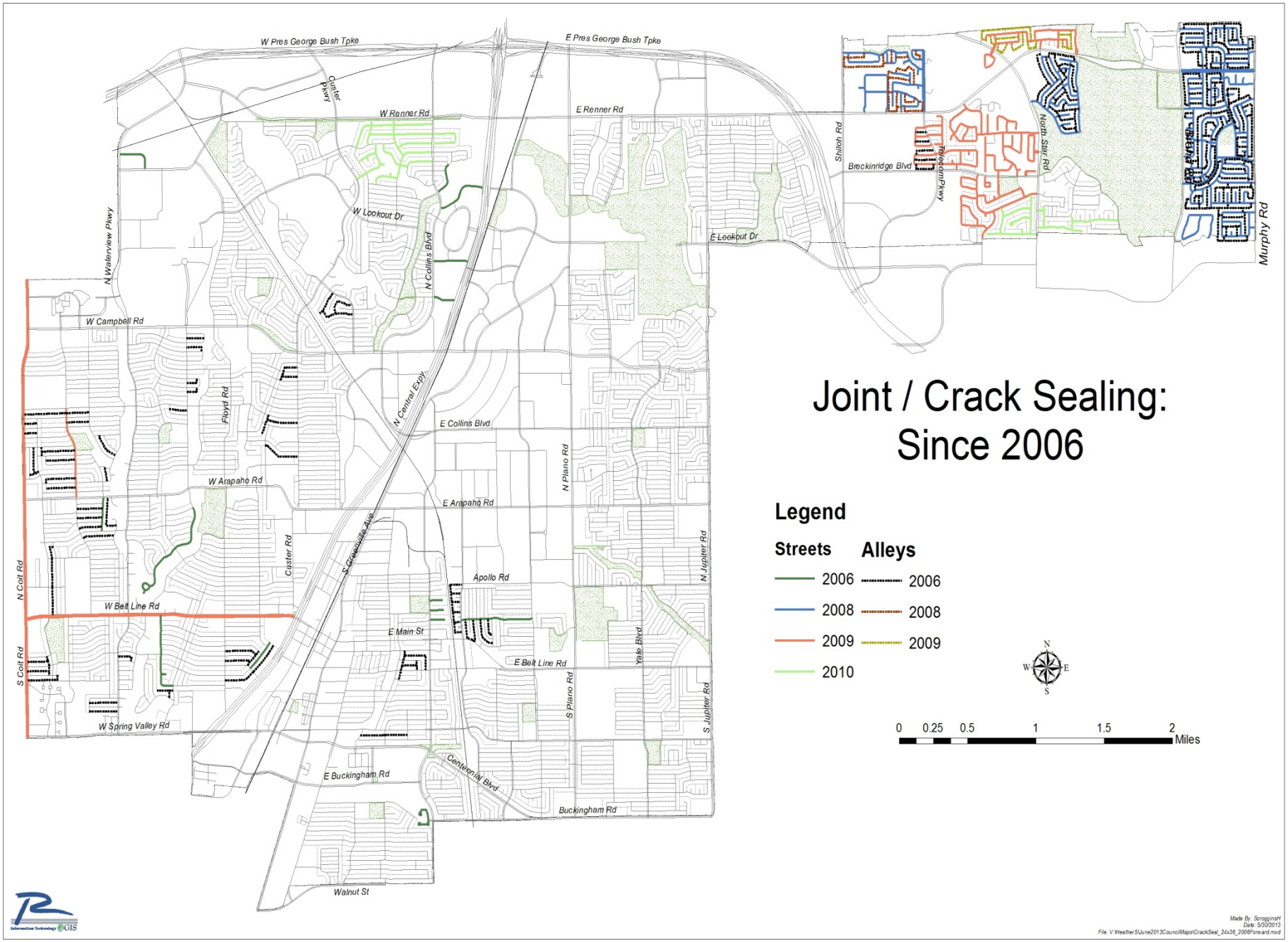
Joint / Crack Sealing

- Black vs. Gray Sealant
  - Black is the industry standard due to favorable historical performance, cost, availably
  - Gray is relatively new, is more expensive and less durable
    - Turns from gray to black with time

Gray Sealing Material (City of Waco)

Joint / Crack Sealing

- Work performed by contractor; supervised by Public Services
- Funding source has historically been the "Penny Tax"
  - $200,000-$250,000 annually
  - Approximately $2 per center lane linear feet
- The number of locations completed in any given year is dependent on the condition of the specific streets under repair
- Sealing lasts approximately 8 to 10 years


Joint / Crack Sealing:
Since 2006
Legend
Streets
2006
2008
2009
2010
Alleys
2006
2008
2009
0 0.25 0.5 1 1.5 2 Miles
W Pres George Bush Tpke
E Pres George Bush Tpke
Custer Pkwy
W Renner Rd
E Renner Rd
Shiloh Rd
Breckinridge Blvd
Telecom Pkwy
North Star Rd
Murphy Rd
W Lookout Dr
E Lookout Dr
N Waterview Pkwy
N Collins Blvd
W Campbell Rd
Floyd Rd
N Central Expy
E Collins Blvd
N Plano Rd
W Arapaho Rd
E Arapaho Rd
Custer Rd
S Greenville Ave
N Jupiter Rd
N Colt Rd
Apollo Rd
W Belt Line Rd
E Main St
E Belt Line Rd
Yale Blvd
S Colt Rd
S Plano Rd
S Jupiter Rd
W Spring Valley Rd
E Buckingham Rd
Centennial Blvd
Buckingham Rd
Walnut St
Made By: ScrogginsH
Date: 5/30/2013
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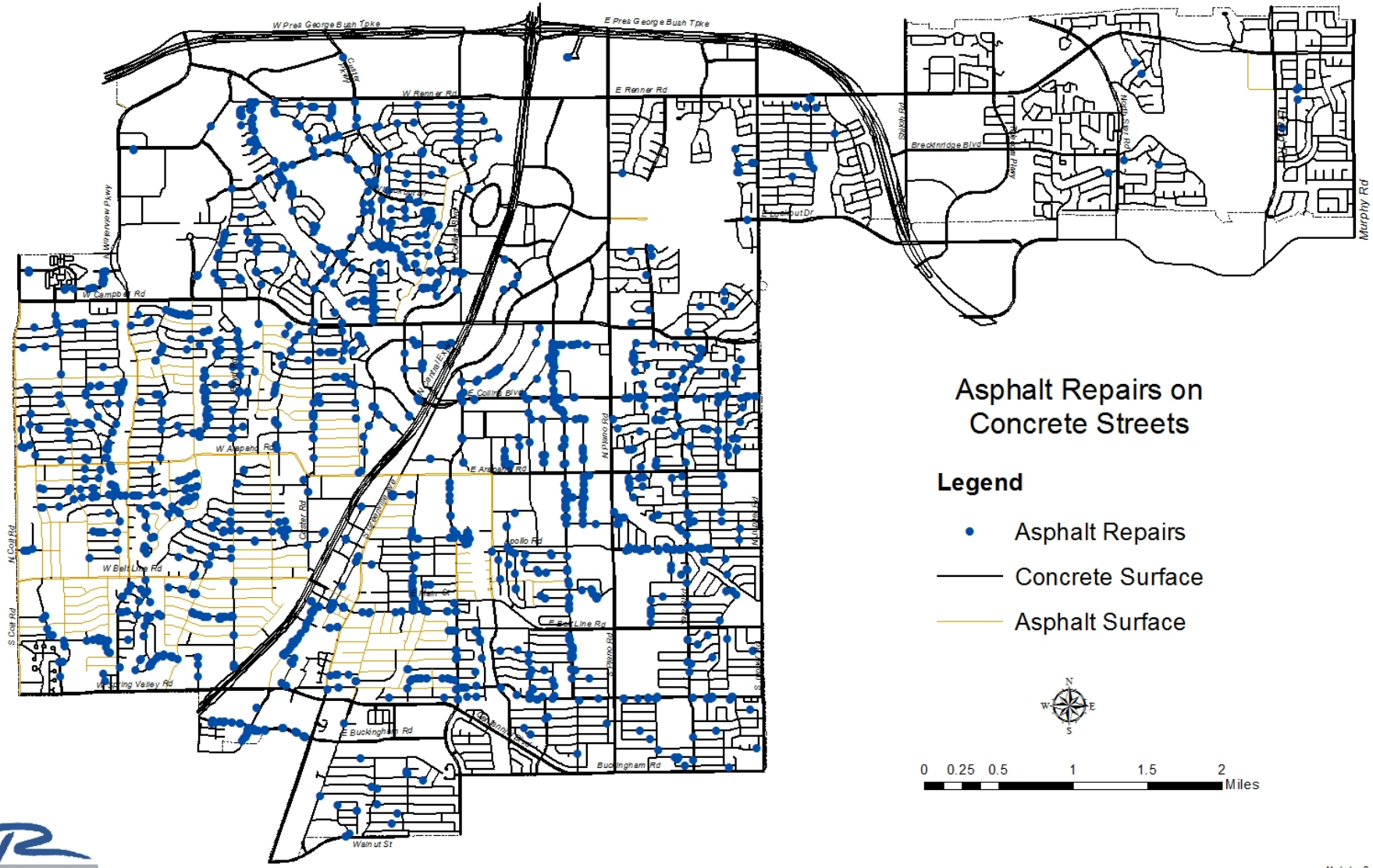
Asphalt Repairs

Asphalt Repairs

- Function of Asphalt Repairs
  - Provides for the immediate and dependable repair of potholes and other concrete failures
    - Quickly improves the safety of the driving surface
      - Takes less time to complete than concrete repair
      - Can be performed in all weather conditions
    - Allows for immediate traffic restoration



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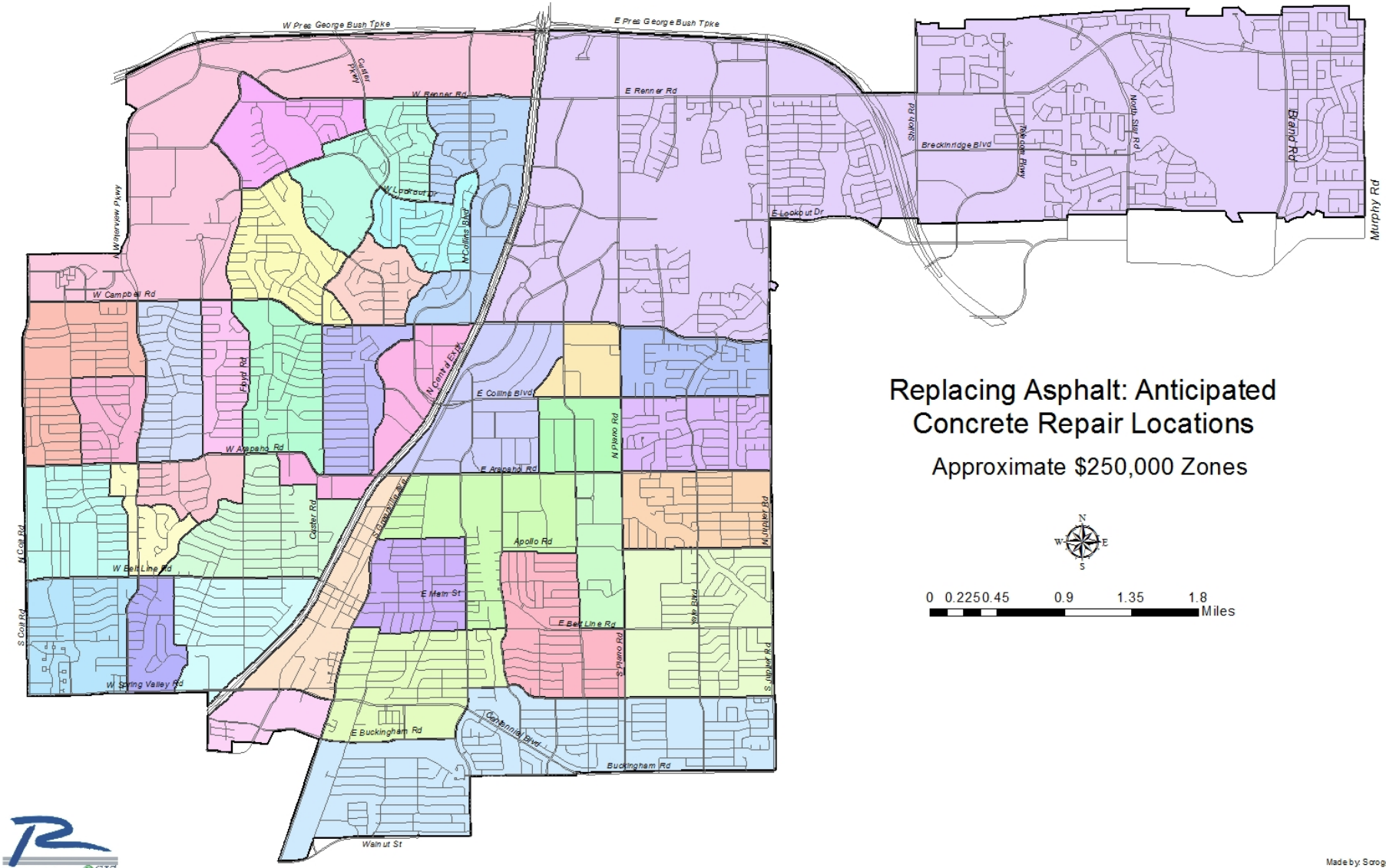
W Pres George Bush Tpke
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W Renner Rd
E Renner Rd
Custer Pkwy
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Breckinridge Blvd
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N Glenville Dr
W Campbell Rd
Floyd Rd
N Central Exp
E Collins Blvd
N Plano Rd
W Arapaho Rd
E Arapaho Rd
Custer Rd
S Central Exp
N Jupiter Rd
Apollo Rd
N Coit Rd
W Belt Line Rd
E Main St
E Belt Line Rd
Yale Blvd
S Coit Rd
S Plano Rd
S Jupiter Rd
W Spring Valley Rd
E Buckingham Rd
Centennial Blvd
Buckingham Rd
Walnut St
Replacing Asphalt: Anticipated Concrete Repair Locations
Approximate $250,000 Zones
N
W
E
S
0 0.225 0.45 0.9 1.35 1.8
Miles
Information Technology GIS
Made by: ScrogginsH
Date: 6/14/2013
File: V:\HeatherS\June2013CouncilMaps\AsphaltPatches_24X36.mxd

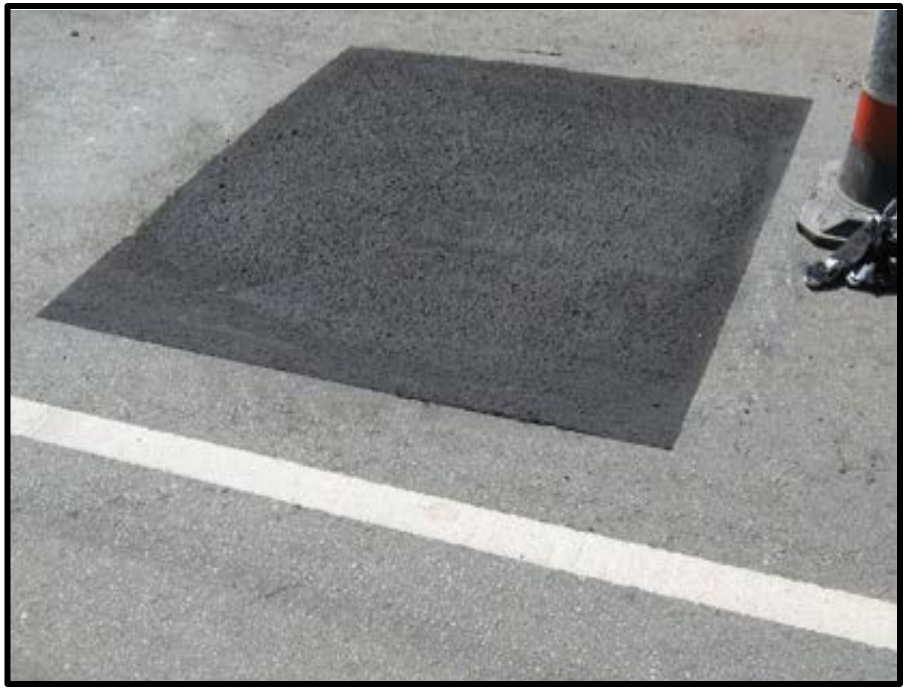
Asphalt Repairs

- Work performed by Streets Division
- Funding source is the Streets operating budget
  - Approximately $950,000 annually
  - Average Unit Cost for asphalt repair - $85/SY

Approach to Asphalt Repairs

- Locations repaired with hot-mix asphalt will be ground down forming a square at least 3' X 3' to provide an edge for the asphalt to meet against
  - Keeps the asphalt from raveling - coming loose
  - Is more aesthetically appealing
- Locations in need of emergency repair and/or repair under wet conditions will be repaired with cold-mix asphalt initially
  - Will not be squared - will simply fill failed area
  - Will be replaced with hot-mix asphalt as soon as possible
    - Cold-mix locations will be tracked via the new database until replaced with hot-mix asphalt, at which time it will be included with other locations in need of permanent repair

Asphalt Repairs



Localized Concrete Repair Program

Residential Streets, Special Projects

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

Localized Concrete Repair

- Work is performed by the Streets Division
- Funding source is the Streets Operating Budget
  - Approximately $1,065,000 annually
  - Average Unit Cost for pavement repair - $105/SY

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 feet 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)

Localized Concrete Repair

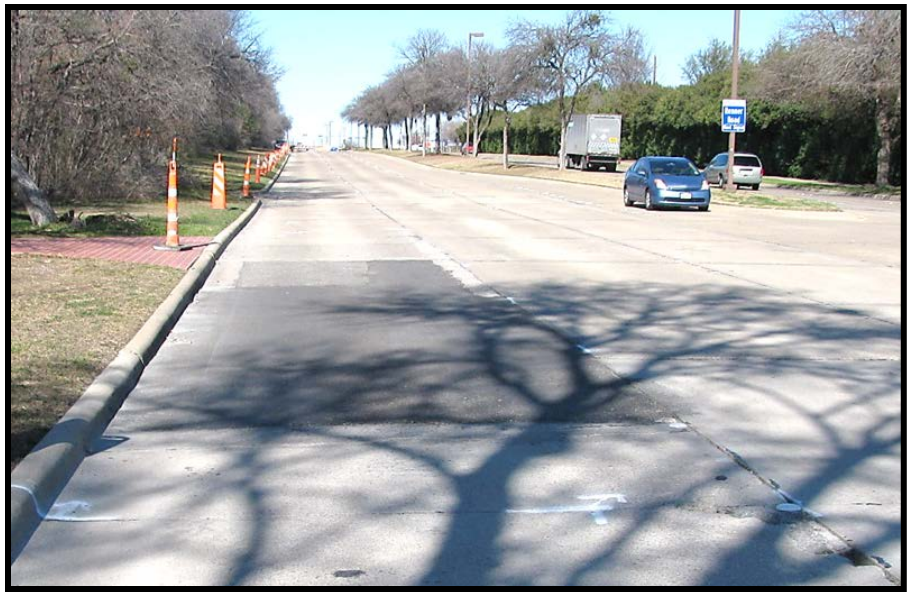
Pavement Repair Contract

Arterials, Collectors, Special Projects

Pavement Repair Contract

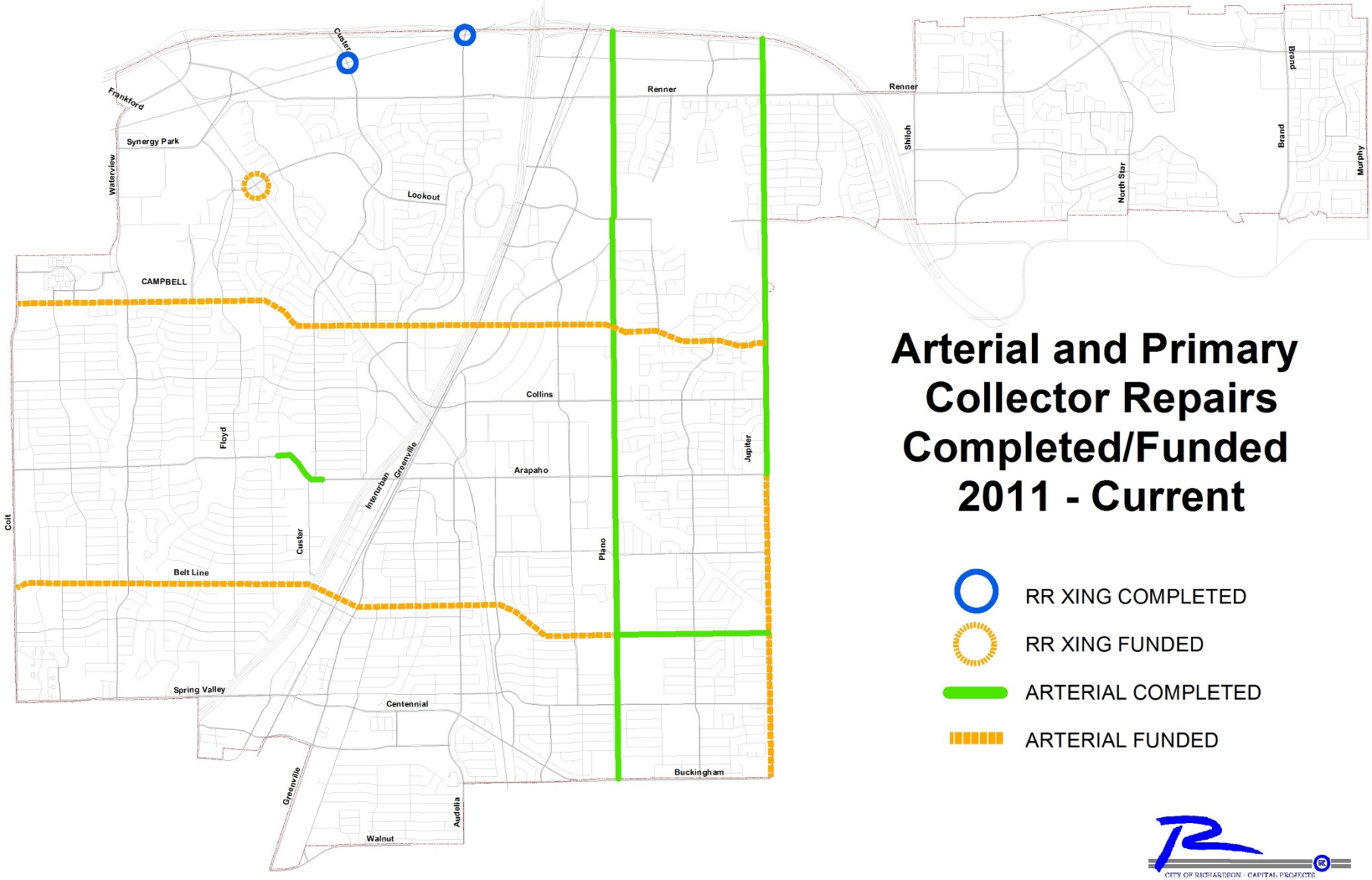
- Scheduled pavement repair for medium and large projects
- Focus has been arterial and primary collector streets since 2011
- Projects generally have durations of two weeks or longer
- Projects may require extensive traffic control or specialized equipment
- Focus is to replace asphalt repairs with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

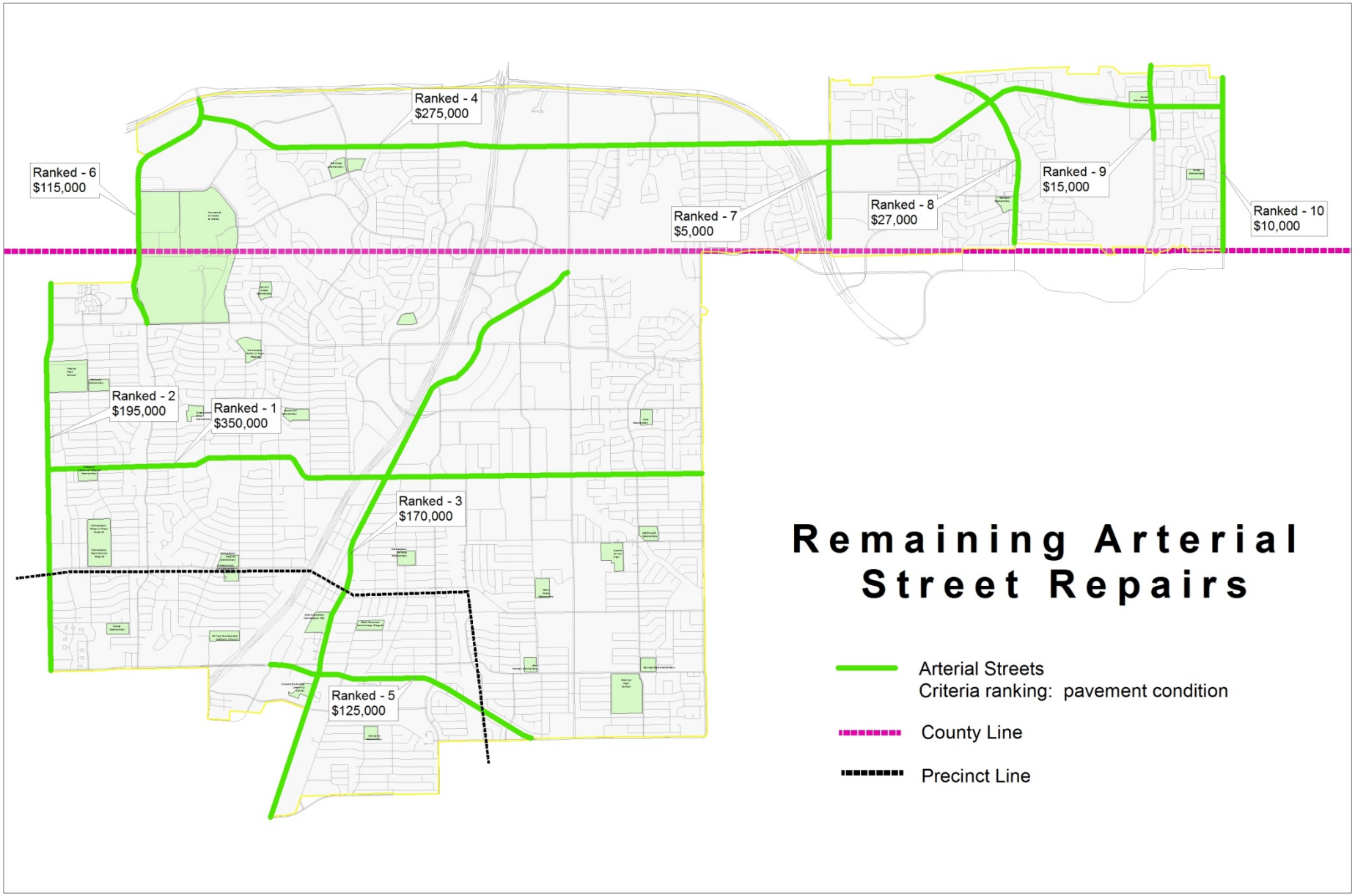
Pavement Repair Contract

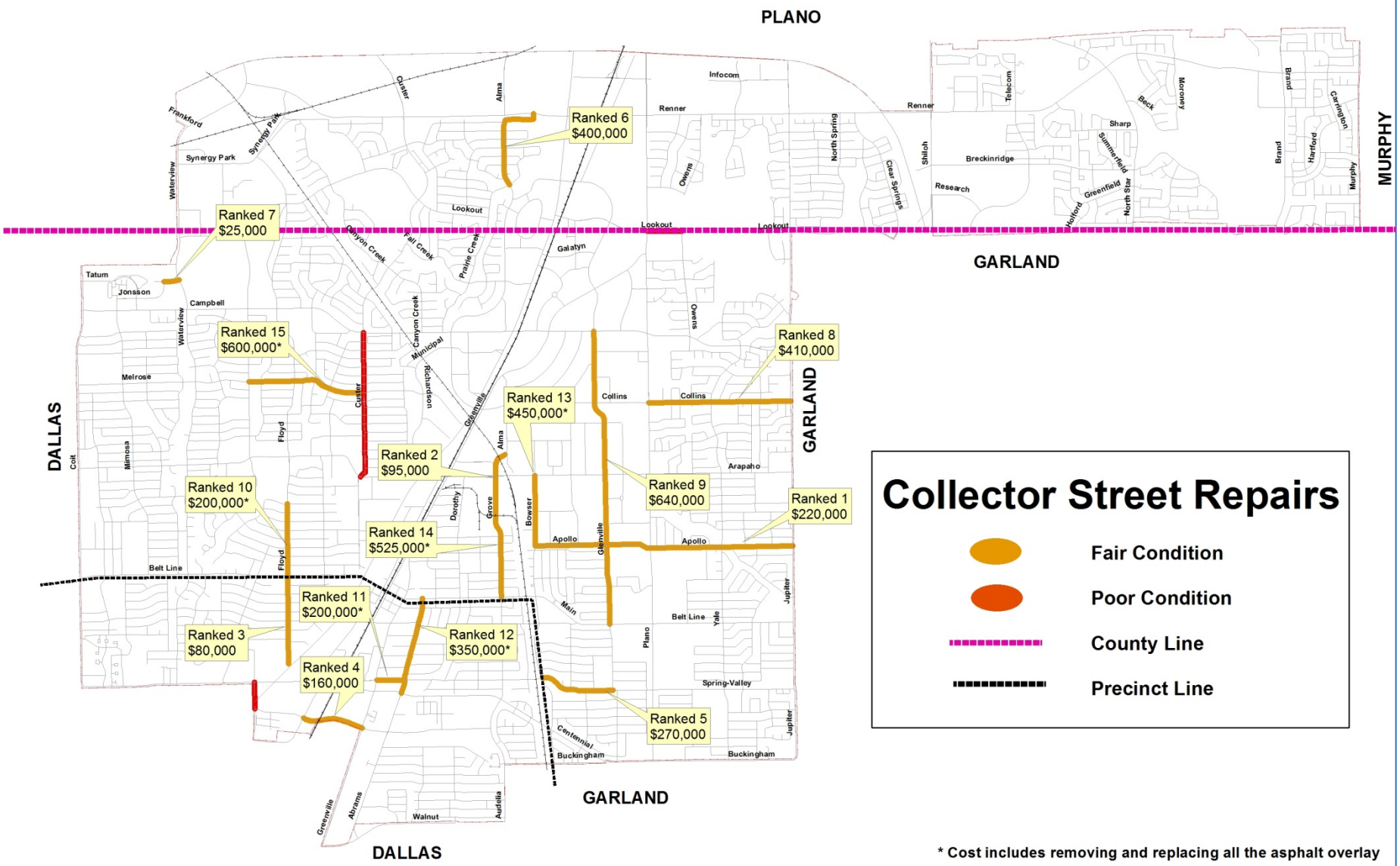


Pavement Repair Contract

- Work is performed by a contractor; supervised by Capital Projects
- Funding source has historically been the "Penny Tax"
  - Approximately $500,000 annually
  - Additional funding has been obtained from Dallas County
  - Matching funds from Collin County are also being pursued
  - Average Unit Cost for pavement repair - $85/SY


Arterial and Primary Collector Repairs Completed/Funded 2011 - Current
RR XING COMPLETED
RR XING FUNDED
ARTERIAL COMPLETED
ARTERIAL FUNDED
Custer
Frankford
Synergy Park
Waterview
Lookout
Renner
Shiloh
North Star
Brand
Murphy
CAMPBELL
Collins
Floyd
Greenville
Interurban
Arapaho
Jupiter
Coit
Custer
Plano
Belt Line
Spring Valley
Centennial
Buckingham
Greenville
Audelia
Walnut
CITY OF RICHARDSON - CAPITAL PROJECTS


Ranked - 4
$275,000
Ranked - 6
$115,000
Ranked - 7
$5,000
Ranked - 8
$27,000
Ranked - 9
$15,000
Ranked - 10
$10,000
Ranked - 2
$195,000
Ranked - 1
$350,000
Ranked - 3
$170,000
Ranked - 5
$125,000
Remaining Arterial Street Repairs
Arterial Streets
Criteria ranking: pavement condition
County Line
Precinct Line



* Cost includes removing and replacing all the asphalt overlay

Street Reconstruction – Capital Improvement

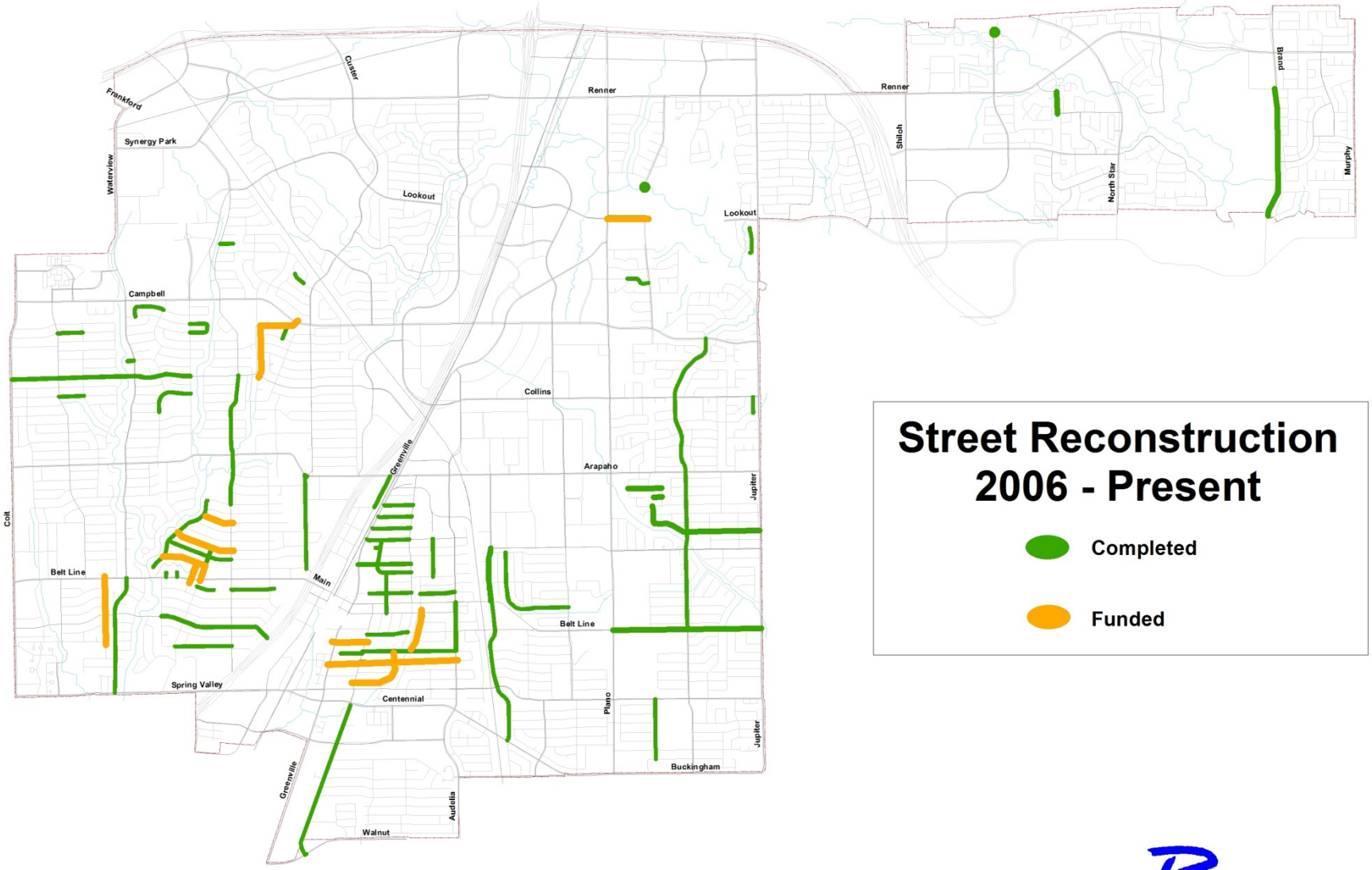
Street Reconstruction – Capital Improvement

- Major reconstruction or complete replacement of pavement asset
  - Substandard condition or road type
    - Asset has reached end of useful life
    - Replacement is more cost effective than continued extensive maintenance required to meet desired condition threshold
  - Upgrade or replacement of underlying utilities warrant major pavement replacement
- Project selection based on city wide condition assessment, coordination with other projects, anticipated redevelopment
- Primary funding source is GO Bond Program

Street Reconstruction – Capital Improvement

Apollo Road - Before

Apollo Road – After


Frankford
Synergy Park
Waterview
Custer
Renner
Lookout
Campbell
Collins
Arapaho
Greenville
Jupiter
Colt
Belt Line
Main
Spring Valley
Centennial
Plano
Buckingham
Audelia
Walnut
Shiloh
North Star
Brand
Murphy
Street Reconstruction
2006 - Present
Completed
Funded
CITY OF RICHARDSON - CAPITAL PROJECTS

3 Year Streets Management Strategy

Guiding Principles

- Plan should address 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
  - Goal is to replace asphalt repairs with concrete
- Plan should be fluid, adaptable
  - If external funding opportunities arise, plan should be updated to leverage city funds to maximize repair areas
- Place temporary increased emphasis on repair function verses preventative maintenance

Streets Management 3 Year Strategy

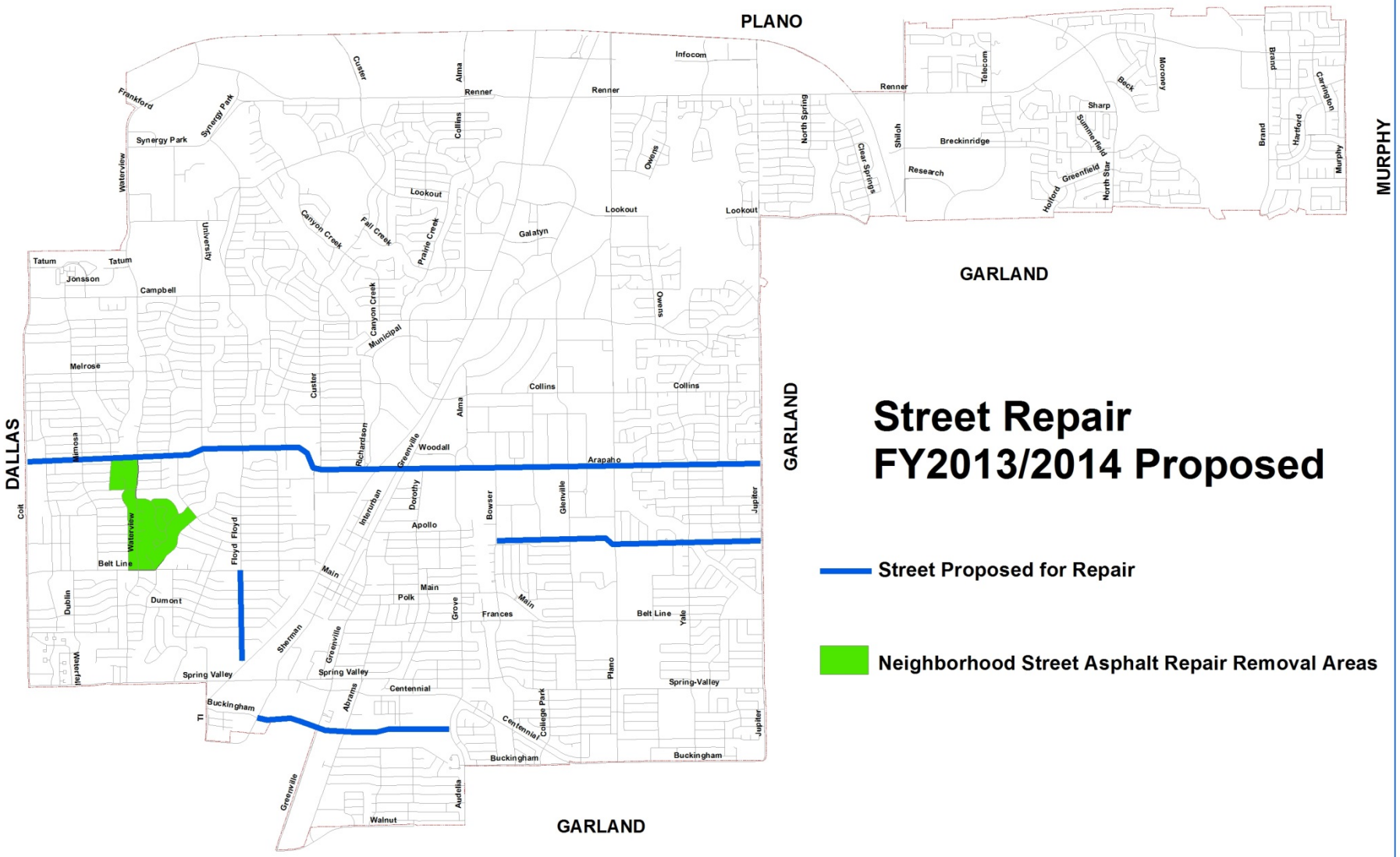
	FY 12/13 Actual			
Preventative Maintenance-Grade Leveling / Sealing*	$500,000			
Arterial Street Repair Program*	$500,000			
Collector Street Repair Program*	$0			
Neighborhood Street Repair Program*	$0			
Streets Operating Budget–Materials for Concrete Repairs	$235,000			
Total	$1,235,000			

*Penny Tax

Streets Management 3 Year Strategy

	FY 12/13 Actual	FY 13/14 Goal +250,000		
Preventative Maintenance-Grade Leveling / Sealing*	$500,000	$250,000		
Arterial Street Repair Program*	$500,000	$350,000		
Collector Street Repair Program*	$0	$450,000		
Neighborhood Street Repair Program*	$0	$250,000		
Streets Operating Budget–Materials for Concrete Repairs	$235,000	$185,000		
Total	$1,235,000	$1,485,000		

*Penny Tax



Street Repair FY2013/2014 Proposed

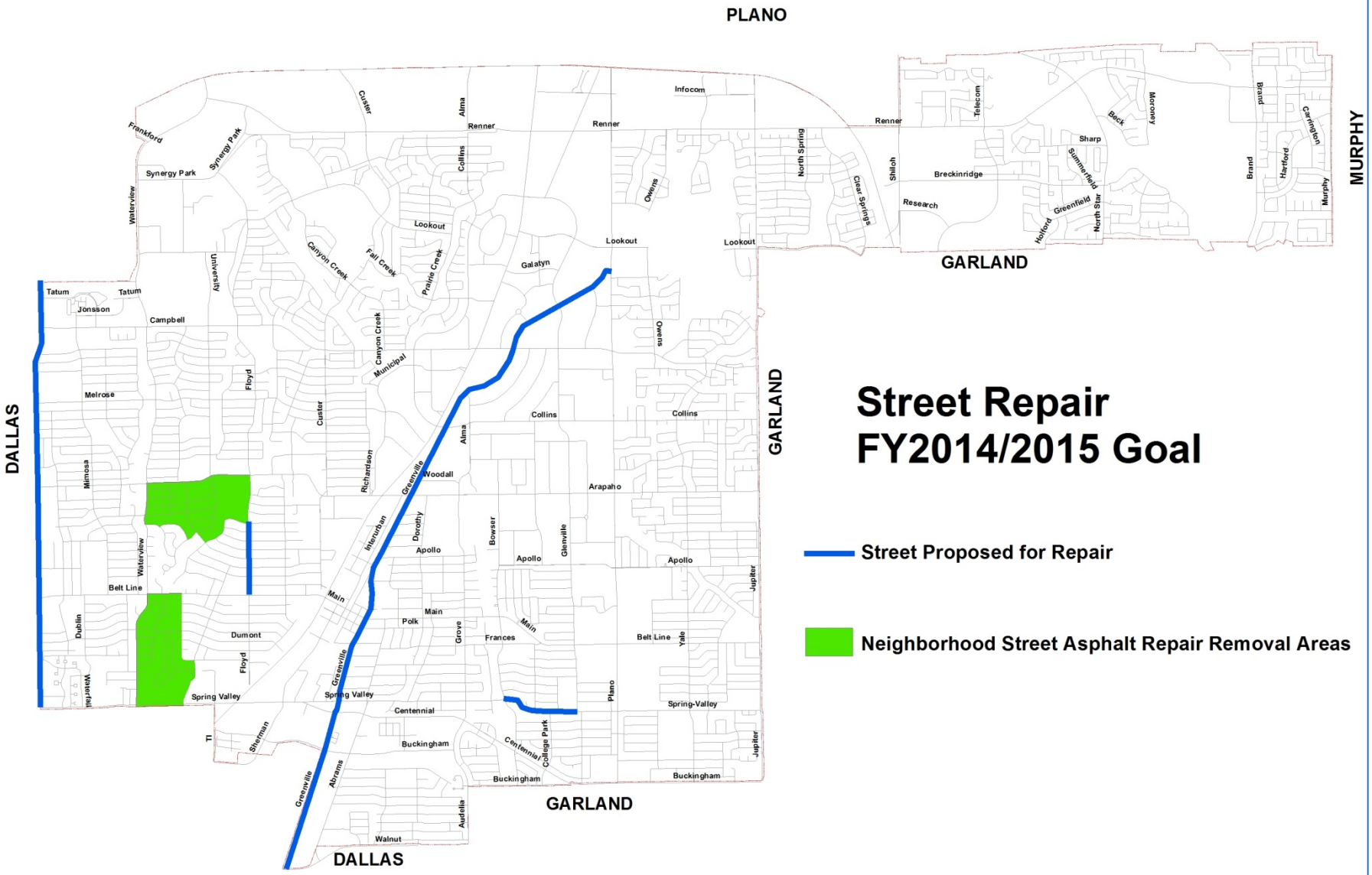
Street Proposed for Repair

Neighborhood Street Asphalt Repair Removal Areas

Streets Management 3 Year Strategy

	FY 12/13 Actual	FY 13/14 Goal +250,000	FY 14/15 Goal +500,000	FY 15/16 Goal +750,000
Preventative Maintenance-Grade Leveling / Sealing*	$500,000	$250,000	$300,000	
Arterial Street Repair Program*	$500,000	$350,000	$365,000	
Collector Street Repair Program*	$0	$450,000	$485,000	
Neighborhood Street Repair Program*	$0	$250,000	$500,000	
Streets Operating Budget–Materials for Concrete Repairs	$235,000	$185,000	$185,000	
Total	$1,235,000	$1,485,000	$1,735,000	

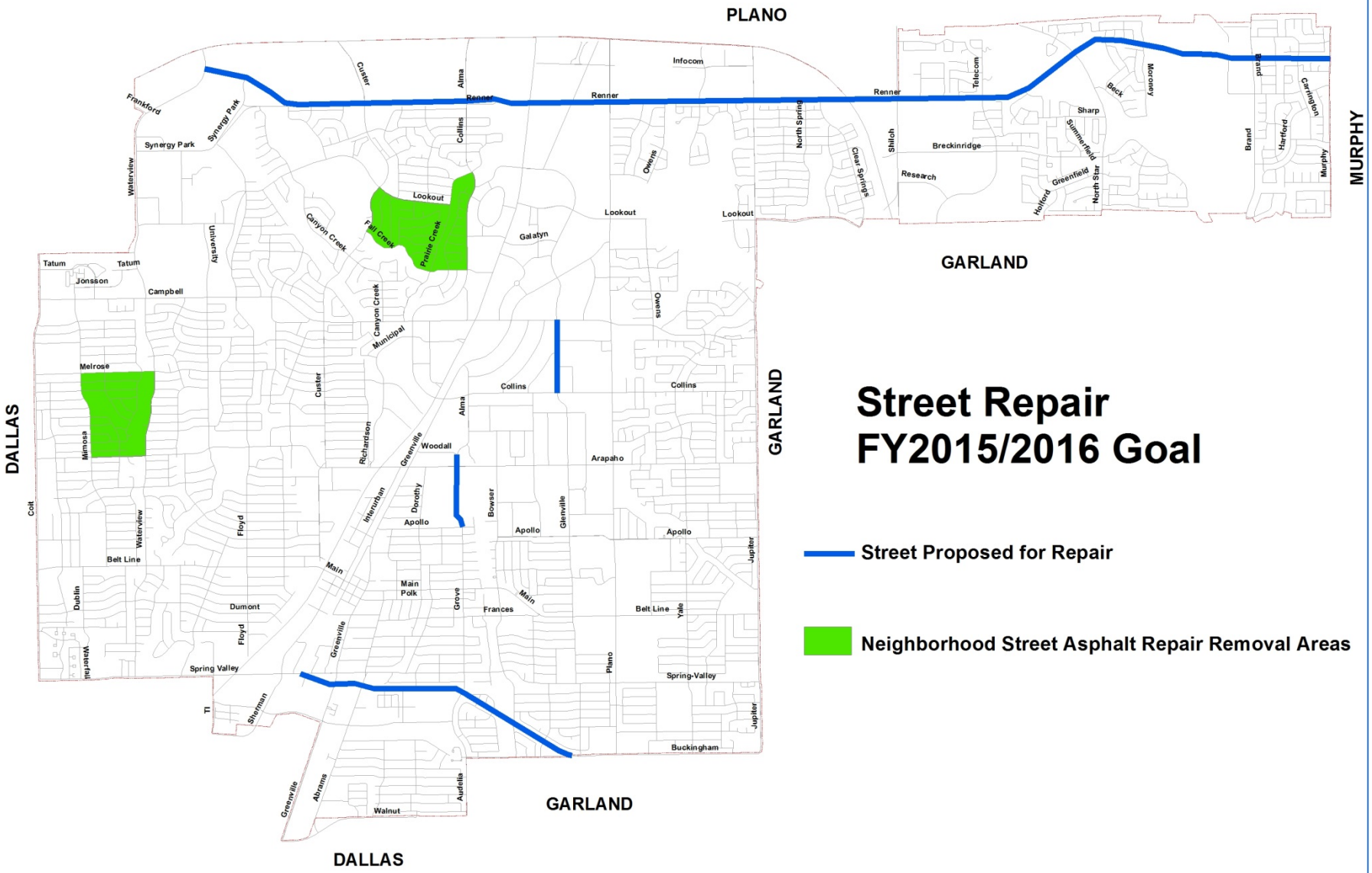
*Penny Tax


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

Streets Management 3 Year Strategy

	FY 12/13 Actual	FY 13/14 Goal +250,000	FY 14/15 Goal +500,000	FY 15/16 Goal +750,000
Preventative Maintenance-Grade Leveling / Sealing*	$500,000	$250,000	$300,000	$400,000
Arterial Street Repair Program*	$500,000	$350,000	$365,000	$400,000
Collector Street Repair Program*	$0	$450,000	$485,000	$500,000
Neighborhood Street Repair Program*	$0	$250,000	$500,000	$500,000
Streets Operating Budget–Materials for Concrete Repairs	$235,000	$185,000	$185,000	$185,000
Total	$1,235,000	$1,485,000	$1,735,000	$1,985,000

*Penny Tax


PLANO
GARLAND
MURPHY
DALLAS
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DALLAS
Street Repair
FY2015/2016 Goal
Street Proposed for Repair
Neighborhood Street Asphalt Repair Removal Areas
Frankford
Synergy Park
Synergy Park
Custer
Alma
Renner
Renner
Renner
Infocom
Telecom
Beck
Moroney
Brand
Carrington
Sharp
Summerfield
Breckinridge
Shiloh
North Spring
Clear Springs
Research
Greenfield
North Star
Holford
Hartford
Brand
Murphy
Waterview
Collins
Owens
Lookout
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Canyon Creek
Fall Creek
Prairie Creek
University
Tatum
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Interurban
Dorothy
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Yale
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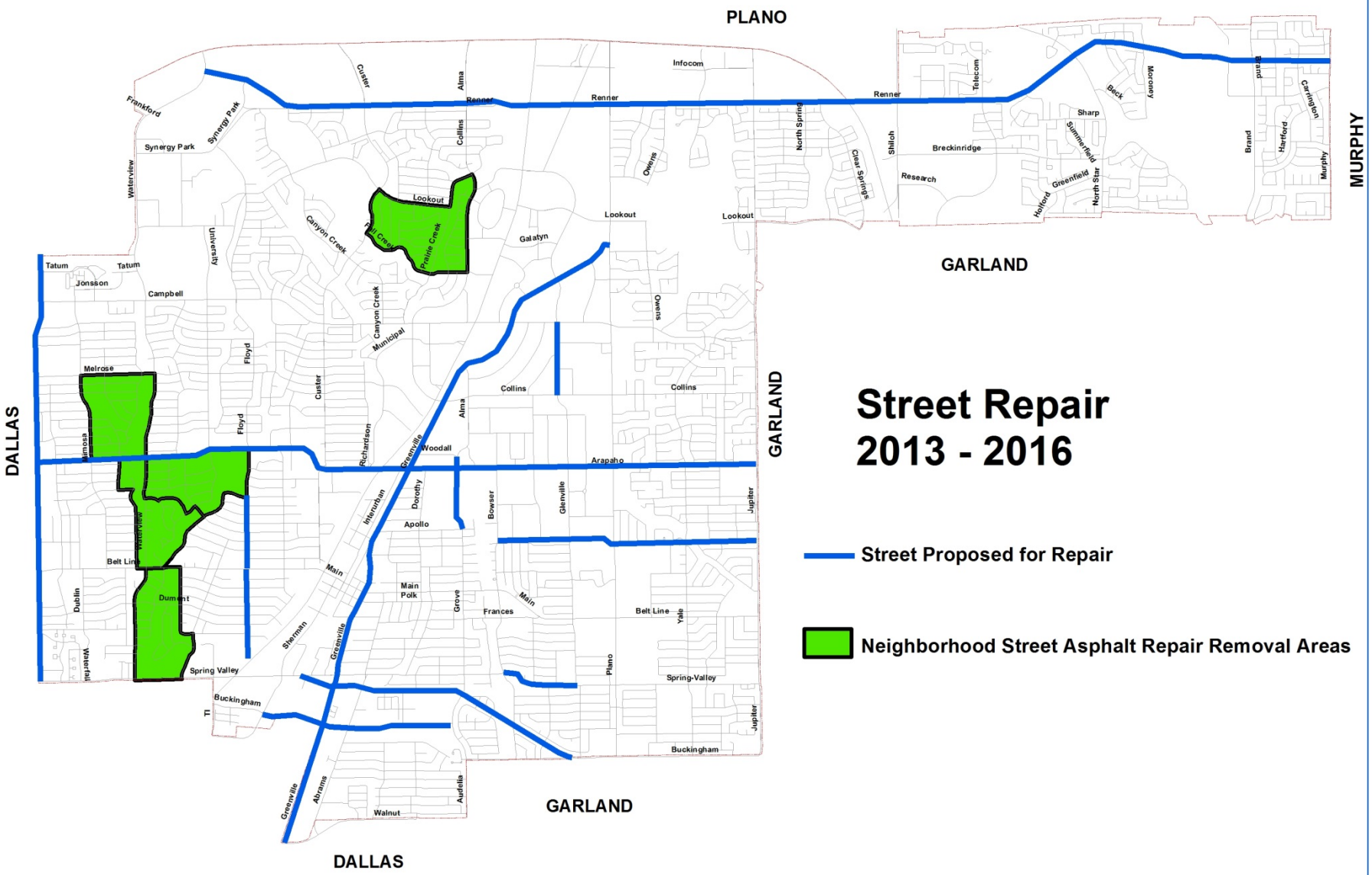
Walnut
Audelia


PLANO
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DALLAS
Street Repair
2013 - 2016
Street Proposed for Repair
Neighborhood Street Asphalt Repair Removal Areas
Frankford
Synergy Park
Synergy Park
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Belt Line
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Dublin
Dumont
Sherman
Greenville
Plano
Spring-Valley
Waterfall
Spring Valley
Buckingham
Jupiter
Buckingham
Greenville
Abrams
Walnut
Audelia

Next Steps

- Accept City Council feedback and suggestions.
- Assess funding goals during upcoming budget considerations.
- Continue to seek additional matching funds from Dallas/Collin County to leverage City funds.
- Continue to refine contract specifications to achieve best unit cost available for various project types.
- Continue to evaluate Streets operations to maximize funding for repairs.

CITY OF
RICHARDSON

US 75 Corridor Study

Welcome

to the

US 75 Corridor Study

Public Meetings – June 2013

Richardson City Council Briefing
June 17, 2013

Background

- Public Official meetings – Dec 19, 2012 and Feb 26, 2013
- Council Briefings – March 11, 2013
- Development of the City's Guiding Principals Vision Statement, March 11, 2013 and April 01, 2013
- During this study, staff will continue to update Council prior to all public meetings and major milestones as necessary

Richardson Public Outreach

US75 Corridor Study

- Week in Review email notices
- COR Website includes Council's Guiding Principals, Study Status, upcoming events and links to TxDOT's site.

ONLINE SERVICES | NEWS | CALENDAR | JOB OPENINGS | CITY MAPS | 972.744.4100 | LOGIN TRANSLATE THIS PAGE

Richardson TEXAS

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RESIDENTS BUSINESSES VISITORS GOVERNMENT SERVICES DEPARTMENTS I WANT TO...

- Traffic & Transportation
  - Bicycle Facilities
  - Construction Project Status
  - Frequently Asked Questions
  - Master Transportation Plan
  - Resident Information
  - School Safety
  - Traffic Count Program
  - Traffic Operations
  - Transportation Links
  - Traffic Count Map
  - US75 Study

Departments » Traffic & Transportation

US75 STUDY

Font Size: Share & Bookmark Feedback [+] Print

The Texas Department of Transportation is beginning a study of US 75 (Central Expressway) from I-635 (LBJ Freeway) to State Highway 121 (Sam Rayburn Tollway). The study is designed to identify and address mobility needs in the corridor to meet future growth, enhance quality of life, support economic development and improve public safety.

A series of public meetings will take place related to the Corridor Study as it progresses through the fall of 2015.

The City Council has set several guiding principles and goals for the Corridor Study so any reconstruction of US 75, Richardson's paramount transportation artery, will be mindful of the highway's dual role as a component of the greater statewide transportation network as well as an essential contributor to the long-term health and vitality of the city of Richardson.

COUNCIL'S GUIDING PRINCIPALS FOR US 75 RECONSTRUCTION

1. Central Expressway/US 75 operates foremost as a commuter corridor serving locally-situated regional employment centers and proximate residential population. The accommodation of comparatively larger volumes of traffic, particularly commercial trucking, is better suited to true interstate corridors.

2. Interstate status for the segment of Central Expressway/US 75 that passes through the City of Richardson would not be in the best interests of the City and is categorically opposed. However, Richardson does steadfastly maintain its support for designation of US

Click Here For **STUDY SCHEDULE**

Quick Links

City Council's US 75 Guiding Principles Document

Upcoming Events

US 75 Corridor Study

Public Meeting #2 | November & December 2013
2013-06-06 13:04:00+01:00

Identification of Conceptual & Viable Alternatives | August & October 2013
2013-06-06 13:03:00+01:00

Public Meeting - June 20, 2013
2013-06-06 12:57:00+01:00

Public Meeting - June 18, 2013
2013-02-04 11:13:00+01:00

Public Meetings

- TxDOT Open House Mtgs are this week; June 18th in Allen, June 20th in Richardson, both are 5:30pm-7:30pm
- Open house, come and go concept with printed boards for discussion. There will not be a full presentation.
- The public is invited to come and review the display boards and ask questions of the TxDOT consulting team staff.
- Comment cards will be available to provide input and feedback to TxDOT. Written feedback is due by June 30th

Project Schedule

US 75 Corridor Study

Data Collection	Dec 2012
Identification of Preliminary Alts.	Mar 2013
Public Meeting #1	Jun 2013
Identification of Conceptual Alts.	Aug 2013
Identification of Viable Alt.	Oct 2013
Public Meeting #2	Nov 2013
Corridor Development Plan	Jan 2014
Schematic Development	Jan 2014
NEPA Documentation	Jan 2014
Public Hearing	May 2015
Project Completion	Sep 2015

Progress to Date

US 75 Corridor Study

- Monthly Project Work Group Meetings (5 to date)
- Public Official meetings
- TxDOT consultant has collected data and information
- Developed preliminary alternatives for consideration
- Evaluated all the alternatives for comparison in a Matrix
- TxDOT is recommending several Alternatives for further consideration

US 75 Corridor Need and Purpose

US 75 Corridor Study

Goals and Objectives

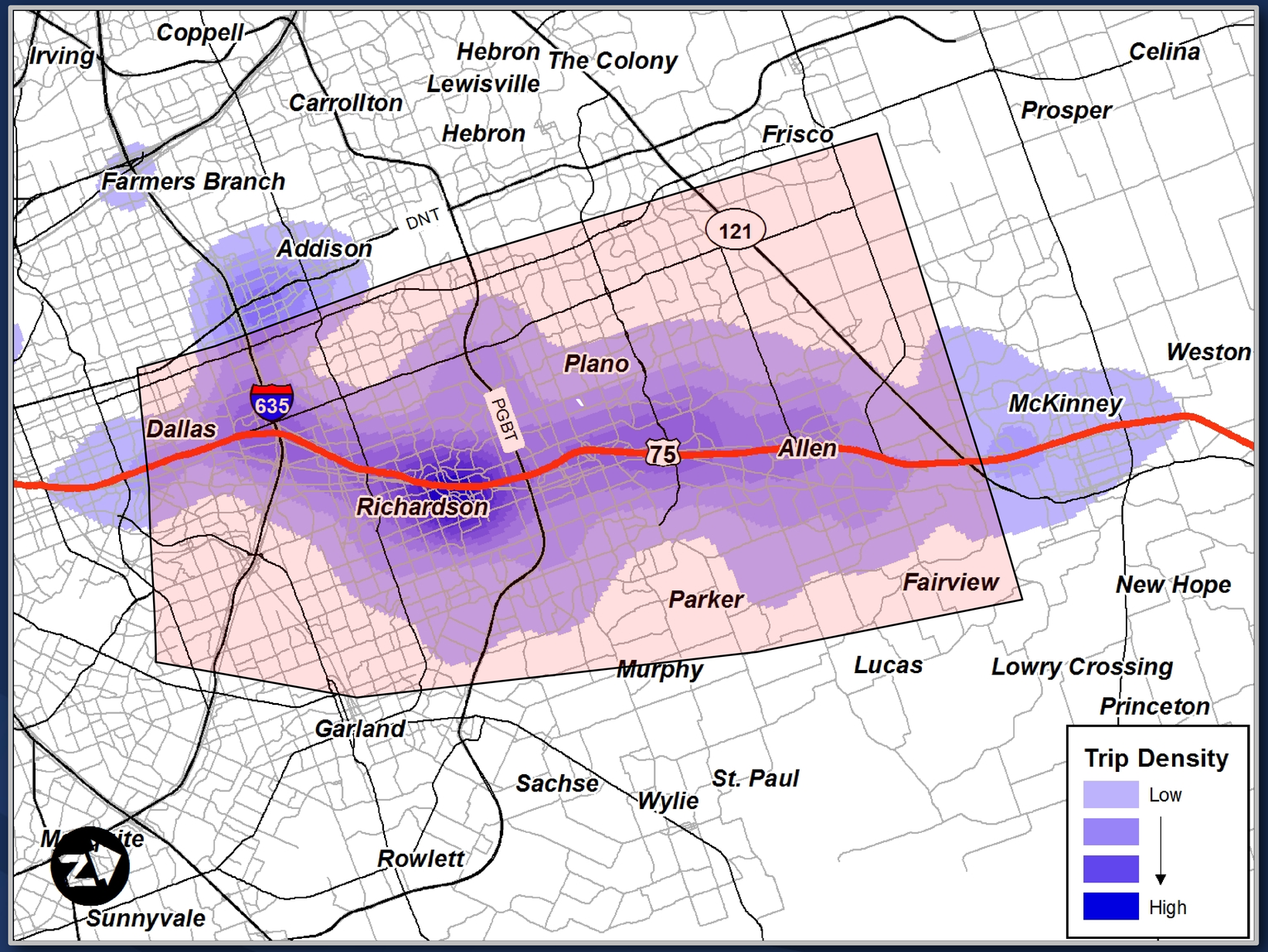
- Meet the Future Mobility and Accessibility Needs of the US 75 Corridor
- Enhance Environmental Quality and Quality of Life
- Support Economic Development in the Corridor
- Improve Public Safety
- Facilitate Financing/Funding

Need – North-south mobility improvements are needed in the US 75 Study Area to accommodate increasing traffic volumes on US 75 that have resulted from increasing population and employment growth in Dallas and Collin counties.

Purpose - To address the future mobility and accessibility needs of the US 75 corridor while enhancing environmental quality and quality of life, supporting economic development, improving public safety, and facilitating financing options.

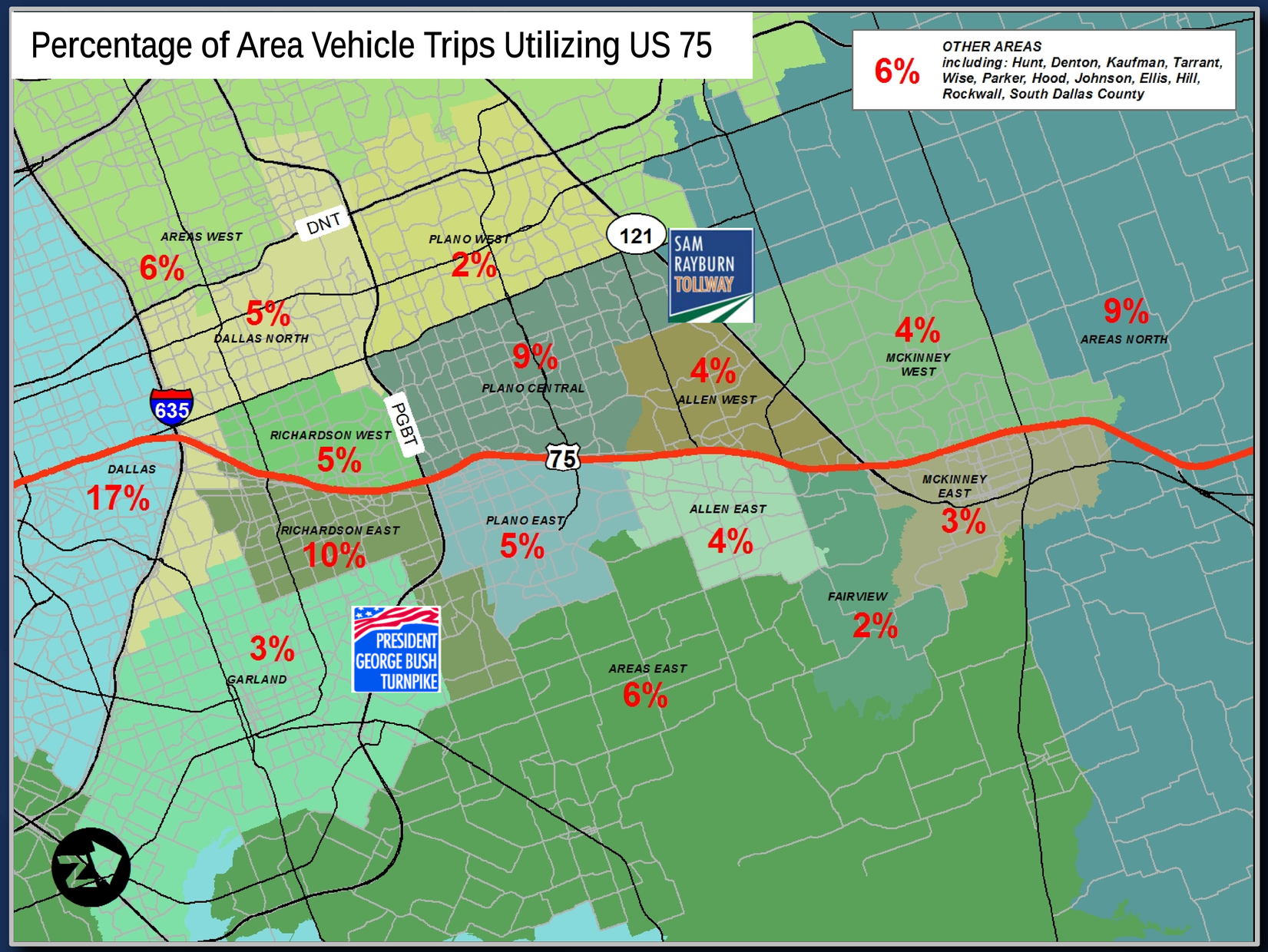
US 75 Corridor Study Area

US 75 Corridor Study



Where is US 75 Traffic Going?

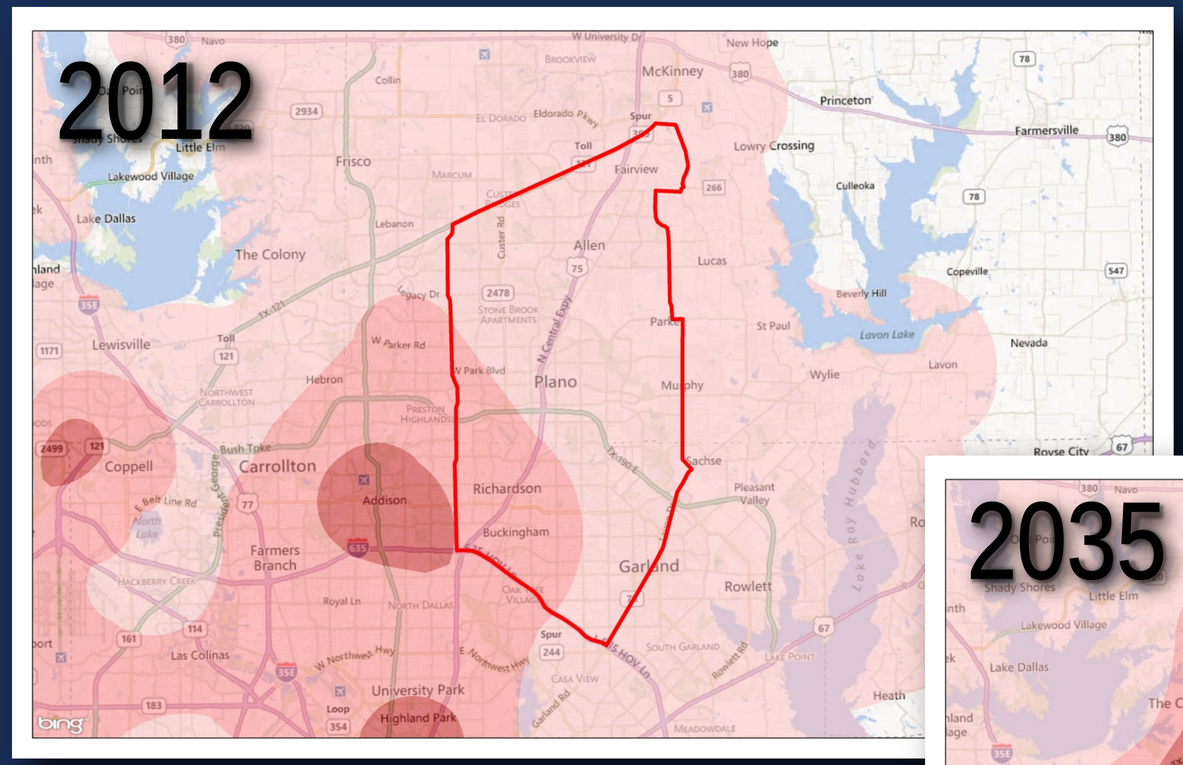
US 75 Corridor Study

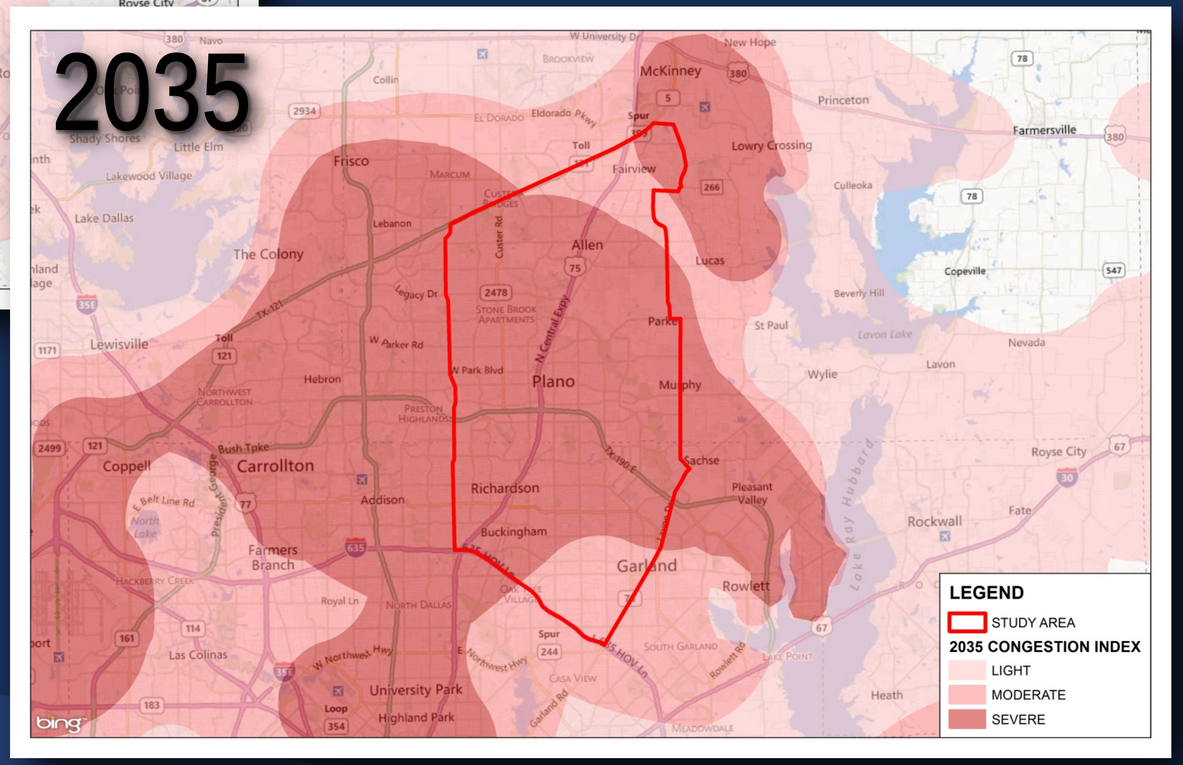


- Values represent the percentage of US 75 motorists that originate or have destinations in a particular area. Total = 100%.
- 17% of US 75 Traffic travels to/from south of I-635.
- A growing level of traffic is accessing areas north of I-635.

Existing and Future Congestion Levels

US 75 Corridor Study





A do-nothing approach does not address the severe congestion in the region resulting in more stop and go or standstill traffic conditions.

US 75 Traffic

US 75 Corridor Study

Location	2012 Existing Daily Vehicle Traffic	2035 Projected Vehicle Traffic with No Improvements	2035 Projected Daily Vehicle Demand**
I-635 to Campbell	225,000	245,000*	450,000
Campbell to Legacy	150,000	250,000	500,000
Legacy to SH 121	105,000	225,000	400,000

* Limited by capacity

** Vehicles that desire to utilize US 75 Freeway based on NCTCOG Regional Travel Demand Model, if congestion was not an issue.

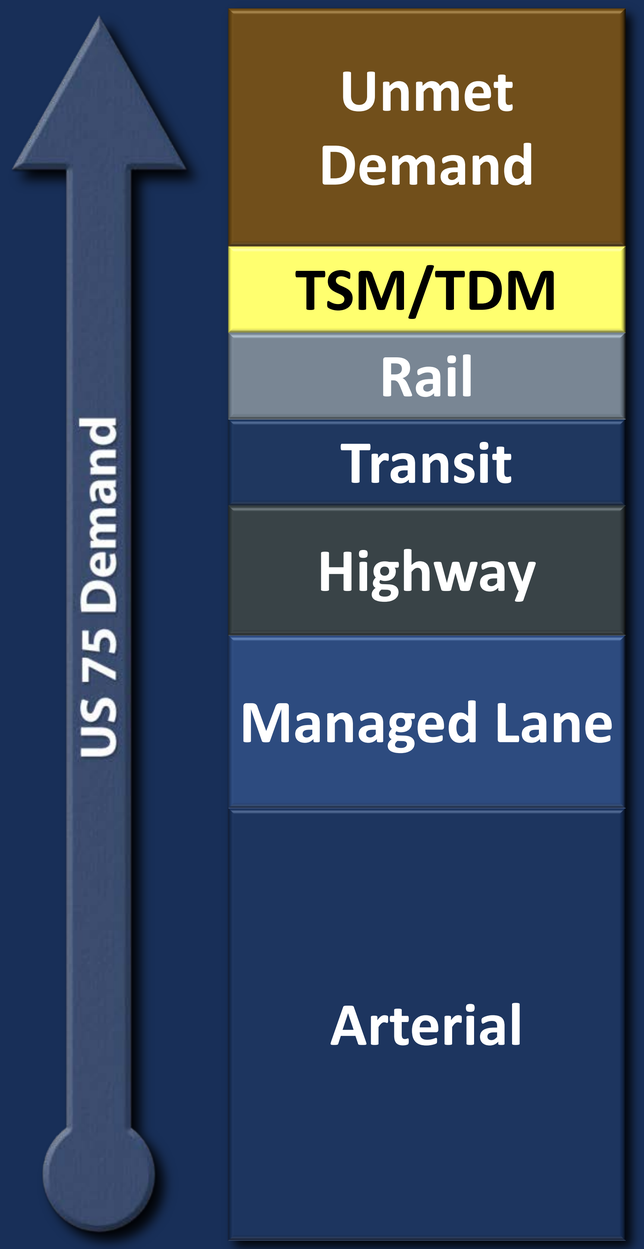
- As congestion increases, motorists desiring to utilize the US 75 Freeway will seek alternate routes due to congestion.
- Based on NCTCOG data, significant traffic growth is projected on the US 75 mainlanes.
- Existing congestion will increase from an average of 2.5 hours/day to 8-10 hours/day if no transportation improvements are made.

US 75 Shared Solution

US 75 Corridor Study

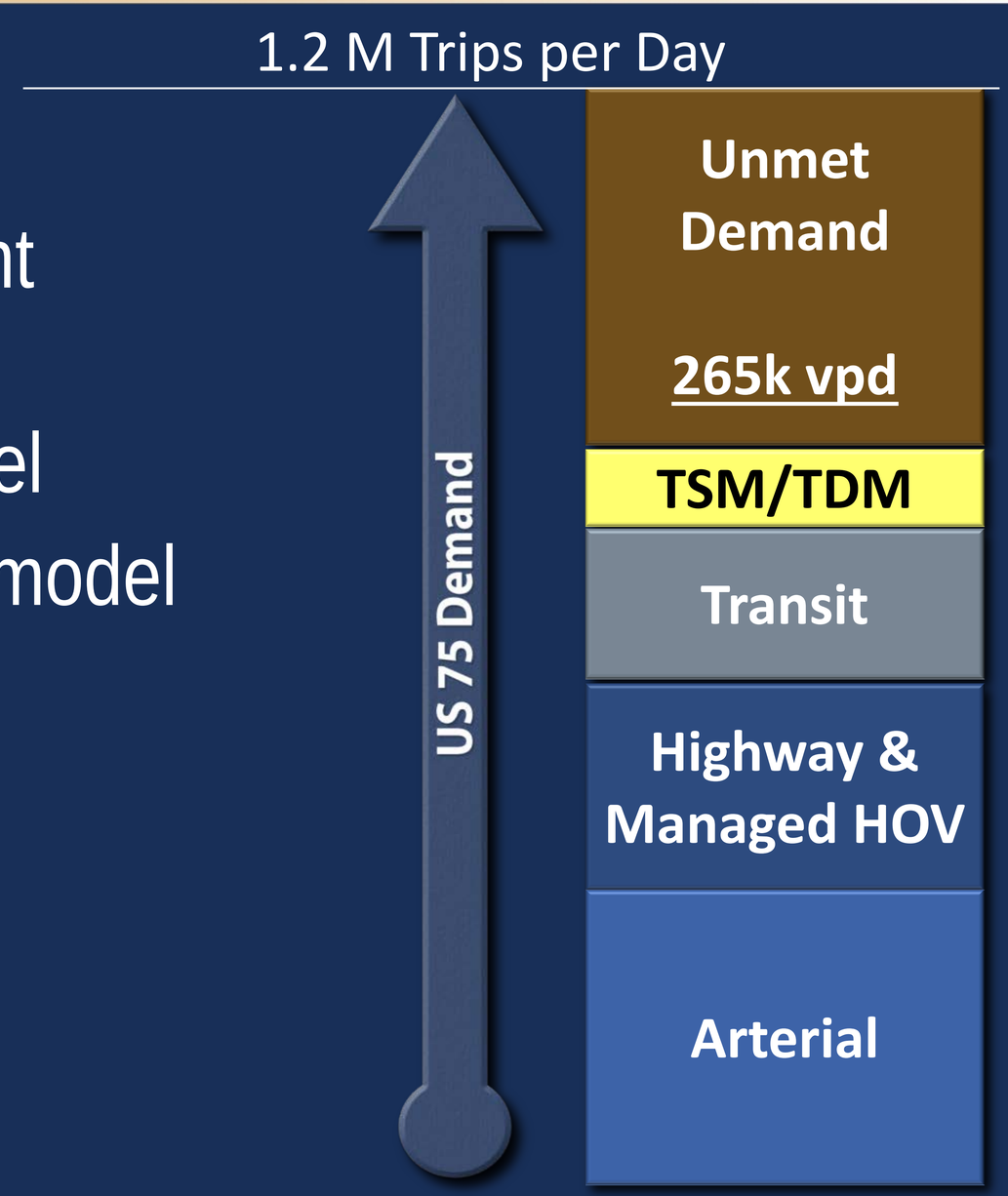
A wide range of solutions will need to work together to address the overall demand in the US 75 Corridor, including…

- Transportation Systems Management (TSM)
- Travel Demand Management (TDM)
- Transit
  - DART Rail (Current Service Plan)
  - Bus Service
- General Purpose Freeway Lanes
- Managed/Toll Lanes
- Arterial Improvements
  - Super Arterial
  - Operational Improvements



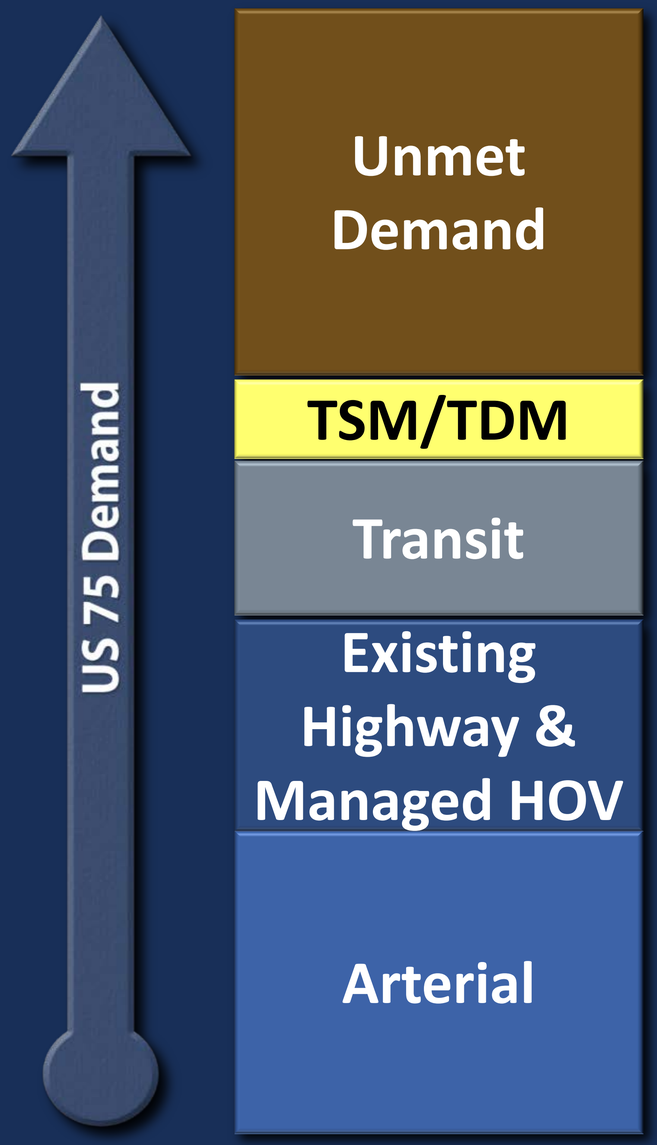
2035 No-Build Alternative

- Current + Planned Improvements
- 8 General Purpose Lanes + 2 Concurrent Managed/HOV (4-1-1-4)
- Arterial Improvements in NCTCOG model
- Transit - (Light Rail & Bus) in NCTCOG model including extension to McKinney
- TSM/TDM – NCTCOG model currently estimates approx. 2% of overall demand



Non-Highway Alternatives

- Arterial Improvements
  - Proposed arterial improvements represented in the NCTCOG model
  - Additional capacity on select North-South Arterials
- Transit
  - Transit plan represented in NCTCOG model (Includes McKinney extension)
- TSM/TDM
  - Includes carpools/vanpools, staggered work hours, telecommuting, bicycle/pedestrian, signal optimization, etc.

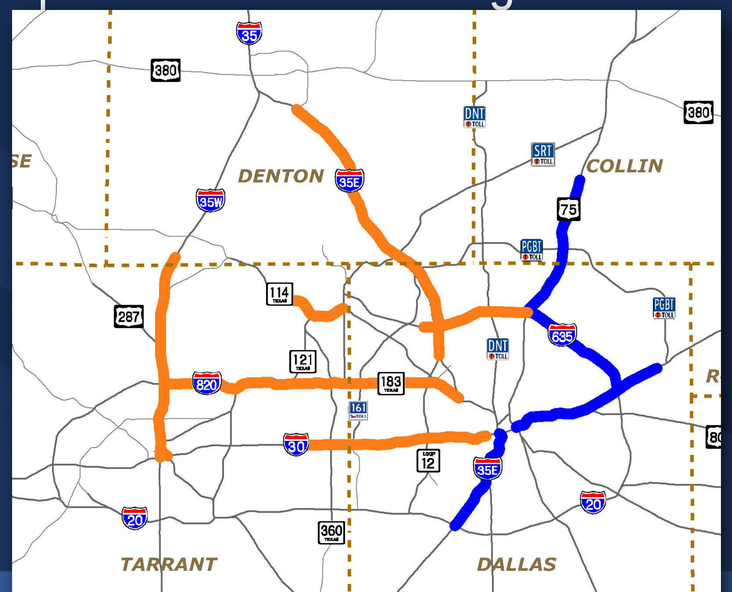


What are Managed/Express Lanes?

US 75 Corridor Study

Managed Lanes

- Provides a reliable/predictable choice for commuters.
- High Occupancy Vehicles (HOV) are allowed for free or at a reduced rate.
- Single Occupancy Vehicles (SOV) pay a toll to utilize Managed Lanes.
- The toll rate is adjusted throughout the day based on the level of congestion in the general purpose lanes.
- Access into and out of the Managed Lane is provided at specific locations along the corridor.

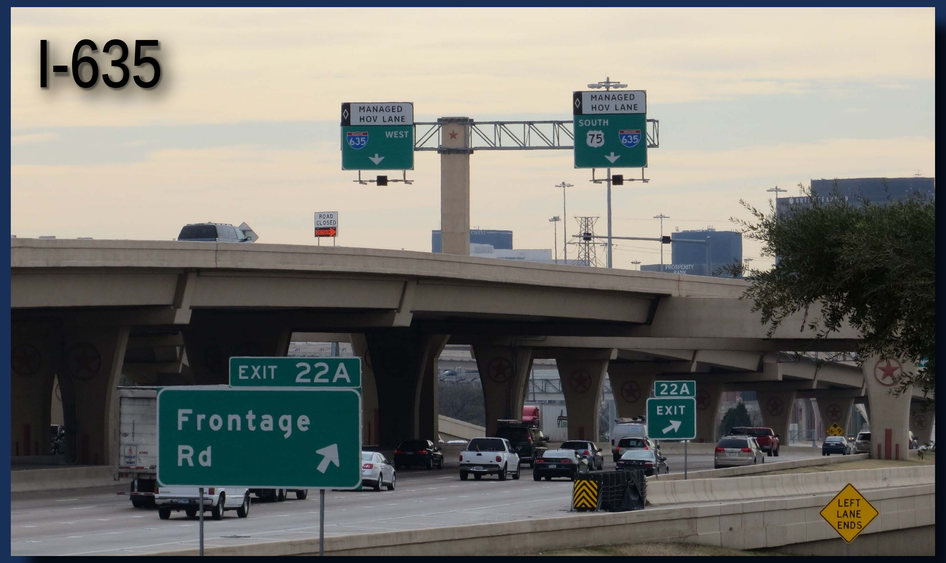


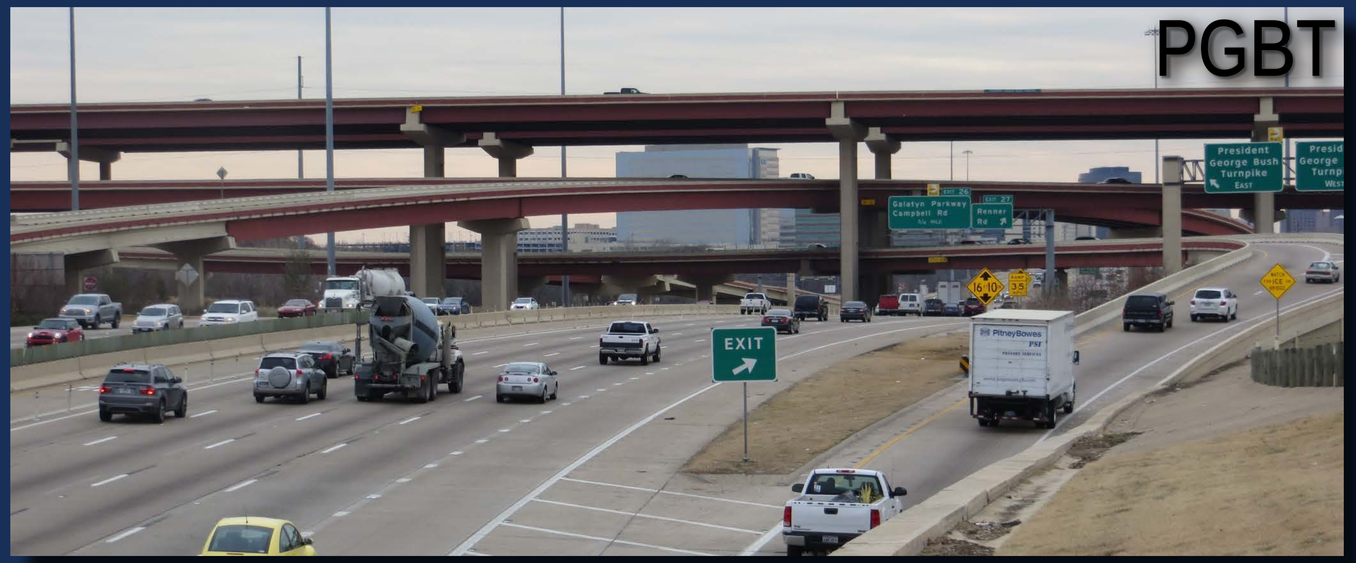
NCTCOG Managed Lane Policy

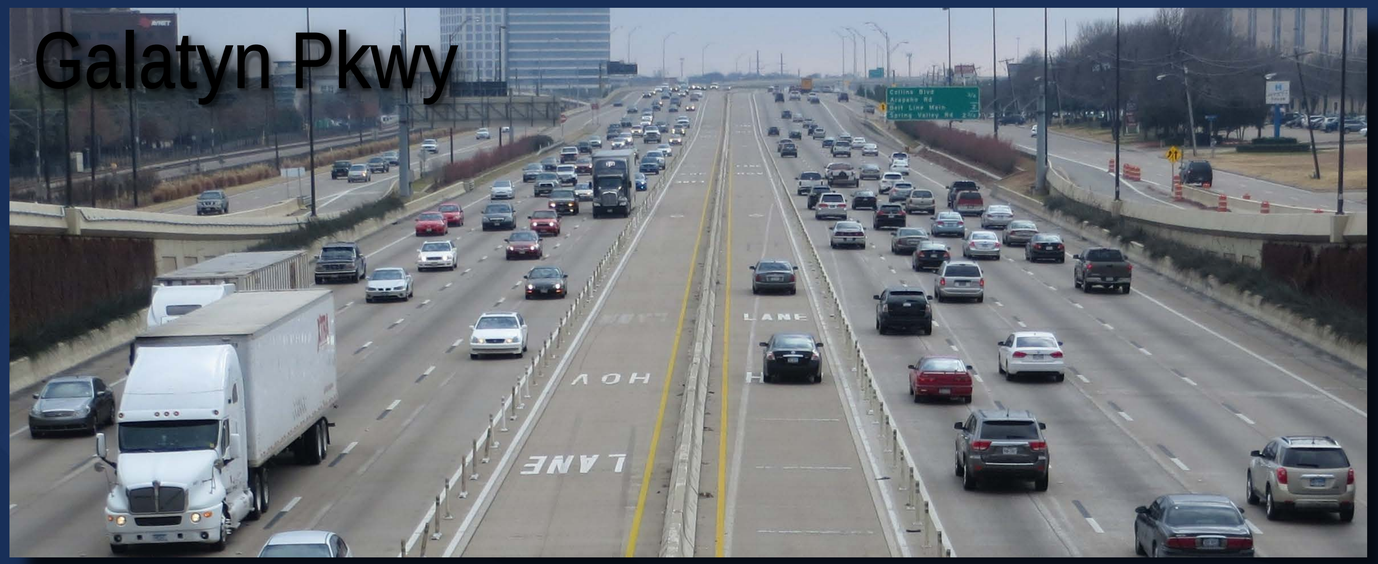
- Express Lanes/HOV Lanes (Blue Lines)
  - Fixed-fee schedule to ensure speed 50 mph guarantee
  - SOV will pay full rate
  - HOV 2+ can use lanes for free.
  - Review and adjust tolling schedule and auto occupancy requirements over time.
- Managed Lane (Orange Lines)
  - Fixed-fee schedule initially, transitioning to dynamic pricing to ensure 50mph speed guarantee
  - SOV and HOV 2+ will pay full toll
  - HOV 3+ will receive 50% discount initially to be phased out over time.

US 75 Geometric Constraints

US 75 Corridor Study







Richardson Areas of Focus

- The following roadway and rail overpasses in Richardson will require special focus for evaluation of their constraints
  - Midpark (southern gateway into Richardson)
  - KCS Rail Overpass
  - Collins Bridge
  - Galatyn Overpass
  - Cotton Belt connection to Bush Turnpike Station
  - PGBT

Preliminary Alternative Evaluation Matrix

US75 Corridor Study

		Within Existing ROW		Require Additional ROW							New Alignment	
		NB	LB	4+			5+		GP		NA	
This evaluation matrix is proposed as a tool to facilitate the screening of conceptual alternatives to a set of viable alternatives. It is qualitative rather than quantitative, but is intended to provide objectivity. The evaluation is not additive, but rather they are tallied to see the overall rating. It is expected that for an alternative to move from conceptual to viable it should generally have enough positive scores to justify its consideration without so many negative scores that it appears to be unworthy of consideration. The assignment of the "Fatal" rating is obviously subjective but generally will be understandable to the group and correct if a reasonable majority concur.		No-Build	4-2-4 8 General Purpose + 2 Rev Managed	4-3-4 8 General Purpose + 3Rev Managed	4-2-2-4 8 General Purpose + 4 Managed	4-3-3-4 8 General Purpose + 6 Managed	5-2-2-5 10 General Purpose + 4 Managed	5-3-3-5 10 General Purpose + 6 Managed	5-5 10 General Purpose Lanes	6-6 12 General Purpose Lanes	DART Alignment 6/8-lane Toll Road	North East Toll Road
TRAFFIC/MOBILITY												
Preliminary Estimated Capacity (vehicles per day)		240,000	270,000	285,000	300,000	330,000	360,000	390,000	300,000	360,000	360,000	360,000
Potential to Reduce Congestion	This performance measure measured volume-to-capacity ratios for specific roadways or as an "area" measure for roadways in corridor sub-areas as vehicle-miles travelled / vehicle-miles of capacity.	- -	-	-	0	+	+	++	0	+	+	0
Potential to Reduce Vehicle-Trips	This rating of the alternatives is a subjective determination of the relative potential for the alternative to increase or decrease the use of the private automobile, increase or decrease transit use, and/or increase or decrease automobile occupancy.	++	+	+	0	0	-	-	-	- -	0	- -
Reliability	This rating of the alternatives is a subjective assessment that considers an alternative's compatibility with respect to an integrated corridor management program and favors the managed lanes alternatives because the managed lane pricing scheme places a premium on reliability.	- -	0	0	+	+	++	+	- -	- -	+	0
Operational Configuration Serves Corridor Needs	Operational compatibility with corridor needs refers to certain characteristics of the alternatives and the degree with which they align with the travel patterns and nature of trip-making in the study area.	-	-	-	+	+	+	++	0	+	0	-
SOCIAL AND ENVIRONMENTAL												
Relocation of Existing Commercial/Residential Development	The proposed alternatives were evaluated based on their potential impacts on existing commercial and residential development.	0	0	- -	- -	- -	- -	- -	- -	- -	- -	- -
Expect Direct Environmental Resource Impacts	The proposed alternatives were evaluated based on a subjective determination of their direct impacts on environmental resources such as parks, vegetation and wildlife habitat, threatened and endangered species, waters and wetlands, and floodplains.	0	0	-	-	-	-	-	-	-	-	- -
Potential to Significantly Improve Air Quality	The potential for the conceptual alternatives to improve air quality was qualitatively assessed based on the proposed number of general purpose and managed lanes of each alternative relative to the No-Build Alternative.	- -	- -	-	-	+	+	++	+	+	++	+
ECONOMIC DEVELOPMENT												
Improve Access to Key Economic Benefit Areas	This criteria evaluates whether an alternative would have the potential to improve access to key economic benefit areas such as central business districts, business corridors, distribution centers, and office parks.	- -	- -	-	-	+	+	++	+	+	- -	0
Consistent with Comprehensive/Land Use Plan	This criteria evaluates each alternative as to consistency with local Comprehensive/Land Use Plans in the study area.	0	0	-	-	-	-	-	-	-	- -	- -
ENGINEERING												
Preliminary Estimated Cost including ROW ($ in millions)		$ -	$ 150	$ 800	$ 1,000	$ 1,100	$ 1,100	$ 1,300	$ 600	$ 700	$ 1,100	$ 1,200
Implementation Cost	This evaluation criteria looks at the overall cost of implementation of the proposed alternative including the planning level evaluation of major cost items generally associated with the addition of pavement, impact to bridge structures, ramp modification and right-of-way determination.	++	+	-	- -	- -	- -	- -	-	-	- -	- -
Constructability	This criteria evaluates each alternative with respect to the complication in the overall construction of the alternative.	++	+	+	+	+	+	0	+	+	-	++
Maintenance of Traffic	This criteria evaluates the impact of each alternative on the ability to maintain traffic flows during the construction of the project.	++	+	+	+	+	+	+	+	+	++	++
Design/Operational Flexibility	This criteria evaluates each alternative with respect to the ability of the alternative to adapt to future modifications and changing travel patterns in the region.	- -	-	-	+	++	++	++	-	0	+	++
ROW	This criteria evaluates each alternative with respect to the anticipated right-of-way width required and the alternative's impact on either adjacent commercial, industrial and residential development.	++	++	-	-	-	-	- -	-	-	-	-
FINANCE												
Potential for Toll Financing	This criteria evaluates the ability of a particular alternative to provide toll financing as potential for revenue generation to accelerate project development.	- -	+	+	+	++	+	++	- -	- -	++	++

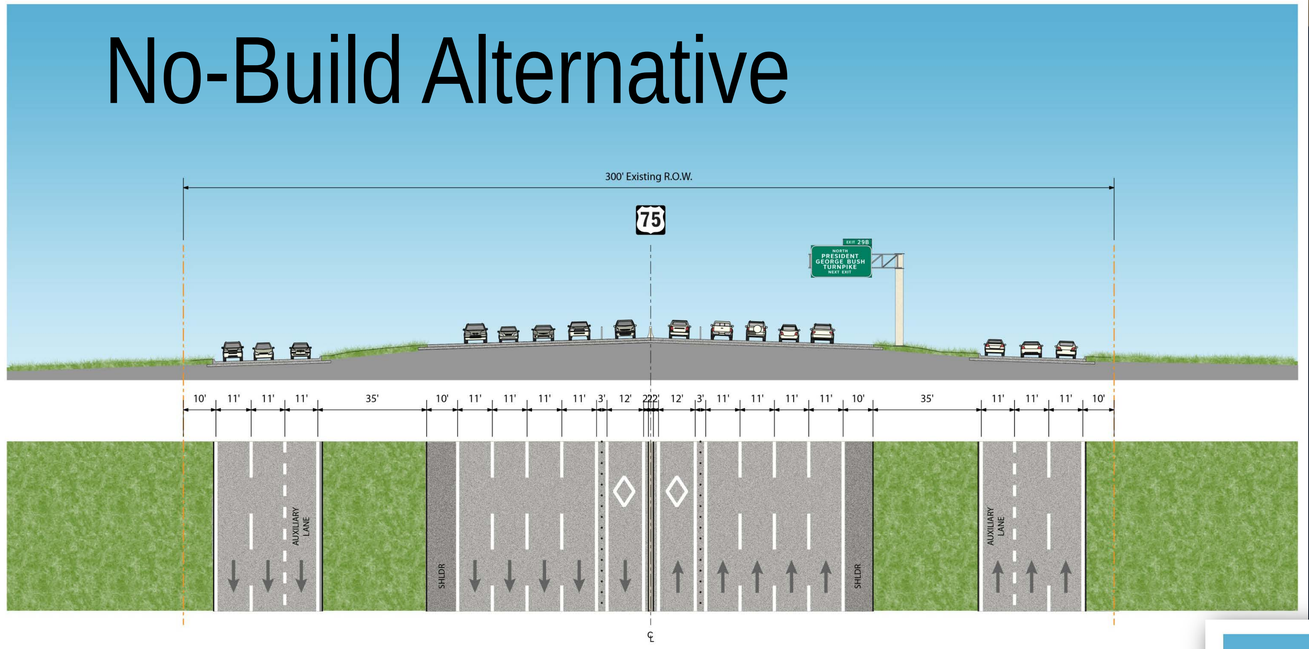
Recommended Alternatives for Further Evaluation....

- No-Build (4-1-1-4)
- 4-3-3-4
- 5-2-2-5
- 5-3-3-5

Very significant negative rating	- -
Significant negative rating	-
Neutral	0
Significant positive rating	+
Very significant positive rating	++

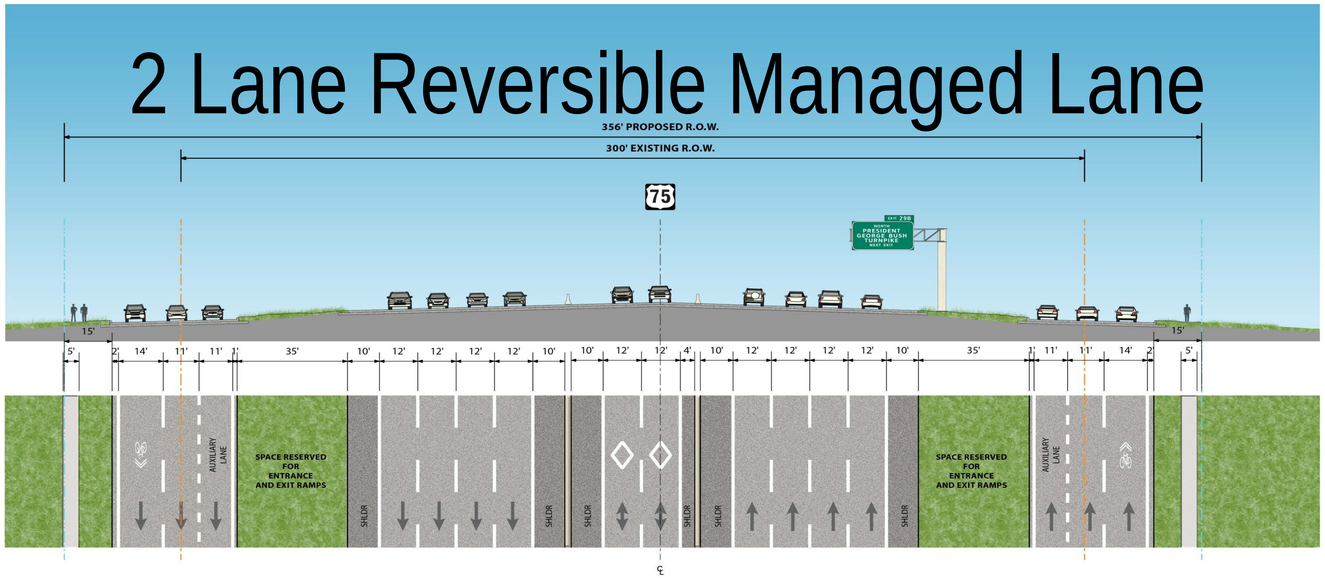
Alternatives Within Existing ROW

US 75 Corridor Study



US 75

Existing
Configuration



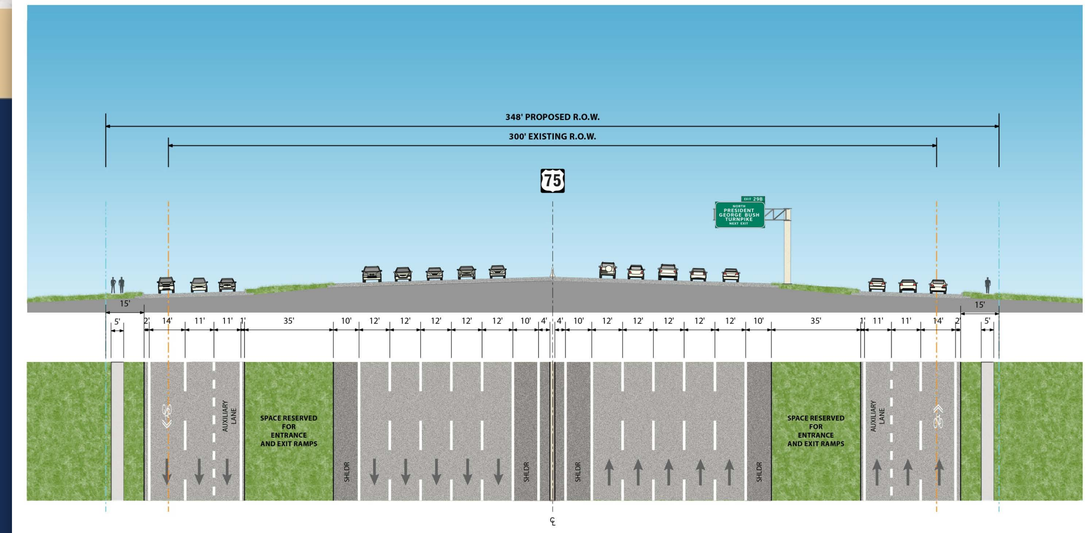
US 75

4-2-4
Configuration

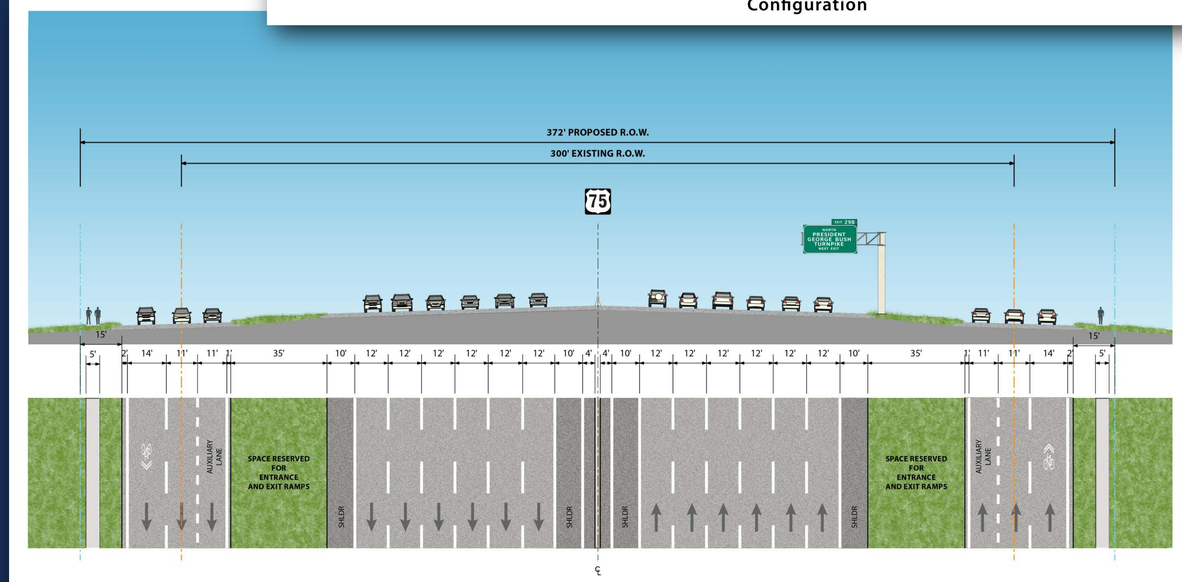
General Purpose Lane Alternatives

US 75 Corridor Study

- Considers only General Purpose Lanes to be added
- Considers ultimate of 10 and 12 lane alternatives
- Results in additional 24 to 36 feet ROW on both sides
- No Managed Toll Lanes means this alternative isn't financially feasible



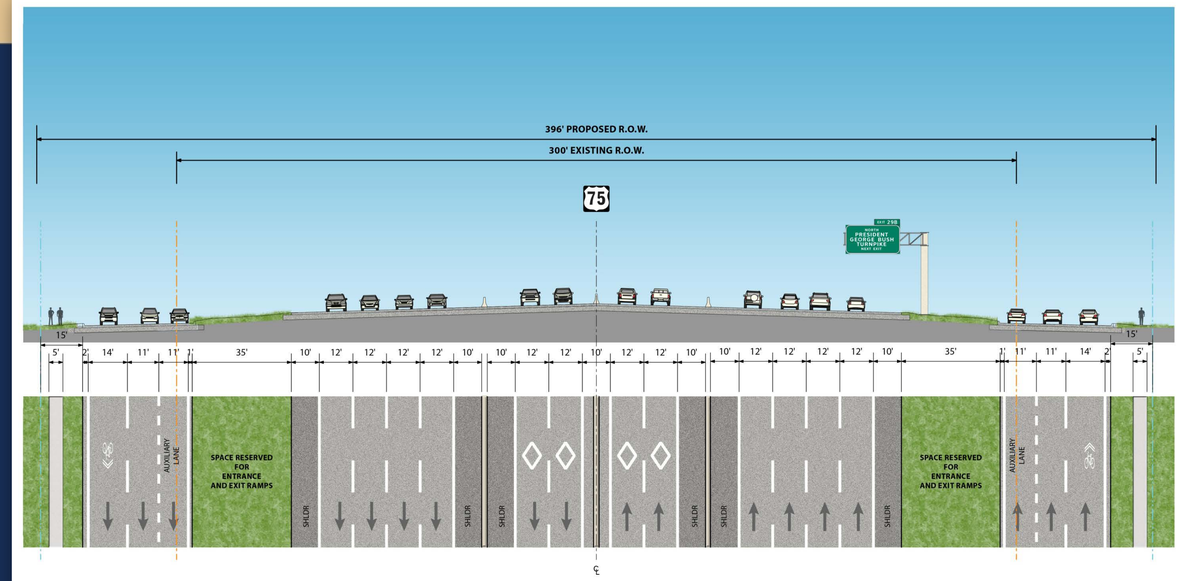
US 75
5-5
Freeway
Configuration



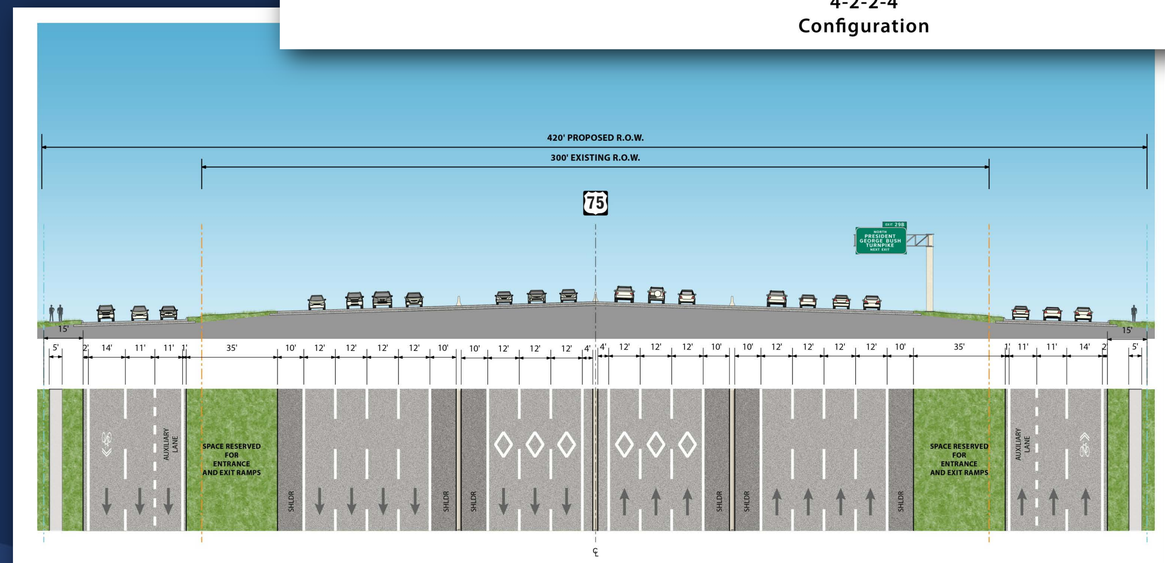
US 75
6-6
Freeway
Configuration

Managed Lane Alternatives

- Considers only Managed Lanes added
- Considers the addition of 2 and 3 Managed Lanes in each direction
- Elevated and/or depressed sections may be considered in next phase to reduce required ROW
- Results in additional 21 to 60 feet of ROW on both sides



US 75
4-2-2-4
Configuration

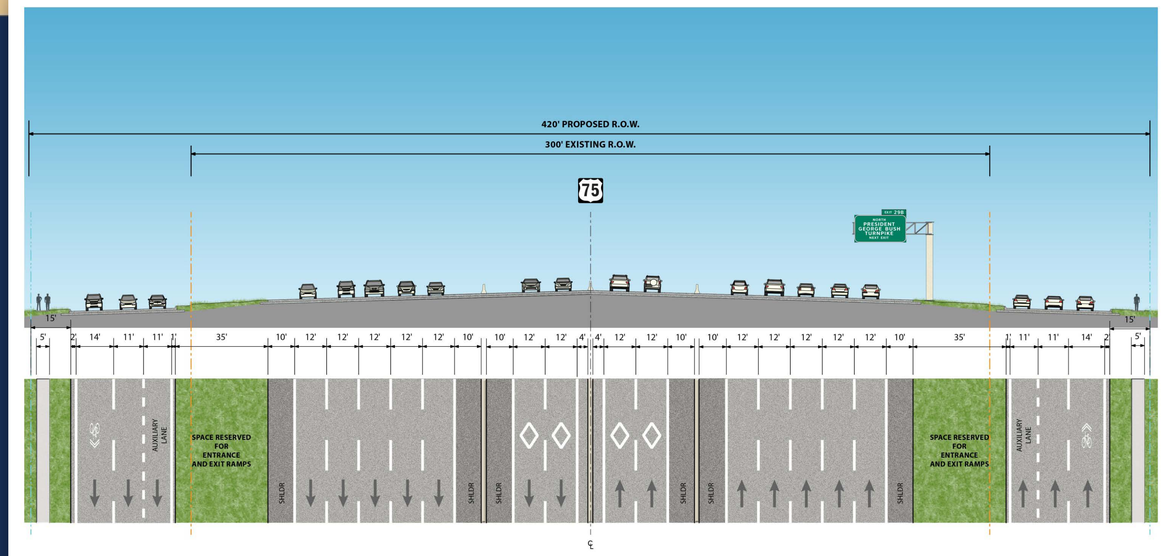


US 75
4-3-3-4
Configuration

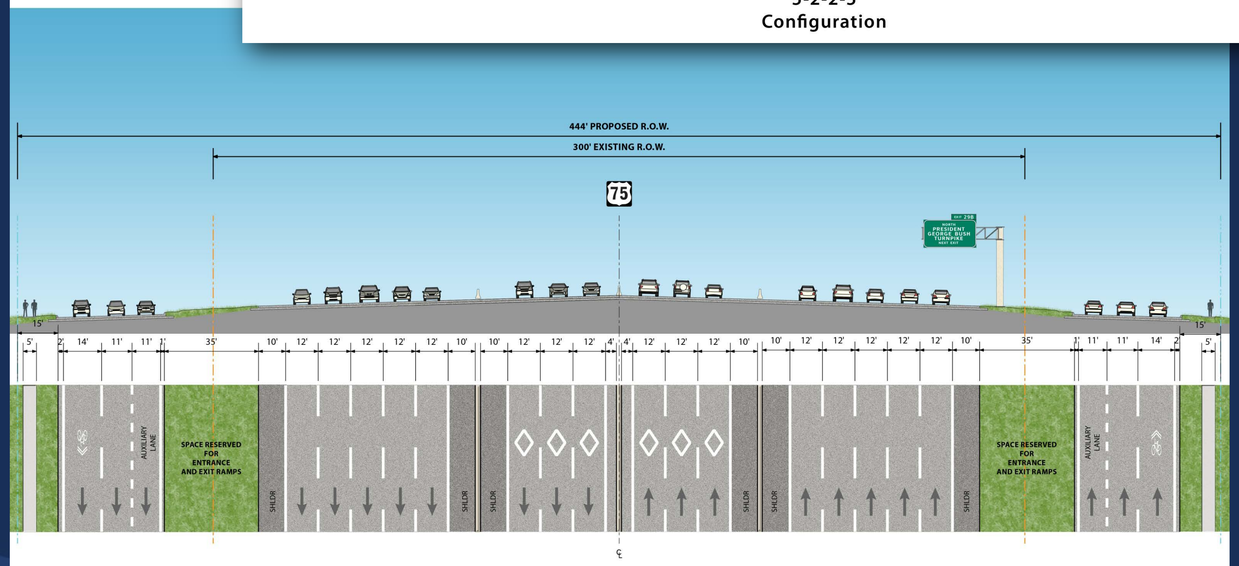
General Purpose + Managed Lanes

US 75 Corridor Study

- Considers the addition of one General Purpose Lane each direction
- Considers the addition of 2 and 3 Managed Lanes in each direction
- Elevated and/or depressed sections may be considered in next phase to reduce required ROW
- Results in additional 33 to 80 feet of ROW on both sides



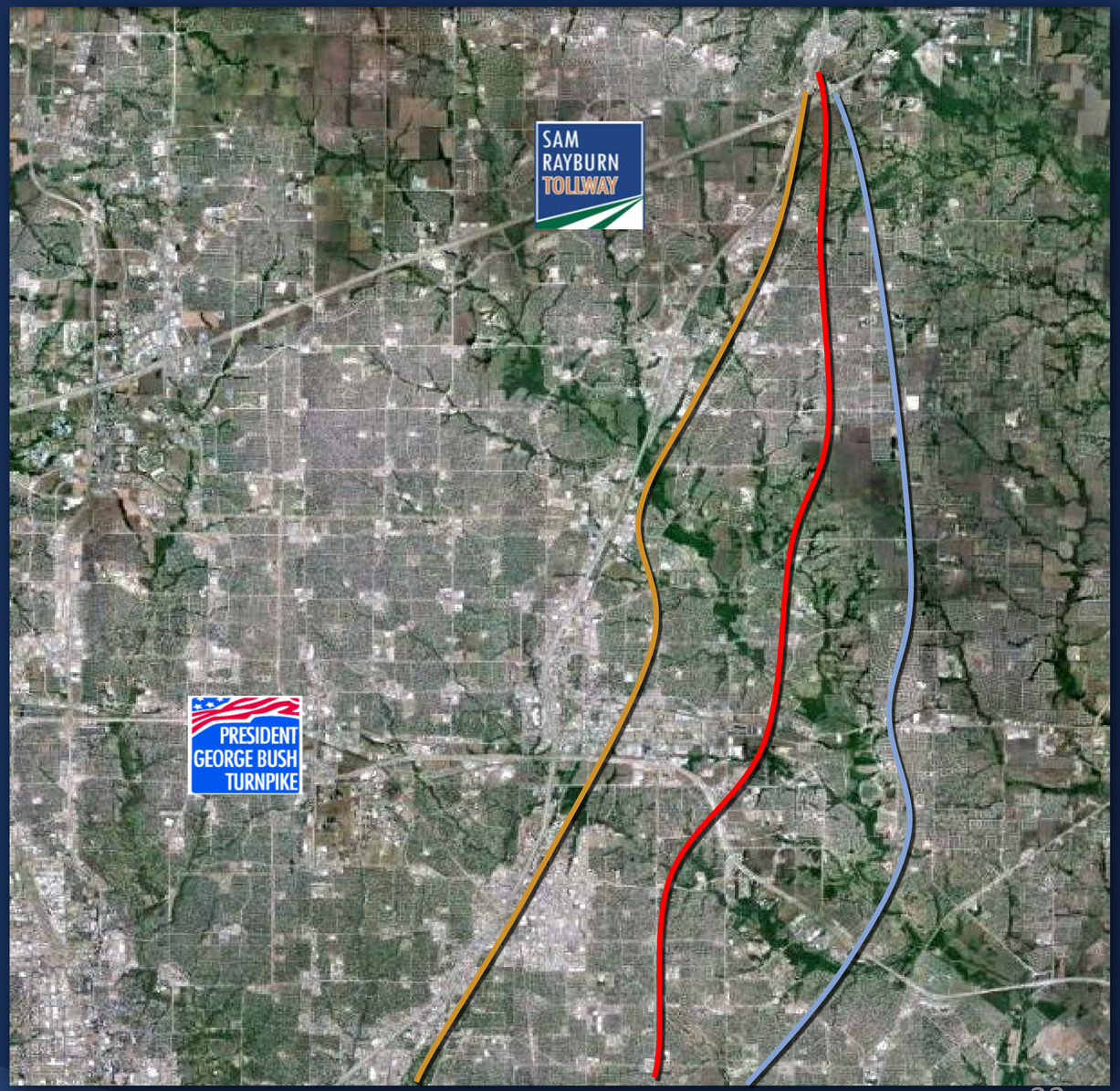
US 75
5-2-2-5
Configuration



US 75
5-3-3-5
Configuration

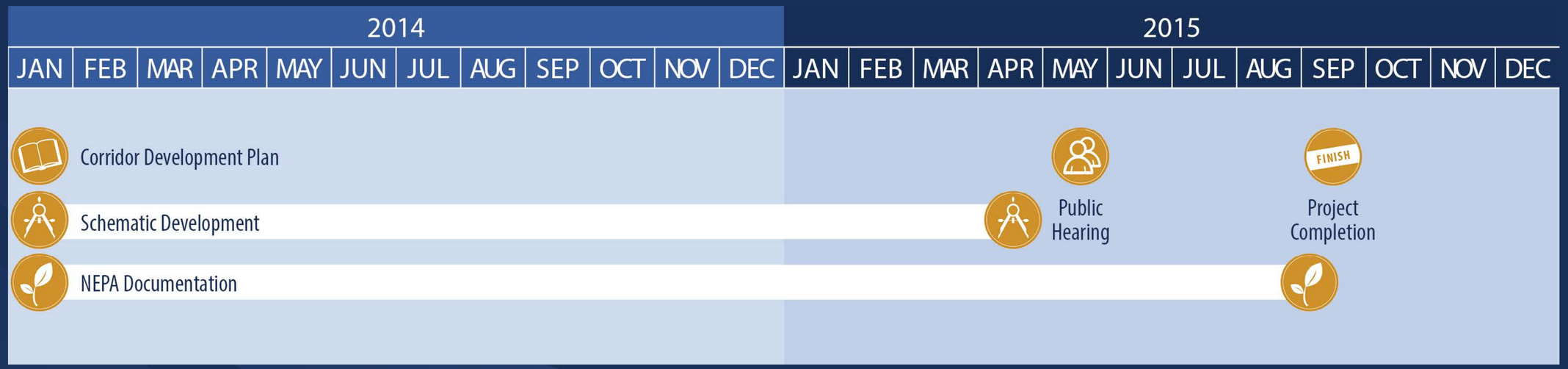
New Location Alternative

- Considers the addition of 3 to 4 toll lanes each direction
- Considers an alignment east of existing US 75
- Results in 180 to 300 foot ROW



US 75 Project Schedule

US 75 Corridor Study



US 75 Project Work Group Committee

US 75 Corridor Study

Counties

- Dallas
- Collin

Agencies

- TxDOT
- FHWA
- NCTCOG
- NTTA
- DART
- TTI

Cities

- McKinney
- Allen
- Fairview
- Plano
- Richardson
- Dallas
- Garland

Next Steps

- Submit Richardson's Corridor Vision and Guiding Principals document as part of public meeting comments
- Continue to attend Project Team Workgroup meetings and monitor progress of the study
- Continue to focus and evaluate alternatives with respect to the city's vision
- Update Council as needed

Contact Information

Project Website Information:

US75mobility.com
keepitmovingdallas.com

Stephen Endres, P.E.
TxDOT – Dallas
Stephen.Endres@txdot.gov
214.320.4469

Brian Swindell, P.E.
HDR Engineering
Brian.Swindell@hdrinc.com
972.960.4451

Dave Carter, P.E.
City of Richardson
Dave.Carter@cor.gov
972.744.4320