Memorandum

CITY OF DALLAS

DATE April 10, 2014

TO Honorable Mayor and Members of the City Council

SUBJECT **Dallas Street and Alley Conditions**

On Wednesday, April 15, 2015, the City Council will be briefed on the City's street and alley conditions by the Department of Street Services. The briefing materials are attached for your review.

Please let me know if you have any questions or need additional information

Mark McDaniel
Assistant City Manager

c: A.C. Gonzalez, City Manager
Warren M.S. Ernst, City Attorney
Craig D. Kinton, City Auditor
Rosa A. Rios, City Secretary
Daniel F. Solis, Administrative Judge
Ryan S. Evans, First Assistant City Manager
Eric D. Campbell, Assistant City Manager
Jill A. Jordan, P.E., Assistant City Manager
Joey Zapata, Assistant City Manager
Jeanne Chipperfield, Chief Financial Officer
Sana Syed, Public Information Officer
Elsa Cantu, Assistant to the City Manager – Mayor & Council

Dallas Street and Alley Conditions

Key Focus Area
Economic Vibrancy

Purpose of Presentation

- Provide an update on **Street and Alley conditions** (satisfaction ratings)
- Outline impact of **historical and future funding levels** on satisfaction ratings
- Introduce **options regarding changes in policy** that may impact satisfaction ratings
- Provide **options for funding** to improve street and alley satisfaction ratings
- Outline a 10 year **model or decision tool** to reach satisfaction rating goals

2014 Citizen Survey
Highest Priority

Importance-Satisfaction Rating
City of Dallas
Streets and Infrastructure Services

Category of Service	Most Important %	Most Important Rank	Satisfaction %	Satisfaction Rank	Importance-Satisfaction Rating	I-S Rating Rank
Very High Priority (IS >.20)						
Street repair	68%	1	20%	5	0.5440	1
High Priority (IS .10-.20)						
Sidewalk maintenance	25%	4	24%	4	0.1900	2
Maintenance of neighborhood streets	28%	2	34%	3	0.1848	3
Alley maintenance	20%	5	19%	6	0.1620	4
Street lighting	28%	3	44%	1	0.1568	5
Medium Priority (IS <.10)						
Street cleaning	10%	6	34%	2	0.0660	6

2015 City Council Retreat
Where to Place Priority

Key Focus Areas	Department (% of KFA Total – Based on FY 2014-15 Budget)		Citizen Survey	Green Dots	Red Dots	Net
Public Safety	Police	40.5%	3	7	9	- 2
	Fire-Rescue	21.0%	13, 11	1	3	- 2
	Court Services	1.9%		0	4	- 4
	Other	0.9%		N/A	N/A	N/A
	Total Public Safety	**64.3%**		**8**	**16**	**- 8**
Economic Vibrancy	Streets & Street Lighting	7.6%	1, 4	9	2	+ 7
	Tax Increment Financing Districts (TIF)	1.8%		0	2	- 2
	Fair Park	1.0%		1	1	0
	Public Works & Trinity Watershed	1.0%	1, 10	0	3	- 3
	Other	1.0%		N/A	N/A	N/A
	Total Economic Vibrancy	**12.4%**		**10**	**8**	**+ 2**
Clean Healthy Environment	Sanitation Services	7.0%	9	1	1	0
	Code Compliance	3.4%	2	5	0	+ 5
	Housing & Community Services	1.2%		2	4	- 2
	Other	0.2%		N/A	N/A	N/A
	Total Clean Healthy Environment	**11.8%**		**8**	**5**	**+ 3**
Culture, Arts, Recreation, and Education	Park & Recreation	6.9%	8	6	2	+ 4
	Library	3.0%	15	6	0	+ 6
	Office of Cultural Affairs	1.6%	16	4	6	- 2
	Other	0.0%		N/A	N/A	N/A
	Total Culture, Arts, Recreation, Education	**11.5%**		**16**	**8**	**+ 8**
	Grand Total	**100.0%**		**42**	**37**	**+ 5**

Street Conditions
Satisfactory vs Unsatisfactory

Note: A letter grade rating is assigned based on condition

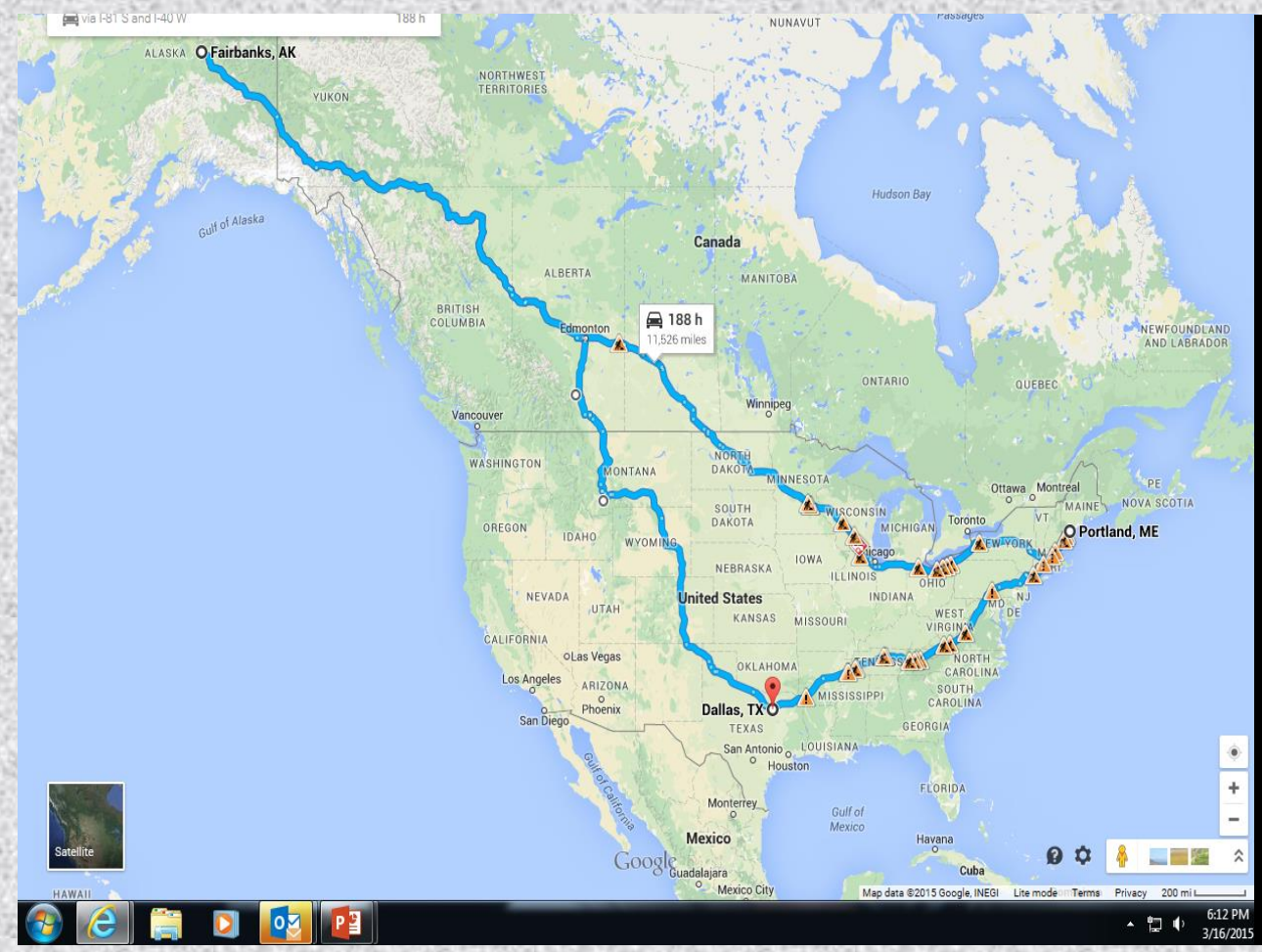
Satisfactory
- **A – Excellent**
- **B – Good**
- **C – Fair**

Unsatisfactory
- **D – Poor**
- **E – Very Poor**

Former Street Condition Goals

- 1995 - Council adopted a street satisfaction goal of **75% to be completed by 2015**
- 1996 - Council accelerated the street satisfaction goal of **75% to be completed by 2010**
- 2006 - Street condition goals revised and adopted by City Council:
  - **87% satisfactory Citywide**
  - Minimum **80% satisfactory in each Council District**
  - Goals were to be achieved by completion of 2006 Bond Program in conjunction with an enhanced O&M program (projected in **FY2019-20**)

Magnitude of Street Inventory



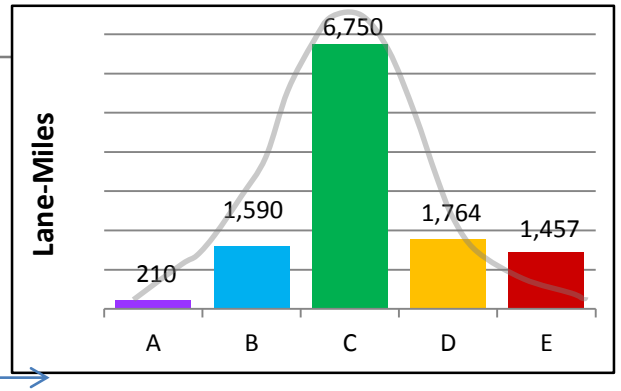
Total Lane Miles = 11,700

D&E Lane Miles = 3,221

Dallas to Fairbanks, Alaska, then to Portland, Maine and back to Dallas = 11,526

Street Degradation Curve, in Lane-miles

Streets degrade at varying rates over their life of up to 50 years, from as little as 0.3% to over 10% annually



Pavement Condition Index

100
90
80
70
60
50
40
30
20
10
0

A-streets:
mild deterioration

B-streets:
moderate deterioration

C-streets:
rapidly-increasing deterioration

D-streets:
severe deterioration

E-streets:
severe deterioration tapering off with time

Mid-to-Low "C" streets receive ***proactive care*** by Street Services

"D" streets require ***resurfacing*** by Public Works.
Street Services can provide only temporary relief.

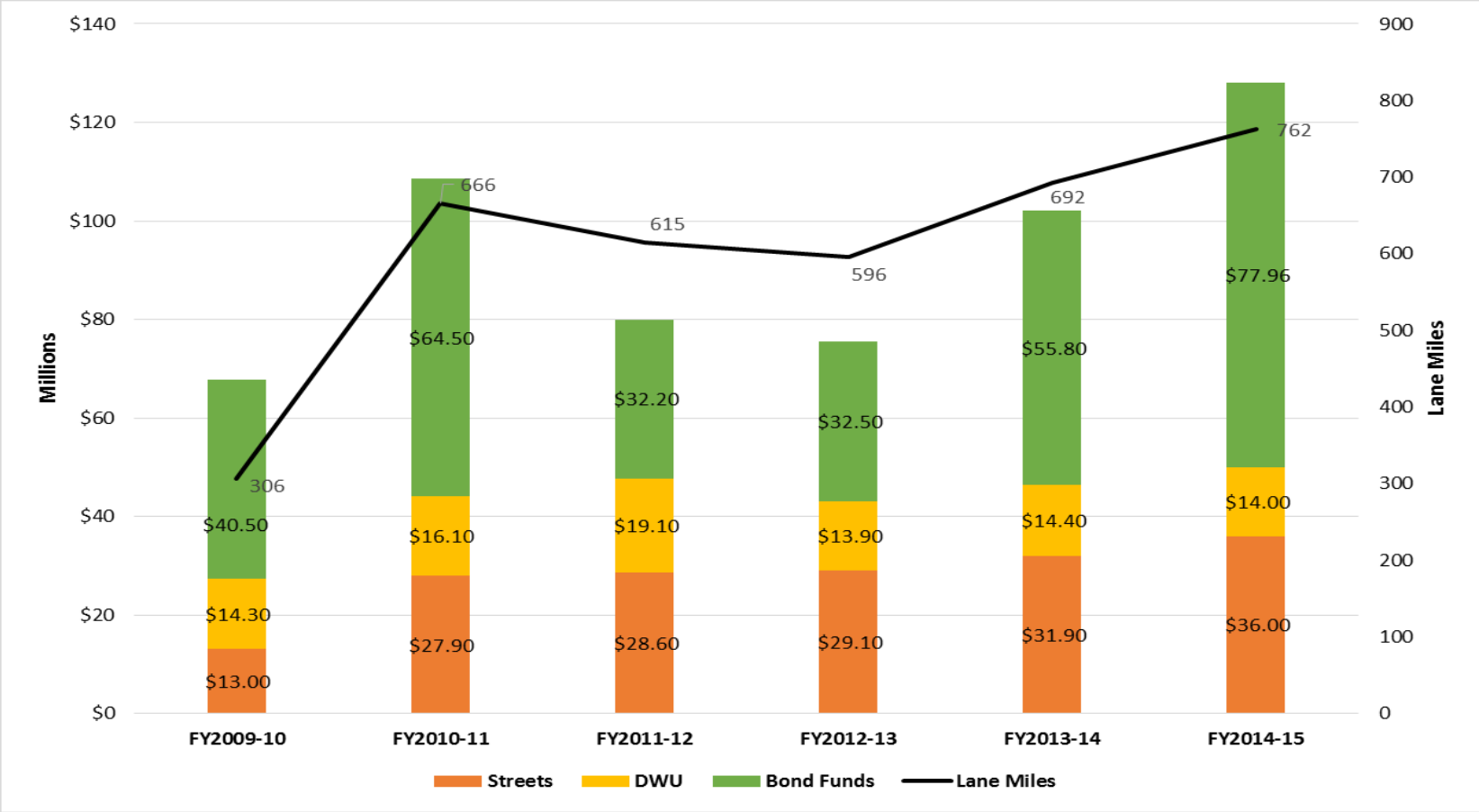
"E" streets require ***reconstruction*** by Public Works.
Street Services can provide only temporary relief.

0

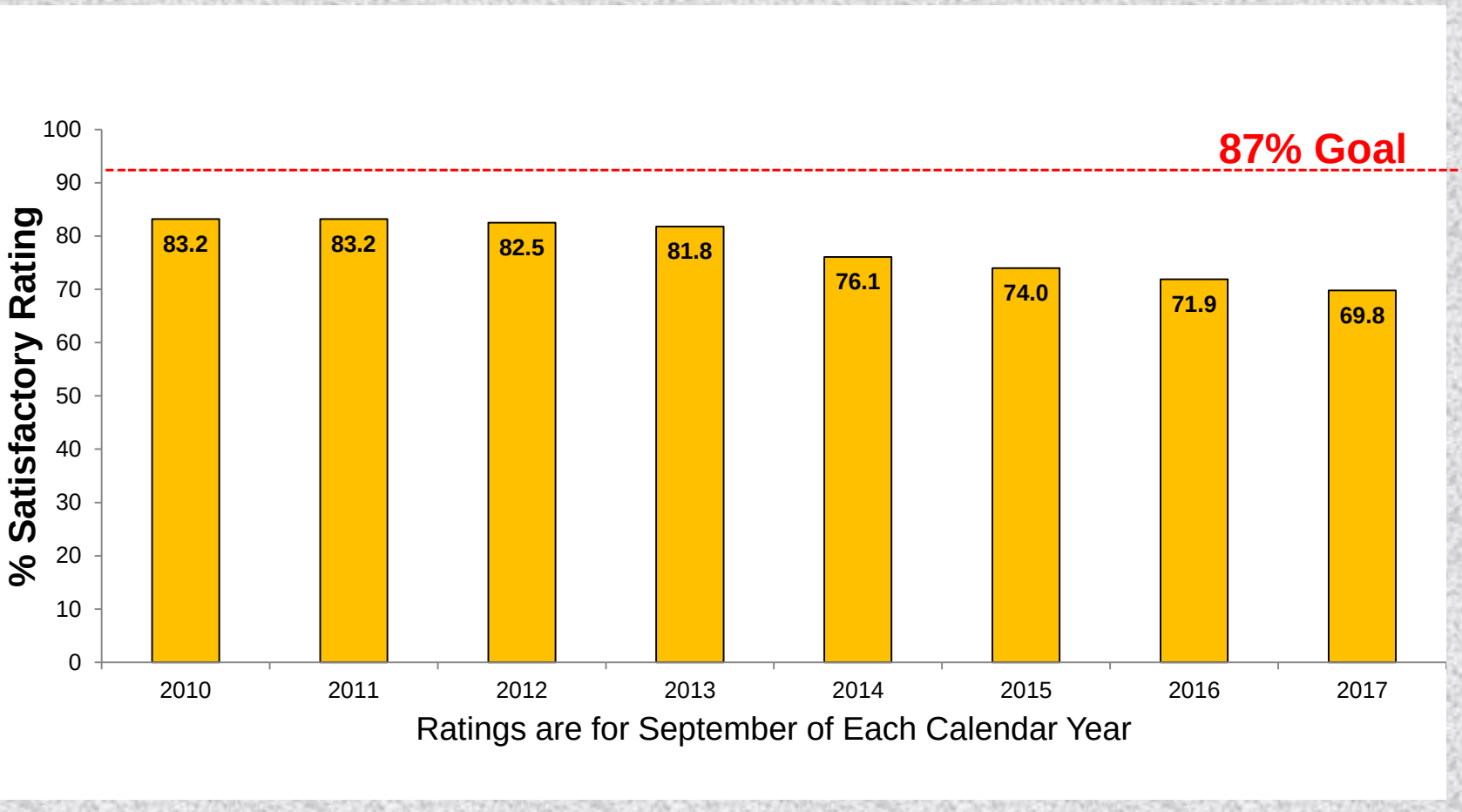
50

Typical Pavement Life (in years)

Streets:
Historical & Current Funding Levels



Streets:
Projected Results of Status Quo Funding



NOTE: Projections of future conditions assume that annual O&M expenditures remain the same and no new capital funds are added, over what is included in the existing bond programs.

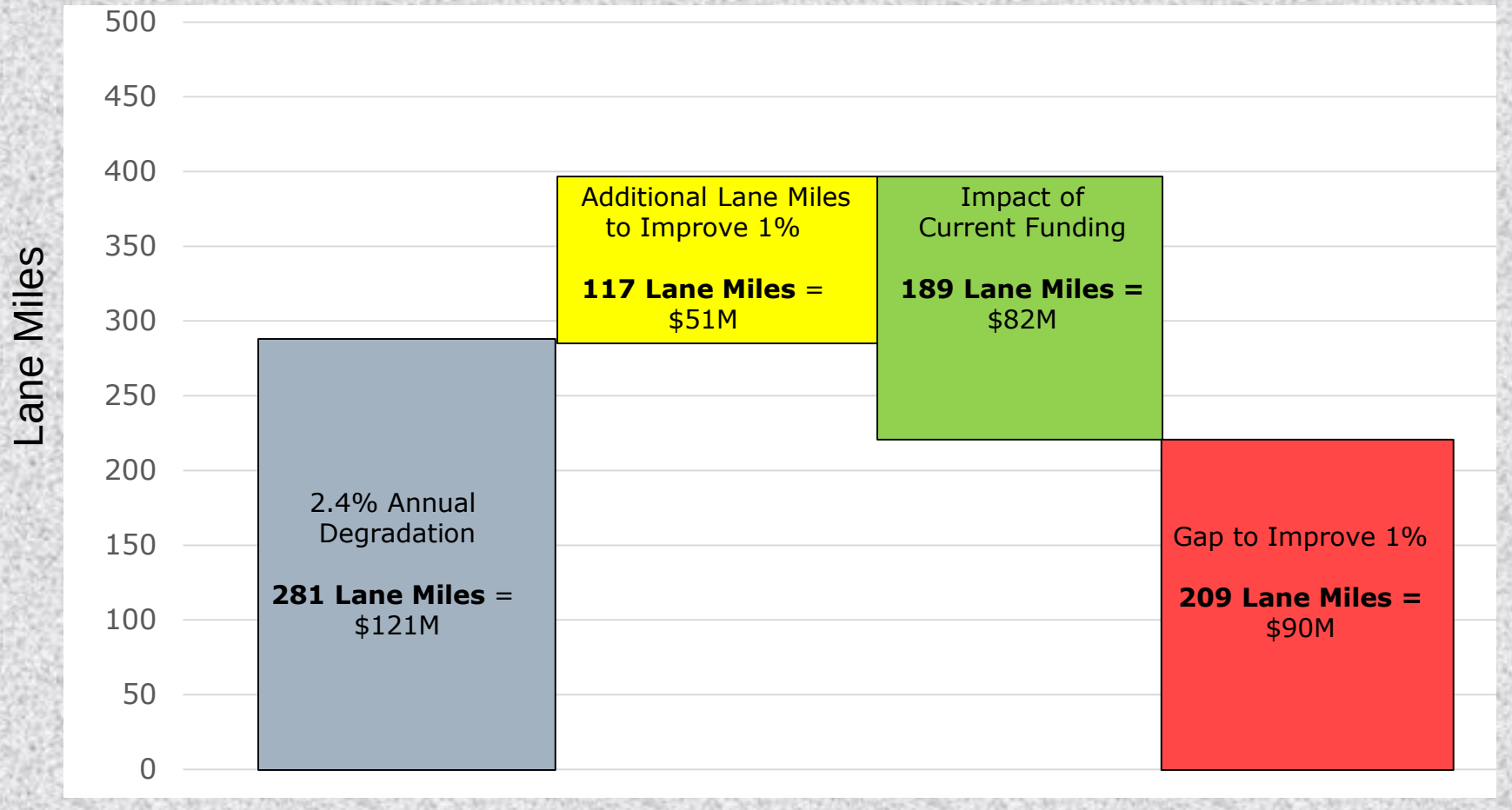
Street Condition Summary

- An estimated 27% of our streets are in unsatisfactory (D&E) condition

281	Lane miles that degrade annually = 2.4% ($121M)
117	Plus: Additional lane miles to improve 1% ($51M)
398	**Total number to be improved for 1% gain ($172M)**
189	Less: Average annual lane miles improved ($82M)
209	**Net lane miles needed to improve rating 1% ($90M)**

- Given continuation of current spending, it will require an additional $90M/Yr in funding for paving and maintenance to halt degradation and improve streets by 1%

Streets:
Funding Current Needs & Improving 1%



Alleys

Alley Conditions

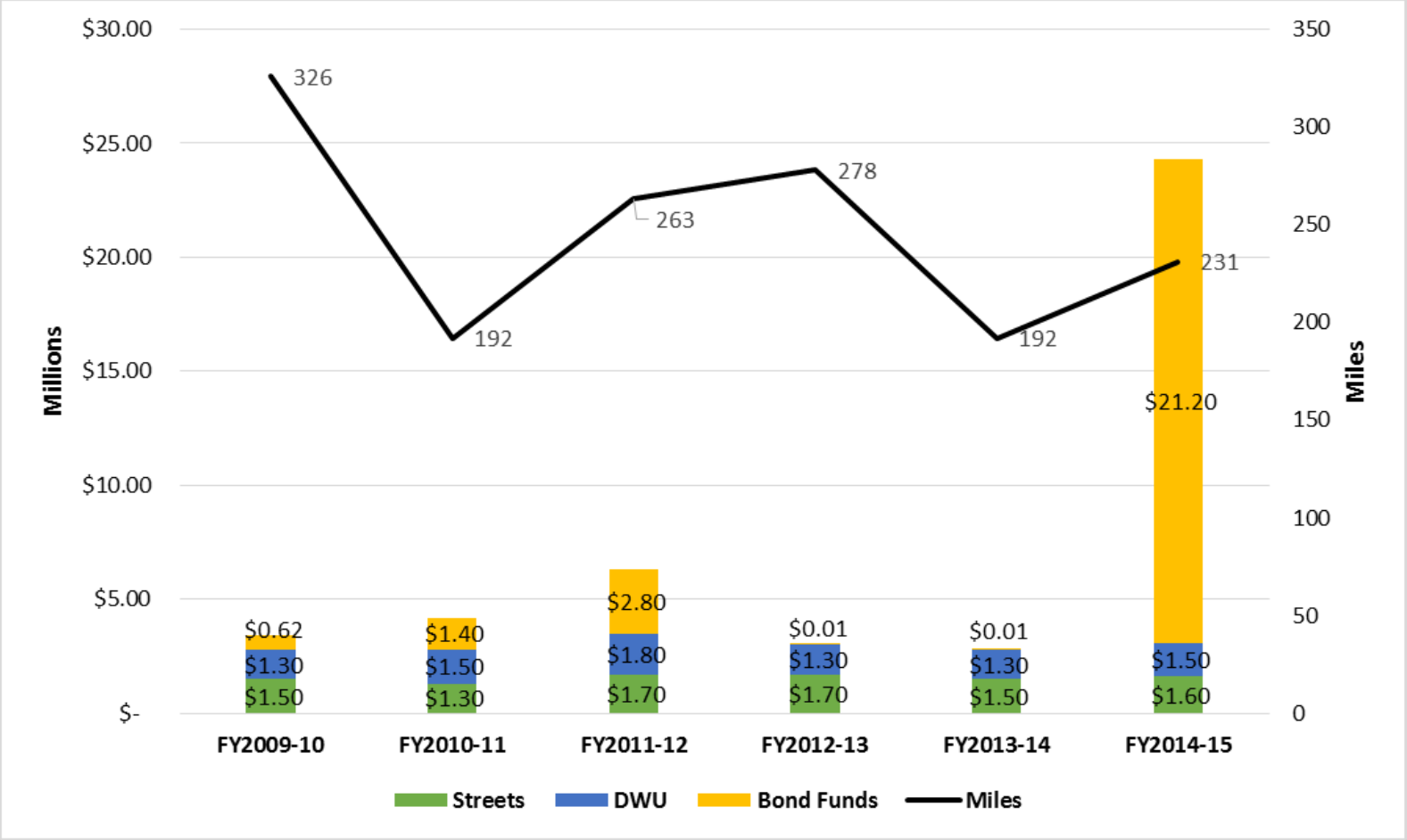
- Alley conditions have been rated since 1993
- In **2009**, the City began rating one half of the alleys each year using the new **Pavement Management System** and equipment, replacing the old method of "windshield" observations

Note: Same letter grade rating system used for streets.

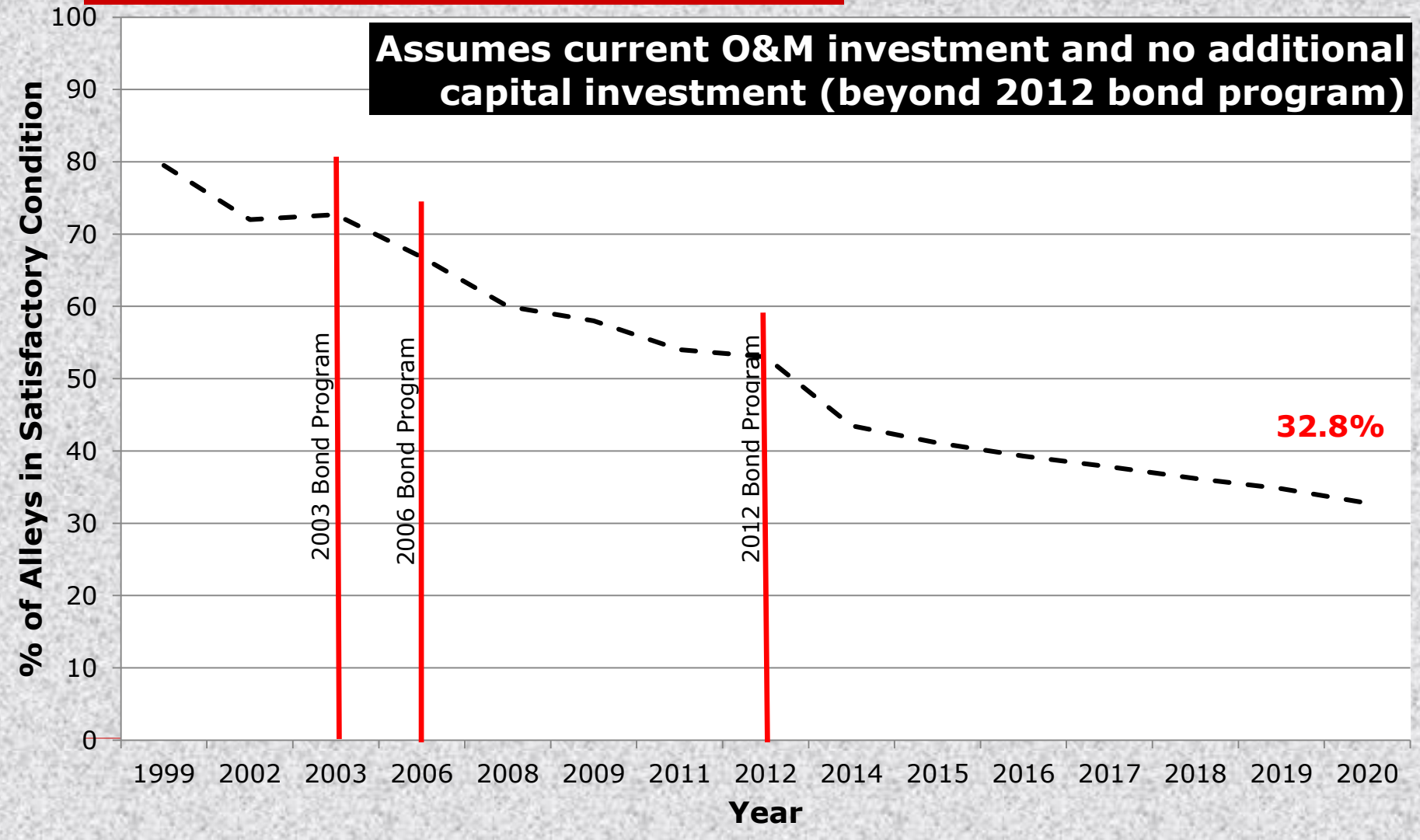
Satisfactory
- **A – Excellent**
- **B – Good**
- **C – Fair**

Unsatisfactory
- **D – Poor**
- **E – Very Poor**

Alleys:
Historical & Current Funding Levels



Alleys:
Projected Results of Status Quo Funding



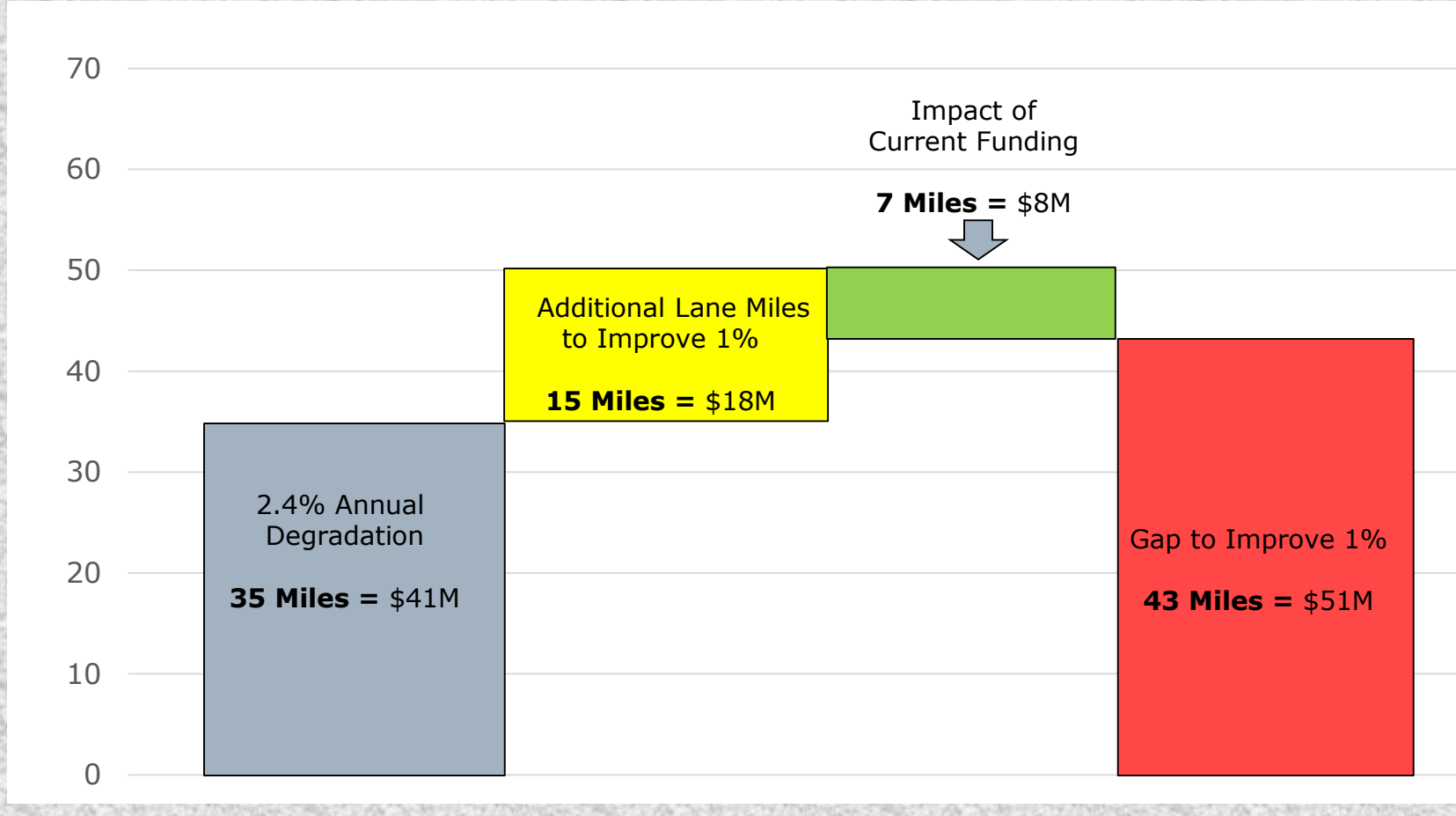
Alley Condition Summary

- An estimated 55% of all alleys are in unsatisfactory (D&E) condition requiring over $750M to improve to a 100% satisfactory level

35	Miles that degrade annually = 2.4% ($41M)
15	Plus: Additional miles to improve satisfaction rating 1% ($18M)
50	**Total number of miles that must be improved for 1% gain ($59M)**
7	Less: Average annual lane miles currently being improved ($8M)
43	**Net lane miles needed to improve satisfaction rating 1% ($51M)**

- Given continuation of current spending, it will require an additional $51M/Yr in funding for paving and maintenance to halt degradation and improve alleys by 1%

Alleys:
Funding Current Needs & Improving 1%



Policy Considerations for Streets and Alleys

Policy & Implementation

For Further Consideration

- Adjust satisfaction rating/goal for streets and/or timeline to meet 87% given reality of funding constraints
- Establish a realistic satisfaction rating/goal for alleys
- Assess feasibility of more pay-as-you-go funding in operating budgets
- Examine ratio of C to D/E streets prioritized for repair
- Determine appropriate size of bond programs and amounts dedicated to street and alley improvements and focus on projects that improve street conditions (55% of the Street and Thoroughfare Proposition in the 2012 Bond Program improved street conditions)

Policy & Implementation (Continued)
For Further Consideration

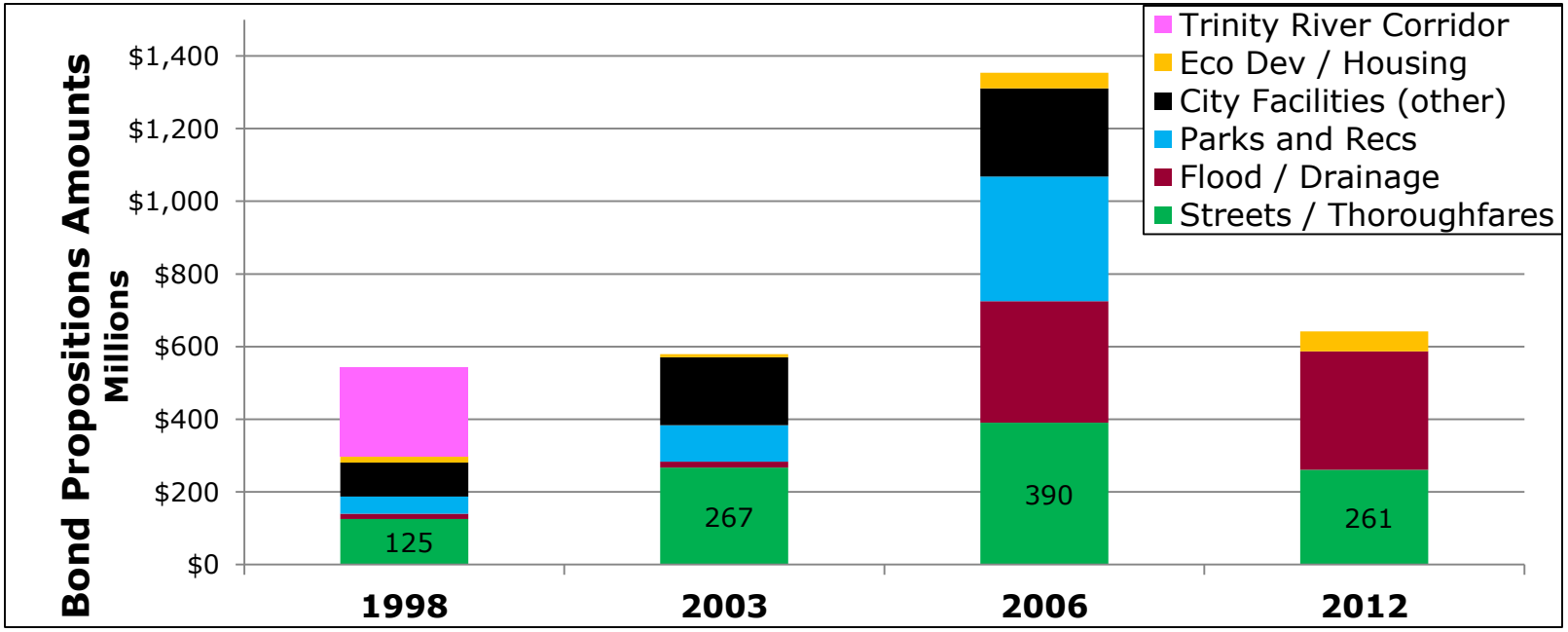
- Continue to assess potential abandonment or alternative repair methods for some E-rated streets and alleys on a case by case basis
- Since alley nuisances and obstructions contribute to degradation, consider implementing a dedicated alley nuisance abatement program
- Where appropriate, consider some shifts in location of garbage collection and/or examine alternative equipment/trucks for collection in narrow alleys
- Consider an 50% matching fund program for residents interested in making alley improvements

Funding Options

Funding Options

For Further Consideration

- **Bond Funding:** Continue funding within capacity of current tax rate (65% of total $1B bond issue in 2017, followed by 65% of projected $1B dedicated funding in potential 2023 bond issue)



Funding Options (Continued)
For Further Consideration

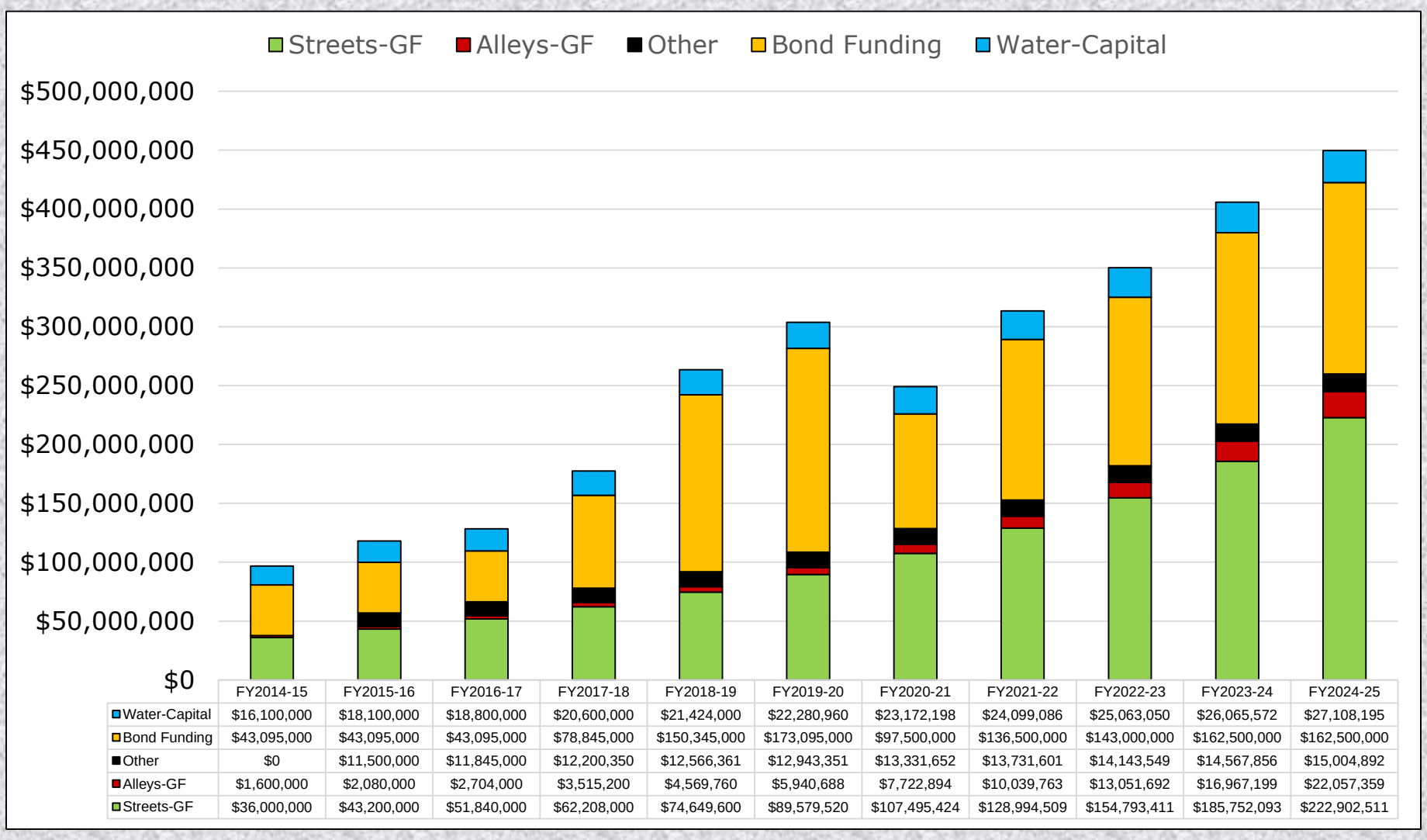
- **"Pay-As-You-Go" Funding:**
  - Collaborate for funding assistance from benefiting partners such as DART and Dallas County
  - Establish a Sanitation residential collection street rental or franchise fee (new, $3.9M/Yr @ 6%)
  - Increase Water Utilities street rental fee on retail sales from 5% to 6% ($5.1M/Yr)
  - Contingent upon funding available, increase General Fund operating budget for:
    - Streets by 20%/Yr
    - Alleys by 30%/Yr

Other Funding Options Examined
in Review of All Potential Options

- Enhanced bond or operational funding: 1 cent on tax rate = $9.1M/Yr, or $115M in additional capacity for 2017 bond program
- Implementation of a street/alley maintenance/user fee (currently at maximum tax rate allowed by law)
- Legislative changes to enhance transportation funding
- Further use of storm water funding related to gutters and integration of drainage into street system

10 Year Model:
A Decision Tool for Financing Options

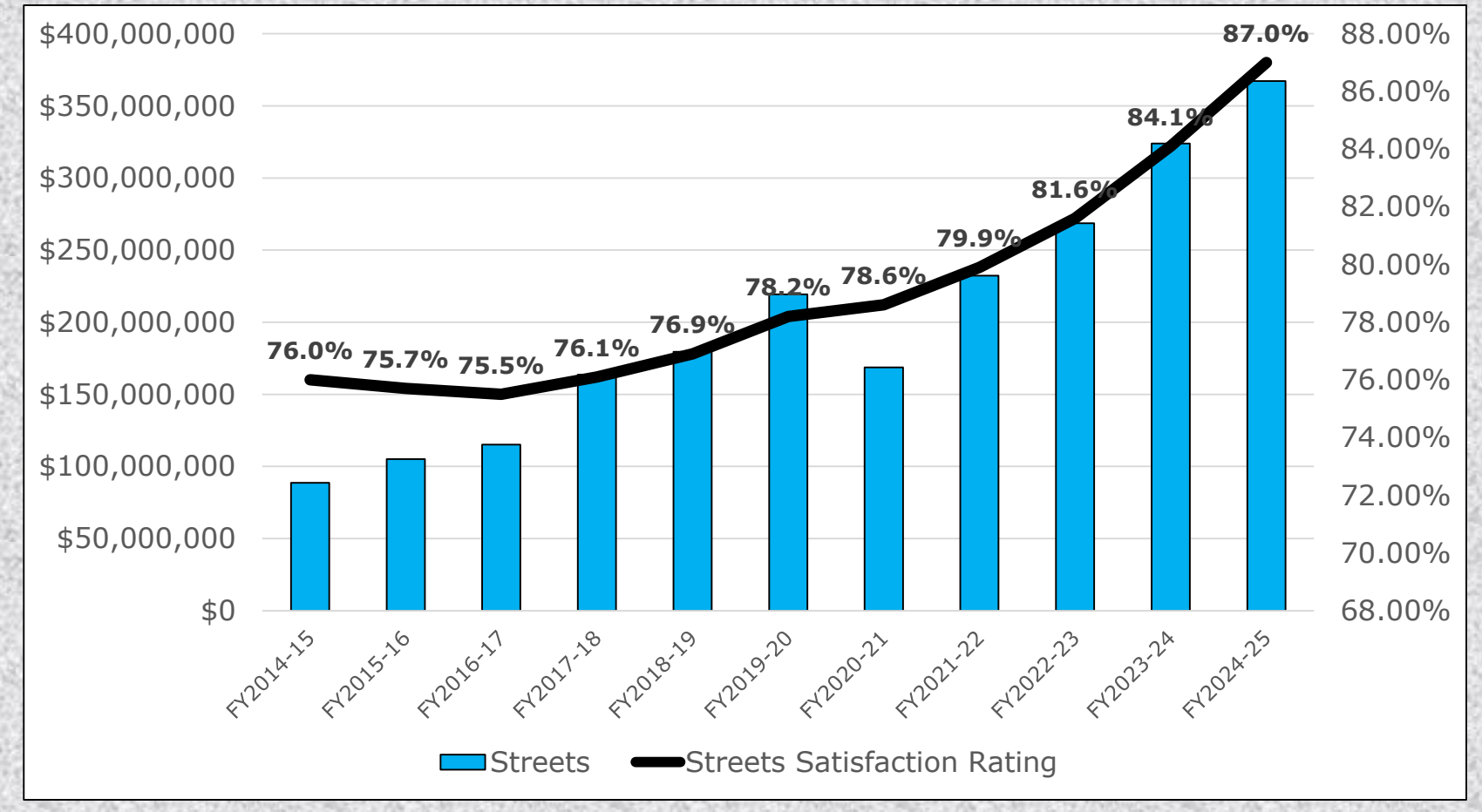
10 Year Model – Funding ("All-In" Scenario)*



	FY2014-15	FY2015-16	FY2016-17	FY2017-18	FY2018-19	FY2019-20	FY2020-21	FY2021-22	FY2022-23	FY2023-24	FY2024-25
Water-Capital	$16,100,000	$18,100,000	$18,800,000	$20,600,000	$21,424,000	$22,280,960	$23,172,198	$24,099,086	$25,063,050	$26,065,572	$27,108,195
Bond Funding	$43,095,000	$43,095,000	$43,095,000	$78,845,000	$150,345,000	$173,095,000	$97,500,000	$136,500,000	$143,000,000	$162,500,000	$162,500,000
Other	$0	$11,500,000	$11,845,000	$12,200,350	$12,566,361	$12,943,351	$13,331,652	$13,731,601	$14,143,549	$14,567,856	$15,004,892
Alleys-GF	$1,600,000	$2,080,000	$2,704,000	$3,515,200	$4,569,760	$5,940,688	$7,722,894	$10,039,763	$13,051,692	$16,967,199	$22,057,359
Streets-GF	$36,000,000	$43,200,000	$51,840,000	$62,208,000	$74,649,600	$89,579,520	$107,495,424	$128,994,509	$154,793,411	$185,752,093	$222,902,511

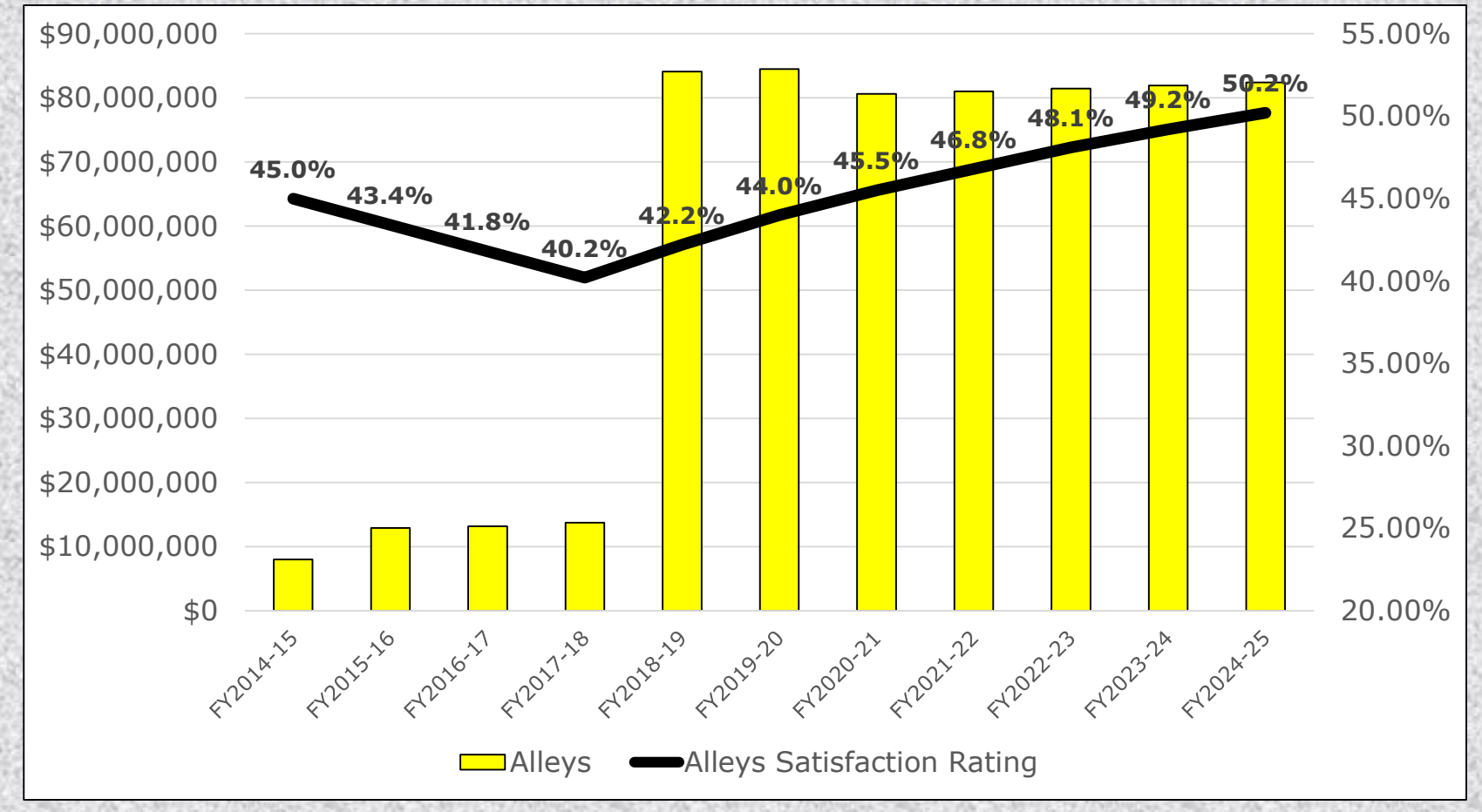
***Only assumes options from slides 23 & 24.**

10 Year Model – Street Expenditures
& Impact on Satisfaction Rating ("All-In" Scenario)*



*Only assumes options from slides 23 & 24.

10 Year Model – Alley Expenditures
& Impact on Satisfaction Rating ("All-In" Scenario)*



***Only assumes options from slides 24 & 25.**

Next Steps

- ✓ Gain feedback and develop a consensus around potential funding options and scenario outlined (today)
- ✓ Examine possible impacts of policy changes and present to the City Council for consideration as appropriate (over the next year)
- ✓ Complete needs assessment and proposals for consideration as part of an 2017 bond election (over the next 18 months)

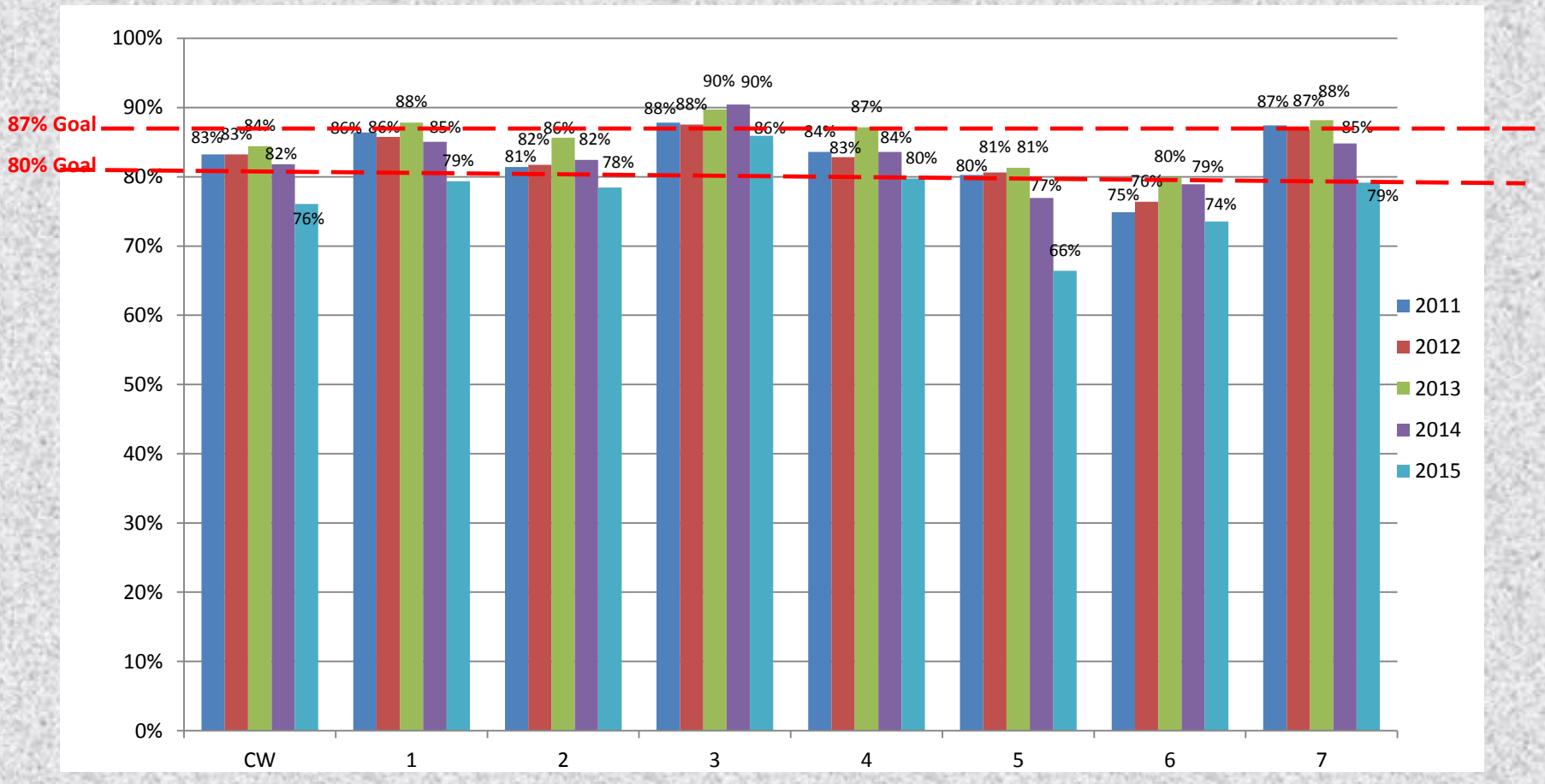
Questions & Comments

Key Focus Area

Economic Vibrancy

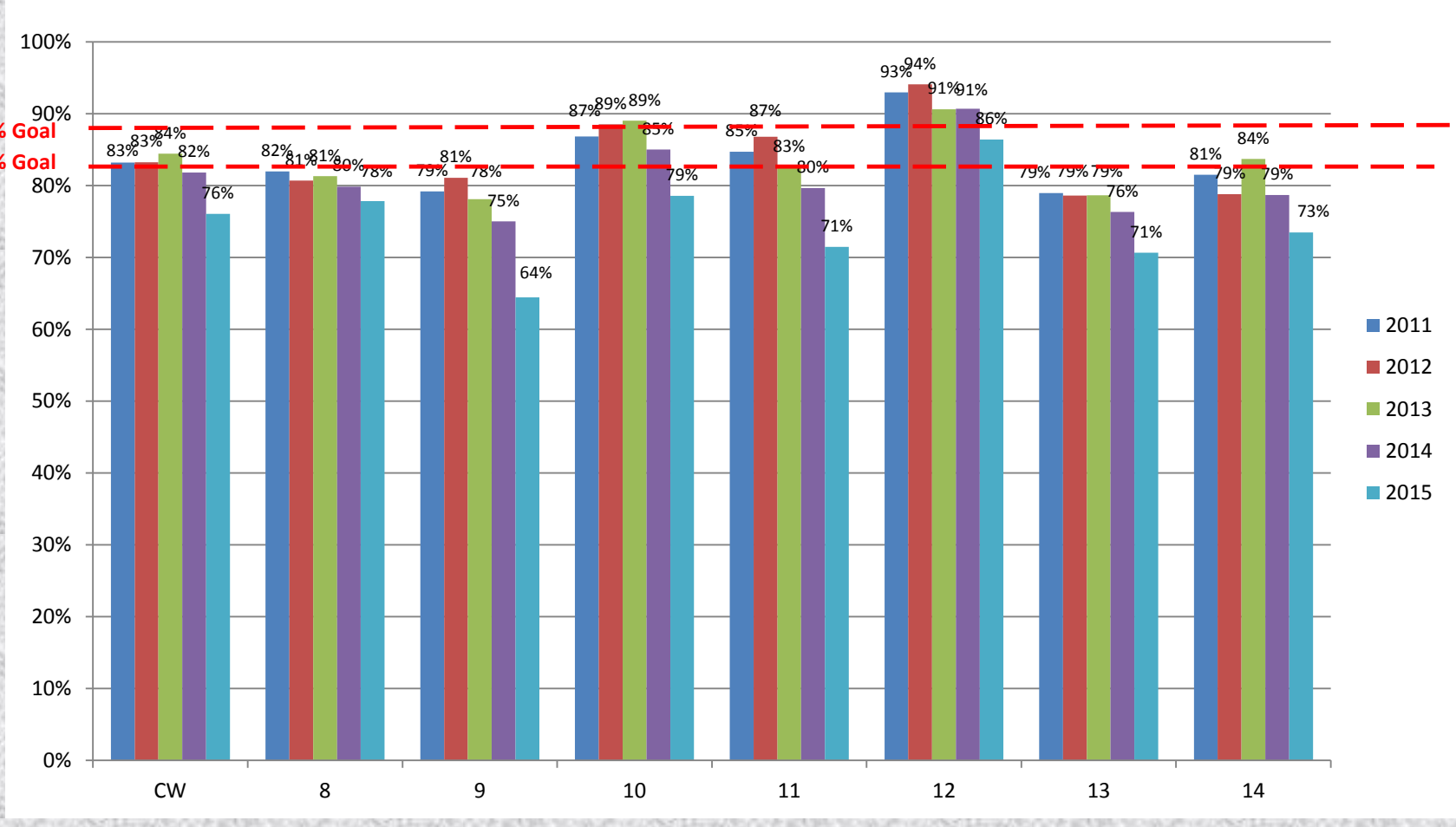
Appendix

Historical and Current Street Conditions Ratings



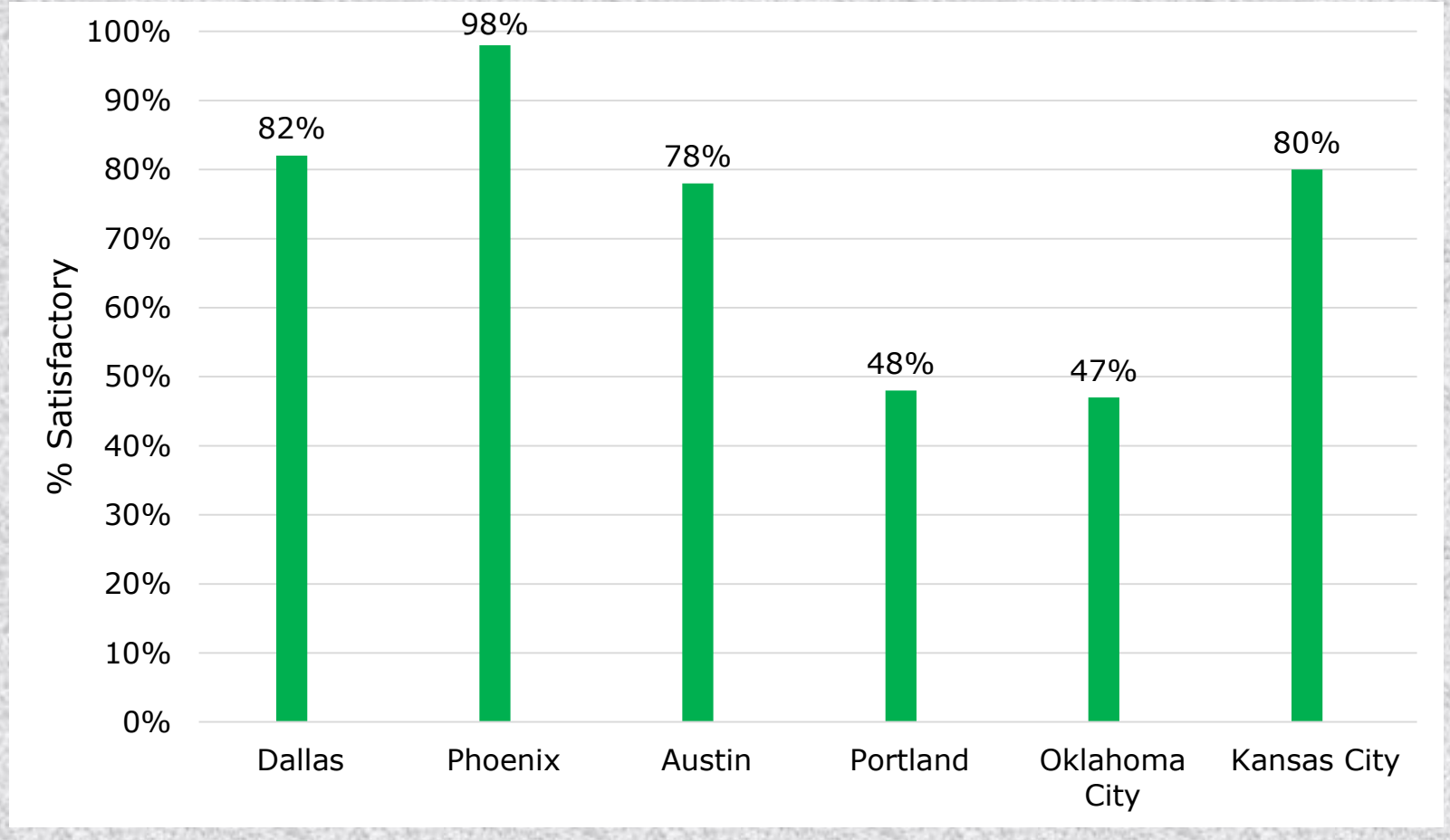
Council District

Historical and Current Street Conditions Ratings



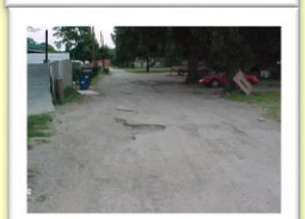
Council District

Street Conditions
How Dallas Compares (2013)



Source: ICMA FY13 Data

Street Condition Ratings

Rating		Description	PCI
Satisfactory			
A		**Excellent** Pavements that have no distress (mostly new or newly rehabilitated surfaces)	**100-85**
B		**Good** Very good ride quality - Can benefit from preventive maintenance (slurry seal or similar)	**85-70**
C		**Fair** Acceptable ride quality, though road surfaces are becoming worn – slurry, microsurfacing, partial reconstruction or similar will prevent rapid deterioration	**70-45**
Unsatisfactory			
D		**Poor** Marginally acceptable ride quality – microsurfacing, chip sealing, or partial reconstruction, resurfacing or rehabilitation is needed to slow further deterioration	**45-35**
E		**Very Poor** Pavement has extensive distress and requires partial or full reconstruction or restoration	**< 35**

Slurry Seal/MicroSurfacing for "B" and "C" rated streets

Full-Depth Asphalt Repair for "C" rated streets

Slurry Seal - This treatment for CONCRETE STREETS WITH ASPHALT SURFACE consists of a ¼-inch layer of sand and fine stone mixed with asphalt emulsion. This seals and smooths the surface and conceals scars from previous repairs. It is used predominately for residential roads with curb and gutter. The work is outsourced to a specialized contractor – after Street Services performs preparation work (such as minor base repair and crack sealing).
Cost: $13K per lane-mile. **Life:** 5-7 years.

Micro Surfacing – A treatment for CONCRETE STREETS WITH ASPHALT SURFACE which places a ¼-inch layer of crushed stone mixed with asphalt emulsion. This seals and smooths the surface and conceals scars from previous repairs. It is used predominately for higher-traffic-volume streets with curb and gutter. It is more expensive than slurry seal, but cures more quickly. This work is outsourced to a specialized contractor – after Streets Services prepares the site (doing minor base repair and crack sealing, curb & gutter repair).
Cost: $19K per lane-mile. **Life:** 5-7 years.

Full-depth Asphalt Repair - A treatment for ASPHALT STREETS to repair the surface and base failures. Repairs are typically larger than a pothole, but smaller than either Street Resurfacing or Street Rehabilitation projects. After the failed area is cut square and removed, a new base is placed and compacted and an asphalt surface is put in place.
Cost: $20.50 per square yard. **Life:** 5-7 years.

Partial Reconstruction for "C" rated (and some "D" rated) streets

Partial Reconstruction - This is a method used on CONCRETE STREETS. It is **removal and replacement of large, failed sections**, including breakout and removal of old pavement, repair of any base failures, and placing new concrete. To be a candidate for this repair, residential and thoroughfare streets must have less than 25% of failed area.

Cost: $67.50 per square yard with curb-and-gutter repair. **Life:** 10-12 years.

Street Rehabilitation for "D" rated streets

Street Restoration for "E" rated streets

Rehabilitation - A treatment for ASPHALT STREETS when a large portion of the surface and the base have deteriorated to an unsatisfactory level. It includes the full-depth repair of base failures, followed by a chip seal, and a new two-inch layer of hot mix asphalt placed over the entire treated segment. Candidate streets are predominately residential asphalt surfaced streets without curb and gutter. **Cost:** $160K per lane-mile. **Life:** 10-12 years.

Restoration - A treatment for ASPHALT STREETS when the entire surface and the base have deteriorated to an unsatisfactory level. It includes rebuilding the entire base by recycling the old base and surface materials into a new base, followed by a chip seal, and new two-inch layer of hot mix asphalt placed over the entire treated segment. Candidate streets are predominately residential asphalt surfaced streets without curb and gutter. **Cost:** $180K per lane-mile. **Life:** 18-20 years.

Resurfacing of Pavement for "D" rated streets

Re-Surfacing – This treatment removes the entire asphalt surface, and pulverizes and recycles the old material with new asphalt binder. The new asphalt surface is then placed over the entire surface, compacted, and smoothed to a proper finish. Curb and gutter repair, if needed, is accomplished with the re-surfacing efforts.
Cost: $200K per lane-mile. **Life:** 15-20 years (with maintenance).

Full Reconstruction for "E" rated streets

Reconstruction - This process is the removal of an existing street with extensive failures and/or badly deteriorated condition. In the process, the pavement is broken and removed (and often recycled), as is the base. Drainage concerns are addressed with this process. The sub-base may be reconditioned as needed, then a new base is placed and compacted. The new concrete surface pavement is then placed, as shown above. The construction work is outsourced under bond-issued funding.
Cost: $1 M per lane-mile. **Life:** 20-50 years (with maintenance).

Street Treatments Managed by Dallas Water Utilities

Street and alley repairs by the Dallas Water Utilities are associated with pipeline replacement. For asphalt streets the City policy requires that an entire lane be reconstructed at the location for where the pipeline is replaced. From joint to joint for concrete streets.

Alley History

- Construction of alleys in Dallas began in 1920
- The standard alley pavement width has varied
  - Varying widths pavement prior to 1964 – 120 miles
  - 8-foot pavement (1964 to 1980) - 705 miles
  - 9-foot pavement (1980 to 1990) - 45 miles
  - 10-foot pavement (1990 to present) - 345 miles
- Alleys have been constructed within varying widths of right-of-way (ROW)
  - Prior to 1964, there was no standard ROW width
  - Since 1964, the City has had a 15-foot ROW

Note: Only 24.7% of all alleys have 10-foot pavement in a 15 foot ROW

Alley Types and Size of System

- Alleys have been constructed using several different materials including:
  - Concrete (1,106 miles)
  - Asphalt (109 miles)
  - Dirt/Gravel/Flexbase (187 miles)

- Amount of alleys
  - 1,402 miles of alleys citywide
    - 1,215 miles paved (86% of all alleys)
    - 187 miles unpaved (124 miles used for sanitation collection)

Alley Uses

- Property access
- Stormwater drainage
- Garbage/recycling collection
  (approx 40% of all collections are in alleys)
- Public & private utility routes (approx 83% of alleys have at least one utility such as water, wastewater, electric, phone, gas & cable)

Alley Funding

Routine maintenance and reconstruction are funded through three primary sources:

- Street Services - general fund budget
  - Pavement repairs
  - Alley widening & clips
- Public Works - capital bond program (approx. 2.0 miles per year)
  - Petition new alleys
  - Reconstruction of alleys
- Dallas Water Utilities - pipeline replacement program
  - Alley reconstruction after replacement of old water and/or wastewater lines (approx. 3.4 miles per year)

Alley Maintenance

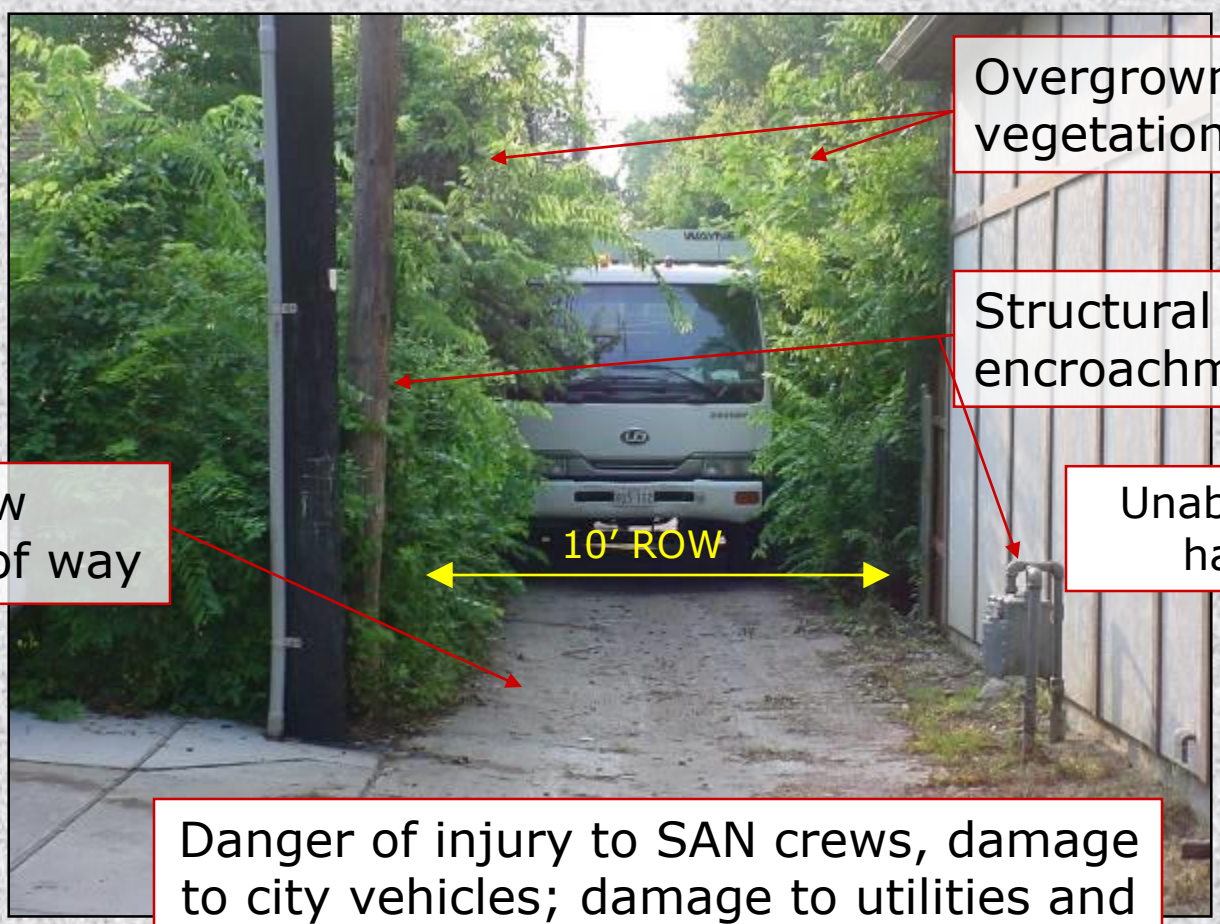
- Since 1995 the Dept. of Street Services has concentrated its resources on addressing street issues as opposed to alleys
- 1,700 is the average annual number of service requests received by the Dept. of Street Services in the past 8 years
- Dept. of Street Services average operating funds for alleys in the past 8 years has been $1.8M annually

Alley Capital Bond Program

Two types of capital projects related to alleys:

- **Petition** – Paving unimproved alleys
  - Property owners are assessed on the construction of pavement or increase to property value
  - Assessment costs are the lowest between pavement construction cost (approx. $50 per foot for the width of property) or the enhancement value to the property
  - CDBG funding for assessment cost are available to qualifying property owners
- **Reconstruction** – existing alley pavement is replaced and/or widened
  - Property owners are not assessed for up to a 10-foot pavement replacement

Alley Challenges



Danger of injury to SAN crews, damage to city vehicles; damage to utilities and private property

Ideal Alley Pavement and ROW

No plants or other obstructions in the ROW hindering garbage collection